DYNAMIC PLANNER™
ENSURING INVESTMENT SUITABILITY

Vanguard
Risk Profile Report

May, 2021

Contents

Executive summary

Dynamic Planner has reviewed and profiled 3 solutions offered by Vanguard within the risk profiles used on the Dynamic Planner platform.

The main objective of the Dynamic Planner risk profiles, and fund risk profiling service is to provide financial advisers and their clients with a meaningful measure of the long-term investment risk of fund strategies and a mechanism for selecting solutions appropriate for investor risk appetites and capacity for risk.

The profiles which Dynamic Planner has assigned to the solutions are set out in Table 1.

Fund	Assigned risk profile
LifeTarget Defensive Model Portfolio	3
LifeTarget Cautious Model Portfolio	4
LifeTarget Moderate Model Portfolio	5

Table 1: Risk profiles

The information contained in this report supplements methodologies used on the Platform. The report should be used in the context of these methodologies and advice provided on the Platform and not in isolation.

Introduction

This report was commissioned by Vanguard, who contracted DP to assess the appropriate risk profiles for some solutions within the risk profiles used in the Dynamic Planner platform. The following solutions are reviewed in this report:

- LifeTarget Defensive Model Portfolio
- LifeTarget Cautious Model Portfolio
- LifeTarget Moderate Model Portfolio

The profiles provided in this report are based on Dynamic Planner's Q1 2021 capital market assumptions, which are discussed in appendix A. The risk bands based on Dynamic Portfolio's assumptions are set out in appendix B.

Dynamic Portfolio provides this analysis on the understanding that investors will access the solutions through a regulated advice process. The recommendation on whether or not to include these solutions in an investor's portfolio and the amount to include should be made by advisers with the necessary Financial Conduct Authority permission to give advice on investments. Dynamic Portfolio accepts no liability in respect of any advice given to investors relating to investment strategy or the purchase of specific products.

The analysis in this report has been based on data and information provided by Vanguard and other third parties as set out in the appendices. Data received has been assumed by Dynamic Planner to be correct as of the date of this report.

The following section sets out the results of our analysis and subsequent sections set out the methodology and assumptions in more detail.

Investment objectives

A summary of each solution‘s investment objectives is set out below.

LifeTarget Defensive Model Portfolio

- The Vanguard LifeTarget Defensive Model Portfolio is designed to maximize an investor’s risk-adjusted return while keeping the expected return above the minimum return target of 2%, annualised over rolling 5-year time periods. The minimum long term return targets are not guaranteed and are subject to the performance of the bonds and equities in which the model invests.
- When investing in a LifeTarget Model Portfolio an investor must be prepared to put their capital at risk. It is therefore important that an adviser considers each client's attitude to risk and capacity for loss before investing.
- The LifeTarget Defensive Model Portfolio aims to achieve at least its minimum target return over the long term by investing in a combination of equities, fixed income, and cash.
- In order to provide a more defensive risk profile, this model portfolio tends to hold mainly fixed income assets, with limited exposure to equities.
- This model portfolio will generally maintain an equity position of between 15% and 25%.

LifeTarget Cautious Model Portfolio

- The Vanguard LifeTarget Cautious Model Portfolio is designed to maximize an investor’s risk-adjusted return while keeping the expected return above the minimum return target of 3%, annualised over rolling 5-year time periods. The minimum long term return targets are not guaranteed and are subject to the performance of the bonds and equities in which the model invests.
- When investing in a LifeTarget Model Portfolio an investor must be prepared to put their capital at risk. It is therefore important that an adviser considers each client's attitude to risk and capacity for loss before investing.
- The LifeTarget Cautious Model Portfolio aims to achieve at least its minimum target return over the long term by investing in a combination of equities, fixed income, and cash.
- In order to provide a more defensive risk profile, this model portfolio tends to hold mainly fixed income assets, with limited exposure to equities.
- This model portfolio will generally maintain an equity position of between 25% and 50%.

LifeTarget Moderate Model Portfolio

- The Vanguard LifeTarget Cautious Model Portfolio is designed to maximize an investor's risk-adjusted return while keeping the expected return above the minimum return target of 4%, annualised over rolling 5-year time periods. The minimum long term return targets are not guaranteed and are subject to the performance of the bonds and equities in which the model invests.
- When investing in a LifeTarget Model Portfolio an investor must be prepared to put their capital at risk. It is therefore important that an adviser considers each client's attitude to risk and capacity for loss before investing.
- The LifeTarget Moderate Model Portfolio aims to achieve at least its minimum target return over the long term by investing in a combination of equities, fixed income, and cash.
- In order to provide a more defensive risk profile, this model portfolio tends to hold mainly fixed income assets, with limited exposure to equities.
- This model portfolio will generally maintain an equity position of between 40% and 65%.

Analysis and methodology

One of the key tasks for an investor is to determine how much investment risk to take on. This decision will depend on psychological, financial and other factors. The investor will want to maximise the reward for taking on this risk through the selection of optimal weights for each asset category included in the investment portfolio.

DP's asset allocation methodology is based on the principles of modern portfolio theory. The risk profiles provided by DP are risk profiles of the long-term asset allocations adopted for a solution. The actual riskiness over the long term will depend on, among other things, the level of flexibility in the manager's mandate and how far any deviations from the long-term position are and for how long.

The measure of risk DP has used for each solution is the estimated volatility as determined using the solution's internal asset allocations along with the estimates of the returns, volatilities and correlations of the DP primary asset classes. The analysis assumes that the actual holdings in each asset class can be broadly represented by the benchmark adopted for that asset.

The investment assumptions used in this review are those set by DP at the start of the first financial quarter of 2020. Risk bands based on DP's assumptions (as set out in appendix B) were used to ensure that the profiles assigned to each solution are consistent with profiles and practices adopted within the implementation of the Dynamic Planner platform. This ensures that the profiles can be used with outputs from psychometric risk profiling instruments used within the Dynamic Planner platform.

For the purposes of constructing the efficient frontier, estimating return distributions and profiling solutions, DP splits the investment universe into a range of asset classes.

For each of these asset classes, DP periodically reviews the appropriate set of investment assumptions for forecasting future returns and risk distributions. The assumptions are derived from historical and market data at each review date. Appendix A provides a summary of the methodology used to derive the investment planning assumptions used on the Dynamic Planner platform. Further details can be found in DP's Capital Market Assumptions report.

Results

The risk profiles assigned to the solutions are based on the tactical asset allocations as provided by the manager.

Analysis of asset allocations

Since the solution has been launched in March, 2021, Vanguard provided us with the underlying holdings of the solutions for February, 2021 for all the solutions. We have mapped these underlying holdings to our asset classes and calculated the expected volatilities using our Dynamic Planner assumptions. These are summarised in the table below.

Fund	Risk boundaries based on tactical holdings
LifeTarget Defensive	3
LifeTarget Cautious	4
LifeTarget Moderate	5

Table 2: Tactical asset allocation positions

Figure 1 shows each allocation plotted on the risk-reward spectrum. We also show the location of the asset allocations for each Risk profile. The vertical gridlines indicate the boundaries of the Dynamic Planner profiles.

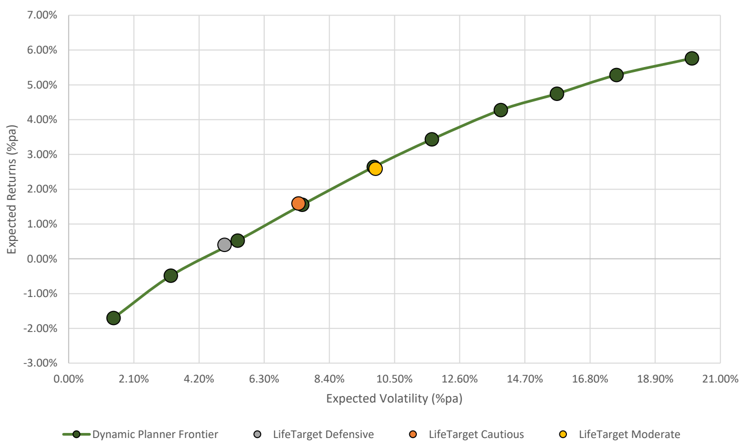

Figure 1: Asset allocations for the Vanguard LifeTarget solutions against the DP efficient frontier

Detailed Analysis of asset allocations

Since these products have been launched in March 2021, we have profiled the funds based on one allocation only. At the time of profiling, the asset allocations of the solutions are as shown in Chart 2.

The LifeTarget solutions are all composed of passive trackers, which are part of the Vanguard stable, with the management of the solutions being active. The Defensive solution is composed of approximately 80% in Fixed Income and 20% in Equities. The Fixed Income is composed of Investment Grade Sovereign and Corporate Bonds. As the solutions increase in the level of risk, the proportion of investment in equities increases, with proportionate decreases in Fixed Income. Figure 2 shows the breakdown of the broad asset allocation.

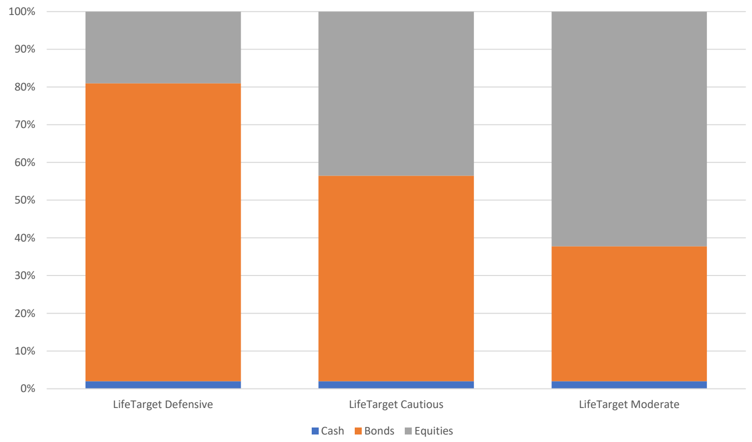

Figure 2: Broad Asset Allocations of the Vanguard LifeTarget solutions

The risk contribution of the Defensive solution is split almost equally between Fixed Income and Equity allocations. As the risk level increases, the risk contribution from equities increases as is expected, with Equities contributing 98% of the risk of the Moderate Solution, as expected given the asset allocations. This can be seen Figure 3 below.

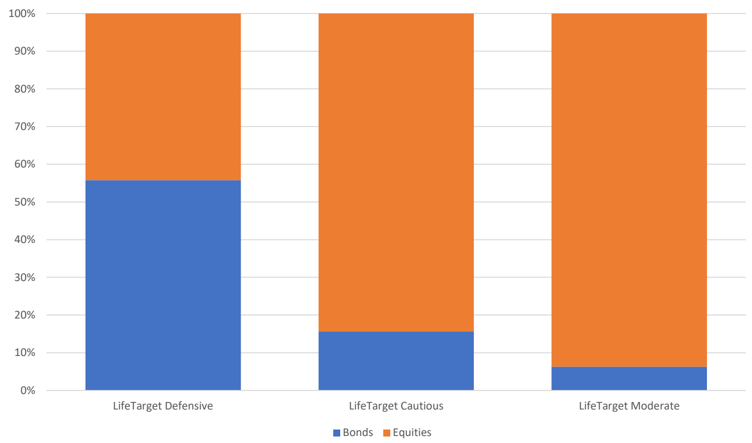

Figure 3: Risk Contribution of the Vanguard LifeTarget Solutions

In terms of Fixed Income allocations, the LifeTarget solutions are only allocated to Investment Grade Sovereign and Corporate Fixed Income. This reduces the quantum of credit risk in these solutions as compared to others which are allocating to higher yielding fixed income. Figure 4 shows the break down of the fixed income holdings by solution.

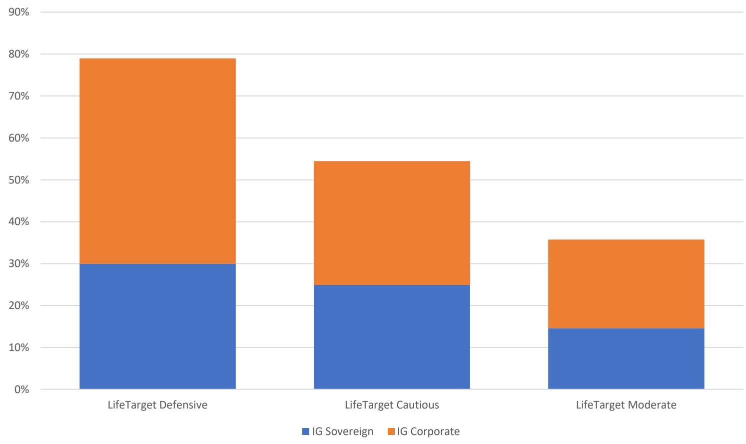

Figure 4: Fixed Income allocation breakdown of Vanguard LifeTarget solutions

The Equity allocations for the LifeTarget solutions are only allocated in a diversified manner. The major proportion of the allocations are allocated across Developed, large cap equities, rather than emerging market and Asia Pac allocations. Figure 5 shows the breakdown of the equity holdings by solution.

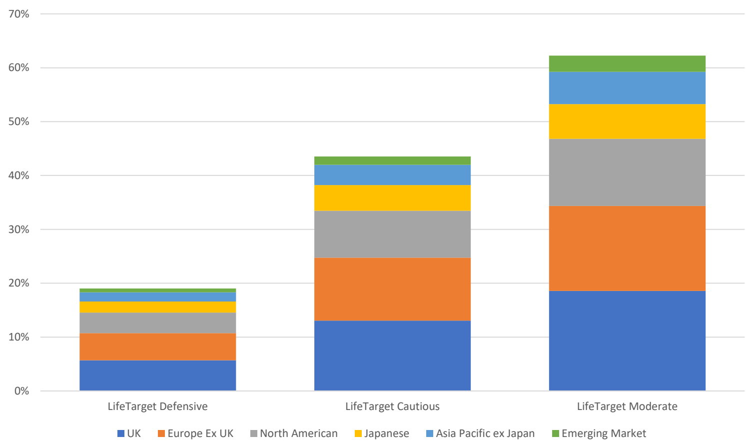

Figure 5: Equity allocation breakdown of Vanguard LifeTarget solutions

Summary

In Table 3 below, we summarise the risk profiles of the solutions based on the different measures set out above.

Fund	Calculated Profile	Assigned Profile
LifeTarget Defenisve	3	3
LifeTarget Cautious	4	4
LifeTarget Moderate	5	5

Table 3: Summary of risk profiles

- The 3 Vanguard LifeTarget solutions have been launched in March, 2021 and profiled by Dynamic Planner.
- We are comfortable with the profiles assigned for the solutions and will continue to monitor the suitability of the assigned profiles in our quarterly reviews (QRP).

Appendix A: Investment assumptions

This appendix sets out the method used to generate the planning assumptions used on the DP platform.

The estimate of returns for equities, property and corporate bonds are calculated as a premium over gilts and then expressed as real returns (i.e. returns in excess of inflation). In addition to analysing historical index data, DP also use the following market data to arrive at expected return assumptions:

- Yields on UK Gilts; conventional and index-linked,
- UK corporate bond yields,
- Yields on global bonds,
- Equity earnings and dividend yields,
- Economic growth forecasts.

Details of the DP estimation methodology can be found in DP's Capital Market Assumptions report, available on the Dynamic Planner platform, and Investment Process report, available on request.

Appendix B: Risk profile boundaries

The following table sets out the lower and upper volatility boundary for each risk profile used in the implementation of DP's Dynamic Planner application.

Risk Profile	Volatility of asset allocation	Lower boundary	Upper boundary
1	0.01%	0.0%	2.1%
2	3.28%	2.1%	4.2%
3	5.38%	4.2%	6.3%
4	7.46%	6.3%	8.4%
5	9.60%	8.4%	10.5%
6	11.69%	10.5%	12.6%
7	13.89%	12.6%	14.7%
8	15.85%	14.7%	16.8%
9	17.96%	16.8%	18.9%
10	20.01%	18.9%	21.0%

Table 4: DP Risk Profile boundaries

Source of information

Vanguard, Hedge Fund Research, World Bank, MSCI Inc, Intercontinental Exchange Data Indices LLC, Henley Business School, Bloomberg LLC, Strategic Frontier Management

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www.dynamicplanner.com