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Allocating to private equity in a multi-asset class portfolio

Private markets

UBS—Allocating to private equity in a multi-asset class portfolio
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Allocating to private equity in a multi-asset class portfolio

In this paper, we explore how investors can add private equity (PE) in a multi-asset class portfolio.

In particular, we address three key questions investors regularly face when looking into the asset class:

- Why invest in private equity?
- How to size a PE allocation?
- How to reach target exposure?

While the appropriate portion of private equity in a portfolio very much depends on each investors' unique personal preferences, our findings show that a proportion of up to about 20% of an equity allocation should enable most investors to harvest the benefits of the asset class.

Portfolios including private equity (PE) investments allocate a portion of the portfolio to an illiquid asset class to harvest liquidity premiums and enhance returns. This allocation also provides access to sectors and companies that are underrepresented in public markets. In addition, illiquid asset classes have the potential for high alpha generation. But illiquidity also reduces investor's flexibility and makes it harder for them to react to unforeseen changes in personal circumstances or market opportunities. As a result, investors should have a long investment horizon and may still want to keep some of their wealth in liquid assets, even though they offer a lower expected return. In our view, the portion of a portfolio that can be allocated to illiquid assets depends very much on personal preferences and constraints, such as the need for flexibility, the anticipated time horizon, and the short- and medium-term cash flow needs relative to overall wealth. However, a proportion of up to 20% of the equity allocation should typically enable most investors to profit from higher expected returns without compromising flexibility too much given a long time horizon.

Why private equity?

The role of private equity investments in investors' portfolios has evolved over the past decade. Though the asset class was largely regarded as a niche allocation a few years ago, investors are increasingly looking at it as a way to enhance returns and access a unique opportunity set not available through listed markets.

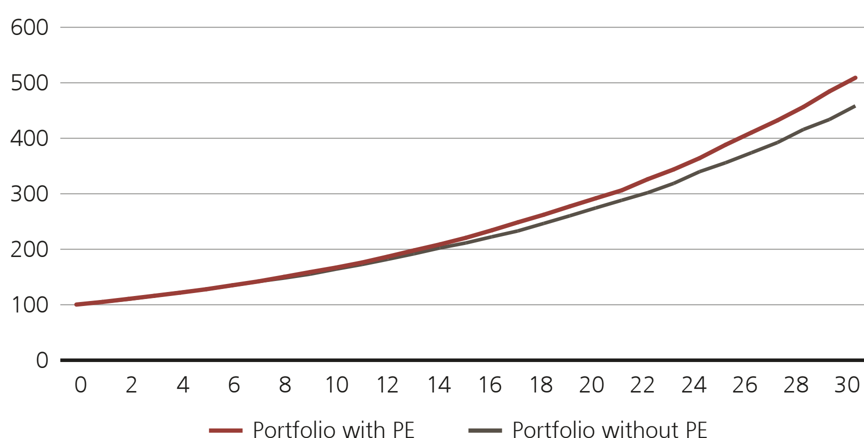
These singular features have become more relevant today. Return expectations for almost all asset classes, and for bonds in particular, have come down in recent years, as reflected in our lower capital market assumptions today versus a few years ago. As a result, constructing portfolios with satisfying returns has become a challenge for most asset allocators, especially those with long-term liabilities (e.g., pension funds).

One way to address this issue is to consider allocating toward private equity investments which, historically, have outperformed public listed equity investments. Going forward, we expect portfolios including private equity to provide a higher return than traditional portfolios (Fig. 1). In addition, the reported volatility and probability of low returns for such portfolios are both likely to be reduced (Fig. 2).

Figure 1

Expected wealth development of a USD Balanced Portfolio with PE and without PE over 30 years

Cumulative wealth growth over 30 years



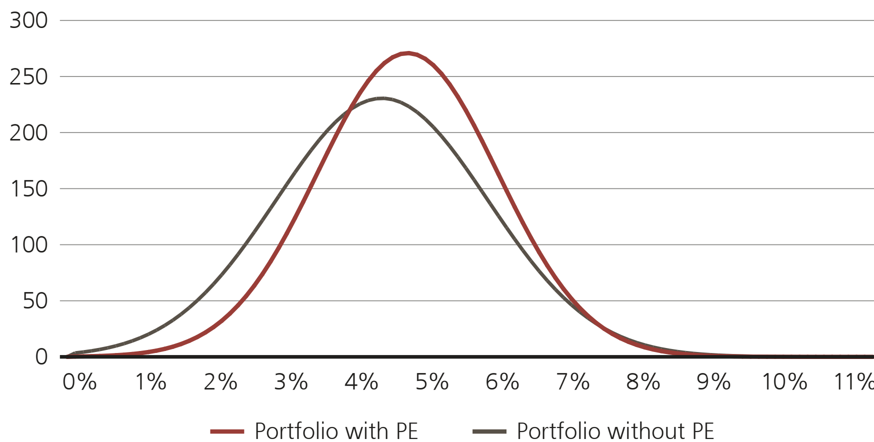
Source: UBS; simulation based on CIO Capital Market Assumptions and CIO USD Balanced Portfolio including 10% PE financed by listed equity; expected risk and return in line with UBS CIO Capital Market Assumptions; annual rebalancing within liquid portfolio.

In our view, several drivers explain the outperformance of private over public equity investments: active ownership, complexity, illiquidity, and leverage.

Figure 2

Annual return distribution of a USD Balanced portfolio with PE and without PE over 30 years

Frequency of outcome



Source: UBS; simulation based on CIO Capital Market Assumptions and the CIO USD Balanced Portfolio including 10% PE financed by listed equity; expected risk and return in line with UBS CIO Capital Market Assumptions; annual rebalancing within liquid portfolio.

We view active ownership as a key differentiator, as taking significant or controlling ownership stakes allows fund managers to create value directly through strategic or operational changes as opposed to buying shares in listed companies. Private equity investing is also more complex and labor-intensive, and offers lower information transparency than public equities. These characteristics typically reward those with the necessary skill set and execution capabilities with higher returns. The illiquid nature of the underlying assets also requires an additional return to induce investors to hold such investments, while the use of leverage typically helps magnify returns.

Adding private equity to a portfolio not only enhances expected returns, but also pushes investors to focus on the long term. The illiquid nature of the asset class helps avoid the irrational selling that can occur during unstable market conditions. Overall, private equity can insulate against many of the behavioral biases inherent in investing.

With many of the opportunities accessible through private equity investments not available through listed markets, such instruments also provide differentiated return streams in a traditional portfolio. Private equity funds typically invest in smaller companies across various parts of the corporate cycle, ranging from start-up businesses accessed through venture capital strategies to more mature turnaround businesses accessed through buyout funds.

The challenges of PE investing

Such investments, however, come with their own challenges. Private equity investments require long capital commitments. With fund terms of up to 10—15 years, an even longer time horizon may be required to diversify vintages. The lower flexibility to exit investments if needed, for instance during a rebalancing process or at times of crisis, introduces a new liquidity dimension to risk. Separately, fund managers do not call capital all at once, but gradually as they deploy capital to new investments. Such capital calls can be difficult to time, and investors need to budget them—otherwise they expose themselves to a funding risk. We aim to provide context to these challenges in the sections below.

Private equity investing also incurs higher fees and transaction costs than public investments. Minimizing tactical shifts in and out of the asset class and holding investments to maturity can help investors earn attractive returns versus those available in public markets. When measuring risks, investors should be aware that reported volatility may be lower than that of public markets. Still, the underlying hidden volatility can lead to higher losses, which is reflected in the high level of manager return dispersions, and risk should be viewed beyond short-term fluctuations seen in reported volatility. Investors should also take into account personal legal and tax considerations.

Incorporating illiquidity in investor portfolios

Given the challenges associated with the asset class, allocating to private equity—and illiquid assets more generally—requires careful planning. To identify the appropriate allocation, investors first need to assess their willingness to invest for the long term, their tolerance for illiquidity, and their capacity to fund current and future expenses without touching their private equity allocation. By addressing these questions, investors can be better prepared to incorporate illiquid investments into their portfolios. In particular, investors should consider:

- **Time horizon of investment:** Investors' time horizon is defined as the period of time until they need to transform an invested portfolio into cash. Setting a time horizon for an investment cannot be disentangled from an investor's personal goals and objectives, and, depending on such goals, investors should ensure that their investment time horizon matches the duration of their private equity investment. Importantly, these objectives may change over time due to personal circumstances. Answering the following questions, may help provide a better idea about the appropriate time horizon: What are my current and future spending needs? What are the time horizons associated with each spending goal? How much flexibility do I have in changing spending needs in the event of an adverse market environment?

- **Tolerance for illiquidity:** Since investors are locked in for the duration of each private equity investment, they should be clear on their tolerance for illiquidity. This tolerance has to remain steady regardless of market conditions, especially in times of market stress. Some important questions to consider are: How much of my wealth is and needs to be liquid? How will I react during volatile markets? Would I be comfortable if a portion of the assets in my portfolio were inaccessible? By considering these questions, investors can discover their motivations for having liquid assets on hand—do they seek security or are they driven by necessity? These insights, in turn, can help investors better anticipate the appropriate size of private equity allocations, avoid any potential liquidity risk, and capture the premium for holding illiquid assets.

- **Current and future expenses:** By quantifying current and future expenses, investors can form a more coherent picture both of their liquidity budget and of how many liquid assets are needed to meet upcoming liabilities. By giving a clear purpose to the liquidity in their portfolio, investors can better understand how much illiquidity they can afford without running a funding risk.

A goal-oriented investment strategy that clearly identifies short-, medium-, and long-term goals can be a powerful way to align a portfolio with all three key principles outlined above. Segmenting portfolios to match goals across these differing time horizons can guide investors in how much to allocate toward private equity, enabling them to construct robust portfolios that are optimized to meet each of these objectives. Indeed, investors may discover that they can take on more illiquidity than they had previously thought.

Funding a private equity allocation

Investors primarily select a long-term asset allocation that reflects their ability and willingness to take investment risk, with risks defined as variation of reported wealth (portfolio volatility).

Our principal guideline is that an allocation to private equity should preserve and not change these risk characteristics (even though it adds liquidity risk). Therefore, adding private equity to a portfolio would be appealing to investors who already have a meaningful allocation to equities and who are both familiar and comfortable with equity risk. Furthermore, we recommend an exchange of one unit of listed equity with one unit of private equity. In particular, we propose financing PE out of global equities and, where private equity solutions have a significant regional bias to, for example, the US, by selling US equities.

We believe that this substitution rule preserves the risk stance of the portfolio. Even though an investment in private equity has certain attributes that differentiate it from listed equity (e.g. the focus on smaller companies mentioned above), it is still an equity investment and has similar characteristics to listed equity. In our modeling we assume that broad private equity investments and listed equities are correlated. This may not be obvious when looking at reported performance numbers because these tend to be lagged and smoothed for PE. Also, the large active component in PE suggests that the correlation between a specific PE investment and the listed equity market is often lower than the correlation between the overall PE and listed equity markets.

Sizing a private equity allocation

In general, there is no "right allocation" to private equity. As discussed above, investors should calculate the trade-off between "more flexibility," "diversification," and "a better return outlook" based on their personal preferences and constraints, and then adjust the allocation accordingly.

Investors need to ensure that the funds invested in private equity, as well as commitments made, are not required for other purposes over the next 10–15 years at the time of commitment. This same approach should also hold true when considering potential changes in market conditions or in personal circumstances, for example with regard to job security. Of course, private equity investments are expected to distribute cash over time (not only at the end of the holding period), and there is also a secondary market for private equity. But in times of market stress, distributions to investors may be delayed and the secondary market may be difficult to access or may demand a steep discount (usually 20% to 30%). Importantly, defaulting on capital calls incurs sharp sanctions, ultimately leading to the exclusion of defaulting investors and the loss of their fund stake.

Considering the various factors above, PE allocations of up to 10% for investors in a Balanced profile and up to 20% in an Equity profile are appropriate, in our view. We think that such allocations, in general, preserve reasonable flexibility and diversification while enabling the harvesting of the additional return potential that private equity affords (for more information see simulations in the appendix).

We expect (based on Capital Market Assumptions) that an average private equity investment will deliver, after fees, approximately a 2% to 3% pickup over listed equities a year. Switching up to 20% of the equity allocation into private equities would therefore increase the expected return of the equity portion of the portfolio by up to 60 basis points p.a. With top-tier manager alpha, there is potential for even higher expected returns. Reported volatility would typically not increase and might even decrease slightly, due to smoothed reporting. This, however, does not mean that a strategy with private equity is less risky, but rather that risk may materialize in illiquidity instead of in reported price volatility.

Figure 3

Indicative allocations to private equity

	Yield	Balanced	Growth	Equity
Equity allocation	~ 30%	~ 50%	~ 70%	~ 100%
PE allocation	Up to 5%	Up to 10%	Up to 15%	Up to 20%
Expected return pickup	~ 10–15bps + alpha potential	~ 20–30bps + alpha potential	~ 30–45bps + alpha potential	~ 40–60bps + alpha potential
Expected reported vol reduction	c. 15bps	c. 30bps	c. 45bps	c. 60bps

Source: UBS, expected returns are p.a. and PE is assumed to be fully invested.

Allocating to private equity is different than public equity investing

When investing in public markets, investors typically gain instantaneous exposure to the underlying asset. In private markets, however, this is typically not the case.

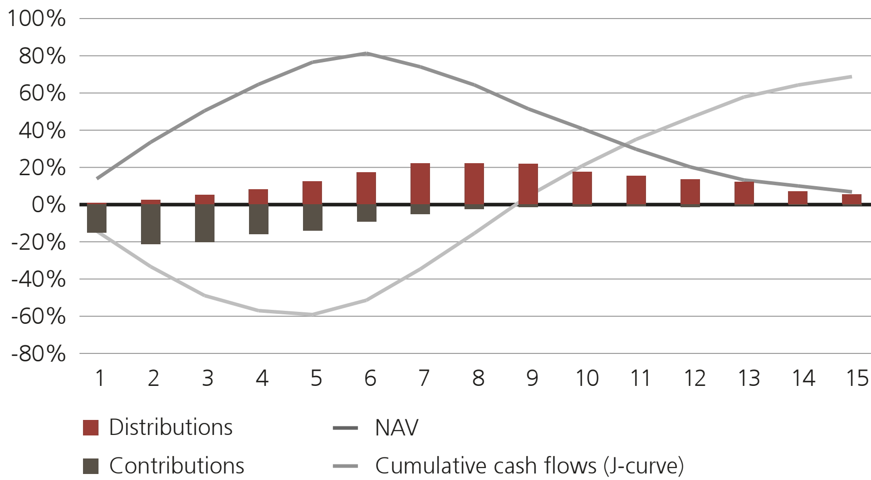
Investors need to commit a certain amount to a fund. Following commitment, capital is gradually invested, and then, including proceeds, returned over a typical 10–15 year period. From years 1 to 5, private equity managers typically call capital from the investor and invest in the underlying portfolio companies. From years 6 to 15, cash is returned back or distributed to the investor after exits are realized. This overall cash flow pattern is commonly known as the "J-curve,"represented by the black line below.

Capital calls and distributions are usually out of the investor's control and are coordinated by the private market fund manager. Crucially, the exposure to a fund (as noted by NAV in the figure below) is not static. Private equity exposure increases as capital is invested, but then declines as capital is returned back. In general, investors never fully reach target exposure with one investment. Maximum exposure typically peaks at about 80% of target at around year 6, as represented by the NAV line below.

Figure 4

Historic average cash flow pattern of private equity investment

In % of commitment size



Source: Pitchbook, UBS; Cash flows and NAV as a % of commitments reflect historical global buyout funds from 1995–2018. Data is reflected net of fees.

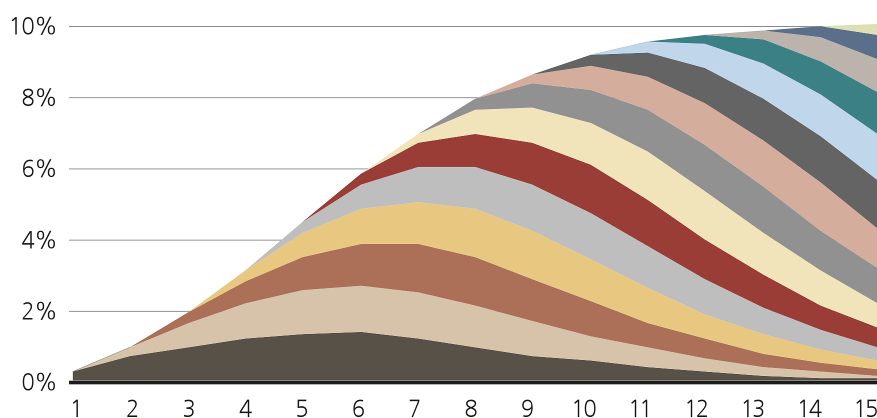
Building exposure takes time and requires consistent commitment

As a result, investors must allocate to more than one fund not only to at least reach target exposure, but also to achieve a stable allocation over time. In general, we recommend allocating a portion of a portfolio to private equity every year. Doing so provides three key benefits: 1) It provides consistent exposure to the asset class (as measured by NAV). 2) It ensures vintage year and fund diversification, thus reducing dependency on a particular economic environment or manager. 3) Investors can ultimately create a self-funding private equity portfolio where distributions from older vintage funds “pay” for contributions to new funds, in normal circumstances.

Figure 5

Example of a commitment plan for a 10% allocation to private equity

Private equity exposure in % of overall portfolio



Source: Pitchbook, UBS; Cash flows and NAV as a % of commitments reflect historical global buyout funds from 1995–2018.

As a rule of thumb, we recommend committing about 20%–25% of the targeted PE portfolio each year.

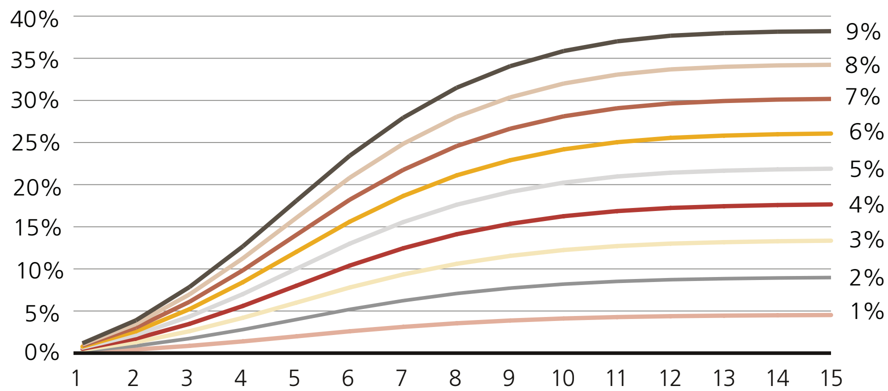
- For example, for a USD 10mn investor targeting a 10% exposure to PE in a balanced portfolio, we estimate a commitment of about USD 200,000 to USD 250,000 (USD 10mn x 10% x 20% to 25%) for the first year.
- For every year onward, the investor should continue to commit 20% to 25% of the target PE exposure. In this example, year 2 would require a commitment of USD 210,000 to USD 263,000, assuming an underlying portfolio that is growing by 5% (USD 10.5mn x 10% x 20% to 25%).
- Commitments are made out of the equity portion of an investor's portfolio and in nominal terms at the time of commitment. Therefore, as markets move and the portfolio value varies, the defined commitment will change in percentage terms of portfolio value.

Figure 6 shows the terminal allocation of PE for investors who commit a certain proportion of their total portfolio, annually. We note that, depending on public market performance, the private equity allocation may end up over (when public markets underperform) or under (when public markets outperform) the initial target percentage.

Figure 6

PE exposure as % of overall portfolio for various commitment sizes

PE terminal allocation (lhs) and corresponding yearly commitment as % of total portfolio (rhs)



Source: Pitchbook, UBS; Cash flows and NAV as a % of commitments reflect historical global buyout funds from 1995–2018.

Investors may be tempted to skip a particular vintage year, but this may lead to underexposure to PE and a potential mismatch of distributions to meet new contributions later on.

Using the outlined commitment planning, we estimate that it would take about 10—12 years to reach an equilibrium state. From this point on, the PE allocation in the portfolio becomes self-funded, as distributions outweigh capital calls.

Overallocating at the beginning of a commitment program can speed up this process. Allocating to secondary funds can also help achieve faster exposure to private equity given that underlying investments are already seasoned private equity stakes, hence mitigating the J-curve.

Managing uncalled capital

During a buildup phase of a private equity allocation, the capital committed but not yet called needs to be managed. Investors can consider:

- **Keeping commitments invested in equities:** The benefit of this approach is that all capital continues to earn a risk premia; the disadvantage is that in a market downturn a higher percentage of listed equity needs to be sold to finance the unchanged amount of capital calls.

- **Keeping capital committed in cash or cash alternatives:** The benefit is that capital calls can be financed even in a market downturn; the disadvantage is that parts of the capital remain uninvested. If markets rally, the portfolio is "underinvested" in equities and suffers a performance drag. If, on the other hand, markets fall, then cash outperforms. But, more importantly, no potentially undervalued listed equity needs to be sold to finance the capital calls.

The preferred approach depends on investors' risk appetite and ability to take on liquidity risk. We find that holding low-risk assets (cash or short term government bonds) for at least some of the commitments expected to be called over the next few years gives peace of mind to many investors, especially if the liquid portfolio is heavily invested in equity. However, from a long-term risk and return perspective, financing the capital from the equity allocation is the preferred solution.

Fully funded solutions

Some solutions solve the problems or challenges of building up a private equity portfolio—like managing the capital calls and deciding on the interim investments—by requiring full funding on the first day. Investors commit to investing the total investment amount at once, and the money is then held in cash or invested in liquid/illiquid investments with shorter payback time (for example, secondaries), or in semiliquid asset classes that provide market exposure and deploy the assets until they are called to finance the private equity investment.

These solutions are particularly attractive to investors who do not want to worry about capital calls and the related liquidity risk and would rather delegate the management thereof instead.

How much PE is too much?

Investors may ask themselves how much private equity is too much. As discussed above, a key priority is preserving the portfolio's risk profile. In addition, a private equity allocation should not endanger reasonable portfolio diversification, and investors should avoid having PE unintentionally dominate the portfolio characteristics, resulting in less variety across asset classes, regions, sectors, or managers.

Finally (and importantly), a private equity portfolio should not result in liquidity issues. In the severest risk case, an investor should always have sufficient liquid funds to meet capital calls and external spending needs. Simulations in Appendix A show that allocations up to about 20% in private equity pose limited risks of running out of cash, even including some spending needs, and even under severe market conditions. Higher allocations to private equity and illiquid assets more generally would require some allocation to cash or liquid bonds or the possibility of accessing external liquidity in times of severe market stress. Another option to mitigate this risk would be an investment in a fully funded solution, as described above.

Our bottom line

We view adding private equity to a portfolio as an attractive proposition for investors:

- Portfolios can benefit from an illiquidity premium and the potential of harvesting manager alpha. This approach is compelling to investors who have a long time horizon and who can forgo some of the flexibility provided by liquid investments.

- Private equity investments provide exposure to sectors and companies underrepresented in public equity markets and thus increase the diversification of an overall portfolio.

- We think that the proportion that can be allocated to private equity depends very much on personal preferences and constraints, such as the need for flexibility, the investment time horizon, and the short to medium-term cash flow needs relative to overall wealth. Investors must be sure they can finance potential capital calls and that they will not need to access the money invested in illiquid private markets, even if personal circumstance change or financial markets suffer a downturn.

- For most investors, an allocation of up to 20% of the equity allocation should enable them to profit from the asset class's higher expected returns without compromising on flexibility too much.

Appendix A – How much PE is too much? Liquidity stress test

To illustrate potential liquidity risks, we test an investor's liquidity needs for various portfolios including private equity under extreme stress conditions. Our results show that allocations within our proposed ranges present limited risks of investors running out of cash, even when including some spending requirements. However, beyond our recommended ranges, investors should be aware of the funding risks they may be incurring, especially during extraordinary events.

To illustrate this point, we consider a stress test scenario with different allocations to private equity and spending rates through a 3-year bear market scenario. Our market scenario assumes equity drawdowns of about 50% a year over three years, or an environment that is more severe than the global financial crisis (2008) and comparable to the Great Depression (1929–1933).

Our objective is to assess how much private equity an investor can afford under these very extreme conditions without running out of liquidity to meet short-term liabilities in the form of capital calls or potential recurrent expenses. The likelihood of failure is defined as the probability of the liquid portion of an investor's portfolio (public equity, bonds, cash) falling below three years' worth of spending requirements (annual capital calls and yearly spending).

Figure 7

Probability of running into liquidity issues depending on PE allocation

Source: Bloomberg, UBS, Note: Color coding represents the probability that an investor's liquid portfolio falls below three years' worth of spending requirements. The liquid portfolio assumes a broad range of weights between global equity (MSCI All Country World Index) and global fixed income (Bloomberg Barclays Global Aggregate) measured in USD. The PE portfolio is considered mature with yearly contributions depending on the PE target, as defined in Figure 6. Monte Carlo simulations of the liquid portfolio values reflect severe bear market performance lasting three years. All liquidity and spending needs are taken on an annual basis. We assume no slowdown in capital calls and assume no distributions.

Looking at the first column in the graph above (labeled as 0%), our simulation shows that under severe market stress there is a 95% or above probability that the liquid portfolio of investors with up to a 20% allocation to private equity can fully finance three years of capital calls. Note that this column accounts for withdrawals required to meet capital calls for existing PE commitments only. We assume no distributions from these PE investments. The higher the PE allocation, the larger the capital calls required each year and the smaller the portion of liquid portfolio available for withdrawals. So, under our scenario assumptions, a portfolio with a 40% PE allocation heading into extreme stress incurs a lower probability of success (around 70%) versus a 20% PE portfolio.

When adding recurring annual spending needs (moving to the right), our simulations show higher probabilities of failure. With spending needs below roughly 4%–5% per year, portfolios including 20% PE or less continue to fare relatively well. Meanwhile, portfolios with 25% or more PE already show a pickup in failures with spending rates in the range of 2%–3%. Beyond 5%, most portfolios start to show more material pickup in failure rates.

Overall our analysis shows that a PE allocation below 20% is rather "safe" from a liquidity risk perspective. Beyond 25%–30% (and especially for investors with high spending requirements), we highlight the risk of liquidity issues during severe downturns. The higher the need for regular cash flow, the higher the liquidity risk and the potentially lower tolerance for a high private equity (or more broadly illiquid) allocation.

We note, however, that our results depend heavily on the assumptions we have made in terms of the severity and length of the downturn, liquid asset class mix, frequency of liquidity needs, distribution, and capital call schedule. For example, for portfolios with a high liquid bond allocation, the probability of experiencing liquidity issues is lower (though in times of severe market stress, credit bonds, in particular, might also have liquidity constraints). Also, if we assume less severe market conditions, higher cash/ bond allocations, or external liquidity buffers, higher PE allocations and higher spending would be possible.

Appendix B – Private equity exposure dynamics in a portfolio

To illustrate the effects of a PE allocation on portfolio weights, we perform simulations based on the CIO USD balanced portfolio including liquid bonds, listed equities, and different allocations to private equity. The aim of the simulation is to show how private equity exposures differ based on investments across one versus multiple fund investments. We also show that the results of targeting private equity exposures may vary to some degree depending on market performance, which investors should be prepared for.

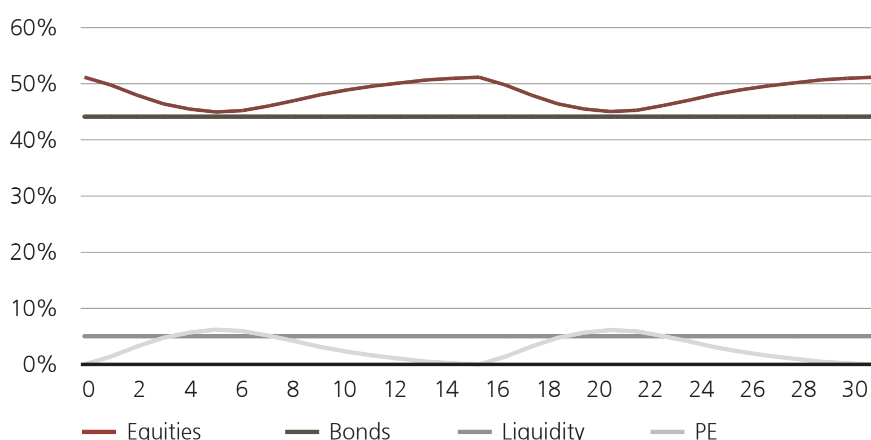
In our methodology, asset classes perform according to the expected risk and return defined in the CIO Capital Market Assumptions (CMA). For example, listed equities have an expected return of about 7% p.a. and a volatility of about 13%. For PE, we take a representative J-curve with the corresponding contribution and distributions over time, but also add uncertainty such that the resulting volatility of the asset class corresponds to our CMA assumption. Also, we assume that the liquid portfolio is rebalanced annually such that the original bond and equity allocation—and thus the risk profile—is preserved. We start with a portfolio of cash, bonds, and equity, but initially without PE, and model the portfolio behavior during the buildup phase. At the beginning, the investor chooses the size of the commitment, as well as the frequency of committing to new funds. Both decisions together can determine how fast and smoothly the PE allocation will grow. After this, the investor has little control over capital calls and distributions throughout the PE program's lifetime.

The following chart shows a portfolio when investing only in one fund and reallocating only after the first fund has been fully paid back after 15 years. In this simulation, 15% of the initial portfolio value is committed.

Figure 8

Expected asset class weights for portfolio with one vintage

Portfolio weights in %



Source: UBS, simulation based on CIO Capital Market Assumptions and the CIO USD Balanced Portfolio; PE financed by listed equity; expected risk and return in line with UBS CIO Capital Market Assumptions; annual rebalancing within liquid portfolio.

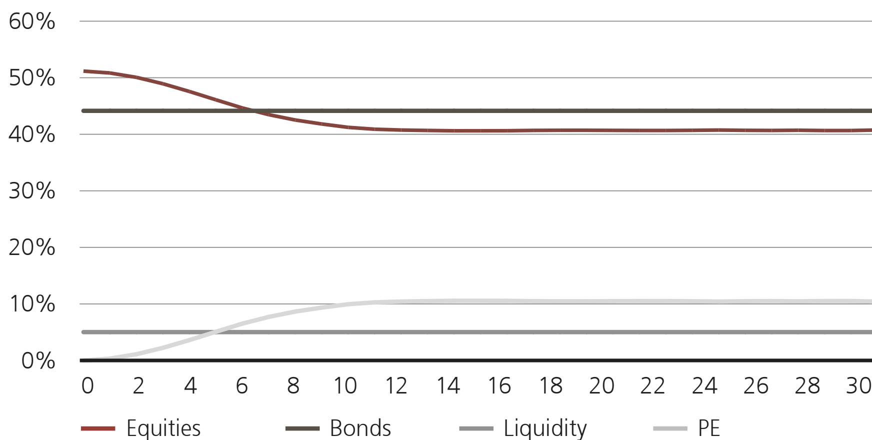
Figure 8 shows that the PE allocation in the portfolio follows a pattern as implied by the J-curve. The allocation increases for some years before falling back as cash is distributed back to the investor. In this example, we use a fund with a lifetime of 15 years. Obviously, the strong variation of the PE allocation in the portfolio is not desirable. Although 15% of the initial portfolio size is committed, the median PE allocation reaches only about 10%, in line with the discussion in the previous section.

To increase the stability of the allocation, investors need to invest in more than one fund. The most stable allocation is reached when an investor participates in a new fund every year (i.e., a PE program of 15 vintages). As the number of vintages increases, the allocated amount per fund declines or the overall allocation to PE would exceed the target. Figure 9 shows a median allocation to PE with yearly commitments of 2.2% of total portfolio value to target a 10% PE allocation in the portfolio. With PE financed out of equities, the equity allocation complements the private equity allocation.

Figure 9

Asset class weights for portfolio with yearly vintages

Portfolio weights in %



Source: UBS, simulation based on CIO Capital Market Assumptions and the CIO USD Balanced Portfolio; PE financed by listed equity; expected risk and return in line with UBS CIO Capital Market Assumptions; annual rebalancing within liquid portfolio.

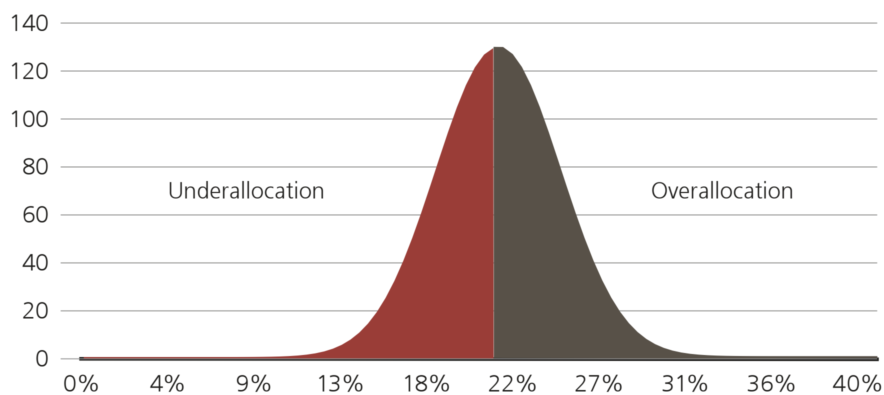
Due to PE's illiquid nature, the PE allocation cannot be rebalanced constantly, unlike other asset classes in the portfolio. Only at the start of each commitment can the size of the portion to allocate be chosen. Consequently, the allocation of PE in the portfolio may deviate over time depending on liquid market movements. Figure 10 shows how a PE allocation as a percentage of the overall equity allocation (i.e., the

combined PE and listed equity allocation) can deviate from the target allocation after 30 years. While, on average, the desired exposure is reached, investors may find themselves overallocated or underallocated. That said, these deviations remain within acceptable limits and still offer reasonable diversification between listed and private equity.

Figure 10

Private equity weight as % of total equity allocation distribution

Frequency of outcome



Source: UBS, simulation based on CIO Capital Market Assumptions and the CIO USD Balanced Portfolio including 10% PE financed by listed equity; expected risk and return in line with UBS CIO Capital Market Assumptions; annual rebalancing within liquid portfolio.

Overall, targeting exact PE exposure is a challenging exercise. Investors should outline acceptable timeframes and ranges of exposures to plan for these deviations. When PE allocations move outside of these parameters, we suggest adjusting commitments to upcoming vintages to some degree. As a best practice we recommend that investors avoid completely skipping out on a certain vintage year, thereby removing the temptation to try to time the market.

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