



## BNP PARIBAS MOMENTUM MULTI ASSET 5 INDEX

Bloomberg ticker: BNPPMOMA Index

For further information, please visit <http://momentum5index.bnpparibas.com>

### Index Philosophy

The BNP Paribas Momentum Multi Asset 5 Index ("BNPP Momentum 5 Index") is a rules-based index that aims to measure the value of a hypothetical exposure to a range of asset classes and geographic regions based on 3 core principles:

**Diversification** - Seeks to provide exposure to a diverse set of components aiming at improving the index risk-return profile versus exposure to a single asset class.

**Daily Dynamic Allocation** - Aims to select up to 8 out of a universe of 14 components with the best recent risk adjusted performance, weighted in order to balance the index's risk contribution<sup>1</sup>.

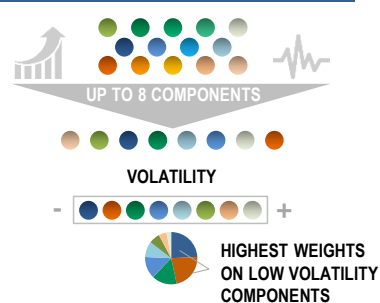
**Daily Risk Control** - Incorporates a mechanism that intends to maintain the realized volatility at a 5% target, with the goal of reducing volatility during unstable market periods.

### Index Overview

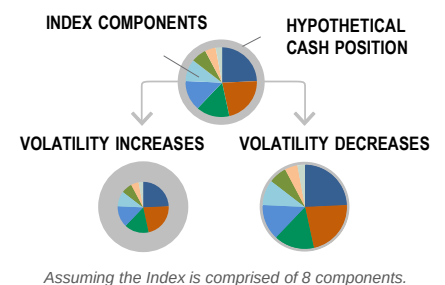
#### DIVERSIFICATION



#### DYNAMIC ALLOCATION



#### RISK CONTROL



The universe of components used to determine the Index includes ETFs and futures indices that have been selected with the objective of providing exposure to instruments that are both liquid and representative of different geographic zones. It aims at providing a **diversified** exposure through 3 different categories - Asset Class, Geography and Level of Risk.

On a daily basis, the BNPP Momentum 5 Index is rebalanced according to 2 main principles:

- Aims to select **up to 8** out of a universe of 14 components with the best recent risk adjusted positive performance<sup>1</sup>;
- Risk parity allocation that generally results in **higher exposure to components with lower historical volatility** and lower exposure to those with higher historical volatility.

On a daily basis, the BNPP Momentum 5 Index targets an annualized realized **volatility of 5%**. If the index's realized volatility exceeds/is lower than the 5% target volatility rate on any day, the BNPP Momentum 5 Index will reduce/increase its exposure to each component and may rebalance it with a non-remunerable hypothetical cash position.<sup>3</sup>

**The BNPP Momentum 5 Index is an excess return<sup>2</sup> index - levels are net of rebalancing and replication fees and incorporate an annual fee of 0.50%, charged on a daily basis.**

<sup>1</sup> Components not selected will be weighted at zero or reduced to the lowest weight possible in accordance with each component's limitation on its daily weight change.

<sup>2</sup> The BNPP Momentum 5 Index is an "Excess Return Index" meaning that the index level reflects the performance of any index components that are ETFs in excess of 3-month USD LIBOR and inclusive of the value that would be derived from the reinvestment of any dividends and distributions by the issuer of any such ETFs and, with respect to components that are linked to futures contracts, the index level will not take into account any money market interest.

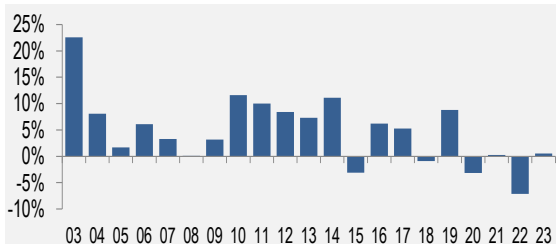
<sup>3</sup> Based on its realized volatility, the BNPP Momentum 5 Index may be partially or wholly uninvested, and will not earn interest or any other return with respect to such hypothetical cash position.

## Universe of components used to determine the Index

|                   |                                   |           |
|-------------------|-----------------------------------|-----------|
| Equity ETFs       | iShares MSCI EAFE ETF             | EFA       |
|                   | iShares MSCI Emerging Markets ETF | EEM       |
|                   | SPDR S&P 500 ETF Trust            | SPY       |
|                   | iShares Russell 2000 ETF          | IWM       |
| Equity Futures    | BNPP Japan Equity Futures Index   | BNPIFJP   |
| Commodity Futures | S&P GSCI Crude Oil ER Index       | SPGSCPLP  |
|                   | S&P GSCI Gold Index ER            | SPGSGCPLP |

|                    |                                          |          |
|--------------------|------------------------------------------|----------|
| Bond Futures       | BNPP USD 10Y Futures                     | BNPIFU10 |
|                    | BNPP EUR 10Y Futures                     | BNPIFE10 |
|                    | BNPP JPY 10Y Futures                     | BNPIFJ10 |
|                    | BNPP USD Long Term Treasury Bond Futures | BNPIFU30 |
| Bond ETFs          | iShares IBOXX High Yield Corporate       | HYG      |
|                    | iShares JP Morgan USD Emerging Markets   | EMB      |
| US Real Estate ETF | iShares US Real Estate ETF               | IYR      |

## Index Yearly Return Summary<sup>1</sup>

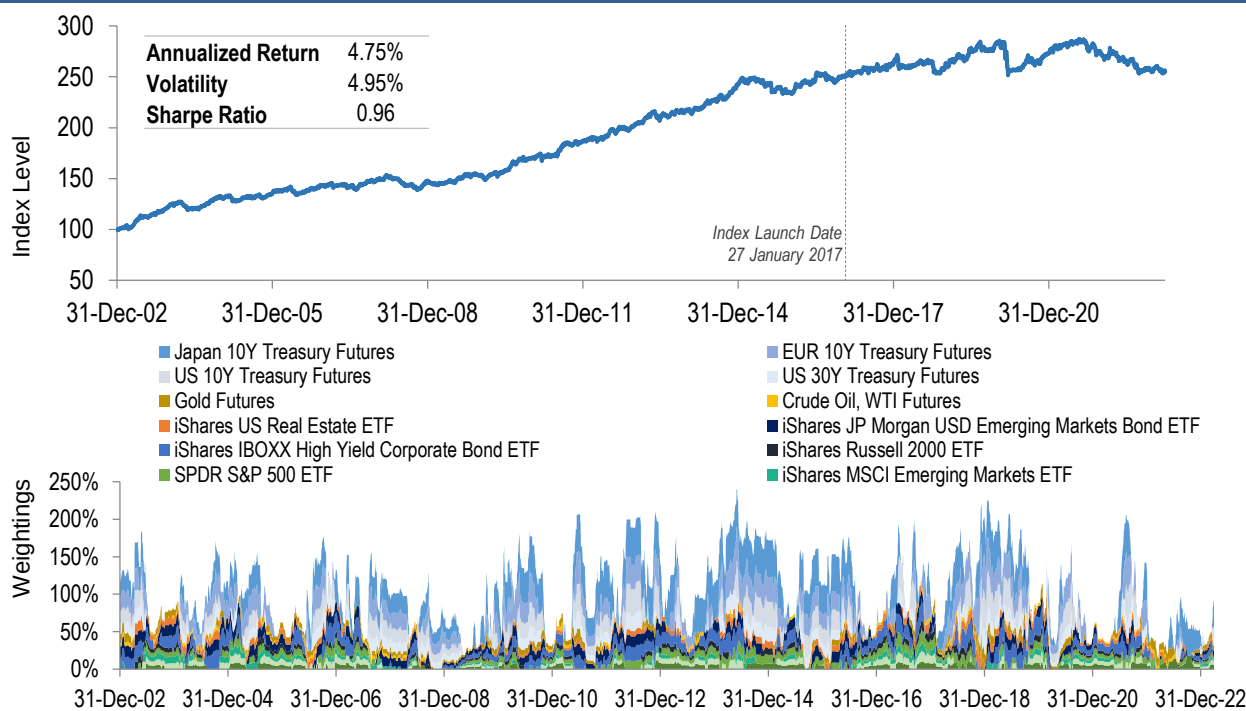


Source: Bloomberg, BNP Paribas from 31 December 2002 to 31 March 2023.

## Index Information<sup>2</sup>

|                   |                                |
|-------------------|--------------------------------|
| Bloomberg ticker  | BNPIMOMA Index                 |
| Calculation Agent | BNP Paribas Arbitrage SNC      |
| Index Sponsor     | BNP Paribas                    |
| Index Type        | Excess Return                  |
| Weighting         | Daily rebalancing              |
| Annual Fee        | 0.50%, charged on daily basis  |
| Index Launch Date | January 27 <sup>th</sup> 2017  |
| Index Start Date  | December 31 <sup>st</sup> 2002 |

## Index Statistics, Level and Weightings - Actual and Hypothetically Simulated<sup>1</sup>



Source: Bloomberg, BNP Paribas from 31 December 2002 to 31 March 2023.

Source: Bloomberg, BNP Paribas from 31 December 2002 to 31 March 2023. Past performance is not an indicator of future performance. The BNPP Momentum 5 Index is based on Hypothetical Past Performance Data ("PPD") prior to January 27<sup>th</sup>, 2017. Because the BNPP Momentum 5 Index 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. The presentation of hypothetical data reflects the deduction of fees and charges. 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 BNPP Momentum 5 Index.

<sup>2</sup> In addition to the annual fee, the Index level is net of BNP Paribas' replication and rebalancing costs associated with the index. Furthermore, since the index is an excess return index, its level reflects the performance of any index components that are ETFs in excess of 3-month USD LIBOR and inclusive of the value that would be derived from the reinvestment of any dividends and distributions by the issuer of any such ETFs and, with respect to components that are linked to futures contracts, the index level will not take into account any money market interest.



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## Selected Risks and Considerations Associated with the Index

**The BNPP Momentum 5 Index levels are based on the values of notional assets and liabilities.**

The BNPP Momentum 5 Index 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 BNPP Momentum 5 Index or any products or strategies based partly or wholly on BNPP Momentum 5 Index. You should reach a decision after careful consideration with your advisors.

**Strategies relying on the levels of the BNPP Momentum 5 Index may not be successful.**

There is a risk that the rules-based methodology of the BNPP Momentum 5 Index does not meet its stated objectives, including meeting its annualized target volatility of 5%, resulting in underperformance of the components that comprise the index.

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

The calculation of the BNPP Momentum 5 Index employs a mathematical model intended to replicate what is known as a momentum-based investment strategy, which seeks to capitalize on positive market price trends based on the supposition that positive market price trends may continue. This momentum-based strategy underlying the methodology of the BNPP Momentum 5 Index is different from a strategy that seeks long-term exposure to a hypothetical portfolio consisting of constant components with fixed weights. Because the value of the BNPP Momentum 5 Index is intended to replicate the performance of the momentum-based investment strategy, these risks could also affect indirectly the performance of any product or strategy based partly or wholly on the levels of the BNPP Momentum 5 Index. BNP Paribas reserves the right to amend or adjust the BNPP Momentum 5 Index 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 BNPP Momentum 5 Index 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 BNPP Momentum 5 Index at any given time. This is neither an offer to sell securities or other instruments nor a solicitation of an offer to buy securities or other instruments, nor shall it be deemed to provide investment, tax, accounting or other advice.

**Correlation of performances among the underlying components may reduce the levels of the BNPP Momentum 5 Index.**

Performances among the underlying components may become highly correlated from time to time. High correlation during periods of negative returns among underlying components representing any one sector or asset type that have a substantial weighting in the BNPP Momentum 5 Index could have a material adverse effect on the levels of the BNPP Momentum 5 Index, which could in turn negatively affect the performance any product or strategy based partly or wholly on the levels of the BNPP Momentum 5 Index.

**Legal and regulatory regimes may affect the BNPP Momentum 5 Index, its components or its sub-components.**

The BNPP Momentum 5 Index and its 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 BNPP Momentum 5 Index or its components (or sub-components thereof). Changes to the applicable legal or regulatory regimes may have a negative impact on the BNPP Momentum 5 Index level. The components (or sub-components thereof) of the index that are traded on one or more public exchanges are subject to the rules of the relevant exchange.

**The BNPP Momentum 5 Index has limited historical information.**

The BNPP Momentum 5 Index is a new strategy, launched on January 27th 2017. The performance shown before that date is hypothetical past performance, based on hypothetical back-tested information. This brochure also contains certain performance data based on back-testing, i.e., calculations of the hypothetical levels of the BNPP Momentum 5 Index as if it had actually existed during a defined period of time, and may in certain circumstances contain simulated levels information where the BNPP Momentum 5 Index has recently been established or issued. For time periods prior to the launch of any ETF included in the index, back-testing uses alternative performance information derived from a proxy with similar asset exposure, rather than performance information for the relevant ETF. Further, you must note that such analysis is based on a number of working assumptions that may not be capable of duplication in actual trading terms. Unlike actual performance records, hypothetical or simulated performances, returns or scenarios may not necessarily reflect certain market factors such as liquidity constraints, fees and transaction costs and must be considered as illustrative only. Actual historical or back-tested past performance does not constitute an indication of future results. The actual performance of the BNPP Momentum 5 Index may bear little relation to its hypothetical historical results.

**The BNPP Momentum 5 Index has limited public information.**

The BNPP Momentum 5 Index is a custom index developed by BNP Paribas, the Index Sponsor. There is limited information relating to the BNPP Momentum 5 Index that is publicly available. In addition, publicly available information on the BNPP Momentum 5 Index, its methodology and its components is limited.

**The BNPP Momentum 5 Index's daily volatility control mechanism may result in a lower index level and the actual volatility of the BNPP Momentum 5 Index may not equal its target volatility.**

The BNPP Momentum 5 Index's daily volatility control allows the BNPP Momentum 5 Index to dynamically adjust the value of the hypothetical exposure to the portfolio the index is based on and any cash component, depending on the volatility environment. However, the risk control overlay might limit overall levels of the BNPP Momentum 5 Index in rising equity markets and may provide imperfect, limited protection in falling equity markets, particularly against sudden, large equity losses. No assurance can be given that the BNPP Momentum 5 Index methodology will achieve its target volatility goals or that products or strategies based partly or wholly on the levels of the BNPP Momentum 5 Index will outperform any alternative investment.

**The closing levels of the BNPP Momentum 5 Index will include the deduction of an Annual Fee.**

The closing level of the BNPP Momentum 5 Index includes a deduction from the aggregate values of its components of an annual fee equal to 0.50% per annum. As a result of this deduction, the value of the BNPP Momentum 5 Index will trail the value of a hypothetical identical portfolio from which no such amount is deducted.

**The closing level of the BNPP Momentum 5 Index is net of BNP Paribas' replication and rebalancing costs.**

The Closing Level of the BNPP Momentum 5 Index is net of BNP Paribas' replication and rebalancing costs associated with the index. As a result of these costs, the value of the BNPP Momentum 5 Index could trail the value of a hypothetical identical portfolio from which no such amount is deducted.

**The BNPP Momentum 5 Index is an excess return index.**

In general, returns from investing in futures contracts are derived from three sources: (1) changes in the price of such futures contracts (known as the "price return"), (2) profit or loss realized when rolling from a futures contract with one expiry date to another futures contract with a different, generally later, expiry date (known as the "roll return") and (3) interest earned on the cash (or other) collateral deposited in connection with the purchase of such futures contract (known as the "collateral return"). The components of the BNPP Momentum 5 Index that seek to track futures contracts generate "excess returns", meaning the sum of the price return and roll return with respect to the underlying components. As a result, with respect to the BNPP Momentum 5 Index's underlying components that seek to track futures contracts, an investment in an instrument linked to the BNPP Momentum 5 Index will not generate the same returns that would be obtained from investing directly in future contracts that underlie such underlying components because the collateral return is not used in calculating the "excess return" index. With respect to each ETF included in the index, the index measures their performance plus dividends paid on such ETFs, less the interest rate. Increases in the level of the interest rate may offset in whole or in part increases in the levels of the index components that are ETFs.



## Selected Risks and Considerations Associated with the Index

**BNP Paribas Arbitrage SNC, an affiliate of the BNPP Momentum 5 Index Sponsor, BNP Paribas, is the index's calculation agent who is responsible for calculating the levels of the BNPP Momentum 5 Index .**

The policies and calculations for which the calculation agent is responsible could have an impact, positive or negative, on the level of the BNPP Momentum 5 Index . BNP Paribas and its affiliates are under no obligation to consider your interest as an investor in a product linked to the BNPP Momentum 5 Index .

**Portions of the BNPP Momentum 5 Index may be effectively uninvested and earn no return.**

The BNPP Momentum 5 Index , on each day on which it is calculated, adjusts its exposure to its components in an attempt to maintain an annualized volatility of 5%. If the aggregate weight of the components is less than 100%, the BNPP Momentum 5 Index will allocate exposure to a hypothetical cash position. As a result, the BNPP Momentum 5 Index may underperform a similar index that provides 100% exposure to its components. The hypothetical cash position is an uninvested position that does not earn interest or any other return.

**The price, level or value of the components used in the BNP Momentum Multi Asset 5 Index may differ from other publicly available prices.**

The levels of the components that are Equity Futures Indices or Bond Futures Indices (the "BNPP Component Indices") are intended to reflect the performance of the relevant futures contracts on a daily volume-weighted average price, subject to a set of trade filters selected by the Index Sponsor to exclude trades with certain codes provided by the relevant exchange that indicate non-standard trades. Such levels are calculated by the Index Calculation Agent or an affiliate thereof and are not publicly available and may not reflect all trades reported by the relevant futures exchange. The daily closing price or any other price of the underlying futures contract may vary from the volume-weighted average price reflected by the level of the applicable BNPP Component Index. Furthermore, a BNPP Component Index may be subject to a disruption due to the unavailability of a volume-weighted average price despite regular trading of the underlying futures contract and the availability of a closing price for such contract.

**The BNPP Momentum 5 Index 's target volatility feature may reduce its appreciation potential.**

Under normal circumstances, equity or commodity futures may exhibit significantly higher volatility than the target volatility of 5%. Accordingly, the "volatility control" mechanism of the BNPP Momentum 5 Index may have the effect of skewing allocations among components in the BNPP Momentum 5 Index toward components that provide exposure to fixed-income assets (which typically have lower volatility than components that provide exposure to equity or commodity futures) or to cash (which has zero volatility). Index components that typically have lower volatility may have lower return potential than components that typically have higher volatility, and any allocation to cash will earn no return at all.

Moreover, if the BNPP Momentum 5 Index has a relatively high allocation to components that provide exposure to fixed-income assets, it will be particularly sensitive to factors that adversely affect the value of fixed-income instruments, such as increases in interest rates or declining perceptions of credit quality. A high allocation to components that provide exposure to fixed-income assets may also cause the BNPP Momentum 5 Index to underperform a portfolio more heavily weighted with higher volatility assets under certain circumstances. For example, in an equity bull market that is accompanied by rising interest rates, a portfolio heavily weighted with components that provide exposure to fixed-income assets might decline in value as a result of the rising interest rates, while a portfolio heavily weighted with components that provide exposure to equities would appreciate in value.

### Other Key Risks:

- The BNPP Momentum 5 Index involves daily rebalancing that is applied to the components. Changes in the value of the components may offset each other.
- The BNPP Momentum 5 Index is subject to risks associated with non-U.S. markets.
- Certain components are based on futures contracts and may be subject to currency exchange risk. The BNPP Momentum 5 Index contains a currency conversion mechanism that seeks to reduce losses due to currency exchange risk. It can also reduce or eliminate gains from currency exchange risk.
- BNP Paribas is the sponsor of the Equity Futures Indices and Bond Futures Indices that underlie the BNPP Momentum 5 Index.

## Important Information

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In calculating the performance of the BNPP Momentum 5 Index, BNPP deducts an annual fee of 0.50% per annum, calculated on a daily basis which reduces the performance of the index in the same way as a cost. In addition, the BNPP Momentum 5 Index methodology embeds certain costs which cover among other things, rebalancing and replication costs. Such costs (if any) may vary over time with market conditions.

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