

Edition 04

BlackRock

The Portfolio of the Future

A spotlight on portfolio trends

An essential series of guides to effective portfolio construction

EDITION
04.

Blurring of lines: public and private markets

A higher performance bar, coupled with higher uncertainty around equity and bond correlations, has meant that traditional portfolio allocations, such as the 60/40 stocks and bonds portfolio, have come under pressure since 2020. We believe that building the 'Portfolio of the Future' requires an evolution in asset allocation – looking beyond public markets to benefit from new sources of return, income and diversification, often available in private markets. A 'whole portfolio' implementation approach focused on the end outcome and blurring the lines between public and private markets through innovative, scalable, flexible and regulated investment structures – such as the European Long-Term Investment Fund (ELTIF) – is crucial for the ongoing success and wealth creation for investors, in our view.

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Gone are the days when portfolio allocation was limited to public markets only. The portfolio of the future employs an expanded set of private market investments, fuelled by product innovation.

A growing opportunity set

Since the pandemic, the performance bar for public market multi-asset portfolios has become higher. In an investment environment characterised by elevated interest rates, persistent inflation, unreliable stock and bond correlations, and structural shifts leading to significant dispersion in profitability across economies and sectors, achieving consistent returns and stable real yield in public markets has become increasingly difficult.

This represents a new climate for private assets. We believe private markets have the potential to offer enhanced returns and greater diversification for portfolios currently consisting of public markets only.

The opportunity set in private markets grows

Once available almost exclusively to institutional investors, private markets are quickly evolving and opening to more wealth investors as a result of new regulation and transformative product innovation.

We believe the opportunity to add returns to public market exposures is vast, thanks to a large proportion of companies staying private for longer, offering unique investment opportunities not available in public markets. For example, approximately 87% of global companies with revenues exceeding \$100m are private (see figure 1).¹ Also, private companies are taking longer to go public, with the median age increasing from 6.9 a decade ago to 10.7 years today.² Private market investment opportunities are increasing in size and breadth and are projected to grow to US\$30T by

2030.³ With less than 1% on average allocated to private markets in EMEA wealth portfolios today,⁴ we think the time to start building the portfolio of the future and allocate to private markets is now.

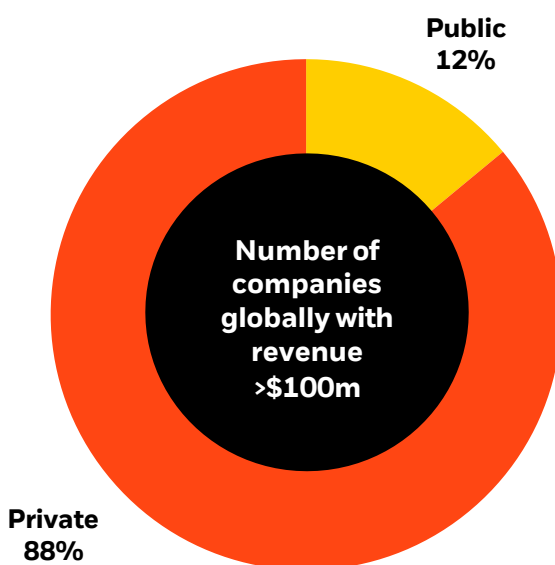
Capturing structural trends

Private market allocations across a range of exposures can also offer early access to capture the structural mega forces shaping our future. For example:

- Infrastructure is set to become one of the fastest-growing private market segments. Societies are grappling with energy security pressures and the low-carbon transition, demographic change and urbanisation, realigning supply chains and the computing and energy infrastructure needed to power AI.
- Market forces, technology, and regulation are moving financial activity to where it can be done most efficiently, making private credit a structural growth segment. We expect the private debt market will more than double to \$4.5T by 2030.⁵

Private markets are evolving rapidly and offering new ways for wealth investors to enhance portfolio outcomes. But with improved access and new implementation vehicles emerging, investors need to evolve their portfolio construction practices and introduce new key considerations to arrive at the optimal mix and size of private market allocations in their public market portfolios.

Figure 1: Private markets represent a large and growing opportunity set



1 Source: Capital IQ, BlackRock as of 31 December 2023. Represents the number of companies with annual revenues greater than \$100 million. **2** Source: PitchBook and Morningstar, “Unicorns and the growth of private markets,” March 2024.

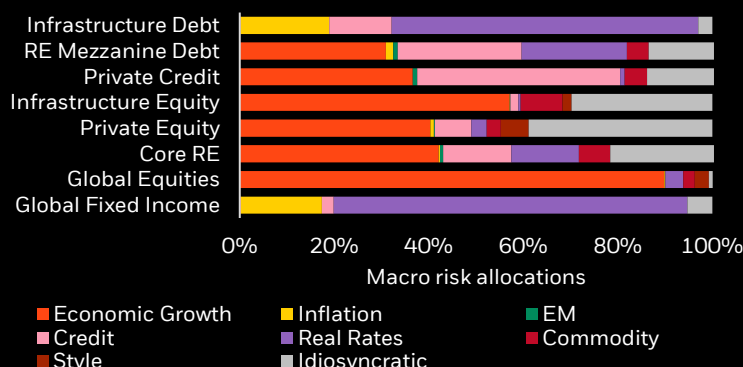
3 Source: Preqin, as of 18 September 2024. There is no guarantee that any forecasts made will come to pass. **4** Source: BlackRock IPS EMEA, BlackRock Aladdin, Morningstar. Portfolio average allocation based on 246 moderate risk multi-asset EMEA domiciled portfolios collected by between 30/09/2024 – 31/12/2024. **5** Source: BlackRock, December 2024.

Key portfolio considerations when allocating to both public and private markets

1 A heterogeneous asset class

Private markets encompass a wide range of asset classes that could offer a differentiated mix of risk and return drivers compared to public market exposures (see figure 2). Overly concentrated bets on economic growth, real rates and inflation macro risk factors in public markets is another reason to consider diversifying with an ‘alternative’ mix of risk factors through private markets. We encourage constructing private market portfolios where the movement of a single macro factor doesn’t risk impairing investors’ capital – so flexibility, selectivity across regions, sectors and vintages, capital deployment, and risk management are paramount, in our view. For this reason, choosing a top manager is key, in order to benefit from the different features private markets can offer.

Figure 2: An ‘alternative’ make up of macro risks

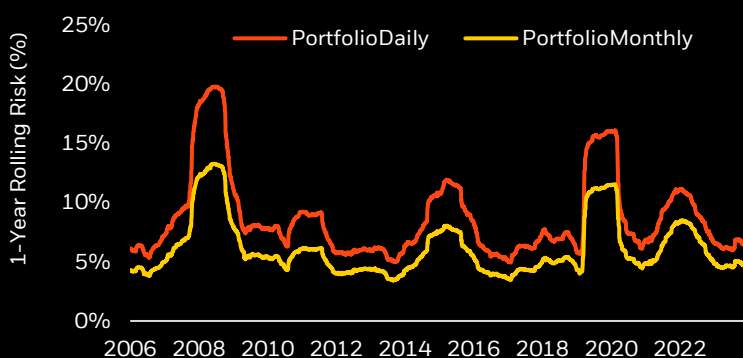


Source: BlackRock Aladdin, as of 30 November 2024, in line with our CMA risk date. Currency: EUR. Private markets exposures are showing BlackRock representative generic globally diversified baskets of investments to proxy the representative asset class. Global EQ is showing MSCI All Country World Index. Global Bonds is showing Bloomberg Global Aggregate Index Hedged. FX risk for all exposures has been hedged.

2 Measuring risk

When allocating to private markets alongside public markets, it is key to recognise that private markets could be correlated to public markets to varying degrees, depending on the exposure, and generally aren’t entirely immune to the volatility we see in public markets. However, they do offer a different marked-to-market dynamic, which could help deliver a more resilient portfolio outcome. Private market funds often report net asset value less frequently than public market funds. This could lead to underestimation of the ex-post risk of the portfolio (see figure 3). Leveraging a fundamental risk factors framework to analyse the ex-ante economic risk across both public and private markets allows for a consistent and timely view of risk in the whole multi-asset portfolio.

Figure 3: Rolling 1 year risk of a 40/40/20 portfolio

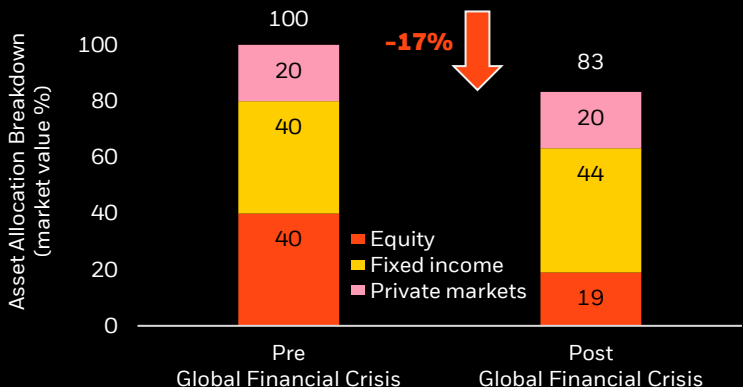


Source: BlackRock, Aladdin as of 30 September 2024. ‘Portfolio Daily’ uses daily parametric returns to calculate 1-year volatility. ‘Portfolio Monthly’ uses monthly parametric returns for the same. Public-private portfolio entails 40% MSCI ACWI Index, 40% Bloomberg Global Agg EUR Hedged Index, 20% diversified private markets through BlackRock proxies. Currency EUR.

3 Liquidity and asset allocation drift

Liquidity needs could greatly influence private markets allocations. BlackRock finds that many investors could make relatively large allocations to private markets versus their public markets sleeve, before liquidity constraints start to bite. A 20% allocation to a diversified set of private markets could be still reasonable for cash requirements below the 12% mark.⁶ Also, due to lack of price discovery mechanisms in private markets, asset allocation could change at times of market stress when public markets re-price quicker. Similar drifts can also result from unexpected redemption patterns. We show that with a 20% allocation to private markets, the asset allocation drift in a stress scenario like the global financial crisis could still be manageable at 17% (see figure 4).

Figure 4: Stress testing a 40/40/20 portfolio for a drawdown scenario



Source: BlackRock, as of 20 November 2024. The Global Financial Scenario Past Performance is based on the maximum drawdown in markets during the global financial market crisis, from 15/06/07 to 09/03/09; Public-private portfolio entails 40% MSCI ACWI Index, 40% Bloomberg Global Agg EUR Hedged Index, 20% diversified private markets through BlackRock proxies. Currency EUR. Historical performance is no indication for future performance.

⁶ Source: BlackRock Investment Institute, ‘The core role of private markets in modern portfolios’, March 2019.

ELTIF: a new frontier in private markets

Historically, private markets have been underrepresented in wealth portfolios compared to institutional investors' portfolios. This has been due to access, liquidity, complexity and regulatory concerns. The European Long-Term Investment Fund (ELTIF), introduced in 2015, allows private assets funds to market across the EU with a single passport. Recent amendments, known as ELTIF 2.0, have enhanced the attractiveness by offering more flexibility and simplified access, expanding the portfolio implementation toolkit for investors in EMEA (see figure 5).

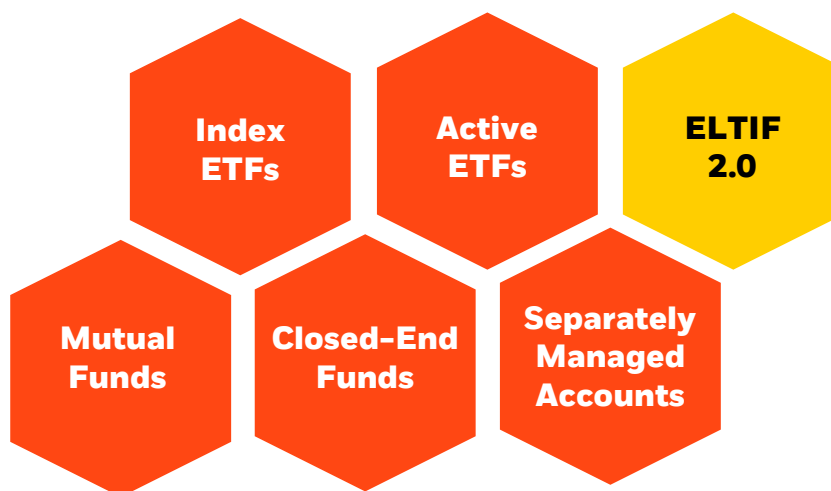
- 1. A design that breaks down barriers to entry**

The ELTIF is the first wrapper that allows scalable and regulated pan-European distribution of private markets investments across most investor types – including both institutional and wealth investors.
- 2. ELTIF 2.0 is set to accelerate adoption⁷**

The updated ELTIF 2.0 regulation came into force in January 2024 and materially expands the toolkit available to manage and distribute innovative private market strategies.
- 3. Open-ended structure as commercial enabler**

The evergreen private market strategies with regular liquidity made possible through the ELTIF 2.0 offer a multitude of commercial use cases – ranging from traditional advisory, to digital and discretionary portfolio management.

Figure 5: An expanded toolkit fit for the new regime



For illustrative purposes only; they are not meant as a guarantee of any future results or experience and should not be interpreted as advice or a recommendation. Source: BlackRock, as of 31 December 2024. ⁷ Source: ELTIF 2.0 (Regulation (EU) 2023/606) amending the initial ELTIF (Regulation (EU) 2015/760).

Implementing private markets with ELTIF 2.0

ELTIFs invest in long-term equity and debt investments in the real economy of the EU and beyond, while being under the protection of a dedicated European regulatory regime. **ELTIF 2.0 is designed to overcome some of the key operational and structural barriers that hindered a broader adoption of private markets** in recent years, including:

- **Improving access** – introducing an evergreen, open-ended ('semi-liquid') structure, which offers liquidity at periodic intervals, removing long-term lock up periods.
- **Harmonising suitability** – simplifying the distribution process, as the ELTIF suitability check is now fully aligned with MiFID II suitability (Markets in Financial Instruments Directive).
- **Broadening the investible universe** – expanding the investment opportunity set available to managers, allowing for globally diversified investment strategies in an ELTIF wrapper.

A ‘whole portfolio’ approach to sizing and managing the private markets allocation

We believe that to build a portfolio fit for the future, investors need to adapt to a cohesive portfolio construction framework that considers the interplay between public and private markets. We believe this approach is best suited to delivering a unified proposition that leverages the strengths of both market types, using a varied and innovative product toolkit, while focusing on the target portfolio outcome.

When allocating to private markets next to your public markets sleeve, considerations such as liquidity requirements, the target alpha and risk budget, fee and operational budgets, ability to consistently access and pick highly-skilled managers, and the level of control needed in asset allocation would influence how much to allocate to an asset class and which investment strategies and vehicles to use.

We illustrate an integrated approach to portfolio construction with public and private markets in the context of a multi-asset growth portfolio in figure 6.

- 1 Starting from a 60% equities and 40% fixed income public markets only portfolio, we allocate 20% of the public equity sleeve to a diversified private markets exposure, as illustrated in the left-hand chart.
- 2 Why 20%? Investing in private markets requires management of portfolio liquidity. These liquidity needs could greatly influence an investor’s capacity to allocate to private markets, but we find that a 20% allocation to a diversified set of private markets could still be accessible for

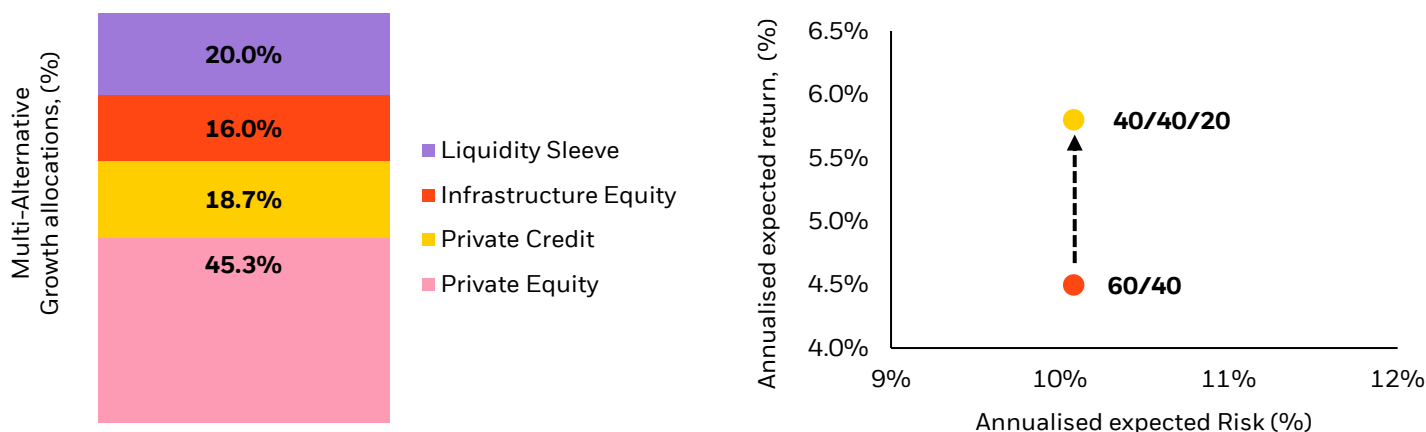
investors with cash requirements below 12%. For investors with lower spending needs, private market allocations could be even bigger.

- 3 Why funded from public equities? Allocating to private markets can be funded from either public equities or fixed income, or both. The approach we highlight considers the make up of the private markets sleeve and its expected risk levels. As the growth multi-alternative sleeve has equity-like ex-ante volatility, given that more than 50% of its allocations are in equity-like private market strategies, we fund its allocation from the equity public markets sleeve to try to maintain the overall risk budget constraints of the whole portfolio.
- 4 The impact: introducing 20% of a diversified multi-alternative growth private markets exposure into a growth multi-asset portfolio, such as the 60/40, improves the expected risk-adjusted returns of the solution by close to 30%. It does so while keeping expected portfolio risk at bay, and virtually unchanged, due to the powerful diversification benefits that private markets can bring alongside public market exposures.

The bottom line: in our view, investing in both public and private markets, while taking into account liquidity, operational and manager selection considerations, now and for the future, could enhance the ability to generate sustained performance as well as improve risk management in an integrated whole portfolio solution.

Figure 6: From a Traditional 60/40 Portfolio to a 40/40/20 Portfolio

Illustration using a whole portfolio approach allocating to a Multi-Alternative Growth ELTIF vehicle



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Methodology

Interest Rates: Our model provides a way to chart the yield curve at multiple time horizons in the future. We base this on our estimates of: (1) the short rate and (2) model implied term premia. We base our estimates of short rates on market data in the near term and on macro-informed data in the long term. We assume investors' views about long run inflation and real growth, coupled with changing preferences as to savings and risk aversion, will ultimately determine their expectations for short rates (the "long run short rate"). We use an affine term structure model –a type of model that assumes bond yields as a linear function of a small set of parameters (Piazzesi, 2010) –to compute model-implied term premia. In our implementation, we represent the yield curve using the first five principal components of yield, as laid out by Adrian et al. (2013). We then blend the model implied term premia from the affine term structure model with market implied term premia, with the relative weights dependent on the relevant time horizon.

Equities: Expectations of cash flows and discount rates can help explain the variability in equity returns as shown by Campbell (1990). We have used this insight to develop a discounted cash flow (DCF) model, with a few key innovative features. Most academic research focuses on the question of whether stock returns are predictable at all. We are concerned with making the best estimates that we can. We make two additional contributions. First, the baseline DCF model estimates earnings by leveraging analyst earnings estimates in the near term as discussed by Li et al (2013) to derive the implied cost of capital. The common assumption in implied cost of capital (ICC) studies is that earnings growth implied by analyst earnings estimates in the near term should trend towards GDP growth in the long term. This can introduce an unintended assumption of continued expansion of profit margins. We have introduced a modification to account for late economic cycle dynamics. We allow for corporate profit margins to revert to trend (the median over a rolling 10-year history) as margins typically peak late-cycle. The standard ICC approach typically tests for equity returns using linear regression tests. For our DCF model, we take the desired time horizon as an input (number of years) and we estimate the appropriate discount rate for the specific time horizon using our aggregate implied cost of capital. This way, we account for both key sources of variability in equity returns, namely changes in cash flows and changes in the discount rate.

Credit: Our model for credit asset (excess) returns is anchored on two key elements: 1) our estimate of credit spread at a given horizon and 2) our estimated loss due to defaults and downgrades over the horizon.

The first component is projected in a consistent manner with our view of real GDP growth and the link between credit spreads and equity volatility. Our approach helps explain the behaviour of credit spreads using a limited number of predictive variables. Yet, as validated by tests against more complex methods, it retains the ability to help explain a high proportion of the variance in credit spreads.

The second component is estimated based on our outlook for spreads, the duration of the asset and an assumed transition matrix which captures migrations and defaults across multiple credit cycles. We currently base our transition matrix on Moody's long-run transition data. We aim to further develop our model by directly modelling transitions based on macroeconomic conditions in order to better capture cycle dynamics and the respective variation in losses due to credit events. In addition to making our estimates of credit spreads consistent with our macroeconomic views, our new credit (excess) return model allows greater flexibility of calibrating our expected returns to different credit rating compositions which may prevail over the entire time horizon.

Uncertainty and optimisation: Expected returns and asset price volatility are difficult to predict. We believe any technique that builds portfolios should incorporate this inherent uncertainty (Ceria et al. 2006). We consider both long-and short-term drivers of return. In the long run, we expect a relatively small number of macroeconomic drivers —economic growth, rates, inflation, credit and currencies —to determine an asset's returns. In the short-run, other factors can overpower the structural drivers causing wider fluctuations from an asset's fair value. Valuations can be helpful in estimating short-term returns. We combine contributions from the long-and short-term return drivers to produce a final set of return expectations with a range of uncertainty around each.

The next step is to use this set of return expectations in an optimisation engine that seeks out the best return without breaching an investors' risk limit. Mean variance optimisation would produce a portfolio that maximises expected return under one base scenario with a given level of risk. In contrast, we look to build a "least-worst" portfolio —one that maximises returns for an investors' target risk levels across the worst outcomes, say for the bottom 50% of the distribution, from a set of stochastically generated scenarios (cf. Tütüncü et al. 2004 and Garlappi et al. 2006). This helps ensure the portfolio is not overly reliant on just the median return. This process seeks to produce a portfolio that is robust to small changes in the central return estimates (Scherer, 2006).

Stochastic engine: We use Monte Carlo simulation to create random distributions informed by historical return distributions and centred on our expected returns. The engine simulates thousands of return pathways for each asset, representing the range of possible outcomes over a five-to 20-year time horizon.

We leverage BlackRock's risk models to help ensure that assets generate similar returns, to the extent that they have common drivers. The range of scenarios incorporate our work on incorporating uncertainty in return expectations. We use an extension of the Black-Litterman model (1990) —a well-known model for portfolio allocation that combines equilibrium returns and medium-term views in a single-period setting. Our model uses a Kalman filter (1960) —an algorithm that extracts insights about return paths by bringing together a number of uncertain inputs —to extend Black-Litterman into a multi-period setting. This allows us to capture the variation of expected returns over time under various scenarios —from economy-related to market sentiment driven. A large part of these variations is not predictable. Constructing portfolios that are robust to, or can exploit, these variations is a major challenge for investors.

The ability to calibrate the engine with asset class views with uncertainty at arbitrary time horizons, and to evolve this uncertainty stochastically, drives the dispersion of return outcomes. Highlighting the uncertainty that investors face when building portfolios helps ensure ostensibly precise return expectations do not lead investors to concentrated portfolios.

Simulated return paths support a broader range of applications, such as asset-liability modelling. We believe stochastically generated return scenarios enable investors to move with ease beyond mean-variance and optimise portfolios against their individual needs. Investors can place more emphasis on the tails of the distribution or focus on the path of returns rather than just the total return. They can incorporate flows in or out of the portfolio over the course of the investor's time horizon or place more emphasis on scenarios that are challenging for the investor's business beyond their portfolio. Investors with complex asset-liability matching requirements, such as insurers, typically rely on stochastic simulations of returns to assess and construct portfolios.

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