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Risks of Complex Registered Funds

Complex Registered Funds ("Complex Funds") are open-ended mutual funds, exchange-traded funds ("ETFs") and closed-end funds ("CEFs") registered under the Investment Company Act of 1940 (the "40 Act"), and exchange-traded notes ("ETNs") not registered through the 40 Act, that pursue non-traditional investment strategies. While traditional open-ended mutual funds, ETFs, CEFs and ETNs generally focus their investment strategies on long-term buy-and-hold stock and bond investing, there are special characteristics and heightened risks associated with trading Complex Funds, which are described in this disclosure. By transacting in such products, including on any J.P. Morgan trading platform or mobile application, you acknowledge that you understand the risks of trading these Complex Funds. **While this disclosure covers important information, before purchasing a Complex Fund, you should read its prospectus carefully to ensure that the Complex Fund is right for you and that you understand the unique features, risks and fees.**

General risks associated with leveraged, inverse and volatility-linked funds

- **Holding risk:** Leveraged/inverse/volatility-linked funds are typically designed to be short-term investments, seeking to achieve their investment objectives on a daily basis (i.e., over one trading session). **They are, generally, not intended to be held overnight or on a long-term basis.**

  The performance of these products over periods longer than one trading day can differ significantly from the stated multiple of the performance (or inverse of the performance) of the underlying index or benchmark during the same period. Multi-day performance of leveraged/inverse/volatility-linked funds is difficult to forecast due to the fact that most of these products reset daily. Even small differences in daily performance can be magnified over time by the effects of compounding, as the compounding effect from the daily reset can cause these investments to perform worse than their underlying multiple would suggest over any period longer than one trading day.

- **Risk of higher volatility:** Volatility refers to the frequency and magnitude of changes in the prices of an investment such as leveraged/inverse funds. Generally, the higher the volatility of an investment, the greater its price swings and the more risk associated with the investment. Because leveraged/inverse funds use derivatives, such as swaps, futures and options, and other leveraged products to achieve reverse and/or amplified market results, there may be greater volatility trading in these products. In addition, the compounding mentioned above may be further aggravated in volatile markets.

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- **Risk of lower liquidity:** Liquidity refers to the ability of market participants to buy and sell investments in the secondary market. Generally, the more orders that are available in a market, the greater the liquidity. Liquidity is an important consideration because, with greater liquidity, it is easier for investors to buy or sell investments. Investors are more likely to pay or receive a less competitive price for investments purchased or sold where there's less liquidity. Greater volatility in these products may lead to a higher probability that the product may be restricted from trading by an exchange, resulting in lower liquidity for Leveraged/Inverse Funds, and especially exchange-traded notes.

- **Unknown risks:** You understand that J.P. Morgan Securities LLC ("JPMS") may not be able to predict and describe all of the special trading risks that could arise when trading in these products. Therefore, you agree not to hold JPMS, its affiliates, and their employees responsible for any risks you undertake, regardless of whether described herein or in the products' offering documents, by transacting in such products.

LEVERAGED FUNDS

Leveraged funds seek to provide enhanced returns at multiples of an underlying benchmark or index (generally 200%–300%) for a single day, excluding fees and other expenses. Due to the impact of daily compounding, investors should not expect the referenced daily leverage of these returns to persist over periods longer than a trading day.

These funds also utilize derivative instruments such as swaps, futures and options to accomplish their objectives, which means they can be extremely volatile and carry a high risk of substantial losses. The volatility of the strategy means that it is subject to extreme price movements on a daily basis. The use of leverage can enhance and magnify any losses incurred.

- **Compounding risk:** Leveraged funds are designed to achieve their targeted multiple returns on a daily basis. Due to the effects of compounding, the performance of these funds over longer periods (more than one trading day) can diverge significantly from the expected multiple of the underlying index. This can lead to losses, especially in volatile markets.

- **Volatility risk:** The use of leverage magnifies both gains and losses. In highly volatile markets, leveraged funds can experience substantial price swings, leading to significant short-term losses. This volatility can erode the value of the fund, particularly if the market moves against the investor's position.

- **Decay over time:** Leveraged funds often experience a phenomenon known as "volatility decay" or "beta slippage." This occurs because the fund must rebalance its portfolio daily to maintain the desired leverage ratio. This daily rebalancing can lead to an erosion of the fund's value over time, especially in a volatile market.

- **Market timing risk:** Leveraged funds are generally not suitable for long-term investments due to the risks mentioned above. They are often used by traders who seek to capitalize on short-term market movements. Poor market timing can lead to significant losses, as the fund's value can decline rapidly.

- **High fees and costs:** Leveraged funds tend to have higher management fees and transaction costs compared to traditional ETFs/ETNs. These costs can reduce returns, particularly if the fund is held for longer periods.

- **Tracking error:** Leveraged funds may not perfectly track their underlying index due to the complexities of managing leverage, the costs of derivatives and other factors. This tracking error can result in returns that differ from what investors might expect based on the index's performance.

- **Liquidity risk:** Some leveraged funds may have lower liquidity compared to more traditional funds, which can lead to wider bid-ask spreads and difficulty in executing trades at desired prices. This can be especially problematic in fast-moving markets.

Due to these risks, leveraged funds are generally recommended only for experienced investors who understand the complexities of leverage and are prepared to manage the associated risks carefully. They are typically used for short-term trading strategies rather than long-term investments.

INVERSE FUNDS

Often referred to as "short" funds, inverse funds seek to provide the opposite of the daily performance of an underlying benchmark or index. These funds are generally designed to hedge exposure to downturns in the market. Similar to leveraged funds, these funds may use derivative instruments and could also employ leverage.

These funds generally aim to provide -1x return on an underlying index; however, some funds are both inverse and leveraged, meaning that they seek a return that is a multiple of the inverse performance of the underlying index. Similar to leveraged funds, this inverse return is provided on a daily basis, and investors should not expect the promised daily leverage of these returns to persist over periods longer than a trading day. Inverse funds generate their returns through the use of derivative positions. Because derivatives are taxed differently from equity or fixed income securities, investors should be aware that these funds may not have the same tax efficiencies that investors have come to expect from many ETF/ETN products.

- **Compounding risk:** Similar to leveraged funds, inverse funds are designed to deliver their intended inverse return on a daily basis. Over longer periods, the effect of compounding can lead to performance that deviates significantly from the expected inverse of the underlying index. This risk is exacerbated in volatile markets, where the fund's value can erode quickly.

- **Volatility risk:** Inverse funds tend to be more volatile than traditional funds due to their use of derivatives and the nature of their strategy. In periods of high market volatility, inverse funds can experience significant price swings, leading to larger-than-expected losses.

- **Decay over time:** The daily rebalancing required to maintain the inverse relationship can lead to a phenomenon known as "volatility decay" or "beta slippage." Over time, this decay can erode the value of the fund, especially if the market experiences volatility without a clear trend.

- **Market timing risk:** Inverse funds are generally intended for short-term trading or hedging, not for long-term investment. Poor market timing can result in substantial losses, particularly if the market moves against the investor's position. Holding inverse funds for longer periods can be particularly risky due to the compounding and decay effects.

- **Tracking error:** Inverse funds may not perfectly track the inverse of their underlying index due to the complexities of managing the derivatives and the costs involved. This tracking error can result in returns that differ from what investors might expect based on the index's performance.

- **High fees and costs:** Inverse funds often have higher management fees and transaction costs compared to traditional funds. These costs can erode returns, especially if the fund is held for an extended period.

- **Liquidity risk:** Some inverse funds may have lower liquidity compared to more traditional funds, leading to wider bid-ask spreads and potential difficulty in executing trades at desired prices. This can be especially problematic in fast-moving markets.

- **Limited upside:** Inverse funds are designed to profit from declines in the market. If the market rises, the fund will lose value. Additionally, because the potential gains are limited to 100% (if the underlying index goes to zero), the upside is capped, while losses can be significant if the market rises sharply.

Given these risks, inverse funds are generally recommended only for experienced investors who fully understand the product and are using them for short-term strategies such as hedging or taking advantage of anticipated market declines. They are not suitable for long-term investments.

VOLATILITY-LINKED FUNDS

These are typically designed to track the Chicago Board Options Exchange (CBOE) Volatility Index (VIX) Futures, rather than the often cited CBOE Volatility Index, or VIX, itself. These are short-term trading products that can degrade (from constant rebalancing) significantly over time. Hence, they are not meant to be held long-term. There are also inverse and leveraged volatility products, which seek to deliver the opposite of the performance of the VIX over a given time period and/or delivery multiples of the VIX performance, respectively.

The performance of volatility-linked strategies may be significantly different from the performance of the VIX and the actual realized volatility of the S&P 500 Index. VIX futures contracts are among the most volatile segments of all futures markets. Volatility-linked strategies may be subject to extreme volatility and greater risk of loss than other traditional ETFs/ETNs.

- **Complexity of the product:** Volatility-linked funds are complex investments that involve derivatives such as futures contracts on the VIX. The complexities of these derivatives, including the need to roll contracts as they near expiration, make these funds difficult to understand for many investors. This complexity increases the risk of mismanagement or misunderstanding by investors.

- **Contango and backwardation risks:** Volatility-linked funds typically track VIX futures contracts, which are subject to contango (when future prices are higher than spot prices) or backwardation (when future prices are lower than spot prices). In contango, the fund must buy more expensive contracts as the current contracts expire, leading to a loss known as "roll cost." This can significantly erode the fund's value over time, even if volatility remains elevated.

- **Decay over time:** Due to the effects of contango and the cost of rolling futures contracts, volatility-linked funds can experience a consistent erosion of value over time, especially when markets are calm and volatility is low. This decay makes these funds unsuitable for long-term investment and better suited for short-term trading.

- **Volatility risk:** Volatility-linked funds are highly volatile, often experiencing large price swings in a short period. While this can lead to significant gains during market turbulence, it also exposes investors to the risk of substantial losses if the market stabilizes or moves against their position.

- **Tracking error:** Volatility-linked funds may not perfectly track the performance of the underlying volatility index or futures due to the complexities involved in managing the derivative positions. This tracking error can result in returns that differ from what investors might expect based on the index's performance.

- **Liquidity risk:** Some volatility-linked funds may have lower liquidity compared to more traditional funds, leading to wider bid-ask spreads and difficulty in executing trades at desired prices. This can be particularly problematic in fast-moving markets or during times of extreme volatility.

- **High fees and costs:** The management fees and transaction costs associated with volatility-linked funds are typically higher than those of traditional funds. These costs can erode returns, especially if the fund is held for an extended period.

- **Market timing risk:** The value of volatility-linked funds is highly sensitive to market conditions and timing. These ETFs are often used by traders looking to capitalize on short-term spikes in volatility, but poor market timing can lead to significant losses if volatility decreases or the market moves in an unexpected direction.

- **Not a direct hedge:** Investors sometimes mistakenly believe that volatility-linked funds provide a direct hedge against market declines. While they can offer protection during sharp market downturns, their performance is tied to the VIX futures market, which doesn't always move in synchronization with the broader market. This disconnect can result in the fund not providing the expected level of protection during certain market conditions.

Because of these risks, volatility-linked funds are generally recommended only for sophisticated investors who understand the complexities of volatility products and are prepared to manage the associated risks carefully. They are typically used for short-term trading strategies rather than long-term investments.

CRYPTO-LINKED FUNDS ("DIGITAL ASSET PRODUCTS")

Digital Asset Products are investment products typically designed to track the performance of a specific digital asset, including cryptocurrencies (e.g., Bitcoin, Ethereum, etc.), through a traditional investment vehicle. They tend to be passive strategies, tracking a specific cryptocurrency index. Due to the high volatility of digital assets, Digital Asset Products may also experience high volatility and reflect an increased sensitivity to news, speculation and manipulation.

Additionally, digital assets and Digital Asset Products are relatively new compared to other asset classes and types of investment products, and as a result, there is limited data on their performance; they remain subject to ongoing regulatory uncertainty; and they remain subject to technological and market developments. You should consider these unique characteristics and whether these investments are suitable for you when making an investment decision.

- **Volatility risk:** Cryptocurrencies are known for their extreme price volatility. This can lead to significant fluctuations in the value of Digital Asset Products, making them a high-risk investment. The value of cryptocurrencies can also be heavily influenced by market sentiment, news and social media. Sudden shifts in sentiment can lead to rapid price changes, affecting the value of Digital Asset Products and potentially result in losses.

- **Regulatory risk:** The regulatory environment for cryptocurrencies is still evolving. Changes in regulations, government policies or legal actions can have a significant impact on the value and operation of Digital Asset Products.

- **Liquidity risk:** While ETFs are generally considered liquid investments, the underlying assets in Digital Asset Products may not always be as liquid. This can lead to difficulties in buying or selling shares at desired prices, especially during periods of market stress.

- **Custodial risk:** The safekeeping of digital assets poses unique challenges. If the ETF holds actual cryptocurrencies, there is a risk of loss due to hacking, fraud or technical issues with the custodial services.

- **Tracking error:** Digital Asset Products aim to track the performance of a specific index or basket of cryptocurrencies. However, due to management fees, transaction costs and other factors, the fund's performance may deviate from the underlying assets, leading to tracking errors.

- **Technological risks:** Cryptocurrencies rely on blockchain technology, which is still relatively new and evolving. Technological failures, vulnerabilitie or changes in the underlying technology can impact the value of cryptocurrencies and, consequently, Digital Asset Products.

COMMODITY FUTURES–LINKED FUNDS

Commodity futures are derivative contracts in which the purchaser agrees to buy or sell a specific quantity of a physical commodity at a specified price on a particular date in the future. Commodity futures–linked funds typically will track or hold futures contracts on a rolling basis, frequently focusing on shorter-term futures. This means that they'll replace shorter-term contracts or contracts about to expire with others that have more distant or deferred expiration dates in order to maintain the desired exposure.

The performance of commodity futures–linked funds can deviate significantly from the performance of the referenced commodity, especially over longer periods. The deviation could be either positive or negative, depending on market conditions and the product's investment strategy.

- **Price volatility:** Commodities are known for their price volatility, which can be influenced by factors such as weather, geopolitical events and supply-demand dynamics. This volatility can lead to significant price swings, potentially resulting in gains or losses for traders.

- **Market risk:** Overall market conditions and trends can impact commodity prices and futures contracts. Factors such as economic indicators, global demand and technological advancements can all affect market sentiment and price movements.

- **Liquidity risk:** Some commodity futures markets may have lower liquidity compared to more mainstream financial investments. This can make it challenging to enter or exit positions at desired prices, potentially leading to difficulty in executing trades.

- **Systemic risk:** Events such as financial crises or geopolitical tensions can have systemic effects on commodity markets, influencing prices and market behavior beyond individual commodities.

- **Operational risk:** Errors in trading platforms, technological failures or disruptions in communication networks can disrupt trading activities and potentially lead to losses.

INTERVAL AND TENDER OFFER CLOSED-END FUNDS

Interval and tender offer funds are a type of closed-end registered fund that offers limited liquidity to investors. They allow investors to buy shares at any time, but only allow investors to redeem their interests, by way of repurchases, at specific intervals, such as quarterly, semiannually or annually, and often in limited quantities. While interval and tender offer funds can offer certain benefits, such as access to illiquid assets, including private investments, they also come with risks.

- **Illiquidity risk:** Interval and tender offer funds should be considered illiquid investments. Interval and tender offer funds may not be suitable for investors who expect to be able to quickly convert all or a portion of their investment to cash. This can be particularly problematic in times of financial emergencies or market downturns. Unlike traditional listed closed-end and open-end funds, shares are not listed on any securities exchange, and there is no guarantee a secondary market will develop. Additionally, interval and tender offer funds often invest in illiquid assets such as private equity, private loans, structured credit, hedge funds, real estate and infrastructure, and are therefore only appropriate for investors who are comfortable with investment in less liquid or illiquid portfolio investments within an illiquid fund.

- **Repurchase offer risk:** Unlike mutual funds, interval and tender offer funds are not redeemable at an investor's option. Interval funds allow investors to sell shares back to the fund only during specified repurchase periods (typically every three, six or 12 months), and the fund is required to repurchase only a limited percentage (usually 5% to 25%) of its outstanding shares. Tender offer funds are not obligated to follow a set schedule or amount for repurchase offers; these decisions are made at the discretion of the fund's board and may vary over time. If too many investors wish to redeem at once, you may only be able to sell a portion of the shares you intended to sell, or may not be able to redeem at all during a given period.

- **Valuation risk:** Interval and tender offer funds are subject to valuation risk, which is the risk that fund holdings are valued at prices that a fund is unable to obtain or verify upon sale due to factors such as incomplete data, market instability, human error, lack of readily available market quotations or the inherent difficulty in determining the fair value of certain types of investments. A fund's net asset value is a critical component in determination of the price at which shares will be offered and at which a repurchase offer will be made. Consequently, variance in the valuation of a fund's investments will impact the fees and expenses investors will pay, the price an investor will receive in connection with a repurchase offer and the number of shares an investor will receive upon investment in a fund.

- **Strategy risk factors:** Interval and tender offer funds carry additional risks from the strategies they use, which may include illiquid or alternative investment strategies. A fund's investment portfolio may include securities issued primarily by private companies. Operating results for private companies in a specified period may be difficult to determine. Such investments involve a high degree of business and financial risk that can result in substantial losses. Additionally, some interval and tender offer funds may have a concentrated portfolio, meaning they invest a significant portion of their assets in a limited number of securities or sectors. This can increase the fund's exposure to specific risks and lead to greater volatility.

- **High fees and costs:** Interval and tender offer funds tend to have higher management fees and operating costs. These costs can reduce returns and result in performance that is lower compared to less costly and less complex investments, or direct investment in the underlying securities held by a fund.

LIQUID ALTERNATIVES

Liquid alternatives are typically registered funds that follow investment strategies that are more commonly found within hedge funds. They differ from hedge funds because they provide more frequent redemption opportunities, so they are said to be "liquid." Liquid alternatives may hold traditional and non-traditional investments, and may employ more complex trading strategies such as short selling, leverage and derivatives, which may make an investment in a liquid alternative fund riskier than a traditional mutual fund or ETF.

- **Investment structure:** An alternative fund of funds may offer greater diversification than a single-strategy or even multi-strategy alternative fund. At the same time, this greater diversification may lead to a flattening of return and potentially less transparency. There may also be an inability to reallocate or adapt in a way that is beneficial to the overall performance of a particular fund of funds.

- **Strategy risk factors:** In addition to the usual market and investment specific risks mutual funds have, alternative funds carry additional risks from the strategies they use. For example, market-neutral funds tend to have significant portfolio turnover risk that can result in higher costs. Similarly, a distressed bond fund is likely to have significant credit risk.

- **Investment objectives:** One fund might be designed to capitalize on management expertise in a specific area (investing in distressed companies, for instance). Another might seek to provide what the fund's managers believe to be more complete diversification through exposure to commodities, currencies and other alternative investments.

- **Operating expenses:** Alternative mutual funds can be pricey relative to their traditional managed fund peers. It is common for alternative funds to have annual operating expenses of around 1.5% per year, and some funds are considerably more expensive.

- **Performance history:** Many alternative funds have limited performance histories, especially performance in a down market. They may underperform broad indexes such as the S&P 500—particularly after considering expenses. As with all investments, performance will fluctuate.

ALGORITHM-BASED PAYOFF

Algorithm-based funds are complex funds that provide investors at predetermined dates with algorithm-based payoffs that are linked to the performance, or to the realization of, price changes or other conditions of financial assets, indices, or reference portfolios with such features as structured notes and levered/inverse ETFs. These investments may allow for leverage or shorting, which also relies heavily on systematic quantitative strategies and complex mathematical models.

- **Model risk:** Algorithms may be overfitted to historical data, meaning they reflect performance well on past data but poorly on new, unseen data. Models may be based on incorrect or overly simplistic assumptions about market behavior, leading to poor performance.

- **Volatility risk:** Algorithm-based funds can be highly sensitive to market volatility. Rapid changes in market conditions can lead to significant losses.

- **Liquidity risk:** In times of market stress, the liquidity of certain assets may decrease, making it difficult for the algorithm to execute trades without significantly impacting prices.

- **Technical failures:** Hardware or software failures can disrupt trading activities. This includes issues such as server crashes, network outages or bugs in the code.

- **Data quality:** The accuracy and timeliness of the data fed into the algorithms are crucial. Poor-quality data can lead to incorrect trading decisions.

- **Herding:** If many funds use similar algorithms, they may end up making similar trades, leading to crowded trades and increased market impact.

- **High fees and costs:** Algorithms may engage in high-frequency trading and high turnover, leading to high transaction costs that can erode returns.

ESOTERIC

Esoteric strategies are generally those whose primary objective is to invest in the following asset classes: bank loans, frontier emerging markets, contingent convertible bonds and asset-backed securities (excluding agency mortgages, auto & credit card receivables, commercial paper and stressed/distressed debt).

- **Valuation risk:** Accurately valuing these investments can be challenging due to their complexity and the lack of transparent pricing mechanisms.
- **Counterparty risk:** Many esoteric investments involve counterparty risk, where the other party in the transaction may default on their obligations.
- **Credit quality:** The underlying assets of esoteric investments may have varying credit qualities, and a deterioration in credit quality can lead to significant losses.
- **Volatility risk:** These investments can be highly sensitive to market conditions, leading to significant price volatility.
- **Interest rate risk:** Changes in interest rates can have an impact on the value of esoteric investments, especially those with long durations.
- **Correlation risk:** These investments may be more correlated with other assets than initially thought, reducing the benefits of diversification.
- **Event risk:** Unpredictable events, such as economic crises or geopolitical developments, can have a disproportionate impact on esoteric investments.

LEVERAGE

Leverage strategies are generally those whose gross notional exposure is expected to frequently exceed 100% in order to achieve their stated investment objectives, using either financial leverage or implied leverage by investing in securities that have a leveraging effect (such as derivatives and forward-settling securities), which may increase market exposure, magnify investment risks and cause losses to be realized more quickly. While these funds are generally considered less risky than other leveraged funds (e.g., 2x and 3x leverage), they still come with their own sets of risks.

- **Volatility risk:** The value of the fund can fluctuate with the market. If the underlying assets experience significant volatility, the fund's value will also be affected.
- **Sector exposure:** If the fund is concentrated in a specific sector or industry, it may be more vulnerable to sector-specific risks, such as regulatory changes or technological disruptions. Funds focused on a particular geographic region may be exposed to region-specific risks, such as political instability or economic downturns.
- **Credit quality:** The credit quality of the underlying assets can affect the fund's performance. Lower credit quality assets may offer higher yields but come with higher risk.
- **Interest rate changes:** Changes in interest rates can impact the value of fixed income securities within the fund. Rising interest rates typically lead to falling bond prices and vice versa. The sensitivity of the fund to interest rate changes depends on the duration of the underlying bonds. Longer-duration bonds are more sensitive to interest rate changes.

The risks described above are some of those commonly associated with investing in Complex Funds. This document is not an exhaustive list of all of the risks that could be associated with a Complex Fund, nor is this document intended to substitute your responsibility to carefully read and understand the prospectus for each security you choose to purchase. You should carefully consider a security's investment objectives, risks, charges and expenses before investing. This and other important information are included in the prospectus and/or, if available, summary prospectus, which you should read carefully before investing. **For assistance obtaining a copy of the prospectus, contact a J.P. Morgan representative at the number on your statement.**

IMPORTANT INFORMATION

Investing involves market risk, including the possible loss of principal. There is no guarantee that investment objectives will be achieved. Asset allocation/diversification does not guarantee a profit or fully protect against a loss.

Investors should carefully consider the investment objectives and risks, as well as charges and expenses of the fund before investing. To obtain a prospectus, visit the fund company's or insurance company's website. The prospectus contains this and other information about the fund. Read the prospectus carefully before investing.

The information expressed is not a substitute for reviewing the applicable prospectus and is being provided for informational and educational purposes only. It not intended to provide, and should not be relied on for, accounting, legal or tax advice. It is not intended to provide specific advice or recommendations for any individual. You should carefully consider your needs and objectives before making any decisions.

IMPORTANT INFORMATION ABOUT EXCHANGE-TRADED FUNDS

ETFs are marketable securities that are interests in registered funds, and are designed to track, before fees and expenses, the performance or returns of a relevant basket of assets, usually an underlying index. Unlike mutual funds, an ETF trades like a common stock on a stock exchange. ETFs experience price changes throughout the day as they are bought and sold. ETFs typically have higher daily liquidity and lower fees than mutual fund shares.

ETFs do not fully replicate their underlying indices and may hold securities different from those included in their underlying indices. Physical replication and synthetic replication are two of the most common structures used in the construction of ETFs. Physically replicated ETFs buy all or a representative portion of the underlying securities in the index that they track. In contrast, some ETFs do not purchase the underlying assets but gain exposure to them by use of swaps or other derivative instruments.

In addition to the general risks of investing in funds, there are specific risks to consider with respect to an investment in these passive investment vehicles. ETF performance may differ from the performance of the applicable index for a variety of reasons. For example, ETFs incur operating expenses and portfolio transaction costs not incurred by the benchmark index, may not be fully invested in the securities of their indices at all times, or may hold securities not included in their indices. In addition, corporate actions with respect to the equity securities underlying ETFs (such as mergers and spin-offs) may impact the variance between the performances of the funds and applicable indices. Passive investing differs from active investing in that managers are not seeking to outperform their benchmark. As a result, managers may hold securities that are components of their underlying index, regardless of the current or projected performance of the specific security or market sector. Passive managers do not attempt to take defensive positions based on market conditions, including declining markets. This approach could cause a passive vehicle's performance to be lower than if it employed an active strategy.

ETF shares are bought and sold in the secondary market at market prices. Although ETFs are required to calculate their net asset values (NAV) on a daily basis, at times the market price of an ETF's shares may be more than the NAV (trading at a premium) or less than the NAV (trading at a discount). Given the differing nature of the relevant secondary markets for ETFs, certain ETFs may trade at a larger premium or discount to NAV than shares of other ETFs depending on the markets where such ETFs are traded. The risk of deviation from NAV for ETFs generally is heightened in times of market volatility or periods of steep market declines. For example, during periods of market volatility, securities underlying ETFs may be unavailable in the secondary market, market participants may be unable to calculate accurately the NAV per share of such ETFs and the liquidity of such ETFs may be adversely affected. This kind of market volatility may also disrupt the ability of market participants to create and redeem shares in ETFs. Further, market volatility may adversely affect, sometimes materially, the prices at which market participants are willing to buy and sell shares of ETFs. As a result, under these circumstances, the market value of shares of an ETF may vary substantially from the NAV per share of such ETF, and the Client may incur significant losses from the sale of its ETF shares. In addition, for all of the foregoing reasons, the performance of any ETF may not correlate with the performance of its underlying index as well as the NAV per share of such ETF.

Trading in the shares of one or more ETFs may be halted due to market conditions or for reasons that, in the view of the exchange on which such shares are traded, make trading in such shares inadvisable. In addition, trading in the shares of ETFs may be subject to trading halts caused by extraordinary market volatility pursuant to the relevant exchange's "circuit breaker" rules. If a trading halt or unanticipated early closing of an exchange occurs, it may not be possible to purchase or sell shares of an ETF. There can be no assurance that the requirements of an exchange necessary to maintain the listing of an ETF will continue to be met or will remain unchanged. While shares of ETFs are generally listed on an exchange, there can be no assurance that active trading markets for the shares of any ETF will be maintained.

The information expressed is being provided for informational and educational purposes only. It is not intended to provide specific advice or recommendations for any individual. You should carefully consider your needs and objectives before making any decisions.

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