



# The Barclays Global MA Index

**John Hancock is pleased to offer Barclays Global MA Indexed Account options** — providing diversification across asset classes and geographic regions and allocating among the components with managed volatility and daily risk control. More specifically, the Barclays Global MA Index is based on a diversified portfolio of **global equity, commodities and fixed income components, while targeting a 7% volatility.**

**The Index has 12 components to provide diversification across asset classes and geographical regions**

## Equities\*\*

Barclays US Tracker ER Index (BXIIUSER)

Barclays US Tech Tracker ER Index (BXIITTER)

Barclays Europe Tracker USD ER Index (BXIITUE)\*

Barclays GERMANY Tracker USD ER Index (BXIIDEUE)\*

Barclays Japan Tracker USD Index (BXIJTUE)\*

Barclays MSCI Emerging Market Tracker ER Index (BXIIMEER)

## Fixed income

Barclays US 5yr Treasury Futures Index (BXIIUS05)

Barclays US 10yr Note Futures Index (BXIIUS10)

Barclays Euro-Bobl Alt Roll Futures in USD (BXIIE05D)\*

Barclays Euro-Bund Alt Roll Futures Index in USD (BXIIE10D)\*

Barclays JGB Alt Roll 10yr Futures ER Index in USD (BXIJTED)\*

## Commodities\*\*

Gold Futures (BCC2GCOP)

\* Non-US-dollar denominated assets have their profits and losses converted to US dollars on a daily basis.

\*\* "Equities" & "Commodities" components are futures indices except prior to 17-Dec-2009, when the "Emerging Markets" component was an ETF.

## Portfolio construction based on Modern Portfolio Theory and momentum investing

2-step optimization  
(Max 150% exposure)

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### 1 The base combination

#### Objective

Maximize long-term returns based on principles of Modern Portfolio Theory

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### 2 The optimal combination

#### Objective

Tilt the weights of the base combination, based on momentum investing to react to short-term trends

## On each business day, Global MA determines an optimal combination of the index components using a two-step process.

**The first step** is a process known as mean variance optimization and is based on the principles of **Modern Portfolio Theory**. Incorporating historical volatilities and correlations of the index components, the mean variance-optimization process eliminates combinations with an estimated volatility greater than 7%, and selects the remaining combination with the highest estimated return potential by assuming a direct relationship between risk and return. This is known as the **“base combination.”**

**The second step** tilts the weights in the base combination by up to 20% in total to reduce exposure to index components with weaker recent performance. This process selects an adjusted combination with the strongest short-term performance momentum subject to the 7% volatility limit. This is called the **“optimal combination.”**

**On a daily basis, the Index checks whether it should rebalance its portfolio to match the optimal combination.**

Rebalance will occur only if the current weights and the optimal weights are different by more than 10% in total for all index components in either the consolidated equities & commodities asset class or the fixed income asset class.

This dynamic-rebalancing approach is designed to avoid unnecessary adjustments to the portfolio when the market is stable, but also allows the Index to rebalance among the components as frequently as daily when market conditions are volatile.

## Volatility control overlay

150% X 150% =  
225% Max Exposure

In addition to dynamically rebalancing the portfolio, the Index adjusts its exposure to the portfolio up or down in an attempt to maintain the 7% volatility target. This exposure can be up to 150%, such that the Index may have up to 225% exposure to the index components.

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**Global Equities, Fixed  
Income & Commodities**

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**2-step Optimization  
to capture: long-term  
volatility and correlation  
short-term trends**

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**Ability to  
rebalance daily**

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**7% volatility  
control**

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The Index is calculated net of running and rebalancing costs for each index component. For more information on these costs, please see the risk factors below.

For liquidity purposes, within the optimal combination all fixed income components have a maximum weight of 50%, while the weight for Barclays US Tracker ER Index (BXIIUSER) is capped at 25%, Barclays US Tech Tracker ER Index (BXIITTER) and Barclays Europe Tracker USD ER Index (BXIITUE) equities at 20%, Barclays GERMANY Tracker USD ER Index (BXIIDEUE) and Barclays Japan Tracker USD Index (BXIIJTUE) at 15%, Barclays MSCI Emerging Market Tracker ER Index (BXIIMEER) at 10%, and Gold Futures (BCC2GCOP) at 20%. The volatility control overlay may increase these weights by up to 1.5x.

## Risk factors

An allocation to one of the Barclays Global MA Indexed Accounts also involves fees, costs and risks. The following is a summary of these fees and costs and certain risks associated with the Index. Clients should consider the following, and consult with their advisors and read any product documentation carefully, before allocating to one of the Indexed Accounts based on the performance of the Index.

The Index strategy may be unsuccessful. Historical volatility may prove to be a poor measure of predicting future returns and future volatility. Similarly, recent performance momentum may be a poor measure of predicting future returns. If either of the above is true, the allocation of underlying index components in the Index may not be optimized and the Index may perform poorly. The volatility control mechanism may not achieve its intended goal, and the Index may not achieve its target volatility of 7%. In addition, the Index may assign up to 225% of total exposure to its underlying assets, because relevant exposure levels determined by daily optimization and volatility control can both be up to 150%. When the Index's exposure to its underlying index components is greater than 100%, any negative performance of the underlying assets will be magnified and the level of the Index may decrease significantly.

Each of the Index components carries two costs that are embedded in the performance of the Index. A running cost ranging from 0.20% to 0.30% per annum depending on the component (except prior to 17-Dec-2009, a floating rate of 3m LIBOR plus 0.30% for the Emerging Markets components) is applicable to the notional exposure of the Index to the component and is deducted daily. Additionally, a rebalancing cost ranging from 0.02% to 0.05% depending on the component is applicable to the change in notional exposure to the component as a result of portfolio rebalancing as well as volatility control, and is deducted on the relevant trading day. These deductions will be included in the daily calculation of the Index level and will reduce performance of the Index, and the Index will underperform similar portfolios from which these fees and costs are not deducted.

The Index is subject to risks associated with rolling futures contracts, including the risk that its underlying indices will replace expiring contracts with higher-priced contracts, which may cause the Index values to fall even if the spot levels of the bonds, commodities or equities underlying the relevant futures contracts are stable or increasing in value.

## Risk factors, continued

The Index may at any time be allocated in only one or a small number of underlying assets, which produce lower returns than an allocation in a more diversified pool of assets.

The Index is subject to risks associated with movements in the exchange rates between the foreign currencies of the assets to which the Index provide exposure relative to the US dollar and may underperform an index that is based on movements of futures contracts without taking currency conversion into account.

Any weight in the portfolio that is not allocated will earn no return. In addition, if the volatility-control mechanism causes exposure to the Index Portfolio to be less than 100%, the difference will not be allocated and will earn no return.

There is a risk that the optimizer software, which is designed to select an optimal portfolio allocation of assets to achieve a target volatility of 7%, might not be able to create a portfolio that meets the 7% target volatility. Additionally, it is possible that the optimizer software may not generate the same solution when operated on different computers.

## For more information, please contact your John Hancock sales representative or call National Sales Support at 888-266-7498, option 2

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