# BNP PARIBAS MULTI-ASSET GLOBAL DIVERSIFIED INDEX

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The bank for a changing world

# INTRODUCING THE BNP PARIBAS MULTI ASSET GLOBAL DIVERSIFIED INDEX

The BNP Paribas Multi Asset Global Diversified Index provides exposure to a diverse range of asset classes and geographic regions. These asset classes include government bond futures and equity futures in Europe, Japan, the United States and China, as well as commodities and commodity futures.

The Index allows investors to aim at higher returns with lower volatility due to:



# DIVERSIFIED UNIVERSE OF UNDERLYINGS

Diversity in geographic zones covered;

Market benchmarks are used:
Components representing
multiple asset classes.



# DAILY AND DYNAMIC ASSET ALLOCATION

The Index dynamically rebalances the weightings of the components, on a daily basis.

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# RULES-BASED METHODOLOGY

The Index uses a proprietary rules-based methodology, using trend following.



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# DAILY VOLATILITY CONTROL MECHANISM

The Index targets an annualised realised volatility of 5%, on a daily basis.



The BNP Paribas Multi-Asset Global Diversified Index is based on the successful investment methodology of the BNP Paribas Multi-Asset Diversified Index, created in 2012

CURRENCY

USD

TYPE OF INDEX

**EXCESS RETURN** 

LIVE DATE

26 SEPTEMBER 2022

**BLOOMBERG** 

**BNPIMCD5 INDEX** 

**REUTERS CODE** 

.BNPIMCD5



Please refer to:

multi-asset-globaldiversified.bnpparibas.com

For more information regarding the index.

# **INDEX COMPOSITION**



#### GLOBAL

S&P GSCI Industrial Metals ER Index S&P GSCI Energy ER Index S&P GSCI Gold Index ER Index



#### UNITED STATES •

BNP Paribas US Equity Futures Index BNP Paribas USD 10Y Futures Index



#### EUROPE

BNP Paribas Eurozone Equity Futures Index BNP Paribas EUR 10Y Futures Index



BNP Paribas Japan Equity Futures Index BNP Paribas JPY 10Y Futures Index



CHINA

BNP Paribas China A Connect Equity Futures Index

## STEP-BY-STEP METHODOLOGY



## DIVERSIFICATION

The Index sources its performance from ten index components, which have been selected based on the following principles:



## Different geographical areas

The Index components are representative of four different geographic regions: US, Europe, Japan and China.



#### Use of market benchmarks

The Index components are futures-based indices that track the performance of futures contracts referencing market benchmarks.

Such contracts are usually highly liquid and representative of the overall market movement.



## Components that represent multiple asset classes

The Index components represent a range of generally non-correlated assets including equities, commodities and government bond futures.



# DAILY DYNAMIC ALLOCATION

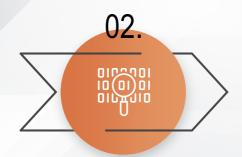
The Index dynamically rebalances the weightings of the components according to a proprietary rule-based methodology using trend following.

This process follows three steps:



#### **Universe Creation**

The allocation process begins by creating a universe of potential portfolios where the components are differently weighted across the board and under weight constraints.



#### **Portfolio Combination**

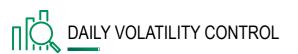
The Index then tests the different portfolio combinations in the universe, considering only those with a long term realised volatility below a certain level.



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#### **Portfolio Selection**

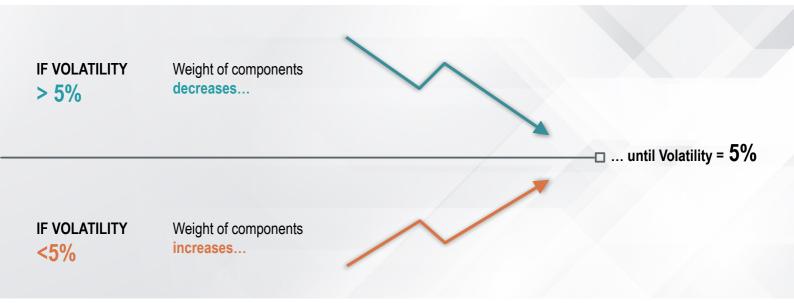
The final portfolio, the Optimal Portfolio, is selected based on a proprietary rule-based methodology that uses trend following principles, meaning that it allocates more weight to recent outperformers and less to recent underperformers.



On a daily basis, the Index targets a Realised Volatility of around 5%, through a volatility control mechanism implemented during the Portfolio Construction. This mechanism utilises a set of rules that seek to manage the short-term volatility of a hypothetical portfolio in changing market conditions

Expected volatility is estimated based on the highest Realised Volatility observed over a period of 21 weekdays, for a hypothetical portfolio formulated with the previously described allocation process.

If the Realised Volatility exceeds the Target Volatility of 5%, the weight of each Index Component is reduced proportionately. If the Realised Volatility is below the Target Volatility, the weight of each Index Component is increased proportionately





Source: Bloomberg, BNP Paribas.. Performance simulations based on historical data from 31 December 1994 to 25 September 2022, historical performance thereafter.

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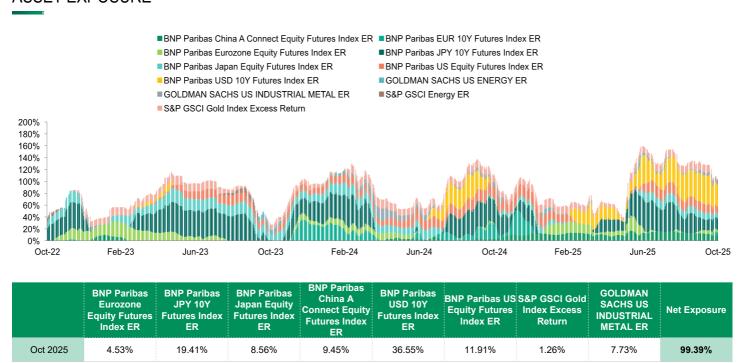


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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2025	0.09%	0.48%	-0.21%	-2.03%	-0.31%	-0.48%	0.29%	3.07%	2.81%	3.17%			6.96%
2024	0.57%	1.77%	2.17%	-1.61%	0.74%	-0.03%	-0.54%	-1.03%	1.27%	-1.80%	-0.10%	-1.41%	-0.11%
2023	2.66%	-0.86%	0.84%	0.54%	0.75%	2.55%	0.27%	-1.36%	-1.25%	-1.93%	1.15%	0.76%	4.07%
2022	-1.07%	2.33%	3.40%	-1.14%	-0.04%	-1.26%	-0.60%	-1.51%	-2.23%	1.69%	0.22%	-2.79%	-3.14%
2021	-0.32%	1.71%	-0.46%	1.33%	0.99%	0.21%	1.78%	-0.33%	-1.66%	0.92%	-2.14%	1.12%	3.10%
2020	0.60%	-3.35%	-3.26%	0.46%	-0.07%	1.61%	5.12%	0.81%	-0.78%	-0.16%	3.84%	1.10%	5.74%
2019	1.32%	1.47%	2.13%	1.26%	-1.42%	3.53%	0.58%	1.97%	-0.34%	0.86%	0.08%	0.78%	12.81%
2018	1.33%	-3.01%	-0.37%	0.69%	0.26%	0.04%	-0.26%	1.12%	1.33%	-3.48%	-0.58%	-0.67%	-3.66%
2017	-0.01%	2.32%	-0.52%	0.53%	1.00%	-1.07%	1.37%	2.60%	-1.11%	3.40%	0.62%	0.69%	10.17%
2016	-0.08%	2.82%	0.52%	0.09%	-0.61%	3.56%	1.53%	-1.57%	0.14%	-1.89%	0.39%	0.60%	5.49%
2015	1.29%	1.61%	1.37%	0.35%	-0.00%	-1.88%	1.18%	-3.34%	-0.45%	0.84%	0.18%	-1.46%	-0.43%
2014	-0.57%	1.55%	-0.35%	0.36%	2.81%	1.33%	-0.71%	1.98%	-0.59%	0.30%	2.77%	1.90%	11.23%
2013	1.00%	1.46%	2.38%	2.74%	-1.38%	-3.32%	1.05%	-0.66%	1.91%	2.06%	1.48%	-0.68%	8.15%
2012	1.94%	1.33%	0.32%	0.84%	-0.63%	0.14%	1.63%	0.64%	0.62%	-0.55%	1.45%	1.41%	9.48%
2011	-0.64%	0.66%	-1.22%	2.10%	0.29%	-1.40%	3.40%	1.51%	-0.67%	0.63%	-0.13%	0.53%	5.06%
2010	-0.92%	1.32%	1.50%	1.38%	-0.29%	1.27%	-0.01%	3.27%	1.07%	0.28%	-1.11%	-0.18%	7.77%
2009	-1.86%	0.28%	0.45%	-0.86%	0.21%	-0.08%	2.17%	0.72%	1.34%	-0.54%	2.97%	-1.13%	3.61%
2008	0.55%	2.44%	0.00%	-1.19%	-0.56%	0.55%	-1.03%	-0.57%	-0.70%	-1.55%	2.47%	1.78%	2.11%
2007	-0.39%	0.43%	-0.75%	1.02%	0.00%	-0.51%	-0.08%	0.70%	2.58%	3.40%	-0.47%	0.13%	6.14%
2006	2.73%	-0.56%	0.78%	1.38%	-1.80%	-0.92%	0.13%	0.79%	0.90%	1.20%	1.99%	0.61%	7.39%
2005	0.14%	0.24%	0.22%	-1.09%	1.96%	2.02%	0.60%	1.76%	0.65%	-1.87%	2.46%	2.22%	9.60%
2004	0.49%	1.98%	0.31%	-2.07%	-0.51%	-0.05%	0.13%	0.31%	2.67%	0.98%	1.11%	-0.08%	5.31%
2003	2.43%	2.03%	-2.87%	1.17%	6.46%	-0.69%	-1.03%	0.97%	0.29%	1.65%	0.02%	3.65%	14.67%

Source: Bloomberg, BNP Paribas. Performance simulations based on historical data from 31 December 1994 to 25 September 2022, historical performance thereafter. Past performance or simulated performance is not an indicator of future performance.

## **ASSET EXPOSURE**



Source: Bloomberg, BNP Paribas. Simulations of end-of-month allocation. Exposure figures that are shown include the daily volatility control and are rounded to the second decimal place.

Currency	Type of index	Live date	Bloomberg code	Reuters code
USD	Excess Return	26 Sep. 2022	BNPIMCD5 Index	.BNPIMCD5

# SELECTED RISKS AND CONSIDERATIONS ASSOCIATED WITH THE INDEX

#### The BNP Paribas Multi Asset Global Diversified Index levels are based on the values of notional assets and liabilities.

The BNP Paribas Multi Asset Global Diversified Index only calculates the exposure to a dynamic, hypothetical portfolio that tracks the excess returns of the components of the BNP Paribas Multi Asset Global Diversified Index ("the Index 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 Multi Asset Global Diversified Index or any products or strategies based partly or wholly on the BNP Paribas Multi Asset Global Diversified Index. You should reach a decision after careful consideration with your advisors.

#### Strategies relying on the levels of the BNP Paribas Multi Asset Global Diversified Index may not be successful.

There is a risk that the rules-based methodology of the BNP Paribas Multi Asset Global Diversified Index does not meet its stated objectives, including meeting its target volatility of 5%, which may result in underperformance of the hypothetical portfolio.

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

The calculation of the BNP Paribas Multi Asset Global Diversified Index employs a mathematical model intended to replicate what is known as a momentum-based investment strategy, which seeks to capitalise 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 BNP Paribas Multi Asset Global Diversified Index is different from a strategy that seeks long-term exposure to a hypothetical portfolio consisting of constant components with fixed weights. Because the level of the BNP Paribas Multi Asset Global Diversified 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 BNP Paribas Multi Asset Global Diversified 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 BNP Paribas Multi Asset Global Diversified 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 BNP Paribas Multi Asset Global Diversified 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 Index Components may reduce the levels of the BNP Paribas Multi Asset Global Diversified Index.

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

#### Legal and regulatory regimes may affect the BNP Paribas Multi Asset Global Diversified Index, its Index Components or its Sub-Components.

The BNP Paribas Multi Asset Global Diversified Index and the 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 Multi Asset Global Diversified Index or the Index Components (or sub-components thereof). Changes to the applicable legal or regulatory regimes may have a negative impact on the BNP Paribas Multi Asset Global Diversified Index level. The Index Components (or sub-components thereof) that are traded on one or more public exchanges are subject to the rules of the relevant exchange.

#### The BNP Paribas Multi Asset Global Diversified Index has Limited Historical Information.

The BNP Paribas Multi Asset Global Diversified Index is a new index, launched on September 26<sup>th</sup> 2022. The performance shown before that date is hypothetical past performance, based on hypothetical back-tested information. This website also contains certain performance data based on back-testing, i.e., calculations of the hypothetical levels of the BNP Paribas Multi Asset Global Diversified Index as if it had actually existed during a defined period of time, and may in certain circumstances contain simulated levels information where the BNP Paribas Multi Asset Global Diversified Index or asset described has recently been established or issued. 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 illustrative only. Actual historical or back-tested past performance does not constitute an indication of future results. The actual performance of the BNP Paribas Multi Asset Global Diversified Index may bear little relation to the hypothetical historical results.

#### The BNP Paribas Multi Asset Global Diversified Index has limited public information.

The BNP Paribas Multi Asset Global Diversified Index is a custom index developed by BNP Paribas, the Index Sponsor. There is limited information relating to the BNP Paribas Multi Asset Global Diversified Index that is publicly available. In addition, publicly available information on the BNP Paribas Multi Asset Global Diversified Index, its methodology and its Equity Futures Indices, Bond Futures Indices and Commodity Indices is limited.

# The BNP Paribas Multi Asset Global Diversified Index's Daily Volatility Control mechanism may reduce the appreciation potential of the BNP Paribas Multi Asset Global Diversified Index and may not equal the target volatility.

The BNP Paribas Multi Asset Global Diversified Index's "volatility control" mechanism allows the BNP Paribas Multi Asset Global Diversified Index to dynamically adjust the level of the hypothetical exposure to the selected portfolio, possibly decreasing its exposure depending on the volatility environment. However, the risk control overlay might limit overall levels of the BNP Paribas Multi Asset Global Diversified Index in rising equity markets and may provide imperfect, limited protection in falling equity markets, particularly against sudden, large equity losses. There can be no assurance that such mechanism will be the most effective way to accurately assess volatility or to predict patterns of volatility. There can also be no assurance that the BNP Paribas Multi Asset Global Diversified Index will achieve its target volatility of 5%.

#### The Closing Levels of the BNP Paribas Multi Asset Global Diversified Index will include the deduction of an Annual Fee.

The closing level of the BNP Paribas Multi Asset Global Diversified Index includes a deduction from the aggregate levels of its constituents of a Maintenance Fee equal to 0.50% per annum. As a result of this deduction, the level of the BNP Paribas Multi Asset Global Diversified Index will trail the level of a hypothetical identical portfolio from which no such amount is deducted.

#### The BNP Paribas Multi Asset Global Diversified Index is an "excess return" index and not a "total 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 realised 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 purchases of such a futures contract (known as the "collateral return"). The Index Components generate "excess returns", meaning the sum of the price return and roll return with respect to the Index Components. As a result, an investment in an instrument linked to the BNP Paribas Multi Asset Global Diversified Index will not generate the same returns that would be obtained from investing directly in future contracts underlying the Index Components because the collateral return is not used in calculating an "excess return" Index.

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The Closing Level of the BNP Paribas Multi Asset Global Diversified Index is net of replication and rebalancing costs.

The Closing Level of the BNP Paribas Multi Asset Global Diversified Index is net of replication and rebalancing costs associated with the BNP Paribas Multi Asset Global Diversified Index. As a result of these costs, the level of the BNP Paribas Multi Asset Global Diversified Index will trail the value of a hypothetical identical portfolio from which no such amount is deducted.

BNP Paribas Arbitrage SNC, an affiliate of the BNP Paribas Multi Asset Global Diversified Index Sponsor, BNP Paribas, is the Calculation Agent and is responsible for calculating the BNP Paribas Multi Asset Global Diversified Index.

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

#### Portions of the BNP Paribas Multi Asset Global Diversified Index may be effectively uninvested and earn no return.

The BNP Paribas Multi Asset Global Diversified Index, on each day on which it is calculated, adjusts its exposure to the Index Components in an attempt to maintain a historical volatility approximately equal to an annualised volatility of 5%. If the aggregate weight of the Index Components is less than 100%, the BNP Paribas Multi Asset Global Diversified Index will decrease exposure to the components. As a result, the BNP Paribas Multi Asset Global Diversified Index may underperform a similar index that provides 100% exposure to the Index Components.

The price, level or value of the Index Components used in the BNP Paribas Multi Asset Global Diversified Index may differ from other publicly available prices.

The levels of the Index Components that are Equity Futures Indices or Bond Futures Indices (the "BNP Paribas 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. It has the trade of the applicable BNP Paribas Component Index. It is price of the underlying futures contract may vary from the volume-weighted average price reflected by the level of the applicable BNP Paribas 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 BNP Paribas Multi Asset Global Diversified 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 BNP Paribas Multi Asset Global Diversified Index may have the effect of skewing allocations among eligible components in the BNP Paribas Multi Asset Global Diversified 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). Index Components that typically have lower volatility may have lower return potential than components that typically have higher volatility.

Moreover, if the BNP Paribas Multi Asset Global Diversified 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 BNP Paribas Multi Asset Global Diversified 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 BNP Paribas Multi Asset Global Diversified Index involves daily rebalancing that is applied to the Index Components by asset type and geographical region. Changes in the value of the Index Components may offset each other.
- . The BNP Paribas Multi Asset Global Diversified Index is subject to risks associated with Global Markets.
- The futures contracts underlying the Index Components are subject to currency exchange risk. The BNP Paribas Multi Asset Global Diversified Index contains a currency hedge 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 BNP Paribas Multi Asset Global Diversified Index.

## IMPORTANT INFORMATION

The methodology of and rules governing the index (the "Index Methodology" and the "Index") are proprietary. None of the sponsor of the Index (the "Index Sponsor"), the index calculation agent (where such party is not also the Index Sponsor, the "Index Calculation Agent") nor, where applicable, the index Investment Advisor (the "Index Investment Advisor") guarantee that there will be no errors or omissions in computing or disseminating the Index.

The Index Methodology is based on certain assumptions, certain pricing models and calculation methods adopted by the Index Sponsor, the Index Calculation Agent and, where applicable, the Index Investment Advisor, and may have certain inherent limitations. Information prepared on the basis of different models, calculation methods or assumptions may yield different results. You have no authority to use or reproduce the Index Methodology in any way, and neither BNP Paribas nor any of its affiliates shall be liable for any loss whatsoever, whether arising directly or indirectly from the use of the Index or Index Methodology or otherwise in connection therewith.

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The Index Methodology embeds certain costs in the strategy which cover amongst other things, friction, replication and repo costs in running the Index. The levels of such costs (if any) may vary over time in accordance with market conditions as determined by the Index Sponsor acting in a commercially reasonable manner.

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#### IMPORTANT INFORMATION

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