

RET RPIRM Model Solutions

Spring 2017

1. Learning Objectives:

1. The candidate will understand how to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations.
2. The candidate will recognize and appropriately reflect the role of plan investments in retirement plan design and valuation.

Learning Outcomes:

- (1a) Assess the different types and combinations of investment vehicles for providing retirement benefits given the particulars of the stakeholders' financial circumstances, philosophy, industry, work force and benefit package.
- (1b) Distinguish the various strategies, approaches and techniques used to manage retirement fund assets.
- (2a) Evaluate the interaction of plan investments with plan design, valuation, accounting and funding.
- (2b) Evaluate the interaction and relationship between plan investments and valuation assumptions/methods.

Sources:

Litterman Ch 28 (Griffiths), RPIRM 110-13, RPIRM 111-13

Commentary on Question:

This question sought to test candidates' ability to evaluate the pros and cons of private equity investment in the context of a pension plan portfolio.

Generally, candidates did fairly well on this straightforward question. However, more points were awarded for those that explained their responses (rather than just doing a bulleted list of keywords), and for those that provided more responses in total than say one or two.

Solution:

- (a) Explain why a plan sponsor would invest pension funds in private equity.

1. Continued

Because information about private companies is hard to obtain, efficient market theory may not apply, so managers with skill and insight may be able to produce superior returns.

Private equity investments may enable the investor to exercise a degree of control in the company's direction, board of directors, etc., again, possibly enabling superior returns.

The lack of liquidity in private equity investments may result in lower purchasing prices for a given degree of value, thus potentially enabling higher returns.

Private companies may be managed more for sound performance in the long term (appropriate for the time horizon for pensions), whereas public companies may be under pressure to perform quarter to quarter, possibly to the detriment of long-term performance.

- (b) Describe the challenges faced by a pension plan sponsor when investing in private equity.

Private equity is comparatively illiquid, making an exit difficult without price concessions, hurting returns.

If there have not been many historical transactions in the investment, valuations reported can be badly out of date.

If private equity investment is made through acquiring a partnership interest, the general partner may charge high fees for the transaction.

It may be difficult to establish an expected return assumption for valuation purposes.

2. Learning Objectives:

1. The candidate will understand how to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations.
2. The candidate will recognize and appropriately reflect the role of plan investments in retirement plan design and valuation.

Learning Outcomes:

- (1f) Identify and assess the sources of investment risk applicable to retirement fund assets.
- (2b) Evaluate the interaction and relationship between plan investments and valuation assumptions/methods.
- (2c) Model the effect on setting investment strategy of factors including, cash flow requirements, various plan designs and various economic environments.
- (2d) Apply and evaluate strategies and techniques for asset/liability management.

Commentary on Question:

Part A: A successful candidate should be able to correctly define interest rate risk, and explain its impact on assets, liabilities and funded ratio of a DB Plan. Most candidates either did not provide a definition for interest rate risk or provided the incorrect definition. Furthermore, most candidates did not explain the impact on assets, liabilities and funded ratio as a result of both increasing and decreasing interest rates.

Part B: Candidates answered this section very well overall, and most earned full marks.

Part C: There are a few reasonable methods for calculating the change in assets and liabilities due to rate changes, and full mark was awarded to candidates who provided the correct funded status (either as a percentage or actual dollar amount) within a reasonable rounding error showing all steps. Some candidates missed the impact of narrowing credit spread on the liability discount rate and the corporate bond yield, and consequently the impact on funded status.

Part D: A successful candidate recognizes the impact duration and credit spread have on the movements of assets/liabilities/funded status. Candidates only received partial marks if they simply state the impact on assets/liabilities/funded status without providing an explanation, references to duration, or references to credit spread.

2. Continued

Sources:

Litterman Chapter 24, RPIRM 110-13, RPRIM 111-13

Solution:

- (a) Explain how interest rate risk affects DB plan sponsors.
- Interest rate risk is the risk the yield of a bond will change due to changes in risk-free bond. Or, for liabilities the risk arising from unexpected changes in discount
 - Sponsors of DB plans are exposed to the risk of rates falling:
 - which increases liabilities
 - which increases the fixed income portion of the assets
 - funded status may deteriorate if under hedged
 - Sponsors of DB plans are exposed to the risk of rates rising:
 - which decreases liabilities
 - which decreases fixed income portion of the assets
 - funded status will improve if under hedged
- (b) Calculate the allocation of assets to each of the two funds to match the liability duration of the plan.

Show all work.

The basic formula is liability duration = (weight of corporate bond fund) * (duration of corporate bond fund) + (weight of federal government bond fund) * (duration of federal government bond fund)

$$Dur_{liab} = w_{corp} * Dur_{corp} + (1 - w_{corp}) * Dur_{gov}$$

$$13 = w_{corp} * 10 + (1 - w_{corp}) * 20$$

Solving for this equation leads to $w_{corp} = 70\%$. In other words, a 70% (700) allocation to the corporate bond fund and 30% (300) allocation to the federal government bond fund.

2. Continued

- (c) Calculate the plan's new funded status using the asset allocation calculated in part (b).

Show all work.

Liabilities

Treasury rates increased 50 bps but credit spreads narrowed by 75 bps, leading to 25 bps overall decrease for liability discount rates.

Liability change is: $-0.25\% * 13 * -1 = 3.25\%$

The new liability is: $1,000 * (1 + 3.25\%) = 1,032.5$

Assets

The change in the Treasury fund is: $0.5\% * 20 * -1 = -10.0\%$

The new Treasury fund value is: $300 * (1 - 10.0\%) = 270$

The change in the corporate bond fund is: $(0.5\% - 0.75\%) * 10 * -1 = 2.5\%$

The new corporate bond fund value is: $700 (1 + 2.5\%) = 717.5$

The new assets = $270 + 717.5 = 987.5$

The new plan funded status is: $987.5 / 1,032.5 = 95.6\%$

- (d) Explain in words how the changes to Federal government bond yields and credit spreads affected the assets, liabilities, and funded status of the plan.
- The allocation to government bond is not subject to credit spreads, which the liability is. The increase in liability is due to overall decrease in corporate bond yield. Furthermore, the decrease in corporate bond yield is due to increase in government bond yield outweighed by narrowing credit spreads.
 - The allocation to government bond has a longer duration compared the liability duration or the corporate bond portion of the assets. The increase in government bond yield resulted in decrease in that portion of the assets. The decrease in corporate bond yield resulted in increase in that portion of the assets.
 - The liabilities are subject to both government bond yields and credit spread.
 - The corporate bond interest rate is subject to both government bond yields and credit spread.

2. Continued

- The corporate bond duration is much shorter which makes the hedge it provides less valuable.
- The overall impact on funded status is negative due to the liabilities' exposure to credit spreads and a portion of the assets invested in government bonds not subject to credit spreads

3. Learning Objectives:

1. The candidate will understand how to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations.
3. The candidate will understand how to evaluate the stakeholders' financial goals and risk management with respect to their plan.

Learning Outcomes:

- (1d) Assess the potential effects of various investments and investment policies on all of the stakeholders, including tax implications.
- (1g) Solve for a measure of investment performance relevant to a given benchmark.
- (3c) Analyze how the retirement plan integrates with the sponsor's overall financial position.
- (3d) Compare the financial economics perspective to the traditional perspective on funding and accounting for retirement plans.
- (3e) Provide advice and analysis to stakeholders regarding the economic assumptions used in the valuation of their retirement plans.

Sources: Corporate Pension Risk Management and Corporate Finance

Commentary on Question:

The question intends to test the use of the Weighted Adjusted Cost of Capital (WACC) as a tool for plan sponsors to make decisions around their pension investment policies. Successful candidates demonstrated understanding of the WACC measure and its components and its use as a decision making tool

Part B - Candidates who did not provide an actual calculation, but described how to adjust the PBO to an economic liability received credit for their response

Part C - Partial credit was provided to candidates who had the right formulas, but made arithmetic mistakes or had incorrect input

Part E - Partial credit was provided to candidates who outlined the process to use WACC to make the decision but made arithmetic or input mistakes. Partial credit was also provided to candidates who described other advantages of borrowing to fund.

Solution:

- (a) Describe three disadvantages of using the PBO as the pension liability on a holistic balance sheet.

3. Continued

- The ABO valued in a true market basis is a preferred measure to the PBO by financial economists to measure the economic obligation
 - The PBO generally does not provide the real cost of the obligations
 - PBO usually needs to be adjusted to reflect a lower discount rate and an adequate mortality and mortality improvement assumptions to be closer to the true economic obligation
 - PBO may not reflect the value of embedded options available to participants when interest rates change, such as adjustable cash balance crediting rate, or interest rate used for lump-sum options.
 - PBO may also not reflect the value of contingent liabilities based on the funded status of the pension plan—for example, additional PBGC premiums or taxes on pension surpluses
- (b) Describe the adjustments that should be made to the PBO to determine the pension liability under a holistic balance sheet approach.

PBO generally has to be adjusted to represent an economic liability. Frequently made adjustments include adjustments to reflect a lower discount rate and an adequate mortality and mortality improvement assumptions to be closer to the true economic obligation and should include adjustments to reflect the real cost of the plan. Therefore:

$$\begin{aligned}\text{Pension Liability} &= \text{PBO} + \text{adjustment for market rates} + \text{PV of future expenses} \\ \text{Pension Liability} &= 2,250 + 150 + 100 = \$2,500\end{aligned}$$

Additionally, the sponsor may consider adjusting the liability to exclude the liability related to future salary increases not yet earned.

- (c) Calculate the Weighted Adjusted Cost of Capital (WACC) using:
- (i) The accounting balance sheet; and
 - (ii) The holistic balance sheet.

Show all work.

Calculating the WACC under the Accounting Balance Sheet. We first calculate the beta of the assets and use the result to determine the WACC

In general:

$$\text{WACC} = \text{Risk free return} + \beta_{\text{Assets}} \times (\text{Market return} - \text{Risk-free return})$$

3. Continued

$$\beta_{\text{Assets}} = (\text{Debt} \times \beta_{\text{Debt}} + \text{Equity} \times \beta_{\text{Equity}}) / \text{Assets}$$
$$\beta_{\text{Assets}} = (3,000 \times 0.00 + 2,000 \times 1.50) / 5,000 = 0.60$$

$$\text{WACC} = 3.00\% + 0.60 \times 4\% = 5.40\%$$

Calculating the WACC under the holistic balance sheet. We calculate the beta for the operating assets and use the result to calculate the WACC

$$\beta_{\text{OA}} = (\text{Corporate Debt} \times \beta_{\text{Debt}} + \text{Equity} \times \beta_{\text{Equity}} + \text{Pension Liability} \times \beta_{\text{PL}} - \text{Pension Assets} \times \beta_{\text{PA}}) / \text{OA}$$

$$\beta_{\text{OA}} = (2,750 \times 0.00 + 2,000 \times 1.50 + 2,450 \times 0.00 - 2,000 \times 0.70) / 5,000$$

$$\beta_{\text{OA}} = (0 + 3,000 + 0 - 1,400) / 5,000 = 0.32$$

$$\text{WACC} = 3.00\% + 0.32 \times 4\% = 4.28\%$$

- (d) Explain the implications of using the accounting balance sheet approach to determine WACC instead of the holistic balance sheet approach.
- Empirical evidence suggests that the market beta of XYZ stock takes into account the holistic, not the accounting, balance sheet
 - The WACC under the holistic balance sheet approach is lower than the accounting balance sheet. Thus, the WACC is overstated
 - The overstatement of WACC may cause management to abandon investment projects that would have been justified under a lower WACC
- (e) Recommend whether or not XYZ Company should borrow capital to fund the plan. Justify your response.
- To assess the opportunity, we will value the WACC after borrowing \$500m to fund.
To calculate the beta of the operating assets:
 - a. The corporate debt will increase by \$500m
 - b. The beta for this additional \$500m in debt is 0.2
 - c. The pension assets will increase by \$500m
 - d. The total pension assets will remain with a 0.70 beta as the asset allocation of the contribution is the same as the trust

3. Continued

$$\beta_{OA} = (\text{Corporate Debt} \times \beta_{Debt} + 500 \text{ borrowed to fund} \times \beta_{500 \text{ m loan}} + \text{Equity} \\ \times \beta_{Equity} + \text{Pension Liability} \times \beta_{PL} - (\text{Pension Assets} + 500\text{m contribution}) \\ \times \beta_{PA}) / OA$$

$$\beta_{OA} = (2,750 \times 0.00 + 500 \times 0.20 + 2,000 \times 1.50 + 2,500 \times 0.00 - (2,000 + \\ 500) \times 0.70) / 5,000$$

$$\beta_{OA} = (0 + 100 + 3,000 + 0 - 1,750) / 5,000 = 0.27$$

$$WACC = 3.00\% + 0.27 \times 4\% = 4.08\%$$

Borrowing \$500m to fund the pension plan would reduce the weighted adjusted cost of capital of XYZ by 20bp. From this perspective, it is recommended for XYZ to borrow such capital and fund the plan

4. Learning Objectives:

1. The candidate will understand how to analyze the issues facing retirement plan sponsors regarding investment of fund assets and make recommendations.

Learning Outcomes:

- (1c) Given a context, analyze a Statement of Investment Policy.

Sources:

RPIRM-132-14: CAPSA Guideline No. 6

RPRIM-103-15: Fiduciary liability issues for selection of investments

Commentary on Question:

The question was testing the candidates' understanding of *CAPSA Guideline No. 6 and fiduciary duties related to the plan information provided. To perform well, candidates needed to address every part of the SIPP excerpt provided by identifying the issues in relation to CAPSA Guideline No. 6 and fiduciary duties.*

Solution:

Critique the above excerpts from the investment policy considering CAPSA Guideline No. 6 and XYZ Company's fiduciary duties.

Plan characteristics:

- Plan administrator has a duty to invest the fund in a prudent manner while taking into account the particular needs of the pension plan and pension fund. Since very few details about the plan are provided in the policy, particular needs of the pension plan could not be taken into account.
- The investment objectives should be consistent with the plan liabilities. Since no details are provided about the plan or liabilities, this cannot be assessed.

Investment manager selection:

- Policy should include process for selecting and replacing asset managers. This policy only names the manager selected.
- It is important that investment related tasks be properly delegated to parties with sufficient skills, knowledge and expertise. The policy states that ABC Investing may delegate their duties at their discretion, so this cannot be assessed by the administrator.
- Fiduciary is expected to discharge its duties with the care, skill, prudence and diligence of a prudent person, which is not the case here since the fiduciary does not have control over the sub-delegation that may be done by ABC Investing.

4. Continued

Investment return objective:

- Should be consistent with the pension plans retirement income objective, the liabilities of the plan, the plan's demographics and ability to deal with volatility in investment returns. Having an absolute return objective and little information about the plan in the policy does not meet this requirement.
- Should take into account relevant legal provisions and investment principles, such as asset allocation, diversification and liquidity, however liquidity needs are unknown and actual asset allocation is permitted to deviate significantly from the target allocation.

Risk tolerance:

- Risk should be managed by taking into account the plan's investment and funding objectives, not just in relation to return objective.
- This section of the policy does not address the risk factors that should be managed, such as interest rate risk, credit risk, market risk.
- Fiduciary is expected to discharge its duties with the care, skill, prudence and diligence of a prudent person, which is not the case here since ABC Investing is in a conflict of interest position.
- The trustee must exercise prudence in the instructions given to the investment manager, which does not appear to be the case here. The manager may take a high of risk to achieve the high return objective of 8%.

Asset allocation:

- Plan administrators should ensure they have established a robust, process-oriented decision-making framework within which investment activities can be conducted, which is not the case here since there is too much deviation permitted from target allocation.
- Having such high corridors for allocation is similar to delegating the investment allocation decision to the investment manager. If this was the intention the delegation should be done in a prudent manner.
- Asset allocation should reflect the characteristics of the pension plan's liabilities, demographics and risk tolerances. The information necessary to do so is not available in the policy.
- Asset allocation should take into account liquidity needs. High level of alternative investments permitted, which are often less liquid investments but plan characteristics indicate that plan is mature and cash flows are negative, which is incoherent.
- Asset allocation should take into account demographics and liabilities. High level of alternative investments and equities permitted, which may not fit this plan.
- With respect to retirement plan trusts, the duty of care (to diversify) is higher than it is with ordinary trusts. For retirement plans, the duty is to act in the manner of a prudent professional investor. That is, an investor who has professional training or experience, not just an ordinary prudent person.

4. Continued

Benchmark:

- Fiduciary is expected to discharge its duties with the care, skill, prudence and diligence of a prudent person, which is not the case here since ABC Investing is in a conflict of interest position.

Investment performance monitoring:

- Appropriate mechanisms should be in place to monitor an activity, transaction or investment. Investment activities should also be monitored to ensure policies are being followed. The policy does not provide details as to how and what the manager is to report.
- An important part of the prudent person rule is the ability of the plan administrator, regulator, plan beneficiaries and others who may have an interest, to monitor and assess investment management practices, which may not be the case depending on what the investment manager reports.
- The plan administrator remains responsible for the delegated activities and should monitor and review the delegated activities to ensure they have been appropriately and prudently carried out. If ABC Investing delegates duties to other managers, there is no mention in the policy about monitoring these managers.
- The trustee must exercise prudence in the supervision of an investment manager, which does not appear to be the case here.

5. Learning Objectives:

3. The candidate will understand how to evaluate the stakeholders' financial goals and risk management with respect to their plan.

Learning Outcomes:

- (3a) Compare the interests of plan sponsors, employees, shareholders, taxpayers and other stakeholders related to the financial management of a retirement plan.

Sources:

RPIRM-141-16: Evolving Roles for Pension Regulations: Toward better Risk Control?

Commentary on Question:

Under the "Compare" section, many candidates knew that both QAR and PPR are regulatory approaches to control risk. Under the "Contrast" section, many candidates earned points by defining QAR and PPR. Few candidates earned points based on the remainder of the "Contrast" section as shown below.

Solution:

Governments are increasingly concerned about the various risks faced by defined contribution pension plan participants and plan sponsors. As a result, governments are establishing policies and regulations to help mitigate these risks.

Compare and contrast how quantitative asset restrictions (QAR) and the prudent person rule (PPR) approaches to regulation could address these risks.

Compare

Investment regulations are the traditional way pension regulators have sought to control risks arising from funding of pensions.

The logic of QAR or 'prudent investment' rules is that prudence is equated to safety.

Prudent person rules also tend to include limits on self-investment.

Contrast

In a country adopting quantitative asset restrictions (QAR), the government enforces specific regulations, limiting holding of particular classes of assets deemed 'risky'.

Typically, QAR involves limits on holdings of assets with relatively volatile nominal returns, low liquidity, or high credit risk, such as equities, real estate, foreign assets.

5. Continued

Under the prudent person rule (PPR), ‘a fiduciary must discharge his or her duties with the care, skill, prudence and diligence that a prudent person acting in a like capacity would use in the conduct of an enterprise of like character and aims’.

For PPR, must be an investment strategy whereby pension assets are invested prudently as someone would do in the conduct of his own affairs.

PPR has generally been seen as an economically superior approach, since it permits funds to attain the frontier of efficient portfolios as well as optimize the risk-return tradeoff given the maturity of the fund and its risks.

PPR allows a free market to operate throughout the investment process, while ensuring an appropriate level of risk.

By focusing unduly on the risk and liquidity of individual assets, QAR fails to take into account that default risk and price volatility can be reduced by diversification.

In PPR there is presumption that diversification of investments is a key indicator of prudence, in line with finance theory.

The last several years have seen a broad shift from QAR to PPR.

6. Learning Objectives:

2. The candidate will recognize and appropriately reflect the role of plan investments in retirement plan design and valuation.

Learning Outcomes:

- (2a) Evaluate the interaction of plan investments with plan design, valuation, accounting and funding.
- (2b) Evaluate the interaction and relationship between plan investments and valuation assumptions/methods.
- (2d) Apply and evaluate strategies and techniques for asset/liability management.

Sources:

IRM readings 110-13, 109-13, 114-13, and 134-14

Commentary on Question:

The question tested the candidates understanding of the financial risks associated with pension plans such as interest rate risk and asset allocations in relation to funded status and maturity of the pension plan. The question tested the candidates understanding of the risk-management strategy using under a Liability-Driven Investment approach.

Part A – A well prepared candidate should be able to describe both merits and risks of maintaining the current asset allocation. However, many candidates were able to provide merits of maintaining the current allocation but did not describe risks related to a high equity allocation for the plan.

Part B – A well prepared candidate should be able to identify, recommend and justify a liability-driven investment approach or dynamic asset allocation approach. Many candidates were able to identify and recommend a strategy but did not provide justification. A well prepared candidate would have also provided points on

- 1) Recommending investment strategy and describe benefits*
- 2) Implementing strategy and setting up procedures*
- 3) Justifying strategy and setting up limitations*

Solution:

- (a) XYZ Company has proposed maintaining the current asset allocation until the plan is terminated. Describe the merits and risks of XYZ's proposal.

6. Continued

Merits

- Sponsor may have view that interest rates will rise, reducing expected plan deficiency without need to change asset allocation
- Upside potential of the 70% equity asset allocation more likely to close funding gap than a matched FI portfolio.
- Upside potential of the 70% equity asset allocation more likely to minimize increases to required contributions.
- Upside potential of the 70% equity asset allocation = higher EROA, lower pension cost, higher EPS
- Could increase duration of assets with FI derivatives, thus improving match
- Doing nothing is always an option, and has no direct cost

Risks

- Current asset allocation exposes plan to **interest rate risk**:
If interest rates fall 1%, assets rise 4%*\$70m = \$2.8 million to \$72.8M
If interest rates fall 1%, liabs rise 16%*\$100m = \$16 million to \$116.0M
If interest rates fall 1%, funding status falls to $72.8/116.0 = 62.8\%$,
deficiency rises to \$43.2m
although
If interest rates rise 1%, assets drop 4%*\$70m = \$2.8 million to \$67.2M
If interest rates rise 1%, liabs drop 16%*\$100m = \$16 million to \$84.0M
If interest rates rise 1%, funding status rises to $67.2/84.0 = 80.0\%$,
deficiency drops to \$16.8m
- Equity returns are historically more volatile than fixed income, potentially increasing balance sheet volatility
- and potentially increasing required contributions to address funding shortfall in plan
- Using FI derivative overlays to improve A/L duration mismatch may involve more cost and risk than sponsor wants.
- Yields on overlays are typically well below discount rates anyway.
- High equity in pension plan adds risk to that of core business, thus reducing company value
- PPA requires shortfalls to be made up over roughly 7 yrs, on average

6. Continued

- (b) Recommend an alternative investment strategy based on XYZ Company's objectives. Justify your response.

Recommended Investment Strategy

"I recommend" Liability-Driven Investing (LDI), aka Liability-Responsive Asset Allocation

- LDI aims to hedge liability (funding) risk, usually by reducing interest rate risk
- LDI considers the liabilities – their duration must be hedged (to a degree) by assets
- Typically, $Dur(L) > Dur(A)$, as here. Thus need to extend $Dur(A)$ to hedge
- Asset duration comes from the securities themselves or a derivative overlay
- Underfunded plans may benefit from increased equity exposure (generating excess return), but risk is minimized with a matched FI portfolio.
- Generating excess return reduces pension cost but increases liab tracking risk
- LDI should be sensitive to funded status, the principal valuation measure
- LDI particularly suited to plans with low benefit accrual (or frozen plans)

Implementing Strategy

- Establish AA policy for current funded status: sell some equities, invest in long bonds. Allocate future contributions to long bonds. So go from 70/30 equity vs. FI to 60/40
- Establish high water mark up to which dynamic policy is to operate (e.g., 110%-115% for frozen plan, MAD): 110%
- Define AA policy if high water mark is reached. Could be fully matched or some small % alloc to equity: 100% FI
- Fill in intermediate AA policies between current status and high water mark policy: At 70% funded, 60 eq/40 FI; at 75% funded, 55/45; 80%, 50/50; ... 110%, 10/90. [other splits OK if justified]
- Low water mark is the current funded status
- Reduced equity exposure forgoes some upside potential but protects funded status from deteriorating. A balance is struck here.

6. Continued

Justifying Strategy

- Stabilizes effect of pension plan on financial statements b/c int rate risk is reduced via LDI
- Protects downside risk of funded status ratio b/c FI less volatile than equity, and better matched (fully matched would be immunized)
- Minimizes volatility of ERISA required contribs for same reason – better matching to liabs
- Uses contributions and reinvestment of maturing FI investments to shift AA toward long bonds
- 5% threshold increment reduce trading frequency and related costs
- No significantly greater precision anyway if less than 5%.
- Less intervention needed with automated AA policy based on funding status
- Benefit of equity oriented AA goes down as fund status improves, b/c of trapped capital risk
- The stronger the fund status becomes, the more conservative the AA should be
- Liability-Repsonsive Asset Allocation well-suited for frozen plans
- Gradual transition toward increased fixed income allocation... no “fire sales” of equities, reducing trading costs and impact costs.
- Could use FI derivatives to increase duration, but yield may not be good enough, and may bring too many extra risks for sponsor. Thus stick with long bond.