



BNP PARIBAS CATALYST SYSTEMATIC ALPHA INDEX III

FOR INFORMATIONAL PURPOSES ONLY – NOT INTENDED FOR FURTHER DISTRIBUTION | FOR INSTITUTIONAL INVESTORS ONLY, NOT FOR USE WITH RETAIL INVESTORS | CERTAIN INDICES OR STRATEGIES ARE NOT AVAILABLE FOR US PERSONS AND ARE SUBJECT TO INTERNAL REVIEW | AS APPLICABLE IN CANADA TO ENTITIES QUALIFYING OF EITHER AS 'ACCREDITED COUNTERPARTIES', 'QUALIFIED PARTIES' OR 'PERMITTED CLIENTS' DEPENDING ON APPLICABLE RULES

For more information about the index please visit: casaindex.bnpparibas.com

INTRODUCING BNP Paribas Catalyst Systematic Alpha Index III

Access

BNP Paribas Catalyst Systematic Alpha Index III (the “BNPP CASA Index III”) is designed to provide exposure to strategies that are not typically accessible through traditional investment products or asset classes.

Multi-Strategy Approach

BNP Paribas CASA Index III allocates to a range of rules-based BNP Paribas Indices (the “BNPP Index Components”) that were each specifically designed to systematically harvest non-traditional sources of return across the equity, fixed-income, commodity, and currency markets.

Diversification Potential

The BNP Paribas CASA Index III seeks to maintain a diversified exposure to the selected BNP Paribas Index Components and to generate positive risk-adjusted returns with low to moderate correlation to the broad markets.

ABOUT BNP PARIBAS

BNP Paribas is one of the world’s largest banks by assets, with three major business lines providing a substantial diversified asset base. With offices in 63 countries across five continents and nearly 183,000 employees, BNP Paribas offers wide coverage of financial markets and an extensive global banking network.

BNP Paribas Quantitative Investment Strategies Team

For more than a decade the BNP Paribas Quantitative Investment Strategies (“QIS”) Team has been a leader and a pioneer in developing rules-based systematic investment strategies. The BNP Paribas QIS Team consists of over 55 investment professionals, with trading, financial engineering, and academic backgrounds, which focus exclusively on generating and implementing new systematic strategies.

Index Fees - The BNP Paribas CASA Index III levels are shown net of rebalancing fees, replication fees, and annual fees of the BNP Paribas CASA Index III and the BNPP Index Components and their respective sub-components. Rebalancing fees will vary during different market conditions. If BNP Paribas is able to rebalance the index at a lower fee amount than the level of fees established for such index, this could potentially result in greater profitability for BNP Paribas, as the lower fee will not be reflected in the level of the BNP Paribas CASA Index III. For more information about these fees, please contact: bnpp.casaindex@us.bnpparibas.com.

The BNP Paribas CASA Index III is an “Excess Return” index, and reflects the performance of the BNPP Index Components, which require little or no cash to obtain the economic exposure and risk that is the objective of the BNP Paribas CASA Index III. The BNP Paribas CASA Index III Level does not reflect interest from cash instruments or other related returns that might be realized when obtaining the performance of an index that would require a cash investment equal to the value of the BNP Paribas CASA Index III.

See risk factors section for additional index disclosures.

IMPLEMENTATION PROCESS

The BNP Paribas QIS Team, in cooperation with Catalyst Investment Advisors, created the BNP Paribas CASA Index III to access a diversified selection of BNPP Index Components.

Each day, the BNP Paribas CASA Index III dynamically allocates to a basket of BNP Paribas Index Components, which are exposed to **24** regions/countries and **61** different instruments across **4** asset classes.

13 Fixed Income

Government Bonds : US | Canada | Japan
Australia | Germany | UK
Interest Rates : USD | EUR

24 Currency

USD | EUR | GBP | CHF | JPY | AUD | NZD |
NOK | SEK | CAD | PLN | CZK | HUF | TRY |
ZAR | SGD | INR | PHP | TWD | KRW | MXN |
BRL | CLP | COP

12 Equities

Nasdaq 100 | Russel 2000 | S&P 500 | Nikkei 225
TOPIX | EUROSTOXX 50 | FTSE 100 | SMI | ASX
SPI 200 | HSI | TSX 60 | MSCI Emerging

12 Commodities

WTI Crude | Brent | RBOB Gasoline | Natural Gas | Ultra-Low
Sulfur Diesel | Low Sulfur Gas Oil | Aluminum | Zinc | Nickel |
Copper | GSCI Gold | BCOM ex-Agg&LS

For Illustrative Purposes Only.

The BNP Paribas Index Components were chosen because they have historically exhibited low correlation to each other as well as the broad markets, further increasing the potential effectiveness of the BNP Paribas CASA Index III over a variety of market cycles.

Each of the BNP Paribas Index Components systematically implements techniques such as synthetic short sales, spread trading, and the use of leverage and derivatives, as summarized below.

	STYLE (RISK PREMIA)	BNPP INDEX COMPONENT	ATTEMPTS TO HARVEST	EXAMPLE OF IMPLEMENTATION*
Mean Reversion	Equities Mean Reversion	BNP Paribas Dynamic Equity Reversal US LS USD Index(BNPPXREUV)	Mean Reversion in US Single Stocks	Synthetically buy stocks that underperformed and sell stocks and outperformed over the last 5 business days.
	FX Mean Reversion	BNP Paribas FX Mean Reversion G10 Selection USD Index (BPFXMRGU) BNP Paribas STEER G10 Series II Excess Return USD Index(BPFXSTG2)	Price Mean Reversion in a selection of G10 FX Pairs FX Fair Value price reversal of G10 Currencies	Synthetically buy currency pairs that have underperformed and sell currency pairs that have outperformed compared to : - Their 126 business days average. - Their short-term fair value rate, calculated based on macro factors.
Trend Following	Equities Trend	BNP Paribas Equity US Rotation Index(BNPIRFUS)	Price trends in Major US equities indices	Synthetically overweight the Equity index with the highest recent performance.
	Cross Asset Trend Equities, Bonds, FX, Commodities	BNP Paribas Cross Asset Trend Allocator Index(BNPPCTAE)	Trend following in multiple asset classes	Synthetically buy positively trending assets and sell negatively trending assets across multiple asset classes and regions
	Rates Trend	BNP Paribas Enhanced Kinetis Money Market Excess Return USD Index (BPMMMTW2)	Trends in short-term interest rates futures : USD and EUR	Synthetically buy positively trending or sell negatively trending quarterly interbank deposit futures contracts in USD and in EUR based on their 126-business day trend.
	Commodities Trend	BNP Paribas Commodity Time-Series Backwardation ex-AL Index (BNPISBXA)	Trends in supply and demand imbalances in the commodities market.	Synthetically buy commodities where short term futures prices are increasing compared to long term futures prices and sell commodities where short term prices are decreasing compared to long term ones.
Carry	Commodities Carry	BNP Paribas Commodity Daily Dynamic Alpha Curve ex-Agriculture and Livestock ER Index (BNPIDSXA) BNP Paribas Commodity F3 PR Alpha ex-A&L ER Index(BNPPF3PX)	Roll Spread between commodity futures contracts, a static & dynamic implementation.	Synthetically buy cheaper to roll futures contracts and sell front month futures contracts on individual commodities
	Currencies Carry	BNPP GALAXY G10 Excess Return USD Index (BPFXGGUR) BNP Paribas GALAXY World Excess Return USD Index(BPFXGWUR)	Spread between low yielding and high yielding currencies in both G10 & World currencies.	Synthetically buy high yielding currency forward contracts and sell low yielding currency forward contracts

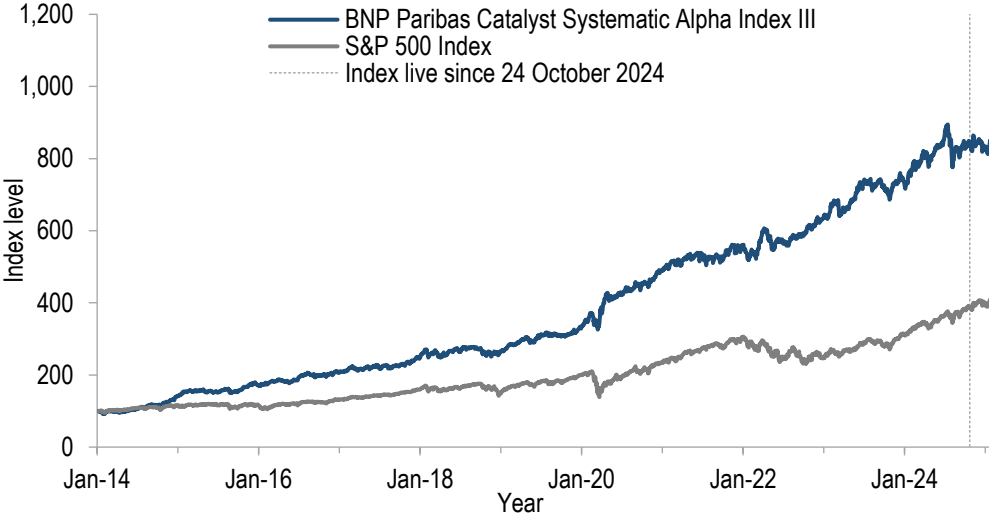
**Abbreviated terms for illustrative purposes only and do not reflect actual index mechanics. Underlying instruments may be accessed through other BNP Paribas Indices.*

PERFORMANCE ANALYSIS

Indices Levels (actual and hypothetical simulations)

The charts and tables below show an analysis of the hypothetical and historical levels of the BNP Paribas CASA Index III. The BNP Paribas CASA Index III was launched on 24 October 2024.

INDICES LEVELS - Actual and hypothetically Simulated



INDEX INFORMATION

Bloomberg ticker	BNPXCAS3 Index
Calculation Agent	BNP Paribas Arbitrage SNC
Index Sponsor	BNP Paribas
Index Type	Excess Return
Weighting	Daily rebalancing
Index Launch Date	24 October 2024

	Ann. Return	Volatility	Sharpe Ratio	Max Drawdown
BNP Paribas Catalyst Systematic Alpha Index III	21.20%	13.49%	1.57	-13.29%
S&P 500 TR Index	13.41%	17.35%	0.77	-33.79%

HISTORICAL & HYPOTHETICAL PERFORMANCE

	2018	2019	2020	2021	2022	2023	2024	2025 YTD
BNP Paribas Dynamic Equity Reversal US LS USD Index	-3.94%	-0.90%	28.78%	0.78%	10.03%	-1.89%	0.90%	3.12%
BNP Paribas FX Mean Reversion G10 Selection USD Index	4.16%	1.06%	4.84%	2.89%	2.16%	3.78%	3.42%	0.47%
BNP Paribas STEER G10 Series II Excess Return USD Index	-1.15%	0.09%	8.98%	1.27%	-1.56%	1.12%	1.48%	0.24%
BNP Paribas Equity US Rotation Index	-5.52%	29.65%	37.97%	13.91%	-22.88%	25.40%	13.16%	1.91%
BNP Paribas Cross Asset Trend Allocator Index	4.69%	15.79%	20.41%	9.17%	32.51%	-9.16%	-1.18%	-0.44%
BNP Paribas Enhanced Kinetis Money Market Excess Return USD Index	6.25%	3.20%	6.68%	-7.91%	13.18%	-3.48%	-8.04%	-0.31%
BNP Paribas Commodity Time-Series Backwardation ex-AL Index	7.00%	-3.11%	10.68%	9.69%	11.41%	3.49%	1.43%	2.08%
BNP Paribas Commodity Daily Dynamic Alpha Curve ex-Agriculture and Livestock ER Index	3.20%	0.46%	12.56%	-0.64%	2.71%	3.09%	1.33%	-0.53%
BNP Paribas Commodity F3 PR Alpha ex-A&L ER Index	3.75%	1.65%	13.71%	5.47%	5.28%	4.14%	0.00%	0.00%
BNPP GALAXY G10 Excess Return USD Index	-0.87%	4.59%	-0.33%	-0.90%	-4.48%	2.56%	3.43%	-0.40%
BNP Paribas GALAXY World Excess Return USD Index	-2.43%	7.98%	-2.15%	-4.17%	4.81%	14.72%	8.21%	0.82%
BNP Paribas Catalyst Systematic Alpha Index III	8.17%	23.99%	49.24%	13.56%	13.98%	16.21%	11.61%	2.51%

Sources: Bloomberg, BNP Paribas from 01 January 2014 to 31 January 2025. Past performance is not an indicator of future performance. The BNP Paribas CASA Index III is based on hypothetical Past Performance Data ("PPD") prior to the live date of 24 October 2024. Because the BNP Paribas CASA Index III did not exist prior to this date, all retrospective levels provided in the graph and table above are simulated and must be considered illustrative only. These simulations are the result of estimates made by BNP Paribas at a given moment on the basis of the parameters selected by BNP Paribas, certain assumptions that may or may not hold in future periods, of market conditions at this given moment and of historical data, which should not be used as guidance, in any way, of the future results of the BNP Paribas CASA Index III. The BNP Paribas CASA Index III levels are shown net of rebalancing fees, replication fees, and annual fees of the BNP Paribas CASA Index III and the BNP Paribas Index Components and their respective sub-components. Rebalancing fees will vary during different market conditions.

SELECTED RISKS AND CONSIDERATIONS

Associated with the Index

The BNP Paribas CASA Index III levels are based on the values of notional assets and liabilities.

The BNP Paribas CASA Index III only calculates the exposure to a dynamic, hypothetical portfolio that tracks the excess returns of the underlying components and is purely notional. There is no actual portfolio of assets to which any person makes any investment or has any ownership interest.

No recommendation.

BNP Paribas makes no recommendation as to the suitability for investment of the BNP Paribas CASA Index III or any products or strategies based partly or wholly on the BNP Paribas CASA Index III. You should reach a decision after careful consideration with your advisors.

The strategy or methodology of the BNP Paribas CASA Index III may not be successful

There can be no assurance that the strategy or methodology of the BNP Paribas CASA Index III will achieve its objectives or that the intended strategy of the BNP Paribas CASA Index III will outperform any alternative strategy that might be constructed from the BNP Paribas Index Components or any other assets.

The BNP Paribas CASA Index III level may differ from the value of the BNP Paribas Index Components

The BNP Paribas CASA Index III does not have any direct or indirect ownership interest or rights in the BNP Paribas Index Components (or sub-components thereof). The BNP Paribas CASA Index III level may not reflect the return that may be achieved from an investment in one or more of the BNP Paribas Index Components.

The BNP Paribas CASA Index III and the BNP Paribas Index Components (and sub-components thereof) contain embedded fees

The BNP Paribas CASA Index III is subject to an annual fee of 0.30% per annum fee and a deduction for the cost of hypothetically implementing the weighted portfolio of BNP Paribas Index Components. As a result of these deductions, the levels of the BNP Paribas CASA Index III will be lower than would otherwise be the case if such fees were not included. Some of the BNP Paribas Index Components (and sub-components thereof) are also subject to a daily deduction of fixed and/or variable fees in connection with the related methodology. As a result of these deductions, the levels of the BNP Paribas Index Components will be lower than would otherwise be the case if such fees were not included. Because the BNP Paribas CASA Index III is linked to the performance of the weighted portfolio of six BNP Paribas Index Components, any deduction of costs or fees from the levels of the BNP Paribas Index Components (and sub-components thereof) will lower the level of the BNP Paribas CASA Index III. The deductions of fees from the levels of the BNP Paribas Index Components are in addition to the deduction of fees from the level of the BNP Paribas CASA Index III and the cumulative effect of these deductions may be significant. The BNP Paribas CASA Index III will not appreciate unless the performance of the BNP Paribas Index Components is sufficient to offset the negative effects of the cumulative fees, and then only to the extent that the total return of the BNP Paribas Index Components is greater than the deducted amounts. As a result of these deductions, the level of the BNP Paribas CASA Index III may decline even if the total return of the BNP Paribas Index Components is positive.

The BNP Paribas CASA Index III has a very limited performance history

Calculation of the BNP Paribas CASA Index III began on 24 January 2025 (the "Launch Date"). Therefore, the BNP Paribas CASA Index III has a very limited performance history and no actual investment which allowed tracking of the performance of the BNP Paribas CASA Index III was possible before this date. The BNP Paribas CASA Index III performance data prior to the Launch Date has been retrospectively calculated using historical market data to the extent such data is available and the same methodology. Although the Index Sponsor believes that these retrospective calculations represent accurately and fairly how the BNP Paribas CASA Index III would have performed before the Launch Date, the BNP Paribas CASA Index III did not, in fact, exist before the Launch Date. Furthermore, the BNP Paribas CASA Index III Methodology was designed, constructed and tested

using historical market data and based on knowledge of factors that may have possibly affected their performance. The returns prior to the Launch Date were achieved by means of a retroactive application of such hypothetical index methodology designed with the benefit of hindsight. It is impossible to predict whether the BNP Paribas CASA Index III will rise or fall. The actual performance of the BNP Paribas CASA Index III may bear little relation to its retrospectively calculated performance.

The BNP Paribas CASA Index III and some of the BNP Paribas Index Components are subject to the potential use of leverage

The BNP Paribas CASA Index III and one or more of the BNP Paribas Index Components may use leverage to increase the notional exposure to certain components. When a component is leveraged, any movements in the levels of such component will result in greater changes in the level of the BNP Paribas CASA Index III or the BNP Paribas Index Component than if leverage were not used. In particular, the use of leverage will magnify any negative performance of the leveraged component, which, in turn, could adversely affect the level of the BNP Paribas CASA Index III and/or the BNP Paribas Index Component, as applicable.

The BNP Paribas CASA Index III may perform poorly during periods characterized by short-term volatility

The BNP Paribas CASA Index III's weight allocation strategy is based on recent historical volatility. Each day, the BNP Paribas CASA Index III will allocate a higher weight (up to a specified maximum) to the BNP Paribas Index Components that have exhibited near-term low volatility and a lower weight to the BNP Paribas Index Components that have exhibited near-term high volatility. The BNP Paribas CASA Index III's weight allocation strategy may be effective at identifying the current market direction in trending markets. However, in non-trending, sideways markets, such a strategy is subject to "whipsaws". A whipsaw occurs when the market reverses and does the opposite of what has recently occurred, resulting in a trading loss during the particular period. Consequently, the BNP Paribas CASA Index III may perform poorly in non-trending, "choppy" markets characterized by short-term volatility.

The BNP Paribas CASA Index III's weight allocation strategy is based on momentum investing. Momentum investing strategies are effective at identifying the current market direction in trending markets. However, in non-trending, sideways markets, momentum investment strategies are subject to "whipsaws". A whipsaw occurs when the market reverses and does the opposite of what is indicated by the trend indicator, resulting in a trading loss during the particular period. Consequently, the BNP Paribas CASA Index III may perform poorly in non-trending, "choppy" markets characterized by short-term volatility.

There are risks associated with an index methodology that attempts to replicate a momentum-based allocation strategy

One or more of the BNP Paribas Index Components is constructed using what is generally known as a momentum-based allocation strategy to construct its hypothetical portfolio of underlying components. A momentum-based allocation strategy generally seeks to capitalize on positive market price trends based on the supposition that such trends may continue. However, there is no guarantee that trends existing in a prior period will continue in the future. A momentum-based allocation strategy is different from a strategy that seeks long-term exposure to a hypothetical portfolio consisting of constant components with fixed weights. The BNP Paribas Index Component may fail to realize gains that could occur as a result of obtaining exposures to financial instruments that have experienced negative returns, but which subsequently experience a sudden spike in positive returns. As a result, if market conditions do not represent a continuation of prior observed trends, the level of the BNP Paribas Index Component, which is rebalanced based on prior trends, may decline.

One or more of the BNP Paribas Index Components will be synthetically short

One or more of the BNP Paribas Index Components' (and sub-components thereof) strategy is implemented by synthetically replicating a

SELECTED RISKS AND CONSIDERATIONS

Associated with the Index

“short” position on their component(s). Accordingly, such short position will not benefit from any positive price movements of such component(s) and may limit appreciation of the BNP Paribas Index Component notwithstanding appreciation of its component.

There is short exposure to some components of BNP Paribas Index Components and such exposure may result in a significant drop in the level of the BNP Paribas Index Components

Since one or more of the BNP Paribas Index Components’ (and sub-components thereof) synthetically replicates a short position on their component(s), a positive return on such component will have a negative impact on the level of the BNP Paribas Index Component. Accordingly, if the component posts significant positive returns, it may have a large negative impact on the level of the BNP Paribas Index Component. In addition, due to its short position on the component(s), the level of the BNP Paribas Index Component could potentially fall to zero without the value of the underlying component falling to zero.

One or more of the BNP Paribas Index Components is subject to volatility risk

One or more of the BNP Paribas Index Components aim to generate returns by gaining synthetic exposure to the spread between the implied and realized volatility of an underlying reference asset. If the realized volatility of such reference asset were to increase sharply, then the performance of the BNP Paribas Index Component may decrease significantly during such periods of high volatility.

One or more of the BNP Paribas Index Components may utilize a “long-short” strategy and be subject to additional risks

One or more of the BNP Paribas Index Components employs a technique generally known as a “long-short” strategy. This means the BNP Paribas Index Component may include both synthetic “long” positions and synthetic “short” positions. Unlike long positions, short positions are subject to unlimited risk of loss because there is no limit on the amount by which the price that the relevant asset may appreciate before the short position is closed. Short positions will not benefit from any positive price movements of the relevant sub-components and may limit appreciation of the BNP Paribas Index Component notwithstanding appreciation of the sub-component(s).

The level of carry calculated for some BNP Paribas Index Components may not be indicative of future performance

The BNP Paribas GALAXY G10 ER USD Index is designed to take positions in its components based on a calculation of the expected carry return on the currency pair underlying each component. Its methodology assigns weights to its components based on this calculation of carry, taking long positions in components associated with higher carry and short position in components associated with lower carry. The selection mechanism limits the number of currency pairs which may be selected. Certain currency pairs which are not selected based on these criteria may outperform some currency pairs which have been selected. There can be no assurance that currency pairs with higher carry will outperform currency pairs with lower carry. The strategy employed by the BNP Paribas GALAXY G10 ER USD Index may perform poorly during periods of higher risk aversion.

Components of some of the BNP Paribas Index Components may not reflect publicly available prices

The components of the BNP Paribas GALAXY G10 ER USD Index are intended to reflect the hypothetical present value of a simulated FX Forward. Such hypothetical present value is determined using a simplified valuation model developed by BNP Paribas or one of its affiliates that is not publicly available. The valuation model may produce results that may differ from calculations by other sources using the same market data.

The volatility of commodities prices may adversely affect some of the BNP Paribas Index Components

One or more of the BNP Paribas Index Components is comprised of commodities futures contracts. Commodities prices are highly

volatile and are affected by numerous factors in addition to economic activity. These include political events, weather, labor activity, direct government intervention, such as embargos, and supply disruptions in major producing or consuming regions. Those events tend to affect prices worldwide, regardless of the location of the event. Market expectations about these events and speculative activity also cause prices to fluctuate. These factors may adversely affect the performance of the BNP Paribas Index Components.

One or more of the BNP Paribas Index Components may be highly concentrated in one or more regions, industries or economic sectors

The BNP Paribas CASA Index III is designed to provide exposure to a diversified portfolio of assets, including a variety of asset classes and geographical regions. Exposure to any particular BNP Paribas Index Component may vary over time, and may be reduced to zero. As a result, the exposure of the BNP Paribas CASA Index III may be concentrated in one or more asset classes or geographic regions at any time. Such concentration may increase the risks that the price, value or level of other assets in these geographic regions, industries or economic sectors or the levels of the BNP Paribas Index Components may decline, thereby adversely affecting the BNP Paribas CASA Index III level.

For example, a financial crisis could erupt in a particular geographic region, industry or economic sector and lead to sharp declines in the currencies, equities markets and other asset prices in that geographic region, industry or economic sector, threatening the particular financial systems, disrupting economies and causing political upheaval. A financial crisis or other event in any geographic region, industry or economic sector could have a negative impact on some or all of the BNP Paribas Index Components and the BNP Paribas CASA Index III.

Risks relating to the futures markets may adversely affect some of the BNP Paribas Index Components

Some of the components (or sub-components thereof) of BNP Paribas Index Components are futures contracts. The prices of futures contracts may be affected by a number of factors, including but not limited to changes in supply and demand relationships, interest rates and governmental and regulatory policies. The policies of the exchanges on which the futures contracts trade may include certain trading restrictions, margin requirements and other requirements, which are subject to change and may have a negative impact on prices. Futures markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity in the markets, participation of speculators, and government regulation and intervention. These factors and can cause the prices of futures contracts to be volatile and unpredictable, and may adversely impact the BNP Paribas Index Component.

Prices of futures contracts are subject to sudden changes and can change dramatically over short periods of time, even when they have been relatively stable for an extended period of time. Such changes may result in a dramatic decline in the level of the BNP Paribas Index Component.

Negative roll returns associated with futures contracts may adversely affect the performance of some of the BNP Paribas Index Components

Some of the components (or sub-components thereof) of BNP Paribas Index Components are futures contracts. Unlike common securities, futures contracts, by their terms, have stated expirations. As the futures contracts that comprise the BNP Paribas Index Component (or sub-component) approach expiration, they are synthetically replaced by a contract with a later expiration. Excluding other considerations, if prices are higher in the distant delivery months than in the nearer delivery months, the notional purchase of the futures contract with the later expiration date would take place at a price that is higher than the price of the futures contract that is expiring, thereby creating a negative “roll return.” Negative roll returns may adversely affect the level of the BNP Paribas Index Component (or sub-component) which in turn may have a negative effect on the BNP Paribas CASA Index III (or BNP Paribas

SELECTED RISKS AND CONSIDERATIONS

Associated with the Index

Index Component). Because of the potential effects of negative roll returns, it is possible for the level of the BNP Paribas Index Component (or sub-component) to decrease over time, even when the near-term or spot price of the underlying futures contract is stable or increasing.

Consistent trends in the performance of components of BNP Paribas Index Components may not be indicative of such future performance

One or more of the BNP Paribas Index Components is designed to track consistent trends in the performance of its components. The methodology for such BNP Paribas Index Component assigns weights to its components based on the performance of such components over a specified period in the past. There can be no assurance that performance trends existing in the past will continue in the future. The strategy employed by the BNP Paribas Index Component may perform poorly during non-trending periods or periods characterized by high volatility.

Actual volatility of the BNP Paribas Index Component may not equal the target volatility

One or more of the BNP Paribas Index Components may employ a volatility control mechanism with the objective of limiting the volatility of the level of such BNP Paribas Index Component. There can be no assurance that any particular volatility control mechanism will achieve its specific volatility target. There can be no assurance that the performance of any component of the BNP Paribas Index Component or the BNP Paribas Index Component will be below a specific volatility target at any point in time, or will remain below a specific volatility target in the future.

Volatility control may limit the performance of the BNP Paribas Index Component

A volatility control mechanism with the objective of maintaining a specified level of volatility may be employed by one or more of the BNP Paribas Index Components, which may reduce the weighting of the component(s) composed in such BNP Paribas Index Component. This mechanism may limit the performance of the BNP Paribas Index Component which in turn may limit the performance of the BNP Paribas CASA Index III. The expected volatility of the BNP Paribas Index Component may be estimated using historical volatility, which may not be indicative of future levels of volatility. There can be no assurance that a specified level of volatility will be achieved.

Historical volatility may be a poor indicator of future volatility

One or more of the BNP Paribas Index Components measures the expected risk of their respective components based on historical volatility. There can be no assurance that the historical volatility of such components will be indicative of future volatility. In addition, other potential measures of volatility may be more predictive of future volatility than historical volatility. As a result, the measure of expected risk used by the methodology of the BNP Paribas Index Component may be less accurate than other measures that could have been used.

The value or performance of the BNP Paribas Index Components may offset each other

Changes in value or return of the BNP Paribas Index Components may not correlate with each other. The impact on the BNP Paribas CASA Index III level of an increase in the value of one or more BNP Paribas Index Components may be reduced or offset by the decrease in value of other BNP Paribas Index Components.

Performance amongst the BNP Paribas Index Components comprising the BNP Paribas CASA Index III may become highly correlated from time to time, including, but not limited to, a period in which there is a substantial decline in the relevant markets. High correlation during periods of market decline may have a negative impact on the BNP Paribas CASA Index III. The correlation amongst BNP Paribas Index Components comprised in the BNP Paribas CASA Index III may change over time. Any historical trend in correlation amongst the BNP Paribas Index Components is not an indication of such correlation at any time in the future.

Publicly available information related to the BNP Paribas CASA Index III is limited

The BNP Paribas CASA Index III is a custom index developed by BNP Paribas, the Index Sponsor. There is limited information relating to the BNP Paribas CASA Index III that is publicly available. None of BNP Paribas, the Index Sponsor, the Index Calculation Agent, any market data provider or any other source is required to make information publicly available relating to the composition, method of calculation or rebalancing of the BNP Paribas CASA Index III unless otherwise agreed in writing or required by law. Additional information is available solely through the Index Sponsor and may be provided subject to certain restrictions. Only a limited amount of historical data exists with respect to the BNP Paribas CASA Index III. Use of the BNP Paribas CASA Index III or investment in any financial instrument or transaction that references the BNP Paribas CASA Index III may involve a greater risk than one or more indices with a more established performance record.

The BNP Paribas CASA Index III and the BNP Paribas Index Components may be subject to corrections

In the event that the Index Sponsor, the Index Calculation Agent or any of their affiliates becomes aware of any error, miscalculation or other discrepancy in the calculation of the BNP Paribas CASA Index III or any BNP Paribas Index Component, the Index Sponsor will determine if a correction is required, taking into consideration the source of the error and the impact on the level of the BNP Paribas CASA Index III. If a correction is to be made, the Index Calculation Agent will correct and republish the affected index level(s) in accordance with the rules for such index. In certain circumstances, corrections will not be made and the index level will remain uncorrected. The Index Sponsor and the Index Calculation Agent shall have no liability for any loss arising from or related to any such error or miscalculation.

The BNP Paribas CASA Index III is an excess return index

The BNP Paribas CASA Index III is an "Excess Return" index, and reflects the performance of the BNP Paribas Index Components, which require little or no cash to obtain the economic exposure and risk that is the objective of the BNP Paribas CASA Index III. The level of the BNP Paribas CASA Index III does not reflect interest from cash instruments or other related returns that might be realized when obtaining the performance of an index that would require a cash investment equal to the value of the BNP Paribas CASA Index III.

BNP Paribas Arbitrage SNC, an affiliate of the Index Sponsor of the BNP Paribas CASA Index III, BNP Paribas, is the Index Calculation Agent who is responsible for calculating the levels of the BNP Paribas CASA Index III

The policies and calculations for which the Index Calculation Agent is responsible could have an impact, positive or negative, on the level of the BNP Paribas CASA Index III. BNP Paribas and its affiliates are under no obligation to consider your interest as an investor in a product linked to the BNP Paribas CASA Index III.

Legal and regulatory regimes may affect the BNP Paribas CASA Index III or the BNP Paribas Index Components

The BNP Paribas CASA Index III and the BNP Paribas Index Components (and sub-components thereof) are subject to legal and regulatory regimes in various regions and, in some cases, in other countries that may change in ways that could negatively affect the BNP Paribas CASA Index III or the BNP Paribas Index Components. Changes to the applicable legal or regulatory regimes may have a negative impact on the BNP Paribas CASA Index III level and/or the value of any transactions that reference the BNP Paribas CASA Index III.

The methodology and rules related to the Index are subject to change.

The BNP Paribas Index Components (and sub-components thereof) that are traded on one or more public exchanges are subject to the rules of the relevant exchange. Such rules may be changed or revised in a manner that adversely affects the BNP Paribas Index Components and may adversely affect the BNP Paribas CASA Index III.

IMPORTANT INFORMATION

Legal Notice: This document is **CONFIDENTIAL AND FOR DISCUSSION PURPOSES ONLY**; it constitutes a marketing communication and has been prepared by a Sales and Marketing function within BNP Paribas and/or its subsidiaries or affiliates (collectively "we" or "BNP Paribas"). As a confidential document it is submitted to selected recipients only and it may not be made available (in whole or in part), reproduced or transmitted to any other person (other than to your professional advisers) without BNP Paribas' written consent. Neither the information nor any opinion contained in this material constitutes a recommendation, solicitation or offer by BNP Paribas or its affiliates to buy or sell any security, futures contract, options contract, derivative instrument, or financial instrument, nor shall it be deemed to provide investment, tax, legal, accounting or other advice and BNP Paribas has no fiduciary duty towards its recipients. To the extent that any transaction is subsequently entered into between the recipient and BNP Paribas, such transaction will be entered into upon such terms as may be agreed by the parties in the relevant documentation.

The information contained in this document has been obtained from sources believed to be reliable, but there is no guarantee of the accuracy, completeness or suitability for any particular purpose of such information nor that such information has been independently verified by BNP Paribas or by any person. None of BNP Paribas, its members, directors, officers, agents or employees accepts any responsibility or liability whatsoever or makes any representation or warranty, express or implied, as to the accuracy or completeness of the information contained in this document, or any opinions based thereon. This material should neither be regarded as comprehensive nor sufficient for making decisions, nor should it be used in place of professional advice. You should consult your own advisors about any products or services described herein in order to evaluate the merits, suitability, and financial, legal, regulatory, accounting and tax issues raised by any investment and should not rely on BNP Paribas or its affiliates for this. Additional information may be provided on request, at our discretion. This material is only intended to generate discussions regarding particular instruments and investments and is subject to change, or may be discontinued, without notice.

Any scenarios, assumptions, historical or simulated performances, indicative prices or examples of potential transactions or returns are included for illustrative purposes only. Investors may get back less than they invested. BNP Paribas gives no assurance that any favorable scenarios described are likely to happen, that it is possible to trade on the terms described herein or that any potential returns illustrated can be achieved. This document is current as at the date of its production and BNP Paribas is under no obligation to update or keep current the information herein. Certain strategies and/or potential transactions discussed in this document may involve the use of derivatives which may be complex in nature and may give rise to substantial risks, including the risk of total or partial loss of any investment or losses without limitation and which should only be undertaken by those with the requisite knowledge and experience. BNP Paribas makes no representation and gives no warranty as to the results to be obtained from any investment, strategy or transaction, or as to whether any strategy, security or transaction described herein may be suitable for recipients' financial needs, circumstances or requirements. Recipients must make their own assessment of strategies, securities and/or potential transactions detailed herein, using such professional advisors as they deem appropriate. BNP Paribas accepts no liability for any direct or consequential losses arising from any action taken in connection with or reliance on the information contained in this document even where advised of the possibility of such losses.

As an investment bank with a wide range of activities, BNP Paribas may face conflicts of interest and you should be aware that BNP Paribas and/or any of its affiliates may be long or short, for their own account or as agent, in investments, transactions or strategies referred to in this document or related products before the material is published to clients and that it may engage in transactions in a manner inconsistent with the views expressed in this document, either for their own account or for the account of their clients. Additionally, BNP Paribas may have acted as an investment banker or may have provided significant advice or investment services to companies or in relation to investments mentioned in this document. The information in this document is not intended for distribution to, or use by, any person or entity in any jurisdiction where (a) the distribution or use of such information would be contrary to law or regulations, or (b) BNP Paribas or a BNP Paribas affiliate would become subject to new or additional legal or regulatory requirements. Persons in possession of this document should inform themselves about possible legal restrictions and observe them accordingly. In no circumstances shall BNP Paribas or its affiliates be obliged to disclose any information that it has received on a confidential basis or to disclose the existence thereof. If you have a contractual relationship with a BNP Paribas affiliate that extends to products and services referenced in this material, the communications made hereby are, and shall be deemed made, as the context may require, by such entity.

One or more of the Indices described in this document are custom indices created by BNP Paribas (each, an "Index"). Each Index is the exclusive property of BNP Paribas (the "Index Sponsor"). BNP Paribas or one of its affiliates may play multiple roles with respect to the Index, including but not limited to Index Calculation Agent (the "Index Calculation Agent"). The Index Sponsor and the Index Calculation Agent do not guarantee the accuracy and/or completeness of the composition, calculation, publication and adjustment of any Index, any data included therein, or any data from which it is based, and the Index Calculation Agent and the Index Sponsor shall have no liability for any errors, omissions, or interruptions therein. The Index Calculation Agent and the Index Sponsor make no warranty, express or implied, as to results to be obtained from the use of any Index. The Index Calculation Agent and the Index Sponsor make no express or implied warranties, and expressly disclaim all warranties of merchantability or fitness for a particular purpose or use with respect to any Index or any data included therein. Without limiting any of the foregoing, in no event shall the Index Calculation Agent and the Index Sponsor have any liability for any special, punitive, indirect, or consequential damages (including lost profits), even if notified of the possibility of such damages.

BNP PARIBAS HAS DEVELOPED, MAINTAINS AND IS THE SOLE PARTY RESPONSIBLE FOR THE METHODOLOGY THAT IS EMPLOYED IN CONNECTION WITH THE INDEX. PROSPECTIVE INVESTORS ARE ADVISED TO MAKE AN INVESTMENT IN ANY PRODUCT ONLY AFTER CAREFULLY CONSIDERING THE RISKS ASSOCIATED WITH INVESTING IN SUCH PRODUCT, AS DETAILED IN AN OFFERING MEMORANDUM OR SIMILAR DOCUMENT THAT IS PREPARED BY OR ON BEHALF OF THE ISSUER OF THE PRODUCT OR THE INDEX SPONSOR.

This document contains certain performance data based on back-testing, i.e. simulations of the performance of a strategy, Index or assets as if it had actually existed during a defined period of time. All terms, pricing, estimates and opinions included in this document constitute the judgement of BNP Paribas and its affiliates as of the date of the document and may be subject to change without notice. This type of information has inherent limitations which recipients must consider carefully. While the information has been prepared in good faith in accordance with BNP Paribas' or its affiliates' own internal models and other relevant sources, an analysis based on different models or assumptions may yield different results. [Unlike actual performance records, simulated performance, returns or scenarios may not necessarily reflect certain market factors such as liquidity constraints, fees and transactions costs. Actual historical or back-tested past performance does not constitute an indication of future results or performance.

Neither BNP Paribas, persons connected with it, affiliates of BNP Paribas, nor any of their respective directors, partners, officers, employees or representatives accepts any liability whatsoever (including in negligence) for any direct or consequential loss arising from any use of these materials or their content even where advised of the possibility of such losses; any of the foregoing may, from time to time act as manager, co-manager or underwriter of a public offering or otherwise, in the capacity of principal or agent, deal in, hold or act as market makers or advisors, brokers or commercial and/or investment bankers in relation to the securities and derivatives that are discussed herein.

BNP Paribas may be a party to an agreement with any person relating to the production of this document. BNP Paribas may to the extent permitted by law, have acted upon or used the information contained herein or in the document, or the analysis on which it was based, before the document was published. BNP Paribas may receive or intend to seek compensation for investment banking services in the next three months from or in relation to any person mentioned in this document. Any person mentioned in this document may have been provided with relevant sections of this document prior to its publication in order to verify its factual accuracy.

In the event that we were to enter into a transaction with you, we will do so as principal (and not as agent or in any other capacity, including, without limitation, as your fiduciary, advisor or otherwise). Only in the event of a potential transaction will an offering document be prepared, in which case, you should refer to the prospectus or offering document relating to the above potential transaction which includes important information, including risk factors that relate to an investment in the product(s) described herein or in the document.

This document is intended only for those defined under U.S. securities laws as "institutional investors" and/or "major institutional investors". Securities transactions with BNP Paribas that result from the provision of this document will be effected by or through BNP Paribas Securities Corp., a U.S. registered broker-dealer and member of FINRA, the New York Stock Exchange and other principal exchanges. Securities products offered by BNP Paribas Securities Corp. are not FDIC insured, are not bank deposits nor bank guaranteed, and are subject to investment risk, including possible loss of the principal invested.

BNP Paribas is incorporated in France with Limited Liability. Registered Office 16 boulevard des Italiens, 75009 Paris.

For country-specific disclaimers (United States, Canada, United Kingdom, France, Germany, Belgium, Ireland, Italy, Netherlands, Portugal, Spain, Switzerland, Brazil, Turkey, Israel, Bahrain, South Africa, Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, Singapore, South Korea, Taiwan, Thailand, Vietnam) please type the following URL to access our legal notices:

https://globalmarkets.bnpparibas.com/gm/home/20191111_Markets_360_Country_Specific_Notices.pdf

Some or all of the information contained in this document may already have been published on MARKETS 360™ Portal

© BNP Paribas, All Rights Reserved.

IMPORTANT INFORMATION

BNP Paribas Securities Corp. (the "Company") relies on the International Dealer Exemption pursuant to National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations in Canada. To the extent that you have an account with the Company or deal with representatives of the Company, please note that:

- (i) the Company is not registered in Canada to trade in securities;
- (ii) the Company's jurisdiction of residence is the United States of America;
- (iii) all or substantially all of the assets of the Company may be situated outside of Canada;
- (iv) there may be difficulty enforcing legal rights against the Company because of the above; and
- (v) the names and addresses of the Company's agents for service of process in the local jurisdictions may be obtained upon request.

THIS PRESENTATION IS CONFIDENTIAL AND IS BEING SUBMITTED TO SELECTED RECIPIENTS ONLY WHO QUALIFY, AS REQUIRED UNDER APPLICABLE LAW IN CANADA, as CANADIAN PERMITTED CLIENTS (as defined in Section 1.1 of National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations, "NI 31-103") OR AS QUALIFIED PARTIES (as defined in the Alberta Securities Commission Blanket Order 91-507, or its successive blanket order or its equivalent as applicable to another Canadian province in which the recipient is resident) OR AS ACCREDITED INVESTORS (as defined in Section 1.1 of National Instrument 45-106 Prospectus and Registration Exemptions, or, if resident in Ontario, Section 73.3(1) of the Securities Act (Ontario)) OR AS ACCREDITED COUNTERPARTIES (if resident in Quebec as defined in Section 3 of the Quebec Derivatives Act, chapter I-14.01 or its equivalent as applicable to another Canadian province in which the recipient is resident) - all the above National Instruments, Blanket Order and Acts specified in this paragraph collectively, the "Specific Canadian Texts".

Financial instruments of the type described herein may involve a high degree of risk and their value may be highly volatile. Such risks may include, without limitation: (i) variations in interest rates, exchange rates, correlation, prices or levels of securities, commodities, funds and/or indices, indicators of creditworthiness or perceived creditworthiness of one or more underlying entities; (ii) default or insolvency of one or more underlying entities; (iii) adverse or unanticipated market events or developments, political developments or adverse corporate events involving an underlying security or entity; (iv) risk of illiquidity; (v) sovereign risk; and (vi) legal risk. In addition, where a transaction involves leverage, it must be recognized that whilst leverage presents opportunities to increase profit, it also has the effect of potentially increasing losses and doing so in a relatively short period of time. Such losses may significantly diminish the performance of the transaction or result in loss for you. You may be required to post margin or collateral at levels consistent with the internal policies of BNP Paribas. The risk of loss in trading derivatives can be substantial and, accordingly, derivatives are not suitable for every person.

Any offer or sale of securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgement upon these materials, the information contained herein, or the merits of any securities described herein, if any.

This particular section applies to recipients who are located within or otherwise represent or are connected to and doing business within Canada. In the event of a direct conflict or inconsistency between the presentation and this section, this section will prevail to supplement the above as it applies to Canada, and shall be interpreted to supplement and not restrict the application of the above to the fullest extent possible. BNP Paribas is incorporated in France with limited liability (registered office: 16 boulevard des Italiens, 75009 Paris, France, 662 042 449 RCS Paris) and is established in various jurisdictions. It operates in Canada as a Schedule III Bank (under the Bank Act (Canada)), and equally under an International Dealer Exemption as applicable in various Canadian provinces. In Canada, it has a Quebec office located at 2001, Robert-Bourassa Blvd, Montreal, QC, H3A 2A6, and an Ontario office located at 155 Wellington Street West, Suite 3110, Toronto, ON, M5V 3H1. For recipients located in Quebec, upon receipt of this presentation, each recipient hereby confirms that it has expressly requested that it be drawn up in the English language only. Pour les résidents du Québec, par la réception de cette présentation, chaque destinataire confirme par les présentes qu'il a expressément exigé que celle-ci soit rédigée en anglais seulement.

IMPORTANT INFORMATION

Associated with the Index

The BNP Paribas Catalyst Systematic Alpha Index II (the “BNP Paribas CASA Index III”) is the exclusive property of BNP Paribas or one of its affiliates (BNP Paribas and its affiliates are hereinafter called “BNPP”) and is determined, composed and calculated by BNPP. “BNP”, “BNPP”, “BNP Paribas”, “BNP Paribas Catalyst Systematic Alpha Index II”, and “BNPP CASA Index III” (collectively, the “BNPP Marks”) are trademarks or service marks of BNP Paribas.

The BNP Paribas CASA Index III is the exclusive property of BNP Paribas (the “Index Sponsor”). BNP Paribas Arbitrage SNC (the “Index Calculation Agent”) and the Index Sponsor do not guarantee the accuracy and/or completeness of the composition, calculation, publication and adjustment of the BNP Paribas CASA Index III, any data included therein, or any data from which it is based, and the Index Calculation Agent and the Index Sponsor shall have no liability for any errors, omissions, or interruptions therein. The Index Calculation Agent and the Index Sponsor make no warranty, express or implied, as to results to be obtained from the use of the BNP Paribas CASA Index III. The Index Calculation Agent and the Index Sponsor make no express or implied warranties, and expressly disclaim all warranties of merchantability or fitness for a particular purpose or use with respect to the BNP Paribas CASA Index III or any data included therein. Without limiting any of the foregoing, in no event shall the Index Calculation Agent and the Index Sponsor have any liability for any special, punitive, indirect, or consequential damages (including lost profits), even if notified of the possibility of such damages.

BNP PARIBAS HAS DEVELOPED, MAINTAINS AND IS THE SOLE PARTY RESPONSIBLE FOR THE METHODOLOGY THAT IS EMPLOYED IN CONNECTION WITH THE BNP PARIBAS CASA Index III. PROSPECTIVE INVESTORS ARE ADVISED TO MAKE AN INVESTMENT IN ANY PRODUCT ONLY AFTER CAREFULLY CONSIDERING THE RISKS ASSOCIATED WITH INVESTING IN SUCH PRODUCT, AS DETAILED IN A PROSPECTUS OR SIMILAR DOCUMENT THAT IS PREPARED BY OR ON BEHALF OF THE ISSUER OF THE PRODUCT OR THE INDEX SPONSOR.

BNP Paribas may license the BNP Paribas CASA Index III to one or more companies (each, a “Company”) for use in a product offered or issued by the Company. The products are not, in whole or in part, sponsored, structured, priced, endorsed, offered, sold, issued or promoted by BNP Paribas or any of its affiliates, or any third party licensor of information to BNP Paribas. BNP Paribas reserves the right to amend or adjust the BNP Paribas CASA Index III methodology from time to time and accepts no liability for any such amendment or adjustment. BNP Paribas is not under any obligation

to continue the calculation, publication or dissemination of the BNP Paribas CASA Index III and accepts no liability for any suspension or interruption in the calculation thereof. Neither BNP Paribas nor any of its affiliates accepts any liability in connection with the publication or use of the level of the BNP Paribas CASA Index III at any given time.

BNP Paribas may enter into derivative transactions or issue financial instruments (the “Index Products”) linked to the BNP Paribas CASA Index III. The BNP Paribas CASA Index III Products are not in any way sponsored, endorsed, sold or promoted by the sponsor of any index component (or sub-component thereof) which may comprise the BNP Paribas CASA Index III (the “Underlying Index”) that is not affiliated with BNP Paribas (each such sponsor, an “Underlying Index Sponsor”). The Underlying Index Sponsors make no representation whatsoever, whether express or implied, either as to the results to be obtained from the use of the relevant Underlying Index and/or the levels at which the relevant Underlying Index stands at any particular time on any particular date or otherwise. No Underlying Index Sponsor shall be liable (whether in negligence or otherwise) to any person for any error in the relevant Underlying Index and the relevant Underlying Index Sponsor is under no obligation to advise any person of any error therein. None of the Underlying Index Sponsors makes any representation whatsoever, whether express or implied, as to the advisability of purchasing or investing in, or assuming any risk in connection with, the BNP Paribas CASA Index III Products. BNP Paribas shall have no liability to any party for any act or failure to act by any Underlying Index Sponsor in connection with the calculation, adjustment or maintenance of the relevant Underlying Index and have no affiliation with or control over any Underlying Index or the relevant Underlying Index Sponsor or the computation, composition or dissemination of any Underlying Index. Although BNP Paribas will obtain information concerning each Underlying Index from publicly available sources that it believes reliable, it will not independently verify this information. Accordingly, no representation, warranty or undertaking (express or implied) is made and no responsibility is accepted by BNP Paribas as to the accuracy, completeness and timeliness of information concerning any Underlying Index.

BNP Paribas may act in a number of different capacities in relation to the BNP Paribas CASA Index III and/or products linked to the BNP Paribas CASA Index III, which may include, but not be limited to, acting as hedging counterparty, index sponsor and/or index calculation agent.

© BNP Paribas. All rights reserved.

For additional information

PLEASE CONTACT

BNPP.CASA.INDEX@US.BNPPARIBAS.COM

FIND US

CASAINDEX.BNPPARIBAS.COM