

The MSCI Multi-Asset Class (MAC) Factor Model

The MSCI MAC Factor Model provides high to low granularity in looking at systematic strategy factors through an integrated and consistent framework

Factor based application in multi-factor portfolios provides a deeper lens into the key drivers of risk and return. As portfolios transition from traditional asset class allocation to a factor based allocation process, MSCI's MAC Factor Model can help investors change their allocation process to focus on key exposures across all asset classes in their portfolio.

Key features

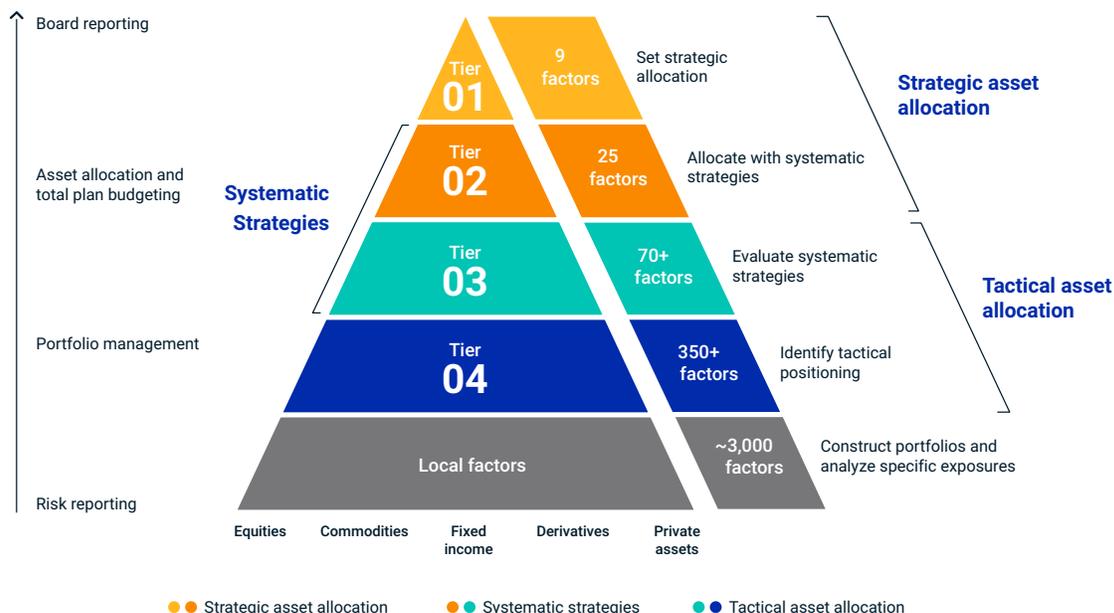
- Supports factor-based asset allocation
- Expands global models, style factors and systematic strategies beyond equities
- Establishes standards across asset classes:
 - Expanding on the integration and private models in BIM
 - Supporting higher-level themes through research and model validation

Benefits

- Provides consistency between asset classes
- Introduces MAC systematic strategies
- Simplifies communication of key exposures, at the appropriate level of granularity
 - Detailed exposures for portfolio managers
 - Core exposures for asset class managers
 - Global exposures for asset allocators

The MSCI Multi-Asset Class Factor Model provides further insight and control into multi or single asset class investing. The tiered structure allows for multiple levels of granularity, providing consistency throughout the investment process.

The MSCI Multi-Asset Class Factor Model



The tiered structure of the MAC Factor Model allows for multiple levels of granularity, providing consistency throughout the investment process. The integration between tiers helps bridge the gap from construction to communication between the board, CIO, and portfolio managers using a common language.

| Tier | Use case |
|--------|---|
| Tier 1 | Set strategic allocation 9 top level factors to communicate and report the key drivers of risk and return. Designed for the board/top level reporting |
| Tier 2 | Allocate with systematic strategies Strategic asset allocation across the 25 Factor Premias. Integrates transition from board view to CIO/CRO to PM |
| Tier 3 | Evaluate Systematic Strategies Review the investment objectives set by managers across multi-asset class portfolios to build portfolios that have active tilts towards targeted investment objectives. Manage concentration and aggregate exposures |
| Tier 4 | Identify Tactical Positioning Provides a deeper view of exposure to industries, countries, rates, real estate, etc. and gives the ability to drill down into granular drivers of risk while maintaining consistency in SAA and reporting at top level |
| Tier 5 | Construct Portfolios and Analyze Specific Exposures Strength of integration and consistency provides unparalleled depth in to asset allocation and portfolio construction |

Tier 1 provides 9 factor groups to help investors set strategic asset allocation and determine total risk. These factor groups also help communicate investment strategies at the board level.



About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit www.msci.com.

The information contained herein (the "Information") may not be reproduced or disseminated in whole or in part without prior written permission from MSCI. The Information may not be used to verify or correct other data, to create indexes, risk models, or analytics, or in connection with issuing, offering, sponsoring, managing or marketing any securities, portfolios, financial products or other investment vehicles. Historical data and analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. None of the Information or MSCI index or other product or service constitutes an offer to buy or sell, or a promotion or recommendation of, any security, financial instrument or product or trading strategy. Further, none of the Information or any MSCI index is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. The Information is provided "as is" and the user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF MSCI INC. OR ANY OF ITS SUBSIDIARIES OR ITS OR THEIR DIRECT OR INDIRECT SUPPLIERS OR ANY THIRD PARTY INVOLVED IN THE MAKING OR COMPILING OF THE INFORMATION (EACH, AN "MSCI PARTY") MAKES ANY WARRANTIES OR REPRESENTATIONS AND, TO THE MAXIMUM EXTENT PERMITTED BY LAW, EACH MSCI PARTY HEREBY EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. WITHOUT LIMITING ANY OF THE FOREGOING AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL ANY OF THE MSCI PARTIES HAVE ANY LIABILITY REGARDING ANY OF THE INFORMATION FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR ANY OTHER DAMAGES EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited.

©2019 MSCI Inc. All rights reserved | CFS0519

