CLIENT CASE STUDY

Russell Investments

Corporate pension plan implements de-risking glidepath, improves funded status by 52%

THE ORGANIZATION

The firm is a global manufacturer of industrial goods with more than 15,000 employees in 50 countries. In the U.S., the investment committee has made a conscious decision to keep their cash-balance defined benefit plan open as an ongoing part of its employee retention strategy. Plan assets in the U.S. total over $350 million.

Challenges

During the global financial crisis of 2008, the plan's funded status plunged from 87% to nearly 60%. With Pension Protection Act (PPA) mandated plan contributions looming, the investment committee increased their focus not only on re-building funded status, but on:

› De-risking the plan*

› Limiting surplus volatility

› Reducing the likelihood of required cash contributions in the future

A Strategic Solution

The investment committee believed that the best means of fulfilling their ongoing fiduciary responsibilities was through a greater focus on strategy, delegation, and oversight rather than day-to-day implementation. Accordingly, they hired Russell Investments as an outsourced investment manager responsible for not only delivering advice, but for implementing that advice on a daily basis. Together, Russell Investments and the committee worked through a full asset/liability study, which led to multiple portfolio recommendations designed to improve funded status and reduce portfolio risk as funded status returned to acceptable levels. These recommendations included:

1. Adopting an LDI (liability-driven investing) approach
2. Implementing a de-risking glidepath in which the allocation to return seeking and liability hedging assets would evolve as new funding thresholds were achieved
3. Adjusting the fixed income portfolio to better match the duration of plan liabilities
4. Enhancing the return-seeking portfolio through greater international exposure

We briefly explore the implementation and impact of each of these recommendations in the following pages.

PENSION FUNDING PROBLEMS

› A steep decline in funded status

› Unexpected required pension contributions

› Inadequate asset to liability matching

› The lack of a roadmap to de-risk the plan as funded status improved

* Please remember that all investments carry some level of risk. Although steps can be taken to help reduce risk it cannot be completely removed.

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1. Adopting an LDI approach

The investment committee settled on the following LDI goals for their cash-balance plan:

› Take immediate measures to adjust the plan's fixed income portfolio to match the current liability duration of 8 years

› On an ongoing basis, work to match changes in liabilities resulting from the passage of time and changes in discount rates

› Implement a de-risking glidepath that maps out increases in the portfolio's allocation to LDI assets as funded status improves—effectively reducing portfolio risk over time and helping insulate the plan from market downturns

› Re-define the non-LDI assets in the portfolio as "return-seeking assets" and manage them in a risk-aware manner with the goals of improving funded status and offsetting ongoing servicing costs

The adoption of these goals represented a paradigm shift in the management of the plan; re-defining the success of the program as progress towards improved funded status rather than simply beating benchmarks within each individual asset class. This new perspective resulted in a new approach to plan management and a new set of investment goals and tactics.

Open, cash-balance pension plans have a different set of requirements than traditional defined benefit plans—whether open or closed. Drawing on more than 40 years of pension experience, Russell Investments worked closely with the investment committee to tailor an LDI program that was specifically designed to meet the company's unique needs. One size does not fit all when hedging a pension's liabilities.

2. Implementing a de-risking glidepath

In addition to the immediate restructuring of the fixed income portfolio, a roadmap—the de-risking glidepath—was created to guide the plan on its journey from 61% funded all the way through a position of surplus funding.

The company was in a position to significantly improve the plan's funded status through large contributions, but was unwilling to do so until a strategy was detailed to help protect against another steep decline in funded status like the one they experienced in 2008. Under the de-risking schedule Russell Investments developed, the plan's hedge ratio target and allocation to fixed income increases as funded status improves, given that the plan has less incentive to take interest rate risk. However, since the liabilities are only partially hedged, any unexpected rise in interest rates would still benefit the plan and improve funded status. The schedule below shows the fixed income allocation for the plan (with the remainder allocated to return-seeking strategies) and an interest rate hedge ratio target at each funded status.

EXHIBIT 1: THE DE-RISKING GLIDEPATH

Funded Status	LDI Allocation (% of total assets)	Target Hedge Ratio
<85%	35%	37%
90%	40%	42%
95%	45%	47%
100%	50%	52%
105%	55%	57%
110%	60%	62%
120%	65%	67%
130%	70%	62%

Shown for illustrative purposes only. De-risking glide paths may be customized based on a number of factors or changes in funded status.

With the de-risking strategy clearly defined, the company decided to contribute roughly $80 million to the plan, an amount designed to bring the plan to the desired funding threshold on the glidepath. As a result of this contribution, the portfolio restructuring, and the rise in equity markets, the plan moved from 61% funded to 93% funded over a four year period. The new de-risking focus of the portfolio was put to the test during the equity market volatility sparked by the European debt crisis in 2012 and performed admirably, with funded status falling by less than 2%.

3. Adjusting the fixed income portfolio

Implementing the new LDI approach meant dramatic revisions to the plan's fixed income portfolio. Fixed income investments assets grew to represent 50% of plan assets, up from the previous allocation of 35%, and the nature of those assets changed entirely. The changes involved in bringing about this portfolio realignment included:

› Adjusting the duration of fixed income assets to match the 8 year duration of plan liabilities—primarily by moving out of the 100% intermediate bond position previously held by the plan and investing in a series of target-duration LDI index funds designed to closely match U.S. pension plan liabilities.

› Using target duration LDI funds to create a better match with the cash flow profile of the plan's liabilities and improve the hedge ratio at various key rate durations.

› Increasing exposure to credit securities to create more precision in hedging the fixed income assets to the plan's liabilities (given that liability discounting curves are constructed using corporate bonds).

TARGET DURATION LDI FUNDS

Russell's Target Duration LDI funds are a series of six funds with targeted durations ranging from 6 to 16 years. This series of funds provides a very close representation of U.S. corporate pension liability behavior by intentionally targeting specific duration exposures and deliberately managing credit exposure and default risk.

The building block approach of these funds enabled Russell to tailor a solution to match the specific liability profile of the company's pension plan.

Dramatic results

As a result of these changes, the hedge ratio of the plan (how well the assets of the plan track changes in the pension liability) increased from 22% to 52%. Expected surplus volatility fell by approximately 20%, and the forecasted "worst 5% outcome" improved by 30%, as shown in Exhibits 2 and 3*, below:

EXHIBIT 2: SURPLUS VOLATILITY

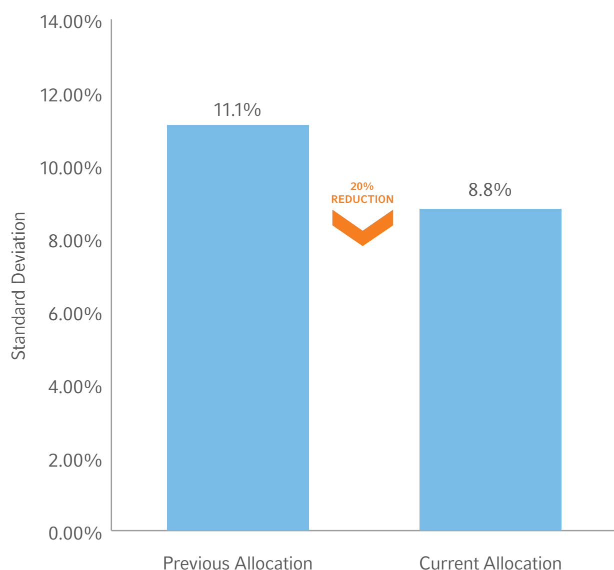
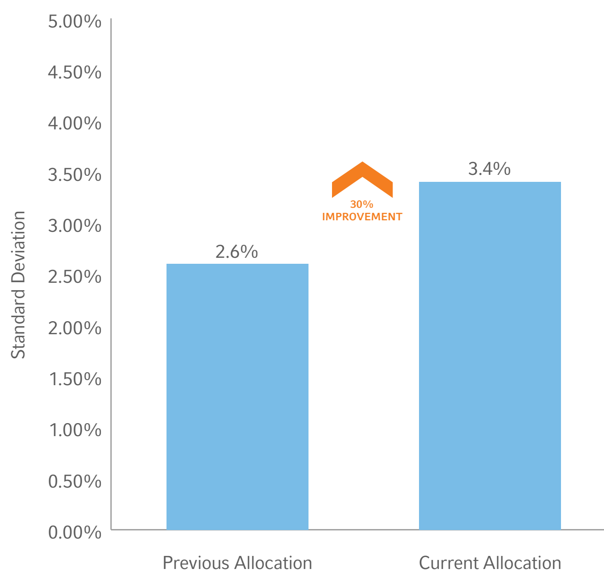


EXHIBIT 3: EXPECTED WORST 5% RETURN



4. Enhancing the return-seeking portfolio

The return-seeking portion of the plan's portfolio is meant to serve the critical functions of growing assets to improve funded status as well as covering ongoing plan servicing costs. The increase in the portfolio's allocation to fixed income meant that a smaller portion of the portfolio could be devoted to equities and other return-seeking assets, so it was all the more important that this portion of the portfolio be well designed.

*Surplus Volatility is standard deviation of surplus return. Worst 5%: The outcome for a statistic (whether a cumulative statistic or annual statistic) for which 5% of our simulations produce a worse outcome. Assumptions are calculated using the Russell Capital Markets Forecasts (December 2012).

As the portfolio stood, it had a significant home country equity bias. Russell Investments worked with the committee to help them understand the potential impact of this bias, and proposed an optimized return-seeking portfolio with larger allocations to international developed markets, emerging markets, and global equity. The new return-seeking portfolio reduced the home country (U.S.) bias with the expectation of higher returns within a risk-managed framework.

RESULTS

By adopting an LDI approach to managing the pension and implementing a de-risking glidepath, the company was able to:

› Improve the match between pension assets and liabilities

› Decrease funded status volatility in times of market distress

› Make plan contributions with confidence, eventually improving the funded status of the plan from 61% to 93% funded over four years.

› Increase diversification levels and return expectations within the return-seeking portion of the portfolio

ABOUT RUSSELL INVESTMENTS

Russell Investments has helped pensions navigate challenges and meet goals since 1969. The solutions we design for our clients are tailored to meet each organization's specific goals, and incorporate our award winning advice, investment strategy, and implementation.

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