

JPMORGAN CHASE & CO
Form 424B2
January 15, 2019

The information in this preliminary pricing supplement is not complete and may be changed. This preliminary pricing supplement is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion dated January 15, 2019

Pricing supplement

*To prospectus dated April 5, 2018,
prospectus supplement dated April 5, 2018 and
product supplement no. 2-I dated April 5, 2018*

Registration Statement Nos. 333-222672 and 333-222672-01

Dated January , 2019

JPMorgan Chase Financial Company LLC Rule 424(b)(2)

Structured Investments **\$**
Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi due January 27, 2020

General

The notes are designed for investors who seek exposure to any appreciation of the U.S. dollar relative to the offshore Chinese renminbi from the Starting Spot Rate to the Ending Spot Rate, as reflected in the Reference Currency Return, up to a maximum return of at least 18.15% at maturity.
Investors should be willing to forgo interest payments, while seeking payment of their principal in full at maturity. The notes are unsecured and unsubordinated obligations of JPMorgan Chase Financial Company LLC, which we refer to as JPMorgan Financial, the payment on which is fully and unconditionally guaranteed by JPMorgan Chase & Co. **Any payment on the notes is subject to the credit risk of JPMorgan Financial, as issuer of the notes, and the credit risk of JPMorgan Chase & Co., as guarantor of the notes.**

Minimum denominations of \$10,000 and integral multiples of \$1,000 in excess thereof

Key Terms

Issuer: JPMorgan Chase Financial Company LLC, an indirect, wholly owned finance subsidiary of JPMorgan Chase & Co.
Guarantor: JPMorgan Chase & Co.
Reference Currency: U.S. dollar (USD)
Base Currency: Offshore Chinese renminbi (CNH)
Payment at Maturity: At maturity, you will receive a cash payment, for each \$1,000 principal amount note, of \$1,000 *plus* the Additional Amount, which may be zero and will not be greater than the Maximum Amount.
You are entitled to repayment of principal in full at maturity, subject to the credit risks of JPMorgan Financial and JPMorgan Chase & Co.
Additional Amount: The Additional Amount per \$1,000 principal amount note payable at maturity will equal \$1,000 × the Reference Currency Return × the Participation Rate, *provided* that the Additional Amount will

not be less than zero or greater than the Maximum Amount.

Participation Rate:	100%
Maximum Amount:	At least \$181.50 per \$1,000 principal amount note. The actual Maximum Amount will be provided in the pricing supplement and will not be less than \$181.50 per \$1,000 principal amount note.
Reference:	<u>Ending Spot Rate – Starting Spot Rate</u>
Currency Return:	Ending Spot Rate <i>Please see “How Do Exchange Rates Work?” and “Selected Risk Considerations — The Method of Calculating the Reference Currency Return Will Diminish Any Appreciation of the Reference Currency Relative to the Base Currency” in this pricing supplement for more information.</i>
Starting Spot Rate:	The Spot Rate on the Pricing Date
Ending Spot Rate:	The arithmetic average of the Spot Rates on the Ending Averaging Dates
Pricing Date:	On or about January 18, 2019
Original Issue Date:	On or about January 24, 2019 (Settlement Date)
Ending Averaging Dates:	January 15, 2020, January 16, 2020, January 17, 2020, January 21, 2020 and January 22, 2020
Maturity Date:	January 27, 2020
CUSIP:	48130UPZ2
Other Key Terms:	See “Additional Key Terms” in this pricing supplement.

Subject to postponement in the event of certain market disruption events and as described under “General Terms of Notes — Postponement of a Determination Date — Notes Linked to a Single Underlying — Notes Linked to a Single Reference Currency Relative to a Single Base Currency” and “General Terms of Notes — Postponement of a Payment Date” in the accompanying product supplement

Investing in the notes involves a number of risks. See “Risk Factors” beginning on page PS-9 of the accompanying product supplement and “Selected Risk Considerations” beginning on page PS-4 of this pricing supplement.

Neither the Securities and Exchange Commission (the “SEC”) nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy or the adequacy of this pricing supplement or the accompanying product supplement, prospectus supplement and prospectus. Any representation to the contrary is a criminal offense.

	Price to Public (1)	Fees and Commissions (2)	Proceeds to Issuer
Per note	\$1,000	\$	\$
Total	\$	\$	\$

(1) See “Supplemental Use of Proceeds” in this pricing supplement for information about the components of the price to public of the notes.

(2) J.P. Morgan Securities LLC, which we refer to as JPMS, acting as agent for JPMorgan Financial, will pay all of the selling commissions it receives from us to other affiliated or unaffiliated dealers. In no event will these selling commissions exceed \$5.00 per \$1,000 principal amount note. See “Plan of Distribution (Conflicts of Interest)” in the accompanying product supplement

If the notes priced today, the estimated value of the notes would be approximately \$992.10 per \$1,000 principal amount note. The estimated value of the notes, when the terms of the notes are set, will be provided in the pricing supplement and will not be less than \$985.00 per \$1,000 principal amount note. See “The Estimated Value of the Notes” in this pricing supplement for additional information.

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.

Additional Terms Specific to the Notes

You may revoke your offer to purchase the notes at any time prior to the time at which we accept such offer by notifying the applicable agent. We reserve the right to change the terms of, or reject any offer to purchase, the notes prior to their issuance. In the event of any changes to the terms of the notes, we will notify you and you will be asked to accept such changes in connection with your purchase. You may also choose to reject such changes, in which case we may reject your offer to purchase.

You should read this pricing supplement together with the accompanying prospectus, as supplemented by the accompanying prospectus supplement relating to our Series A medium-term notes, of which these notes are a part, and the more detailed information contained in the accompanying product supplement. **This pricing supplement, together with the documents listed below, contains the terms of the notes 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.** You should carefully consider, among other things, the matters set forth in the “Risk Factors” section of the accompanying product supplement, as the notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisers before you invest in the notes.

You may access these documents on the SEC website at www.sec.gov as follows (or if such address has changed, by reviewing our filings for the relevant date on the SEC website):

- Product supplement no. 2-I dated April 5, 2018:
http://www.sec.gov/Archives/edgar/data/19617/000095010318004517/dp87531_424b2-ps2i.pdf
- Prospectus supplement and prospectus, each dated April 5, 2018:
http://www.sec.gov/Archives/edgar/data/19617/000095010318004508/dp87767_424b2-ps.pdf

Our Central Index Key, or CIK, on the SEC website is 1665650, and JPMorgan Chase & Co.’s CIK is 19617. As used in this pricing supplement, “we,” “us” and “our” refer to JPMorgan Financial.

Additional Key Terms

CURRENCY BUSINESS DAY — A “currency business day,” with respect to the Reference Currency relative to the Base Currency, means a day, as determined by the calculation agent, on which (a) dealings in foreign currency in accordance with the practice of the foreign exchange market occur in the City of New York and the principal financial center for the Reference Currency (which is Hong Kong) and (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.

SPOT RATE — The Spot Rate on any relevant day is expressed as a number of offshore Chinese renminbi per one U.S. dollar and is equal to the offshore Chinese renminbi per one U.S. dollar exchange rate as reported by Thomson Reuters Corporation (“Reuters”) on page “CNHFIX=” (or any successor page) at approximately 11:15 a.m., Hong Kong time, on that day.

JPMorgan Structured Investments —
Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

PS-1

How Do Exchange Rates Work?

Exchange rates reflect the amount of one currency that can be exchanged for a unit of another currency.

The Reference Currency Return reflects the return of the U.S. dollar relative to the offshore Chinese renminbi from the Starting Spot Rate to the Ending Spot Rate, calculated using the formula set forth above under “Key Terms — Reference Currency Return.” While the Reference Currency Return for purposes of the notes is determined using the formula set forth above under “Key Terms — Reference Currency Return,” there are other reasonable ways to determine the return of the U.S. dollar relative to the offshore Chinese renminbi that would provide different results. For example, another way to calculate the return of U.S. dollar relative to the offshore Chinese renminbi would be to calculate the return that would be achieved by converting offshore Chinese renminbi into U.S. dollars at the Starting Spot Rate on the Pricing Date and then, on the final Ending Averaging Date, converting back into offshore Chinese renminbi at the Ending Spot Rate. In this pricing supplement, we refer to the return of the U.S. dollar relative to the offshore Chinese renminbi calculated using that method, which is not used for purposes of the notes, as a “conversion return.”

As demonstrated by the examples below, under the Reference Currency Return formula, any appreciation of the U.S. dollar relative to the offshore Chinese renminbi will be diminished, as compared to a conversion return. In addition, the diminishing effect on any appreciation of the U.S. dollar relative to the offshore Chinese renminbi increases as the Reference Currency Return increases. Accordingly, your return on the notes may be less than if you had invested in similar notes that reflected conversion returns.

The Spot Rate is expressed as the number of offshore Chinese renminbi per one U.S. dollar. As a result, an **increase** in the Spot Rate from the Starting Spot Rate to the Ending Spot Rate means that the U.S. dollar has **appreciated / strengthened** relative to the offshore Chinese renminbi from the Starting Spot Rate to the Ending Spot Rate. This means that one U.S. dollar could purchase more offshore Chinese renminbi at the Ending Spot Rate on the final Ending Averaging Date than it could on the Pricing Date. Viewed another way, it would take fewer U.S. dollars to purchase one offshore Chinese renminbi at the Ending Spot Rate on the final Ending Averaging Date than it did at the Starting Spot Rate on the Pricing Date.

The following examples assume a Starting Spot Rate of 6.80 offshore Chinese renminbi per U.S. dollar.

Example 1: The U.S. dollar strengthens from the Starting Spot Rate of 6.80 offshore Chinese renminbi per U.S. dollar to the Ending Spot Rate of 7.48 offshore Chinese renminbi per U.S. dollar.

The Reference Currency Return is equal to 9.09%, calculated as follows:

$$(7.48 - 6.80) / 6.80 = 9.09\%$$

By contrast, if the return on the U.S. dollar were determined using a conversion return, the return would be 10.00%.

Example 2: The U.S. dollar strengthens from the Starting Spot Rate of 6.80 offshore Chinese renminbi per U.S. dollar to the Ending Spot Rate of 680.00 offshore Chinese renminbi per U.S. dollar.

The Reference Currency Return is equal to 99.00%, calculated as follows:

$$(680.00 - 6.80) / 6.80 = 99.00\%$$

By contrast, if the return on the U.S. dollar were determined using a conversion return, the return would be 9,900.00%.

As Examples 1 and 2 above demonstrate, the diminishing effect on any appreciation of the U.S. dollar relative to the offshore Chinese renminbi increases as the Reference Currency Return increases. The payment at maturity will not exceed \$1,000 *plus* the Maximum Amount for each \$1,000 principal amount note if the U.S. dollar has appreciated relative to the offshore Chinese renminbi.

Conversely, a **decrease** in the Spot Rate from the Starting Spot Rate to the Ending Spot Rate means that the U.S. dollar has **depreciated / weakened** relative to the offshore Chinese renminbi from the Starting Spot Rate to the Ending Spot Rate. This means that it would take more U.S. dollars to purchase one offshore Chinese renminbi at the Ending Spot Rate on the final Ending Averaging Date than it did on the Pricing Date. Viewed another way, one U.S. dollar could purchase fewer offshore Chinese renminbi at the Ending Spot Rate on the final Ending Averaging Date than it could at the Starting Spot Rate on the Pricing Date.

Example 3: The U.S. dollar weakens from the Starting Spot Rate of 6.80 offshore Chinese renminbi per U.S. dollar to the Ending Spot Rate of 6.12 offshore Chinese renminbi per U.S. dollar.

The Reference Currency Return is equal to -11.11%, calculated as follows:

$$(6.12 - 6.80) / 6.12 = -11.11\%$$

By contrast, if the return on the U.S. dollar were determined using a conversion return, the return would be -10.00%.

The hypothetical Starting Spot Rate, Ending Spot Rates and Reference Currency Returns set forth above are for illustrative purposes only and have been rounded for ease of analysis.

JPMorgan Structured Investments —

PS-2

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

What Is the Total Return on the Notes at Maturity, Assuming a Range of Performances for the Reference Currency Relative to the Base Currency?

The following table and examples illustrate the hypothetical total return at maturity on the notes. The “total return” as used in this pricing supplement is the number, expressed as a percentage, that results from comparing the payment at maturity per \$1,000 principal amount note to \$1,000. Each hypothetical total return set forth below assumes a Starting Spot Rate of 6.80 and a Maximum Amount of \$181.50 per \$1,000 principal amount note and reflects the Participation Rate of 100%. The actual Maximum Amount will be provided in the pricing supplement and will not be less than \$181.50 per \$1,000 principal amount note. Each hypothetical total return or hypothetical payment at maturity set forth below is for illustrative purposes only and may not be the actual total return or payment at maturity applicable to a purchaser of the notes. The numbers appearing in the following table and examples have been rounded for ease of analysis.

Ending Spot Rate	Reference Currency Return	Additional Amount	Principal Amount	Payment at Maturity	Total Return
68.000000000	99.99%	\$181.50	+\$1,000.00	=\$1,181.50	18.15%
34.00000	80.00%	\$181.50	+\$1,000.00	=\$1,181.50	18.15%
17.00000	60.00%	\$181.50	+\$1,000.00	=\$1,181.50	18.15%
11.33333	40.00%	\$181.50	+\$1,000.00	=\$1,181.50	18.15%
8.50000	20.00%	\$181.50	+\$1,000.00	=\$1,181.50	18.15%
8.30788	18.15%	\$181.50	+\$1,000.00	=\$1,181.50	18.15%
7.55556	10.00%	\$100.00	+\$1,000.00	=\$1,100.00	10.00%
7.15789	5.00%	\$50.00	+\$1,000.00	=\$1,050.00	5.00%
6.80000	0.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
6.47619	-5.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
6.18182	-10.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
5.66667	-20.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
4.85714	-40.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
4.25000	-60.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
3.77778	-80.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%
3.40000	-100.00%	\$0.00	+\$1,000.00	=\$1,000.00	0.00%

Hypothetical Examples of Amount Payable at Maturity

The following examples illustrate how the payment at maturity in different hypothetical scenarios is calculated.

Example 1: The Reference Currency appreciates from the Starting Spot Rate of 6.80 to an Ending Spot Rate of 7.15789. Because the Ending Spot Rate of 7.15789 is greater than the Starting Spot Rate of 6.80 and the Reference Currency Return is 5%, the Additional Amount is equal to \$50. The investor receives a payment at maturity of \$1,050 per \$1,000 principal amount note, calculated as follows:

$$\$1,000 + (\$1,000 \times 5\% \times 100\%) = \$1,050$$

Example 2: The Reference Currency appreciates from the Starting Spot Rate of 6.80 to an Ending Spot Rate of 11.33333. Because the Ending Spot Rate of 11.33333 is greater than the Starting Spot Rate of 6.80 and the Reference Currency Return of 40.00% multiplied by the Participation Rate of 100% and \$1,000 is the greater than the Maximum Amount of \$181.50, the Additional Amount is equal to the Maximum Amount of \$181.50. The investor receives a payment at maturity of \$1,181.50 per \$1,000 principal amount note, calculated as follows:

$$\$1,000 + \$181.50 = \$1,181.50$$

Example 3: The Reference Currency depreciates from the Starting Spot Rate of 6.80 to an Ending Spot Rate of 5.66667. Because the Ending Spot Rate of 5.66667 is less than the Starting Spot Rate of 6.80, the Additional Amount is equal to \$0 and the payment at maturity is equal to \$1,000 per \$1,000 principal amount note.

Example 4: The Ending Spot Rate is 6.80 and the Reference Currency neither appreciates nor depreciates from the Starting Spot Rate of 6.80. Because the Ending Spot Rate is equal to the Starting Spot Rate, the Additional Amount is equal to \$0 and the payment at maturity is equal to \$1,000 per \$1,000 principal amount note.

The hypothetical returns and hypothetical payments on the notes shown above apply **only if you hold the notes for their entire term**. These hypotheticals do not reflect 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.

JPMorgan Structured Investments —

PS-3

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

Selected Purchase Considerations

POTENTIAL PRESERVATION OF CAPITAL AT MATURITY — Subject to the credit risks of JPMorgan Financial and JPMorgan Chase & Co., the payment at maturity will be at least \$1,000 per \$1,000 principal amount note if you hold the notes to maturity, regardless of the performance of the Reference Currency. **Because the notes are unsecured and unsubordinated obligations of JPMorgan Financial and JPMorgan Chase & Co., payment of any amount on the notes is subject to our and JPMorgan Chase & Co.’s ability to pay our and JPMorgan Chase & Co.’s obligations as they become due.**

CAPPED APPRECIATION POTENTIAL — At maturity, in addition to the principal amount, for each \$1,000 principal amount note, you will receive a payment equal to $\$1,000 \times$ the Reference Currency Return \times the Participation Rate, *provided* that this payment (the “Additional Amount”) will not be less than zero or greater than the Maximum Amount of at least \$181.50 per \$1,000 principal amount note. Accordingly, assuming a Maximum Amount of \$181.50, the maximum payment at maturity is \$1,181.50 per \$1,000 principal amount note. See “How Does the Reference Currency Return Formula Work?” and “Selected Risk Considerations — Your Notes Are Subject to an Embedded Maximum Payment at Maturity” in this pricing supplement for more information.

RETURN LINKED TO THE U.S. DOLLAR RELATIVE TO THE OFFSHORE CHINESE RENMINBI — The return on the notes is linked to the performance of the U.S. dollar, which we refer to as the Reference Currency, relative to the offshore Chinese renminbi, which we refer to as the Base Currency.

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 “— Tax Consequences to U.S. Holders — Notes Treated As Debt Instruments That Have a Term of More Than One Year,” in the accompanying product supplement no. 2-I. Unlike a traditional debt instrument 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, our special tax counsel, Davis Polk & Wardwell LLP, is of the opinion that the notes 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 notes in each taxable year at the “comparable yield,” as determined by us, although we will not make any payment with respect to the notes 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 note, which generally will equal the cost thereof, increased by the amount of OID you have accrued in respect of the note. 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 product supplement 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 notes at their issue price should consult their tax advisers with respect to the tax consequences of an investment in notes, including the treatment of the difference, if any, between the basis in their notes and the notes’ adjusted issue price.

Withholding under legislation commonly referred to as “FATCA” may apply to the payment on your notes at maturity, as well as to the gross proceeds of a sale or other disposition of a note prior to maturity, although under recently proposed regulations (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 notes.

The discussions in the preceding paragraphs, when read in combination with the section entitled “Material U.S. Federal Income Tax Consequences” (and in particular the subsection thereof entitled “— Tax Consequences to U.S. Holders — Notes Treated as Debt Instruments That Have a Term of More than One Year”) in the accompanying product supplement, constitute the full opinion of Davis Polk & Wardwell LLP regarding the material U.S. federal income tax consequences of owning and disposing of notes.

COMPARABLE YIELD AND PROJECTED PAYMENT SCHEDULE — We will determine the comparable yield for the notes and will provide that comparable yield, and the related projected payment schedule, in the pricing supplement for the notes, which we will file with the SEC. If the notes had priced on January 14, 2019 and we had determined the comparable yield on that date, it would have been an annual rate of 3.00%, compounded semiannually. The actual comparable yield that we will determine for the notes may be higher or lower than 3.00%, and will depend upon a variety of factors, including actual market conditions and our borrowing costs for debt instruments of comparable maturities. **Neither the comparable yield nor the projected payment schedule constitutes a representation by us regarding the actual Additional Amount, if any, that we will pay on the notes.**

Selected Risk Considerations

An investment in the notes involves significant risks. Investing in the notes is not equivalent to investing directly in the offshore Chinese renminbi, the U.S. dollar or the exchange rate between the offshore Chinese renminbi and U.S. dollar or any contracts related to the offshore Chinese renminbi, the U.S. dollar or the exchange rate between the offshore Chinese renminbi and the U.S. dollar. These risks are explained in more detail in the “Risk Factors” section of the accompanying product supplement.

THE NOTES MAY NOT PAY MORE THAN THE PRINCIPAL AMOUNT AT MATURITY — You may receive a lower payment at maturity than you would have received if you had invested directly in the Reference Currency, the Base

JPMorgan Structured Investments —

PS-4

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

Currency or any contracts related to the Reference Currency, the Base Currency or the exchange rate between the Reference Currency and the Base Currency. If the Reference Currency Return is not positive (*i.e.*, the Reference Currency does not appreciate from the Starting Spot Rate to the Ending Spot Rate), the Additional Amount will be zero. This will be true even if the Reference Currency Return was positive at some time during the term of the notes but the Ending Spot Rate depreciates or remains flat from the Starting Spot Rate on the Observation Date.

YOUR MAXIMUM GAIN ON THE NOTES IS LIMITED TO THE MAXIMUM AMOUNT — If the Ending Spot Rate is greater than the Starting Spot Rate, for each \$1,000 principal amount note, you will receive at maturity \$1,000 plus an Additional Amount that will not exceed the Maximum Amount, regardless of the appreciation of the Reference Currency relative to the Base Currency, which may be significant. The Maximum Amount will be provided in the pricing supplement and will not be less than \$181.50.

CREDIT RISKS OF JPMORGAN FINANCIAL AND JPMORGAN CHASE & CO. — The notes are subject to our and JPMorgan Chase & Co.'s credit risks, and our and JPMorgan Chase & Co.'s credit ratings and credit spreads may adversely affect the market value of the notes. Investors are dependent on our and JPMorgan Chase & Co.'s ability to pay all amounts due on the notes. Any actual or potential change in our or JPMorgan Chase & Co.'s creditworthiness or credit spreads, as determined by the market for taking that credit risk, is likely to adversely affect the value of the notes. If we and JPMorgan Chase & Co. were to default on our payment obligations, you may not receive any amounts owed to you under the notes and you could lose your entire investment.

AS A FINANCE SUBSIDIARY, JPMORGAN FINANCIAL HAS NO INDEPENDENT OPERATIONS AND HAS LIMITED ASSETS — As a finance subsidiary of JPMorgan Chase & Co., we have no independent operations beyond the issuance and administration of our securities. Aside from the initial capital contribution from JPMorgan Chase & Co., substantially all of our assets relate to obligations of our affiliates to make payments under loans made by us or other intercompany agreements. As a result, we are dependent upon payments from our affiliates to meet our obligations under the notes. If these affiliates do not make payments to us and we fail to make payments on the notes, you may have to seek payment under the related guarantee by JPMorgan Chase & Co., and that guarantee will rank *pari passu* with all other unsecured and unsubordinated obligations of JPMorgan Chase & Co.

POTENTIAL CONFLICTS — We and our affiliates play a variety of roles in connection with the issuance of the notes, including acting as calculation agent and as an agent of the offering of the notes, hedging our obligations under the notes and making the assumptions used to determine the pricing of the notes and the estimated value of the notes when the terms of the notes are set, which we refer to as the estimated value of the notes. In performing these duties, our and JPMorgan Chase & Co.'s economic interests and the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the notes. In addition, our and JPMorgan Chase & Co.'s business activities, including hedging and trading activities, could cause our and JPMorgan Chase & Co.'s economic interests to be adverse to yours and could adversely affect any payment on the notes and the value of the notes. It is possible that hedging or trading activities of ours or our affiliates in connection with the notes could result in substantial returns for us or our affiliates while the value of the notes declines. Please refer to “Risk Factors — Risks Relating to Conflicts of Interest” in the accompanying product supplement for additional information about these risks.

THE ESTIMATED VALUE OF THE NOTES WILL BE LOWER THAN THE ORIGINAL ISSUE PRICE (PRICE TO PUBLIC) OF THE NOTES — The estimated value of the notes is only an estimate determined by reference to several factors. The original issue price of the notes will exceed the estimated value of the notes because costs associated with selling, structuring and hedging the notes are included in the original issue price of the notes. 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 notes and the estimated cost of hedging our obligations under the notes. See “The Estimated Value of the Notes” in this pricing supplement.

THE ESTIMATED VALUE OF THE NOTES DOES NOT REPRESENT FUTURE VALUES OF THE NOTES AND MAY DIFFER FROM OTHERS' ESTIMATES — The estimated value of the notes is determined by reference to internal pricing models of our affiliates when the terms of the notes are set. This estimated value of the notes is based on market conditions and other relevant factors existing at that time and assumptions about market

parameters, which can include volatility, interest rates and other factors. Different pricing models and assumptions could provide valuations for the notes that are greater than or less than the estimated value of the notes. 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 notes could change significantly based on, among other things, changes in market conditions, our or JPMorgan Chase & Co.'s creditworthiness, interest rate movements and other relevant factors, which may impact the price, if any, at which JPMS would be willing to buy notes from you in secondary market transactions. See "The Estimated Value of the Notes" in this pricing supplement.

THE ESTIMATED VALUE OF THE NOTES IS DERIVED BY REFERENCE TO AN INTERNAL FUNDING RATE — The internal funding rate used in the determination of the estimated value of the notes is based on, among other things, our and our affiliates' view of the funding value of the notes as well as the higher issuance, operational and ongoing liability management costs of the notes in comparison to those costs for the conventional fixed-rate debt of JPMorgan Chase & Co. The use of an internal funding rate and any potential changes to that rate may have an adverse effect on the terms of the notes and any secondary market prices of the notes. See "The Estimated Value of the Notes" in this pricing supplement.

JPMorgan Structured Investments —

PS-5

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

THE VALUE OF THE NOTES AS PUBLISHED BY JPMS (AND WHICH MAY BE REFLECTED ON CUSTOMER ACCOUNT STATEMENTS) MAY BE HIGHER THAN THE THEN-CURRENT ESTIMATED VALUE OF THE NOTES FOR A LIMITED TIME PERIOD — We generally expect that some of the costs included in the original issue price of the notes will be partially paid back to you in connection with any repurchases of your notes by JPMS in an amount that will decline to zero over an initial predetermined period. These costs can include projected hedging profits, if any, and, in some circumstances, estimated hedging costs and our internal secondary market funding rates for structured debt issuances. See “Secondary Market Prices of the Notes” in this pricing supplement for additional information relating to this initial period. Accordingly, the estimated value of your notes during this initial period may be lower than the value of the notes as published by JPMS (and which may be shown on your customer account statements).

SECONDARY MARKET PRICES OF THE NOTES WILL LIKELY BE LOWER THAN THE ORIGINAL ISSUE PRICE OF THE NOTES — Any secondary market prices of the notes will likely be lower than the original issue price of the notes because, among other things, secondary market prices take into account our internal secondary market funding rates for structured debt issuances and, also, because secondary market prices (a) exclude selling commissions and (b) may exclude projected hedging profits, if any, and estimated hedging costs that are included in the original issue price of the notes. As a result, the price, if any, at which JPMS will be willing to buy notes 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. See the immediately following risk consideration for information about additional factors that will impact any secondary market prices of the notes. The notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your notes to maturity. See “— Lack of Liquidity” below.

SECONDARY MARKET PRICES OF THE NOTES WILL BE IMPACTED BY MANY ECONOMIC AND MARKET FACTORS — The secondary market price of the notes 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 value of the Reference Currency relative to the Base Currency, including:

- any actual or potential change in our and JPMorgan Chase & Co.’s creditworthiness or credit spreads;
- customary bid-ask spreads for similarly sized trades;
- our internal secondary market funding rates for structured debt issuances;
- the exchange rate of the Reference Currency relative to the Base Currency and the volatility of that exchange rate;
- suspension or disruption of market trading in the Reference Currency or the Base Currency;
- the time to maturity of the notes;
- interest and yield rates in the market generally; and
- a variety of other economic, financial, political, regulatory and judicial events.

Additionally, independent pricing vendors and/or third party broker-dealers may publish a price for the notes, which may also be reflected on customer account statements. This price may be different (higher or lower) than the price of the notes, if any, at which JPMS may be willing to purchase your notes in the secondary market.

THE METHOD OF CALCULATING THE REFERENCE CURRENCY RETURN WILL DIMINISH ANY APPRECIATION OF THE REFERENCE CURRENCY — The Reference Currency Return reflects the return of the U.S. dollar relative to the offshore Chinese renminbi from the Starting Spot Rate to the Ending Spot Rate, calculated using the formula set forth above under “Key Terms — Reference Currency Return.” While the Reference Currency Return for purposes of the notes is determined using the formula set forth above under “Key Terms — Reference Currency Return,” there are other reasonable ways to determine the return of the U.S. dollar relative to the offshore Chinese renminbi that would provide different results. For example, another way to calculate the return of the U.S. dollar relative to the offshore Chinese renminbi would be to calculate the return that would be achieved by converting offshore Chinese renminbi into U.S. dollars at the Starting Spot Rate on the Pricing Date and then, on the final Ending Averaging Date, converting back into offshore Chinese renminbi at the Ending Spot Rate. In this pricing

supplement, we refer to the return on the U.S. dollar relative to the offshore Chinese renminbi calculated using that method, which is not used for purposes of the notes, as a “conversion return.”

Under the Reference Currency Return formula, any appreciation of the U.S. dollar relative to the offshore Chinese renminbi will be diminished, as compared to a conversion return. The diminishing effect on any appreciation of the U.S. dollar relative to the offshore Chinese renminbi increases as the Reference Currency Return increases. Accordingly, your payment at maturity may be less than if you had invested in similar notes that reflected a conversion return. See “How Do Exchange Rates Work?” in this pricing supplement for more information.

THE NOTES ARE LINKED TO THE U.S. DOLLAR/“OFFSHORE” CHINESE RENMINBI EXCHANGE RATE AND NOT THE U.S. DOLLAR/“ONSHORE” CHINESE RENMINBI EXCHANGE RATE — The notes are linked to the rate of exchange between the “offshore” Chinese renminbi (CNH) and the U.S. dollar (USD) that trades in the interbank market in Hong Kong and is currently only deliverable in Hong Kong. This rate is not the same as the rate of exchange between the “onshore” Chinese renminbi and the U.S. dollar that trades in, and is currently only deliverable in, China, excluding Hong Kong, Macau and Taiwan (CNY). The USD/CNH exchange rate has differed, and will likely continue to differ, from the USD/CNY exchange rate. Accordingly, the return on the notes may be less than the potential returns on a

JPMorgan Structured Investments —

PS-6

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

note with similar terms linked to CNY. In addition, historical data of CNH is available only since August 23, 2010; therefore, in comparison with CNY, less information about its performance is available to help you make your investment decision. Moreover, the offshore Chinese renminbi deliverable in Hong Kong has historically not been as liquid as the onshore Chinese renminbi deliverable in China, excluding Hong Kong, Macau and Taiwan. If the lesser liquidity of the offshore Chinese renminbi vis-a-vis the onshore Chinese renminbi continues, or if the CNH/USD exchange rate ceases to serve as a benchmark for the performance of the offshore Chinese renminbi deliverable in Hong Kong, your return on the notes may be adversely affected. See also “— The Notes Are Linked to the Performance of a Single Emerging Markets Currency Relative to the U.S. Dollar and Therefore Expose You to Significant Currency Risk” below.

THE NOTES ARE SUBJECT TO CURRENCY EXCHANGE RISK — Foreign currency exchange rates vary over time, and may vary considerably during the term of the notes. The value of the U.S. dollar relative to the offshore Chinese renminbi is at any moment a result of the supply and demand for those currencies. Changes in foreign currency exchange rates result over time from the interaction of many factors directly or indirectly affecting economic and political conditions in the United States, China and other relevant countries or regions. Of particular importance to potential currency exchange risk are:

- existing and expected rates of inflation;
- existing and expected interest rate levels;
- the balance of payments in the United States and China, and between each country and its major trading partners;
- political, civil or military unrest in the United States and China; and
- the extent of governmental surplus or deficit in the United States and China.

All of these factors are, in turn, sensitive to the monetary, fiscal and trade policies pursued by the United States and China, and those of other countries important to international trade and finance.

GOVERNMENTAL INTERVENTION COULD MATERIALLY AND ADVERSELY AFFECT THE VALUE OF THE NOTES — Foreign exchange rates can be fixed by the sovereign government, allowed to float within a range of exchange rates set by the government or left to float freely. Governments, including those issuing the offshore Chinese renminbi and the U.S. dollar, use a variety of techniques, such as intervention by their central bank or imposition of regulatory controls or taxes, to affect the exchange rates of their respective currencies. They may also issue a new currency to replace an existing currency, fix the exchange rate or alter the exchange rate or relative exchange characteristics by devaluation or revaluation of a currency. Thus, a special risk in purchasing the notes is that their trading value and amount payable could be affected by the actions of sovereign governments, fluctuations in response to other market forces and the movement of currencies across borders.

THE NOTES ARE LINKED TO THE PERFORMANCE OF THE U.S. DOLLAR RELATIVE TO A SINGLE EMERGING MARKETS CURRENCY AND THEREFORE EXPOSURE YOU TO SIGNIFICANT CURRENCY RISK — An investment in the notes is subject to risk of significant adverse fluctuations in the performance of the U.S. dollar relative to a single emerging market currency, the CNH. Currencies of emerging economies are often subject to more frequent and larger central bank interventions than the currencies of developed countries and are also more likely to be affected by drastic changes in monetary or exchange rate policies of the issuing countries, which may negatively affect the value of the notes.

The “onshore” Chinese renminbi/U.S. dollar exchange rate is managed by the Chinese government and may also be influenced by political or economic developments in China or elsewhere and by macroeconomic factors and speculative actions. The People’s Bank of China, the monetary authority in China, sets the spot rate of the Chinese renminbi, and may also use a variety of techniques, such as intervention by its central bank or imposition of regulatory controls or taxes, to affect the USD/CNH exchange rate. From 1994 to 2005, the Chinese government used a managed floating exchange rate system, under which the People’s Bank of China allowed the “onshore” Chinese renminbi/U.S. dollar exchange rate to float within a very narrow band around the central exchange rate published daily by the People’s Bank of China. In July 2005, the People’s Bank of China revalued the renminbi by 2% and announced that in

the future it would set the value of the renminbi with reference to a basket of currencies rather than solely with reference to the U.S. dollar. In addition, the People's Bank of China announced that the reference basket of currencies used to set the value of the renminbi would be based on a daily poll of "onshore" market dealers and other undisclosed factors. Movements in the "onshore" Chinese renminbi/U.S. dollar exchange rate within the narrow band established by the People's Bank of China result from the supply of, and the demand for, those two currencies and fluctuations in the reference basket of currencies. However, in 2011, China adopted its 12th Five-Year Plan, which calls for continued economic reform and market-oriented policies. Inasmuch as these policies are accepted and carried out, the value of the Chinese renminbi could be affected. In the future, the Chinese government may also issue a new currency to replace its existing currency or alter the exchange rate or relative exchange characteristics by devaluation or revaluation of the Chinese renminbi in ways that may be adverse to your interests. Further, the Chinese renminbi is not fully convertible into other currencies. The exchange rate is also influenced by political or economic developments in China, the United States or elsewhere and by macroeconomic factors and speculative actions.

While the inflow and outflow of renminbi in China has historically been tightly controlled by the People's Bank of China, there have been signs in recent years of a nascent but fast growing offshore renminbi market, with foreign exchange

JPMorgan Structured Investments —

PS-7

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

reforms implemented in 2010 serving as the catalyst. These reforms allow the renminbi to move to Hong Kong from mainland China without restriction if it is for the purpose of international trade settlement (*e.g.*, import payments). Once moved offshore, this renminbi is reclassified from “CNY” renminbi to so-called “CNH” renminbi, which has no mainland restriction as to its end-use if it remains offshore. However, the growth of the CNH market may be impeded as China still tightly regulates the “back flow” of CNH into the onshore mainland market, in part to protect domestic markets. This creates a separate currency market for onshore versus offshore renminbi with different levels of exchange rates driven by capital control measures, supply and demand and arbitrage opportunities. No assurance can be given with respect to any future changes in the policy of China dealing with offshore renminbi trading. To the extent that management of the renminbi by the People’s Bank of China has resulted in and currently results in trading levels that do not fully reflect market forces, any further changes in the government’s management of “onshore” Chinese renminbi/U.S. dollar exchange rate could result in significant movement in the value of the “offshore” Chinese renminbi/U.S. dollar exchange rate. China may regulate the “offshore” Chinese renminbi/ U.S. dollar exchange rate, or the delivery of renminbi in Hong Kong, in a manner that is adverse to your interest in the notes. Changes in the exchange rate result over time from the interaction of many factors directly or indirectly affecting economic and political conditions in China and the United States, including capital control measures and economic and political developments in other countries.

EVEN THOUGH THE REFERENCE CURRENCY AND THE BASE CURRENCY TRADE

AROUND-THE-CLOCK, THE NOTES WILL NOT — Because the inter-bank market in foreign currencies is a global, around-the-clock market, the hours of trading for the notes, if any, will not conform to the hours during which the U.S. dollar and the offshore Chinese renminbi are traded. Consequently, significant price and rate movements may take place in the underlying foreign exchange markets that will not be reflected immediately in the price of the notes. Additionally, there is no systematic reporting of last-sale information for foreign currencies which, combined with the limited availability of quotations to individual investors, may make it difficult for many investors to obtain timely and accurate data regarding the state of the underlying foreign exchange markets.

CURRENCY EXCHANGE RISKS CAN BE EXPECTED TO HEIGHTEN IN PERIODS OF FINANCIAL TURMOIL — In periods of financial turmoil, capital can move quickly out of regions that are perceived to be more vulnerable to the effects of the crisis than others with sudden and severely adverse consequences to the currencies of those regions. In addition, governments around the world, including the governments of the United States and China and the governments of other major world currencies, have recently made, and may be expected to continue to make, very significant interventions in their economies, and sometimes directly in their currencies. Such interventions affect currency exchange rates globally and, in particular, the value of the U.S. dollar relative to the offshore Chinese renminbi. Further interventions, other government actions or suspensions of actions, as well as other changes in government economic policy or other financial or economic events affecting the currency markets, may cause currency exchange rates to fluctuate sharply in the future, which could have a material adverse effect on the value of the notes and your return on your investment in the notes at maturity.

CURRENCY MARKET DISRUPTIONS MAY ADVERSELY AFFECT YOUR RETURN — The calculation agent may, in its sole discretion, determine that the currency markets have been affected in a manner that prevents it from properly determining, among other things, the Spot Rate and the Reference Currency Return. These events may include disruptions or suspensions of trading in the currency markets as a whole, and could be a Convertibility Event, a Deliverability Event, a Liquidity Event, a Taxation Event, a Discontinuity Event or a Price Source Disruption Event. See “General Terms of Notes — Market Disruption Events” in the accompanying product supplement for further information on what constitutes a market disruption event.

NO INTEREST PAYMENTS — As a holder of the notes, you will not receive interest payments.

LACK OF LIQUIDITY — The notes will not be listed on any securities exchange. JPMS intends to offer to purchase the notes in the secondary market but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the notes easily. Because other dealers are not likely to make a secondary market for the notes, the price at which you may be able to trade your notes is likely to depend on the price, if any, at which JPMS is willing to buy the notes.

THE FINAL TERMS AND VALUATION OF THE NOTES WILL BE PROVIDED IN THE PRICING SUPPLEMENT — The final terms of the notes will be based on relevant market conditions when the terms of the notes are set and will be provided in the pricing supplement. In particular, each of the estimated value of the notes and the Maximum Amount will be provided in the pricing supplement and each may be as low as the applicable minimum set forth on the cover of this pricing supplement. Accordingly, you should consider your potential investment in the notes based on the minimums for the estimated value of the notes and the Maximum Amount.

JPMorgan Structured Investments —

PS-8

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

Historical Information

The following graph shows the historical weekly performance of the U.S. dollar relative to the offshore Chinese renminbi, expressed in terms of the conventional market quotation (*i.e.*, the amount of offshore Chinese renminbi that can be exchanged for one U.S. dollar, which we refer to in this pricing supplement as the exchange rate) as shown on the Bloomberg Professional® service (“Bloomberg”), from January 3, 2014 through January 11, 2019. The exchange rate of the U.S. dollar relative to the offshore Chinese renminbi, as shown on Bloomberg, on January 14, 2019 was 6.7633.

The historical exchange rates used to plot the graph below were determined using the rates reported by Bloomberg, without independent verification, and may not be indicative of the Spot Rate that would be derived from the applicable Reuters page.

The exchange rates displayed in the graphs below are for illustrative purposes only and do not form part of the calculation of the Reference Currency Return. **The Reference Currency Return increases when the U.S. dollar appreciates in value against the offshore Chinese renminbi.**

The Spot Rate on January 14, 2019 was 6.7568, calculated in the manner set forth under “Additional Key Terms — Spot Rate” in this pricing supplement. The exchange rates set forth above and displayed in the graph above should not be taken as an indication of future performance, and no assurance can be given as to the Spot Rate on the Pricing Date or any Ending Averaging Date. There can be no assurance that the performance of the U.S. dollar relative to the offshore Chinese renminbi will result in the return of any of your principal amount in excess of your principal amount, subject to the credit risks of JPMorgan Financial and JPMorgan Chase & Co.

The Estimated Value of the Notes

The estimated value of the notes set forth on the cover of this pricing supplement is equal to the sum of the values of the following hypothetical components: (1) a fixed-income debt component with the same maturity as the notes, valued using the internal funding rate described below, and (2) the derivative or derivatives underlying the economic terms of the notes. The estimated value of the notes does not represent a minimum price at which JPMS would be willing to buy your notes in any secondary market (if any exists) at any time. The internal funding rate used in the determination of the estimated value of the notes is based on, among other things, our and our affiliates’ view of the funding value of the notes as well as the higher issuance, operational and ongoing liability management costs of the notes in comparison to those costs for the conventional fixed-rate debt of JPMorgan Chase & Co. For additional information, see “Selected Risk Considerations — The Estimated Value of the Notes Is Derived by Reference to an Internal Funding Rate” in this pricing supplement. The value of the derivative or derivatives underlying the economic terms of the notes is derived from internal pricing models of our affiliates. 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, interest rates and other factors, as well as assumptions about future market events and/or environments. Accordingly, the estimated value of the notes is determined when the terms of the notes are set based on market conditions and other relevant factors and assumptions existing at that time. See “Selected Risk Considerations — The Estimated Value of the Notes Does Not Represent Future Values of the Notes and May Differ from Others’ Estimates” in this pricing supplement.

The estimated value of the notes will be lower than the original issue price of the notes because costs associated with selling, structuring and hedging the notes are included in the original issue price of the notes. These costs include the selling commissions paid to JPMS and other affiliated or unaffiliated dealers, the projected profits, if any, that our

JPMorgan Structured Investments —

PS-9

Capped Notes Linked to the Performance of the U.S. Dollar Relative to the Offshore Chinese Renminbi

affiliates expect to realize for assuming risks inherent in hedging our obligations under the notes and the estimated cost of hedging our obligations under the notes. 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. We or one or more of our affiliates will retain any profits realized in hedging our obligations under the notes. See “Selected Risk Considerations — The Estimated Value of the Notes Will Be Lower Than the Original Issue Price (Price to Public) of the Notes” in this pricing supplement.

Secondary Market Prices of the Notes

For information about factors that will impact any secondary market prices of the notes, see “Selected Risk Considerations — Secondary Market Prices of the Notes Will Be Impacted by Many Economic and Market Factors” in this pricing supplement. In addition, we generally expect that some of the costs included in the original issue price of the notes will be partially paid back to you in connection with any repurchases of your notes by JPMS in an amount that will decline to zero over an initial predetermined period that is intended to be the shorter of six months and one-half of the stated term of the notes. The length of any such initial period reflects the structure of the notes, whether our affiliates expect to earn a profit in connection with our hedging activities, the estimated costs of hedging the notes and when these costs are incurred, as determined by our affiliates. See “Selected Risk Considerations — The Value of the Notes as Published by JPMS (and Which May Be Reflected on Customer Account Statements) May Be Higher Than the Then-Current Estimated Value of the Notes for a Limited Time Period.”

Supplemental Use of Proceeds

The notes are offered to meet investor demand for products that reflect the risk-return profile and market exposure provided by the notes. See “What Is the Total Return on the Notes at Maturity, Assuming a Range of Performances for the Reference Currency Relative to the Base Currency?” and “Hypothetical Examples of Amount Payable at Maturity” in this pricing supplement for an illustration of the risk-return profile of the notes and “Selected Purchase Considerations — Return Linked to the U.S. Dollar Relative to the Offshore Chinese Renminbi” in this pricing supplement for a description of the market exposure provided by the notes.

The original issue price of the notes is equal to the estimated value of the notes 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 notes, plus the estimated cost of hedging our obligations under the notes.

Supplemental Plan of Distribution

We expect that delivery of the notes will be made against payment for the notes on or about the Original Issue Date set forth on the front cover of this pricing supplement, which will be the third business day following the Pricing Date of the notes (this settlement cycle being referred to as “T+3”). Under Rule 15c6-1 of the Securities Exchange Act of 1934, as amended, trades in the secondary market generally are required to settle in two business days, unless the parties to that trade expressly agree otherwise. Accordingly, purchasers who wish to trade notes 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.