

JPMorgan Chase Bank, National Association

## Structured Investments

**\$185,000**

# Certificates of Deposit Linked to the S&P 500<sup>®</sup> Daily Risk Control 10% Excess Return Index due January 2, 2026

- The certificates of deposit (“CDs”) are designed for investors who seek exposure to any appreciation of the S&P 500<sup>®</sup> Daily Risk Control 10% Excess Return Index, which we refer to as the Index, over the term of the CDs.
- Investors should be willing to forgo interest and dividend payments, while seeking full repayment of principal at maturity.
- The CDs are issued by JPMorgan Chase Bank, National Association (“JPMorgan Chase Bank”). The CDs are insured only within the limits and to the extent described in this disclosure supplement and in the accompanying disclosure statement. See “Selected Risk Considerations — Risks Relating to the CDs Generally — Limitations on FDIC Insurance” in this disclosure supplement. **Any payment on the CDs in excess of FDIC insurance limits is subject to the credit risk of JPMorgan Chase Bank.**
- Investing in the CDs is not equivalent to investing in a conventional CD or directly in the Index or any of its component securities.
- Minimum denominations of \$1,000 and integral multiples thereof
- The CDs priced on December 29, 2022 and are expected to settle on or about January 4, 2023.
- CUSIP: 46593L3J6
- JPMorgan Chase & Co., our parent company, and/or its affiliates have made unconditional and irrevocable donations to Start Small. Think Big., Inc. (“Start Small Think Big”), a nonprofit organization, to support one or several diverse entrepreneurship projects. These donations are not contingent on the sale of the CDs and will not impact the final terms of the CDs. ***We or our affiliates expect to realize profits for assuming risks inherent in hedging our obligations under the CDs. Some of these projected profits, if any, may be used to offset a portion of the donations.*** See “Supplemental Donation Information” in this disclosure supplement.
- The issuance of the CDs and the related use of proceeds ***are not*** intended to comply with the Social Bond Principles, June 2021. See “Supplemental Donation Information” in this disclosure supplement.

**Investing in the CDs involves a number of risks. See “Risk Factors” beginning on page 7 of the accompanying disclosure statement, “Risk Factors” beginning on page US-1 of the accompanying underlying supplement and “Selected Risk Considerations” beginning on page DS-6 of this disclosure supplement.**

Issue Price: \$1,000 per \$1,000 CD

Fees and Discounts: J.P. Morgan Securities LLC, which we refer to as JPMS, and its affiliates will pay all of the selling commissions of \$5.00 per \$1,000 CD received from us to other affiliated or unaffiliated dealers.

**The estimated value of the CDs as determined by JPMS, when the terms of the CDs were set, was \$976.80 per \$1,000 CD. See “JPMS’s Estimated Value of the CDs” in this disclosure supplement for additional information.**

Our affiliate, JPMS, certain of its affiliates and other broker-dealers may use this disclosure supplement and the accompanying disclosure statement and underlying supplement in connection with offers and sales of the CDs after the date hereof.

## Key Terms

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**Index:** The S&P 500® Daily Risk Control 10% Excess Return Index (Bloomberg ticker: SPXT10UE). The level of the Index reflects the daily deduction of a notional financing cost.

**Participation Rate:** 130.00%

**Pricing Date:** December 29, 2022

**Original Issue Date (Settlement Date):** On or about January 4, 2023

**Observation Date\*:** December 29, 2025

**Maturity Date\*:** January 2, 2026

\* Subject to postponement in the event of a market disruption event and as described under “General Terms of the CDs — Postponement of a Determination Date — CDs Linked to a Single Underlying — CDs Linked to a Single Underlying (Other Than a Commodity Index)” and “General Terms of the CDs — Postponement of a Payment Date” in the accompanying disclosure statement

### Payment at Maturity:

At maturity, you will receive a cash payment, for each \$1,000 CD, of \$1,000 *plus* the Additional Amount, which may be zero.

*You will receive no other interest or dividend payments during the term of the CDs. The repayment of your full principal amount applies only at maturity, subject to the credit risk of JPMorgan Chase Bank and applicable FDIC limits.*

**Additional Amount:** The Additional Amount payable at maturity per \$1,000 CD will equal:

$\$1,000 \times \text{the Index Return} \times \text{the Participation Rate}$ ,  
*provided that the Additional Amount will not be less than zero.*

### Index Return:

$$\frac{(\text{Final Value} - \text{Initial Value})}{\text{Initial Value}}$$

**Initial Value:** The closing level of the Index on the Pricing Date, which was 230.837

**Final Value:** The closing level of the Index on the Observation Date

**Early Withdrawals:** At par upon death or adjudication of incompetence of a beneficial holder of the CDs. For information about early withdrawals and the limitations on such early withdrawals, see “General Terms of the CDs — Additions and Withdrawals” in the accompanying disclosure statement.

## The S&P 500® Daily Risk Control 10% Excess Return Index

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The S&P 500® Daily Risk Control 10% Excess Return Index (the “Index”) is maintained and calculated by S&P Dow Jones Indices LLC (“S&P Dow Jones”). Our affiliate, J.P. Morgan Securities LLC (“JPMS”), worked with S&P Dow Jones in developing the guidelines and policies governing the composition and calculation of the Index.

The Index provides variable notional exposure to the S&P 500® Total Return Index (the “Underlying Index”), while targeting an annualized volatility of 10%. The Index also reflects, on a daily basis, the deduction of the notional financing cost described below. The Index is reported by Bloomberg L.P. under the ticker symbol “SPXT10UE.”

The Underlying Index consists of stocks of 500 companies selected to provide a performance benchmark for the U.S. equity markets and is calculated on a total-return basis (*i.e.*, dividends and other distributions are notionally reinvested). For additional information about the Underlying Index, see “Annex B — The S&P 500® Total Return Index” in this disclosure supplement.

The Index will adjust its notional exposure to the Underlying Index daily in an attempt to maintain an annualized volatility for the Index approximately equal to the target volatility of 10%, subject to a maximum exposure of 150% and a minimum exposure of 0%. We refer to the notional exposure that the Index has to the performance of the Underlying Index on any day as the “leverage factor” on that day. The leverage factor on any day is equal to the target volatility divided by the annualized volatility of the Underlying Index as of the second immediately preceding Index trading day, subject to the maximum and minimum exposures. Accordingly, as the volatility of the Underlying Index increases, the exposure provided by the Index to the Underlying Index decreases, and as the volatility of the Underlying Index decreases, the exposure provided by the Index to the Underlying Index increases. If the leverage factor is greater than 100% on any day, the Index will provide leveraged exposure to the Underlying Index. If the leverage factor is less than 100% on any day, the difference will be notionally uninvested and will earn no return. Under normal market conditions, the Index is expected to be significantly uninvested.

For example, if the annualized volatility of the Underlying Index used to calculate the leverage factor on a given day is equal to 20%, the leverage factor will equal 50% (10% divided by 20%). This means that, subject to the notional financing cost described below, the Index would appreciate only 1% in response to an appreciation of 2% in the Underlying Index, and the Index would depreciate only by 1% in response to a depreciation of 2% in the Underlying Index.

The Index is an excess return index that tracks the return of the Underlying Index, subject to the leverage factor, over and above a short-term money market investment. In other words, the Index provides a return based on the performance of a notional investment in the Underlying Index, subject to the leverage factor, where the investment was made using borrowed funds. The notional financing cost is calculated as a daily SOFR rate plus a fixed spread of 0.02963%. S&P Dow Jones may use other successor interest rates if the daily SOFR rate could not be obtained. SOFR, the Secured Overnight Financing Rate, is intended to be a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. See “Annex C — Additional Information about the Notional Financing Cost — What Is SOFR?” in this disclosure supplement for additional information about SOFR. Prior to December 20, 2021, the notional financing cost was calculated based on overnight 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.

The notional financing cost is applied to the Index’s notional exposure to the Underlying Index, so it increases as the leverage factor increases and decreases as the leverage factor decreases. For example, if leverage factor is 80%, no notional financing costs will be deducted from the remaining 20%. If the leverage factor is 150%, notional financing costs will be deducted from the entire 150% exposure to the Underlying Index.

**No assurance can be given that the Index will approximate its target volatility. The actual realized volatility of the Index may be greater or less than its target volatility.**

### Calculation of the Index Value

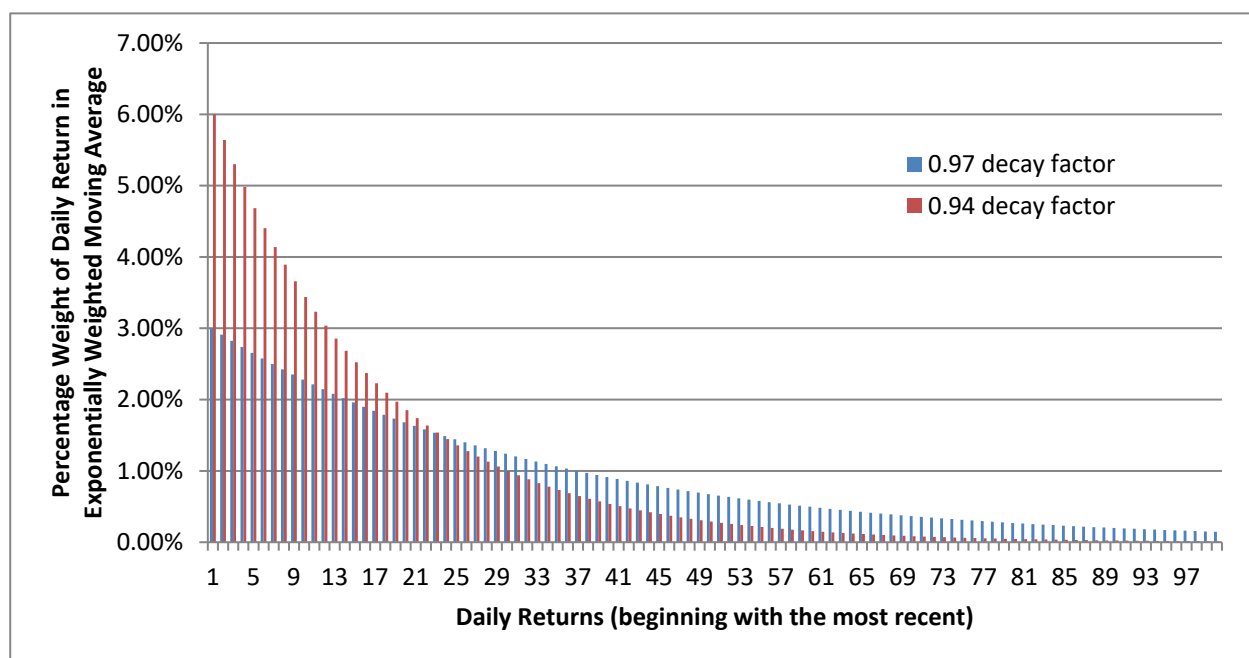
The closing level of the Index on any day reflects (a) the performance of the Underlying Index since the immediately preceding Index rebalancing date, *multiplied by* the leverage factor, *less* (b) the notional financing cost that has accrued since the immediately preceding Index rebalancing date, calculated using a 360-day year, *multiplied by* the leverage factor. Each day on which 15% or more of the total weight of the Underlying Index is traded is an Index rebalancing date.

### Calculation of Leverage Factor and Volatility

The historical realized volatility of the Underlying Index used to calculate the leverage factor is the greater of the short- and long-term volatility measures, where each volatility measure uses exponential weightings to give more significance to recent observations. The degree to which more recent daily returns have a greater effect than less recent daily returns in calculating the volatility measures is dictated by the “decay factor” used. The short-term and long-term decay factors are 0.94 (94%) and 0.97 (97%), respectively. The

greater of the short- and long-term measures of volatility is used to cause the Index to deleverage quickly on a relative basis, but increase exposure more gradually on a relative basis, subject to the maximum exposure of 150%.

The chart below illustrates the effect of the exponential weighting described above for the decay factors of 0.97 and 0.94. For each daily return shown, the chart indicates the percentage weight that will be given to that daily return in calculating the relevant volatility measure. As the chart illustrates, the most recent daily returns have a significantly greater weight than less recent daily returns in determining the short- and long-term volatility measures.



The leverage factor as of each Index rebalancing date is calculated as (a) the target value of 10% *divided by* (b) the greater of the short- and long-term volatility measures determined as of the second immediately preceding Index rebalancing date, subject to the maximum leverage factor of 150%.

### License Agreement

S&P Dow Jones and J.P. Morgan Securities LLC have entered into a license agreement providing for the sub-license to us and certain of our affiliated or subsidiary companies, in exchange for a fee, of the right to use the Index, which is owned and published by S&P Dow Jones, in connection with certain financial products, including the CDs.

The CDs are not sponsored, endorsed, sold or promoted by S&P Dow Jones or its third party licensors. Neither S&P Dow Jones nor its third party licensors makes any representation or warranty, express or implied, to the owners of the CDs or any member of the public regarding the advisability of investing in financial products generally or in the CDs particularly or the ability of the Index to track general stock market performance. S&P Dow Jones's and its third party licensors' only relationship to JPMorgan Chase Bank, N.A. is the licensing of certain trademarks and trade names of S&P Dow Jones and the third party licensors and of the Index which is determined, composed and calculated by S&P Dow Jones or its third party licensors without regard to JPMorgan Chase Bank, N.A. or the CDs. S&P Dow Jones and its third party licensors have no obligation to take the needs of JPMorgan Chase Bank, N.A. or the holders of the CDs into consideration in determining, composing or calculating the Index. Neither S&P Dow Jones nor its third party licensors is responsible for or has participated in the determination of the prices and amount of the CDs or the timing of the issuance or sale of the CDs or in the determination or calculation of the equation by which the CDs are to be converted into cash. S&P Dow Jones has no obligation or liability in connection with the administration, marketing or trading of the CDs.

**NEITHER S&P DOW JONES, ITS AFFILIATES NOR THEIR THIRD PARTY LICENSORS GUARANTEE THE ADEQUACY, ACCURACY, TIMELINESS OR COMPLETENESS OF THE INDEX OR ANY DATA INCLUDED THEREIN OR ANY COMMUNICATIONS, INCLUDING BUT NOT LIMITED TO, ORAL OR WRITTEN COMMUNICATIONS (INCLUDING ELECTRONIC COMMUNICATIONS) WITH RESPECT THERETO. S&P DOW JONES, ITS AFFILIATES AND THEIR THIRD PARTY LICENSORS SHALL NOT BE SUBJECT TO ANY DAMAGES OR LIABILITY FOR ANY ERRORS, OMISSIONS OR DELAYS THEREIN. S&P DOW JONES MAKES NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE MARKS, THE INDEX OR ANY DATA INCLUDED THEREIN. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT WHATSOEVER SHALL S&P DOW JONES, ITS AFFILIATES OR THEIR THIRD PARTY LICENSORS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL,**

**PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, TRADING LOSSES, LOST TIME OR GOODWILL, EVEN IF THEY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE.**

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## Hypothetical Payout Profile

The following table and graph illustrate the hypothetical payment at maturity on the CDs linked to a hypothetical Index. The hypothetical payments set forth below assume the following:

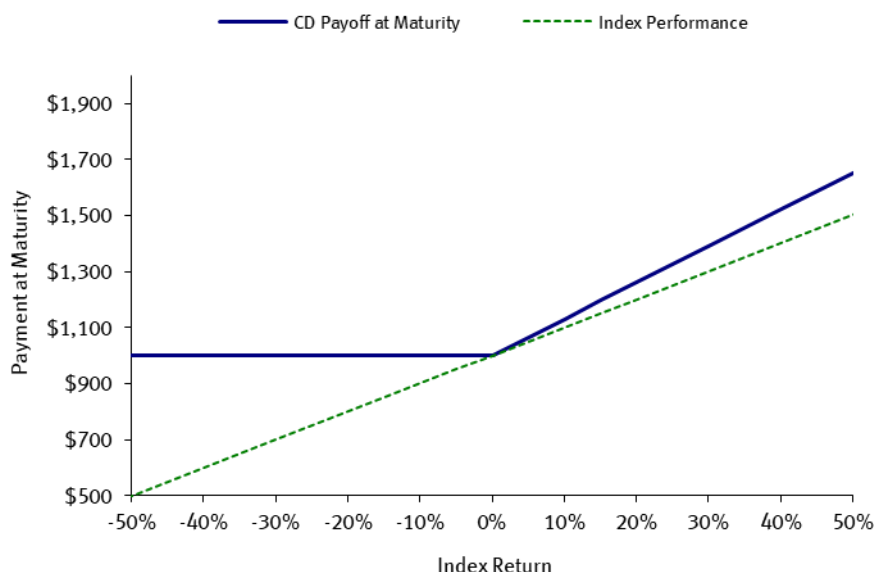
- an Initial Value of 100.00; and
- a Participation Rate of 130.00%.

The hypothetical Initial Value of 100.00 has been chosen for illustrative purposes only and does not represent the actual Initial Value. The actual Initial Value is the closing level of the Index on the Pricing Date and is specified under “Key Terms — Initial Value” in this disclosure supplement. For historical data regarding the actual closing levels of the Index, please see the historical information set forth under “Historical Information” in this disclosure supplement.

Each hypothetical payment at maturity set forth below is for illustrative purposes only and may not be the actual payment at maturity applicable to a purchaser of the CDs. The numbers appearing in the following table and graph have been rounded for ease of analysis.

Final Value	Index Return	Additional Amount	Payment at Maturity	Annual Percentage Yield (APY)
165.00	65.00%	\$845.00	\$1,845.00	22.67%
150.00	50.00%	\$650.00	\$1,650.00	18.18%
140.00	40.00%	\$520.00	\$1,520.00	14.99%
130.00	30.00%	\$390.00	\$1,390.00	11.61%
120.00	20.00%	\$260.00	\$1,260.00	8.02%
115.00	15.00%	\$195.00	\$1,195.00	6.12%
110.00	10.00%	\$130.00	\$1,130.00	4.16%
105.00	5.00%	\$65.00	\$1,065.00	2.12%
<b>100.00</b>	<b>0.00%</b>	<b>\$0.00</b>	<b>\$1,000.00</b>	<b>0.00%</b>
95.00	-5.00%	\$0.00	\$1,000.00	0.00%
90.00	-10.00%	\$0.00	\$1,000.00	0.00%
85.00	-15.00%	\$0.00	\$1,000.00	0.00%
80.00	-20.00%	\$0.00	\$1,000.00	0.00%
70.00	-30.00%	\$0.00	\$1,000.00	0.00%
60.00	-40.00%	\$0.00	\$1,000.00	0.00%
50.00	-50.00%	\$0.00	\$1,000.00	0.00%
40.00	-60.00%	\$0.00	\$1,000.00	0.00%
30.00	-70.00%	\$0.00	\$1,000.00	0.00%
20.00	-80.00%	\$0.00	\$1,000.00	0.00%
10.00	-90.00%	\$0.00	\$1,000.00	0.00%
0.00	-100.00%	\$0.00	\$1,000.00	0.00%

The following graph demonstrates the hypothetical payments at maturity on the CDs for a sub-set of Index Returns detailed in the table above (-50% to 50%). There can be no assurance that the performance of the Index will result in a payment at maturity in excess of \$1,000 per \$1,000 CD.



## How the CDs Work

### Upside Scenario:

If the Final Value is greater than the Initial Value, investors will receive at maturity the \$1,000 principal amount *plus* the Additional Amount, which is equal to \$1,000 *times* the Index Return *times* the Participation Rate of 130.00% for each \$1,000 CD.

- If the closing level of the Index increases 5.00%, investors will receive at maturity a 6.50% return (APY 2.12%), or \$1,065.00 per \$1,000 CD.

### Par Scenario:

If the Final Value is equal to the Initial Value or is less than the Initial Value, the Additional Amount will be zero and investors will receive at maturity only the principal amount of their CDs.

The hypothetical returns and hypothetical payments on the CDs shown above apply **only if you hold the CDs for their entire term**. These hypotheticals do not reflect the fees or expenses that would be associated with any sale in the secondary market. If these fees and expenses were included, the hypothetical returns and hypothetical payments shown above would likely be lower.

## Selected Risk Considerations

An investment in the CDs involves significant risks. These risks are explained in more detail in the “Risk Factors” sections of the accompanying disclosure statement and underlying supplement and in Annex C in this disclosure supplement.

### Risks Relating to the CDs Generally

- **THE CDs MAY NOT PAY MORE THAN THE PRINCIPAL AMOUNT AT MATURITY —**

If the Final Value is less than or equal to the Initial Value, you will receive only the principal amount of your CDs at maturity, and you will not be compensated for any loss in value due to inflation and other factors relating to the value of money over time.

- **THE LEVEL OF THE INDEX WILL INCLUDE THE DEDUCTION OF A NOTIONAL FINANCING COST —**

This notional financing cost will be deducted daily. As a result of the deduction of this notional financing cost, the level of the Index will trail the value of a hypothetical identically constituted synthetic portfolio from which no such cost is deducted.



- **CREDIT RISK OF JPMORGAN CHASE BANK —**

A depositor purchasing a principal amount of CDs in excess of FDIC insurance limits, when aggregated with all other deposits held by the depositor in the same right and capacity at JPMorgan Chase Bank, will be subject to the credit risk of JPMorgan Chase Bank. Investors are dependent on JPMorgan Chase Bank's ability to pay any amounts due on the CDs in excess of FDIC insurance limits. Any actual or potential change in the creditworthiness, credit ratings or credit spreads related to us or our affiliates, as determined by the market for taking that credit risk, is likely to adversely affect the value of the CDs.

- **POTENTIAL CONFLICTS —**

We and our affiliates play a variety of roles in connection with the CDs. In performing these duties, our economic interests are potentially adverse to your interests as an investor in the CDs. It is possible that hedging or trading activities of ours or our affiliates in connection with the CDs could result in substantial returns for us or our affiliates while the value of the CDs declines. Please refer to "Risk Factors — Risks Relating to Conflicts of Interest" in the accompanying disclosure statement.

One of our affiliates, JPMS, worked with S&P Dow Jones in developing the guidelines and policies governing the composition and calculation of the Index. Although judgments, policies and determinations concerning the Index were made by JPMS, JPMorgan Chase & Co., as the parent company of JPMS, ultimately controls JPMS. 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 CDs. JPMS is under no obligation to consider your interests as an investor in the CDs 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 equity securities in the Index is not an investment recommendation by us or JPMS of the equity securities underlying the Index.

- **THE CDs DO NOT PAY INTEREST.**

- **YOU WILL NOT RECEIVE DIVIDENDS ON THE SECURITIES INCLUDED IN THE INDEX OR HAVE ANY RIGHTS WITH RESPECT TO THOSE SECURITIES.**

- **LACK OF LIQUIDITY —**

The CDs will not be listed on an organized securities exchange. JPMS and its affiliates may offer to purchase the CDs upon terms and conditions acceptable to them, but are not required to do so. You may not be able to sell your CDs. The CDs are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your CDs to maturity. For more information, see "General Terms of the CDs — Additions and Withdrawals" and "Discounts and Secondary Market" in the accompanying disclosure statement.

- **LIMITATIONS ON FDIC INSURANCE —**

As a general matter, a holder who purchases a principal amount of CDs, together with other deposits that it maintains at JPMorgan Chase Bank in the same ownership capacity, that is greater than the applicable limits set by federal law and regulation will not be insured by the FDIC for the principal amount exceeding such limit. In addition, under FDIC interpretations, the return on the CDs, which is reflected in the form of the Additional Amount, is not insured by the FDIC until the Observation Date. Any amounts due on the CDs in excess of the applicable FDIC insurance limits will be subject to the credit risk of JPMorgan Chase Bank. For more information, see "Deposit Insurance" in the accompanying disclosure statement.

- **JPMS'S ESTIMATED VALUE OF THE CDs IS LOWER THAN THE ORIGINAL ISSUE PRICE (PRICE TO PUBLIC) OF THE CDs —**

JPMS's estimated value is only an estimate using several factors. The original issue price of the CDs exceeds JPMS's estimated value because costs associated with selling, structuring and hedging the CDs are included in the original issue price of the CDs. These costs include the selling commissions, the projected profits, if any, that our affiliates expect to realize for assuming risks inherent in hedging our obligations under the CDs and the estimated cost of hedging our obligations under the CDs. See "JPMS's Estimated Value of the CDs" in this disclosure supplement.

- **JPMS'S ESTIMATED VALUE DOES NOT REPRESENT FUTURE VALUES OF THE CDs AND MAY DIFFER FROM OTHERS' ESTIMATES —**

See "JPMS's Estimated Value of the CDs" in this disclosure supplement.

- **JPMS'S ESTIMATED VALUE IS DERIVED BY REFERENCE TO AN INTERNAL FUNDING RATE —**

The internal funding rate used in the determination of JPMS's estimated value may differ from the market-implied funding rate for vanilla fixed income instruments of a similar maturity issued by us or our affiliates. Any difference may be based on, among other things, our view of the funding value of the CDs as well as the issuance, operational and ongoing liability management costs of the



CDs. This internal funding rate is based on certain market inputs and assumptions, which may prove to be incorrect, and is intended to approximate the prevailing market replacement funding rate for the CDs. Our use of an internal funding rate and any potential changes to that rate may have an adverse effect on the terms of the CDs and any secondary market prices of the CDs. See “JPMS’s Estimated Value of the CDs” in this disclosure supplement.

- **THE VALUE OF THE CDs AS PUBLISHED BY JPMS (AND WHICH MAY BE REFLECTED ON CUSTOMER ACCOUNT STATEMENTS) MAY BE HIGHER THAN JPMS’S THEN-CURRENT ESTIMATED VALUE OF THE CDs FOR A LIMITED TIME PERIOD —**

We generally expect that some of the costs included in the original issue price of the CDs will be partially paid back to you in connection with any repurchases of your CDs by JPMS in an amount that will decline to zero over an initial predetermined period. See “Secondary Market Prices of the CDs” in this disclosure supplement for additional information relating to this initial period. Accordingly, the estimated value of your CDs during this initial period may be lower than the value of the CDs as published by JPMS (and which may be shown on your customer account statements).

- **SECONDARY MARKET PRICES OF THE CDs WILL LIKELY BE LOWER THAN THE ORIGINAL ISSUE PRICE OF THE CDs —**

Any secondary market prices of the CDs will likely be lower than the original issue price of the CDs because, among other things, secondary market prices take into account our internal secondary market funding rates for structured issuances and, also, because secondary market prices may exclude selling commissions, projected hedging profits, if any, and estimated hedging costs that are included in the original issue price of the CDs. As a result, the price, if any, at which JPMS will be willing to buy the CDs from you in secondary market transactions, if at all, is likely to be lower than the original issue price. Any sale by you prior to the Maturity Date could result in a substantial loss to you.

In addition, if JPMS purchases your CDs in the secondary market within six days after their initial issuance, you will be subject to early withdrawal penalties we are required to impose pursuant to Regulation D of the Federal Reserve Board. Under these circumstances, the repurchase price will be less than the original issue price of the CDs.

- **SECONDARY MARKET PRICES OF THE CDs WILL BE IMPACTED BY MANY ECONOMIC AND MARKET FACTORS —**

The secondary market price of the CDs during their term will be impacted by a number of economic and market factors, which may either offset or magnify each other, aside from the selling commissions, projected hedging profits, if any, estimated hedging costs and the level of the Index. Additionally, independent pricing vendors and/or third party broker-dealers may publish a price for the CDs, which may also be reflected on customer account statements. This price may be different (higher or lower) than the price of the CDs, if any, at which JPMS may be willing to purchase your CDs in the secondary market. See “Risk Factors — Risks Relating to the Estimated Value and Secondary Market Prices of the CDs — Secondary market prices of the CDs will be impacted by many economic and market factors” in the accompanying disclosure statement.

### **Risks Relating to the Index**

- **OUR PARENT COMPANY, JPMORGAN CHASE & CO., IS CURRENTLY ONE OF THE COMPANIES THAT MAKE UP THE INDEX** □

but JPMorgan Chase & Co. will not have any obligation to consider your interests in taking any corporate action that might affect the level of the Underlying Index or the Index.

- **THE INDEX MAY NOT BE SUCCESSFUL AND MAY NOT OUTPERFORM THE UNDERLYING INDEX —**

The Index provides notional exposure to the Underlying Index, while targeting an annualized volatility of 10%. No assurance can be given that the volatility targeting strategy will be successful or that the Index will outperform the Underlying Index or any alternative strategy that might be employed to provide volatility-adjusted exposure to the Underlying Index.

- **THE INDEX MAY NOT APPROXIMATE ITS TARGET VOLATILITY —**

No assurance can be given that the Index will approximate its target volatility. The actual realized volatility of the Index may be greater or less than its target volatility. The exposure to the Underlying Index is dynamically adjusted on a daily basis, subject to a maximum exposure limit, based on the historical volatility of the Underlying Index. However, there is no guarantee that trends existing in the past will continue in the future. The volatility of the Underlying Index 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 CDs.

- **THE DAILY ADJUSTMENT OF THE EXPOSURE OF THE INDEX TO THE UNDERLYING INDEX MAY CAUSE THE INDEX NOT TO REFLECT FULLY ANY APPRECIATION OF THE UNDERLYING INDEX OR TO MAGNIFY ANY DEPRECIATION OF THE UNDERLYING INDEX —**

In an effort to approximate its target volatility, the Index adjusts its exposure to the Underlying Index daily based on the historical volatility of the Underlying Index, subject to a maximum exposure limit of 150%. When the historical volatility is greater than the target volatility, the Index will reduce its exposure to the Underlying Index. When the historical volatility is less than the target volatility, the Index will increase the exposure to the Underlying Index, up to 150%. Due to the daily exposure adjustments, the Index may fail to realize gains due to appreciation of the Underlying Index at a time when the exposure is less than 100% or may suffer increased losses due to depreciation of the Underlying Index when the exposure is above 100%. As a result, the Index may underperform a similar index that does not include a daily exposure adjustment feature.

- **THE INDEX MAY BE SIGNIFICANTLY UNINVESTED, WHICH WILL RESULT IN A PORTION OF THE INDEX REFLECTING NO RETURN —**

The Index utilizes the existing Underlying Index methodology, plus an overlying mathematical algorithm designed to control the level of risk of the Underlying Index by establishing a specific volatility target and dynamically adjusting the exposure to the Underlying Index based on its observed historical volatility. If the Underlying Index experiences volatility in excess of the applicable volatility target over the relevant period, the exposure to the Underlying Index is decreased, meaning that the Index will be partially uninvested and, accordingly, the Index will reflect no return with respect to the uninvested portion. Accordingly, when the exposure of the Index to the Underlying Index is less than 100% on any day, the Index will be partially uninvested. For example, if the exposure is set at 20%, the Index will be 80% uninvested. Under normal market conditions, the Index is expected to be significantly uninvested. Increased volatility in the Underlying Index may adversely affect the performance of the Index and the value of the CDs.

- **THE LEVEL OF THE INDEX REFLECTS THE DEDUCTION OF A NOTIONAL FINANCING COST —**

One way in which the Index may differ from a typical index is that it is an excess return index that tracks the return of the Underlying Index, subject to the leverage factor, over and above a short-term money market investment. As such, the Index's level will include the deduction of a notional financing cost from the performance of the Underlying Index. In other words, the Index provides a return based on the performance of a notional investment in the Underlying Index, subject to the leverage factor, where the investment was made using borrowed funds. The notional financing cost accrues based on the daily SOFR rate plus a fixed spread. The notional financing cost will be deducted daily. As a result of the deduction of the notional financing cost, the level of the Index will trail the value of a hypothetical identically constituted notional portfolio from which no such cost is deducted.

- **THE INDEX'S METHODOLOGY FOR CALCULATING THE NOTIONAL FINANCING COST WAS RECENTLY CHANGED —**

Effective December 20, 2021, the notional financing cost on each day was set equal to the daily SOFR rate on that day plus a fixed spread. Prior to that date, the notional financing cost was calculated based on overnight USD LIBOR rates.

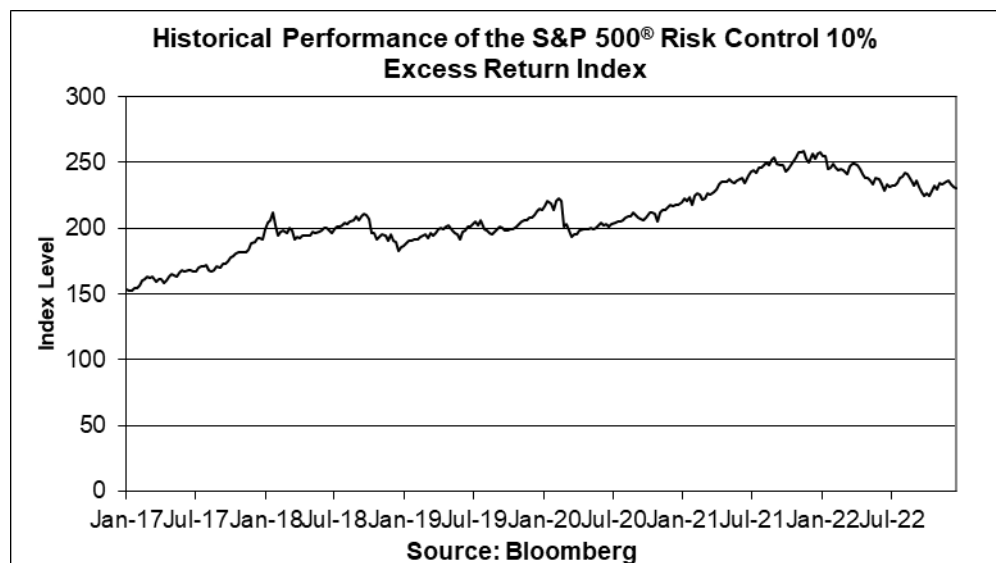
In June 2017, the Federal Reserve Bank of New York's Alternative Reference Rates Committee (the "ARRC") announced SOFR as its recommended alternative to U.S. dollar LIBOR. However, the composition and characteristics of SOFR are not the same as those of U.S. dollar LIBOR. SOFR is a broad Treasury repo financing rate that represents overnight secured funding transactions and is not the economic equivalent of U.S. dollar LIBOR. While SOFR is a secured rate, U.S. dollar LIBOR is an unsecured rate. In addition, while SOFR currently is an overnight rate only, U.S. dollar LIBOR is a forward-looking rate that represents interbank funding for a specified term. As a result, there can be no assurance that SOFR will perform in the same way as U.S. dollar LIBOR would have at any time, including, without limitation, as a result of changes in interest and yield rates in the market, bank credit risk, market volatility or global or regional economic, financial, political, regulatory, judicial or other events. For the same reasons, SOFR is not expected to be a comparable substitute, successor or replacement for U.S. dollar LIBOR. The fixed spread added to SOFR in calculating the notional financing cost is arbitrary and will negatively affect the performance of the Index.

The change to the notional financing cost may adversely affect the performance of the Index and the value of the CDs, as the notional financing cost derived from daily SOFR rates plus a spread may be greater, perhaps significantly, than the notional financing cost that would have been derived from the relevant LIBOR rates. In addition, this change may affect the composition of the Index after the effective date of the change, which may adversely affect the performance of the Index and the value of the CDs. Moreover, the performance of the Index prior to December 20, 2021 does not reflect this change. The Index lacked any operating history with the new notional financing cost methodology prior to December 20, 2021 and may perform in unanticipated ways. Investors in the CDs should bear this difference in mind when evaluating the historical data shown in this disclosure supplement. For additional risk considerations relating to the notional financing cost, see "Annex C — Additional Risk Considerations Relating to the Notional Financing Cost" in this disclosure supplement.

## Historical Information

The following graph sets forth the historical performance of the Index based on the weekly historical closing levels of the Index from January 6, 2017 through December 23, 2022. The closing level of the Index on December 29, 2022 was 230.837. We obtained the closing levels above and below from Bloomberg, without independent verification.

The historical closing levels of the Index should not be taken as an indication of future performance, and no assurance can be given as to the closing level of the Index on the Observation Date. There can be no assurance that the performance of the Index will result in a payment at maturity in excess of your principal amount.



## Taxed as Contingent Payment Debt Instruments

You should review carefully the section entitled “Material U.S. Federal Income Tax Consequences,” and in particular the subsection thereof entitled “— CDs with a Term of More than One Year,” in the accompanying disclosure statement. Unlike a traditional certificate of deposit that provides for periodic payments of interest at a single fixed rate, with respect to which a cash-method investor generally recognizes income only upon receipt of stated interest, the CDs will be treated for U.S. federal income tax purposes as “contingent payment debt instruments.” As discussed in that subsection, you generally will be required to accrue original issue discount (“OID”) on your CDs in each taxable year at the “comparable yield,” as determined by us, although we will not make any payment with respect to the CDs until maturity. Upon sale or exchange (including at maturity), you will recognize taxable income or loss equal to the difference between the amount received from the sale or exchange and your adjusted basis in the CD, which generally will equal the cost thereof, increased by the amount of OID you have accrued in respect of the CD. You generally must treat any income as interest income and any loss as ordinary loss to the extent of previous interest inclusions, and the balance as capital loss. The deductibility of capital losses is subject to limitations. The discussions herein and in the accompanying disclosure statement do not address the consequences to taxpayers subject to special tax accounting rules under Section 451(b) of the Code. **Purchasers who are not initial purchasers of CDs at their issue price should consult their tax advisers with respect to the tax consequences of an investment in CDs, including the treatment of the difference, if any, between the basis in their CDs and the CDs’ adjusted issue price.**

Section 871(m) of the Code and Treasury regulations promulgated thereunder (“Section 871(m)”) generally impose a 30% withholding tax (unless an income tax treaty applies) on dividend equivalents paid or deemed paid to Non-U.S. Holders with respect to certain financial instruments linked to U.S. equities or indices that include U.S. equities. Section 871(m) provides certain exceptions to this withholding regime, including for instruments linked to certain broad-based indices that meet requirements set forth in the applicable Treasury regulations. Additionally, a recent IRS notice excludes from the scope of Section 871(m) instruments issued prior to January 1, 2025 that do not have a delta of one with respect to underlying securities that could pay U.S.-source dividends for U.S. federal income tax purposes (each an “Underlying Security”). Based on certain determinations made by us, our special tax counsel is of the opinion that Section 871(m) should not apply to the CDs with regard to Non-U.S. Holders. Our determination is not binding on the IRS, and the IRS may disagree with this determination. Section 871(m) is complex and its application may depend on your particular circumstances, including whether you enter into other transactions with respect to an Underlying Security. You should consult your tax adviser regarding the potential application of Section 871(m) to the CDs.

Withholding under legislation commonly referred to as “FATCA” may apply to the payment on your CD at maturity, as well as to the gross proceeds of a sale or other disposition of a CD prior to maturity, although under regulations proposed in 2018 (the preamble to which specifies that taxpayers are permitted to rely on them pending finalization), no withholding will apply to payments of gross proceeds (other than any amount treated as interest). You should consult your tax adviser regarding the potential application of FATCA to the CDs.

### Comparable Yield and Projected Payment Schedule

We have determined that the “comparable yield” is an annual rate of 4.45% compounded semiannually. Based upon our determination of the comparable yield, the “projected payment schedule” per \$1,000 CD consists of a single payment at maturity, equal to \$1,140.89. Assuming a semiannual accrual period, the following table states the amount of OID that will accrue with respect to the CDs during each calendar period, based upon our determination of the comparable yield and the projected payment schedule.

Calendar Period	Accrued OID During Calendar Period (Per \$1,000 CD)	Total Accrued OID from Original Issue Date (Per \$1,000 CD) as of End of Calendar Period
January 4, 2023 through December 31, 2023.....	\$44.49	\$44.49
January 1, 2024 through December 31, 2024.....	\$47.00	\$91.49
January 1, 2025 through December 31, 2025.....	\$49.12	\$140.61
January 1, 2026 through January 2, 2026.....	\$0.28	\$140.89

**The comparable yield and projected payment schedule are determined solely to calculate the amount on which you will be taxed with respect to the CDs in each year and are neither a prediction nor a guarantee of what the actual yield will be. The amount you actually receive at maturity or earlier sale or exchange of your CDs will affect your income for that year, as described above under “Taxed as Contingent Payment Debt Instruments.”**

### JPMS’s Estimated Value of the CDs

JPMS’s estimated value of the CDs set forth on the cover of this disclosure supplement is equal to the sum of the values of the following hypothetical components: (1) a fixed-income component with the same maturity as the CDs, valued using an internal funding rate, and (2) the derivative or derivatives underlying the economic terms of the CDs. JPMS’s estimated value does not represent a minimum price at which JPMS would be willing to buy your CDs in any secondary market (if any exists) at any time. The internal funding rate used in the determination of JPMS’s estimated value may differ from the market-implied funding rate for vanilla fixed income instruments of a similar maturity issued by us or our affiliates. Any difference may be based on, among other things, our view of the funding value of the CDs as well as the issuance, operational and ongoing liability management costs of the CDs. This internal funding rate is based on certain market inputs and assumptions, which may prove to be incorrect, and is intended to approximate the prevailing market replacement funding rate for the CDs. Our use of an internal funding rate and any potential changes to that rate may have an adverse effect on the terms of the CDs and any secondary market prices of the CDs. For additional information, see “Selected Risk Considerations — Risks Relating to the CDs Generally — JPMS’s Estimated Value Is Derived by Reference to an Internal Funding Rate.”

The value of the derivative or derivatives underlying the economic terms of the CDs is derived from JPMS’s internal pricing models. These models are dependent on inputs such as the traded market prices of comparable derivative instruments and on various other inputs, some of which are market-observable, and which can include volatility, dividend rates, interest rates and other factors, as well as assumptions about future market events and/or environments. Accordingly, JPMS’s estimated value of the CDs is determined when the terms of the CDs are set based on market conditions and other relevant factors and assumptions existing at that time.

JPMS’s estimated value of the CDs does not represent future values of the CDs and may differ from others’ estimates. Different pricing models and assumptions could provide valuations for the CDs that are greater than or less than JPMS’s estimated value. In addition, market conditions and other relevant factors in the future may change, and any assumptions may prove to be incorrect. On future dates, the value of the CDs could change significantly based on, among other things, changes in market conditions, our creditworthiness, interest rate movements and other relevant factors, which may impact the price, if any, at which JPMS would be willing to buy CDs from you in secondary market transactions.

JPMS’s estimated value of the CDs is lower than the original issue price of the CDs because costs associated with selling, structuring and hedging the CDs are included in the original issue price of the CDs. These costs include the selling commissions paid to JPMS and

other affiliated or unaffiliated dealers, the projected profits, if any, that our affiliates expect to realize for assuming risks inherent in hedging our obligations under the CDs and the estimated cost of hedging our obligations under the CDs. Because hedging our obligations entails risk and may be influenced by market forces beyond our control, this hedging may result in a profit that is more or less than expected, or it may result in a loss. A portion of the profits, if any, realized in hedging our obligations under the CDs may be allowed to other affiliated or unaffiliated dealers, and we or one or more of our affiliates will retain any remaining hedging profits, if any. See “Selected Risk Considerations — Risks Relating to the CDs Generally — JPMS’s Estimated Value of the CDs Is Lower Than the Original Issue Price (Price to Public) of the CDs” in this disclosure supplement.

## Secondary Market Prices of the CDs

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For information about factors that will impact any secondary market prices of the CDs, see “Risk Factors — Risks Relating to the Estimated Value and Secondary Market Prices of the CDs — Secondary market prices of the CDs will be impacted by many economic and market factors” in the accompanying disclosure statement. In addition, we generally expect that some of the costs included in the original issue price of the CDs will be partially paid back to you in connection with any repurchases of your CDs by JPMS in an amount that will decline to zero over an initial predetermined period. These costs can include selling commissions, projected hedging profits, if any, and, in some circumstances, estimated hedging costs and our internal secondary market funding rates for structured issuances. This initial predetermined time period is intended to be the shorter of six months and one-half of the stated term of the CDs. The length of any such initial period reflects the structure of the CDs, whether our affiliates expect to earn a profit in connection with our hedging activities, the estimated costs of hedging the CDs and when these costs are incurred, as determined by JPMS. See “Selected Risk Considerations — Risks Relating to the CDs Generally — The Value of the CDs as Published by JPMS (and Which May Be Reflected on Customer Account Statements) May Be Higher Than JPMS’s Then-Current Estimated Value of the CDs for a Limited Time Period.”

## Supplemental Use of Proceeds

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The CDs are offered to meet investor demand for products that reflect the risk-return profile and market exposure provided by the CDs. See “Hypothetical Payout Profile” and “How the CDs Work” in this disclosure supplement for an illustration of the risk-return profile of the CDs and “The S&P 500® Dividend Aristocrats Risk Control 10% Excess Return Index” in this disclosure supplement for a description of the market exposure provided by the CDs.

The original issue price of the CDs is equal to JPMS’s estimated value of the CDs plus the selling commissions paid to JPMS and other affiliated or unaffiliated dealers, plus (minus) the projected profits (losses) that our affiliates expect to realize for assuming risks inherent in hedging our obligations under the CDs, plus the estimated cost of hedging our obligations under the CDs.

We intend to use the net proceeds from the sale of the CDs for general corporate purposes and, in part, by us or by one or more of our affiliates in connection with hedging our obligations under the CDs.

## Supplemental Donation Information

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Since September 2022, JPMorgan Chase & Co., our parent company, and/or its affiliates (“J.P. Morgan”) have made unconditional and irrevocable donations of \$600,000, in the aggregate, to Start Small Think Big to support one or several diverse entrepreneurship projects. According to Start Small Think Big, these projects are part of a larger initiative that aims to promote financial security and stimulate economic activity in marginalized communities. See Annex A in this disclosure supplement for more information about Start Small Think Big. There is no assurance that these projects will be successful or be completed as intended. These donations and the amount of these donations are not contingent on the sale of the CDs and will not impact the final terms of the CDs.

***We or our affiliates expect to realize profits for assuming risks inherent in hedging our obligations under the CDs. Some of these projected profits, if any, may be used to offset a portion of the donations.***

The issuance of the CDs and the related use of proceeds described above ***are not*** intended to comply with the Social Bond Principles, June 2021 (the “Principles”). The Principles are voluntary process guidelines published by the International Capital Markets Association for the issuance of social bonds developed by a committee of issuers, investors and other market participants. ***We cannot assure you that the donations to Start Small Think Big meets your expectations concerning diversity, expectations for sustainable finance products or any criteria or guidelines with which you are required to comply.***

## Supplemental Plan of Distribution

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We expect that delivery of the CDs will be made against payment for the CDs on or about the Original Issue Date set forth on the front cover of this disclosure supplement, which will be the third business day following the Pricing Date of the CDs (this settlement cycle being referred to as “T+3”). Accordingly, purchasers who wish to trade CDs on any date prior to two business days before delivery will



be required to specify an alternate settlement cycle at the time of any such trade to prevent a failed settlement and should consult their own advisors.

The CDs are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); or (ii) a customer within the meaning of Directive 2002/92/EC (as amended, the "Insurance Mediation Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Directive 2003/71/EC (as amended, the "Prospectus Directive"). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the CDs or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the CDs or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

### **Additional Terms Specific to the CDs**

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You should read this disclosure supplement together with the accompanying disclosure statement and the accompanying underlying supplement. This disclosure supplement, together with the documents listed below, contains the terms of the CDs and supersedes 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 ours and, to the extent of any inconsistency, any certificate of deposit disclosure statement produced and furnished by any unaffiliated dealer. You should carefully consider, among other things, the matters set forth in "Risk Factors" in the accompanying disclosure statement and "Risk Factors" in the accompanying underlying supplement, as the CDs involve risks not associated with conventional certificates of deposit. We urge you to consult your investment, legal, tax, accounting and other advisers before you invest in the CDs.

#### **You may access these documents on our website:**

- Disclosure statement dated January 29, 2015:  
[http://www.jpmorgan.com/directdoc/Equity\\_Omnibus\\_CD\\_Disclosure\\_Statement\\_2.0](http://www.jpmorgan.com/directdoc/Equity_Omnibus_CD_Disclosure_Statement_2.0)
- Underlying supplement no. CD-5-I dated August 3, 2012:  
[http://www.jpmorgan.com/directdoc/JPM\\_Omnibus\\_Underlying\\_Supplement\\_8\\_3\\_12.pdf](http://www.jpmorgan.com/directdoc/JPM_Omnibus_Underlying_Supplement_8_3_12.pdf)

You may access information related to the audited Consolidated Financial Statements of JPMorgan Chase Bank, N.A. as at December 31, 2021 and 2020 and for each of the three years in the period ended December 31, 2021 at the following URL:

[http://www.jpmorgan.com/content/dam/jpm/structured-products-documents/2021/JPMorgan\\_Chase\\_Bank\\_NA\\_Consolidated\\_Financial\\_Statements2021.pdf](http://www.jpmorgan.com/content/dam/jpm/structured-products-documents/2021/JPMorgan_Chase_Bank_NA_Consolidated_Financial_Statements2021.pdf)

As used in this disclosure supplement, "we," "us," "our" and "JPMorgan Chase Bank" refer to JPMorgan Chase Bank, National Association.

# Start Small Think Big

Since September 2022, J.P. Morgan has made unconditional and irrevocable donations of \$600,000, in the aggregate, to Start Small Think Big to support one or several diverse entrepreneurship projects. According to Start Small Think Big, these projects are part of a larger initiative that aims to promote financial security and stimulate economic activity in marginalized communities. There is no assurance that these projects will be successful or be completed as intended. These donations and the amount of these donations are not contingent on the sale of the CDs and will not impact the final terms of the CDs.

We have derived certain information about Start Small Think Big (SSTB) set forth below including, without limitation, the business owners supported by SSTB, the services offered by SSTB and SSTB's mission from publicly available information, without independent verification.

## SSTB's Mission

SSTB states that small businesses make a big difference; support families, neighborhoods and economies; and put power in the hands of the community; however, SSTB notes that small businesses face big hurdles. SSTB states that it helps entrepreneurs with high potential and limited access to the resources needed to create thriving and sustainable businesses by providing legal, financial and marketing assistance, at no cost. SSTB has described its services and the business owners that benefit from these services in the diagram below:



## What services are provided by SSTB?

Examples of services provided by SSTB that J.P. Morgan's fixed donation is intended to benefit is described below:

<b>Legal Services</b>	Corporate Risk Assessment, Entity Selection/Formation, Corporate Governance, Commercial Leases, Employment, Intellectual Property and Contracts
<b>Financial Services</b>	Financial Systems & Management, Projections and Planning
<b>Marketing &amp; Sales Services</b>	Digital Marketing Strategy, Social Media Strategy, Website Audit & Brand Assessment, Online Advertising, Logo & Website Design, Sales Opportunities, Distribution & Sales, Digital Analytics and Search Engine Optimization

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There is no assurance that SSTB's stated mission of helping entrepreneurs with high potential and limited access to the resources needed to create thriving and sustainable businesses will be achieved or that any business supported by SSTB will be successful or positively impacted by J.P. Morgan's donations.

J.P. Morgan's donations **are not** intended to comply with the Social Bond Principles, June 2021. These donations are not a Commercial Co-Venture with SSTB.

**Background on the S&P 500® Total Return Index**

All information contained in this disclosure supplement regarding the S&P 500® Total Return Index from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones. The S&P 500® Total Return Index is calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, the S&P 500® Index.

The S&P 500® Total Return Index is reported by Bloomberg L.P. under the ticker symbol "SPTR."

The S&P 500® Total Return Index represents the total return earned on a portfolio that tracks the S&P 500® Index and reinvests dividend income in the S&P 500® Index, not in the specific stock paying the dividend. While changes in the level of the S&P 500® Index reflect only changes in stock prices, changes in the level of the S&P 500® Total Return Index reflect both movements in stock prices and the reinvestment of dividend income. For more information about the S&P 500® Index, see "Equity Index Descriptions — The S&P 500® Index" in the accompanying underlying supplement.

The S&P 500® Total Return Index is calculated from the S&P 500® Index and daily total dividend returns. First, on each trading day, the total dividend paid on that day is measured in dollars and converted into index points of the S&P 500® Index by dividing the total dividend paid by the divisor for the S&P 500® Index. The daily total return for that trading day as (a) the return the S&P 500® Index since the immediately preceding trading day plus (b) the total dividend paid, expressed in index points of the S&P 500® Index, divided by the closing level of the S&P 500® Index on the immediately preceding trading day. The closing level of the S&P 500® Total Return Index on that trading day is then calculated by applying the daily total return for that trading day to the closing level of the S&P 500® Total Return Index on the immediately preceding trading day.

The S&P 500® Total Return Index reflects both ordinary and special dividends. Ordinary cash dividends are applied on the ex-date in calculating the S&P 500® Total Return Index. Special dividends are those dividends that are outside of the normal payment pattern established historically by the issuer of the stocks composing the S&P 500® Index. These may be described by the issuer as "special," "extra," "year-end," or "return of capital." Whether a dividend is funded from operating earnings or from other sources of cash does not affect the determination of whether it is ordinary or special. Special dividends are treated as corporate actions with offsetting price and divisor adjustments. Dividends used to calculate the S&P 500® Total Return Index can be negative if a dividend correction is applied to a particular stock.

### **Additional Risk Considerations Relating to the Notional Financing Cost**

#### **SOFR has a limited history and its future performance cannot be predicted based on historical performance.**

The publication of SOFR began in April 2018, and, therefore, it has a limited history. In addition, the future performance of SOFR cannot be predicted based on the limited historical performance. The level of SOFR during the term of the CDs may bear little or no relation to historical actual or historical indicative SOFR data. Prior observed patterns, if any, in the behavior of market variables and their relation to SOFR, such as correlations, may change in the future. While some pre-publication historical data has been released by the Federal Reserve Bank of New York ("FRBNY"), production of such historical indicative SOFR data inherently involves assumptions, estimates and approximations. No future performance of SOFR may be inferred from any of historical actual or historical indicative SOFR data. Hypothetical or historical performance data are not indicative of, and have no bearing on, the potential performance of SOFR. Changes in the levels of SOFR will affect the notional financing cost and, therefore, the performance of the Index and the return on the CDs and the trading price of the CDs, but it is impossible to predict whether such levels will rise or fall.

#### **SOFR will be affected by a number of factors.**

The notional financing cost will depend on SOFR. SOFR will depend on a number of factors, including, but not limited to:

- supply and demand for overnight U.S. Treasury repurchase agreements;
- sentiment regarding underlying strength in the U.S. and global economies;
- expectations regarding the level of price inflation;
- sentiment regarding credit quality in the U.S. and global credit markets;
- central bank policy regarding interest rates;
- inflation and expectations concerning inflation;
- performance of capital markets; and
- any statements from public government officials regarding the cessation of SOFR.

These and other factors may have a material effect on the performance of SOFR, on the notional financing cost, on the performance of the Index and on the value of the CDs in the secondary market.

#### **SOFR may be volatile and may be more volatile than other benchmark or market interest rates.**

SOFR is subject to volatility due to a variety of factors affecting interest rates generally, including, but not limited to:

- sentiment regarding underlying strength in the U.S. and global economies;
- expectations regarding the level of price inflation;
- sentiment regarding credit quality in U.S. and global credit markets;
- central bank policy regarding interest rates; and
- performance of capital markets.

Since the initial publication of SOFR, daily changes in the rate have, on occasion, been more volatile than daily changes in other benchmark or market rates, such as U.S. dollar LIBOR, during corresponding periods.

#### **The composition and characteristics of SOFR are not the same as those of LIBOR and there is no guarantee that SOFR is a comparable substitute for LIBOR.**

In June 2017, the Federal Reserve Bank of New York's Alternative Reference Rates Committee (the "ARRC") announced SOFR as its recommended alternative to U.S. dollar LIBOR. However, the composition and characteristics of SOFR are not the same as those of U.S. dollar LIBOR. SOFR is a broad Treasury repo financing rate that represents overnight secured funding transactions and is not the economic equivalent of U.S. dollar LIBOR. While SOFR is a secured rate, U.S. dollar LIBOR is an unsecured rate. In addition, while SOFR currently is an overnight rate only, U.S. dollar LIBOR is a forward-looking rate that represents interbank funding for a specified term. As a result, there can be no assurance that SOFR will perform in the same way as U.S. dollar LIBOR would have at any time, including, without limitation, as a result of changes in interest and yield rates in the market, bank credit risk, market volatility or global or regional economic, financial, political, regulatory, judicial or other events. For the same reasons, SOFR is not expected to be a comparable substitute, successor or replacement for U.S. dollar LIBOR.

**The fixed spread added to SOFR in calculating the notional financing cost will negatively affect the performance of the Index.**

The notional financing cost is intended to approximate the cost of maintaining a position in the Underlying Index using borrowed funds at a rate of interest equal to the daily SOFR rate plus a fixed spread. The fixed spread is arbitrary and will increase the notional financing cost, which will negatively affect the performance of the Index.

**The notional financing cost is calculated by reference to daily SOFR rates, not compounded SOFR rates.**

The notional financing cost is calculated by reference to daily SOFR rates, plus a fixed spread, not to SOFR compounded over any period. Accordingly, the notional financing cost is expected to be more representative of current overnight rates than of the overnight rate of return of a notional position in a time deposit in U.S. dollars. The notional financing cost may in some circumstances be higher than if compounded SOFR were used to calculate the notional financing cost.

**The administrator of SOFR may make changes that could adversely affect the level of SOFR or discontinue SOFR and has no obligation to consider your interest in doing so.**

SOFR is a relatively new rate, and FRBNY (or a successor), as administrator of SOFR, may make methodological or other changes that could change the value of SOFR, including changes related to the method by which SOFR is calculated, eligibility criteria applicable to the transactions used to calculate SOFR, or timing related to the publication of SOFR. If the manner in which SOFR is calculated is changed, that change may result in an increase to the notional financing cost, which would adversely affect the performance of the Index and the value of the CDs. The administrator of SOFR may withdraw, modify, amend, suspend or discontinue the calculation or dissemination of SOFR in its sole discretion and without notice and has no obligation to consider the interests of holders of the CDs in calculating, withdrawing, modifying, amending, suspending or discontinuing SOFR.

**Additional Information about the Notional Financing Cost**

**What Is SOFR?**

SOFR is published by the Federal Reserve Bank of New York ("FRBNY") and is intended to be a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. FRBNY reports that SOFR includes all trades in the Broad General Collateral Rate, plus bilateral Treasury repurchase agreement ("repo") transactions cleared through the delivery-versus-payment service offered by the Fixed Income Clearing Corporation (the "FICC"), a subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). SOFR is filtered by FRBNY to remove a portion of the foregoing transactions considered to be "specials." According to FRBNY, "specials" are repos for specific-issue collateral which take place at cash-lending rates below those for general collateral repos because cash providers are willing to accept a lesser return on their cash in order to obtain a particular security.

FRBNY reports that SOFR is calculated as a volume-weighted median of transaction-level tri-party repo data collected from The Bank of New York Mellon, which currently acts as the clearing bank for the tri-party repo market, as well as General Collateral Finance Repo transaction data and data on bilateral Treasury repo transactions cleared through the FICC's delivery-versus-payment service. FRBNY notes that it obtains information from DTCC Solutions LLC, an affiliate of DTCC.

FRBNY currently publishes SOFR daily on its website. FRBNY states on its publication page for SOFR that use of SOFR is subject to important disclaimers, limitations and indemnification obligations, including that FRBNY may alter the methods of calculation, publication schedule, rate revision practices or availability of SOFR at any time without notice. Information contained in the publication page for SOFR is not incorporated by reference in, and should not be considered part of, this disclosure supplement.