Asset & Liability Management in a New Era:

Managing To A Moving Target

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Presentation Overview

Asset & Liability Management in a new era

- Introductions
- Market environment for DB plans
- Pension risk management philosophy
- Asset & liability case study
- Conclusion

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Defined Benefit Plans: Market Environment

- Changes: Mark to Market
  - Funding discount rate (PPA)
  - Asset smoothing reduced (PPA)
  - Funded status hits balance sheet (FASB Phase 1)
    - FASB Phase II – Change in funded status hits income statement
- Results: More volatile contributions, balance sheet and potentially income
- Solution: Focus on Assets and Liabilities together helps reduce funded status volatility

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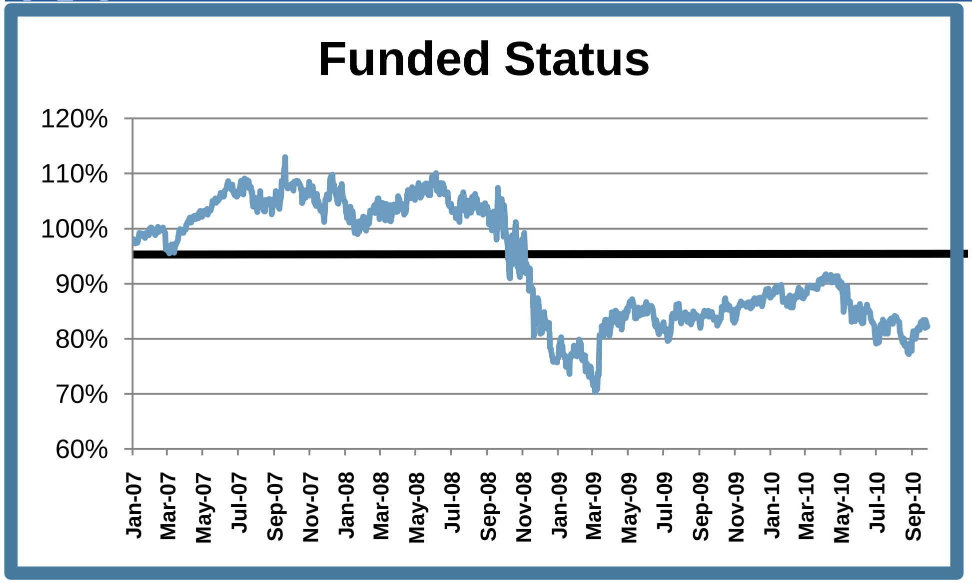
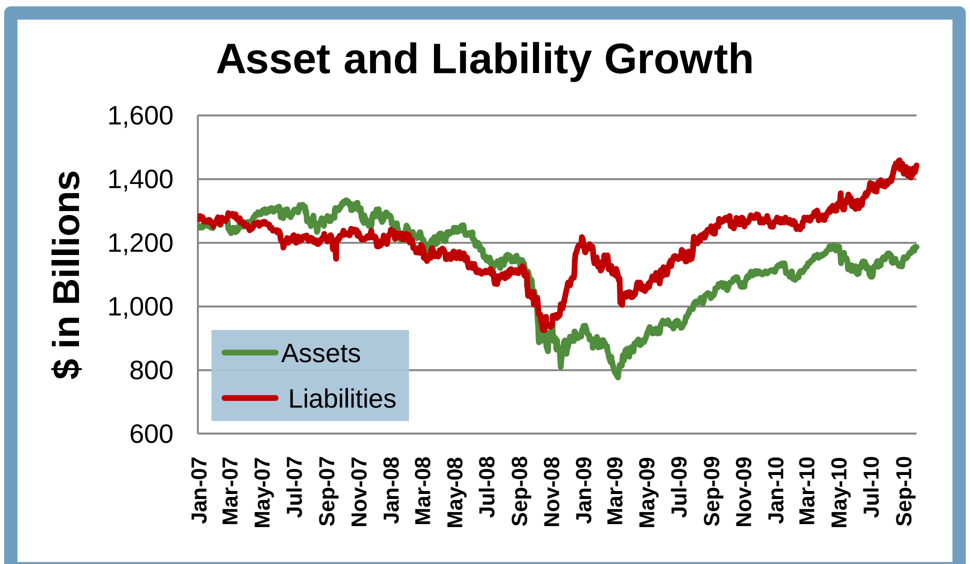
Market Environment for Defined Benefit Plans



- Funding Ratio
  - DB plans at 9/30/10 reported ~80% funded
  - Lower bond yields exasperate funded status
  - Plans need to take more risk to close the gap or expect to make greater contributions



- Asset and Liability Growth
  - Asset levels struggle to keep pace with liabilities

Source: Hewitt -Cumulative assets and liabilities (billions) of all pension schemes in the S&P 500 index on an accounting basis, as of 9/30/2010

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Philosophy

Investment Program Management (IPM), coupled with a focus on Asset & Liability Management (ALM), is a solid pension risk management framework for measuring, managing and monitoring the inherent investment risk/return trade-offs of your portfolio – in the context of your underlying liabilities

- A focus on surplus space, considering the movement of pension assets and liabilities in tandem, redefines pension plan investment success

- Appropriate investment strategies span a continuum of choices that change over time. The allocation between ***return seeking assets*** and ***hedging assets*** becomes an important decision point in determining the success of an investment program

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Investment Solutions in an Uncertain World: WHAT'S NEXT?

Case Study

Asset and Liability Management

The case study is for illustrative purposes only and do not necessarily represent experiences of clients, nor do they indicate future performance.

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Case Study

- For a hypothetical client we will explore three questions:
  - Question 1: What should be the strategic allocation between Return Seeking and Hedging Portfolios?
  - Question 2: Are there tactical considerations for the Hedging Portfolio?
  - Question 3: How does the strategic asset allocation evolve over time?

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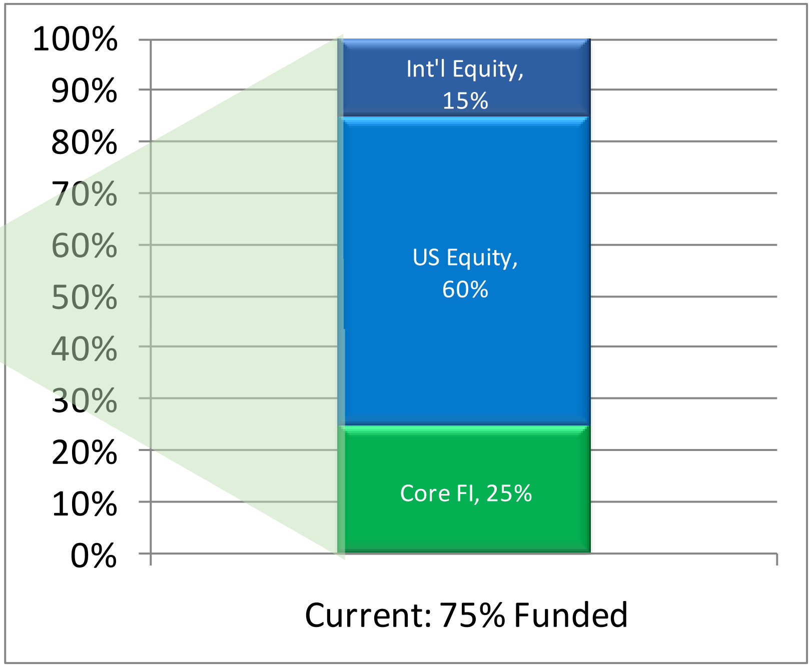
Case Study - Background

- Sample Pension Plan Characteristics
  - Current Discount Rate = 5.5%
  - Liability Duration: 12 yrs

Sample Plan	
Assets	$150,000,000
Liabilities	$200,000,000
Funded Status	$(50,000,000)
Funding Ratio	75%

Current Investment Policy



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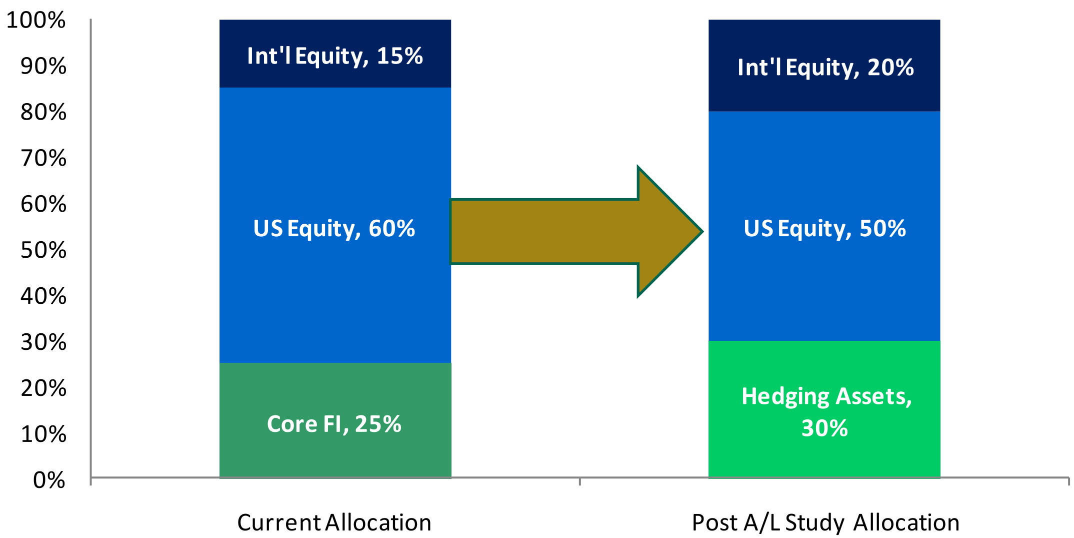
Question 1: What is the Strategic Asset Allocation?

- The appropriate mix of return seeking and hedging assets is a function of:

  1. Current Funded Status
  2. Contribution Policy
  3. Plan Status (Frozen, Closed, Open and Ongoing etc)
  4. Risk Appetite

Solution: Asset Liability Study

- Based on a comprehensive Asset Liability study, for this sample client we would recommend the following strategic asset allocation change:



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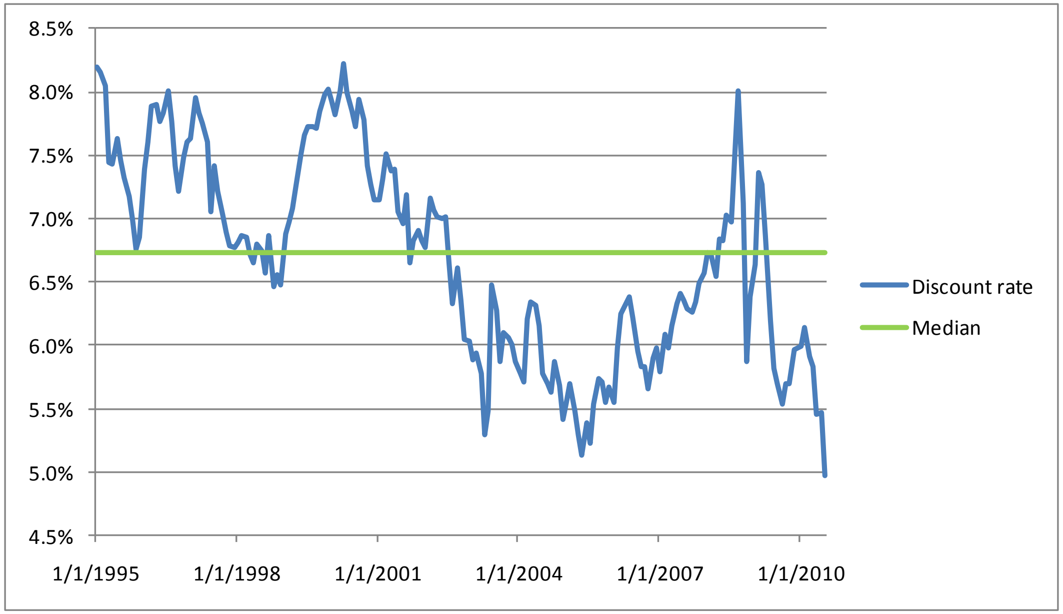
Question 2: What are the tactical considerations?

- Do you believe that discount rates will increase in the next 24 months (Yes/No)?

- Let's examine historical data and current level of discount rates

Citigroup Pension Curve Discount Rate

January 1995 to August, 2010



Source: Citigroup Pension Liability Index

Distribution of

Pension Discount Rates

1995 to August, 2010

Percentile	Discount rate
1%	5.22%
10%	5.68%
20%	5.87%
30%	6.11%
40%	6.37%
50%	6.74%
60%	6.92%
70%	7.19%
80%	7.49%
90%	7.83%
99%	8.20%

8/31/2010: 4.97%

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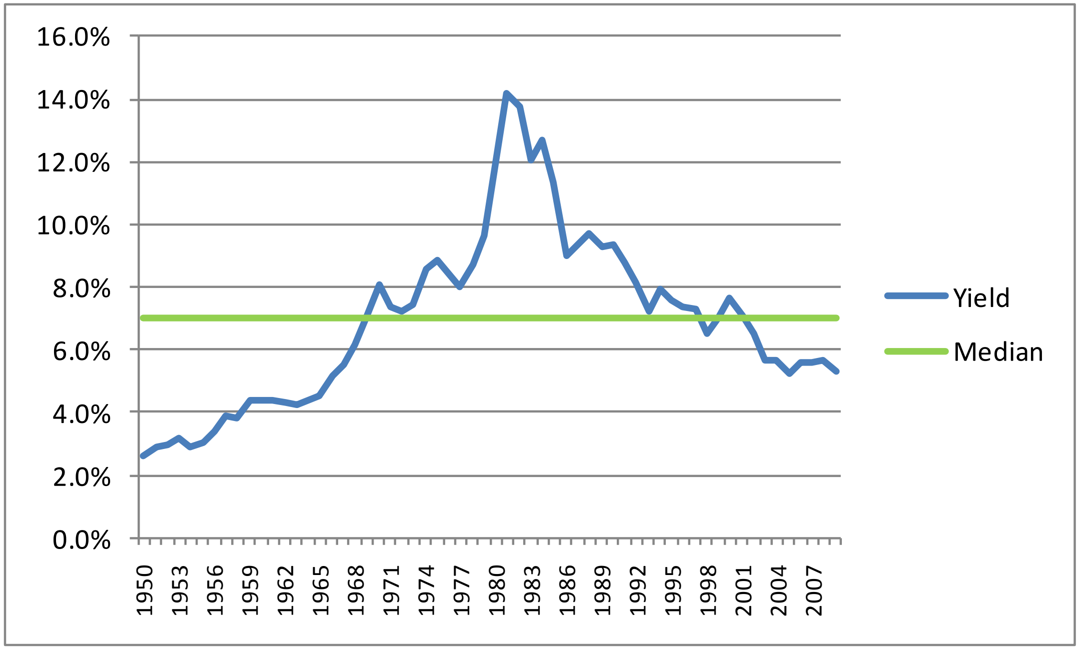
Bond Yields – Historic Perspective

- Citigroup Pension Liability Index data goes back to 1995.
- To get a longer historic perspective, the distribution of Moody's Seasoned Aaa Corporate Bond Yield since 1950 is shown below:
  - Although pension discount rate is at its lowest recorded level, high quality bond yields have seen lower values.

Moody's Seasoned Aaa Corporate Bond Yield
1950 to 2009



Distribution of
Aaa Corp. Bond Yield
1950 to 2009

Percentile	Yield
1%	2.76%
10%	3.35%
20%	4.38%
30%	5.29%
40%	5.65%
50%	7.06%
60%	7.41%
70%	8.07%
80%	8.86%
90%	9.88%
99%	13.94%

8/31/2010: 4.49%

Source: Moody's

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Question 2: : What are the tactical considerations?

- For a better funded plan (e.g. 90% Funded), the focus is on preservation of funded status, so the plan should invest in their strategic long bond allocation.
- For a poorly funded plan (75% in our example), if it is believed that interest rates are more likely to increase than decrease, the strategic allocation to long bonds can be delayed until discount rates start increasing.
  - Migrating to long bonds using discount rate triggers will require periodic review of the interest rate environment.

Solution: Duration Migration

Sample Rate Based Duration Migration

	Current-5.0%	*5.50%*	*6.00%*	*6.50%*	*7.00%*
US Equity	40%	40%	40%	40%	40%
International Developed	20%	20%	20%	20%	20%
Core Fixed Income	40%	30%	20%	10%	0%
Long Bond	0%	10%	20%	30%	40%
	100%	100%	100%	100%	100%

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Question 3: How does the Strategic Allocation Evolve Over Time?

- Economic and demographic environment can change significantly over time:
  - The asset allocation should be changed as the funded status of the plan improves
  - Lock in funded status gains by reducing:
    - Equity exposure
    - Interest rate risk

Solution: Glidepath

- Monitor the improvement in funded status periodically and lock in any gains by reducing equity exposure and increasing fixed income duration

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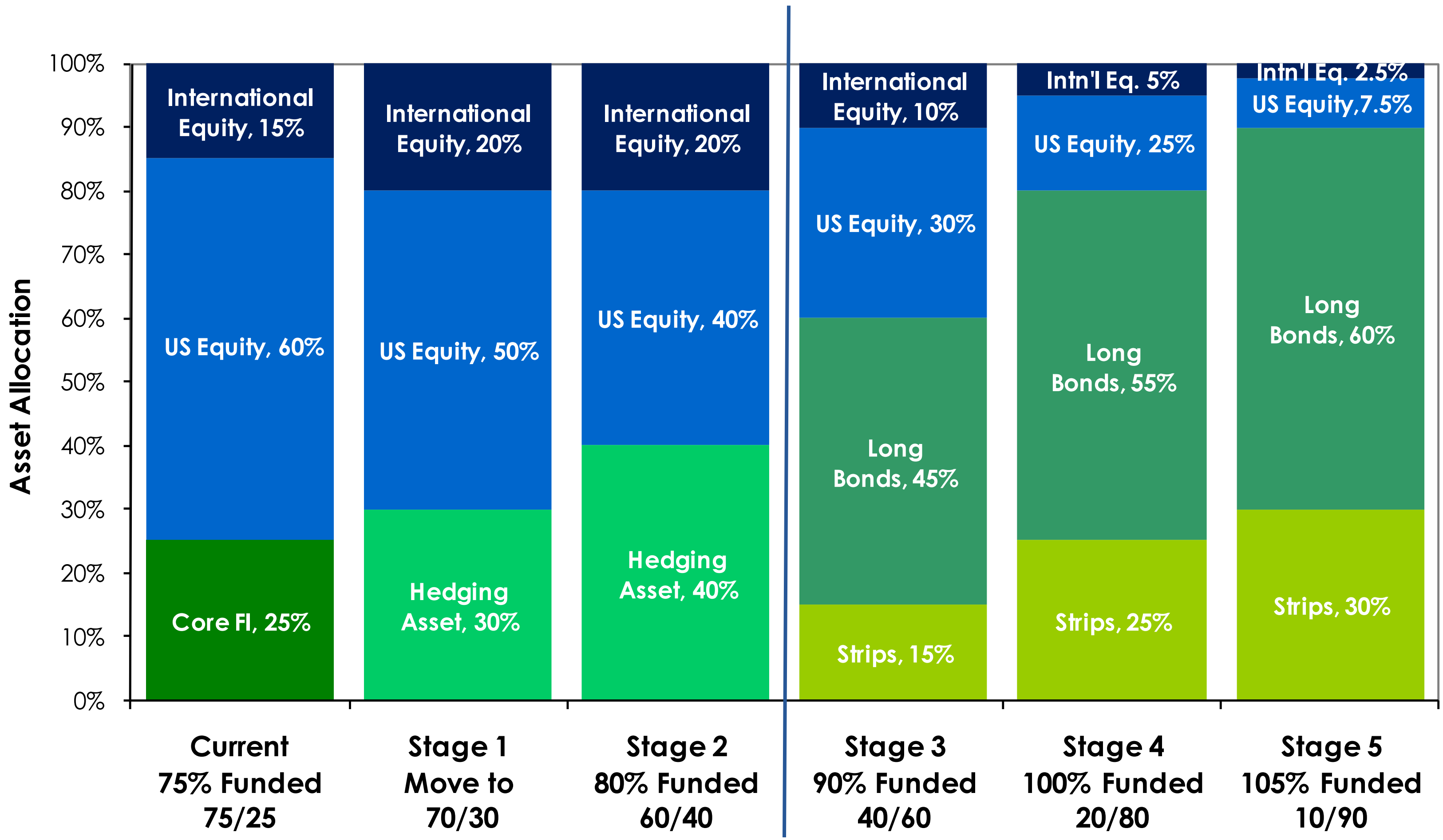
Sample Glidepath



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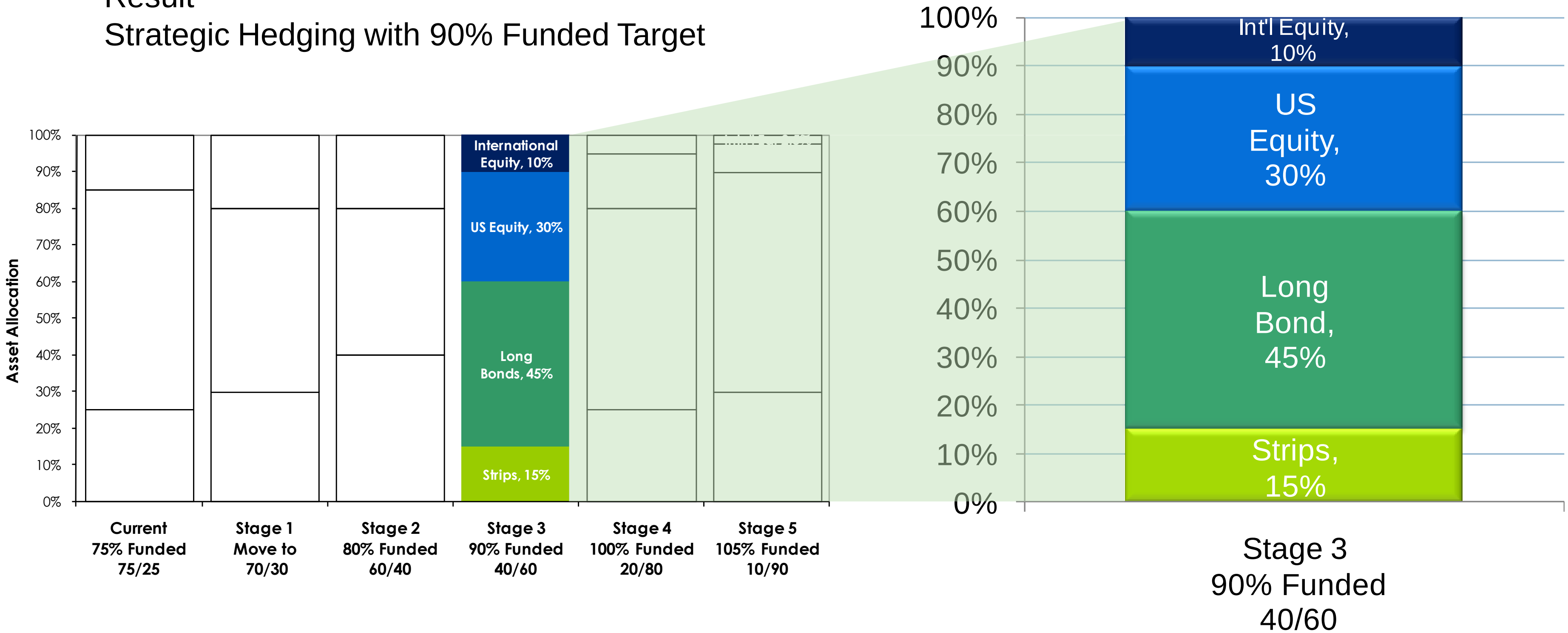
Case Study: Glidepath

Future Stage:

Discount rate = 6.7%
Equity Returns = 10%
Funded Status = 93%

Result
Strategic Hedging with 90% Funded Target



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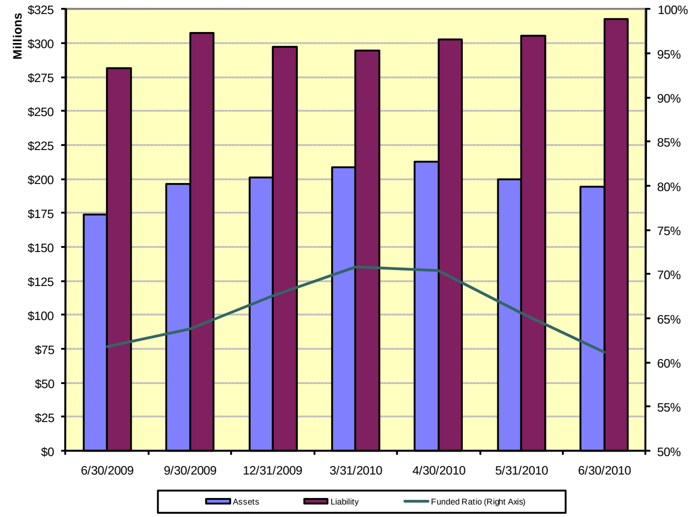
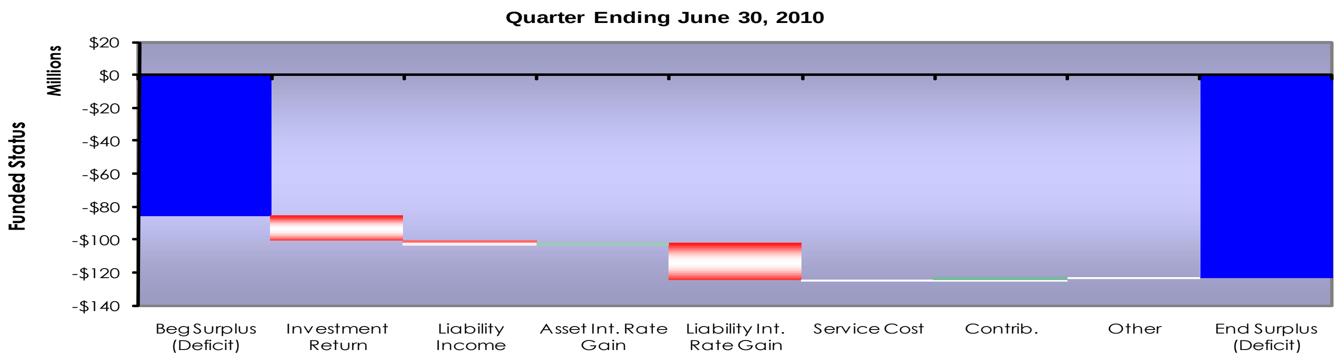
Measuring and Monitoring

	March 31, 2010	June 30, 2010	Returns
Assets	$ 208,792,424	$ 194,141,239	-6.2%
Liability	294,822,074	317,476,489	9.1%
Surplus/(Deficit)	$ (86,029,650)	$ (123,335,250)	
Funded Ratio	70.8%	61.2%	-13.7%
Liability Discount Rate	5.8%	5.2%	
	Duration	**Duration**	
Hedging Assets	4.7	4.3	
Liability	10.9	11.4	
Hedging Asset Allocation	23.9%	28.4%	
	Dollar Duration	**Dollar Duration**	
Hedging Assets	$ 2,345,365	$ 2,370,853	
Liability	32,135,606	36,192,320	
Surplus	$ (29,790,241)	$ (33,821,467)	
Hedge Ratio	7%	7%	



Robust asset liability reporting provides ongoing information to monitor the effectiveness of strategies and measure performance of portfolio funded status.

Financial Summary 2010 Q2	**Assets**	Minus	**Liabilities**	Equals	**Funded Status**	Funded Ratio
Balance 3/31/2010	$ 208,792,424	-	$ 294,822,074	=	$ (86,029,650)	**70.8%**
Investment Return*	$ (14,604,351)	-	$ 3,236,364	=	(17,840,715)	
Interest Rate Capital Gain	$ 1,794,312	-	$ 23,193,982	=	(21,399,671)	
Contributions	$ 2,844,055	-	$ -	=	2,844,055	
Service Cost	$ -	-	$ 825,000	=	(825,000)	
Other Events	$ -	-	$ -	=	-	
Distributions	$ (4,685,201)	-	$ (4,600,931)	=	(84,269)	
Balance 6/30/2010	$ 194,141,239	-	$ 317,476,489	=	$ (123,335,250)	**61.2%**



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Conclusion

All plans and circumstances are different. For your plan and circumstances:

- Decide on your return seeking vs. hedging allocation
- Decide if your current hedging allocation should be strategic or tactical
  - If tactical, decide how to move to strategic
- Prepare to derisk by planning now
- Measure and monitor in asset-liability space
- Plan management is more complicated now, find a trusted advisor to help

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Important Information

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