

Morgan Stanley Wealth Management GIO Client Call

Risk Considerations

For index, indicator and survey definitions referenced in this report please visit the following:

<https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions>

Important note regarding economic sanctions. This event may involve the discussion of country/ies which are generally the subject of selective sanctions programs administered or enforced by the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC"), the European Union and/or by other countries or multi-national bodies. The content of this presentation is for informational purposes and does not represent Morgan Stanley's view as to whether or not any of the Persons, instruments or investments discussed are or may become subject to sanctions. Any references in this presentation to entities or instruments that may be covered by such sanctions should not be read as recommending or advising on any investment activities involving such entities or instruments. You are solely responsible for ensuring that your investment activities in relation to any sanctioned country/ies are carried out in compliance with applicable sanctions.

Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results.

Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

This analysis does not purport to recommend or implement an investment strategy. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations in this analysis. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. No analysis has the ability to accurately predict the future, eliminate risk or guarantee investment results. As investment returns, inflation, taxes, and other economic conditions vary from the assumptions used in this analysis, your actual results will vary (perhaps significantly) from those presented in this analysis.

The assumed return rates in this analysis are not reflective of any specific investment and do not include any fees or expenses that may be incurred by investing in specific products. The actual returns of a specific investment may be more or less than the returns used in this analysis. The return assumptions are based on hypothetical rates of return of securities indices, which serve as proxies for the asset classes. Moreover, different forecasts may choose different indices as a proxy for the same asset class, thus influencing the return of the asset class.

Tax-loss harvesting. IRS rules stipulate that if a security is sold by an investor at a tax loss, the tax loss will not be currently usable if the investor has acquired (or has entered into a contract or option on) the same or substantially identical securities 30 days before or after the sale that generated the loss. This so-called "wash sale" rule is applied with respect to all of the investor's transactions across all accounts.

Direct indexing may only be appropriate for people who have a considerable amount to invest in a taxable account and want a level of customization they couldn't otherwise obtain through a portfolio of funds or individual securities. If you invest in a tax-deferred account, such as a 401(k) or IRA, the tax-harvesting benefits of direct indexing may provide no additional benefit to you. There is no guarantee that you will maximize value by tax-loss selling; holding onto slumping stock may have resulted in value greater than that obtained through tax-loss harvesting via direct indexing. In addition you will incur asset-based fees and expenses in a direct indexing account that may be higher than those for other investments, as well as transaction costs arising from customization and frequent rebalancing.

Virtual Currency Products (Cryptocurrencies)

Buying, selling and using virtual currency products (cryptocurrencies) is highly speculative and may result in substantial losses in a short period of time.

This material is not a solicitation or recommendation to buy or sell, or an endorsement of, any security or other financial instrument including, without limitation, virtual currency products or to participate in any trading strategy related to them. Virtual currency and securities listed and/or over the counter derivatives or other financial instruments that derive their value from, have a price linkage to, have exposure to or result in a payment or distribution of virtual currency, are not currently available for custody, distribution, settlement, purchase or sale at or through Morgan Stanley Smith Barney LLC ("Morgan Stanley"). This is due to, among other factors, the potential high risk and volatility of virtual currency products and the fact that virtual currency remains an experimental concept that is not presently regulated or backed by any central bank worldwide and has no tangible intrinsic value.

This material has been prepared for informational purposes only, based on publicly available factual information. It does not provide individually tailored or general investment advice whatsoever. It has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Investors seeking to evaluate particular investments and strategies in virtual currency products must seek the advice of their independent advisors. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

Active or frequent trading to effectuate a dynamic allocation strategy entails greater risk and is more speculative, but also entails the possibility for above-average returns, compared with a long-term investment strategy. It may also entail more costs and fees, as well as a larger and more immediate tax liability.

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

Investing in foreign markets entails risks not typically associated with domestic markets, such as currency fluctuations and controls, restrictions on foreign investments, less governmental supervision and regulation, and the potential for political instability. These risks may be 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.

Investing in small- to medium-sized companies entails special risks, such as limited product lines, markets and financial resources, and greater volatility than securities of larger, more established companies.

The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer.

High yield bonds (bonds rated below investment grade) may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk, price volatility, and limited liquidity in the secondary market. High yield bonds should comprise only a limited portion of a balanced portfolio.

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.

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.

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.

Floating-rate securities 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.

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

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.

Alternative investments may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; and Risks associated with the operations, personnel, and processes of the manager. Further, opinions regarding Alternative Investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management.

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

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

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

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.

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.

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.

Asset-backed securities generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

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

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

The returns on a portfolio consisting primarily of **environmental, social, and governance-aware investments (ESG)** may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein.

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.

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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.

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.

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.

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

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