

Multi-Asset Investments and Portfolio Solutions (MAPS)

An outcome-oriented approach



Schroders

Delivering award winning Multi-Asset Investment Solutions

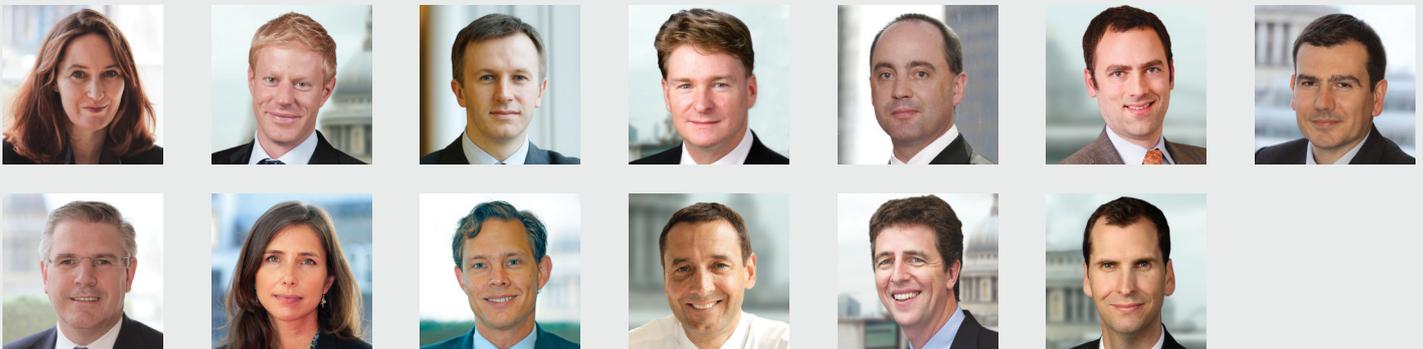
If nothing else, the financial crisis has taught us that real diversification requires the understanding and management of all risk and return dynamics. Investors are increasingly recognising the need to move beyond a simple check-list of products. Multi-asset investing and tailored portfolio solutions are powerful techniques to help investors achieve the outcomes they desire.

Schroders has been managing multi-asset portfolios for more than 60 years. We design, implement and manage solutions aimed at meeting investors' desired outcomes. With a team of more than 100 investment professionals in multiple locations around the world such as London, New York, Hong Kong, Singapore and Sydney we now manage over £70 billion (\$110 billion; €99 billion)* in assets. Since 2011 our business has doubled in size and has seen most uptake by institutional clients (71%). We do however see our intermediary clients increasingly embracing the concept of multi-asset investing (29%).

Our investment approach is simple and transparent, allowing investors to understand how, where and why we are taking (or reducing) risk in order meet their objectives. It is also flexible, recognising that investors' needs – and the market's reward for risk – vary over time.

This brochure provides an introduction to Schroders' Multi-Asset Investments and Portfolio Solutions (MAPS) and the capabilities we bring to our clients. This dedicated team of investment professionals is looking forward to accompanying you on your journey and helping you achieve your goals.

Our global management team



Top row (left to right): Henriette Bergh, Head of UK and Europe Product & Manager Solutions, London; Patrick Brenner, Head of Multi-Asset Investments, Hong Kong; Andrew Connell, Head of Portfolio Solutions, London; Richard Coghlan, Multi Asset Fund Manager, New York; Simon Doyle, Head of Fixed Income, Sydney; Adam Farstrup, Head of Multi-Asset Product, Americas, New York; Aymeric Forest, Head of Multi-Asset Investments – Europe, London

Bottom row (left to right): Mike Hodgson, Head of Risk Managed Investments & Structuring, London; Johanna Kyrklund, Head of Multi Asset Investments, London; Ashley Lester, Head of Multi Asset and Portfolio Solutions Research, New York; Nicolaas Marais, Head of Multi Asset Investments and Portfolio Solutions, London; John McLaughlin, Head of Investment Solutions, London; Garth Taljard, Head of Multi-Asset Product, Asia, Hong Kong

*As at 30 September 2015



Our investment philosophy

In order to capture excess returns and mitigate risk, our approach is based on five key assumptions about how markets operate:

- Long-term returns are affected by systematic risks, such as the risk of an economic slow-down or rising interest rates.
- Identifying a portfolio's exposure to these systematic risks is the key to understanding a portfolio's level of diversification.
- The role of investment research is to assess whether these risks are adequately compensated.
- While we do not believe in market timing, we know that valuations can vary significantly over time, which calls for an active investment approach.
- Diversification has its limits – it ignores valuation and it cannot protect against systemic shocks.

How we invest

Multi-asset investing is often equated with simply investing in a mix of asset classes. Our approach goes beyond allocating by asset class, to consider the fundamental drivers of risk and return of a given asset class; that is, risk premia. Asset classes are merely proxies for risk premia – they are like baskets of returns that an investor receives for taking on exposure to the systematic risks associated with an investment.

In some cases, an asset class may be represented by a single, dominant risk premium; for example, inflation-protected bonds are exposed to interest rate risk.

In others, a combination of risk premia drives returns; for example global equities are exposed to many types of risk, such as economic and inflation risk.

Our investment philosophy and process begins by looking at the characteristics of these risk premia, including performance expectations and how these behave over time. In particular, returns from these risk premia vary significantly over short-to-medium time horizons, as prices move away from their fair market value. This presents an opportunity to add value with active management.

Advanced Beta

In recent years we have witnessed the proliferation of so-called 'smart beta' strategies. Some of this interest can be attributed to the rise in awareness of risk-premia based investing. Moreover, investors have learned that index-based investing

is not necessarily optimal: conventional market-cap weighted indices place greater emphasis on stocks with the largest market capitalisation, which may result in these stocks becoming overvalued. However, smart beta comes with its own unique set of challenges, and not being mindful of these issues may expose investors to unintended risks. At Schroders we've been managing factor-based portfolios and implementing these solutions within our Multi-Asset strategies since 2011. We use the term Advanced Beta to address the challenges inherent in smart beta investing and provide our portfolio managers with more customised solutions: This enables them to combine risk premia and portfolio construction techniques to build portfolios that meet client requirements in a very precise way.

The investment philosophy behind our Advanced Beta Platform is founded on three beliefs:

1. A significant proportion of asset returns can be explained by the influence of either structural or behavioural investor biases. These biases create premia (reward for bearing risk) that can be harvested to generate outperformance relative to the reference market.
2. Defining and effectively isolating these risk premia using a systematic, rules-based approach allows us to produce a pure risk exposure. We seek to specifically control for unintended risk exposures such as size, country, and sector biases that are common in many smart beta strategies.
3. Explicit factor exposures should be allocated to as a 'top-down' decision within the investment process so that they can be combined to target specific outcomes for investors. This combination can be done using a blend of quantitative and qualitative analysis.

By breaking asset returns down to their fundamental drivers, we are able to construct multiple building blocks that can be combined to target specific outcomes.

Research platform

We organise our research effort around eight fundamental risk premia. Each of our dedicated research groups is charged with examining and monitoring a particular risk premium to ensure that our research is consistent with our investment philosophy. This cross-functional research process involves over 45 investment professionals, with representatives from portfolio management, quantitative research and our economics and strategy group. The teams combine qualitative and quantitative approaches within a common framework that incorporates measures of valuation, momentum and the economic cycle. Their objective is to continually assess the attractiveness of each risk premium. Each month, these eight teams gather for strategic and tactical asset allocation discussions, which form the foundation of our portfolios. We also share these views with our clients.

Taking risk where it counts

All investments start with one goal: to earn a return in excess of cash or a benchmark as compensation for the risk taken. This extra risk can be idiosyncratic (security specific) or systematic (market related), or it can be the result of structural or behavioural factors. Better understanding the underlying sources of risk gives us greater insight into the true diversification benefits our portfolios are likely to yield.

One of the roles of investment research is to understand whether risks associated with investing in risk premia are adequately compensated over different time horizons. Potential returns offered by risk premia vary through time in response to macroeconomic and market conditions. As a result, a crucial part of the investment research process is to determine whether risk premia offer attractive investment opportunities and at which point in time. Our investment process is driven by our deep research into the time-varying risk premia that constitute the building blocks of our investment universe.

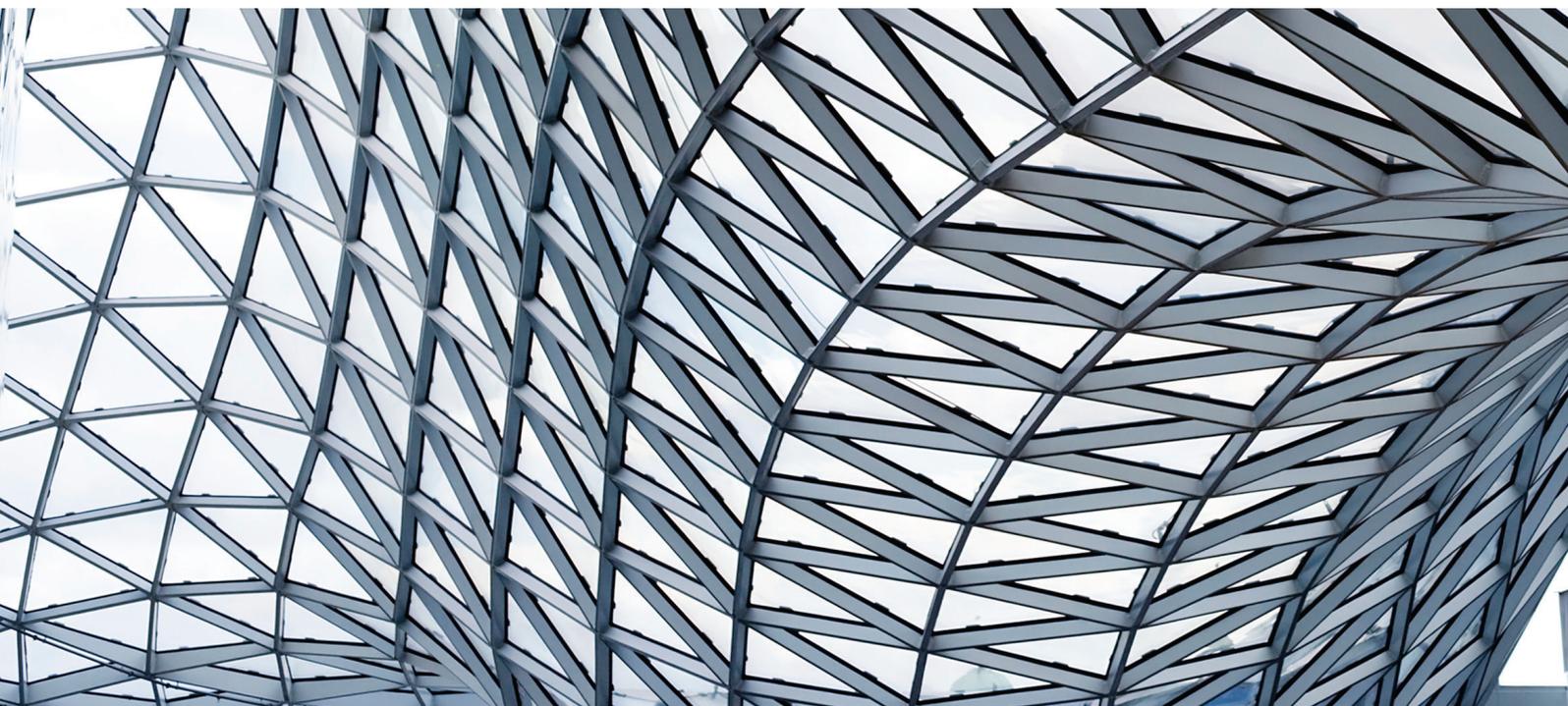
Risk premia research framework

Eight risk premia research groups

Equity	Credit	Term	Commodities	Inflation	Currency	Volatility	Strategies
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Common research framework

Valuation	Momentum	Cycle
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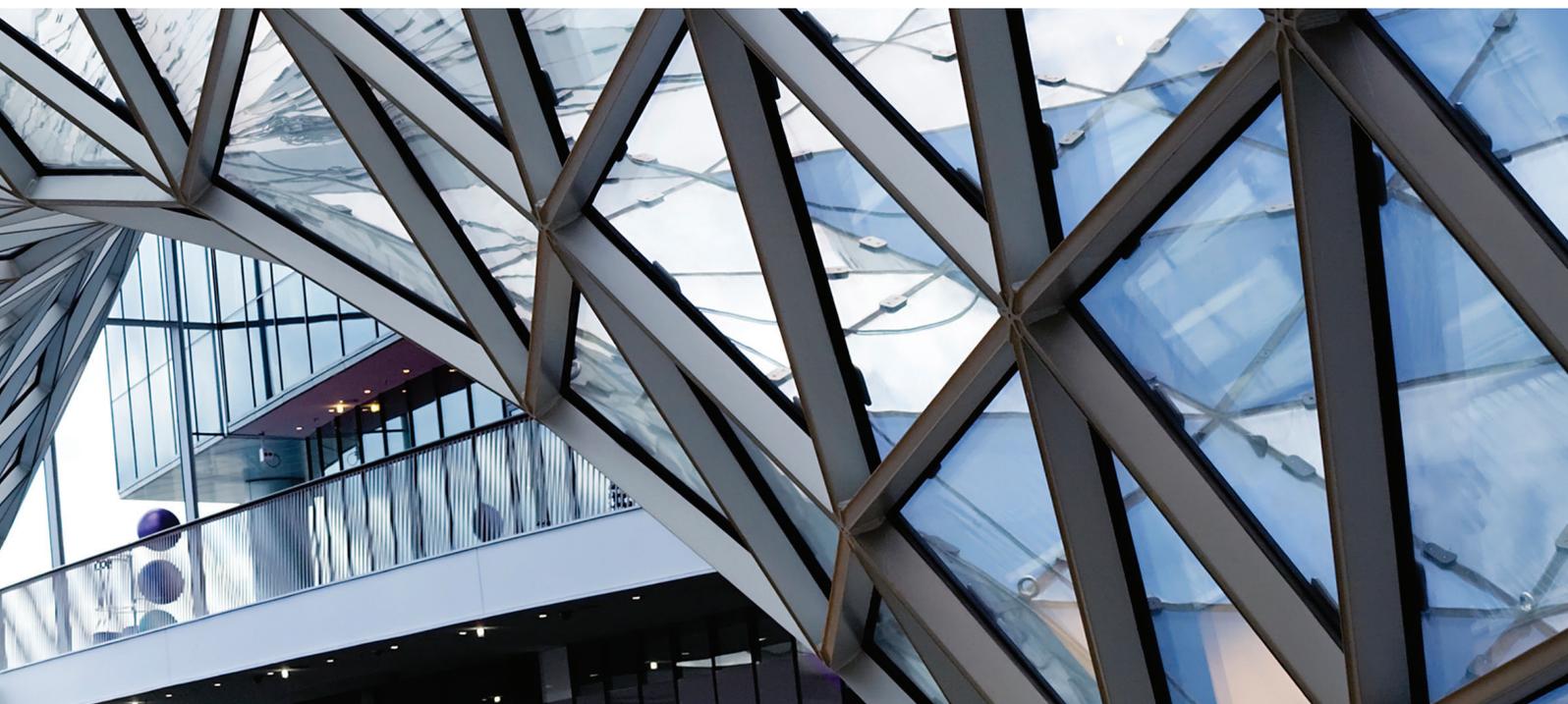


Outcomes designed and implemented to meet investors' needs

The concept of multi-asset investing often means different things to different investors. It has been associated with a traditional balanced portfolio, a manager of managers strategy, tactical asset allocation or any combination of these. For Schroders, multi-asset investing means applying an outcome-oriented process to meet specific investor needs.

Investors who are focused on wealth and capital preservation demand skill and experience in managing the downside risk of their portfolios. Those requiring growth expect that they will be rewarded for the risk they take; that is, by the delivery of consistent and repeatable risk-adjusted returns. Where they demand income, they want a well-diversified mix of high-yielding assets.

To ensure a continuous focus on our clients' needs, we align our business with their investment goals, namely: wealth preservation, risk-controlled growth, income, inflation protection and risk mitigation.



Investor outcomes

Investment technique

Wealth preservation

Conservative total return strategy applying risk-based portfolio construction

- Balanced risk allocation
- Reduced volatility
- Diversified beta

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Risk-controlled growth

Targets growth-like returns with reduced volatility through diversification and dynamic asset allocation

- 'Growth' engine
- Traditional and alternative asset classes
- Alpha and beta exposure

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Income

Aims to deliver a diversified income stream with global and regional solutions

- Income generation via a diversified exposure
- Risk management
- Directly invested in stocks and bonds

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Inflation protection

Aims to protect from inflation and inflation shocks

- Local real return strategies
- Inflation-hedging strategies

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Risk mitigation

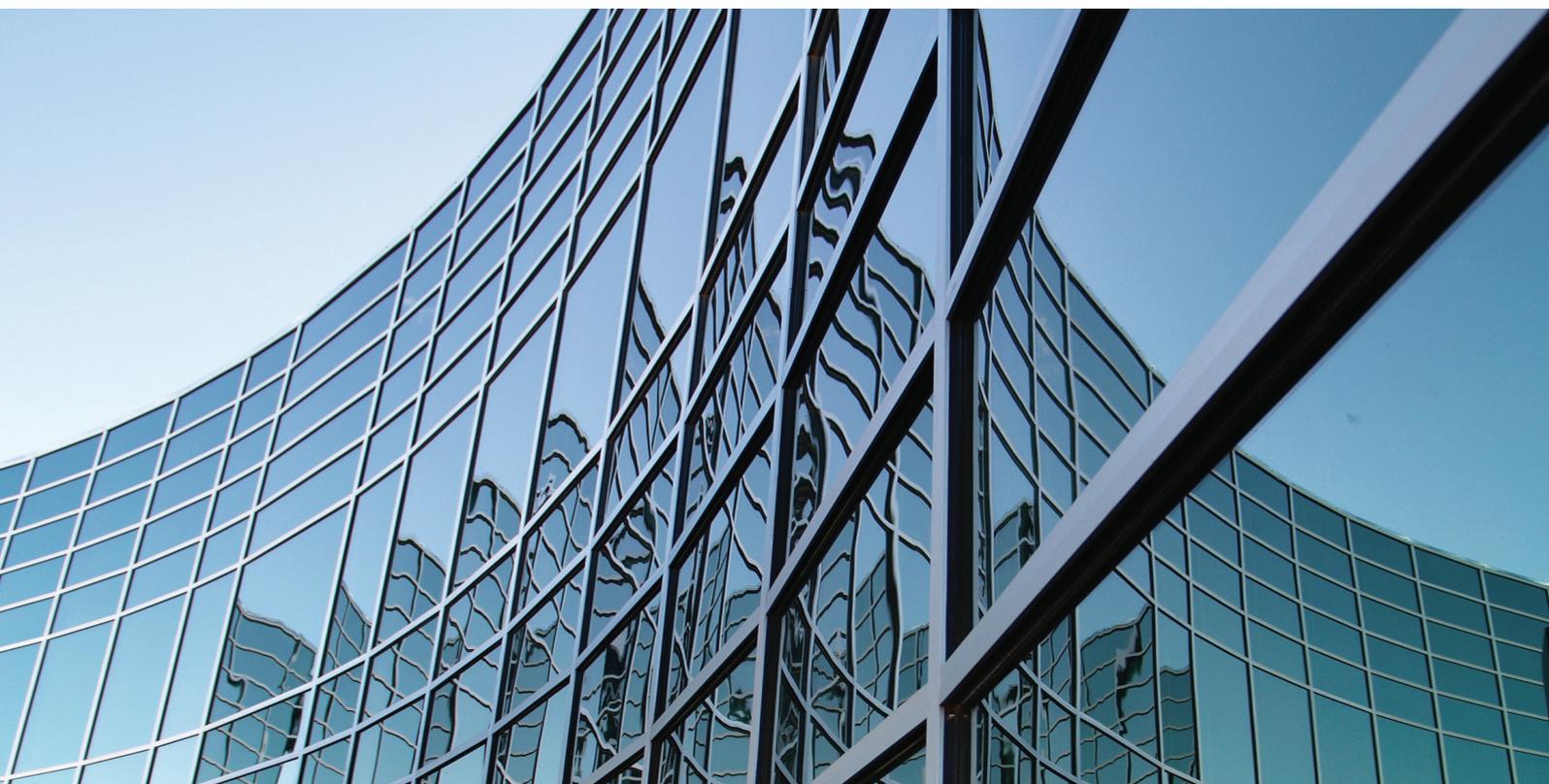
Controls overall risk in a client's portfolio of assets or liabilities

- Liability-driven investments
- Potential capital protection
- Volatility capping

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Investor outcome: Wealth preservation

Wealth preservation is about building a portfolio that will deliver more stable returns across a variety of different business and economic cycles. The traditional “balanced” approach has led to historically unbalanced portfolios and unstable returns, with approximately 90% of the total risk derived from equities. To benefit fully from diversification, we focus on risk allocation, not capital allocation.



Strategic Beta, our wealth preservation strategy, is a smarter approach to achieving true diversification. Simple risk parity-based diversification does not take valuation into account and can be vulnerable to systemic shocks.

Building a risk-balanced portfolio

Standard approaches to risk parity are a good place to start but not a good place to end, because they overlook the fundamental drivers of performance. Our wealth preservation strategy, Strategic Beta, invests across a broad range of risk premia, using an actively managed, risk-based portfolio construction process that aims to deliver stable performance through a range of market environments.

We benefit from a balanced exposure to a wide range of risk premia that we group into four categories – economic growth, inflation, slowdown and alternative risk premia (investments that capitalise on behavioural biases of investors).

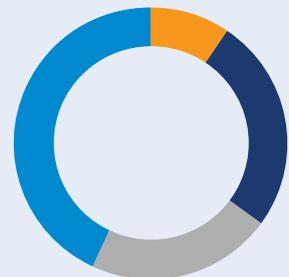
A typical risk parity portfolio allocates equally across asset classes or sources of risk. This approach provides some diversification, but it does not take into account valuation and can be vulnerable to systemic shocks. Strategic Beta moves beyond this starting point to add value by tilting the portfolio towards attractively priced premia and away from those that are unattractively priced. In addition to the primary active asset allocation decisions, we apply a separate overlay to protect portfolios during periods of market stress. Our focus on risk management enhances our ability to manage downside risk.

Strategic Beta invests in global fixed income, global equities, currencies, commodities and volatility instruments. Depending on the return and risk targets, the strategy can use leverage to achieve the appropriate contribution to risk from each risk premium. This leverage is designed to achieve a more balanced exposure to the risk factors associated with the various risk premia.

Risk Balanced Schroders' starting point



Strategic Beta Portfolio tilts reflects our medium term views



- Growth
- Slowdown
- Inflation
- Alternative Risk Premia

Source: Schroders. Diagram for illustrative purposes only. Note: Portfolios represented in terms of risk allocation not capital allocation.

Case in point

Challenge: Attain fully funded status

In 2005, the Schroders Retirement Benefits Scheme replaced its equity-based growth allocation with a diversified growth portfolio and launched a liability-driven investment programme to hedge part of its liabilities. The goal was to improve the funding ratio while reducing the volatility relative to equities. Eight years later, the funding ratio had significantly improved and the Investment Committee decided to investigate whether switching some of the growth assets into a risk parity based strategy would achieve a better funding level and reduce the funding level volatility.

Solution: Aim for lower volatility without sacrificing returns

The MAPS team conducted an analysis of the scheme's asset/liability mix to determine the current funding level, the expected excess return of the assets over the liabilities and the funding level volatility. The analysis showed that duration and inflation exposures were more closely matched to Strategic Beta than the scheme's own growth asset portfolio, while targeted volatility was lower. Based on this analysis, the scheme moved 50% of the growth portfolio into a Strategic Beta portfolio, so as to reduce the funding level volatility, while only modestly lowering the expected excess return of the assets over the liabilities.

Investor outcome: Risk-controlled growth

Many investors require equity strategies that offer a powerful growth engine in order to meet their future obligations. However, these strategies typically experience high volatility, which means a risk of significant loss. Even with a long investment horizon, such drawdowns can be disconcerting. Investing in traditional and, where appropriate, alternative asset classes, risk-controlled growth strategies are designed to offer a diversified and actively managed portfolio that aims to achieve growth-like returns but with lower volatility than equities.



A growth bias can result in greater volatility. Diversification and flexible implementation help us manage this risk. It becomes even more powerful when combined with dynamic asset allocation and downside risk management.

Balancing diversification and growth

Our risk-controlled growth strategy was developed to offer clients a more diversified approach to achieving equity-like returns with reduced volatility. A growth bias has the potential to result in volatility and drawdown risk. We manage this risk through diversification, flexible implementation, dynamic asset allocation and downside risk management.

Starting with diversification, we take a risk premia-based approach that aims to generate superior risk-adjusted returns over time.

However, static or risk-based diversification ignores valuation levels, which can lead to missed opportunities or uncompensated risk taking. A dynamic asset allocation approach means that our portfolios are actively managed throughout the economic cycle to balance opportunity and risk.

Our flexible implementation allows us to focus our active management on markets where we have strong conviction it can add value. The team uses a combination of passive management (via derivatives, customised beta stock baskets or exchange-traded funds) internal and third-party active management.

Lastly, our downside risk management capabilities give portfolio managers the opportunity to use dynamic protection strategies at times when the expected value outweighs the cost of these strategies.

Case in point

Challenge: Deliver attractive returns and manage downside protection effectively

A very large North American Pension Plan that has its own internal asset management capability, was seeking to generate attractive returns whilst at the same time placing a large emphasis on downside protection. The plan managed these assets to a growth-biased strategic benchmark.

Solution: Tailored exposure which combines growth, flexibility and better risk oversight

Most global tactical asset allocation managers run tactical allocation as absolute return strategies. Our answer was to combine the strategies and build a growth-oriented, dynamic high conviction portfolio with downside protection. Casting our net as widely as possible to include a broad range of assets, we then actively manage the adjusted exposure. Next we anticipate difficult market environments and a variety of outcomes when constructing the portfolio and apply very precise downside protection.

Diversified approach relies on flexible implementation

Flexible Implementation

Active

High Yield Debt
Global Equities
Asian Equity Yield
European Equities
Asset Backed Securities
Insurance-Linked Securities

Absolute Return
Infrastructure
Convertible Bonds
Leveraged Loans

Passive

Derivatives

S&P 500 Index Futures
Nikkei 225 Index
Futures
US Treasuries
Gilts Futures
Material Sector TRS
Commodities TRS

Advanced Beta* Stock Baskets

High Dividends
Minimum Volatility
Value
Quality

Exchange-Traded Funds

Physical Gold
Energy Sector
US Large Cap
High Yield Debt
Emerging Market Debt

TRS = Total Return Swap

*Schroders have developed the Advanced Beta Platform to provide investors the ability to access efficient and pure expressions of fixed income, equity and currency betas in their portfolios. These betas extend beyond traditional asset-class betas to include alternative, factor-based betas such as value, momentum, carry and quality.

Source: Schroders. Diagram for illustrative purposes only.

Investor outcome: Income

The combination of shifting demographics and shortfalls in state and personal pensions means that there is a long-term demand for a reliable and well-diversified income stream. At the same time, investors seeking a sustainable source of income face historically low interest rates and depressed government bond yields. As a result, investors are increasingly focused on investments delivering a sustainable stream of income to them.



Sustainable income relies on three pillars:

Quality: Strong balance sheets and cash flows

Diversification: Universe of up to 20 asset classes

Liquidity: Direct investment in liquid, listed securities

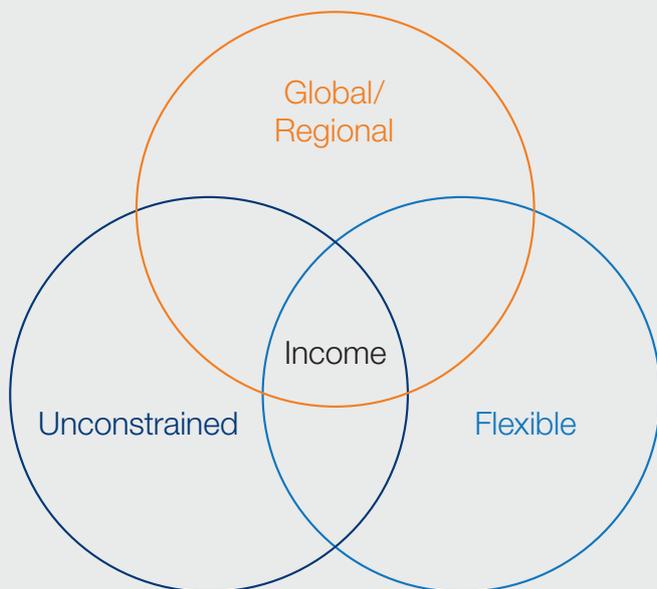
Our income solutions invest directly in a broad range of asset classes, which can include equities, developed and emerging market government debt and corporate bonds. The breadth of the opportunity set provides our teams of specialist portfolio managers and asset allocators with the freedom to identify sustainable sources of income around the world, while diversifying risk and managing volatility.

Income-seeking investors demanding alternative sources of income are often forced into lower quality investments in their search for higher yield. As a result, investors need to look beyond traditional approaches to generating income.

Taking a multi-asset approach to income

We offer a range of global and regional income strategies designed to identify investment opportunities which generate a sustainable source of income across asset classes and sectors and also have an inherent focus on quality. The investment process is driven by our bottom-up security selection which is not benchmark constrained. We then apply a top-down approach to asset allocation and risk management, all of which is overseen by the MAPS income team. This avoids the risk of investing in a single asset class such as high dividend equities or high yield bonds.

Sustainable income: Our guiding principles



Source: Schroders. Diagram for illustrative purposes only.

Case in point

Challenge: Deliver a high-quality income solution with low volatility

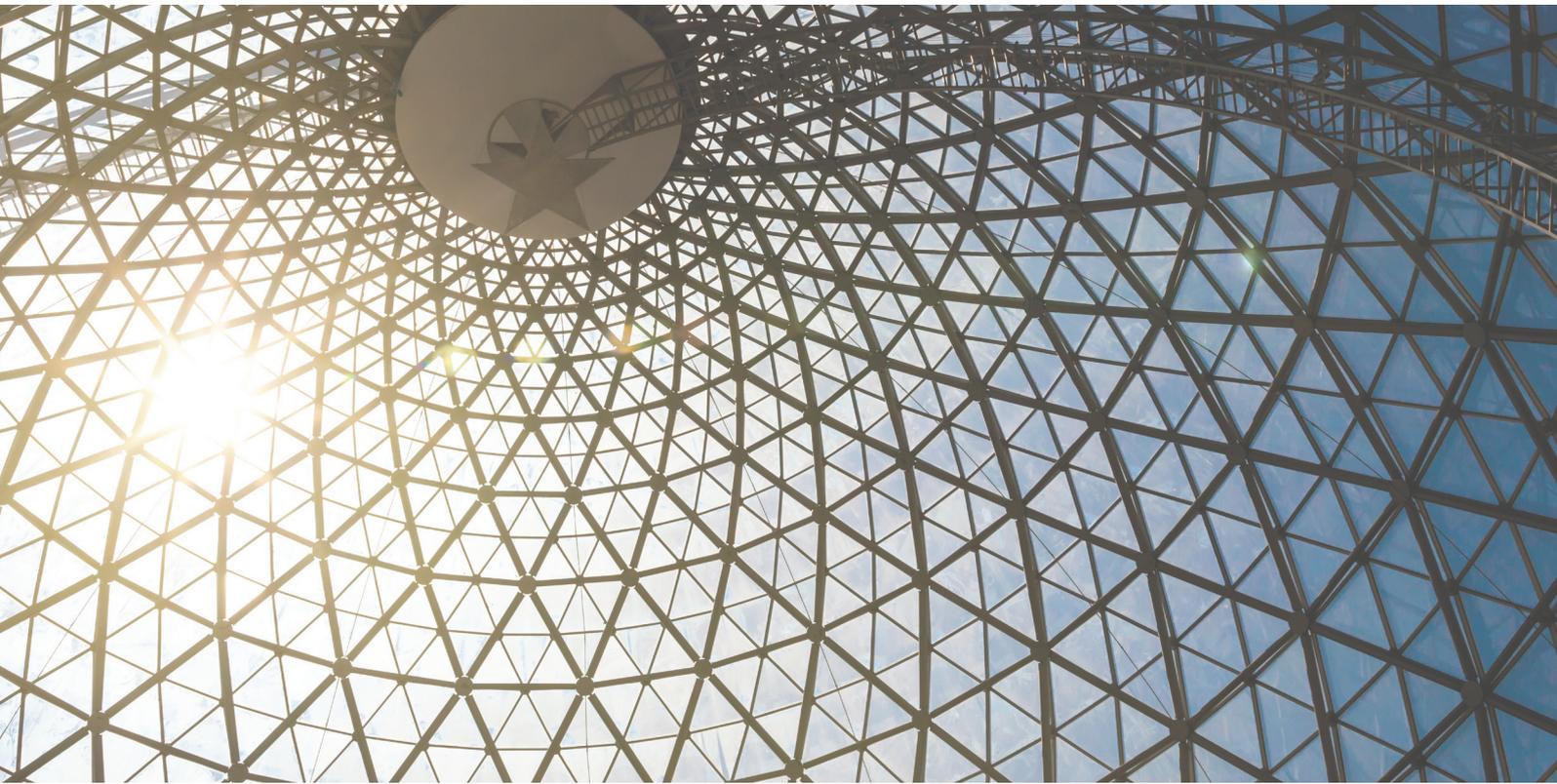
A major insurance company in continental Europe was looking for a low-risk solution which should aim to deliver a high & growing level of income on a sustainable basis. The solution, to be wrapped on their own platform, had two components: an annuity (70%) and an investment solution (30%). The client demography (close to or in retirement) was a key consideration in developing a product which would meet their needs: provide a regular yield and keep volatility within a range of 5–7% per year.

Solution: Create a portfolio designed to deliver a regular income

The solution was structured to achieve a 4.5% yield target (within a clearly defined risk tolerance band) by diversifying across multiple asset classes and regions with an emphasis on quality. The combination of multi-asset risk management capabilities with Schroders' bottom-up security selection expertise, resulted in the solution effectively meeting the client's needs.

Investor outcome: Inflation protection

Inflation wields a double-edged sword. On one side, inflation raises the level of future expenses that today's savings are intended to fund. On the other side, inflation tends to reduce the real returns of many of the assets in which those savings are invested. This potent combination can cut deeply into investors' ability to achieve their investment goals.



We seek to generate stable real returns above inflation while minimising volatility and drawdown risk.

A dynamic approach to a changeable problem

The first step to incorporating strategies designed to offer inflation protection into a portfolio is to acknowledge that there is not simply one type of inflation. To be effective, we must understand the economic environment in which inflation arises and some of the key drivers of that inflation. Additionally, we must appreciate that there is a cost to incorporating inflation protection in a portfolio. Many inflation-sensitive assets provide little return in non-inflationary environments and may also expose investors to significant drawdowns.

Our approach is dynamic, reflecting the need for inflation protection both when inflation becomes a problem and for the type of inflation that arises. It is not an option simply to build a static portfolio of inflation-linked bonds, some commodities and some property; essentially, to set it and forget it. We seek to generate stable real returns above inflation while minimising volatility and drawdown risk.

Three-way trade off between downside risk, expected returns and inflation sensitivity



Source: Schroders. Diagram for illustrative purposes only.

Case in point

Challenge: Align investor and manager targets

The client, a large Australian Superannuation Fund, was interested in our approach to targeting an outcome (defined in terms of risk and return) that would relate directly to their overall investment objectives. While most Australian institutional investors define their overall investment objectives relative to inflation, few have structured their investment strategies and programmes to align their managers with this target.

Solution: Build a flexible strategy that adapts to inflation changes

The MAPS team worked with this investor to customise our Real Return strategy, which targets a return of 5% above inflation, over rolling three-year periods. This required a flexible approach to selecting those assets that, in combination, would have the highest probability of delivering the return target. Because asset markets behave differently depending on the prevailing inflation regime, we used a multi-dimensional risk management approach to form views on each asset class and the overall portfolio. To guard against downside outcomes (including tail risk), our portfolio construction also incorporated targeted risk management techniques (including the purchase of insurance with options and the implementation of specific hedging strategies).

Investor outcome: Risk mitigation

This capability focuses on the management of both liability and growth risks to deliver specific outcomes. Rather than rely on alpha or active asset allocation to solve investors' problems, we apply systematic risk management techniques. These include liability matching, downside risk management and volatility control using both physical and synthetic assets. Client needs can differ widely when it comes to defining investment outcomes. We tailor our solutions and deploy a range of investment techniques to effectively manage growth and liability risk.

Risk mitigation: Matching expected and actual performance



Source: Schroders. Diagram for illustrative purposes only.

Investor needs will typically involve: setting precise risk objectives; defining maximum limits defined for potential losses; immunising liabilities against changes in interest rates and inflation.

Solutions for both sides of the balance sheet

Our portfolio solutions team employs derivative overlays and systematic hedging techniques to deliver specific investment outcomes for our clients, rather than aiming to outperform a benchmark. They work closely with the multi-asset investment team to create bespoke investment solutions that combine multi-asset portfolios with risk overlays and to develop strategies that address the liability side of the balance sheet.

Our products and solutions are designed to manage both the liability-related and growth-related risks of insurance companies, retail investors as well as defined benefit and defined contribution pension schemes. These risks can be mitigated using both physical and derivative-based risk management strategies.

- We work in close partnership with our clients and their advisers to deliver solutions that will evolve as client needs change and as market opportunities arise.
- Our pooled funds (both standard and bespoke), as well as segregated accounts, are designed to provide clients with the investment vehicles that are best suited to their needs.
- We have the resources to deliver complete solutions, and we are nimble enough to develop and execute new ideas swiftly.

Flexible solutions

A flexible solution can take the form of a fully capitalised investment strategy (implemented via a pooled fund or as a segregated portfolio) or it can be an overlay strategy for an existing portfolio. The tools we use include options, swaptions, interest and inflation swaps as well as dynamic strategies such as volatility capping, option replication and constant proportion portfolio insurance. In constructing any solution, the team carefully considers liquidity, to ensure that it is sufficient to meet the collateral requirements of the strategy.

Case in point

Challenge: Achieve long-term returns while managing short-term risk¹

Our client, a leading global insurance company, was looking for a solution that would deliver strong performance over a long-term investment horizon and that could also mitigate the risk of short-term losses. Managing downside risk effectively was a key requirement for this solution.

Solution: Dynamically integrate growth and risk-management components

Our solution combined a dynamically managed multi-asset growth portfolio, which sought to generate returns from a wide range of asset classes, coupled with a systematic, downside risk mitigation overlay to control downside risk. We designed a risk-controlled growth portfolio that was actively managed by our multi-asset investment team using dynamic asset allocation.

The systematic downside risk mitigation strategy was designed by our portfolio solutions team and managed independently from the growth assets. This strategy aims to limit losses to a specific amount over a rolling 12 month period.

By providing an integrated solution combining two investment processes, we were able to deliver a, customised solution tailored to the client's objectives, and designed to deliver positive absolute returns while mitigating downside risk.

¹ Past performance is not a guide to future performance and may not be repeated. The value of investments and the income from them can go down as well as up and investors may not get back the amount originally invested.

Putting it all together

Our team carefully listens to what our clients need and incorporates these needs into our own goals and processes. Portfolio managers and researchers are globally supported by central functions in the organisation to ensure that they have the resources required to deliver expected performance. Operations and information technology professionals provide constant support and ongoing innovation for the MAPS team. Product specialists act as a bridge between the client and the investment team, manage the product life cycle, and are closely involved in designing bespoke solutions for clients.

Our quantitative research and analytics team supports the MAPS proprietary asset allocation modelling system, while providing portfolio managers with access to a proprietary range of advanced beta building blocks that are used to develop customised exposures. The manager research group provides portfolio managers with internal and external manager options – our alpha building blocks – with more than 80 external managers held within MAPS strategies.

Multi-asset investing is more than a single product or group of equity and bond specialists. MAPS is a client-centric and outcome-based team, applying a single global risk-based investment philosophy, supported by integrated central functions and structured to deliver what our clients really need.



Important Information: The views and opinions contained herein are those of the Schroders Multi-Asset Investments and Portfolio Solutions Team and may not necessarily represent views expressed or reflected in other Schroders communications, strategies or funds. The material is not intended to provide, and should not be relied on for, accounting, legal or tax advice, or investment recommendations. Information herein is believed to be reliable but Schroders does not warrant its completeness or accuracy. No responsibility can be accepted for errors of fact or opinion. Reliance should not be placed on the views and information in the document when taking individual investment and/or strategic decisions. The information and opinions contained in this document have been obtained from sources we consider reliable. No responsibility can be accepted for errors of fact obtained from third parties. The opinions stated in this document include some forecasted views. We believe that we are basing our expectations and beliefs on reasonable assumptions within the bounds of what we currently know. However, there is no guarantee that any forecasts or opinions will be realised. Past performance is not a guide to future returns. The value of investments can fall as well as rise as a result of market movements. Investments in smaller companies may be less liquid than in larger companies and price swings may therefore be greater than in larger company funds. Exchange rate changes may cause the value of overseas investments to rise or fall. Less developed markets are generally less well regulated than the UK, they may be less liquid and may have less reliable custody arrangements. Investors should be aware that investments in emerging markets involve a high degree of risk and should be seen as long term in nature. The strategy could invest in some higher-yielding bonds (non-investment grade). The risk of default is higher with non-investment grade bonds than with investment grade bonds. Higher yielding bonds may also have an increased potential to erode your capital sum than lower yielding bonds. The strategy could invest in Property Funds and Property Investment Companies. It may be difficult to deal in these investments because the underlying properties may not be readily saleable which may affect liquidity. The strategy may use financial derivative instruments as a part of the investment process. This may increase the fund's price volatility by amplifying market events. Issued by: Schroder Investment Management Limited, 31 Gresham Street, London, EC2V 7QA. Registration No. 1893220 England. Authorised and regulated by the Financial Conduct Authority. w47916