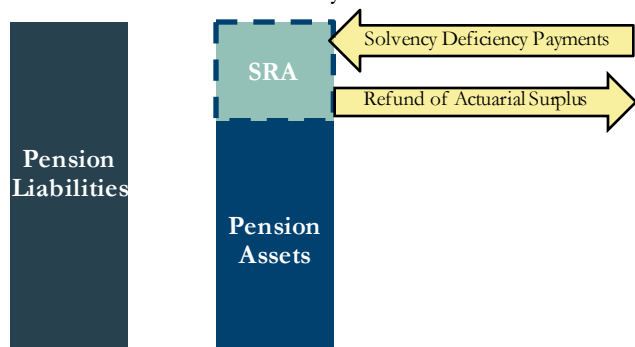


JSA's Proposal at a Glance

JSA proposes a dynamic investment strategy with multiple stages and several risk management procedures. The strategy can be broken down into the following three parts: (a) the implementation of a Solvency Reserve Account (SRA) to increase shareholder willingness for cash injections by eradicating the issue of trapped capital; (b) a dynamic asset allocation that changes over five phases to reflect the evolving needs of the fund; and (c) immunization in the form of duration matching to reduce the fund's overall sensitivity to interest rates and inflation. These three components, as well as some other considerations, are described below.

Solvency Reserve Account

JSA takes advantage of recently-enacted regulatory measures by implementing a Solvency Reserve Account. Prior regulations stipulate that any assets a company contributes to its pension fund cannot be withdrawn in the future even if the pension fund surpasses 100% solvency. This has made companies very reluctant to make contributions to their pension funds, even in cases when they are substantially underfunded. This is because management is typically concerned that the company's contributions will become "trapped capital" (see Quantamental's report for description) in the event that the pension plan becomes overfunded. The SRA fixes this problem — companies can make contributions into this account and withdraw the capital if the pension fund becomes substantially overfunded.



JSA proposes that LumberCo make significant contributions to this account to ensure that the pension plan reaches a 100% funding ratio within the next five years. This proposal is likely to be far less contentious because of the SRA.

Dynamic Asset Allocation

LumberCo's defined-benefit pension plan is in the process of winding down. Moreover, the bulk of its pension liabilities come due in the next five years. To address these factors, JSA proposes five phases of asset allocation, each of which reflects the needs of the fund at a different point in time. Each phase is distinct in terms of level of diversification, risk profile, and return priorities.



Phase 1: Solvency Restoration (2017-2022)

The aim of Phase 1 is to render the pension plan fully-funded — reach 100% solvency — by 2022. This is ambitious and will require a combination of large cash injections from the plan sponsor (which demonstrates the importance of the SRA) and handsome returns. To achieve the latter, JSA proposes an above-average allocation to venture capital, private equity, and real estate investments — the rationale being that such investments capture the illiquidity premium, a boost in expected return as compensation for holding illiquid investments.

Phase 2: Real Asset Maturation (2023-2026)

Phase 2 maintains the identical asset allocation as Phase 1. It is assumed that by 2023 — the beginning of Phase 2 — the combination of cash injections and high annual returns will have rendered the plan fully-funded. Thus, in Phase 2, JSA proposes that the pension fund maintain its current asset allocation, including its various investments in private equity, venture capital, and real estate, ensuring that above-average returns continue to be generated.

Dynamic Asset Allocation (cont.)

Phase 3: Liquidate PE & VC Investments (2027-2031)

During the third phase, JSA proposes that the pension fund liquidate its investments in private equity and venture capital, while simultaneously introducing new holdings to the portfolio. New investments made during this phase include: more Canadian equities, US corporate fixed income, and US Large Cap stocks.

Phase 4: De-Risking the Portfolio (2032-2046)

Team JSA maintains that if LumberCo follows their proposed strategy, no further cash injections will be required during this phase and beyond. Only 15% of the pension plan's liabilities will come due in these years, and the plan is expected to have more than enough funds to meet these obligations by then. Thus, the fourth phase focuses primarily on de-risking the portfolio by (a) eliminating its exposure to real assets from a 20% weighting to nil, and (b) allocating the bulk of the portfolio — over 67% — to fixed income.

Asset Type / Weight	Phase 1 & 2	Phase 3	Phase 4
Equities	13.47%	25.00%	27.74%
Private Equity	9.53%	0.00%	0.00%
VC Equity	2.00%	0.00%	0.00%
Infrastructure	16.41%	20.00%	0.00%
Fixed Income	53.59%	50.00%	67.26%
Money Markets	5.00%	5.00%	5.00%

Phase 5: Annuity Sell-Off (2047 and onwards)

Finally, in Phase 5, the remaining liabilities under supervision are a fraction of what they used to be, so JSA offloads the entirety of its obligations by purchasing an annuity from an insurance company. This transfers all the risk of the remaining pension liabilities to the insurance company. This is another unique facet of JSA's proposal, and it is effective at limiting management expenses.

JSA proposes this five-phase strategy to ensure that the pension fund's asset allocation evolves with its risk profile.

Immunization — Duration Matching

Pension liabilities have a direct relationship with inflation and an inverse relationship with interest rates. Thus, given the inherent sensitivity of LumberCo's pension fund to fluctuations in inflation and interest rates, JSA recommends the use of duration matching — an immunization technique that matches asset duration with liability duration — to mitigate these risks. Specifically, JSA proposes that the fund enter into swaps, futures, and bond forwards. The use of such derivatives provides LumberCo's pension assets with offsetting, synthetic exposure to inflation and interest rates. JSA also employs the use of currency swaps. These swaps seek to mitigate the currency risk to which the pension fund is exposed. To curtail this risk, JSA proposes hedging all of its USD exposure.

ESG Considerations

JSA proposes implementing ESG (Environment and Social Governance) policies to its investments. Namely, the fund plans to only invest in real estate projects that prioritize safe housing regulations and contribute positively to the communities in which they are built. JSA is also interested in identifying renewable energy opportunities within their real asset portfolio. In terms of their equity positions, JSA proposes that LumberCo use its voting rights in order to promote socially responsible causes. JSA's interest in ethical initiatives is admirable, and it may end up positively affecting the value of LumberCo's investments if the market is failing to price in the positive outcomes from ESG assets.

Final Considerations

JSA recommends a clever five-phase investment glide path that prioritizes de-risking as time moves forward. By using the SRA account, cash injections from the pension plan sponsor are easier to digest. In addition to this, JSA manages risk by implementing a duration-matching strategy with swaps, exhibiting a clear understanding of the complex derivatives market. Finally, JSA took the time to consider ESG investing, an investment driver that is only growing in popularity and necessity.