

# ABSOLUTE RETURN OVERLAY SOLUTIONS: THE BEST HOPE

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## AUTHORS

**Marco Aiolfi, PhD**

Managing Director and  
Director of Systematic Multi-Asset  
Strategies

**Lorne Johnson, PhD**

Managing Director and  
Director of Institutional Solutions

**Yesim Tokat-Acikel, PhD**

Managing Director and  
Director of Multi-Asset Research

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QMA began managing multi-asset portfolios for institutional investors in 1975. Today, we manage systematic quantitative equity and global multi-asset strategies as part of PGIM, the global investment management businesses of Prudential Financial, Inc. (PFI). Our investment processes, based on academic, economic and behavioral foundations, serve a global client base with \$90.8 billion in assets under management as of 3/31/2020.

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## EXECUTIVE SUMMARY

Based on QMA's 2020 2Q Capital Market Assumptions, expected returns on traditional public market investments are likely to be considerably lower over the next 10 years than in the last decade, significantly undershooting the return requirements of asset owners who need to meet liabilities. This has not been altered by the impact of COVID-19. In any rational analysis, traditional ways of enhancing those returns are not likely to fill that shortfall. Rather, the most effective way to meaningfully enhance returns on a strategic portfolio allocation is through portable alpha overlays. Portable alpha overlays can be implemented with high capital efficiency, without reducing exposure to longer-term strategic investments. Moreover, a well-designed portable alpha overlay strategy may enhance diversification by offering a low correlation to traditional asset class exposures and consistently add value in both up and down equity and bond markets.

## Introduction

The 2010s proved to be a great decade for investors in traditional balanced portfolios. Following the most damaging economic downturn since the Great Depression, the Global Financial Crisis (GFC) in 2008–2009, global central banks spent much of the next 10 years providing unprecedented monetary stimulus to revive economic growth and inflation. Against this backdrop, holders of global equities earned annualized returns of 9.5%, led by returns of 13.6% in US equities.<sup>1</sup> Fixed income investors also saw strong returns over the decade, as long-term interest rates plunged globally—into negative territory, in many cases. For the 2010s, investors in the Bloomberg Barclays Global Aggregate Bond Index earned annualized returns of 4.1%, while the Bloomberg Barclays US Aggregate Bond Index posted returns of 3.7%.<sup>1</sup>

With investments in these component parts, a simple 60/40 portfolio of global equities and bonds earned 7.5% annually, while a 60/40 mix of the aforementioned US benchmarks earned 9.8% annually. To put these numbers in context for asset owners, representative US returns were comfortably above the median 8.0% average assumed rate of return for both US corporate<sup>2</sup> and public<sup>3</sup> pension plans at the beginning of 2010, with returns on a global portfolio only slightly below those return targets at the beginning of the last decade.

<sup>1</sup> Source: Bloomberg, QMA, as of 12/31/2019.

<sup>2</sup> Milliman White Paper: 2019 Corporate Pension Funding Study.

<sup>3</sup> NASRA Issue Brief: Public Pension Plan Investment Return Assumptions, February 2020.



**For professional investors only.**

**All investments involve risk, including the possible loss of capital.**

Over the last 10 years, in contrast, our long-term capital market assumptions for a 60/40 portfolio have steadily come down. We expect considerably lower returns for both bonds and equities at a 10-year forward-looking horizon than we earned over the last 10 years. Our lower expectations for equity returns are attributable to a continued expected decline in developed markets' economic growth, and richer valuations consequent with the strong performance of equity markets relative to underlying earnings. Our economic growth expectations for the next 10 years declined further in the first quarter of 2020, accounting for the forecast impact of containment measures to combat the COVID-19 global pandemic. The sharp decline in global equities (21%) in the first quarter of 2020, however, more than offset this negative impact on our equity forecasts attributable to more attractive valuations. Our current 10-year forecasts for global and US equities are 7.2% and 6.6%, respectively.<sup>4</sup>

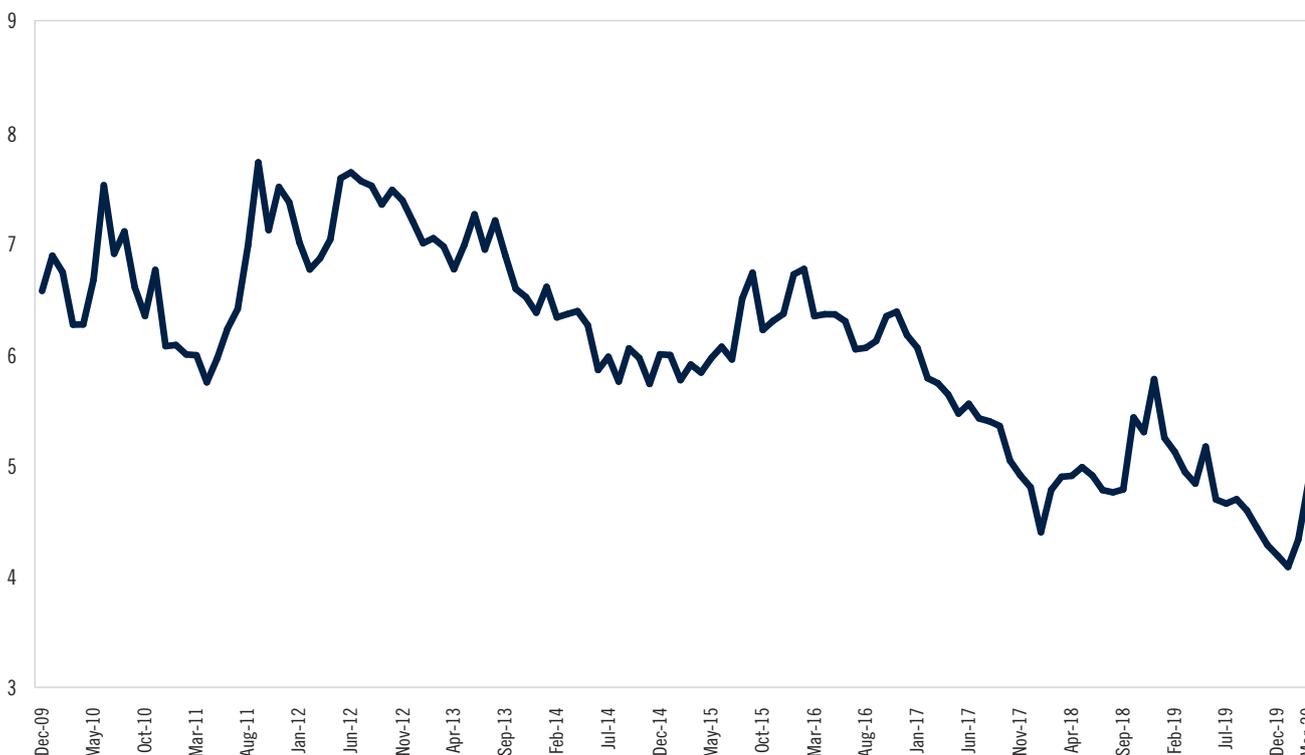
QMA's lower capital market assumptions for global fixed income assets are, primarily, attributable to the historic declines in underlying sovereign interest rates over the last decade, which resulted in an estimated \$17 trillion in negative-yielding debt, approximating 30% of the Bloomberg Barclays Global Aggregate Bond Index.<sup>5</sup> Our 10-year forecasts for currency-hedged global aggregate and US aggregate bonds are 1.3% and 1.8%, respectively.<sup>4</sup>

Our 10-year forecast for a 60/40 portfolio of global equities and bonds currently sits at 4.8%, very modestly above the lowest level over the last 10 years, which registered at the end of 2019. (If we backcast our methodology for constructing capital market assumptions to the beginning of the last decade, this compares to what would have been a 10-year forecast of 6.5% in December 2009). For context, the latest available median corporate pension expected rate of return is 6.3%, while the equivalent public expected rate of return remains over 7%,<sup>4</sup> leaving plans with a return shortfall of 1.5% to 2.5%, even before we allow for costs.

## What to Do?

Given this challenging outlook, what can asset owners do to better position their portfolios to meet required rates of return without taking on too much undue risk? Here, we will review some common approaches to enhancing returns through strategic portfolio allocations and introduce an alternative approach that goes beyond the portfolio allocation decision to potentially add meaningful excess returns.

**Figure 1. QMA Expected 10-Year Returns on a Global 60/40 Portfolio**



Source: QMA. As of 3/31/2020. For informational purposes only. There is no guarantee that these expectations will be realized.

<sup>4</sup>There is no guarantee these forecasts will be achieved.  
<sup>5</sup>As of 8/31/2019.

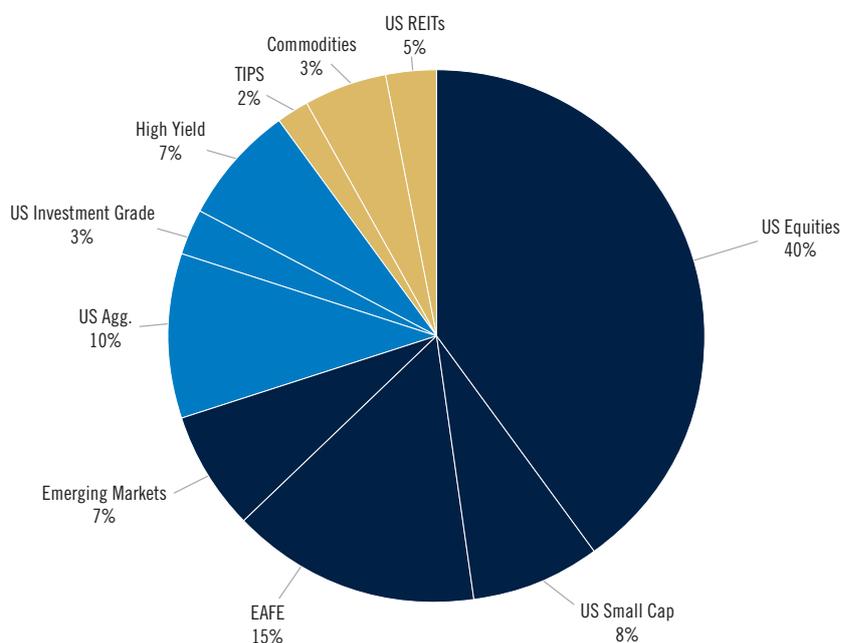
## Diversifying the Portfolio Broadly

Let's start by moving forward from a simple 60/40 global portfolio to a US-focused diversified portfolio with a growth tilt. This more-diversified portfolio increases the expected return by about 1%, based on our 2020 2Q Capital Market Assumptions, with the added benefit of a commensurate decrease in risk of 0.7%, attributable to a more diversified allocation and somewhat lower volatility in US equities than global equities. It also provides more options to potentially add value through opportunistic tactical tilts. We will further review this growth allocation below, as representative of a corporate pension plan looking to take on additional procyclical equity exposure to address a funding ratio gap.

## Taking Active Risk

To enhance expected returns over strategic allocations, asset owners have frequently looked to outside asset managers to provide excess return, or "alpha," above traditional public market passive investments. For public market exposures, there is no shortage of fundamental and quantitative investing styles offered by asset managers. Finding consistent diversifying outperformance, however, from skilled managers is challenging, as active styles come in and out of favor. If they can be found, skillful active managers may enhance the performance of portfolio strategic allocations over time. As an active manager ourselves, of course we support this approach, but it does not seem realistic to rely on active returns as sufficient to bridge the funding gap needed on a consistent basis.

Figure 2. A Growth-Oriented Diversified Portfolio



As of 3/31/2020. Source: QMA. Shown for illustrative purposes only.

## Allocating to Private Assets

With these caveats, asset owners have increasingly looked to private investments to boost excess returns.<sup>6</sup> These investments, (private equity and private real estate, in particular), are much less liquid than their public market counterparts, and typically employ leverage to enhance returns. For asset owners with longer horizons, lower liquidity may not present an issue. Instead, the highly procyclical behavior of these asset classes is potentially more concerning, along with the potential for large drawdowns during economic downturns, and return outcomes that are highly correlated to risky public market assets. Further, these asset classes will be the most expensive and present the least favorable return outcomes toward the end of economic expansions.

Because of valuation lags and exceptions from requirements marking to market, it is also vitally important with private assets to distinguish between correlations in short-term returns versus long-term correlations. Many private assets may not immediately reflect their underlying economic reality, which may present an illusion of safety from an accounting perspective. However, reality will catch up in terms of true economic outcomes, which actually drive funding levels. This can be seen clearly if we think about private credit in the first quarter of 2020. Private credit managers may well be able to avoid marking these assets to market immediately. Since they are generally further down the capital spectrum, however, and often linked to more speculative investments, the long-term impact on private credit will be greater, not smaller, as the full economic impact of COVID-19 plays out.

<sup>6</sup> McKinsey & Company, "A New Decade for Private Markets," McKinsey Global Private Markets Review 2020, February 2020

In the case of private equity, a substantial volume of recent academic research suggests that the return premium<sup>7</sup> required to justify an investment in the asset class for the above-stated reasons may be elusive going forward, and may not have been realized historically by a majority of institutional investors in the space. In a wide-ranging survey of recent literature on private equity, Applebaum and Batt (2016)<sup>8</sup> document that the historical premium attributed to private equities over public equities is a function of the average returns of private equity managers, and is entirely driven by top-quartile managers. The experience of the median private equity fund has been much closer to flat against a public market equivalent like the S&P 500 Index, with third- and fourth-quartile managers underperforming that benchmark. Being fortunate enough to choose a top-quartile manager, as judged by trailing results, may also not be enough to deliver the required premium. Braun et al. (2017)<sup>9</sup> document that persistence in past and future private equity manager returns, which existed in the 1990s, came down significantly in the early 2000s and has been non-existent since 2006.

While private equity overall has led AUM growth in private assets overall to more than \$6.5 trillion as of the first half of 2019, the fastest growing private asset class since the GFC has been private debt, which has seen AUM climb better than fourfold, from \$194 billion in December 2007 to \$813 billion in 2019. This rapid growth is attributable to at least two drivers: (1) the introduction of more robust capital requirements under Basel III and the Volker rule following the GFC, curtailing corporate lending by traditional banks (2) the reach for higher yielding fixed income options by institutional investors in an era of historically low underlying government and investment grade yields. The demand for private credit may, in fact, be in excess of viable investment opportunities, as evidenced by an estimated \$297 billion in “dry powder” held by private debt asset managers at the beginning of 2020.<sup>10</sup> It is important for sponsors to recognize the linkage between macro supply/demand characteristics and subsequent returns.

## Implementing a Portable Alpha Overlay

We believe that a more significant way to enhance potential returns beyond adjusting allocations within a strategic portfolio is through a portable alpha overlay. Investors

A portable alpha overlay is an uncorrelated and unfunded separate source of excess returns generated by active management. Alpha strategies that use liquid derivative instruments do not have to be fully-funded.

can capture unfunded alpha opportunities on their portfolio with cash efficient instruments without distorting their strategic asset allocation. With such an overlay, the excess return provided over the strategic portfolio is truly additive.

In addition to their portfolio construction benefits, cash-efficient portable alpha overlays are also extremely flexible. They can be used to generate excess returns on individual allocations within asset-owner portfolios, including cash reserves, or as a way to augment expected returns on equity or bond exposures, without the liquidity risks of other routes, and without being subject to the concerns of supply versus demand imbalances in private assets.

## What is a Portable Alpha Overlay and How Does it Work?

A portable alpha overlay is an uncorrelated and unfunded separate source of excess returns generated by active management. Alpha strategies that use liquid derivative instruments do not have to be fully-funded. Consider an absolute return strategy targeting a 0.5 Sharpe ratio implemented through liquid futures and currency forwards. An investor targeting 2% risk can expect about 1% alpha over the strategic allocation. This can be achieved by deploying 100% notional and dedicating only about 13%<sup>11</sup> of capital to the strategy. Figure 3 shows a typical breakdown of the collateral requirements for such a strategy. Given our assumptions, the expected return on capital<sup>12</sup> is about 8%.

When viewed in the context of the whole portfolio, this degree of leverage is measured and easily supported, given the high liquidity of futures and the currency forwards market. It reflects the nature of the instruments themselves and does not come from outright borrowing, in an analogous fashion to the embedded leverage that is regarded as normal inside a real estate equity or private equity portfolio.

An advantage of this approach is that asset owners can use portable alpha strategies to enhance their portfolios' expected returns, while maintaining the return potential of their existing strategic asset allocation. We will elaborate more on this in the next section, where we introduce portable alpha overlays for sample asset owner portfolios.

## Desirable Characteristics of Portable Alpha Overlays

While many strategies could be implemented as portable alpha overlays, there are a few characteristics to look for that are particularly desirable in such strategies:

**Cash Efficiency:** A portable alpha strategy should be financed with a cash allocation from the underlying strategic portfolio in order to add meaningful excess return. The more cash-efficient the strategy, the less exposure needs to be implemented synthetically in the strategic portfolio to finance the portable alpha overlay. More on this below.

<sup>7</sup> A 3% premium over public equities is commonly used to benchmark private equities by large public pension funds including CalPERS.

<sup>8</sup> Applebaum, Eileen and Rosemary Batt. “Are Lower Private Equity Returns the New Normal?” *Center for Economic and Policy Research*, 2016.

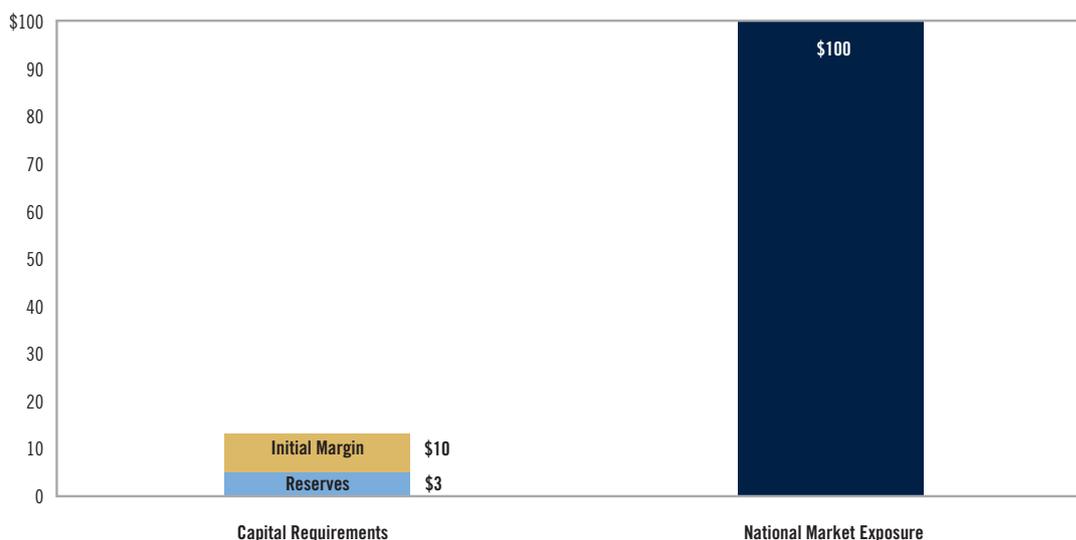
<sup>9</sup> Braun, Reiner; Tim Jenkinson, and Ingo Stoff. “How Persistent Is Private Equity Performance? Evidence from Deal-Level Data,” *Journal of Financial Economics*, 2015.

<sup>10</sup> “Institutions Seeing More Private Credit Risk,” *Pensions and Investments*, 3/9/2020.

<sup>11</sup> We assume the initial capital commitment is set using a 5% initial margin for 100% notional exposure, and that when market volatility spikes, the initial margin can double. We set aside an amount equivalent to the expected maximum drawdown of the strategy (defined as 1.5 times the target risk) to buffer against margin calls.

<sup>12</sup> Return on capital is computed as expected alpha over initial capital commitment. In our example of a strategy targeting 2% risk with expected alpha of 1% (Sharpe ratio of 0.5) and an initial capital commitment of 13%, the expected return on capital is computed as  $1\%/13\%=7.7\%$ .

**Figure 3. Sample Capital Allocation Structure for Absolute Return Overlay Targeting 2% Risk**



Notes: We assume the initial capital commitment is set using a 5% initial margin for 100% notional exposure, and that when market volatility spikes, the initial margin can double. We set aside an amount equivalent to the expected maximum drawdown of the strategy (defined as 1.5 times the target risk) in reserves to buffer against margin calls.

As of 3/31/2020. Source: QMA. Shown for illustrative purposes only.

**Liquidity:** The more liquid the instruments in a portable alpha strategy, the lower the cost of implementation, and the more flexible the strategy will be to offer better terms to investors who need to invest and redeem. Limiting the opportunity set to the most liquid public market instruments also avoids potential supply/demand imbalances that may arise in less-liquid asset classes.

**Scalability and Capacity:** Depending on desired risk tolerances and return objectives, a well designed portable alpha strategy can be customized to deliver a target excess return scalable by the level of risk the asset owner is willing to take. Only a strategy with reasonable capacity can deliver this in size.

**Diversification:** Additional desirable properties in a portable alpha strategy are excess returns that are diversifying to primary asset class exposures in a strategic portfolio, as well as style exposures that might be present in actively managed strategies as part of the strategic allocation. Ideally, you want to look for a strategy that is beta-neutral to stocks and bonds over a full market cycle.

**Risk Management:** As the strategy is not fully funded, risk and drawdown management become critical elements of the investment process. The funding requirements should be congruent with possible drawdowns and associated increased capital calls.

We believe multi-asset absolute return strategies that seek to capture risk premia and mispricings across asset classes provide a very good fit for portable alpha overlays, since they:

- Invest in highly liquid instruments across a variety of asset classes, such as country equities, bonds, currencies and commodities in both developed and emerging markets. These instruments are highly cash efficient, relatively low cost, and provide high-capacity, attractive liquidity terms. These investments do not require full funding.

- Go long where there are attractive opportunities across the capital markets, and go short (or sell) unattractive opportunities. By doing so, the portfolio is naturally diversified away from traditional sources of risk.
- Capitalize on sources of returns that are generally less accessible, and which actually diversify the portfolio away from traditional asset classes into new and more market-neutral opportunities.

### Diversifying Sources of Returns

Market participants in certain asset classes (e.g., currency and commodities) are willing to pay investors to transfer risk off their books. These asset classes are diversifying sources of portfolio returns. Many investors also exhibit behavioral biases, such as loss aversion, herding, or overreaction to news that can be exploited. Limits to arbitrage, however, (e.g., institutional constraints on leverage or short-selling) prevent many investors from capitalizing on such opportunities.

### Introducing Portable Alpha Overlays for Asset Owner Portfolios

Expected returns on some sample allocations may be improved materially with a modest increase in risk, attributable to the uncorrelated return streams generated by the overlays, as seen below in our case studies.

### Case Study: Diversified Corporate Pension Plan Portfolio

The growth-oriented diversified strategic portfolio depicted in Figure 2 represents a US corporate defined benefit plan with a funding ratio of 70% and liabilities approximated by long-duration corporate bonds. The sponsors of the plan would

like to get to a fully-funded position in a few years and then de-risk the portfolio to a more conservative profile. The current allocation has an expected return of 6.0%, which is forecast to achieve funded status in about 12 years.

By introducing a 2% target risk multi-asset absolute return portable alpha overlay with the same assumptions presented earlier, annualized expected returns increase to 7.0% (as shown in Table 1), and the number of years required to close the funding gap is reduced to 10. With a 4% risk target overlay, expected returns improve to 7.9%, and the years required to close the funding gap are further reduced—to only 9 years. Given the diversifying characteristics of the multi-asset absolute return portable alpha overlay, this

increase in portfolio returns is achieved with little increase in overall portfolio risk, with an incremental increase in expected volatility of just 0.17% for the 1% increase in expected returns. Though we have to assume a relatively modest expected Sharpe ratio for the portable alpha overlay of 0.5, below the level of the initial growth portfolio, the diversification introduced with the overlay, as well as the attractive return on capital generated through a capital efficient implementation, provide material improvements in the final Sharpe ratios of the portfolios augmented with the overlay. A higher Sharpe return outcome on the overlay would produce commensurately greater improvements at the overall portfolio level.

**Table 1. Portfolio Characteristics of a Diversified Growth Portfolio with Portable Alpha Overlays**

	Expected Geometric Return	Expected Volatility	Expected Sharpe Ratio
Global Growth-Focused Portfolio	5.98%	12.09%	0.54
Global Growth-Focused Portfolio + Absolute Return Overlay at 2% risk	6.96%	12.26%	0.62
Global Growth-Focused Portfolio + Absolute Return Overlay at 4% risk	7.90%	12.74%	0.67

As of 3/31/2020. Source: QMA. There is no guarantee these forecasts will be achieved. Shown for illustrative purposes only.

Capital requirement calculations for both the overlay and the synthetic benchmark replication through derivatives are important considerations for the implementation of a portable alpha strategy. They need to take into account the initial margin, mark-to-market moves and any potential changes in margin requirements. From the previous section, we know that an investor targeting 2% risk in the overlay needs to dedicate about 13% of strategic exposure to fund the overlay.

Fortunately, a sufficient amount of collateral can be made available from the synthetic replication of a portion of the strategic allocation in the growth-focused portfolio. As an example, implementing half of the exposure to US equities (20%) through futures would require a 3.5% capital requirement<sup>13</sup> and free up 16.5% of capital, which exceeds the 13% required by the proposed overlay.

## Case Study: Liquidity Reserve

For asset owners with ongoing funding requirements to pay benefits, it is often necessary to hold some share of assets in cash or short-term fixed income instruments as a liquidity reserve. In an environment with US cash rates again close to zero, and very low rates across the Treasury maturity spectrum, these reserves, which are never expected to produce high rates of return, will now return close to nothing.

The flexibility of portable alpha overlays can be used to help mitigate this challenge and generate excess returns on top of a cash benchmark. Asset owners can also determine a reasonable amount of the liquidity reserve to be used to fund the overlay without impacting their ability to pay benefits and maintain the required minimum level of reserves. In our example in Figure 2, they could add 1% excess return by using only 13% of the cash reserves.

<sup>13</sup> We assume the initial capital commitment is set using a 5% initial margin for 100% notional exposure, and that when market volatility spikes, the initial margin can double. We set aside an amount equivalent to 10-day 99% VaR, to buffer against margin calls. For a 20% notional exposure, the capital requirement comes to 3.5%

**Table 2. Portfolio Characteristics of Liquidity Reserve with Portable Alpha Overlays**

	Expected Geometric Return	Expected Volatility	Expected Sharpe Ratio
Cash	0.16%		
Cash Reserve + Absolute Return Overlay at 2% risk	1.16%	2.00%	0.50
Cash Reserve + Absolute Return Overlay at 4% risk	2.16%	4.00%	0.50

As of 3/31/2020. Source: QMA. There is no guarantee these forecasts will be achieved. Shown for illustrative purposes only.

## Conclusion

The 2010s provided generous returns to traditional asset class exposures in equities and bonds, coinciding with the longest postwar US economic expansion on record. Given the challenging return outlook for traditional asset class exposures we see over the longer term, traditional approaches are highly unlikely to produce the long-term returns that plans need to achieve their goals.

Portable alpha overlays provide a flexible and scalable means for asset owners to enhance the expected returns of their allocations. With such flexible implementation options, portable alpha overlays can be added in a total portfolio context, as a means to enhance the return of individual beta allocations or available liquid reserves.

We believe a well-designed portable alpha overlay strategy with a low correlation to traditional asset class exposures can provide diversifying, additive returns when asset owners need it most, in particular during drawdowns in risky assets that typically occur at the end of economic expansions. Further, in contrast to other alternative allocations, portable alpha overlays can be implemented in existing portfolios without changing underlying portfolio allocations and/or existing active managers. In our view, on any realistic perspective, they represent the best hope of achieving the returns that plans and their participants need.



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