

Global Investment Committee | November 2025

On the Markets

Early Cycle? Or Late?

Entering the final months of 2025, the S&P 500 is on track for a third straight year of double-digit gains. Although the GenAI capex boom's breathtaking acceleration has been central to the enthusiasm, investors have embraced potential once-in-a-generation fiscal, monetary and regulatory policy change as the foundation for sustained wealth creation. While the logic of strategic asset revaluation is clear, after a 90%-plus run, the issue is how much of the future has been priced. This is especially critical amid extreme valuations and ambitious profit expectations. At the heart of the market durability issue is the question of where we are in the business cycle. Usually straightforward, as we approach 2026, the crosscurrents are sufficiently mixed to make it a key debate. Are we early cycle or late cycle?

Since April, market technicals have appeared unequivocal that the US has passed the "soft landing" stage, with renewed Fed easing signaling the start of a new economic cycle. To wit, cyclicals have been outpacing defensives, and small- and micro-cap equities, not to mention unprofitable tech stocks, have outperformed, per the classic recovery playbook. But credit markets, the labor market and generally lackluster consumer and manufacturing order books suggest a maturing business cycle that could slow in 2026. US housing is also stuck in a no-man's land, with turnover stymied by low incumbent mortgage "lock-ins," given the prevailing interest rates of 2000–2022, as multifamily rental supply finally pushes prices downward month over month. Meanwhile, evidence that policy will spur a capex boom beyond the three-year-old GenAI story remains lacking. Finally, the "K-shaped" economy—concentrating wealth and consumption among fewer and fewer households, and growth, pricing power and productivity gains among fewer and fewer firms—is obscuring an accurate picture of economic health. The GIC acknowledges that the odds of disappointment in 2026 are nonzero.

While the GIC recognizes the powerful forces currently underpinning the stock market and is tactically overweight US equities, given these complex and unique economic challenges, our approach has been to focus portfolio construction on maximum diversification, active risk management and stock selection amid a preference for quality, high-visibility cash flows.

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CREDIT

Navigating the Consumer Credit Cycle

Vishwanath Tirupattur, Chief Fixed Income Strategist and Director of Quantitative Research, Morgan Stanley & Co. LLC

The US consumer credit cycle is emerging as a focal point for markets amid signs of stress at the margins. The collapse of Tricolor, a subprime auto lender facing fraud allegations, has intensified scrutiny of underwriting and servicing standards across the sector. Investors are now questioning whether these issues are isolated or symptomatic of broader vulnerabilities in consumer credit.

Data from the asset-backed securities (ABS) market reveals a deepening bifurcation: Subprime borrowers are showing signs of strain, while prime segments remain resilient. Yet, third-quarter bank earnings offer a more constructive counterpoint—consumer delinquencies across major, regional and specialty lenders have largely met or outperformed expectations, suggesting that core asset quality remains intact. Here we examine how these crosscurrents shape our understanding of where we are in the consumer credit cycle—and what may lie ahead.

SCRUTINY OF SUBPRIME LOANS. At the ABS East conference in late October, Tricolor's Chapter 7 bankruptcy was top of mind, according to my Morgan Stanley & Co. colleagues in securitized research, James Egan and Carolyn Campbell, who attended. Scrutiny of subprime auto deals has intensified, with data audits underway at lenders to catch any double-pledged collateral or other discrepancies. For instance, Fifth Third Bancorp's comprehensive review of its asset-backed finance portfolio traced cash flows, collateral movements and vehicle identification numbers (VINs) with outside help. Happily, discrepancies were found in only two of 120,000 auto loans, suggesting the Tricolor episode may be an outlier. Even so, further such reviews may be needed to fully restore confidence in underwriting and servicing practices. Until these concerns are resolved, investor sentiment in the subprime auto segment will likely remain weak.

PRIME VERSUS SUBPRIME BORROWERS. A deeper dive by our strategists into ABS collateral performance reveals a sharp divide between prime and subprime borrowers. Loan-level data shows that prime auto loan performance has been stable or has even improved in 2025, whereas subprime borrowers are under mounting stress. Underwriting practices

and outcomes vary by lender, but in aggregate, subprime auto loan delinquencies, at about 5.9%, are hovering near an all-time high, and lending standards in that segment have loosened, with debt-to-income and loan-to-value ratios up. In contrast, prime auto loans are performing well: Delinquencies are down year over year, defaults are below expectations and cure rates—where loans return to performing from delinquent—have improved significantly over the past 12 months.

INCOME DIVERGENCE. This bifurcation mirrors the divergence in net worth, income gains and consumption across income cohorts noted by our US economists, Arunima Sinha and Heather Berger. The top income quintile, which drives roughly 40% of US personal consumption, continues to enjoy strong wage growth, minimal impact from tariff-driven inflation and robust net-worth gains from housing and equities. These households are predominantly prime borrowers and remain on a solid footing. However, lower-income households, which are often subprime borrowers, face a different reality: Census data shows the two bottom quintiles saw slight but statistically significant declines in their income share in 2024 versus 2023; they also have minimal exposure to financial assets. In fact, the bottom 40% of households hold only 7.4% of total US net worth, while the top 20% hold more than 70%.

WHERE DO WE GO FROM HERE? The strength of upper-income consumers explains why the consumer in aggregate remains relatively healthy. However, those at the lower end of the income and credit spectrum will likely continue to face headwinds from slower job growth and greater exposure to inflationary pressures, including tariffs. Participants at ABS East echoed this view, broadly agreeing that subprime borrower performance isn't likely to see significant improvement anytime soon.

What would it take for stress at the low-end, subprime segment to climb into higher-income, prime credit segments? Essentially, a major shock. A sharp rise in unemployment or a sharp equity market correction—neither of which is in our base case—could trigger a broader deterioration in the consumer credit cycle. ■

This article was excerpted from the Oct. 26 Morgan Stanley & Co. Research report, "Navigating the Consumer Credit Cycle." For a copy of the full report, please contact your Financial Advisor.

GLOBAL EQUITIES

From Horsepower to Brainpower—AI Takes the Wheel

Tim Hsiao, Equity Analyst, Morgan Stanley Asia Limited+
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Fueled by AI, the automotive industry’s move toward autonomous driving (AD) is racing ahead. Our expectations for smart driving include the following:

- A total addressable market (TAM) of \$200 billion globally by 2030.
- Revenue of \$300 billion–\$400 billion by 2035.
- Global TAM for hardware of \$150 billion by 2030.
- Market penetration of 28% globally by 2030, up from 8% in 2024.
- Software value content of \$40 billion–\$50 billion by 2030.
- Savings of 30 billion driving hours in 2030.

In short, the automotive industry is approaching an AI-driven inflection point, and we expect mainstream AD adoption in developed markets by 2026. That adoption will be accelerated by three factors: breakthroughs in generative-AI-powered simulation; technology cost deflation through East-West collaboration; and progressive regulatory support.

GROWTH IN AUTOMATED DRIVING. Virtually all new vehicles are already equipped with speed and steering support, which we consider to be Level 2, or partial automation (see table).

We define “smart driving” as vehicles with Level 2-plus autonomous driving features like highway/urban

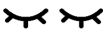
navigate-on-autopilot (NOA) and autonomous parking as well as basic Level 2 features like adaptive cruise control and lane-change assistance.

China should continue to be the proving ground and spearhead of smart driving adoption. We forecast that 60% of passenger vehicles sold in China will be equipped with Level 2-plus smart driving functions by 2030, implying sales will be in the 14–15 million vehicle range, more than double from 2025. China alone will account for half of the global smart driving market in volume terms by 2030, in our estimate.

Europe is likely to generate the most significant alpha from global adoption. Penetration of smart driving in markets outside China could reach 17% by 2030, with sales of smart vehicles growing to 12 million from 3 million in 2024, implying a 27% compound annual growth rate. We expect the accelerating rollout of automation features from Europe’s original equipment manufacturers (OEMs) will be a key driver for adoption.

FALLING COSTS, SUPPORTIVE REGULATION. Importantly, the incremental cost of enabling smart driving on vehicles has plummeted in the past three years. In China, the materials cost for a Level 2-plus vehicle is about 10,000 renminbi (\$1,405) down from 30,000–40,000 renminbi three years ago. Simultaneously, growth in related research and development expenses has slowed. This cost reduction in both hardware and software is fueling market penetration in China, with automated driving now representing approximately 5% of the materials cost, down from more than 10% three years ago.

Defining Autonomous Driving Levels

	Level 1	Level 2	Level 3	Level 4	Level 5
AD Type	Driver Assistance	Partial Automation	Situational Automation	Conditional Automation	Full Automation
Driver Behavior	 Speed or Steering Support (full liability)	 Speed and Steering Support (full liability)	 Eyes Off in Some Situations (full liability)	 Driverless in Fair Condition (Robotaxi - no liability) (PV - partial liability)	 Always Driverless (no liability)
Enabling Technologies	Sensors (camera, radar)	Sensors (camera, radar)	Sensors (camera, LiDAR)	LiDAR, V2X, HA, GNSS	All
Defining Application	ADAS	ADAS	Traffic Jam Pilot, Highway Pilot	Autonomous Shuttles, Highway Pilot, Automated Valet Parking	AD Everywhere
Regulation Change Required	Type Approval	Type Approval	Highway Code	City Mandate UNECE R79	International Transport Laws

Source: Society of Automotive Engineers, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of July 27, 2025

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In another important development, regulation is taking shape. Europe allowed for the deployment of smart driving systems in September 2024, and in May 2024 the US National Highway Traffic Safety Administration required all light vehicles and trucks to adopt automatic emergency braking (AEB) systems no later than 2029. In Asia, Japan's transport ministry is actively developing regulations, while China, striving to keep its early mover advantage, is expediting progress on regulating smart driving vehicles as well as defining the next level of the AD framework (Level 3) and licenses. We expect China to soon require cars to adopt AEB also.

WEALTH CREATION. Hardware and software offer distinct yet complementary revenue opportunities. Initial revenue growth will be driven by hardware sales, involving one-time purchases, while software sales will generate recurring revenue through licensing, updates and services.

The hardware revenue opportunities are mainly from the adoption of cutting-edge AI computing platforms, sensor systems and vehicle connectivity. Both AI computing platforms and sensor suites can benefit from the need for upgrades, particularly AD chips as well as domain controller units, light detection and ranging sensors (LiDAR) and cameras. Robotaxis (Level 4) require even more powerful hardware, more sensors and extra safety systems for steering, braking and remote fleet-monitoring. There will also be a significant market for fleet retrofits and regulatory-driven hardware upgrades.

RECURRING REVENUE. Software-defined vehicles can unleash long-tail recurring revenue. While most smart-driving-related upgrades are currently provided for free or for a one-off charge, we think the business model of carmakers has evolved from low-frequency transactions to high-frequency service categories, bringing a more sustainable source of revenue and profits.

As technology migrates to Level 3 and beyond, which will involve more customizable and differentiated experiences, AD systems will evolve from being just tools to being actual agents that essentially serve as professional drivers. We think users might be willing to pay for value-added services and applications built on high-level vehicle autonomy.

SOFTWARE FEES. Chinese EV players have rolled out smart driving features for free in China. However, global OEMs like Tesla, GM, Ford, Mercedes and BMW are charging either a \$20-plus monthly subscription fee or a \$5,000-plus one-time fee. We believe most global OEMs will continue to charge a subscription fee for AD features, especially as most of them are paying licensing and services fees to third-party solution partners.

On top of higher software value content, smart driving technology is poised to transform riders' experience by

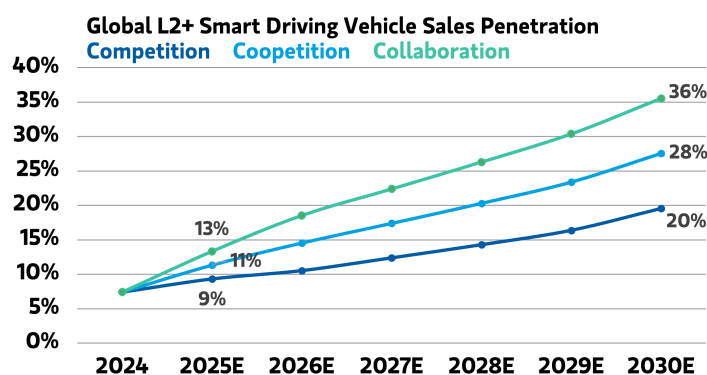
enhancing productivity, comfort and efficiency. In fact, based on current data in China, smart driving technology enables drivers to activate city NOA features in some 90% of driving scenarios—which allows for significant time reallocation. With the average person spending approximately 300 hours driving annually, technology could free up 270 hours per person each year. We assume one-third of this time would be spent on productivity and work and the remaining two-thirds on comfort and leisure.

PATHS FORWARD. In a multipolar world where there is growing debate over cross-regional collaboration versus supply chain decoupling, we see three potential paths toward an autonomous future: collaboration, competition and our base case, "coopetition," which strikes a balance between the two.

We do not expect global OEMs to be complacent about the smart-driving opportunity; we look for them to accelerate adoption from 2026 in their next-generation platforms for EVs and hybrids. Access to superior computing power, AI-empowered algorithms and data ownership are likely to give global players wider economic moats and a stronger say in the AD debate, in contrast to the vehicle electrification phase when they relied heavily on China's supply chain advantages.

Specifically, we look for collaboration on standardized AD hardware such as cameras, sensors and LiDAR, but competition in AD software/algorithms and chips, as OEMs seek to differentiate their offerings. We think this approach will deliver 28% global market penetration by 2030 (see chart).

Global AD Penetration in Our Three Cases



Source: Morgan Stanley & Co. Research estimates, Morgan Stanley Wealth Management Global Investment Office as of July 27, 2025

There are still many technological barriers as well as societal, policy and safety concerns to overcome before smart driving is widely adopted. We believe safety and reliability have been largely addressed as several research papers and data points have demonstrated that autonomous vehicles can reduce accident frequency and crash severity when properly used.

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Also, China's regulatory framework favors smart driving technology development.

As with other new technologies, however, we think the next challenge will be to build trust and ensure a quality experience. Carmakers' ability to process data, iterate algorithms and ensure access to sufficient computing power will be key.

EYES ON THE ROAD (AHEAD). In developing autonomous driving, carmakers (and some technology heavyweights) are trying not only to disrupt the auto market but also to reshape how mobility works. They are leveraging their autonomous

technology to pioneer humanoid robots and flying mobility solutions like electric vertical take-off and landing aircraft (eVTOL), showing that today's self-driving neural networks will power tomorrow's entire mobility ecosystem. We expect most auto OEMs to eventually pivot in this direction; similar to electric vehicles three years ago, eVTOLs and humanoids could even become must-haves for auto OEMs. ■

This article was excerpted from the July 27 Morgan Stanley & Co. Research report, "From Horsepower to Brainpower—AI Takes the Wheel." For a copy of the full report, please contact your Financial Advisor.

US EQUITIES

Vital Signs: Refocusing on Biotech

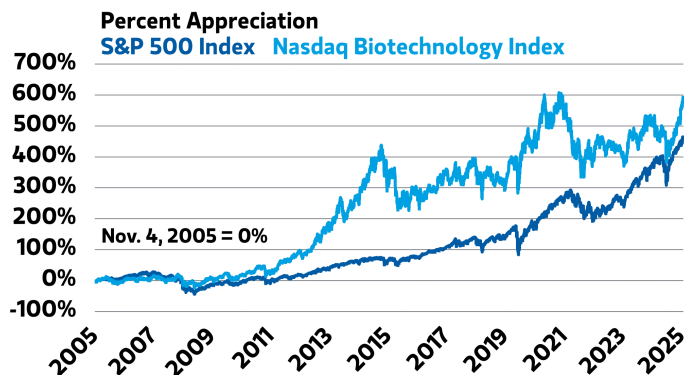
Sean Laaman, Ph.D., Equity Analyst, Morgan Stanley & Co. LLC

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As markets transition to a lower interest rate environment, biotech historically emerges as a relative outperformer. Lower rates reduce the discount rate applied to future cash flows, which is a critical factor for growth sectors like biotechnology, where much of the value lies in long-duration assets such as drug pipelines. At the same time, risk appetite typically broadens as monetary policy and liquidity conditions ease, encouraging investor rotation into innovation-led sectors that are typically underowned during periods of tighter policy.

In previous easing cycles, biotech indexes have tended to outperform broader equities by a meaningful margin, reflecting both the sector's long-duration growth profile and the renewed investor willingness to fund research and development. With policy direction shifting toward lower front-end rates, biotech stands to benefit once again.

Biotech Has Outperformed the S&P 500 in Several Cycles



Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office as of Nov. 4, 2025

EMERGING PLAYERS. The drop in rates is coinciding with a powerful dynamic emerging within the biotech ecosystem. A new generation of small- and mid-cap (SMID) biotech companies is transitioning into sustainable, cash-generative enterprises. Within Morgan Stanley & Co.'s SMID US biotech research coverage, we identify 26 companies with commercial-stage products, several of which we expect to organically grow into larger-cap biopharma players in the coming years.

Historically, these companies operated with aggregate cash and equivalents of roughly \$25 billion to \$30 billion, supported by limited debt at around 50% of aggregate cash. Many of the companies were not meaningfully cash-flow positive, which constrained their strategic options. However,

we now project a structural inflection: As more of these biotechs mature and their commercial franchises increase, we see potential for aggregate cash balances to exceed \$140 billion in the next several years.

DEPLOYERS OF CAPITAL. That shift could mark a turning point for the group, transforming them from consumers of capital into deployers of capital. As cash builds, these "SMID-to-big" names are poised to reinvest in external innovation through mergers and acquisitions (M&A), accelerating pipeline diversification and shareholder value creation. Importantly, we may already be seeing early evidence of this trend: The recent \$8 billion acquisition of Netherlands-based Merus, a clinical-stage immuno-oncology company by Denmark-based Genmab, which also develops products for treating cancer, may have signaled that the first wave of internally funded strategic deals is already underway. We expect to see sustained M&A activity in the coming years.

The current setup presents compelling opportunities across three distinct biotech cohorts:

- Commercial-stage biotechs, which now deliver substantial earnings and generate cash, positioning them as self-funded consolidators.
- Clinical-stage biotechs, which are heavily discounted following temporary regulatory or clinical setbacks, creating asymmetric upside for selective investors willing to underwrite near-term volatility.
- Large-cap biopharma, which faces a rising loss-of-exclusivity cliff on profitable products and likely competition from generic products, driving the need for pipeline replenishment through external innovation and acquisition.

REASSERTING LEADERSHIP. This alignment of balance sheet strength, valuation dislocation and strategic necessity is rare. As rate cuts ease financial conditions and sentiment improves, we expect the biotech sector to reassert its leadership within health care, both as a macro beneficiary of policy easing and as a structurally improving industry positioned for self-sustaining growth and consolidation.

All told, the convergence of favorable macro conditions, emerging cash-rich consolidators and heightened M&A potential sets the stage for renewed investor interest in biotech. With early evidence already visible in recent transactions, investors who position ahead of this inflection could benefit from both fundamental growth and structural rerating across the sector. ■

This article was excerpted from the Oct. 20 Morgan Stanley & Co. research report, "Vital Signs Improve: Healthcare Rallies on Friendlier Macro." For a copy of the full report, please contact your Financial Advisor.

JAPAN

Japan's First Female PM: A Key Step Toward Eliminating the Japan Discount

Sho Nakazawa, Equity Strategist, Morgan Stanley MUFG Securities Co., Ltd.+

To be sure, the appointment of Sanae Takaichi, president of Japan's Liberal Democratic Party (LDP), as the nation's first female prime minister marks a turning point in Japanese politics and symbolizes structural reform and diversity in leadership. As a result, we believe that the price/earnings (P/E) multiple of Japan's stock market is now more likely to expand given expectations for an economic growth strategy, acceleration of corporate governance reform and improvement in environmental, social and governance (ESG) evaluations.

If the government executes its growth strategy and promotes corporate governance reform, and if corporate expected growth rates rise by 0.5 percentage points while capital costs decline by 0.5 percentage points, we project the P/E for the Nikkei Index and the TOPIX could increase by about two times. One-year forward P/Es were 23.7 and 17.6 times, respectively, in late October.

MULTIPLE EXPANSION. The LDP and its coalition partner, the Japan Innovation Party, have advocated growth initiatives that stand to enhance prospects for corporate earnings growth. Both parties are promoting market-friendly policies such as fiscal stimulus, tax cuts, deregulation and support for innovation. If these policies increase the long-term expected growth rate of Japanese companies by, say, 0.5 percentage points while keeping the cost of capital constant, the theoretical P/E would rise by approximately one turn.

In her 2021 book, "Toward a Beautiful, Strong, and Growing Nation," Takaichi mentioned the possibility of taxing retained earnings. In the 2024 LDP leadership election, she again emphasized revising the Corporate Governance Code to require firms to disclose the use of retained earnings, showing a consistent stance toward addressing excessive corporate cash hoarding. This aligns with the push from the Financial Services Agency and the Tokyo Stock Exchange for "management with awareness of capital cost and share price."

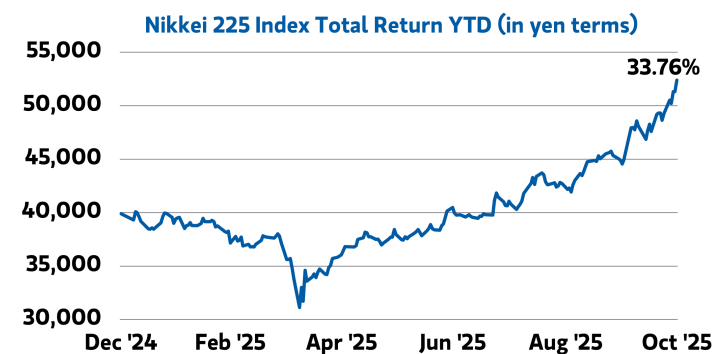
LOWER CAPITAL COSTS. As a politician who has long called for more active use of retained earnings, Takaichi could accelerate corporate reforms, leading to improved return on equity and a sustained rise in Japanese equities through expanded price/book value and P/E multiples. Such expectations would lower the risk premium, or the cost of

capital, for Japanese companies. If capital costs fall by 0.5 percentage points, even without a rise in growth rates, P/Es could rise by around one turn. Should the Takaichi administration advance governance reform, the P/E levels of the TOPIX and Nikkei could shift upward.

Takaichi's inauguration as Japan's first female prime minister is expected to be highly regarded internationally from the perspective of governance and diversity, which could potentially reduce Japan's ESG risk premium. Institutional investors have been strengthening ESG-oriented investment policies in recent years. With Takaichi at the helm and a commitment to governance reform, foreign investors may step up their purchases of Japanese equities. This milestone is also likely to raise diversity awareness across Japanese society, encouraging greater inclusion of female executives and diversity-conscious management at the corporate level.

INVESTOR FOCUS. While digesting domestic political developments, market participants' focus will likely shift toward US macroeconomic trends and Japanese corporate earnings. As the interim earnings season accelerates, with public companies reporting mid-year earnings, corporate actions such as share buybacks tend to increase, and a seasonal pattern of net buying by foreign investors often emerges. Takaichi's inauguration could amplify this trend. In addition to external-demand value and growth stocks, which are already outperforming, attention should be paid to lagging stocks that may see rapid revaluation triggered by upward earnings revisions or other positive catalysts including corporate actions in the current term. ■

Japanese Stocks Are up Sharply Since April



Source: Morgan Stanley Global Investment Office as of Oct. 31, 2025

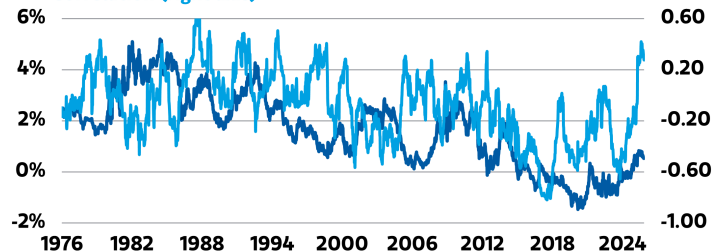
This article was excerpted from the Oct. 21 Morgan Stanley & Co. Research report, "Japan's First Female Prime Minister: An Important Step Toward Eliminating the Japan Discount." For a copy of the full report, please contact your Financial Advisor.

Short Takes

Gold: A Secular Opportunity?

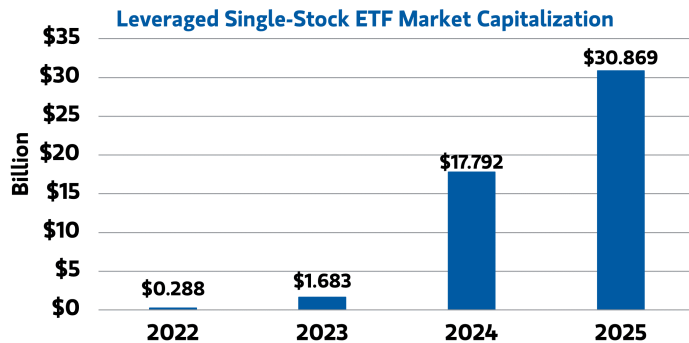
Since peaking at \$4,356 per ounce on Oct. 20., gold has fallen more than 8%. Notably, its price had been extended relative to moving averages, leaving it vulnerable to positive news around a potential US-China trade deal. That said, we believe the pullback could present a buying opportunity for investors bullish on gold's secular tailwinds, particularly its role as a hedge against fiscal risks—a concern that appears structural. Since mid-2023, rising US Treasury term premiums have underscored worries about debt and deficits, coinciding with a strengthening in the correlation of gold's returns with moves in the 10-year Treasury yield. We expect the metal to remain a preferred store of value amid persistent fiscal uncertainty, reinforcing its long-term appeal.—*Alfredo Pinel, CAIA and Sonny Mendez*

10-Year US Treasury Term Premium and 52-Week Correlations Between Moves in the Gold Price and 10-Year Treasury Yield
Term Premium (left axis) 10-Year US Treasury Yield-Gold Correlation (right axis)



Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office as of Oct. 27, 2025

The Rise of Leveraged Single-Stock ETFs



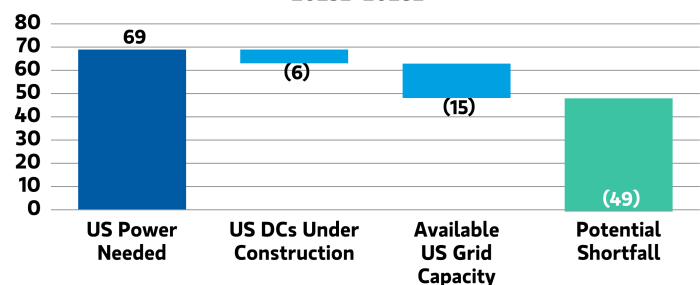
Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office as of Oct. 31, 2025

Leveraged exchange-traded funds (ETFs)—typically taking either a bullish or bearish view on a sector or index—have existed for nearly two decades. A more recent development is the launch of ETFs designed to deliver two times the daily return of an individual equity. The first such funds came to market in summer 2022; fast-forward, and there are currently more than 200 2x (long or short) single-stock ETFs, with \$31 billion of AUM from eight different issuers. While growth in these offerings may indicate a willingness by a broad swath of investors to amplify undiversified exposure, investors should note increased risks and differentiated features. For instance, the funds, designed to target a daily objective only, typically incorporate derivatives, such as swaps.—*Michael Suchanick*

AI Power Gap Likely Bigger Than Previously Thought

AI requires considerable energy. A recent MS & Co. Research report suggests the magnitude of US power needed to support AI data-center development may be even greater than previously estimated. The analyst team projects 69 gigawatts (GW) needed from 2025 through 2028, up from 65 GW, noting about 6 GW of data centers under construction and near-term grid access of 15 GW. This leaves a potential shortfall of about 49 GW. The gap could be partially addressed by a mix of sources, including natural gas turbines and fuel cell technology, as well as bitcoin site conversions. Such developments may have implications for higher power prices while presenting opportunities for providers that offer speedy and reliable access.—*Jane Yu Sullivan, CFA, CAIA*

Potential Shortfall in Power for US Data Centers, Gigawatts 2025E–2028E



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

SURVEY

CIO Tech Spending Survey: Tilting in the Right Direction

Keith Weiss, CFA, Equity Analyst, Morgan Stanley & Co. LLC

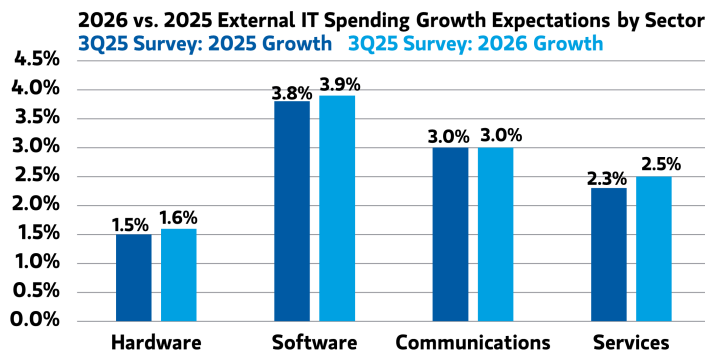
In our third quarter 2025 CIO survey, we asked decision-makers at 100 US and European firms about their external information technology (IT) budgets and the current spending environment. This survey offers our first look at expectations for 2026.

On balance, the results are constructive—budget growth expectations are up modestly. Nevertheless, there is evidence of macroeconomic concerns, and while artificial intelligence (AI) remains the top tech priority for CIOs, that has yet to translate into “growthier” IT budgets.

CONSTRUCTIVE RESULTS. Based on the survey, CIOs expect an acceleration of 21 basis points in IT budget growth year over year to 3.8% in 2026. Although this is still below our survey’s historical 10-year average of 4.1%, we see the increase as a step in the right direction as we await more material spending on generative AI (GenAI). In our view, improving efficacy of GenAI solutions and a more supportive interest rate environment should continue pushing budget trends more positively. CIOs’ expectations for 2025 IT budget growth, meanwhile, held steady at 3.6%.

On a sector view, CIOs expect software to remain the fastest growing technology segment in their budgets next year, with growth accelerating 15 basis points to 3.9%. Communications, IT services and hardware are also expected to grow faster in 2026 (see chart). Regionally, US CIOs continue to expect higher IT budget growth (4%) than their counterparts in the EU (3.5%). Nevertheless, the EU saw a higher magnitude of acceleration in IT spending expectations for the first time in four years, which may suggest an increased urgency in the EU to close the long-standing gap as AI diffusion gains speed.

CIOs Continue to Have the Highest Growth Expectations for Software Into 2026



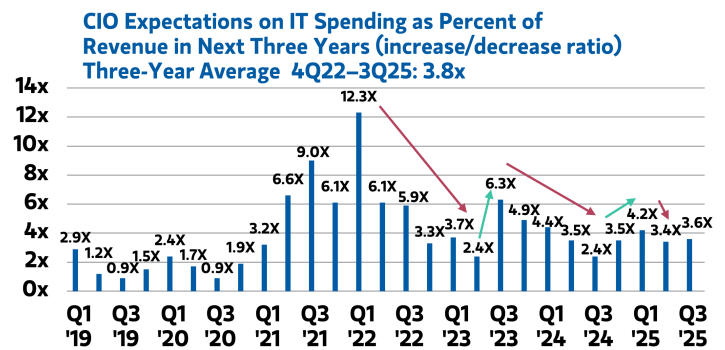
Note: n=100 (US and EU data)

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

NEAR-TERM DOWNSIDE RISK? While this data does suggest an improving outlook for 2026, the one-year up-to-down ratio from the survey—a measure of CIOs likely to revise budgets higher relative to those expecting to revise budgets lower—is only slightly higher, at 0.8 times, and below the long-term average, suggesting that CIOs still see downside risk to budgets near term. This likely reflects tariff- and macro-related concerns, as well as the ongoing “buy-versus-build” debate around GenAI technologies.

Spending expectations for the longer term, though, remain durably constructive. The three-year up-to-down ratio nudged higher (see chart). Some 36% of CIOs expect IT spending as a percentage of revenue to increase over the next three years, while only 10% expect IT spending to decrease in that time, down from 11% in our second-quarter survey and below the trailing eight-quarter average of 11%.

The Three-Year Up-to-Down Ratio Inched Higher



Note: n=100 (US and EU data)

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

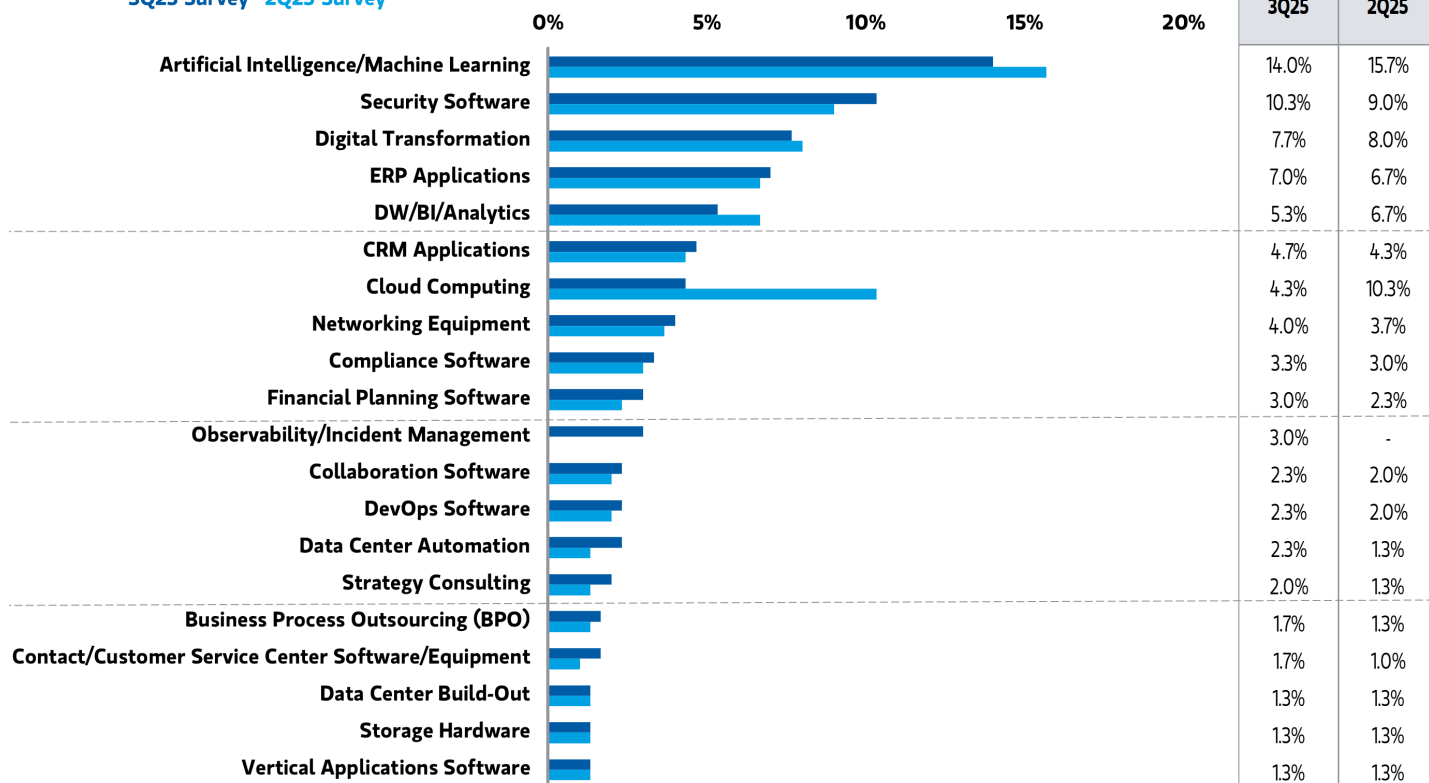
AI STILL TOP PRIORITY. AI/machine learning remains the top priority in budgets for the eighth consecutive quarter (see chart). On net, however, the category did tick down for the second quarter in a row. Security software regained the second spot and enterprise resource planning (ERP) applications broke into the top four for the first time since 2018. Notably, cloud computing fell to seventh overall from the second spot in our second-quarter survey.

Importantly, the third-quarter survey showed a strengthening in the GenAI application production pipeline, with 79% of CIOs expecting to have GenAI-based workloads in production by the end of 2026, up from 74% of CIOs in the second quarter. AI initiative funding trends are also supportive of continued growth in AI-related spending: The percent of CIOs expecting funding to come from new IT budget dollars increased to 42% from 29% in the first quarter of this year, while the percent of CIOs expecting funding to come from a reallocation of existing software budgets decreased to 14% from 19%.

AI/ML Remains Squarely Atop the CIO Priority List

Projects With Largest Spend Increase in 2025 (percent of total responses)

3Q25 Survey 2Q25 Survey



Note: n=100 (US and EU data)

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

The hyperscalers remain the favored vendors for CIOs in helping apply innovative technologies, but application vendors have become a close second. Application vendors have gained significantly in popularity as the hyperscalers have declined by 21 points over the past two years. The third quarter survey data shows a strong uptick from 13% to 18% over the past year in CIOs using application vendors for AI and machine learning projects.

The business units where GenAI is most widely deployed across organizations suggest that IT operations, marketing, customer service and corporate finance and strategy are most widely adopting GenAI today.

In terms of industries, CIOs in the financial, technology and health care sectors lead those in all other verticals in absolute level of IT spending growth expectations for 2026. CIOs predict the greatest magnitude of acceleration next year in financials, manufacturing and technology. In contrast, CIOs in the retail and energy industries indicate they expect IT spending to decrease in 2026. ■

This article was excerpted from the Oct. 9 Morgan Stanley & Co. Research report, "3Q25 CIO Survey—Tilting in the Right Direction." For a copy of the full report, please contact your Financial Advisor.

CROSS-ASSET STRATEGY

Fund Flows: "Yo-yo" on FOMO

Serena W. Tang, CFA, Global Head of Cross-Asset Strategy, Morgan Stanley & Co. LLC

Since summer, flows to exchange-traded funds (ETFs) and mutual funds have been notably strong across a few markets trading at rich valuations, including US equities and investment grade (IG) corporate credit. For these areas, the surge/return in flows has been relatively recent, sparked by the resumed Federal Reserve rate cuts and renewed US market leadership. Given that we think both of these will continue, we expect the constructive flows technicals for the US to persist in the near term.

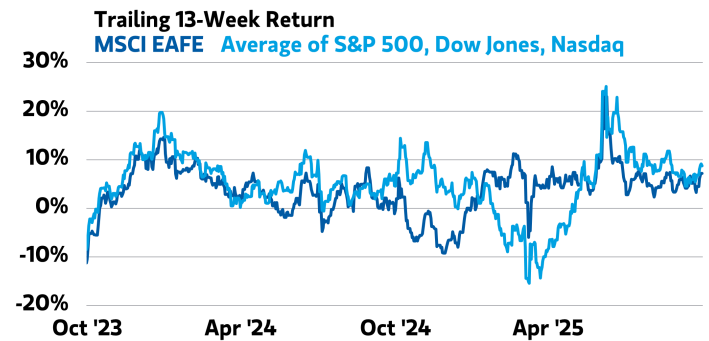
EQUITY FLOWS BOOMERANG. We've seen strong inflows to equity ETFs and mutual funds recently, with investors pouring \$134 billion into developed market (DM) equity ETFs and mutual funds from August through mid-October, and \$39 billion into emerging market (EM) equity funds over the same period, according to data provider EPFR.

In recent weeks, DM flows have mostly been into US stocks, sparked by the resumption of Fed cutting after nine months on pause. ETFs and mutual funds focused on US equities saw \$39 billion of inflows over the four weeks ending Oct. 17, and nearly \$250 billion for the year to date, defying the popular narrative that heightened US policy uncertainty would lead to a large rotation away from US assets to rest of world (ROW) markets.

We've been arguing against that narrative for a while. The US equity market's superior breadth and depth relative to ROW mean investors can't completely allocate away from the US over the medium term. To be sure, flows to US stock funds declined sharply right after April 2's "Liberation Day" but have snapped back since then, with the week of Sept. 17—when the Fed resumed cutting after a long pause—exhibiting the highest weekly net flow of the past year.

Strong ETF and mutual fund flows into US equities are not just about Fed rate cuts—they've also yo-yoed on "FOMO" (investors' fear of missing out). Since the summer, when flows to US stocks really picked up, US equity indexes started to pull ahead of other DM markets after underperforming for a good part of the first half (see chart). We know these flows have been mostly about chasing returns, because even after lagging ROW for the first few months of the year, valuations in the US were, and still are, extremely rich on a relative basis. In our view, this means that strong flows to the US can persist on continued Fed easing and expectations of US equity outperformance over ROW, which is our base case.

US Equities Fund Flows Picked up in the Summer



Source: Bloomberg, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of Oct. 20, 2025

FIXED INCOME FRONT. While there isn't as much to write home about on fixed income, fund flows to the US and Europe overall have kept up a strong pace; US bonds have seen approximately \$360 billion of net inflows for the year to date, the second highest run-rate in the past six years, while European fixed-income ETFs and mutual funds have attracted \$110 billion, the most in at least a decade.

There are some interesting shifts on the margins. We have recently seen the relative preference for European credit swinging back to the US. In September, US investment grade corporate bond ETFs and mutual funds experienced the highest monthly inflow since June 2020. At the same time, flows to European IG corporate ETFs and mutual funds, which had been strong over the past year, have dropped. Similar to the picture for US versus ROW equity flows, this comes at a time when US IG corporate credit spreads are unusually rich. Notably, we view these as FOMO flows, rather than being driven by valuations. While we caution against extrapolating from one or two months' data, when combined with the increasingly tepid flows going into European equity funds, we think the demand picture puts to rest the idea of a secular, persistent, meaningful rotation out of the US across stocks and/or fixed income.

Indeed, along with demand momentum for China stocks and a surge of money into gold funds, strong inflows to US equities hint at flows yo-yoing on FOMO rather than necessarily on valuation or fundamentals. We draw two conclusions from this: 1) Investors are in momentum-chasing mode; and 2) If flows can yo-yo on shifts in relative returns, they could just as easily swing back away from the US, EM equities, gold, etc. In our view, however, the Fed continuing to ease into a macro environment where growth is still holding on (for now) should support the flows technicals, especially those in favor of the US, for now. ■

This article was excerpted from the Oct. 20 Morgan Stanley & Co. Research report, "Fund Flows: 'Yo-yo' on FOMO." For a copy of the full report, please contact your Financial Advisor.

Q&A

Trade Tensions, the Shutdown and What's Next

With tariffs, trade tensions and a government shutdown reshaping the economic landscape, understanding how policy decisions in Washington could ripple through markets has never been more critical. "Policy isn't just about politics—it's about how the rules of the game affect growth, inflation and ultimately portfolios," says Libby Cantrill, head of public policy at PIMCO. On Oct. 31, she connected with Monica Guerra, head of US policy at Morgan Stanley Wealth Management. The following is an edited version of her comments on the latest developments and what investors should be watching for in the year ahead.

Monica Guerra (MG): Starting with China, what should investors know about the recent trade negotiations between the US and China?

Libby Cantrill (LC): The recent tensions and trade talks between the US and China are simply one of the latest developments in what has become an increasingly complex relationship. On the face of it, the negotiations have to do with US tariffs and China's supply of critical minerals—which are integral to many essential technologies, from batteries to autos to fighter jets. However, the underlying matters are bigger, more intractable issues, such as the AI race, national security, economic competition, and ultimately, global hegemony.

While President Trump and President Xi have struck a trade truce, with the US agreeing to soften its tariff stance and China holding off on the export controls of critical minerals for another year, we think this is more a truce than a lasting treaty, and the relationship will remain a fragile one.

Keep in mind that policymakers in Washington are generally quite hawkish on China—many have been since they cast votes to ultimately allow China to enter the World Trade Organization back in 2000. There are many policymakers who would like to see a more muscular approach to China, having some scar tissue from the Phase 1 trade deal under Trump 1.0, when China did not honor its terms.

In other words, while there is a very welcome de-escalation of tensions, there is, at the same time, a real risk that the relationship could grow more tense at any moment.

MG: The US recently supported the Argentine peso, which resulted in a profit, according to Treasury Secretary Scott Bessent. What does this support mean for the relationship with Argentina? More broadly, is there potential for greater US involvement in currency and other markets going forward?

LC: US support for Argentina—around \$20 billion to date—seems to be driven by two goals. For one, the Trump administration is sympathetic to President Milei's agenda, including efforts to improve Argentina's fiscal picture and to try to escape the devaluation-inflationary spiral that has haunted other emerging market countries, including Argentina previously.

Second, the US also has a strategic interest in enhancing its relationship with Argentina. The country is a large supplier of critical minerals, including lithium. In this respect, Argentina is increasingly important as the US diversifies away from China as a supplier of essential technological inputs and attempts to blunt China's influence in South America generally.

I would add that there are limitations on the Trump administration's support, however. Politically, Trump ran on an agenda of not intervening in foreign affairs, a point that Democrats are trying to call attention to. There are also economic constraints in that the Exchange Stabilization Fund at the Treasury only has so many dollars to support the administration's agenda—the fund has also been used to support the US economy in past crises.

MG: More broadly on the tariff front, the Supreme Court is expected to decide soon on whether President Trump has the legal authority to use IEEPA [the International Emergency Economic Powers Act] to levy tariffs. Lower courts have ruled against the administration. What are you expecting, and what might be the effect on the US fixed income market?

LC: The Supreme Court will most likely make its decision by the end of the year. If it upholds the lower court decisions, we could see the term premium—which is the risk premium that investors require to hold long-dated Treasuries—widen as concerns about US deficits likely come back in focus; essentially, the bond market would price in the chance that the US administration will have to reimburse the tariffs already paid by importers and/or that the administration will have one fewer tariff tool at its disposal.

We would caution against extrapolating too much from this decision, however, because the Trump Administration has other tools to impose tariffs, including Section 122, which would allow the president to impose 15% tariffs for 150 days, or Section 338, which could allow him to impose tariffs of up to 50%. These tools are not as flexible as IEEPA, but they would pack a similar punch in terms of effect and revenue.

If the Supreme Court finds that Trump *can* use IEEPA to impose tariffs, we should expect more tariffs—and potentially a more emboldened Trump moving forward to impose them.

Regardless of the outcome, we believe trade policy and tariff uncertainty will be a major theme for the duration of Trump's term.

ON THE MARKETS

MG: Another top policy goal for the US administration is deregulation. What are you seeing as the biggest regulatory trends for the financial services industry?

LC: The financial services sector will ultimately enjoy looser capital requirements and more practical liquidity regulations. What's arguably just as important, however, may be the *lack* of new regulation and softer enforcement of existing regulations. In other words, under Trump 2.0, companies won't have to look over their shoulders worried about enforcement as much or spend significant time on compliance functions to understand and comply with new regulations.

While deregulation is slow-moving and iterative, we see financial services and traditional energy as the biggest winners with respect to deregulation, while other industries—tech, for instance—are likely to benefit from less enforcement and a more friendly climate—for mergers and acquisitions, for example.

MG: On the US government shutdown, do you expect the economic effects to be in line with past shutdowns?

LC: This government shutdown has already made history in that it is the longest *full* shutdown. There was a longer partial shutdown, which lasted for 35 days in 2018–2019, but in that case, 75% of the government was funded.

The conventional wisdom is that the growth effects from a shutdown are temporary since government workers receive back pay when the government reopens. However, this shutdown's effects may be less temporary because of all the lost economic activity surrounding the government—affecting the Uber driver, the local deli and the government contractor. They may never recoup the lost pay, and the associated economic contribution to GDP may be lost along with it.

We may also see consumption being impacted by federal workers who are missing paychecks. This is marginal for a short-term shutdown, but we previously estimated that GDP could be impacted by 1% if the shutdown lasted until November. Much of that will be gained back when the government reopens, but some won't.

The other big issue around the shutdown is that policymakers, as well as market participants, haven't had access to the data the US government usually puts out: CPI, payrolls, the unemployment rate, etc. Not only has this critical data not been released, it is also not being collected during the shutdown as it is not viewed as an essential activity, which means we will have a data gap potentially for a considerable time. The rule of thumb has been that collecting and releasing missed data takes as long as the government shutdown itself.

The shutdown may also exacerbate some of the collection issues the Bureau of Labor Statistics has had, further

complicating the integrity of what is viewed globally—despite the widely acknowledged problems—as the gold standard of data.

MG: As we look ahead to the 2026 midterms, what is at stake for both the Republicans and Democrats?

LC: In November 2026, all 435 members of the House of Representatives will be up for election, while only 35 of the 100 members of the Senate will be.

In the House, Democrats would need to win only three seats to take back the majority, and on average, the party out of power usually wins 26 seats. Redistricting efforts in Texas and other states may give Republicans a few more seats, but odds still favor the party out of power—Democrats in this case—to pick up seats and potentially flip the House. It is very early days, however, and a lot can change in terms of sentiment. We could also see the Supreme Court rule on the Voting Rights Act, which could help Republicans not only in 2026 but for cycles to come, so this is something worth monitoring.

Regardless, the Senate is likely out of reach for Democrats—even though they would have to win only four seats, which is in line with the historical average. While Democrats are only defending 13 Senate seats versus the 22 that Republicans are defending, several of the Democrats' seats are in states that lean Republican or are split between Republicans and Democrats—like Georgia, Michigan and New Hampshire. To win the Senate, Democrats would have to defend all these seats and win four more.

In other words, while possible, we find it unlikely that Democrats take back the Senate, even if they do win back the House.

MG: How could the outcome of the midterms affect the Republicans' policy agenda?

LC: To stymie a president's agenda, only one chamber really needs to flip party control; this was the case in 2022, when Republicans won only the House—and by a small margin. Having the majority was sufficient to throw sand in the gears by denying President Biden any legislative wins; it also gave the Republicans oversight of his agenda via subpoena power.

MG: What policy issues do you expect to dominate the remainder of the year and into 2026?

LC: Our view is that there will likely be more pain to come to the real economy from tariffs as companies start to pass on the cost to the consumer and/or start to rationalize their own costs to be able to absorb the tariffs—leading to lower hiring or shedding workers. We believe that the lack of immigration will start to bite the real economy as well, given the already fragile labor market. This will lead to a window of weakness, in our view—slower growth over the next few months, likely exacerbated by the government shutdown.

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We see the economy reaccelerating, however, in the first half of 2026 as some of these frictions start to fade and households start to benefit from generous tax refunds associated with the retroactive tax cuts in the One Big Beautiful Bill Act.

We generally view these uncertain times, both politically and economically, as fertile ground for active investment

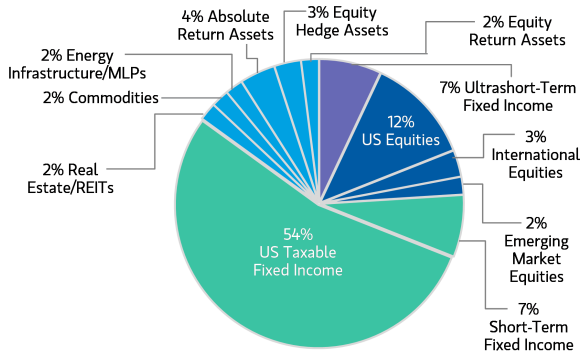
management as there tend to be overshoots, overreactions and increased volatility—and as a result, quite a lot of interesting opportunities in the market. ■

Libby Cantrill is not an employee of Morgan Stanley Wealth Management or its affiliates. Opinions expressed by her are her own and may not necessarily reflect those of Morgan Stanley Wealth Management or its affiliates.

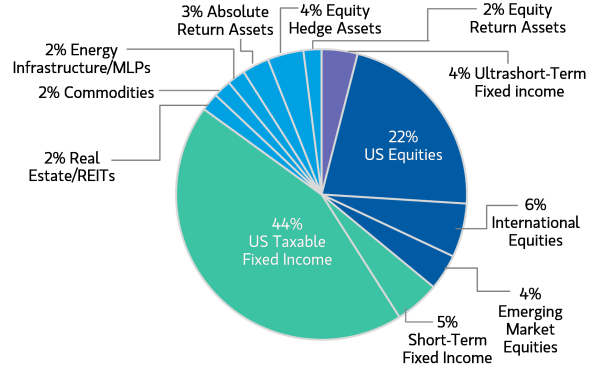
Global Investment Committee Tactical Asset Allocation

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.

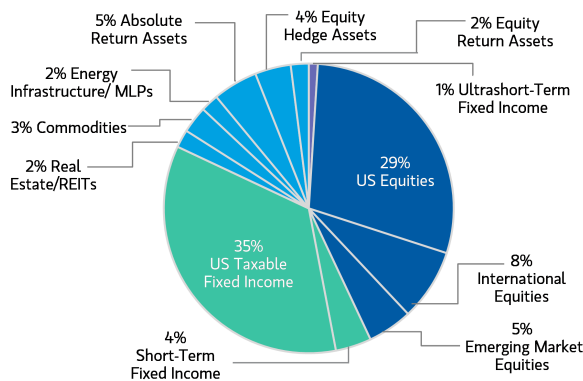
Wealth Conservation



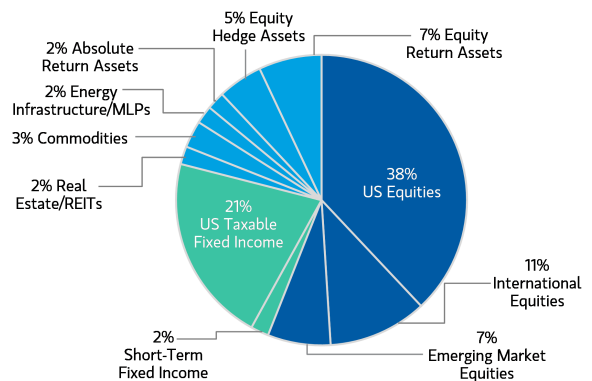
Income



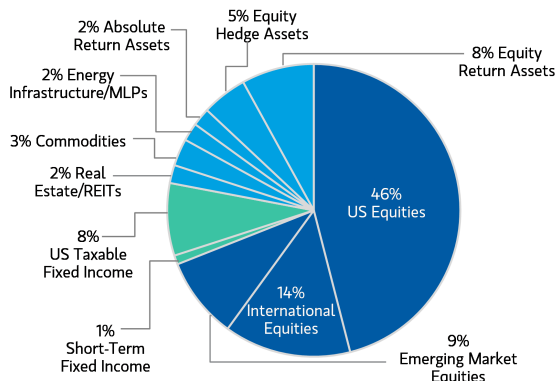
Balanced Growth



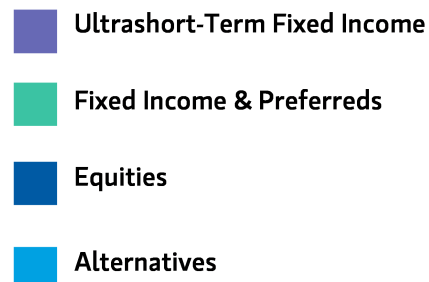
Market Growth



Opportunistic Growth



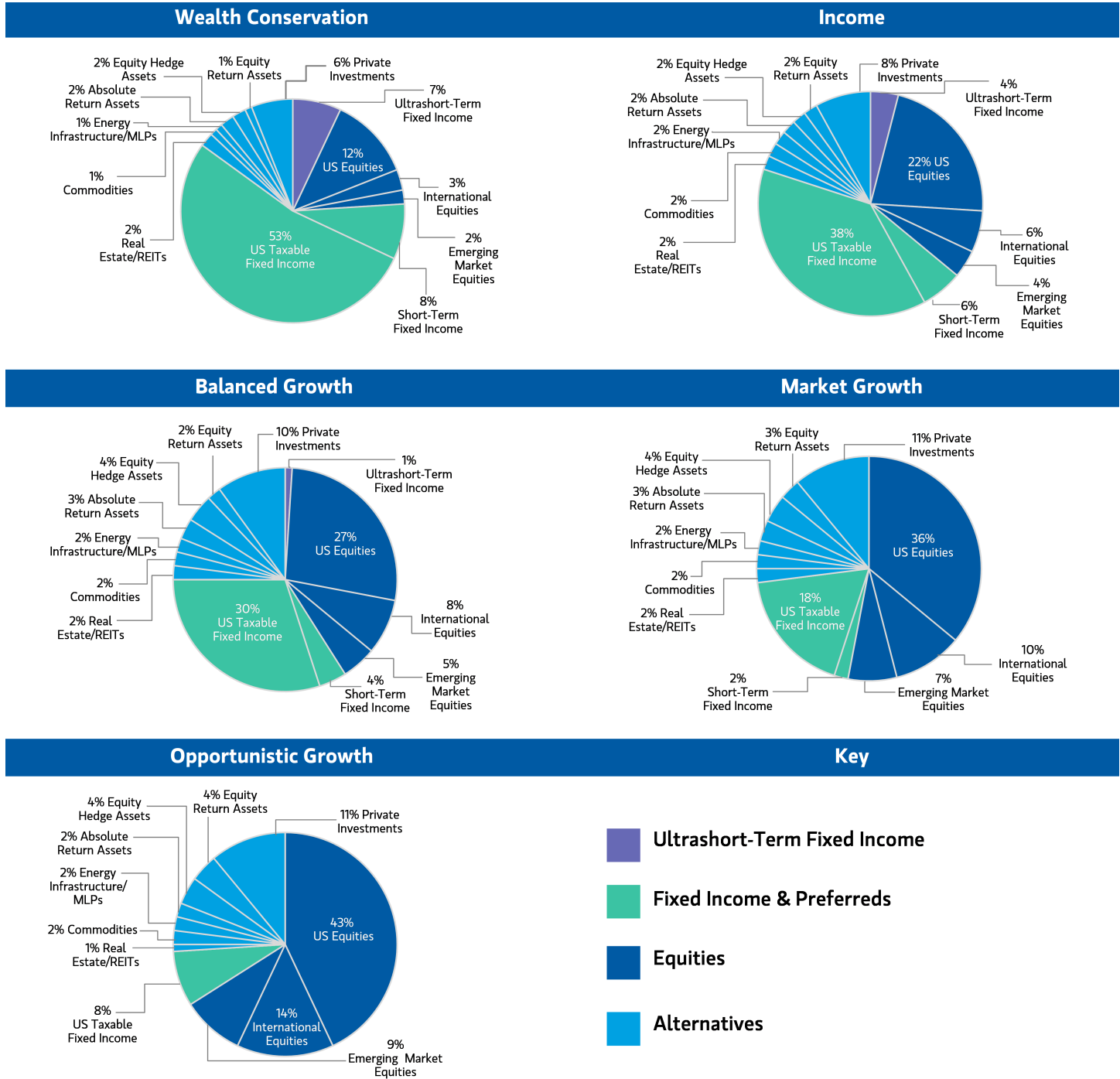
Key



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

Tactical Asset Allocation Reasoning

Global Equities		Weight Relative to Model Benchmark
US	Overweight	Although US large-cap stocks, as measured by the S&P 500 Index, were recently up approximately 35% from their April 8 closing low, for one of the swiftest six-month rebounds outside of a recession recovery, they have materially trailed small-cap, micro-cap and unprofitable tech. While we don't see a recession in 2026, we also don't see a strong enough boom to lift all those boats, and we sense that the crosscurrents of stimulus will continue to favor BIG over small. We see opportunity to rotate portfolios up in quality, including reloading in "Mag 7" names, where prospects for achieving ambitious earnings growth forecasts in 2026 are higher. We added to our Overweight on Oct. 15.
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. Exported deflation from China and 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	Underweight	The Fed easing cycle, including some assumptions around the loss of Fed independence in 2026, has been baked into the US Treasury yield curve, with another four to five 25-basis-point rate cuts discounted. As a result, we are materially reducing short-duration exposure and moving toward the "belly of the curve" to capture decent coupons with lower price volatility. We see the long end continuing to be plagued by structural imbalances that show up as widening term premiums, with the two-year/30-year portion of the curve remaining in a steepening pattern.
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	Underweight	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 stagflation 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	Underweight	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	Overweight	Gold may be part of a secular growth story around collateralizing stablecoins and other cryptocurrencies as fiat currencies lose appeal. Global reflation, 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 GLC as of Nov. 4, 2025

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Disclosure Section

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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>

Additional Definitions

NASDAQ BIOTECHNOLOGY INDEX This index contains securities of Nasdaq-listed companies classified according to the Industry Classification Benchmark as either Biotechnology or Pharmaceuticals that also meet other eligibility criteria.

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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.

Equity risk premium is the excess return that an individual stock or the overall stock market provides over a risk-free rate. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.

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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

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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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.

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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 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

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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 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.

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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 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.

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- 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.
- 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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