LIQUIDITY CONSIDERATIONS

FOR NOT-FOR-PROFIT INVESTORS

Russell Investments

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Liquidity considerations for not-for-profit investors

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Liquidity provides a crucial limitation in the investment management of not-for-profit portfolios. The ability to meet all potential liquidity needs is of utmost importance to all investors. For institutional investors, periodic obligations necessitate careful asset allocation to mitigate the risk of failing to meet these obligations. Not-for-profits have two broad categories of obligations: 1) organisational cashflow needs, and 2) private market unfunded commitments, along with the desired, but not legally required, use of liquidity to rebalance the portfolio.

Liquidity management is the process of ensuring that the investment portfolio has enough cash and other liquid assets to meet its current and future cashflow needs. We use an illustrative example to provide a simple high-level framework that combines top-down asset allocation and historical liquidity stress tests with bottom-up cash flow modelling to help provide guidance on sizing allocation to illiquid assets in investor portfolios. These cannot be separated and looked at in isolation, as the asset class design cannot be decoupled from the liquidity (or lack thereof) of the implementation options. Proper liquidity management can create confidence in the ability to invest in illiquid assets while ensuring the portfolio has sufficient liquidity to meet its obligations.

Several challenges arise when considering the appropriate allocation to illiquid investments. Let us consider two types of investors: liquid-only and 90% illiquid. The very conservative liquid-only investor will always have sufficient liquidity to fund their required and desired cashflow needs but will have missed opportunities for performance enhancement from illiquid assets.

On the other hand, the very aggressive 90% illiquid investor will have plenty of potential return enhancement from illiquid assets but may fail to meet its required cashflow obligations in certain market scenarios, which could result in the need to sell assets at large discounts in order to not breach legally required outflows.

Detailed liquidity analysis can help the overly conservative investor gain confidence in building an appropriate allocation to illiquid investments while also deterring the aggressive investor from inappropriately allocating to illiquid investments.

1. Understanding an investor's liquidity sources and uses

Effective liquidity management requires a clear understanding of the key factors and measurements involved. In this section, we explore the sources and uses of liquidity and the challenges that arise when liquidity needs exceed available resources.

Sources of liquidity

An investor's portfolio can be supplied with liquidity through different sources, for example:

- **Daily liquid assets**: These include cash, cash equivalents, and highly liquid securities (e.g., public equity) that can be readily converted into cash with transparent daily pricing. The liquidity that can be assumed from the liquid assets will depend on both the total allocation to liquid assets, and the price volatility of the liquid assets.
- **Inflows**: Not-for-profit organisations may receive donations or gifts and affiliated-institution assets to manage or inflows from organisational operations, and pension plans may receive contributions.
- **Distributions from private investments**: If an investor has existing private investments, the returns generated are paid back through distributions.

An investor is likely only able to rely on the liquid asset base to provide liquidity over a short time horizon. In long-range planning, however, an investor may consider all of the above as able to contribute to the liquidity of the portfolio to meet financial obligations. Many investors consider investments with monthly or quarterly liquidity to be liquid, but for liquidity planning purposes, we caution against relying on that liquidity—especially if those investments contain clauses (exit gates) that do not guarantee the liquidity without penalties. This is often seen with investments in hedge funds and open-ended private investments.

Uses of liquidity

Similarly, the available liquidity in an investment portfolio can be used to meet different cashflow needs that an investor might have.

- **Organisational cashflow needs**: The cashflow needs will vary by investor type. Endowments and foundations will have the annual spending payout and internal and external expenses, while other investment pools may be expected to support organisational cashflow needs, such as defined benefit plans funding benefit payments and expenses. All investors will need to assess the expected total outflows along with the maximum potential outflows.
- **Capital calls from private investments**: In the case of investments in private funds, capital calls will be made by the fund manager to meet investment commitments.
- **Rebalancing**: Portfolio rebalancing involves adjusting asset allocations to maintain the desired risk and return characteristics. This is typically desired, but it is not a legal responsibility.

Organisational outflows

The organisational outflow requirements and capital calls are typically liquidity needs that the investment portfolio must fund. Although rebalancing does require liquidity, it is typically something that is desired, but is not required if the investor can tolerate deviating from strategy in a stressed liquidity event.

The impact of spending and other organisational outflow needs on the ability to allocate to illiquid investments will be impacted by both the size and variability in the outflows. Larger outflows increase the liquidity needs, while variability can have differing impacts depending on the reason for the variability. Some organisations can reduce spending based on declines in the value of assets (i.e., an endowment or foundation with a spending policy that is reactive to the market value of assets or an organisation that could delay capital spending).

In this section, we explore the sources and uses of liquidity and the challenges that arise when liquidity needs exceed available resources.

The ability to reduce spending if desired would lead to a greater tolerance for illiquid investments as this would reduce outflows (liquidity needed) in a stressed market environment. However, risk rises when there are substantial variations in programmatic spending, operating costs, or projects to fund, that are driven by external needs. Externally-driven high spending variability can make it challenging to plan and allocate resources effectively. Variability in cashflow needs could be driven by the potential need to support capital projects and/or annual budgets in the case of a stressed organisational operating environment or lump sums for a defined benefit plan. To ensure that there is always sufficient liquidity available, we recommend that the allocation to illiquid investments be calibrated based on the largest potential annual spending rather than the expected spending in this circumstance.

Similarly, the business goals of a firm evolve over time, and it might need flexibility in its investment portfolio to meet them. For example, a firm might be presented with a lucrative opportunity to grow inorganically through an acquisition and might need liquid risk-free funds available to pursue it. This desired flexibility might lead the firm to hold a lesser amount of illiquid assets than what an analysis focusing only on the investment portfolio might lead us to conclude.

Uncalled capital

Uncalled capital, representing the committed but yet-to-be-called capital in private investments, introduces an additional significant liquidity risk. This risk arises due to the uncertainty surrounding the timing and size of capital calls (which are at the discretion of the private asset fund manager), which are dependent on deal-making activity and the exit environment. When the size of uncalled capital becomes substantial relative to the organisation's liquid assets, it can create significant liquidity risks and restrict the ability to meet immediate cash flow needs. The greatest drivers of the level of uncalled capital to be accounted for are the size of the strategic allocations to private investments and the underlying strategies being invested in. It is also possible to significantly increase uncalled capital in the short-term if an investor is trying to increase the speed at which they can reach their target allocations. A more detailed discussion of what can impact the level of uncalled capital in a private markets program is discussed in Appendix A.

To address these challenges, investors typically aim to hold liquid assets that are some multiple of their evaluation of cash flow needs in a stressed environment. By maintaining an adequate liquidity buffer, investors can ensure they have the necessary resources to meet obligations and navigate market fluctuations. Effective liquidity management involves striking a balance between the need for liquidity and the desire for performance enhancement from illiquid investments. A thorough understanding of cash flow needs, risk tolerance, and available investment vehicles is crucial in determining the optimal liquidity profile for investor portfolios.

Effective liquidity management involves striking a balance between the need for liquidity and the desire for performance enhancement from illiquid investments.

Rebalancing

Since underlying investments do not have equal returns through time, allocations will naturally stray from strategic targets through time. To stay in line with strategic targets, investors typically need to buy and sell investments at the same time to rebalance the portfolio back to strategic targets. This will not be possible to do with illiquid assets in the portfolio and can be further exacerbated if only the liquid asset classes are sold to fund cashflow needs. Not being able to rebalance back to target can cause a potential drag on the portfolio performance and lead to undesired risks. Even if this is not possible for illiquid asset classes, depending on the allocations there may be sufficient liquidity to bring total portfolio factor exposures (i.e., equity beta, duration, etc.) in line with strategic targets. Given the strategic targets were set with an intended purpose, it is preferred to be able to rebalance back to strategic targets rather than have unintended portfolio risks. However, rebalancing is a lower priority than required outflows and uncalled capital, as in most cases there is no legal requirement to rebalance. Wanting to rebalance is based solely on the desire to stay close to the preferred strategic exposures and prevent unintended risk and return outcomes.

2. Effective liquidity management: A two-test framework

Effective liquidity management is paramount for investors as it directly influences the ability to meet financial obligations and adapt to ever-changing economic and business landscapes. To address these concerns, we employ a robust two-test framework that encompasses liquidity and market stress tests. Combined, these two tests can provide an understanding about the ability of an investment portfolio to meet its liquidity needs while reaping the potential long-term benefits of allocating to illiquid assets.

2.1.1 Maximum outflow coverage: Stress testing for liquidity under worst-case scenarios

- **Objective**: Our first liquidity stress test rigorously evaluates the portfolio's capability to meet all potential financial obligations under the most dire of circumstances and maintain maximum potential outflow coverage greater than 1.
- **Calculation**: Max outflow coverage = Daily liquid assets (after drawdown) / Max cash outflow

2.1.2 Expected outflow coverage: Stress testing for liquidity over a 3-year planning horizon

- **Objective**: Our second liquidity stress test focuses on the portfolio's ability to sustain three years' worth of expected outflows in line with typical planning cycles and therefore maintain expected outflow coverage greater than 3x. It is also assumed that within a three-year horizon, liquidity would begin to be generated from conditionally liquid and distributions from illiquid investments.
- **Calculation**: Expected outflow coverage = Daily liquid assets (after drawdown) / Expected annual spending, expenses, other outflows and calls net of distributions (if a net outflow, ignored if a net inflow)

To address these concerns, we employ a robust two-test framework that encompasses liquidity and market stress tests.

2.2 Applying the two tests: An illustrative example

Now, let's illustrate how investors can utilise these tests to assess their portfolio's liquidity. We'll consider investors with a significant allocation to illiquid assets, demonstrating how these tests offer valuable insights from a liquidity perspective.

This example assumes the investors have conducted a top-down asset allocation exercise and have determined that their investment portfolio aligns with their investment objectives, including any specific asset allocation constraints. An illustrative portfolio is shown in Exhibit 1.

Exhibit 1: Illustrative top-down investment portfolio that meets investment goals

	ALLOCATION
Public equity and real assets	32%
Private equity	31%
Private real assets	4%
Private debt	8%
Hedge funds	15%
Liquid IG fixed income	10%

To proceed with our tests, we must establish bottom-up cash flow assumptions that accompany our top-down illustrative asset allocation. For our illustrative example, we assume the following:

- Total assets of $100 million
- Mature private assets program
- Illiquid investment funds liquidity profile:
  - Private equity: Multi-year illiquid
  - Private debt: Multi-year illiquid
  - Private real assets and hedge funds: Conditionally liquid open-ended funds
- Uncalled capital as % of illiquids allocation:
  - Private equity: 50%
  - Private debt: 20%
  - Private real assets and hedge funds: 0%
- Investor profiles:
  - Investor A: 5% spending rate, inclusive of all expenses
  - Investor B: 4% typical spending rate, possibility of $10M cashflow needed if an operational budget shortfall

It's important to note that these assumptions may vary based on specific investor circumstances, the chosen private asset investment program, and the profile of the private/illiquid funds within the investor's allocation, as discussed in section 2 and Appendix A. Many investment strategies are offered in both vintage year structure (which results in uncalled capital) and evergreen structures (which do not result in uncalled capital). Since they also require the liquid investments to support liquidity needs in a stressed market event, the minimum acceptable allocation to liquid investments will also differ depending on the composition of the liquid investments. A 20% allocation to cash will provide greater liquidity than a 20% allocation to daily liquid equity in a stressed market.

Many investment strategies are offered in both vintage year structure (which results in uncalled capital) and evergreen structures (which do not result in uncalled capital).

Along with considerations on portfolio construction, a key investor-specific consideration will be both the expected annual outflows and the maximum potential outflow. The sample analysis is based on two investors: one that expects to consistently spend 5% of its assets on an annual basis, and another that consistently spends only 4% of its assets annually but may need to spend an additional $10 million if the organisation it supports has an operational budget shortfall.

The current analysis also focuses on the distinction between daily liquid investments and considers all other investments to not provide liquidity in a stressed market. It could be possible to consider the inclusion of monthly liquid investments without conditions (i.e., gates, redemption queues, lockups) as part of the liquid portfolio. However, if so, we would want to create additional stresses as there are circumstances in which the difference between daily and monthly liquidity is material.

Although the Daily Liquid Assets in the numerator of both stresses excludes all investments with less than daily liquidity and treats all less liquid investments the same, the inclusion of uncalled commitments in the Maximum Cash Outflow in the denominator creates a distinction between less liquid open-ended funds and illiquid vintage year investments in the max outflow coverage stress. The higher the allocation to illiquid vintage year funds (fund structure commonly associated with private equity) the greater the liquidity the investor must have to be able to fund the potential capital calls. This creates a maximum acceptable allocation to vintage year funds that is lower than the total maximum acceptable allocation to less liquid investments as a whole. Although over the long-term we expect a mature private markets portfolio to be receiving distributions in excess of the capital being called and be net positive for portfolio liquidity, this stress ensures that in a stressed environment, if distributions went to 0 and capital calls were accelerated, the portfolio would have sufficient liquidity to meet those calls.

With both top-down asset allocation and bottom-up cash flow assumptions established, we can now proceed with our two tests.

In this phase, we conduct liquidity stress tests under specific shock scenarios, such as a Global Financial Crisis (GFC) and a stagflation scenario, to gauge their impact on our illustrative portfolio. These scenarios are carefully chosen to showcase the influence of varying market conditions on liquidity and investment performance.

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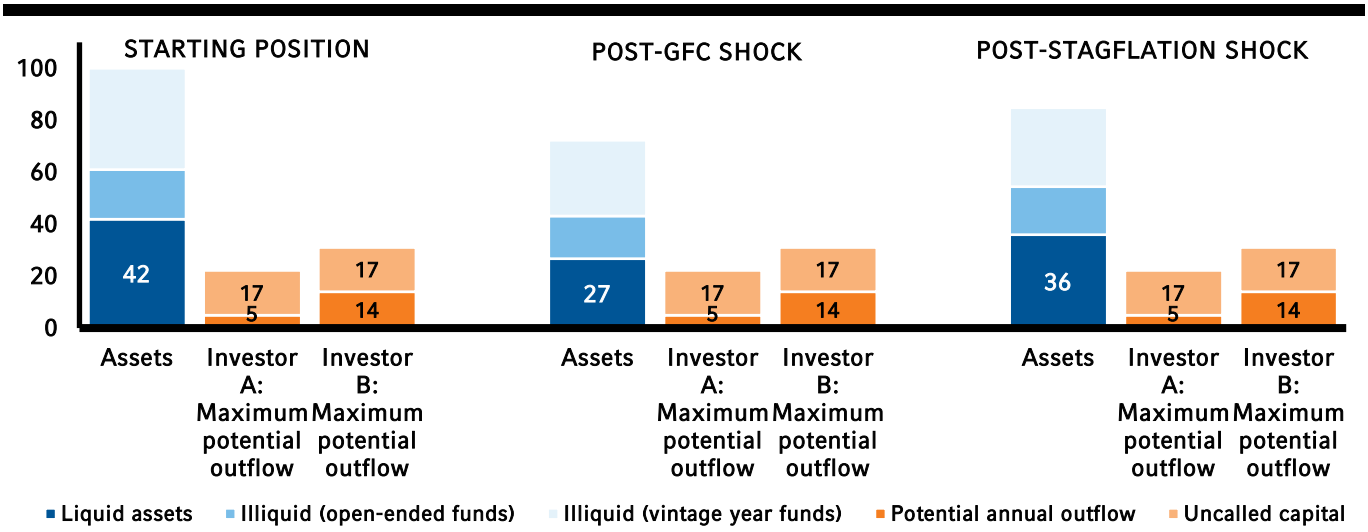
2.2.1 Maximum outflow coverage

In this stress test, we envision the worst-case scenario, assuming the need to fulfill all potential financial obligations effectively on the same day. This includes covering one year's worth of spending, expenses, other outflows, and all uncalled capital commitments. The primary objective is to ensure that even in the most adverse conditions, the portfolio maintains an ample supply of liquid assets to meet these obligations. If the ratio of liquid assets to maximum cash outflow exceeds 1, it indicates the portfolio's capacity to cover all financial obligations even in the most dire scenario. For those with uncertain annual outflows, consideration should be given to the highest amount the organisation may need to liquidate from its asset base.

- Max outflow coverage = Daily liquid assets (after drawdown) / Max cash outflow

Exhibit 2: Stress testing the maximum outflow coverage



Based on Russell Investments Scenario Modelling Assumptions (see Appendix B)

As demonstrated in Exhibit 2, the liquid asset base starts at $42 million, but due to losses, is expected to decline to $27 million in the GFC-like shock scenario, and $36 million in the stagflation-like shock scenario.

Post-GFC shock

- Investor A Max outflow coverage = $27 million / ($5million + $17million) = 1.2x
- Investor B Max outflow coverage = $27million / ($4million + $10million + $17million) = 0.9x

Post-stagflation shock

- Investor A Max outflow coverage = $36million / ($5million + $17million) = 1.6x
- Investor B Max outflow coverage = $36million / ($4million+ $10million + $17million) = 1.2x

For Investor A, even after those shocks, the liquid assets can cover the maximum potential outflows of $5 million in spending and $17 million in uncalled capital, although the buffer has reduced from a 1.9x maximum outflow coverage to 1.2x and 1.6x. However, because Investor B knows that it may need to provide additional support to its organisation in case of

a budgetary shortfall, its maximum potential outflow is $31 million. Therefore, in a GFC-like shock, it would not have sufficient liquid assets to cover the maximum potential outflow, and its maximum outflow coverage would drop from the starting 1.4x to 0.9x. This portfolio would therefore not be suitable for Investor B, because it needs to be prepared to provide additional funding to the organisation it supports in case of a budgetary shortfall.

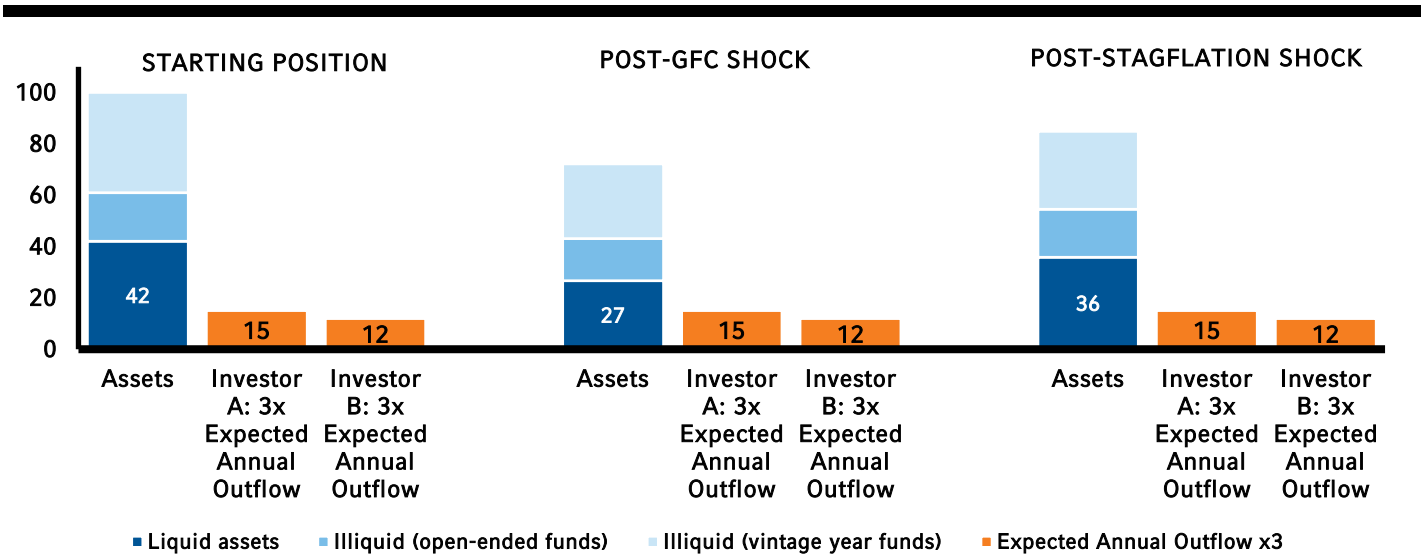
2.2.2 Expected outflow coverage

This stress test aligns with common planning cycles, which often span three years. It ensures that the portfolio maintains liquidity equivalent to three years' worth of expected outflows. Within this period, additional liquidity can potentially be generated from conditionally liquid assets, distributions from illiquid assets, or a recovery in liquid asset prices. However, these additional sources of liquidity are sometimes beyond an investor's control. For instance, investment gates could delay withdrawals from conditionally liquid assets, distributions might be postponed, and market prices might recover after several quarters. The only highly certain source of liquidity in the portfolio is from liquid assets, readily available for sale to meet cash outflows; therefore, we only consider these assets in this ratio. If the ratio of liquid assets to expected outflows exceeds 3, it signifies the portfolio's preparedness to navigate financial obligations over the planning horizon.

An expected outflow coverage ratio of 3 signifies that in an extreme scenario, where additional liquidity from redemptions, distributions, or market price recovery of liquid assets is not available, the investor's cash flow obligations can still be met for three consecutive years. It is crucial to emphasise that this is an extreme scenario, and the likelihood of needing to sell down the entire liquid asset portfolio to fulfill cash flow needs over three years is exceedingly low. While the potential for the investor to not receive significant liquidity from conditionally liquid investments depends on the underlying assets, we anticipate that more diversified portfolios are likely to generate some liquidity within six to 24 months, reducing the necessity to sell down liquid assets. Challenges in providing liquidity within 24 months may predominantly arise with private assets in open-ended structures.

> *If the ratio of liquid assets to expected outflows exceeds 3, it signifies the portfolio's preparedness to navigate financial obligations over the planning horizon.*

Exhibit 3: Stress testing the expected outflow coverage



Based on Russell Investments Scenario Modelling Assumptions (see Appendix B)

Even after those shocks, as demonstrated in Exhibit 3, the liquid assets can cover three years of expected outflows of $5 million in spending. Following the GFC and stagflation shocks, for investor A the expected outflow coverage decreased from 8.4x to 5.3x and 7.2x, respectively. Similarly, for Investor B, this ratio declined from 10.5x to 6.7x and 9.0x after the two shock scenarios. In both cases, the investors still exceed the minimum threshold of 3x.

Post-GFC shock

- Investor A Expected outflow coverage = $27 million / ($5 million) = 5.3x
- Investor B Expected outflow coverage = $27 million/ ($4 million) = 6.7x

Post-stagflation shock

- Investor A Expected outflow coverage = $36 million / ($5 million) = 7.2x
- Investor B Expected outflow coverage = $36 million / ($4 million) = 9.0x

In these examples, the more limiting stress is the maximum outflow coverage. However, this might not always be the case. Consider an investor whose portfolio consists only of open-ended funds, thus the uncalled capital at any time is zero. The maximum outflow that this investor needs liquidity for could be equal to an annual expected outflow. The expected outflow ratio, however, will still necessitate a coverage of three times expected annual outflows and be more limiting to the maximum allocation to illiquid assets.

These stress tests indicate that our illustrative portfolio is appropriate for Investor A while not being appropriate for Investor B, despite Investor A typically having higher annual outflows. This is because Investor B has greater uncertainty as to how much it might need to spend on an annual basis and therefore must be prepared for all potential outflows.

These stress tests indicate that our illustrative portfolio is appropriate for Investor A while not being appropriate for Investor B, despite Investor A typically having higher annual outflows.

3. Investor suitability

The previous tests are indications of the least liquid portfolio we think could be suitable to avoid the forced selling of illiquid investments at a discount or the inability to fund liquidity requirements. Although the two tests described will be investor specific to the extent they account for their specific portfolio and liquidity needs, there are additional investor-specific considerations that should be factored into the liquidity analysis. Common considerations that should be accounted for in the determination of the appropriate allocation to illiquid investments are:

- The tolerance for deviation from strategic allocation weights
- The desire to maintain flexibility to tilt the portfolio based on market environment.

3.1 The tolerance for deviation from strategic allocation weights

With illiquid investments, it is not always possible to rebalance the portfolio to strategy. A larger allocation to illiquid investments increases the potential for deviations from the strategy. Higher cash flow needs also increase the potential deviations from strategy. Two investors may have otherwise identical profiles, but if one is comfortable holding a portfolio that is significantly underweight liquid investments for a considerable period of time while the other is not, they will have different recommended allocations to illiquid investments in their strategies. It will also be important to assess the extent to which the dislocation in the allocation between liquid and illiquid investments will force the factor exposures to deviate from strategy.

For example, if an overweight to private equity can be offset with an underweight to public equity, it will be possible for the portfolio to maintain a similar level of equity risk in its strategy despite the overweight to private equity. However, over shorter tactical or cyclical horizons, there might be differences in the performance of public and private asset classes. While right after a recession (in the recovery part of the cycle), public equity has historically generated a high level of returns, private equity might not be able to keep pace, due to its possibly smoothed return profile. Over such a horizon, though, the investor can have a similar level of total equity exposure through a combination of public and private equity. The performance differences can be substantial based on the composition of the equity exposure over the cyclical horizon.

Conducting scenario analysis to evaluate potential deviations from strategy in various market environments can assist in determining what is suitable for a given investor. This assessment will differ among investors, influenced by behavioural preferences for liquidity and tolerance for investment-performance deviations from the target over a cyclical horizon.

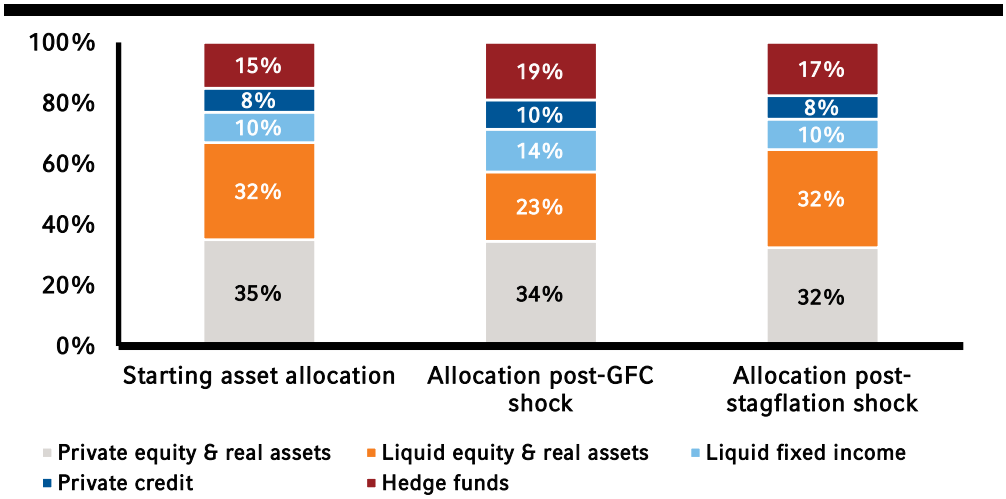
3.2 The desire to maintain flexibility to tilt the portfolio based on market environment

The investment landscape is subject to significant shifts due to changing macroeconomic conditions. For instance, over the past three years in the U.S., we witnessed 1-year interest rates increase by more than 5% and 10-year rates increase by more than 4%. A portfolio with sufficient liquidity can efficiently adapt to such changes when deemed beneficial for investors. Investors should evaluate whether they possess an adequate supply of liquid assets to make desired adjustments to adapt to changing conditions, respecting their unique risk tolerance and investment objectives. An extremely large level of illiquid assets would impact the ability to adapt the portfolio and might not align with the investment objectives.

For example, an investor with the majority of its equity implemented through private equity might not be able to significantly reduce its equity allocation and increase its fixed income allocation, if overweight illiquid private equity. Incorporating this consideration while allocating to illiquid assets in the portfolio ensures that the portfolio can be fine-tuned to optimise long-term performance while maintaining liquidity to adapt to changing conditions. This desire would build upon the desire in the discussion pointed out in 3.1—to maintain strategic allocations and/or exposures—but also assess the extent that there is additional flexibility to over or underweight key factors such as equity beta, duration and credit. Exhibit 4 demonstrates that the portfolio analysed would have difficulty over-weighting equity without significantly underweighting fixed income in a manner that is likely unacceptable.

Exhibit 4 demonstrates that the portfolio analysed would have difficulty over-weighting equity without significantly underweighting fixed income in a manner that is likely unacceptable.

Exhibit 4: Asset allocation weights immediately following shock events



Based on Russell Investments Scenario Modelling Assumptions (see Appendix B).
May not add to 100% due to rounding.

However, any desire to moderate the allocation to illiquid investments in order to maintain the ability to tactically adjust the portfolio in all market environments should weigh the long-term expected return give-up from a more liquid portfolio relative to the expected excess returns from tactically tilting the portfolio.

Conclusion

Private assets and alternative investments are usually illiquid in nature but can help an investor meet their long-term objectives in a more efficient manner. Allocating to illiquid investments necessitates managing liquidity risk in portfolios to ensure that sources of liquidity are sufficient to meet the various uses of liquidity, such as spending and uncalled capital. The expected level of uncalled capital for a given strategy can be influenced by factors like the maturity of the private assets program, strategy type, commitment pacing, and other considerations using bottom-up cash flow modelling.

However, relying solely on a top-down asset allocation approach based on capital market assumptions may not accurately capture a client's required liquidity needs. Such an approach can lead to an over-allocation to illiquid assets, assuming the client does not prioritise liquidity risk. An absence of detailed liquidity analysis can also lead investors to under-allocate to illiquid investments as their qualitative concerns regarding illiquidity are not sufficiently addressed and they err on the side of maintaining additional liquidity. To address this limitation, a comprehensive approach is necessary, combining top-down capital market assumptions with bottom-up cash flow modelling and market scenario analysis.

By integrating these elements, portfolios can be tailored to incorporate the client's liquidity preferences and specific details about the investor’s outflow expectations and private asset program, including commitment pacing and uncalled capital size. This customised approach ensures that portfolios are aligned with investor-specific needs, striking a balance between performance objectives and liquidity risk management.

In summary, effective liquidity management requires a holistic framework that considers the interplay among top-down asset allocation, bottom-up cash flow modelling, and market scenario analysis. By incorporating the client's liquidity preferences and specific details about the private asset program, investors can build portfolios that meet their liquidity needs while aligning with their risk preferences and performance objectives.

Appendix A

It is important to look at bottom-up cash flow models to predict distributions, net asset values (NAVs), and contributions to different private asset funds to forecast. While historical data can provide insights into expected capital calls, the actual size of each call remains uncertain.

Several factors influence the size of uncalled capital and the liquidity required to cover it in an investor's strategy. These factors form part of the bottom-up cash flow modelling assumptions used by private capital investors. Key factors to consider in understanding the expected level of uncalled capital associated with a strategic allocation:

- **Size of the allocation targeted**: The size of the capital to be called increases proportionally with the commitments made, which are linked to the targeted allocation size.
- **Strategy type**: Different investment strategies have different typical life lengths and varying paces at which they call capital. For example, a private credit investment may call more than 90% of the capital within three years, while a buyout investment might take six years to reach the same threshold. Exhibit 1 demonstrates the relative sizes of uncalled capital for different strategies, such as private credit versus private equity, in a mature portfolio.

The actual level of uncalled capital an investor needs to plan for will be driven by the actual commitments made and the timing of those commitments and how much capital has already been called. In a mature program, the level of uncalled capital on a total portfolio level is primarily driven by the underlying investment strategy and targeted allocation. Strategies that typically call capital quickly, such as private credit, require fewer vintages to reach a mature portfolio. Consequently, the level of uncalled capital relative to the target allocation size will be lower compared to strategies that call capital more slowly, such as buyout investments. For an early-stage program, the level of uncalled capital will be further impacted by the extent to which the investor is balancing vintage year diversification versus large early commitments to reach targets earlier. Typically, an investor with an early-stage program will not face as significant liquidity challenges as they are overweight liquid investments. However, if an investor chooses to try to accelerate the speed at which they reach their target allocations by making large immediate commitments without targeting vintage year diversification, it is possible they increase their liquidity risk and have large uncalled commitments that are called at once.

Appendix B

Scenario Return Assumptions

CATEGORY	ASSET CLASS	ASSET CLASS WEIGHT	GFC SHOCK SCENARIO RETURN	STAGFLATION SHOCK SCENARIO RETURN
Public equity and real assets	Public equity	31%	-49%	-15%
	Commodities	1%	-38%	12%
Private equity	Private equity	31%	-28%	-23%
Private real assets	Private infrastructure	2%	-46%	-12%
	Private real estate	2%	-16%	-1%
Private debt	Private debt	8%	-13%	-17%
Hedge funds	Hedge funds	15%	-9%	-1%
Liquid investment grade fixed income	U.S. Credit	5%	-9%	-15%
	U.S Short government	3%	3%	-1%
	U.S. Long government	3%	17%	-31%

Source: Russell Investments Scenario Modelling Assumptions

QUESTIONS?

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