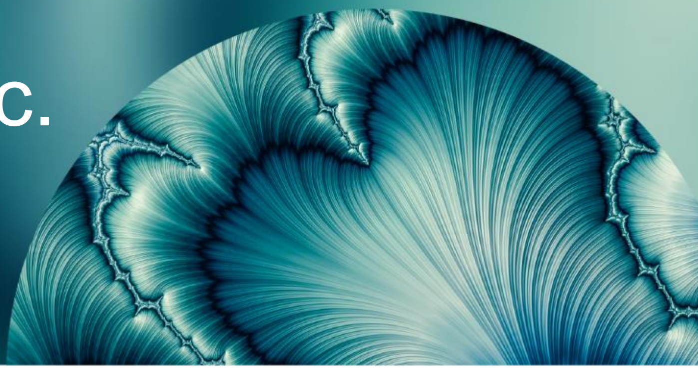
The market is dynamic. Your equity allocation can be too.



Public equity is one of the largest contributors to risk and return within multi-asset portfolios.[1] Asset owners are tasked with weighing the risks of passive allocations with the costs of active management. An innovative approach to navigating markets can offer the best of both worlds.

Profile

FTSE Russell and Invesco have partnered since 2017 on the FTSE Invesco Dynamic Multifactor Index series. These indices seek to navigate the uncertainty of the business cycle and are available within public equities, across regions and capitalization sizes.

Objectives

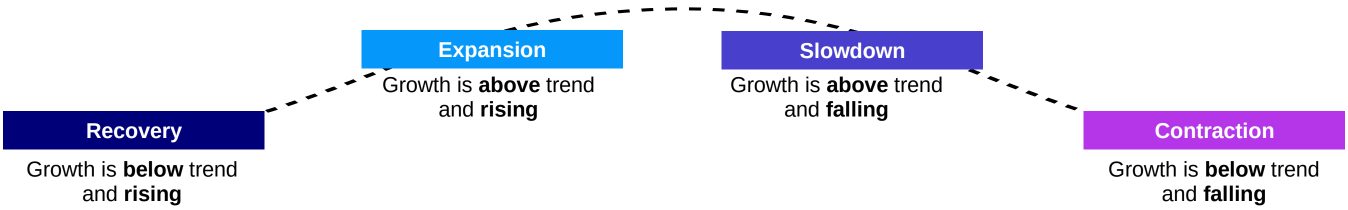
The index series offers a dynamic and diversified allocation to equity factors based on their underlying cyclicality and has outperformed various global equity markets throughout the business cycle.

Solution

To accomplish this outperformance, the indexes rely on two proprietary investment processes: Invesco's top-down macro framework and FTSE Russell's bottom-up factor index expertise.

The **Dynamic Multifactor (DMF)** index series appeals to a wide-range of investors given the rules-based approach, transparency of the investment process and has had success in delivering on its investment objectives, which we highlight in this paper.

Macro regimes framework



Factor tilts by macro regime

Recovery	Expansion	Slowdown	Contraction
Size ◄	**Size** ◄	Size	Size
Value ◄	**Value** ◄	Value	Value
Momentum	**Momentum** ◄	Momentum	**Momentum** ◄
Low volatility	Low volatility	**Low volatility** ◄	**Low volatility** ◄
Quality	Quality	**Quality** ◄	**Quality** ◄

[1] [1] Source: Invesco Vision, Bloomberg, as of 11/30/23. Assuming a portfolio contains 60% global equities and 40% global bonds, as represented by the MSCI ACWI index and Bloomberg Global Aggregate Bond index, equities contributed 83% of the portfolio's standard deviation and 100% of portfolio's return for the 10-year period ending 11/30/23.

1. What are the investment objectives of the DMF index series?

Dynamic Multifactor (DMF) is a rules-based equity index series that dynamically allocates across equity factors according to Invesco's identified macro-economic regime signal. The objective of DMF is to **outperform the market capitalization-weighted index over the long term** with **similar levels of volatility** by adapting to changes in the business cycle using proprietary indicators.

2. Why consider dynamic factor investing versus a more traditional, static approach?

Global markets are dynamic, adjusting to new information on future growth expectations, earnings revisions, industry innovations and productivity. If markets are dynamic, why shouldn't your equity allocations be too?

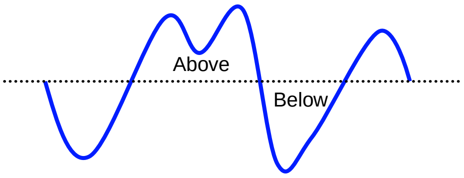
Having the appropriate tools and framework to identify when and how to successfully shift allocations is a key challenge faced when implementing tactical portfolio management. The DMF index series relies on Invesco's macroeconomic regime identification model to shift allocations to underlying FTSE Russell's multifactor indexes. The results have been compelling across regions and market-caps and have offered outperformance relative to static and market-cap indexes, as well as limiting downside-capture.

3. How does Invesco determine where we are in the macro cycle?

Invesco estimates monthly the prevailing macro regime using two equally weighted proprietary signals: a regional leading economic indicator (LEI) and a single, global risk appetite cycle indicator (GRACI).

The inclusion of a risk appetite indicator reflects the fact that markets tend to lead the economy. As such, incorporating a real-time indicator of asset pricing (GRACI) in the model allows the index to take a more timely, forward-looking view of economic growth expectations. Please refer to the citations in the appendix for further literature on the methodologies implemented in the index.

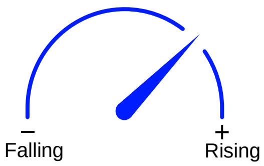
Leading Economic Indicator (LEI)



Above/Below long-term trend

Forward-looking measure of the level of economic activity

Global Risk Appetite Cycle Indicator (GRACI)



Rising/Falling growth

Measure of the market's risk sentiment, strongly correlated with changes in economic growth expectations

4. What are the five factors selected and how does DMF allocate to them?

The five FTSE Russell factors – allocated to value, small size, momentum, quality, and low volatility – are supported by a body of academic research and empirical evidence across different geographies and time periods. Although additional factors have been identified, these five have historically explained a large proportion of stock returns.

Depending on the Invesco macro regime signal, the index allocates to one of four predetermined combinations of factors. For example, in an early stage of economic recovery, DMF will overweight securities in the benchmark index which score highly on size and value factors – both factors which carry pro-cyclical, fundamental characteristics. In an economic slowdown, DMF will overweight securities with more defensive characteristics found in quality and low volatility factors.

A key philosophy of FTSE Russell's bottom-up factor index weighting methodology seeks to reward securities that have strong exposure to all the desired factors, not just one or the other.

Utilizing FTSE Russell's innovative 'Tilt-Tilt' multi-factor methodology, the underlying regime-driven multi-factor indexes achieve greater factor exposure in a more controlled manner, while balancing concerns around diversification, liquidity, and capacity. This approach targets approximately the same exposures of single factor indexes, without the dilutive effects of other methods. Additionally, the magnitude of tilt(s) can be adjusted to address implementation concerns such as liquidity, capacity, diversification, and turnover.

5. How does DMF utilize and implement factors differently from traditional factor strategies?

Invesco and FTSE Russell believe there is long-term excess return potential to be earned from investing in certain equity factors which are backed by academic research and empirical evidence (e.g., value, size, quality, low volatility and momentum).

Factors can also be used efficiently to 'bucket' or segment securities based on their shared risk characteristics. This taxonomy is particularly useful when seeking to express views on market cyclicality, paving the way for a rules-based approach to dynamic equity allocations. In an economic slowdown, for example, investors have been rewarded for investing in companies with stronger balance sheets and lower volatility of returns. As such, DMF tilts toward two types of factor exposures – quality and low volatility – similar to how a macro-driven, active equity manager might approach stock selection, however DMF's rules-based approach is transparent and cost-effective.

Lastly, DMF is tilting towards multiple factors at any given time, rather than 'putting all our eggs in one basket'. Many factor strategies concentrate exposure to the desired factor (or factors) while hedging other metrics such as beta and sector exposure, so they are in line with those of the benchmark. Deviations in DMF's sector and market exposures should be considered a by-product of the targeted factor exposures, allowing the index to align to the market's growth expectations.

6. The success of factor timing has seen mixed results – how has this index been successful?

DMF tilts or overweights the factors expected to outperform, differentiating from 'timing' where allocators may look to neutralize unintended factors exposure, which may arise as factors are partially correlated. DMF's approach aims to provide diversified exposure to multiple factors at all stages of the economic cycle.

In short, DMF is not a 'horse race' that aims to pick the winning factor or factors. Instead, the index is overweighting the desired factors, while allowing residual exposure to unintended factors as a by-product. Further, the indexes are always fully invested in equity securities and does not rely on cash exposures to increase or decrease risk.

7. How can a rules-based investment process complement fundamental management?

The ability to reduce portfolio costs within public equity allocations without sacrificing excess return potential is a key benefit of DMF relative to fundamental equity strategies.

While most fundamental equity managers seek to generate alpha through bottom-up stock selection, DMF's model-driven approach provides differentiated sources of alpha as evidenced by the low correlation of excess factor returns.[2]

Relative to concentrated stock indices, DMF offers diversified exposure. Depending on the identified macro regime, the Russell 1000 Invesco Dynamic Multifactor index will allocate to between 200 and 800 stocks.

And finally, the rules-based process allows for transparency into positioning and performance, allowing for timely reporting to committees and investors.

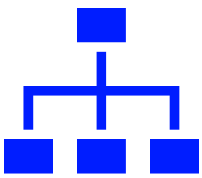
8. How do FTSE Russell and Invesco work together to deliver this to investors?

Our two firms work in partnership to support our clients in delivering on DMF's investment objectives.

Invesco's proprietary forward-looking macro regime framework guides DMF's factor allocations which are derived from FTSE Russell's global factor and index expertise. This top-down and bottom-up process provide a differentiated source of risk and return to the marketplace.

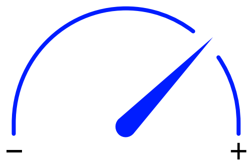
Diversified, strong factor exposure

Leverage **FTSE Russell's leading index capabilities:** factor research, security weighting and index governance



Proprietary macro regime indicators

Forward-looking signals guide dynamic factor allocations given their cyclical properties



The Greek philosopher Heraclitus said: "The only constant in life is change". Consistent with this philosophy, DMF adapts dynamically to changing market environments to offer an innovative, transparent, risk-controlled and cost-effective solution to investing in public equities.

[2] "Dynamic Multifactor Strategies – A Macro Regime Approach" Parts 1 and 2, by Alessio de Longis, CFA and Mo Haghbin, CFA, CAIA

Appendix

Invesco Dynamic Multifactor Indices

Regional performance as of December 31, 2023

Returns (%)	YTD	1-year	3-year	5-year	2023	2022	2021	2020	2019	Inception Date
Russell 1000 Invesco Dynamic Multifactor Index	**21.86**	**21.86**	**10.84**	**17.53**	**21.86**	**-13.57**	**29.28**	**20.92**	**36.19**	**10/13/2017**
Russell 1000 Comprehensive Factor Index	14.88	14.88	9.08	12.65	14.88	-10.92	26.81	8.43	28.93	6/29/2001
Russell 1000 Index	26.53	26.53	8.97	15.52	26.53	-19.13	26.45	20.96	31.43	12/31/1978
Russell 2000 Invesco Dynamic Multifactor Index	**16.04**	**16.04**	**7.63**	**12.89**	**16.04**	**-16.89**	**29.27**	**15.21**	**27.62**	**10/13/2017**
Russell 2000 Comprehensive Factor Index	15.43	15.43	8.51	9.64	15.43	-13.35	27.74	2.47	21.01	6/22/2007
Russell 2000 Index	16.93	16.93	2.22	9.97	16.93	-20.44	14.82	19.96	25.52	1/1/1984
FTSE Developed ex US Invesco Dynamic Multifactor Index	**25.71**	**25.71**	**7.32**	**—**	**25.71**	**-15.65**	**17.70**	**—**	**—**	**8/17/2020**
FTSE Developed ex US Comprehensive Factor Index	17.52	17.52	3.74	—	17.52	-16.53	10.10	—	—	9/21/2001
FTSE Developed ex US Index	18.06	18.06	3.58	—	18.06	-14.59	11.80	—	—	9/22/2003
FTSE Emerging Invesco Dynamic Multifactor Index	**18.77**	**18.77**	**—**	**—**	**18.77**	**-13.48**	**—**	**—**	**—**	**1/29/2021**
FTSE Emerging Comprehensive Factor Index	22.04	22.04	—	—	22.04	-7.33	—	—	—	9/21/2001
FTSE Emerging Index	8.64	8.64	—	—	8.64	-16.91	—	—	—	12/29/2000

Risk (%) – Trailing 3-year statistics	Std Dev	Tracking Error	Up Capture Ratio	Down Capture Ratio
Russell 1000 Invesco Dynamic Multifactor	18.16	6.35	100.26	92.63
Russell 1000 Comprehensive Factor Index	17.47	5.42	92.25	89.15
Russell 1000 Index	17.67	--	100	100
Russell 2000 Invesco Dynamic Multifactor	20.8	4.83	109.38	92.17
Russell 2000 Comprehensive Factor Index	19.91	5.44	104.68	84.59
Russell 2000 Index	21.41	--	100	100
FTSE Developed ex US Invesco Dynamic Multifactor	17.79	4.62	108.86	94.94
FTSE Developed ex US Comprehensive Factor Index	15.96	3.16	87.59	91.86
FTSE Developed ex US Index	17.03	--	100	100
FTSE Emerging Invesco Dynamic Multifactor**	--	--	--	--
FTSE Emerging Comprehensive Factor Index	--	--	--	--
FTSE Emerging Index	--	--	--	--

Source: Morningstar, data as of 12/31/2023. **Past performance does not guarantee future results**. Performance for periods greater than 1-year are annualized. Index returns do not reflect payment of any sales charges or fees. See the appendix for additional back-tested performance notes.

Past performance is not a guarantee of future results.

For more information on the Invesco Solutions Tactical Asset Allocation (TAA) process covering Invesco's dynamic approach to factors, sectors, regions, and asset classes, please review the following white papers:

– "Dynamic Asset Allocation through the Business Cycle", by Alessio de Longis, CFA
– "Market Sentiment and the Business Cycle", by Alessio de Longis, CFA
– "Dynamic Multifactor Strategies – A Macro Regime Approach" Parts 1 and 2, by Alessio de Longis, CFA and Mo Haghbin, CFA, CAIA

Regional LEIs equally weight economic variables from the most cyclical and leading parts of the economy. LEIs seek to predict whether growth will be above or below its long-term trend in the medium term. For more details, see "Dynamic Asset Allocation and the Business Cycle" (de Longis, 2019).

GRACI measures the incremental return received by investors, on average, for an incremental unit of risk taken in global financial markets. This signal seeks to extract market expectations of future changes in economic growth to determine whether growth is likely to accelerate or decelerate. Global risk appetite has a strong and statistically significant correlation with the growth cycle and tends to lead turning points in global leading economic indicators by 2-3 months. For more details, see "Market Sentiment and the Business Cycle" (de Longis and Ellis, 2019).

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To learn more, visit lseg.com/ftse-russell; email info@ftserussell.com; or call your regional Client Service team office:

EMEA +44 (0) 20 7866 1810

North America +1 877 503 6437

Asia-Pacific

Hong Kong +852 2164 3333

Sydney +61 (0) 2 7228 5659

Tokyo +81 3 6441 1430

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