

RESEARCH

Dimensional Models: Low Turnover plus Active Implementation

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KEY TAKEAWAYS

- Dimensional Wealth Models apply rigorous theoretical and empirical research across an investor's portfolio.
- Fund allocations at the model level typically remain consistent, enabling cost- and tax-efficient implementation.
- An active implementation approach at the fund level allows for incorporating current market information to target higher expected returns.

The Dimensional Wealth Models, launched on March 31, 2020, are strategic asset allocation models composed of Dimensional funds and are designed to put rigorous theoretical and empirical research to work across an investor's portfolio.

By design, the models aim to have low turnover in top-level model weights, allowing for cost- and tax-efficient implementation.¹

Does the lack of high turnover at the top level mean lack of active implementation at the fund level? Not at all. The Dimensional funds that make up the Wealth Models are managed daily to incorporate real-time market information and systematically pursue higher expected returns while managing risks and controlling costs.

Consider the fixed income sleeve of the Core Wealth Models. Since launch at March-end 2020, the target weights of the fixed income components have not changed. Yet fixed income markets have changed quite a bit, as illustrated by rising interest rates and a period still ongoing during which the US yield curve has inverted. Consistent with a daily

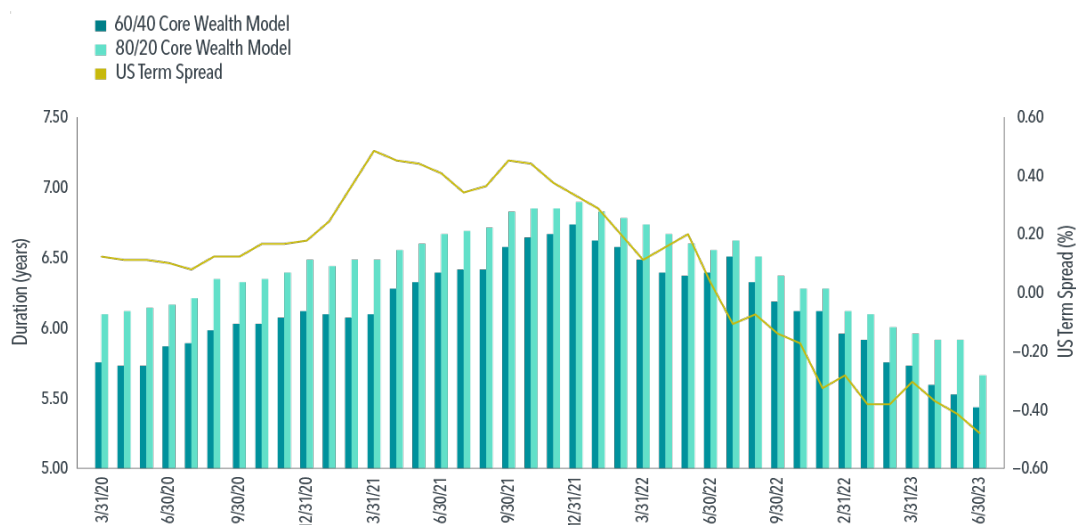
implementation approach, the funds that compose these models have changed to incorporate updated information in global fixed income markets.

In particular, when yield curves are upwardly sloped and term spreads are wide, Dimensional may extend the average duration of a fund due to larger expected term premiums. When yield curves are flat or inverted and term spreads are narrow, Dimensional may shorten the duration due to lower expected term premiums.

We see this pattern in **Exhibit 1**, where we focus on the 60/40 and 80/20 Core Wealth Models to illustrate. (These models hold 60% and 80% in equities, and 40% and 20% in fixed income, respectively.) Overall, the average duration of the 80/20 allocation is higher than that of the 60/40 allocation, consistent with higher risk tolerance and growth-of-wealth objectives typical of investors in more equity-heavy models.² We plot the weighted average duration of the fixed income components of the Core 60/40 and 80/20 Wealth Models against the US term spread, as defined by the difference in yields of US government intermediate bonds vs. US government 1–3 year bonds, from March 31, 2020, through June 30, 2023. The US term spread rose from 12 basis points (bps) up to 49 bps in March 2021, when the yield curve was steeply upward sloping, and then trended downward as the curve flattened and inverted, landing at –48 bps as of June 30, 2023.

The average duration of the Wealth Models has followed a similar pattern, as the underlying fixed income funds dynamically adjusted their duration exposure over time. For both models, the average duration increased as term spreads widened; as term spreads narrowed, the duration shortened.

Exhibit 1
Average Duration of
Core Wealth Models
and US Term Spread,
March 31, 2020–June
30, 2023



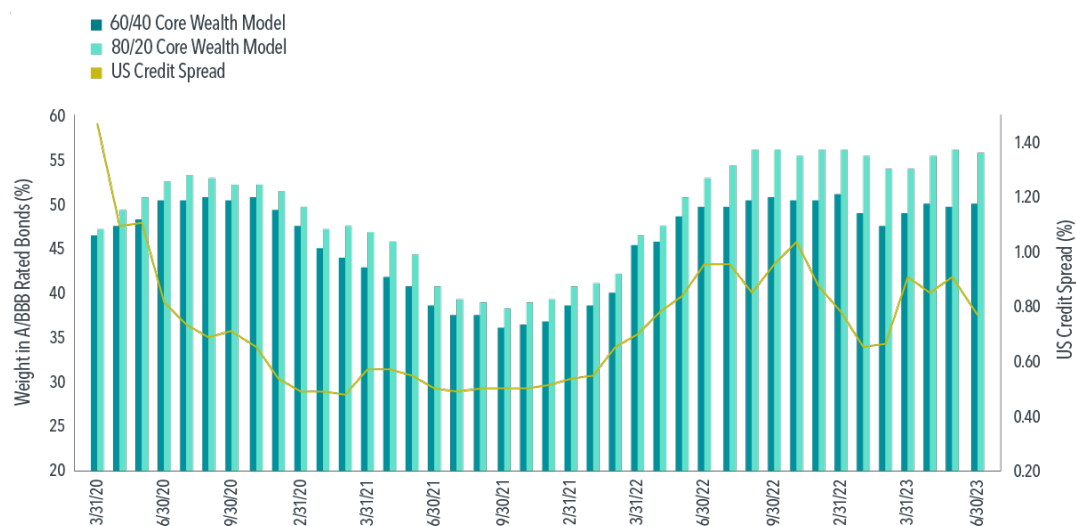
Holdings are subject to change. Duration represents the weighted average duration of the fixed income components of the Dimensional Core 60/40 Wealth Model and the Dimensional Core 80/20 Wealth Model. US Gov Intermediate vs US Gov 1-3 year. Term spread is measured as the difference in yield between the US government intermediate and US government 1-3 year subindices of Bloomberg US Government Index.

Similarly, Dimensional can dynamically vary the credit exposure of the fixed income strategies to capture the reliable relation between credit spreads and credit premiums.

Exhibit 2 plots the weighted average portion of the fixed income sleeve of the models in A/BBB rated bonds against the US credit spread, as measured by the difference in yield between US intermediate A/BBB rated bonds vs. US intermediate AAA/AA rated bonds, from March 31, 2020, through June 30, 2023. Following a spike in credit spreads in March 2020 around the COVID-19 crisis, both the credit spread and weight in A/BBB rated bonds generally declined until mid-2021, and then slowly increased until mid-2022.

Exhibit 2

Weight in A/BBB Rated Bonds of Core Wealth Models and US Credit Spread, March 31, 2020–June 30, 2023



Holdings are subject to change. Weight in A/BBB bonds represents the weighted average portion of the fixed income components of the Dimensional Core 60/40 Wealth Model and the Dimensional Core 80/20 Wealth Model. Credit spread is measured by the difference in yield between US intermediate A/BBB rated bonds vs. US intermediate AAA/AA rated bonds, based on securities in the universe of Bloomberg US Aggregate index; includes 1–10 year corporate AAA-BBB bonds. Model weights as of September 30, 2023, are in the Appendix.

The changes in fixed income characteristics over time reflect an active approach to implementation, incorporating real-time information in markets to target higher expected returns. And, because this approach to implementation happens within the model components themselves, we do not need to adjust fund allocations at the model level.

Dimensional's systematic active approach also applies to equities, where we target higher expected returns by pursuing the size, value, and profitability premiums. Research has not found compelling evidence for timing equity premiums, so we maintain a steady and balanced focus on the premiums in our models.³ But staying consistently focused on the reliable drivers of higher expected returns requires incremental rebalancing within the equity strategies.

As the characteristics of a stock change, its expected return also changes. Our daily implementation process allows us to take this into consideration. One way to see that is through the strategies' sector allocations, which change over time depending on how the size, value, and profitability characteristics of the different sectors within a country evolve. If many securities in a sector exhibit higher expected return characteristics (lower

market capitalization, lower relative prices, and higher profitability), our emphasis on these securities will result in a limited overweight in that sector relative to its natural market weight in the size-eligible universe. And, if many stocks in a sector exhibit low expected return characteristics relative to the market, we will underweight securities in that sector. The rebalancing across sectors and industries happens seamlessly within the equity portfolios and does not require any model-level turnover.

By way of example, consider the two largest component fund positions in the Core Plus Wealth Models: US High Relative Profitability Portfolio and US Vector Equity Portfolio.

Exhibit 3 presents the sector weights in both portfolios relative to the market at the time of model inception, March 31, 2020, and, more recently, as of June 30, 2023. Sector weights in the US High Relative Profitability Portfolio are shown relative to the Russell 1000 Index; for the US Vector Equity Portfolio, the Russell 3000 Index is the comparable universe.

The US High Relative Profitability Portfolio is shown in Panel A. In March 2020, financials were less profitable relative to other companies in other sectors, which led to an 8.5-percentage-point underweight of that sector in the high-profitability strategy. As the profitability ranking of financials in the cross section improved over time, the underweight dropped to 2.5 percentage points as of June 30, 2023.

Within the US Vector Equity Portfolio in Panel B, the relative weight to financials fell from an overweight of 12.4 percentage points to an overweight of 8.0 percentage points, as the book-to-market ratio of financials decreased (financial companies exhibited higher relative prices) over the period. The changes in sector allocations happened all within the funds themselves and did not require any rebalancing at the model level.

Exhibit 3

Then and Now: Relative Sector Weights vs. Market

Panel A: US High Relative
Profitability Portfolio vs.
Russell 1000 Index



Panel B: US Vector Equity Portfolio vs. Russell 3000 Index



Data are based on Global Industry Classification Standard (GICS) sector classifications. The US High Relative Profitability Portfolio is shown relative to the Russell 1000 Index, the portfolio's prospectus benchmark. The US Vector Equity Portfolio is shown relative to the Russell 3000 Index, the portfolio's prospectus benchmark.

These outcomes highlight the value of integrating a strategic approach to asset allocation at the model level with a daily implementation approach at the fund level. For investors, our daily process helps to ensure our models maintain a consistent focus on securities with higher expected returns and add value through daily consideration of real-time market information. For advisors, our strategic approach makes model management simpler, reducing the level of trading needed to track the models and making them easier to explain to investors.

Appendix

Dimensional Core Wealth Models: Weights as of September 30, 2023							
Core Wealth Models	Ticker	0/100	20/80	40/60	60/40	80/20	100/0
Equity		0.00%	20.00%	40.00%	60.00%	80.00%	100.00%
US Core Equity 1 Portfolio—Institutional Class	DFEOX		6.80%	13.60%	21.00%	28.00%	35.00%
US Core Equity 2 Portfolio—Institutional Class	DFQTX		6.80%	13.60%	21.00%	28.00%	35.00%
International Core Equity Portfolio—Institutional Class	DFIEX		4.20%	8.40%	12.00%	16.00%	20.00%
Emerging Markets Core Equity Portfolio—Institutional Class	DFCEX		1.60%	3.20%	4.80%	6.40%	8.00%
Global Real Estate Securities Portfolio	DFGEX		0.60%	1.20%	1.20%	1.60%	2.00%
Fixed Income		100.00%	80.00%	60.00%	40.00%	20.00%	0.00%
Two-Year Global Fixed Income Portfolio—Institutional Class	DFGFX	40.00%	20.00%				
Short-Duration Real Return Portfolio	DFAIX	40.00%	20.00%				
Short-Term Extended Quality Portfolio	DFEQX	20.00%	20.00%	20.00%			
Five-Year Global Fixed Income Portfolio—Institutional Class	DFGBX		10.00%	20.00%			
Investment Grade Portfolio	DFAPX		10.00%	20.00%	40.00%	10.00%	
Global Core Plus Fixed Income Portfolio	DGCFX					10.00%	
Total		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Dimensional Core Plus Wealth Models: Weights as of September 30, 2023							
Core Plus Wealth Models	Ticker	0/100	20/80	40/60	60/40	80/20	100/0
Equity		0.00%	20.00%	40.00%	60.00%	80.00%	100.00%
US Core Equity 2 Portfolio	DFQTX		9.06%	18.14%	28.40%	37.86%	47.34%
US Vector Equity Portfolio	DFVEX		2.27%	4.53%	6.80%	9.07%	11.33%
US High Relative Profitability Portfolio	DURPX		2.27%	4.53%	6.80%	9.07%	11.33%
International Core Equity Portfolio	DFIEX		2.52%	5.04%	6.96%	9.28%	11.60%
International Vector Equity Portfolio	DFVQX		0.84%	1.68%	2.52%	3.36%	4.20%
International High Relative Profitability Portfolio	DIHRX		0.84%	1.68%	2.52%	3.36%	4.20%
Emerging Markets Core Equity Portfolio (I)	DFCEX		0.80%	1.60%	2.40%	3.20%	4.00%
Emerging Markets Value Portfolio (I)	DFEVX		0.80%	1.60%	2.40%	3.20%	4.00%
Global Real Estate Securities Portfolio	DFGEX		0.60%	1.20%	1.20%	1.60%	2.00%
Fixed Income		100.00%	80.00%	60.00%	40.00%	20.00%	0.00%
Two-Year Global Fixed Income Portfolio	DFGFX	20.00%					
Short-Duration Real Return Portfolio	DFAIX	20.00%					
Selectively Hedged Global Fixed Portfolio	DFSHX	40.00%	30.00%				
Five-Year Global Fixed Income Portfolio	DFGBX	20.00%	20.00%	20.00%			
Targeted Credit Portfolio	DTCPX		10.00%	20.00%			
Investment Grade Portfolio	DFAPX		20.00%	20.00%	20.00%		
Global Core Plus Fixed Income Portfolio	DGCFX				20.00%	20.00%	
Total		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Credit premium: The return difference between bonds of similar maturity but different credit quality.

Expected returns: The percentage increase in value a person may anticipate from an investment based on the level of risk associated with the investment, calculated as the mean value of the probability distribution of possible returns.

Term premium: The return difference between bonds with different maturities but similar credit quality.

Term spread: The yield difference between bonds with different maturities but similar credit quality.

Turnover: Measures the portion of securities in a portfolio that are bought and sold over a period of time.

Yield curve: A graph that plots the interest rates at a specific point in time of bonds with similar credit quality but different maturity dates.

1. For example, average annual one-way turnover for each allocation in the Dimensional Core Wealth Models from March 31, 2020, through June 30, 2023, was 1.3% for the 0/100; 5.5% for the 20/80; 7.8% for the 40/60; 7.9% for the 60/40; 6.2% for the 80/20; and 4.3% for the 100/0. The allocations are listed by their split between equity and fixed income. Turnover reflects quarterly rebalancing back to the target weight. Actual turnover of investor accounts will vary based on trading activity, including rebalancing and cash flows.

2. For more, see Kaitlin Hendrix and Matthew Wicker, "[Making Fixed Income More Flexible When Targeting Your Investment Goals](#)," *Insights* (blog), Dimensional Fund Advisors, February 23, 2023.

3. For example, see Wei Dai and Audrey Dong, "[Another Look at Timing the Equity Premiums](#)" (white paper, Dimensional Fund Advisors, October 2023).

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