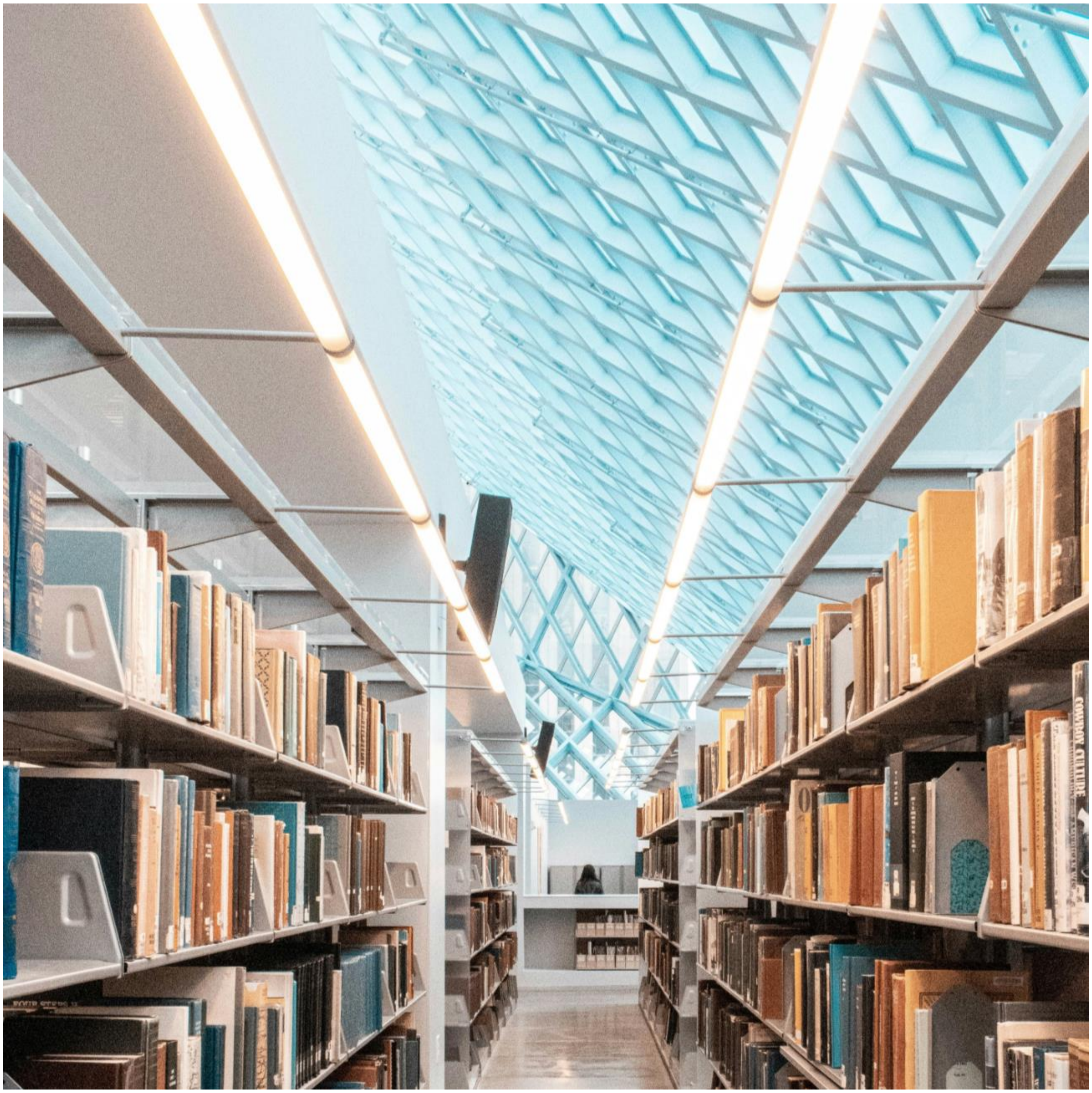
THE POWER OF AN OVERLAY PROGRAM: 13 SHORT CASE STUDIES

A MULTIFACETED TOOL
FOR INSTITUTIONAL PORTFOLIOS



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The power of an Overlay program: 13 short case studies

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The Overlay program – A multifaceted portfolio tool

Institutional investors face myriad challenges, and perhaps none is greater than managing the balance between achieving return objectives and controlling portfolio risk. With numerous moving parts in a portfolio, implementing changes can add coordination challenges that often result in sub-optimal investment behavior due to resourcing limitations. An Overlay program offers a helpful set of solutions for today's portfolio challenges.

This paper includes many of the solutions offered through an Overlay program along with several abbreviated case studies designed to enhance the likelihood of meeting the challenges faced by institutional investors.

Minding the gap

In the classic children's story, *Alice's Adventures in Wonderland*, Alice finds herself at a fork in the road. She asks the Cheshire Cat, who was sitting in a tree near the fork, which direction to take. The cat responds, "That depends a good deal on where you want to get to." When Alice admits she doesn't know, the cat wisely says, "Then it doesn't matter which way you walk."[1]

Similarly, in the world of portfolio management, investors must understand the gap between where they are and where they want to be. The starting point and the destination can take on various dimensions (asset-only, asset and liability, risk-based, etc.). While clarity about the current and targeted positions is fairly well known, charting a path to solve those differences is the tougher challenge. An Overlay program provides a systematic way to solve for portfolio gaps and reduce their risk.

The starting point

While many investment boards and consultants rely on monthly or quarterly reporting, the investment staff is often engrossed in the world of daily activity. Daily reporting that clearly shows the market's impact on asset valuations relative to targeted allocations is a necessary portfolio monitoring tool.[2] As the saying goes, "You can't manage what you don't measure."[3] So, get the clearest picture of your portfolio risks every day. Institutional investors can utilize the infrastructure of an Overlay provider who can collect and analyze daily portfolio data from all manager accounts, map them to their respective asset classes or factor exposures, and provide daily reporting to the investment staff.[4]

> *"You can't manage what you don't measure." So, get the clearest picture of your portfolio risks every day.*

The target

While there is an increasing focus on risk- and factor-based targets, most institutional investors rely on a strategic asset allocation (SAA). Creating an SAA involves considerable time and effort, yet all portfolios are subject to two fundamental challenges:

- ✓ The SAA typically does not have a targeted allocation to cash (or, only a small allocation), yet cash is needed for operational purposes (e.g., capital calls, fund expenses, benefit payments, and spending requirements). Holding more cash than the SAA is a risk that tends to cause a drag on portfolio performance. Over the last 40 years, the cash drag for a typical multi-asset portfolio is approximately 16 basis points per annum.[5]
- ✓ The actual portfolio is almost never at the SAA target weights due to market drift. Deviating from the SAA due to naïve market drift is an unintended risk with no expected return (i.e., it is an uncompensated risk).[6]

Unintended exposures

Unintended exposures (e.g., holding cash and drifting with the market) have risk but no expected return.

Risk management

While clients can use an Overlay program to accomplish numerous objectives, the common denominator is risk management. A program that equitizes cash and completes the SAA by minimizing asset class drift can reduce unintended portfolio risk by approximately 73%.[7] In other words, an Overlay program can significantly close the gap between where you are and where you want to be. This is often done by holding liquid and capital-efficient derivatives, such as exchange traded futures contracts, to replicate the asset classes and minimize portfolio gaps. Such an approach, often called "policy implementation" or "synthetic rebalancing," is a completion strategy that equitizes the idle cash balances while reducing the underweight and overweight risks in the portfolio's publicly traded asset classes. Risk from asset allocation mismatches is further mitigated through thoughtful trading strategies. For example, increases in cash cause the Overlay program to buy the underweight asset class while decreases in cash result in selling the overweight asset class. In other words, natural cash flows create trading opportunities to nudge the portfolio closer to the SAA.

An Overlay program that implements a pension plan's SAA can take the emotion out of the decision-making process. Several studies have revealed that when emotions are high, investors are more likely to sell low and buy high. Absent a tactical view, it is recommended to stay close to the SAA. This is an acknowledgement of the sensitivity to deviations in relative returns—actual performance compared to the SAA and to peers.

Returns are path dependent—it matters where the portfolio is positioned when the market turns. Portfolios that are overweight equities heading into a market selloff, or underweight equities when the market bounces, can significantly underperform those benchmarks.

Traditionally, Overlay programs are used to adjust macro-level portfolio risks. However, there is a growing interest in using the flexibility of the platform to adjust the risk and return characteristics *within* certain asset classes. This is primarily achieved through options and total return swaps. Four brief case studies involving this type of risk management are presented below.

1. Put-write portfolio

A large public pension fund desired a change to its U.S. Large Cap equity portfolio that would reduce volatility and mitigate sensitivity to drawdowns while providing a similar return to the S&P 500 Index. To accomplish these objectives, Russell Investments implemented a put-writing mandate to harvest the volatility risk premium by selling fully covered put options on the S&P 500 Index while simultaneously investing the cash collateral in a range of short- and intermediate-term high-grade debt instruments.[8]

2. Equity replacement option structures

An institutional investor wanted an equity-based solution that had lower volatility, a component of downside risk protection, and the ability to participate in upside market moves. A solution was implemented to replace a portion of the client's existing passive equity exposure with a series of risk reversal option structures. The cashless option structures involved selling a put option that protected against the first 10% move downward in equities to finance the purchase of a near-the-money call option. In aggregate, the structures slightly outperformed the various global equity indexes while experiencing one-third less volatility.

3. Total return swaps

After recognizing the various custom indices offered in the commodity space, an institutional investor utilized a series of broker products to obtain its targeted exposure. The focus of its commodity exposure was a combination of curve placement, roll timing, volatility, and backwardation strategies. Russell Investments implemented the exposure through total return swaps. In a similar fashion, other clients have used total return swaps to obtain (or hedge) exposure to a specific sector within a broader asset class.

4. Downside protection

The investment staff at an institution was concerned about the downside risks associated with a late cycle equity market and wanted to hedge its global equity portfolio. Russell Investments created a proprietary downside protection strategy intended to protect a client-specified floor value by adjusting the institution's exposure to the equity market through futures and currency forwards. The strategy successfully reduced the magnitude of drawdowns in portfolio value resulting from market declines.

Implementation

Even the best investment decisions can be offset by poor implementation. Every basis point matters.

Implementing portfolio changes

Most investment staffs are busily engaged with the cash flow challenges that affect their portfolios. In any given year, most pension funds are impacted by the monthly cycle of benefit payments, episodic private equity capital calls and distributions, and potentially hiring and/or firing money managers. Corporate pensions have the added complexity of contributions from sponsors, periodic lump sum distributions, and updated actuarial projections of liabilities. Financial services firms must manage cash flows in or out of their products as well as tactical and structural changes to maximize risk-adjusted returns for their end clients. In addition, many institutions go through asset allocation changes, incorporating recommendations from their consultant or investment committee, and implementing triggers from a de-risking (or re-risking) schedule.

In our experience with running multi-manager funds and portfolio solutions for third-party institutions, the implementation of a change is often as important to portfolio performance as the change itself. Efficient implementation of portfolio changes is vital to achieving both short- and long-term performance goals. Engaging with an implementation partner that can hedge the risks associated with portfolio changes, and then manage the intricacies of transitioning the assets, is critical. Such an approach requires thoughtful planning to strategize and execute the lowest cost, lowest risk solution. The following are two relevant case studies.

5. Hedging an asset allocation shift

At a board meeting, the CIO of a corporate defined benefit plan received approval to implement an asset allocation shift to de-risk the pension plan. Upon exiting the meeting, the CIO contacted Russell Investments and, within an hour of the Board approval, implemented the shift out of equities and into fixed income through the Overlay program. The derivative hedge significantly reduced the plan's risk to a downturn in the equity market, thus reducing the plan's surplus volatility. Over the subsequent three months, the CIO had identified the equity managers to trim or terminate and the fixed income managers to fund or hire. The transition out of the derivative hedge and into the targeted physical allocation was executed in a coordinated fashion to minimize cost and risk. For example, as each dollar was traded in physical stocks and bonds, a dollar of futures exposure was unwound to maintain the appropriate risk exposure.

6. Coordinated transitions

Over a 10-year period, a large and growing health plan worked with Russell Investments to implement over 20 transition events as it built out and redesigned its equity portfolio. The partnership of the investment staff, along with Russell Investments' expertise in Transition Management, Trading, and Overlay Services held strategy meetings prior to each restructure to seek the optimal solution. In cases involving active equity managers, using the same trading desk to simultaneously execute the physical and derivative trades ensured that intraday risks were minimized. As more passive equity managers were added to the lineup, the team often used an Exchange-for-Physicals (EFP) transaction to instantaneously exchange an equivalent amount of futures and cash into an index portfolio of stocks.[9] When commingled funds were part of the mix, the derivatives were often traded by executing a Block Trade at Index Close (BTIC) transaction. When seeking best execution, using a multi-venue trading strategy minimizes potential conflicts of interest regarding where the trade is completed. In a competitive bidding market, when banks compete, clients win.

Unfortunately, there are still far too many examples of an uncoordinated approach to implementation. It does not take much of a market move for gaps in exposure to result in multi-million-dollar losses. (It could be a gain too, but regardless, these are unintended risks that have no expected return.) Markets can be volatile—every second matters when implementing changes. Losses of large magnitude are not uncommon—they can be equivalent to paying an active manager's fee for a year or more. If the same attention was given to the implementation of investment ideas as is currently given to manager fees, risk-adjusted investment performance would be higher.

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The toolbox

Many institutional CIOs consider the Overlay program as the financial equivalent of a Swiss Army knife.[10] The platform is flexible to accomplish a variety of portfolio objectives: cash equitization, synthetic rebalancing, currency hedging, portable alpha, downside protection, liability hedging, and tactical tilting. The most common tools are listed futures contracts, currency forwards, total return swaps, options, and ETFs.

While the Overlay program is primarily focused on synthetic instruments, adding physical portfolio solutions is an easy addition to the toolbox.

7. Factor-based dynamic completion

A university foundation approached Russell Investments in pursuit of a better way to measure and adjust the risk exposures embedded in its active equity managers. Analysis of the foundation's active equity portfolio revealed an unintended overweight to high volatility stocks along with several regional bets relative to the benchmark. To reduce the unintended risks, Russell Investments implemented a custom dynamic completion strategy to reduce the exposure to volatility along with an Overlay program using futures contracts to mitigate the regional risks. The physical global portfolio focused on a multifactor allocation of low volatility, value, and momentum.[11]

8. LDI Completion with STRIPS[12]

A corporate defined benefit plan sought a solution to hedge the interest rate sensitivity of its liabilities. Since the primary risk was associated with liabilities greater than 20 years, Russell Investments implemented a physical solution using Treasury STRIPS that helped to hedge the pension's liabilities that were most sensitive to interest rates. The portfolio held a targeted basket of STRIPS with maturities ranging from 15 to 27 years. Meanwhile, an Overlay program using U.S. Treasury futures focused on reducing the key rate duration gaps between the fixed income portfolio and the liability cash flows while also maintaining the desired hedge ratio. Such a role is often known as an LDI Completion manager. To further optimize the capital efficiency of the total solution, several of the physical STRIPS were pledged to the futures broker to satisfy the initial margin requirements (as opposed to posting cash).[13]

9. Custom equity portfolios

A large institutional investor desired a flexible equity solution to express sector views held by the investment staff. A collaborative solution was implemented that expressed the desired sector tilts while optimizing the portfolio to a set number of stocks and a desired tracking error target. Using Russell Investments' suite of quantitative optimization tools, the client was able to select from among various portfolio iterations that best accomplished its objectives.

> *While the Overlay program is primarily focused on synthetic instruments, adding physical portfolio solutions is an easy addition to the toolbox.*

Spending your risk budget

Institutional investors that *do not* have an Overlay program spend a significant portion of their risk budget from holding cash and drifting away from their SAA. However, with the risk reduction characteristics of an Overlay program in place, investment staffs can focus on "re-spending" that risk budget on areas in which they have conviction. Expressing investment conviction can take many forms, as the following two examples outline.

10. Enhanced Asset Allocation (EAA)

The CIO of a corporate pension plan wanted to incorporate tactical portfolio positioning within predefined ranges. Using the quantitative modeling and capital markets insights from Russell Investments' Strategist team, a tactical portfolio based on the client's primary asset class exposures was implemented through the Overlay program. The EAA portfolio executed tactical positioning through capital efficient derivative instruments whenever material mis-valuations were identified by the Strategist team. Since inception in 2008, the EAA portfolio has added 9 basis points of annualized return for the plan (an information ratio of 0.44). Furthermore, the gains from the EAA positions have had a near-zero correlation with the rest of the portfolio.[14]

11. Portable alpha

After recognizing the disparate alpha opportunities by public equity managers in different segments of the world, a large corporate defined benefit plan partnered with Russell Investments' Overlay Services team to implement a portable alpha strategy. Specifically, the strategy focused on perceived alpha opportunities in both Emerging Markets equity and U.S. Small Cap equity, supplementing those investments in markets with lower perceived alpha opportunities in U.S. Large Cap equity. The Overlay program was used to provide synthetic beta exposures (both long and short), to maintain adherence to its SAA, and to implement the changes in a manner that mitigated costs and risks.[15]

> *Institutional investors that do not have an Overlay program spend a significant portion of their risk budget from holding cash and drifting away from their SAA.*

Tactical hedging

Many clients use the Overlay program as their first line of defense for expressing views on hedging. Over the years, clients have expressed tactical hedges on broad asset classes, individual countries, equity sectors, fixed income sectors, commodities, currencies, and individual securities. Depending on the goal, hedges can be implemented using options, swaps, futures, or currency forwards. Here are two examples.

12. Soft-floor downside protection

The investment staff at a financial institution was concerned about potential adverse effects of a certain geopolitical development. While long-term portfolio protection is a headwind to performance, short-term protection can be a valuable tool in certain circumstances (critical reporting cycles, economic data releases, political elections, expressing a market view, etc.). In addition to time horizon, consideration should be given to pricing (e.g., strike levels and option premium), hedge precision, and instrument types.[16] The attractiveness of various option structures changes with the level of volatility and skew in the market. In low volatility and low skew regimes, hard floor protection (e.g., buying a put) tends to be attractively priced relative to history. Soft floor protection and equity replacement structures tend to be more attractive in medium-to-high volatility and skew environments. In weighing the costs and benefits of various option hedging structures, the investment staff chose a put spread collar—a soft-floor option structure that hedged against a market decline between -10% and -25%. To pay for the protection, they sold a call that capped the upside at +7.3%, thereby making it a cashless structure at initiation.

13. Tactically adjusting the SAA

Working with the board of directors, the CIO of a foundation was granted authority to make small adjustments to the SAA within predefined ranges. The CIO used the Overlay program to implement the changes, thereby allowing for timely implementation of hedging decisions. A predefined governance structure is critical to a successful hedging program. It is recommended that the decision-makers, risk tolerance, metrics for success, ongoing monitoring, and trading strategies for entering and exiting the hedge are identified prior to execution.

Operational considerations

An Overlay manager is unlike any other manager in an institutional investor's lineup. Not only can it provide a total portfolio view of assets and risks, but it also serves as an extension of the investment staff, thus allowing staff to focus more on investment-related decisions and less on operational details. Due to the broad platform, the Overlay manager is often in regular contact with the investment staff regarding upcoming portfolio activity, implementation advice, market conditions, and trade execution. In addition, the monitoring of all accounts and the daily review of custodial data reduces the administrative burden on the investment staff. The following items are important operational considerations for an Overlay program.

- ✓ **Data:** A robust system for gathering data (from custodians, brokers, counterparties, and pricing services), evaluating that data for reliability, and making real-time adjustments for items not yet reflected in the data.
- ✓ **Team:** An experienced and dedicated team of portfolio managers focused on managing risk, reducing costs, and implementing a wide array of solutions for clients.
- ✓ **Trading:** A comprehensive team of traders focused on best execution and the alignment of client interests; traders with expertise across various instruments, asset classes, and regions, along with a deep understanding of managing roll cycles, diversifying counterparty exposures, and weighing both implicit and explicit costs.
- ✓ **Benchmarking:** Reporting that compares performance relative to desired exposures (e.g., futures are compared against the physical benchmark less the cash return, and assumes all trades were executed at the prior day's close with no transaction costs) and thoughtful consideration of the timing of exposure shifts within the portfolio (i.e., exposure benchmarking) to mitigate risk.[18]
- ✓ **Cash and collateral:** The ability to use Enhanced Cash investing to improve yield and better align the investments with a client's liquidity profile while also providing daily liquidity for more urgent needs; and a global operations team that compares broker and counterparty valuations for collateral transfers.[19]

Conclusion

Alice may have greatly benefited from a Swiss Army Knife on her adventures through Wonderland. For institutional investors, an Overlay program can serve as a valuable multifaceted tool for addressing numerous portfolio challenges. In its most common use, it can bring clarity to the daily reporting of the current portfolio whilst reducing risk by bridging the gap to the target portfolio. While this may be accomplished through a variety of methods, the flexibility of the platform to address custom solutions for clients has been highly sought after. Over the last decade, Russell Investments' Overlay Services team has reduced approximately 75% of the unintended risk on completion mandates and delivered $10 billion in portfolio gains to our clients.[17]

[1] Lewis Carroll, *Alice's Adventures in Wonderland* (Lee and Shepard, 1869), 89.

[2] There is a common misconception that the SAA targets are static and do not move with the market. While that may be true on a monthly basis (when measured at month-end intervals), the SAA should float with the market on an intra-month basis. Most of Russell Investments' policy implementation clients employ a sophisticated process for adjusting the SAA targets on an intra-month basis to account for market movement. This process (called incrementing) allows the actual portfolio to better mimic the performance pattern of the SAA. See Horstmann, S. (2016). "Incrementing: Intra-month target weights to reflect reality." *Russell Investments Strategy Spotlight*.

[3] Management consultant Peter Drucker's original quote was: "If you can't measure it, you can't improve it." While this saying may not be applicable for several *qualitative* aspects of work, it's true for many quantitative areas of portfolio management.

[4] To get a clear picture of the portfolio, we start with custodial data and then apply several adjustments to account for monthly-priced commingled funds, splitting managers that cross multiple asset class categories (e.g., global equity managers), adjusting for significant cash flow activity, and performing a series of data validations aimed at catching (and then fixing) unexplained day-over-day changes or mis-booked custodial entries.

[5] Source: Russell Investments. Impact from 12/31/78 to 12/31/23. Based on a typical U.S. multi-asset portfolio consisting of 2.5% total cash (1.5% operational cash plus idle cash held by active equity managers: 1.5% U.S. equity and 2.0% International equity) vs. a pro-rated target of 40% Russell 3000, 20% MSCI ACWI ex-U.S., 40% Bloomberg Barclays U.S. Aggregate.

[6] Some clients have found it valuable to take intentional tilts away from the SAA. Or to embed an equity momentum element—for example, setting asymmetric rebalancing bands within the guidelines of an Overlay program to allow for an extended period of being overweight to equities (ideally during a bull market), and a tighter tolerance for being underweight to equity. Since deviations like this are *intentional*, they do not fall in the category of "uncompensated risks."

[7] Risk reduction as measured by the decrease in tracking error between the portfolio with and without the Overlay program relative to the desired SAA. Source: Russell Investments. Based on a 10-year composite of Russell Investments' policy implementation clients.

[8] See Pedack, D., Causey, B., and Mainelli, K. "A Defensive Equity Solution Using Put Options." *Russell Investments Case Study*.

[9] See Causey, B. (2014). "Rebalancing with EFPs." *Russell Investments Strategy Spotlight*.

[10] See Fletcher, T. (2006). "Derivatives – A Swiss Army Knife for Today's CIO." *Russell Investments*.

[11] See Zylkowski, N., Saucier, P. "Improved Portfolio Returns and Managed Risk with Factor-Based Dynamic Completion Strategy and Futures Overlay." *Russell Investments Case Study*.

[12] The STRIPS acronym stands for Separate Trading of Registered Interest and Principal of Securities.

[13] See Saucier, P. and Causey, B. (2019). "Enhanced Cash and Liquidity Management." *Russell Investments Strategy Spotlight*.

[14] Source: Russell Investments. Based on actual portfolio returns ending October 31, 2023. Inception of EAA was August 1, 2008.

[15] See Causey, B. (2019). "Portable Alpha: Maintaining Your SAA While Implementing a Portable Alpha Strategy." *Russell Investments Strategy Spotlight*.

[16] See Fletcher, T. (2016). "7 Considerations for Establishing a Hedging Program." *Russell Investments Strategy Spotlight*.

[17] Source: Russell Investments. Risk reduction based on a 10-year composite (2014-2023) of Russell Investments' Policy Implementation clients. Portfolio gains based on all third-party Overlay Services clients.

[18] See Causey, B. and Hanley, J. (2014). "Exposure Benchmarking." *Russell Investments Strategy Spotlight*.

[19] See Saucier, P. (2018). "Collateral Management." *Russell Investments Strategy Spotlight*.

QUESTIONS?

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