

Underlying supplement no. 7-I
*To the prospectus dated April 8, 2020 and
the prospectus supplement dated April 8, 2020*

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Rule 424(b)(2)

JPMORGAN CHASE & CO.

Notes Linked to the MerQube US Tech+ Vol Advantage Index

JPMORGAN CHASE FINANCIAL COMPANY LLC

Notes, Fully and Unconditionally Guaranteed by JPMorgan Chase & Co., Linked to the MerQube US Tech+ Vol Advantage Index

Each of JPMorgan Chase & Co. and JPMorgan Chase Financial Company LLC may, from time to time, offer and sell notes linked in whole or in part to the MerQube US Tech+ Vol Advantage Index (the “**Index**”). The issuer of the notes, as specified in the relevant terms supplement, is referred to in this underlying supplement as the “**Issuer**.” The Issuer will be either JPMorgan Chase & Co. or JPMorgan Chase Financial Company LLC. For notes issued by JPMorgan Chase Financial Company LLC, JPMorgan Chase & Co., in its capacity as guarantor of those notes, is referred to in this product supplement as the “**Guarantor**.”

The Index is subject to a daily deduction of a 6.0% per annum index fee. This daily fee deduction will offset any appreciation of the futures contracts included in the Index, will heighten any depreciation of those futures contracts and will generally be a drag on the performance of the Index. The Index will trail the performance of an identical index without an index fee.

This underlying supplement describes the Index, the relationship between JPMorgan Chase & Co., JPMorgan Chase Financial Company LLC and the sponsor of the Index and terms that will apply generally to notes linked in whole or in part to an Index and provides other information. This underlying supplement supplements the terms described in the accompanying product supplement, the prospectus supplement and the prospectus. A separate term sheet or pricing supplement, as the case may be, will describe terms that apply to specific issuances of the notes. These term sheets and pricing supplements are referred to generally in this underlying supplement as terms supplements. If the terms described in the relevant terms supplement are inconsistent with those described in this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus, the terms described in the relevant terms supplement will control. In addition, if this underlying supplement and the accompanying product supplement or another accompanying underlying supplement contain information relating to the Index, the information contained in the document with the most recent date will control.

Investing in the notes involves a number of risks. See “Risk Factors” beginning on page S-2 of the prospectus supplement, “Risk Factors” in the accompanying product supplement and “Risk Factors” beginning on page US-2 of this underlying supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy or the adequacy of the relevant terms supplement, this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus. Any representation to the contrary is a criminal offense.

The notes are not bank deposits, are not insured by the Federal Deposit Insurance Corporation or any other governmental agency and are not obligations of, or guaranteed by, a bank.

J.P.Morgan

July 12, 2021

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The Issuer and the Guarantor (if applicable) have not authorized anyone to provide any information other than that contained or incorporated by reference in the relevant terms supplement, this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus with respect to the notes offered by the relevant terms supplement and with respect to the Issuer and the Guarantor (if applicable). The Issuer and the Guarantor (if applicable) take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The relevant terms supplement, together with this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus, will contain the terms of the notes and will supersede all other prior or contemporaneous oral statements as well as any other written materials, including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of the Issuer. The information in each of the relevant terms supplement, this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus may be accurate only as of the date of that document.

The notes are not appropriate for all investors and involve a number of risks and important legal and tax consequences that should be discussed with your professional advisers. You should be aware that the regulations of Financial Industry Regulatory Authority, Inc., or FINRA, and the laws of certain jurisdictions (including regulations and laws that require brokers to ensure that investments are suitable for their customers) may limit the availability of the notes. The relevant terms supplement, this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus do not constitute an offer to sell or a solicitation of an offer to buy the notes under any circumstances in which that offer or solicitation is unlawful.

The notes are not commodity futures contracts or swaps and are not regulated under the Commodity Exchange Act of 1936, as amended (the “Commodity Exchange Act”). The notes are offered pursuant to an exemption from regulation under the Commodity Exchange Act, commonly known as the hybrid instrument exemption, that is available to securities that have one or more payments indexed to the value, level or rate of one or more commodities, as set out in section 2(f) of that statute. Accordingly, you are not afforded any protection provided by the Commodity Exchange Act or any regulation promulgated by the Commodity Futures Trading Commission.

In this underlying supplement, “we,” “us” and “our” refer to the Issuer, unless the context requires otherwise, and “JPMorgan Financial” refers to JPMorgan Chase Financial Company LLC. To the extent applicable, the index described in this underlying supplement is deemed to be one of the “Indices” referred to in the accompanying product supplement.

SUMMARY

All information contained in this underlying supplement regarding the MerQube US Tech+ Vol Advantage Index (the “**Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information and other information provided by MerQube (the “**Index Sponsor**” and “**Index Calculation Agent**”), without independent verification. This information reflects the policies of, and is subject to change by, the Index Sponsor. The Index was developed by the Index Sponsor, in coordination with J.P. Morgan Securities LLC. The Index is maintained by the Index Sponsor and is calculated and published by the Index Calculation Agent. The Index Sponsor has no obligation to continue to publish, and may discontinue the publication of, the Index.

The Index was established on June 22, 2021. The Index is reported by the Bloomberg Professional® service under the ticker symbol “MQUSTVA”.

The Index attempts to provide a dynamic rules-based exposure to an unfunded rolling position in E-Mini Nasdaq-100 futures (the “**Futures Contracts**”), which reference the Nasdaq-100 Index®, while targeting a level volatility, with a maximum exposure to the Futures Contracts of 500% and a minimum exposure to the Futures Contracts of 0%. The Index is subject to a daily deduction of a 6.0% per annum index fee. The Nasdaq-100 Index® is a modified market capitalization-weighted index of 100 of the largest non-financial securities listed on The Nasdaq Stock Market based on market capitalization. For more information about the Futures Contracts and the Nasdaq-100 Index®, see “Background on E-Mini Nasdaq-100 Futures” and “Background on the Nasdaq-100 Index®,” respectively, below.

On each weekly Index rebalance day, the exposure to the Futures Contracts is set equal to (a) the 35% volatility target *divided by* (b) the one-week implied volatility of the Invesco QQQ TrustSM, Series 1 (the “**QQQ Fund**”), subject to a maximum exposure of 500%. For example, if the implied volatility of the QQQ Fund is equal to 17.5%, the exposure to the Futures Contracts will equal 200% (or 35% / 17.5%) and if the implied volatility of the QQQ Fund is equal to 40%, the exposure to the Futures Contracts will equal 87.5% (or 35% / 40%). The Index’s exposure to the Futures Contracts will be greater than 100% when the implied volatility of the QQQ Fund is below 35%, and the Index’s exposure to the Futures Contracts will be less than 100% when the implied volatility of the QQQ Fund is above 35%.

The investment objective of the QQQ Fund is to seek to track the investment results, before fees and expenses, of the Nasdaq-100 Index®. For more information about the QQQ Fund, see “Background on the Invesco QQQ TrustSM, Series 1” below. The Index uses the implied volatility of the QQQ Fund as a proxy for the volatility of the Futures Contracts.

For additional information about the Index, see “The MerQube US Tech+ Vol Advantage Index” below.

The Index is subject to risks associated with the use of significant leverage. In addition, the Index may be significantly uninvested on any given day, and, in that case, will realize only a portion of any gains due to appreciation of the Futures Contracts on that day. The index fee is deducted daily at a rate of 6.0% per annum, even when the Index is not fully invested.

No assurance can be given that the investment strategy used to construct the Index will achieve its intended results or that the Index will be successful or will outperform any alternative index or strategy that might reference the Futures Contracts.

RISK FACTORS

*Your investment in the notes will involve certain risks. Investing in the notes is not equivalent to investing directly in the Index, the Futures Contracts, the Nasdaq-100 Index®, any of the equity securities composing the Nasdaq-100 Index®, the QQQ Fund or exchange-traded or over-the-counter instruments based on, or other instruments linked to any of the foregoing. **You should consider carefully the following discussion of risks as well as the discussion of risks included in the relevant terms supplement, in the accompanying product supplement and in any accompanying underlying supplement before you decide that an investment in the notes is suitable for you.***

Risks Relating to the Index

J.P. Morgan Securities LLC, an affiliate of the Issuer and the Guarantor (if applicable), coordinated with the Index Sponsor in the development of the Indices.

J.P. Morgan Securities LLC, which is referred to in this underlying supplement as JPMS, an affiliate of the Issuer and the Guarantor (if applicable), coordinated with the Index Sponsor in its development of the guidelines and policies governing the composition and calculation of the Index. Although the Index Sponsor, in developing the Index, coordinated with JPMS, JPMorgan Chase & Co., as the ultimate parent company of JPMS, ultimately controls JPMS.

In addition, the policies and judgments for which JPMS was responsible could have an impact, positive or negative, on the level of the Index and the value of your notes. JPMS was under no obligation to consider your interests as an investor in the notes in its role in developing the guidelines and policies governing the Index or making judgments that may affect the level of the Index. Furthermore, the inclusion of Futures Contracts in the Index is not an investment recommendation by the Issuer, the Guarantor (if applicable) or JPMS of the Futures Contracts underlying the Index.

The level of the Index will include the deduction of a fee of 6.0% per annum.

One way in which the Index may differ from a typical index is that its level will include the deduction of a 6.0% per annum fee. The per annum fee will be deducted daily. As a result of the deduction of the per annum fee, the level of the Index will trail the value of a hypothetical identically constituted notional portfolio from which no such fee is deducted.

The deduction of the per annum fee will place a significant drag on the performance of the Index, potentially offsetting positive returns on the Index's investment strategy, exacerbating negative returns of its investment strategy and causing the level of the Index to decline steadily if the return of its investment strategy is relatively flat. The Index will not appreciate unless the return of its investment strategy is sufficient to offset the negative effects of the per annum fee, and then only to the extent that the return of its investment strategy is greater than the fee. As a result of the per annum fee, the level of the Index may decline even if the return of its investment strategy is positive.

The Index may not be successful or outperform any alternative strategy that might be employed in respect of the Futures Contracts.

No assurance can be given that the investment strategy on which the Index is based will be successful or that the Index will outperform any alternative strategy that might be employed with respect to the Futures Contracts.

The Index may not approximate its target volatility.

No assurance can be given that the Index will maintain an annualized realized volatility that approximates its target volatility of 35%. The actual realized volatility of the Index may be greater or less than the target volatility. On each weekly Index rebalance day, the Index's exposure to the Futures Contracts is set equal to (a) the 35% volatility target divided by (b) the one-week implied volatility of the QQQ Fund, subject to a maximum exposure of 500%. The Index uses the implied volatility of the QQQ

Fund as a proxy for the volatility of the Futures Contracts. However, there is no guarantee that the methodology used by the Index to determine the implied volatility of the QQQ Fund will be representative of the implied or realized volatility of the Futures Contracts. The performance of the QQQ Fund may not correlate with the performance of the Futures Contracts, particularly during periods of market volatility. In addition, the volatility of the Futures Contracts on any day may change quickly and unexpectedly. Accordingly, the actual realized annualized volatility of the Index may be greater than or less than the target volatility, which may adversely affect the level of the Index and the value of the notes.

The Index is subject to risks associated with the use of significant leverage.

On a weekly Index rebalance day, the Index will employ leverage to increase the exposure of the Index to the Futures Contracts if the implied volatility of the QQQ Fund is below 35%, subject to a maximum exposure of 500%. Under normal market conditions in the past, the QQQ Fund has tended to exhibit an implied volatility below 35%. Accordingly, the Index has generally employed leverage in the past, except during periods of elevated volatility. When leverage is employed, any movements in the prices of the Futures Contracts will result in greater changes in the level of the Index than if leverage were not used. In particular, the use of leverage will magnify any negative performance of the Futures Contracts, which, in turn, would negatively affect the performance of the Index. Because the Index's leverage is adjusted only on a weekly basis, in situations where a significant increase in volatility is accompanied by a significant decline in the value of the Futures Contracts, the level of the Index may decline significantly before the following Index rebalance day when the Index's exposure to the Futures Contracts would be reduced.

The Index may be significantly uninvested.

On a weekly Index rebalance day, the Index's exposure to the Futures Contracts will be less than 100% when the implied volatility of the QQQ Fund is above 35%. If the Index's exposure to the Futures Contracts is less than 100%, the Index will not be fully invested, and any uninvested portion will earn no return. The Index may be significantly uninvested on any given day, and will realize only a portion of any gains due to appreciation of the Futures Contracts on any such day. The index fee is deducted daily at a rate of 6.0% per annum, even when the Index is not fully invested.

The Index may be adversely affected if later Futures Contracts have higher prices than an expiring Futures Contract included in the Index.

As the Futures Contracts included in the Index come to expiration, they are replaced by Futures Contracts that expire three months later. This is accomplished by synthetically selling the expiring Futures Contract and synthetically purchasing the Futures Contract that expires three months from that time. This process is referred to as "rolling." Excluding other considerations, if the market for the Futures Contracts is in "contango," where the prices are higher in the distant delivery months than in the nearer delivery months, the purchase of the later Futures Contract would take place at a price that is higher than the price of the expiring Futures Contract, thereby creating a negative "roll yield." In addition, excluding other considerations, if the market for the Futures Contracts is in "backwardation," where the prices are lower in the distant delivery months than in the nearer delivery months, the purchase of the later Futures Contract would take place at a price that is lower than the price of the expiring Futures Contract, thereby creating a positive "roll yield." The presence of contango in the market for the Futures Contracts could adversely affect the level of the Index and, accordingly, any payment on the notes.

The Index is an excess return index that does not reflect "total returns."

The Index is an excess return index that does not reflect total returns. The return from investing in futures contracts derives from three sources: (a) changes in the price of the relevant futures contracts (which is known as the "price return"); (b) any profit or loss realized when rolling the relevant futures contracts (which is known as the "roll return"); and (c) any interest earned on the cash deposited as collateral for the purchase of the relevant futures contracts (which is known as the "collateral return").

The Index measure the returns accrued from investing in uncollateralized futures contracts (*i.e.*, the sum of the price return and the roll return associated with an investment in the Futures Contracts). By contrast, a total return index, in addition to reflecting those returns, would also reflect interest that could be earned on funds committed to the trading of the Futures Contracts (*i.e.*, the collateral return associated with an investment in the Futures Contracts). Investing in the notes will not generate the same return as would be generated from investing in a total return index related to the Futures Contracts.

The Index has a limited operating history and may perform in unanticipated ways.

The Index was established on June 22, 2021 and therefore has a limited operating history. Any back-testing or similar analysis performed by any person in respect of the Index must be considered illustrative only and may be based on estimates or assumptions not used by the Index Sponsor when determining the level of the Index. Past performance should not be considered indicative of future performance.

An investment in the notes will be subject to risks associated with non-U.S. securities.

Some of the equity securities composing the Nasdaq-100 Index® are issued by non-U.S. companies. Investments in securities linked to the value of such non-U.S. equity securities involve risks associated with the home countries of the issuers of those non-U.S. equity securities. The prices of securities issued by non-U.S. companies may be affected by political, economic, financial and social factors in the home countries of those issuers, or global regions, including changes in government, economic and fiscal policies and currency exchange laws.

Concentration risks associated with the Index may adversely affect the value of your notes.

The Index generally provides exposure to a single futures contract on the Nasdaq-100 Index® that trades on the Chicago Mercantile Exchange. Accordingly, the notes are less diversified than other funds, investment portfolios or indices investing in or tracking a broader range of products and, therefore, could experience greater volatility. You should be aware that other indices may be more diversified than the Indices in terms of both the number and variety of futures contracts. You will not benefit, with respect to the notes, from any of the advantages of a diversified investment and will bear the risks of a highly concentrated investment.

The Index is subject to significant risks associated with futures contracts, including volatility.

The Index tracks the returns of futures contracts. The price of a futures contract depends not only on the price of the underlying asset referenced by the futures contract, but also on a range of other factors, including but not limited to changing supply and demand relationships, interest rates, governmental and regulatory policies and the policies of the exchanges on which the futures contracts trade. In addition, the futures markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. These factors and others can cause the prices of futures contracts to be volatile.

Suspension or disruptions of market trading in futures contracts may adversely affect the value of your notes.

Futures markets like the Chicago Mercantile Exchange, the market for the Futures Contracts, are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators, and government regulation and intervention. In addition, futures exchanges have regulations that limit the amount of fluctuation in some futures contract prices that may occur during a single day. These limits are generally referred to as “daily price fluctuation limits” and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a “limit price.” Once the limit price has been reached in a particular contract, no trades may be made at a price beyond the limit, or trading may be limited for a set period of time. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at potentially disadvantageous times or prices. These circumstances could affect the level of the Index and therefore could affect adversely the value of your notes.

The official settlement price and intraday trading prices of the relevant Futures Contract may not be readily available.

The official settlement price and intraday trading prices of the Futures Contracts are calculated and published by the Chicago Mercantile Exchange and are used to calculate the levels of the Index. Any disruption in trading of the Futures Contracts could delay the release or availability of the official settlement price and intraday trading prices and may delay or prevent the calculation of the Index.

Changes in the margin requirements for the Futures Contracts included in the Index may adversely affect the value of the notes.

Futures exchanges require market participants to post collateral in order to open and to keep open positions in futures contracts. If an exchange changes the amount of collateral required to be posted to hold positions in the Futures Contracts, market participants may adjust their positions, which may affect the prices of the Futures Contracts. As a result, the level of the Index may be affected, which may adversely affect the value of the notes.

Historical performance of the Index should not be taken as an indication of the future performance of the Index during the term of the notes.

The actual performance of the Index over the term of the notes, as well as the amount payable at maturity, may bear little relation to the historical performance of the Index or its hypothetical, back-tested historical performance. As a result, it is impossible to predict whether the level of the Index will rise or fall.

The notes are not regulated by the Commodity Futures Trading Commission (the “CFTC”).

The net proceeds to be received by the Issuer from the sale of the notes will not be used to purchase or sell any futures contracts or options on futures contracts for your benefit. An investment in the notes thus does not constitute either an investment in futures contracts or options on futures contracts or an investment in a collective investment vehicle that trades in these futures contracts (*i.e.*, the notes will not constitute a direct or indirect investment by you in the futures contracts), and you will not benefit from the regulatory protections of the CFTC. Among other things, this means that the Issuer and the Guarantor (if applicable) are not registered with the CFTC as a futures commission merchant and you will not benefit from the CFTC’s or any other non-U.S. regulatory authority’s regulatory protections afforded to persons who trade in futures contracts on a regulated futures exchange through a registered futures commission merchant. For example, the price you pay to purchase notes will be used by the Issuer for its own purposes and will not be subject to customer funds segregation requirements provided to customers that trade futures on an exchange regulated by the CFTC.

Unlike an investment in the notes, an investment in a collective investment vehicle that invests in futures contracts on behalf of its participants may be subject to regulation as a commodity pool, and its operator may be required to register with and be regulated by the CFTC as a commodity pool operator, or qualify for an exemption from the registration requirement. Because the notes will not be interests in a commodity pool, the notes will not be regulated by the CFTC as a commodity pool, the Issuer and the Guarantor (if applicable) will not be registered with the CFTC as a commodity pool operator and you will not benefit from the CFTC’s or any non-U.S. regulatory authority’s regulatory protections afforded to persons who invest in regulated commodity pools.

THE MERQUBE US TECH+ VOL ADVANTAGE INDEX

All information contained in this underlying supplement regarding the MerQube US Tech+ Vol Advantage Index (the “**Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information and other information provided by MerQube (the “**Index Sponsor**” and “**Index Calculation Agent**”), without independent verification. This information reflects the policies of, and is subject to change by, the Index Sponsor. The Index was developed by the Index Sponsor, in coordination with J.P. Morgan Securities LLC. The Index is maintained by the Index Sponsor and is calculated and published by the Index Calculation Agent. The Index Sponsor has no obligation to continue to publish, and may discontinue the publication of, the Index.

The Index was established on June 22, 2021. The Index is reported by the Bloomberg Professional[®] service under the ticker symbol “MQUSTVA”.

The Index attempts to provide a dynamic rules-based exposure to an unfunded rolling position in E-Mini Nasdaq-100 futures (the “**Futures Contracts**”), which reference the Nasdaq-100 Index[®], while targeting a level volatility, with a maximum exposure to the Futures Contracts of 500% and a minimum exposure to the Futures Contracts of 0%. The Index is subject to a daily deduction of a 6.0% per annum index fee. The Nasdaq-100 Index[®] is a modified market capitalization-weighted index of 100 of the largest non-financial securities listed on The Nasdaq Stock Market based on market capitalization. For more information about the Futures Contracts and the Nasdaq-100 Index[®], see “Background on E-Mini Nasdaq-100 Futures” and “Background on the Nasdaq-100 Index[®],” respectively, below.

The Index is subject to risks associated with the use of significant leverage. In addition, the Index may be significantly uninvested on any given day, and, in that case, will realize only a portion of any gains due to appreciation of the Futures Contracts on that day. The index fee is deducted daily at a rate of 6.0% per annum, even when the Index is not fully invested.

No assurance can be given that the investment strategy used to construct the Index will achieve its intended results or that the Index will be successful or will outperform any alternative index or strategy that might reference the Futures Contracts.

Weekly Index Rebalancing

On each weekly Index Rebalance Day (as defined below), the exposure to the Futures Contracts is set equal to (a) the 35% volatility target *divided by* (b) the one-week implied volatility of the Invesco QQQ TrustSM, Series 1 (the “**QQQ Fund**”), subject to a maximum exposure of 500%. For example, if the implied volatility of the QQQ Fund is equal to 17.5%, the exposure to the Futures Contracts will equal 200% (or 35% / 17.5%) and if the implied volatility of the QQQ Fund is equal to 40%, the exposure to the Futures Contracts will equal 87.5% (or 35% / 40%). The Index’s exposure to the Futures Contracts will be greater than 100% when the implied volatility of the QQQ Fund is below 35%, and the Index’s exposure to the Futures Contracts will be less than 100% when the implied volatility of the QQQ Fund is above 35%.

The investment objective of the QQQ Fund is to seek to track the investment results, before fees and expenses, of the Nasdaq-100 Index[®]. For more information about the QQQ Fund, see “Background on the Invesco QQQ TrustSM, Series 1” below. The Index uses the implied volatility of the QQQ Fund as a proxy for the volatility of the Futures Contracts.

Volatility is a measure of the degree of variation in the value of an asset over a period of time. One common approach to estimating volatility is to infer the market’s expectation of the volatility of an asset over a future period from the prices of listed option contracts that reference the asset, which is referred to as implied volatility.

The Index Calculation Agent calculates the one-week implied volatility of the QQQ Fund by referencing out-of-the-money call options on the QQQ Fund and out-of-the-money put options on the QQQ Fund, centered around an at-the-money strike price, with a scheduled expiry date on the

immediately following Index Rebalance Date. The options used for this purpose are put options with strikes at or below the at-the-money strike price, call options with strikes at or above the at-the-money strike price and put and call options with strikes equal to the at-the-money strike price. In calculating the implied volatility of the QQQ Fund, the contribution of a single option to the implied volatility of the QQQ Fund is generally proportional to the difference between strikes of the options on either side of that option and to the price of that option, and is inversely proportional to the square of that option's strike price. In addition, the Index Calculation Agent adjusts the price of any American-style options that are selected to approximate a European option price for that option and makes an adjustment to account for differences between a year measured in calendar days and a year measured in business days.

The at-the-money strike price referred to above is equal to the forward price of the QQQ Fund, determined based on the current price of the QQQ Fund, any expected dividend payments on the QQQ Fund and interest rates derived from official closing prices of EuroDollar futures. EuroDollar futures currently reference rates for 3-month USD LIBOR rates. LIBOR, which stands for "London Interbank Offered Rate," is the average interest rate estimated by leading banks in London that they would be charged if borrowing from other banks without pledging any collateral or security. On March 5, 2021, the U.K. Financial Conduct Authority, which regulates LIBOR, confirmed that 3-month USD LIBOR settings will cease to be provided by any administrator or no longer be representative immediately after June 30, 2023. At this time, no consensus exists as to what rate or rates may become accepted alternatives to LIBOR, and it is impossible to predict the effect of any such alternatives on the Index.

On an Index Rebalance Day, the implied volatility of the QQQ Fund used to determine the exposure of the Index to the Futures Contracts is equal to the arithmetic average of the implied volatility of the QQQ Fund, calculated as described above at the end of each minute during the period from and including 2:30 p.m. to but excluding 3:00 p.m. (EST) on that day.

An "**Index Rebalance Day**" generally occurs each Friday. However, if the primary exchange on which options on the QQQ Fund are listed (the "**Primary Option Market**") or the Chicago Mercantile Exchange (the "**Futures Market**") is not scheduled to open on any Friday, then the Index Rebalance Day will be moved to the immediately preceding business day on which both the Primary Option Market and the Futures Market are scheduled to open. In addition, if the Primary Option Market or the Futures Market is subject to a Futures Market Disruption or an Option Market Disruption on any scheduled Index Rebalance Day, that Index Rebalance Day will be postponed to the first immediately succeeding business day on which the Primary Option Market and the Futures Market are scheduled to open that is not subject to a Futures Market Disruption or an Option Market Disruption.

A "**Futures Market Disruption**" means the occurrence of (i) an unplanned closing of the Futures Market or (ii) the suspension from trading of the Futures Contracts on the Futures Market, in each case, that the Index Calculation Agent determines is material.

An "**Option Market Disruption**" means the occurrence of (i) an unplanned closing of all the exchanges on which the options on the QQQ Fund are listed, (ii) the suspension from trading of options on the QQQ Fund or (iii) the suspension (temporary or not) of the data dissemination in respect of data referencing the QQQ Fund from the Options Price Reporting Authority, in each case, that the Index Calculation Agent determines as material.

Calculation and Publication of the Index Level

The level of the Index is calculated in U.S. dollars at the end of the day on each day on which the Futures Market is scheduled to be open and is not subject to a Futures Market Disruption (an "**Index Calculation Day**"). The level of the Index is rounded to two decimals.

The level of the Index is calculated by reference to the TWAP (time weighted average price) of the Index, as well as the TWAP and closing levels of a sub-index (the "**Futures Tracker**") that tracks the performance of a rolling position in the Futures Contracts, as described under "— The Futures Tracker" below.

The level of the Index was set to 1,000 on January 7, 2005, the first Index Rebalance Day. On each subsequent Index Calculation Day, the level of the Index is calculated by:

- if the current Index Calculation Day is an Index Rebalance Day, adjusting the TWAP level of the Index on that Index Rebalance Day to reflect the percentage change from the TWAP level of the Futures Tracker on the current Index Rebalance Day to the closing level of the Futures Tracker on the current Index Rebalance Day, with that percentage change scaled by the exposure of the Index to the Futures Contracts determined on the current Index Rebalance Day; or
- if the current Index Calculation Day is not an Index Rebalance Day, adjusting the TWAP level of the Index on the immediately preceding Index Rebalance Day to reflect (a) the percentage change from the TWAP level of the Futures Tracker on the immediately preceding Index Rebalance Day to the closing level of the Futures Tracker on the current Index Calculation Day, with that percentage change scaled by the exposure of the Index to the Futures Contracts determined on the immediately preceding Index Rebalance Day, and (b) the deduction of the 6% per annum that has accrued since the immediately preceding Index Rebalance Day, calculated assuming a year with 360 days.

The TWAP level of the Index was set to 1,000 on January 7, 2005. On each subsequent Index Rebalance Day, the TWAP level of the Index is calculated by adjusting the TWAP level of the Index as of the immediately preceding Index Rebalance Day to reflect (a) the percentage change from the TWAP level of the Futures Tracker on the immediately preceding Index Rebalance Day to the TWAP level of the Futures Tracker on the current Index Calculation Day, with that percentage change scaled by the exposure of the Index to the Futures Contracts determined on the immediately preceding Index Rebalance Day, and (b) the deduction of the 6% per annum that has accrued since the immediately preceding Index Rebalance Day, calculated assuming a year with 360 days.

The Futures Tracker

The Futures Tracker provides rules-based exposure to an unfunded rolling position in the Futures Contracts. The Futures Tracker generally provides exposure only to the near expiry Futures Contract. The Futures Tracker exits its notional position in the near expiry Futures Contract and enters a notional position in the next expiry Futures Contract in equal increments over a five-day rolling period each quarter shortly before the expiry of the near expiry Futures Contract. The rolling period consists of five Exposure Business Days, subject to postponement, beginning on the sixth Exposure Business Day immediately preceding the Rolling Futures Exposure Closing Day of the near expiry Futures Contract.

An “**Exposure Business Day**” is a day on which the Futures Market is scheduled to be open for its regular trading session for the Futures Contracts.

A “**Rolling Futures Exposure Business Day**” is an Exposure Business Day that is not subject to an Index Market Disruption Event.

An “**Index Market Disruption Event**” for this purpose means the non-publication of the official settlement price by the Futures Market of the Future Contract(s) used to calculate the Rolling Futures Exposure and any events determined by the Index Calculation Agent that materially interfere with the ability of the Index Calculation Agent to calculate a level of the Futures Tracker representative of the relevant market.

The “**Rolling Futures Exposure Closing Day**” means, in respect of a Futures Contract, the earlier of (i) the last trading day for that Futures Contract and (ii) the first notice date for that Futures Contract, in each case as specified by the Futures Market.

The closing level of the Futures Tracker was set to 1,000 on June 21, 1999. On each subsequent Rolling Futures Exposure Business Day, the closing level of the Index is calculated by adjusting the closing level of the Index on the immediately preceding Rolling Futures Exposure Business Day to reflect

the weighted performance of the relevant Futures Contract(s) from their official closing prices on the immediately preceding Rolling Futures Exposure Business Day to their official closing prices on the current Rolling Futures Exposure Business Day. Outside a rolling period, the Index tracks a single Futures Contract, and a weight of 100% is assigned to that Futures Contract. During a rolling period, the weights of the Futures Contracts correspond to the weights associated with a roll from one Futures Contract to the next over five days in equal increments. If, however, an Index Market Disruption Event occurs on any Exposure Business Day during a rolling period prior to the last Exposure Business Day, then the portion of the roll will be postponed to the first Rolling Futures Exposure Business Day immediately following that Exposure Business Day. If an Index Market Disruption Event occurs on the last day of a rolling period, the roll period will be completed on that day and the Index Sponsor will calculate the closing level on that day using its good faith estimate.

The TWAP level of the Futures Tracker was set to 1,000 on June 21, 1999. On each subsequent Rolling Futures Exposure Business Day, the TWAP level of the Index is calculated by adjusting the closing level of the Index on the immediately preceding Rolling Futures Exposure Business Day to reflect the weighted performance of the relevant Futures Contract(s) from their official closing prices on the immediately preceding Rolling Futures Exposure Business Day to their TWAP levels on the current Rolling Futures Exposure Business Day. Outside a rolling period, the Index tracks a single Futures Contract, and a weight of 100% is assigned to that Futures Contract. During a rolling period, the weights of the Futures Contracts correspond to the weights associated with a roll from one Futures Contract to the next over five days in equal increments. If, however, an Index Market Disruption Event occurs on any Exposure Business Day during a rolling period prior to the last Exposure Business Day, then the portion of the roll will be postponed to the first Rolling Futures Exposure Business Day immediately following that Exposure Business Day. If an Index Market Disruption Event occurs on the last day of a rolling period, the roll period will be completed on that day and the Index Sponsor will calculate the TWAP level on that day using its good faith estimate.

The TWAP level of a Futures Contract on any Rolling Futures Exposure Business Day is equal to the time weighted average price of that Futures Contract as determined over a 10-minute period beginning at 3:50 PM EST (in the case of a regular trading session) or 12:50 PM EST (in the case of a half-day trading session). Prior to October 26, 2020, the TWAP level of a Futures Contract on any Rolling Futures Exposure Business Day was equal to the time weighted average price of that Futures Contract as determined over a 15-minute period beginning at 4:00 PM EST (in the case of a regular trading session) or 1:00 PM EST (in the case of a half-day trading session).

Index Committee

The Index is overseen by an index committee. The index committee will review the Index's methodology at least once in every twelve-month period, make changes to the methodology as necessary and administer any consultations for any potential material methodology changes. If any scenario not explicitly covered in the methodology occurs, the index committee will use its discretion to determine the action to be taken. The Index Sponsor has advised that any such determination will be announced to clients in advance.

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BACKGROUND ON E-MINI NASDAQ-100 FUTURES

E-mini Nasdaq-100 futures (the “**Futures Contracts**”) are U.S. dollar-denominated futures contracts on the Nasdaq-100 Index® traded on the Chicago Mercantile Exchange, where each futures contract references a value of \$2 *times* the level of the Nasdaq-100 Index®.

Overview of Futures Markets

Futures contracts are traded on regulated futures exchanges, in the over-the-counter market and on various types of electronic trading facilities and markets. As of the date of this underlying supplement, all of the Futures Contracts are exchange-traded futures contracts. A futures contract provides for a specified settlement month in which the cash settlement is made by the seller (whose position is therefore described as “short”) and acquired by the purchaser (whose position is therefore described as “long”).

No purchase price is paid or received on the purchase or sale of a futures contract. Instead, an amount of cash or cash equivalents must be deposited with the broker as “initial margin.” This amount varies based on the requirements imposed by the exchange clearing houses, but it may be lower than 5% of the notional value of the contract. This margin deposit provides collateral for the obligations of the parties to the futures contract.

By depositing margin, which may vary in form depending on the exchange, with the clearing house or broker involved, a market participant may be able to earn interest on its margin funds, thereby increasing the total return that it may realize from an investment in futures contracts. The Indices are not total return indices and do not reflect interest that could be earned on funds notionally committed to the trading of futures contracts.

At any time prior to the expiration of a futures contract, a trader may elect to close out its position by taking an opposite position on the exchange on which the trader obtained the position, subject to the availability of a liquid secondary market. This operates to terminate the position and fix the trader’s profit or loss. Futures contracts are cleared through the facilities of a centralized clearing house and a brokerage firm that is a member of the clearing house.

Futures exchanges may adopt rules and take other actions that affect trading, including imposing speculative position limits, maximum price fluctuations and trading halts and suspensions and requiring liquidation of contracts in certain circumstances.

BACKGROUND ON THE NASDAQ-100 INDEX®

All information contained in this underlying supplement regarding the Nasdaq-100 Index®, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Nasdaq, Inc. (“**Nasdaq**”). The Nasdaq-100 Index® is calculated, maintained and published by Nasdaq. Nasdaq, which licenses the copyright and all other rights to the Nasdaq-100 Index®, does not have any obligation to continue to publish, and may discontinue publication of, the Nasdaq-100 Index®. The Nasdaq-100 Index® is reported by Bloomberg L.P. under the ticker symbol “NDX.”

The Nasdaq-100 Index® is a modified market capitalization-weighted index that is designed to measure the performance of 100 of the largest non-financial companies listed on The Nasdaq Stock Market.

The Nasdaq-100 Index® share weights of the component securities of the Nasdaq-100 Index® at any time are based upon the total shares outstanding (“**TSO**”) in each of those securities and are additionally subject, in certain cases, to rebalancing. Accordingly, each underlying stock’s influence on the level of the Nasdaq-100 Index® is directly proportional to the value of its Nasdaq-100 Index® share weight.

Calculation of the Nasdaq-100 Index®

At any moment in time, the value of the Nasdaq-100 Index® equals the aggregate value of the then-current Nasdaq-100 Index® share weights of each of the Nasdaq-100 Index® component securities, which are based on the TSO of each such Nasdaq-100 Index® component security, multiplied by each such security’s respective last sale price on The Nasdaq Stock Market (which may be the official closing price published by The Nasdaq Stock Market), and divided by a scaling factor (the “**Divisor**”), which becomes the basis for the reported Nasdaq-100 Index® value. The Divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for Nasdaq-100 Index® reporting purposes.

Security Eligibility Criteria

The types of securities eligible for inclusion in the Nasdaq-100 Index® generally include American depositary receipts, common stocks, ordinary shares and tracking stocks. Companies organized as Real Estate Investment Trusts (“**REITs**”) are not eligible for index inclusion. If the security is a depositary receipt representing a security of a non-U.S. issuer, then references to the “issuer” are references to the underlying security and the TSO is the number of actual depositary shares outstanding as reported by the depositary banks.

If an issuer has listed multiple security classes, all security classes are eligible, subject to meeting all other security eligibility criteria.

The issuer of the security’s primary U.S. listing must exclusively be listed on the Nasdaq Global Select Market or the Nasdaq Global Market. If the issuer of the security is organized under the laws of a jurisdiction outside the United States, then such security must have listed options on a registered options market in the United States or be eligible for listed options trading on a registered options market in the United States.

The issuer of the security must be classified as a non-financial company (any industry other than Financials) according to the Industry Classification Benchmark (the “**ICB**”).

There is no market capitalization eligibility criterion. Each security must have a minimum average daily trading volume of 200,000 shares (measured over the three calendar months ending with the month that includes the reconstitution reference date (as defined below)).

The security must have traded for at least three full calendar months on an eligible exchange, which includes Nasdaq (Nasdaq Global Select Market, Nasdaq Global Market, or Nasdaq Capital Market), NYSE, NYSE American or CBOE BZX. Eligibility under this criterion is determined as of the constituent selection reference date and includes the month of such constituent selection reference date but does not include the month of initial listing of the security. There is no float eligibility criterion.

The issuer of the security generally may not currently be in bankruptcy proceedings.

The issuer of the security generally may not have entered into a definitive agreement or other arrangement that would make it ineligible for inclusion in the Nasdaq-100 Index[®] and where the transaction is imminent as determined by the Nasdaq Index Management Committee.

Index Reconstitution and Rebalancing

Nasdaq selects constituents once annually, in December. The security eligibility criteria are applied using market data as of the end of October and TSO as of the end of November (such month-end dates, “**reconstitution reference dates**”). Reconstitutions of the Nasdaq-100 Index[®] are announced in early December and become effective after the close of trading on the third Friday in December.

The Nasdaq-100 Index[®] is rebalanced on a quarterly basis in March, June, September and December. The rebalance uses the TSO and last sale price of all Nasdaq-100 Index[®] securities as of the prior month-end (February, May, August and November, respectively). Rebalance changes are announced in early March, June, September and December and become effective after the close of trading on the third Friday in March, June, September and December. A special rebalance may be conducted at any time based on the weighting restrictions described in the index rebalance procedure if it is determined to be necessary to maintain the integrity of the Nasdaq-100 Index[®].

Constituent Selection

A reconstitution is conducted on an annual basis, at which time all eligible issuers, ranked by market capitalization, are considered for inclusion in the Nasdaq-100 Index[®] based on the following order of criteria:

1. The top 75 ranked issuers will be selected for inclusion in the Nasdaq-100 Index[®].
2. Any other issuers that were already members of the Nasdaq-100 Index[®] as of the reconstitution reference date and are ranked within the top 100 are also selected for inclusion in the Nasdaq-100 Index[®].
3. In the event that fewer than 100 issuers pass the first two criteria, the remaining positions will first be filled, in rank order, by current Nasdaq-100 Index[®] members that were in the top 100 at the previous reconstitution but are ranked in positions 101-125 in the current reconstitution.
4. In the event that fewer than 100 issuers pass the first three criteria, the remaining positions will be filled, in rank order, by any issuers ranked in the top 100 that were not already members of the Nasdaq-100 Index[®] as of the reference date.

Constituent Weighting

The Nasdaq-100 Index[®] is a modified market capitalization-weighted index.

Quarterly Weight Adjustment

The quarterly weight adjustment of the Nasdaq-100 Index[®] employs a two-stage weight adjustment scheme according to issuer-level constraints.

The Nasdaq-100 Index[®] component securities' initial weights are determined using up to two calculations of market capitalization: TSO-derived market capitalization and index share-derived market

capitalization. TSO-derived market capitalization is defined as a Nasdaq-100 Index[®] component security's last sale price multiplied by its TSO. Index share-derived market capitalization is defined as a Nasdaq-100 Index[®] component security's last sale price multiplied by its updated index shares as of the prior month end. Both TSO-derived and index share-derived market capitalizations can be used to calculate TSO-derived and index share-derived initial index weights by dividing each Nasdaq-100 Index[®] component security's (TSO- or index share-derived) market capitalization by the aggregate (TSO- or index share-derived) market capitalization of all Nasdaq-100 Index[®] component securities.

When the rebalance coincides with the reconstitution, only TSO-derived initial weights are used. When the rebalance does not coincide with the reconstitution, index share-derived initial weights are used when doing so results in no weight adjustment; otherwise, TSO-derived weights are used in both stages of the weight adjustment procedure. Issuer weights are the aggregated weights of the issuers' respective Nasdaq-100 Index[®] component securities.

Stage 1. If no initial issuer weight exceeds 24%, initial weights are used as Stage 1 weights; otherwise, initial weights are adjusted so that no issuer weight may exceed 20% of the Nasdaq-100 Index[®].

Stage 2. If the aggregate weight of the subset of issuers whose Stage 1 weights exceed 4.5% does not exceed 48%, Stage 1 weights are used as final weights; otherwise, Stage 1 weights are adjusted so that the aggregate weight of the subset of issuers whose Stage 1 weights exceed 4.5% is set to 40%.

Annual Weight Adjustment

The annual weight adjustment of the Nasdaq-100 Index[®] employs a two-stage weight adjustment scheme according to security-level constraints. Nasdaq-100 Index[®] component securities' initial weights are determined via the quarterly weight adjustment procedure.

Stage 1. If no initial security weight exceeds 15%, initial weights are used as Stage 1 weights; otherwise, initial weights are adjusted so that no security weight may exceed 14% of the Nasdaq-100 Index[®].

Stage 2. If the aggregate weight of the subset of Nasdaq-100 Index[®] component securities with the five largest market capitalizations is less than 40%, Stage 1 weights are used as final weights; otherwise, Stage 1 weights are adjusted so that (i) the aggregate weight of the subset of Nasdaq-100 Index[®] component securities with the five largest market capitalizations is set to 38.5% and (ii) no security with a market capitalization outside the largest five may have a final index weight exceeding the lesser of 4.4% or the final index weight of the component security ranked fifth by market capitalization.

Index Maintenance

Deletion Policy

If, at any time other than an index reconstitution, Nasdaq determines that a Nasdaq-100 Index[®] component security has or will undergo a fundamental alteration that would make it ineligible for inclusion in the Nasdaq-100 Index[®], the security is removed as soon as practicable.

Such alterations may include:

- A listings switch to an ineligible index exchange.
- A merger, acquisition, or other major corporate event that would adversely impact the integrity of the Nasdaq-100 Index[®].
- The issuer of such security is reorganized as a REIT.

- The issuer of such security is reclassified as a financial company (Financials Industry) according to the ICB.
- The issuer of such security has an adjusted market capitalization below 0.10% of the aggregate adjusted market capitalization of the Nasdaq-100 Index® for two consecutive month ends.

In the case of mergers and acquisitions, the effective date for the removal of a Nasdaq-100 Index® component security or its issuer will be largely event-based, with the goal to remove the security or issuer as soon as completion of the acquisition or merger has been deemed highly probable. Notable events include, but are not limited to, completion of various regulatory reviews, the conclusion of material lawsuits and/or shareholder and board approvals.

If at the time of the removal of the such security or issuer, there is not sufficient time to provide advance notification of the replacement security or issuer so that both the removal and replacement can be effective on the same day, such security or issuer being removed will be retained and will persist in the index calculations at its last sale price until the effective date of such security or issuer's entry to the Nasdaq-100 Index®.

Replacement Policy

Securities may be added to the Nasdaq-100 Index® outside of the index reconstitution when there is a deletion. The Nasdaq-100 Index® component security (or all component securities under the same issuer, if appropriate) is replaced as soon as practicable if the issuer in its entirety is being deleted from the Nasdaq-100 Index®. The issuer with the largest market capitalization and that meets all eligibility criteria as of the prior month end which is not in the Nasdaq-100 Index® will replace the deleted issuer.

For pending deletions set to occur soon after an index reconstitution and/or index rebalance effective date, Nasdaq may decide to remove the Nasdaq-100 Index® component security from the Nasdaq-100 Index® in conjunction with the index reconstitution and/or index rebalance effective date.

Corporate Actions

In the periods between scheduled index reconstitution and rebalancing events, individual Nasdaq-100 Index® component securities may be subject to a variety of corporate actions and events that require maintenance and adjustments to the Nasdaq-100 Index®.

At the quarterly rebalancing, no changes are made to the Nasdaq-100 Index® from the previous month end until the quarterly share change effective date, with the exception of corporate actions with an ex-date.

Index Governance

The Nasdaq Index Management Committee approves all new index methodologies. This committee is composed of full-time professional members of Nasdaq. The committee meets regularly and reviews items including, but not limited to, pending corporate actions that may affect Nasdaq-100 Index® constituents, statistics comparing the composition of the Nasdaq-100 Index® to the market, companies that are being considered as candidates for addition to the Nasdaq-100 Index®, and any significant market events.

BACKGROUND ON THE INVESCO QQQ TRUSTSM, SERIES 1

All information contained in this underlying supplement regarding the Invesco QQQ TrustSM, Series 1 (the “**QQQ Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, The Bank of New York Mellon, as trustee of the QQQ Fund (the “**QQQ Fund Trustee**”), and Invesco Capital Management LLC, as sponsor of the QQQ Fund (the “**QQQ Fund Sponsor**”). The QQQ Fund is a unit investment trust that issues securities called “Invesco QQQ SharesSM.” The QQQ Fund is an exchange-traded fund that trades on The Nasdaq Stock Market under the ticker symbol “QQQ.”

The investment objective of the QQQ Fund is to seek to track the investment results, before fees and expenses, of the Nasdaq-100 Index[®]. For additional information about the Nasdaq-100 Index[®], see “Background on the Nasdaq-100 Index[®]” above.

The QQQ Fund holds securities (or, in the case of securities that have been purchased but not yet delivered, confirmations of contracts to purchase such securities) and cash (collectively, the “**Portfolio**”) and is not actively managed by traditional methods, which typically involve effecting changes in the Portfolio on the basis of judgments made relating to economic, financial and market considerations. To maintain the correspondence between the composition and weights of the securities held by the QQQ Fund and the stocks included in the Nasdaq-100 Index[®] (collectively, the “**QQQ Index Securities**”), the QQQ Fund Trustee adjusts the holdings of the QQQ Fund from time to time to conform to periodic changes in the identity and/or relative weights of the QQQ Index Securities.

The QQQ Fund will not be able to replicate exactly the performance of the Nasdaq-100 Index[®] because the total return generated by the securities held by the QQQ Fund will be reduced by transaction costs incurred in adjusting the actual balance of the securities held by the QQQ Fund and other expenses of the QQQ Fund, whereas such transaction costs and expenses are not included in the calculation of the Nasdaq-100 Index[®]. It is also possible that for short periods of time, the QQQ Fund may not fully replicate the performance of the Nasdaq-100 Index[®] due to the temporary unavailability of certain QQQ Index Securities in the secondary market or due to other extraordinary circumstances. Such events are unlikely to continue for an extended period of time because the QQQ Fund Trustee is required to correct such imbalances by means of adjusting the composition of the securities held by the QQQ Fund. It is also possible that the composition of the QQQ Fund may not exactly replicate the composition of the Nasdaq-100 Index[®] if the QQQ Fund has to adjust its holdings of securities in order to continue to qualify as a “regulated investment company” under the Internal Revenue Code of 1986.

The QQQ Fund is a registered investment company. Information provided to or filed with the SEC by the QQQ Fund pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-61001 and 811-08947, respectively, through the SEC’s website at <http://www.sec.gov>.

SUPPLEMENTAL TERMS OF NOTES

The following supplemental terms of the notes supplement, and to the extent they are inconsistent, supersede, the description of the general terms of the debt securities set forth in the accompanying product supplement. Except as noted below, capitalized terms used in this section without definitions are as defined in “The MerQube US Tech+ Vol Advantage Index” above.

Postponement of a Determination Date

Notes Linked Solely to the Index

Notwithstanding any contrary provision in the accompanying product supplement, for notes linked solely to the Index, the following provisions will apply. If a Determination Date is a Disrupted Day (as defined in the accompanying product supplement), the applicable Determination Date will be postponed to the immediately succeeding scheduled trading day that is not a Disrupted Day.

In no event, however, will any Determination Date be postponed to a date that is after the applicable Final Disrupted Determination Date (as defined in the accompanying product supplement). If a Determination Date is or has been postponed to the applicable Final Disrupted Determination Date and that day is a Disrupted Day, the calculation agent will determine the closing level of the Index for that Determination Date on that Final Disrupted Determination Date in accordance with the formula for and method of calculating the closing level of the Index last in effect prior to the commencement of the market disruption event (or prior to the non-trading day), using the official settlement price and/or time weighted average price (or, if trading in the relevant futures contract has been materially suspended or materially limited, the calculation agent's good faith estimate of the relevant price that would have prevailed but for that suspension or limitation or non-trading day) on that Final Disrupted Determination Date of the futures contract(s) included in the Index.

Notes Linked to the Index and Other Reference Assets

If the notes are linked to the Index and other reference assets, the provisions relating to postponement of a Determination Date as set forth in the accompanying product supplement will apply, except that if a Determination Date is or has been postponed to the applicable Final Disrupted Determination Date and, on that day, the closing level of the Index has not been established in accordance with the postponement provisions of the accompanying product supplement that apply prior to the applicable Final Disrupted Determination Date, the closing level of the Index for that Determination Date will be determined by the calculation agent on the applicable Final Disrupted Determination Date in accordance with the formula for and method of calculating the closing level of the Index last in effect prior to the commencement of the market disruption event (or prior to the non-trading day), using the official settlement price and/or time weighted average price (or, if trading in the relevant futures contract has been materially suspended or materially limited, the calculation agent's good faith estimate of the relevant price that would have prevailed but for that suspension or limitation or non-trading day) on that Final Disrupted Determination Date of the futures contract(s) included in the Index.

Additional Defined Terms

Notwithstanding any contrary definition in the accompanying product supplement, with respect to the Index or any relevant successor index, a “**scheduled trading day**” is, unless otherwise specified in the relevant terms supplement, a day, as determined by the calculation agent, on which:

- (a) the relevant exchange for the Index or that successor index, as applicable, is scheduled to be open for trading for its regular trading session;
- (b) banking institutions in the City of New York and that principal financial center are not otherwise authorized or required by law, regulation or executive order to close; and

- (c) the Index or that successor index, as applicable, is scheduled to calculate and publish the closing level of the Index (or that successor index).

Notwithstanding any contrary definition in the accompanying product supplement, with respect to the Index or any relevant successor index, a **“trading day”** is, unless otherwise specified in the relevant terms supplement, a day, as determined by the calculation agent, on which:

- (a) trading is generally conducted on the relevant exchange for the Index or that successor index, as applicable;
- (b) banking institutions in the City of New York and that principal financial center are not otherwise authorized or required by law, regulation or executive order to close; and
- (c) the Index or that successor index, as applicable, is scheduled to calculate and publish the closing level of the Index (or that successor index).

Notwithstanding anything to the contrary in the accompanying product supplement, with respect to the Index or any relevant successor index, **“relevant exchange”** means the primary exchange or market of trading for the futures contract(s) then included in the Index or that successor index, as applicable.

Market Disruption Events

Notwithstanding any contrary provision in the accompanying product supplement, the following provisions will apply to notes linked in whole or in part to the Index. With respect to the Index (or any relevant successor index), a **“market disruption event,”** unless otherwise specified in the relevant terms supplement, means:

- (1) any termination or suspension of, or limitation on, trading imposed by the relevant exchange for the Index (or that successor index);
- (2) a failure by the relevant exchange for the Index (or that successor index) to calculate and publish the official settlement price of the futures contract(s) included in the Index (or that successor index) on any day upon which the official settlement price of that futures contract is scheduled to be calculated and published by the relevant exchange;
- (3) the closure of the relevant exchange for the Index (or that successor index) prior to its scheduled closing time unless such earlier closing time is announced at least one hour prior to the actual closing time;
- (4) the failure of any relevant exchange for the Index (or that successor index) to open;
- (5) any other event that disrupts or impairs the ability of market participants in general to effect transactions in, or obtain market values for the futures contract included in the Index (or that successor index);
- (6) the failure of the sponsor of the Index (or that successor index) to calculate and publish the closing level of the Index (or that successor index),

in each case as determined by the calculation agent in its sole discretion; and

- a determination by the calculation agent in its sole discretion that the applicable event described above materially interfered with the Issuer’s ability or the ability of any of its affiliates to adjust or unwind all or a material portion of any hedge with respect to the notes.

A limitation on the hours or number of days of trading will not constitute a market disruption event with respect to the Index or any relevant successor index if the limitation results from an announced change in the regular business hours of the relevant exchange or market.

Discontinuation of the Index; Alteration of Method of Calculation

The provisions relating to the discontinuation of the Index as set forth in the accompanying product supplement will apply, except that if the calculation agent is to determine the closing level of the Index for any day because no successor index for the Index is available at that time, or the calculation agent has previously selected a successor index for the Index and publication of that successor index is discontinued prior to, and that discontinuation is continuing on, that day, then the closing level of the Index for that day will be computed by the calculation agent in accordance with the formula for and method of calculating the Index or that successor index, as applicable, last in effect prior to that discontinuation, and giving effect to the Index methodology for rolling from one futures contract to the next over time.