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NEPC's 2015 Defined Benefit Plan Trends Survey

October 21, 2015

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Webinar Details

Q&A will occur at the end of the prepared remarks. You can also submit a question during the webinar using the Q&A function.

The 2015 Survey Webinar is being recorded. Both the recording and a copy of the materials will be posted to the NEPC website at: www.NEPC.com

Additional information and custom benchmark comparisons are available by contacting Brad Smith (bsmith@nepc.com) or Kelly Regan (kregan@nepc.com)

Today’s Presenters

- **Bradley S. Smith, CFA, CEBS**
  Partner
  – Twenty-eight years' investment experience
  – Previous affiliations: Hewitt EnnisKnupp; Bolton Partners Investment Consulting Group
  – BA, Hampden-Sydney College

- **Kelly A. Regan**
  Senior Consultant
  – Twelve years' investment experience
  – Previous affiliations: Investors Bank & Trust
  – MSF, Brandeis University; BA, Boston University

Agenda for Today

- **Market Review**
- **NEPC's 2015 Defined Benefit Trends Survey Results**
- **NEPC Case Study: Evolutions in Total Portfolio De-Risking**
- **Questions**

NEPC's Value Proposition

Client Experience

Custom portfolios for many clients

Ranked #1 overall in 2014 as measured by the overall Greenwich Quality Index (GQI) for the Investment Consulting Business[1,2,3]

Clients collectively outperformed national averages in 25 of 29 years[2, 3]

Strong manager performance across asset classes[2,3]

NEPC offers a full range of consulting services for Corporate Defined Benefit and Defined Contribution clients as well as Endowments and Foundations, Healthcare, Taft-Hartley, Public, and High Net Worth Individuals.

Our Clients

347 institutional clients with $927 billion assets under advisement[4]

Corporate Clients[4]
- 107 clients with $237 billion in assets
  - 90 Defined Benefit Plans
  - 93 Defined Contribution Plans

40% of our Corporate clients have been with NEPC for > 10 years

Our Business

Established in 1986, headquartered in Boston with 6 regional offices

100% employee owned with 34 Partners[4]

Controlled and selective growth

Research focused

Always seeking innovative ideas

Our People

Seek to attract and retain the best possible investment talent

250 Employees and 80 Consultants[4]

Dedicated Corporate Defined Benefit and Asset Allocation Teams

Seasoned consultants delivering pro-active advice

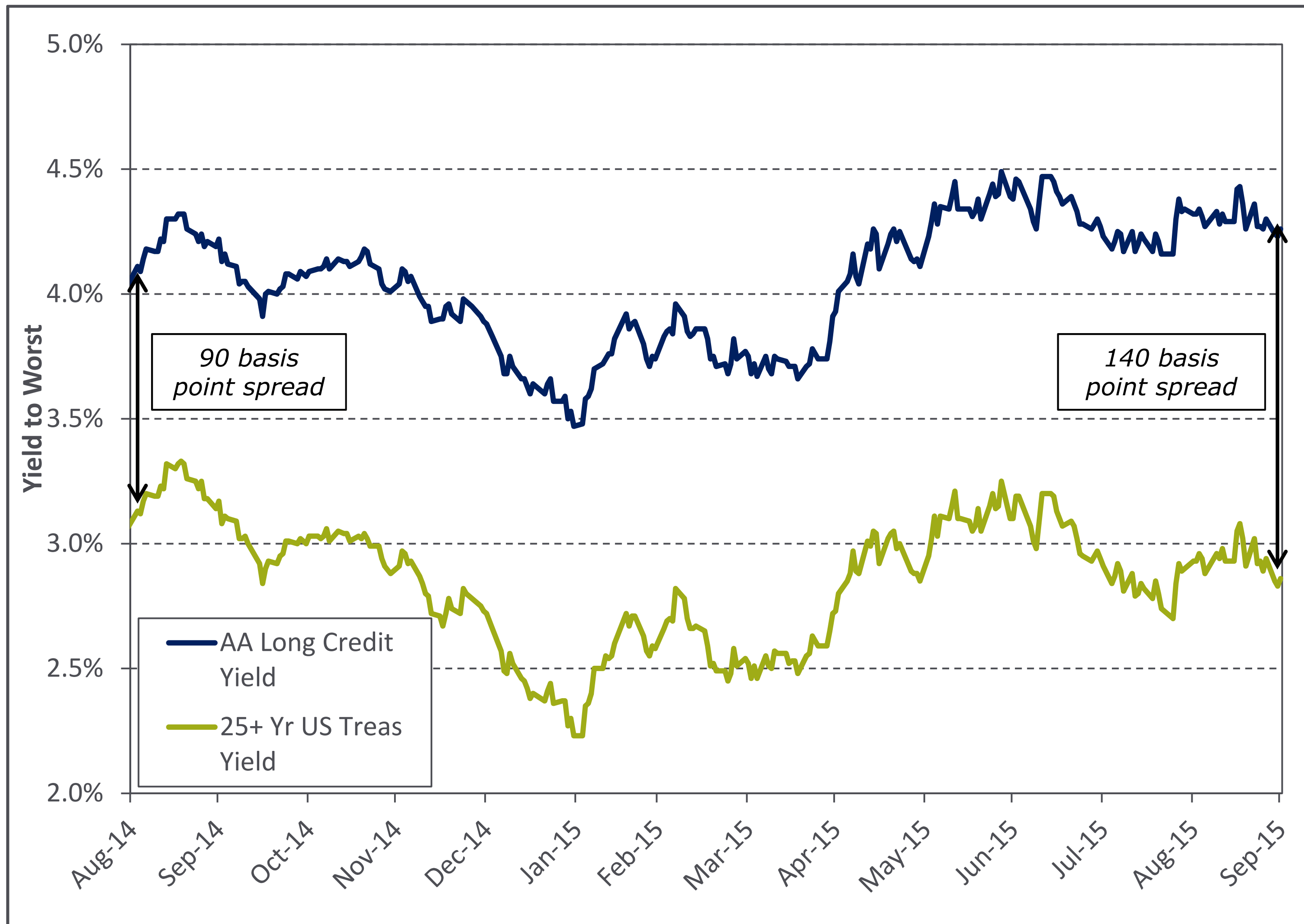
1. Source: Greenwich Associates, 2014 Evaluations by U.S. Institutional Investors. Greenwich Associates is an independent research firm. Their rankings do not represent an endorsement of NEPC.
2. Past performance is no guarantee of future results.
3. See Appendix for important disclosures that should be viewed in connection with the Greenwich rankings.
4. As of 9/15/2015, includes 29 clients with discretionary assets of $6.5 billion.

Market Review

- **Over the last year, equity markets were relatively flat and discount rates have been volatile**

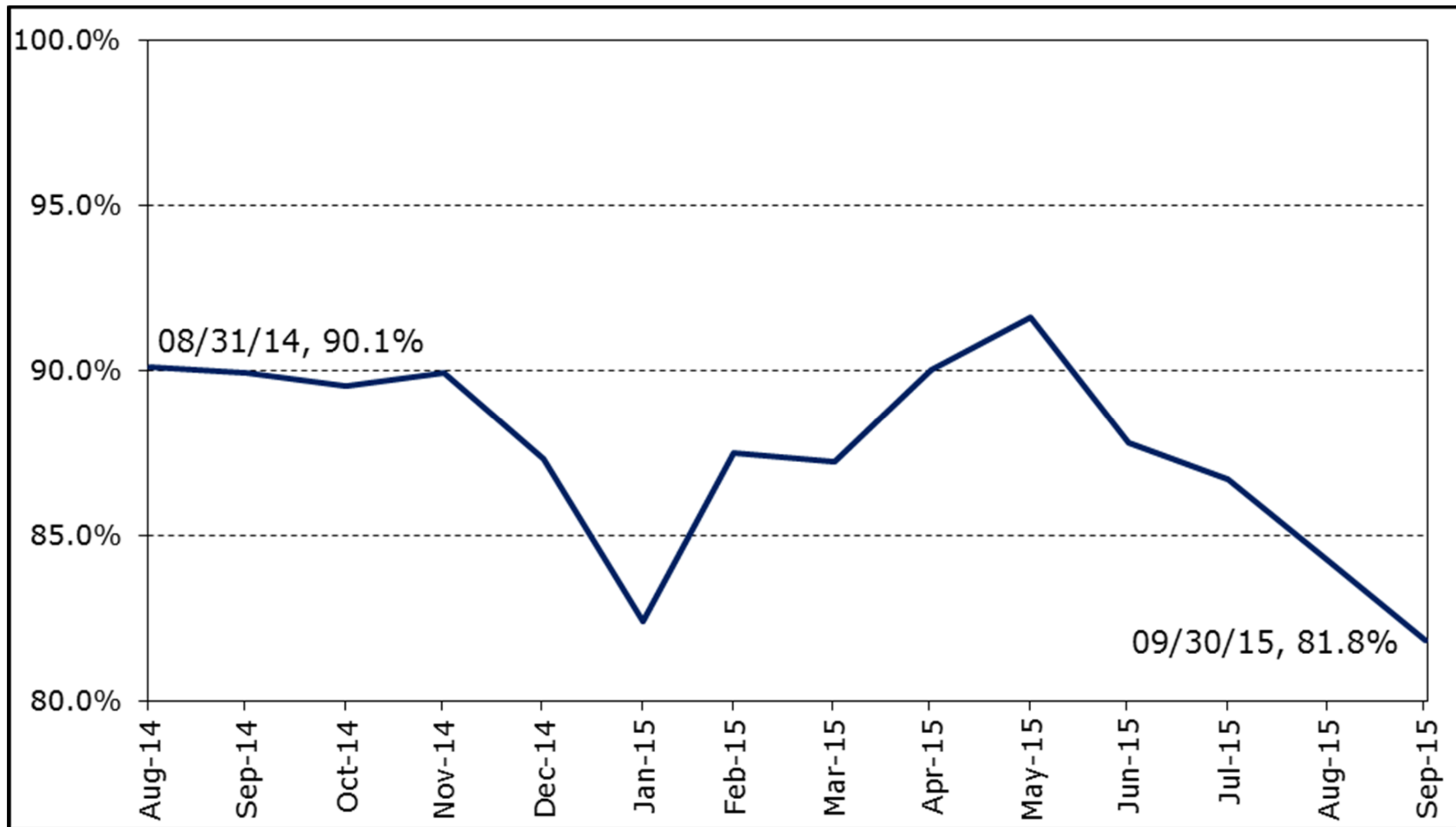
Source: www.soa.org, based on a duration of 19 years; Bloomberg

- **Long Treasury yields have declined and credit spreads have widened**



Source: Barclays, Bloomberg

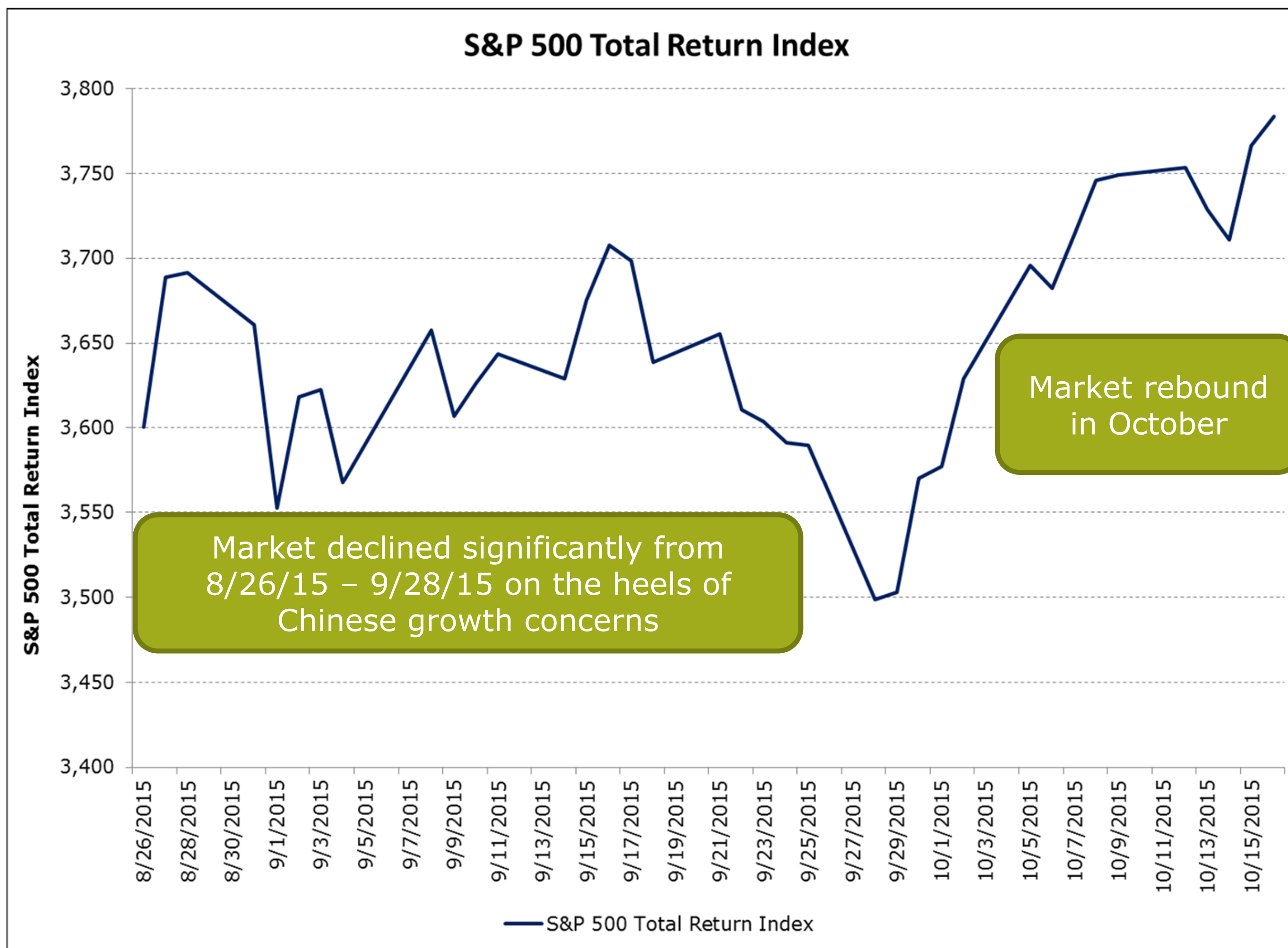
- **Soft equity markets and volatile discount rates negatively impacted funded ratios**
  - Declining asset values in late 2015 contributed to the recent funded status decline
  - Longevity improvements will further erode funded status estimates



Source: BNY Mellon Fiduciary Solutions, BNY Mellon Investment Strategy and Solutions Group (ISSG) prior to 8/31/15

52% of respondents are bullish on the stock market for the next 12 months

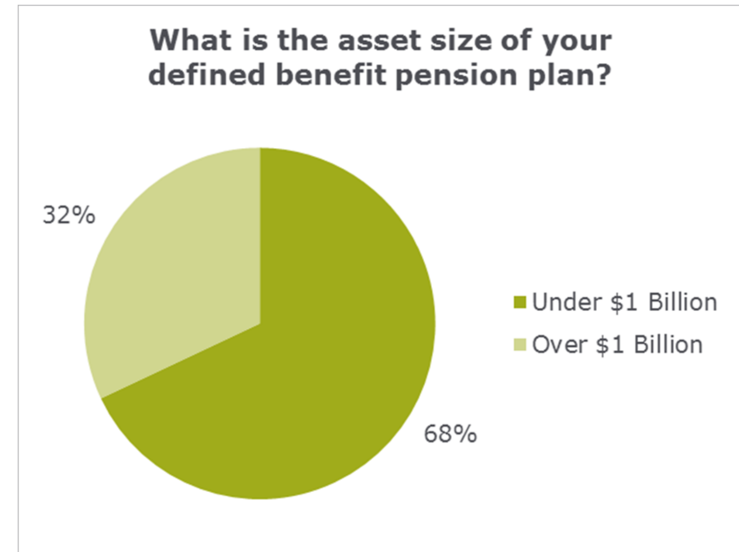
- **NEPC survey conducted from August 4th through August 25th ....since then market has been extremely volatile**



NEPC's 2015 Defined Benefit Plan Trends Survey Results

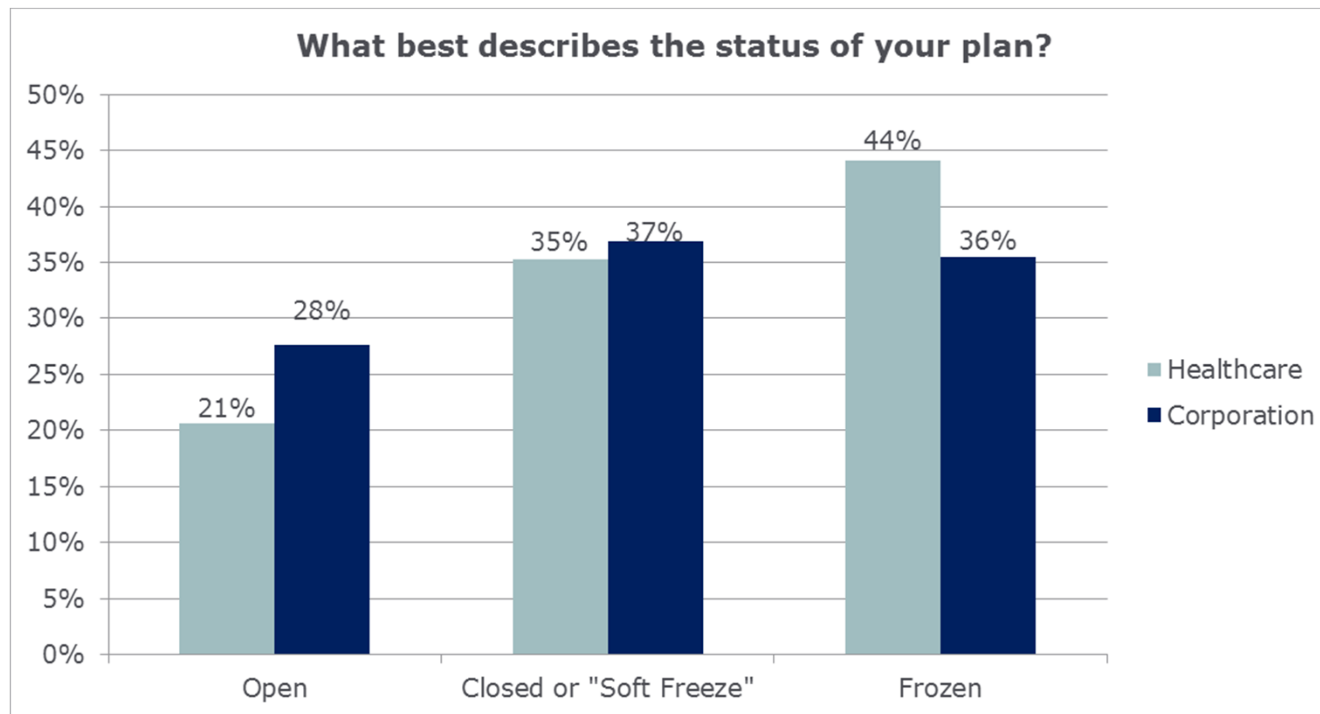
Survey Demographics

- **This is NEPC's 5th annual survey**
- **The 2015 survey includes:**
  - 102 Defined Benefit Plans
    - Over $130 billion in pension assets
  - Median Plan
    - $750 million in assets
  - Average Plan
    - $1.6 billion in assets
- **Diverse cross-section of organization types**
  - Corporate
  - Health Care
  - Other includes Law Firms and Private Companies



- **Plans continue to close or freeze**
  - Corporate: 73% of plans were either closed or frozen (64% in 2011 survey)
  - In 2015, there were a larger number of Healthcare plans that were closed or frozen compared to Corporate plans

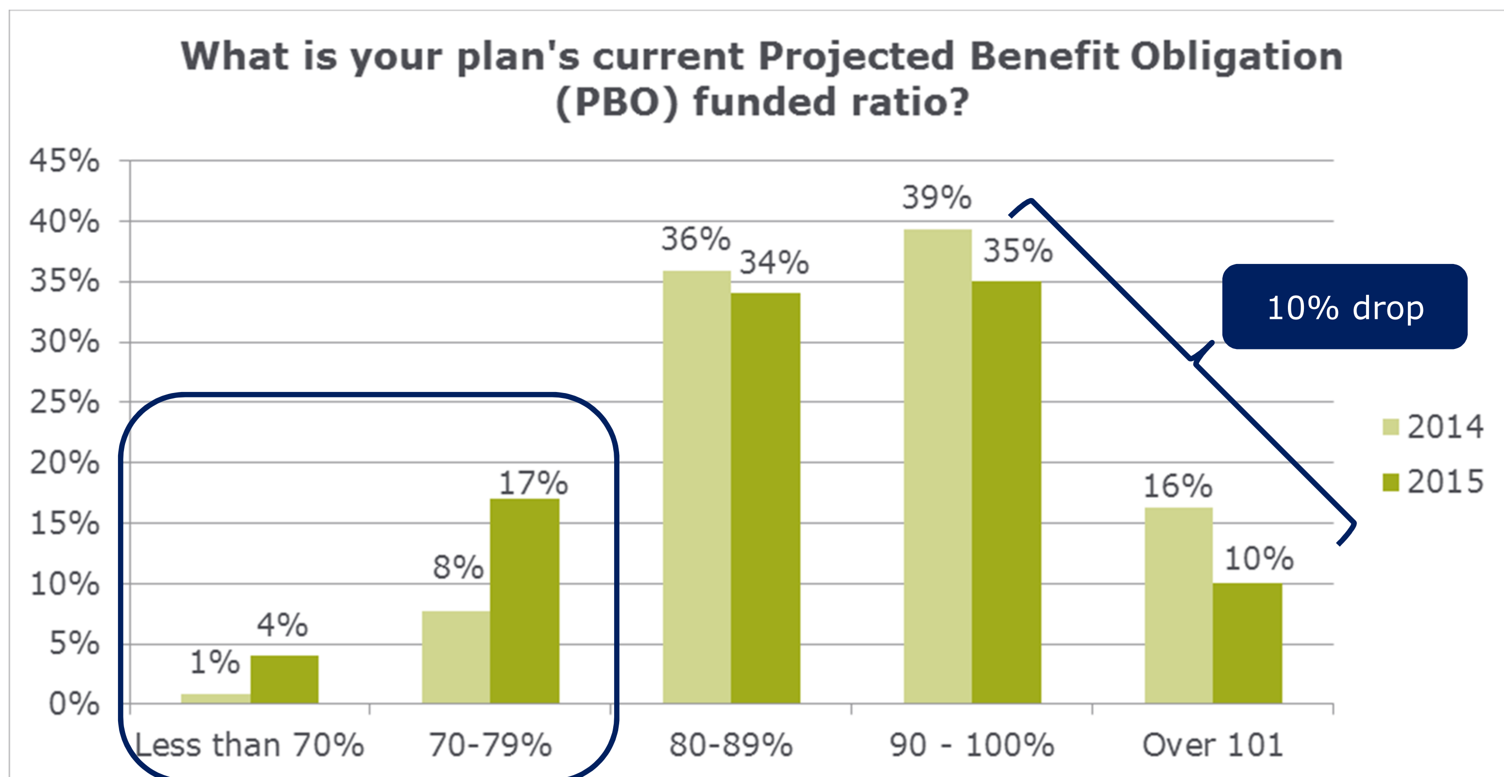
- **73% of open plans expect to remain open in the foreseeable future (regardless of organization type)**
  - Reason: plan attracts/retains talent and funded status volatility risks are being managed



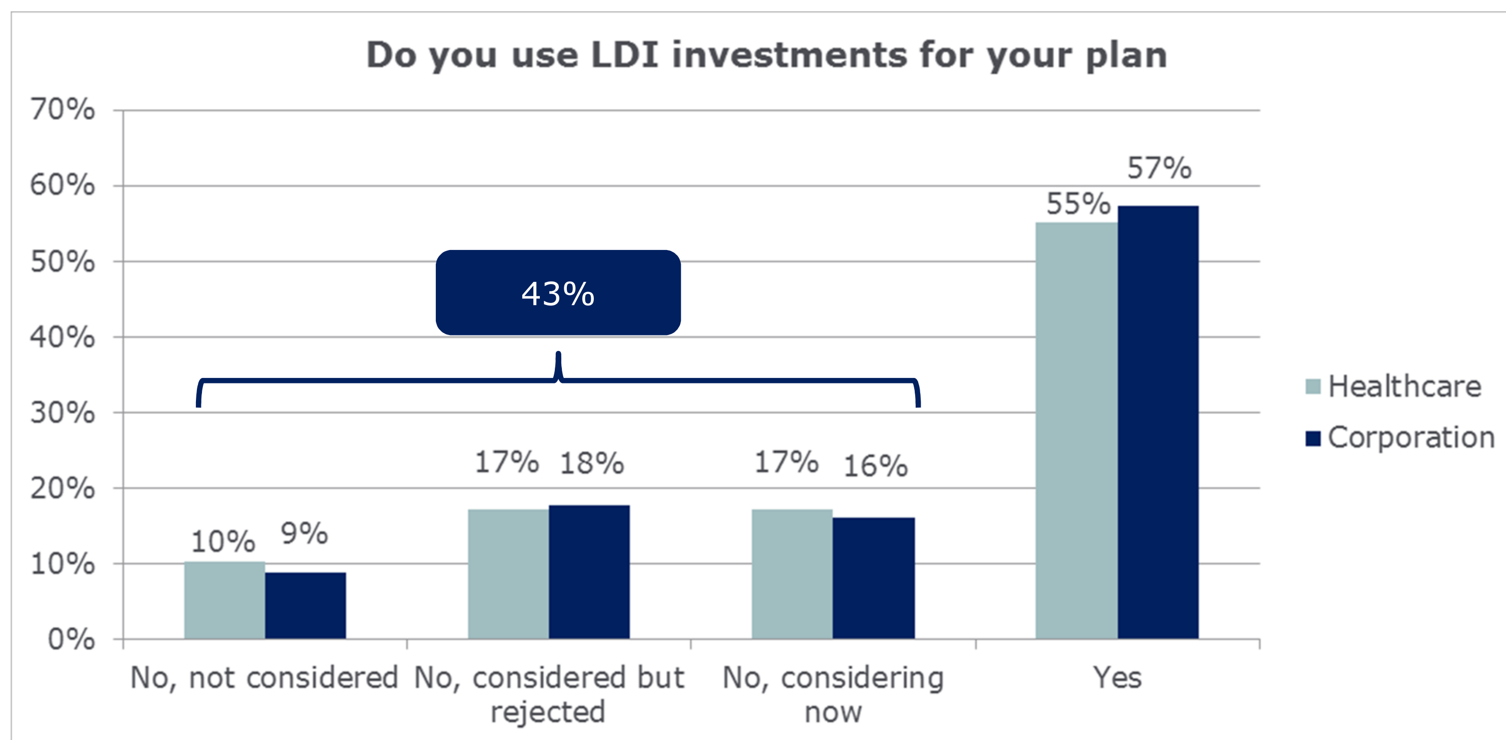
[1] Respondents were able to select more than one response

- **Longevity improvements and declining discount rates in 2014 impacted estimated funded ratios**
  - 21% of plans had a funded status below 80% compared to only 9% last year

- **Majority of underfunded plans (<80% funded status) are smaller in size (<$1B)**



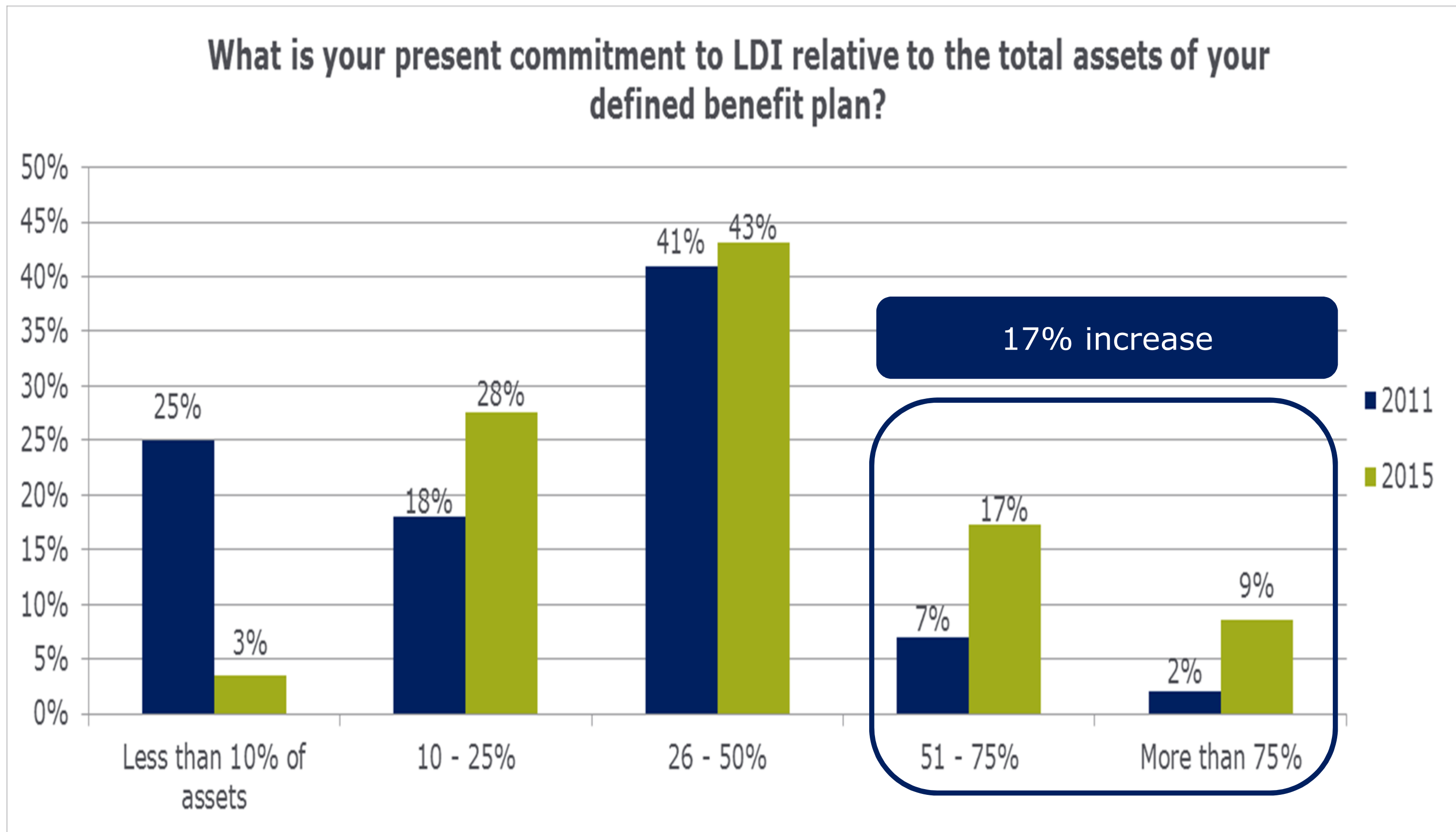
- **The majority of respondents utilize LDI**
  - 35% of plans that use LDI have a current hedge ratio[1] greater that 60%



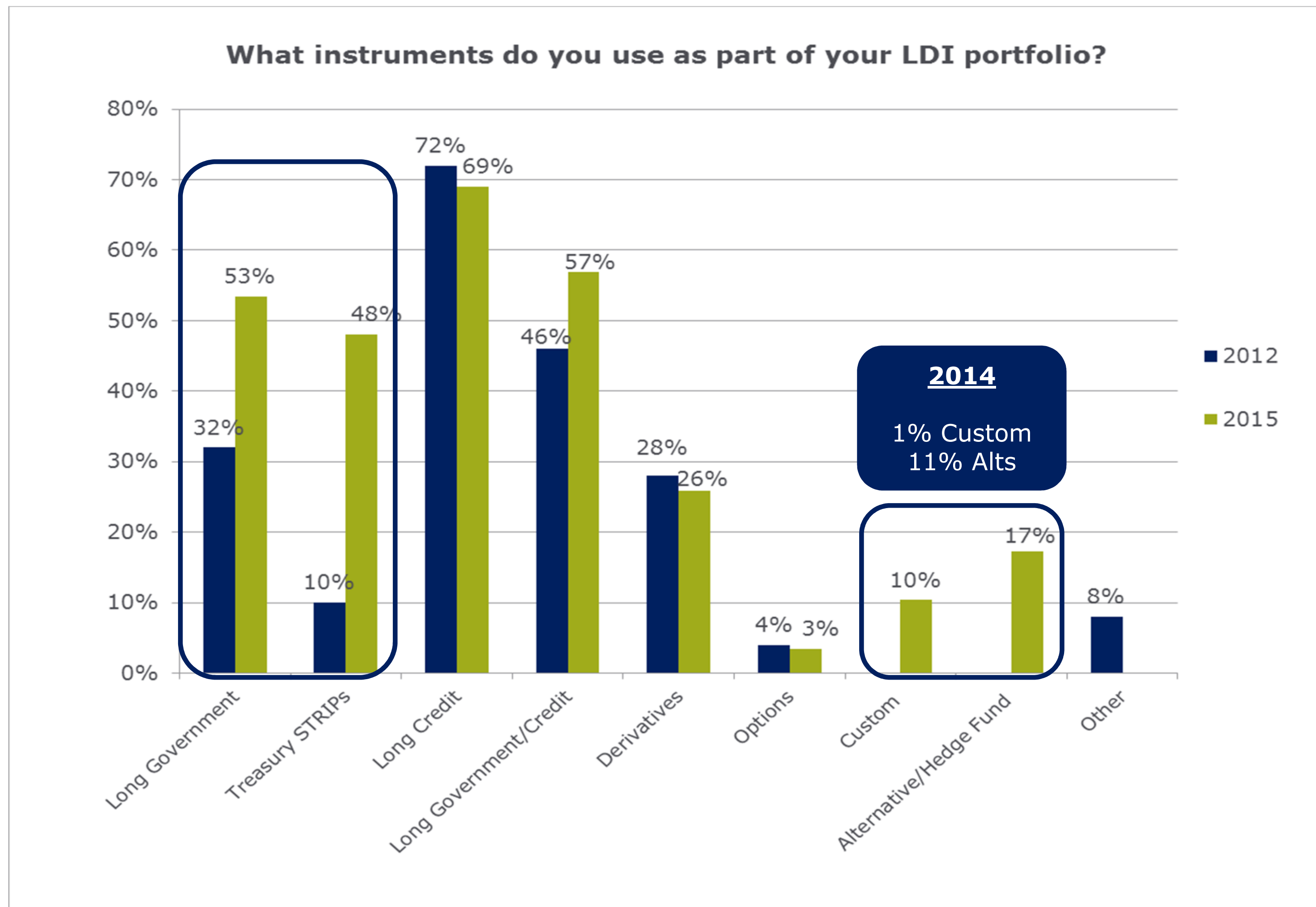
- **The 43% of plans not pursuing LDI cite two main reasons:**
  - 42% are waiting for interest rates to rise
  - 23% are maintaining a total return approach as the plan remains open

[1] Funded status x duration of assets / duration of liabilities

- **Over the past four years, plan sponsors using LDI have materially increased their LDI allocations**
  - 26% have an allocation greater than 50% versus 9% in 2011

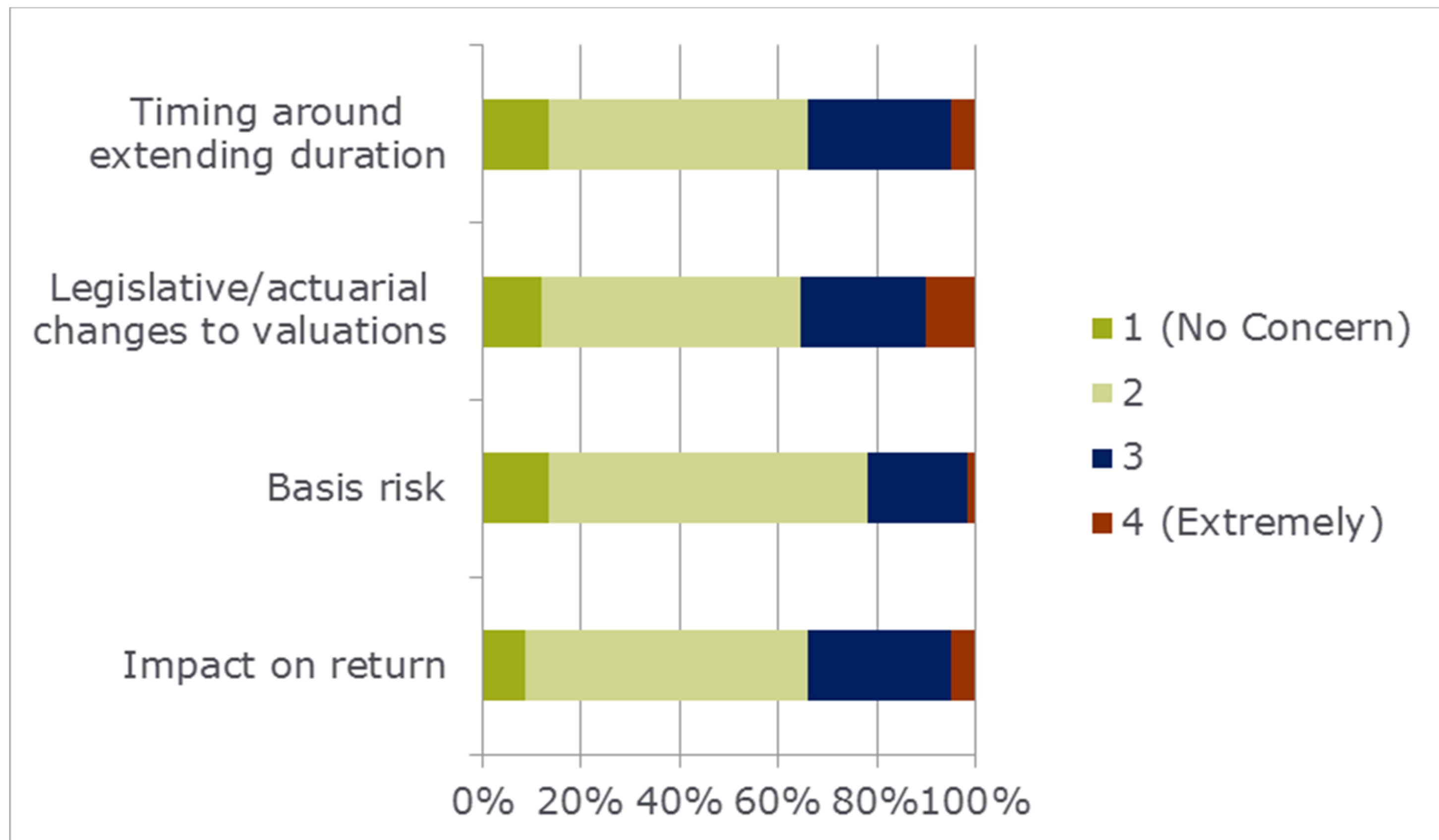


- **Treasury STRIPS, long government bonds, custom mandates and alternative strategies are gaining popularity**



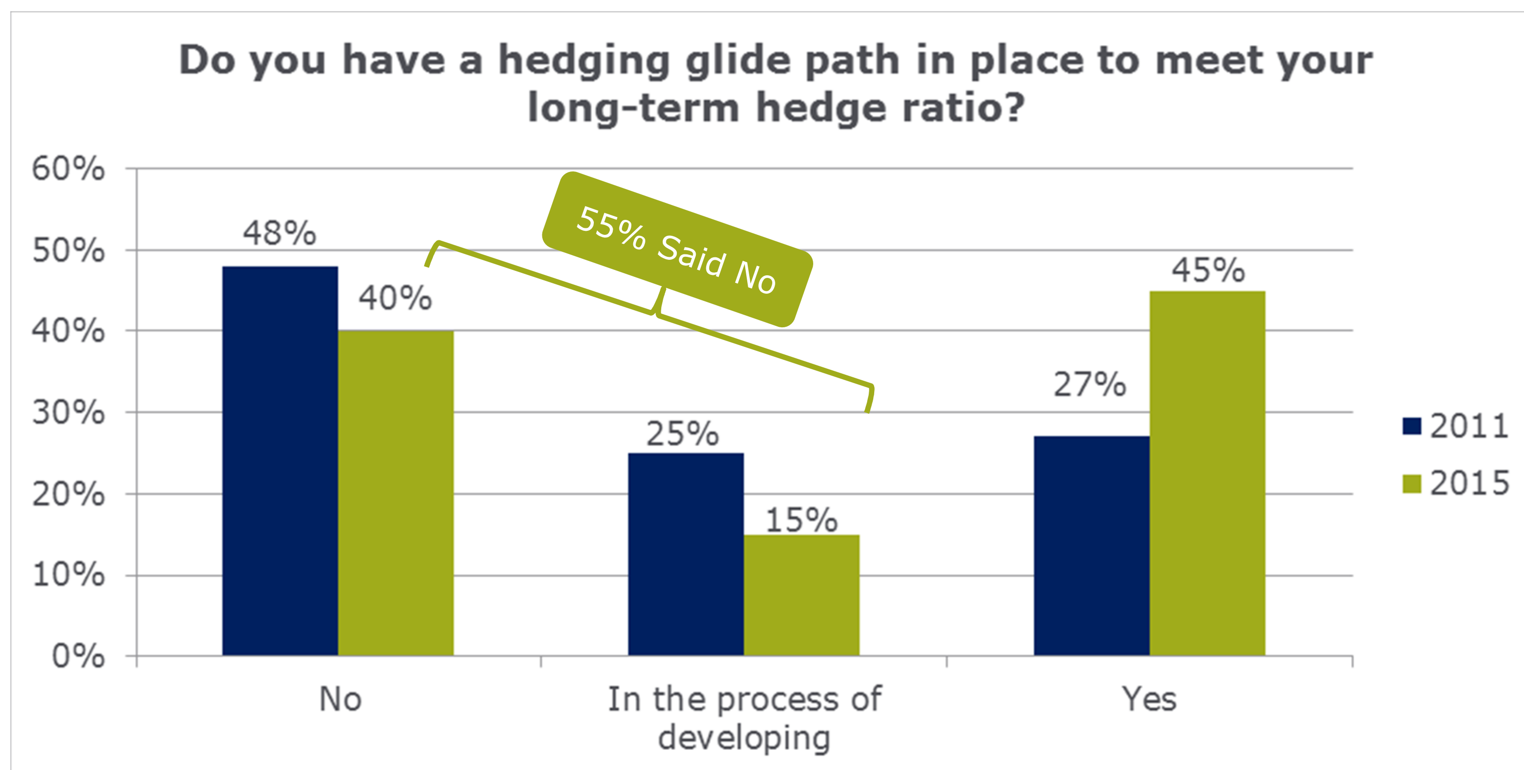
[1] Respondents were able to select more than one response

- **For plan sponsors that utilize LDI, the majority are generally comfortable with the risks inherit with LDI implementation**
  - Legislative/actuarial changes to liability valuations was the largest concern followed by the low interest rate and return environment



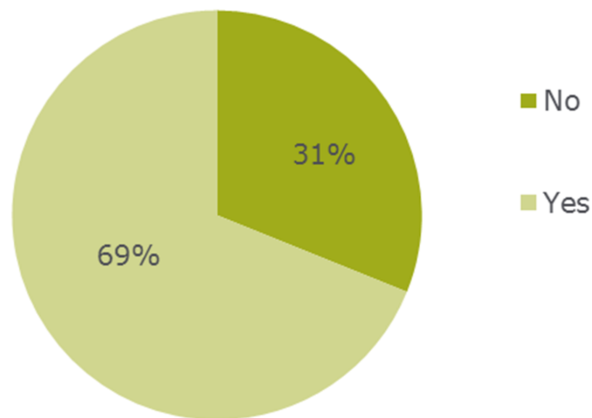
- **Glide Path utilization has increased since 2011**
  - 55% have a long-term hedge ratio target of 80% or above

- **Of those plans that do not have a glide path in place or are developing a glide path**
  - 36% currently use LDI
  - 38% have a funded status greater than 90%

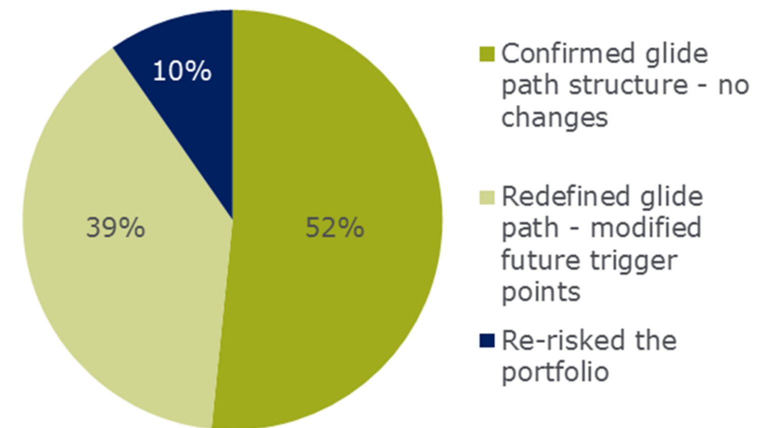


- **Longevity improvements prompted 69% of respondents to formally review their hedging glide path strategy in 2015**
  - 39% modified future glide path trigger points
  - 10% of plan sponsors re-risked the portfolios due to declining funded ratios

Have you completed a formal review of your glide path during the last year?

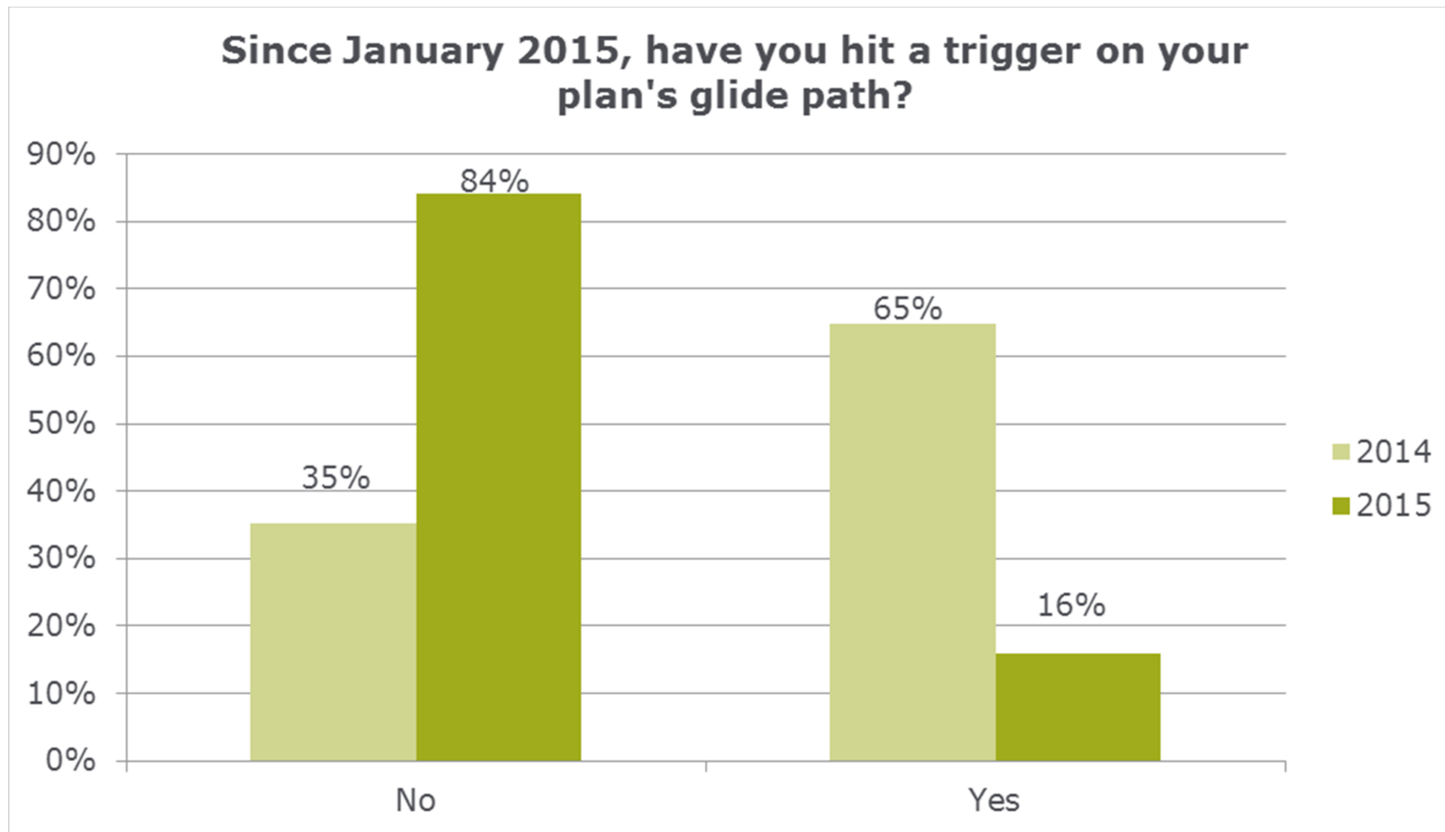


Did the review result in any changes to the glide path?



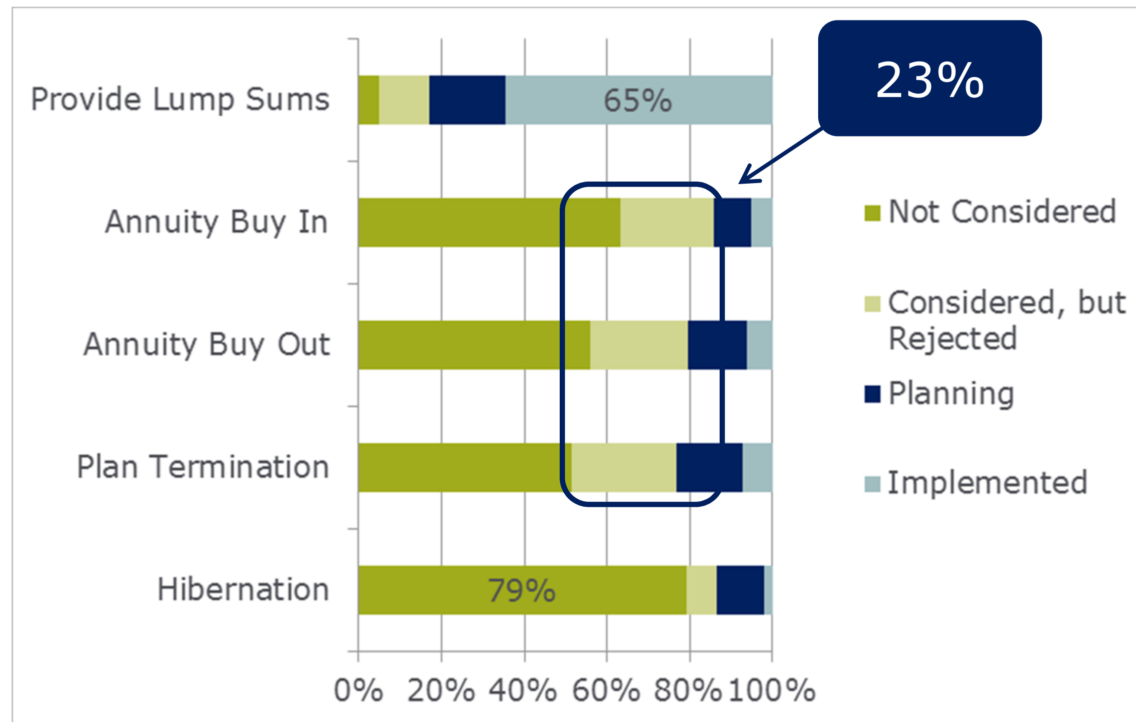
**May not add to 100% due to rounding*

- **Glide Path de-risking action was dramatically reduced in 2015**
  - The combination of longevity improvements, soft equity markets and volatile discount rates prevented most plans from hitting trigger points
  - For those that hit a trigger, 43% delayed taking action in 2015

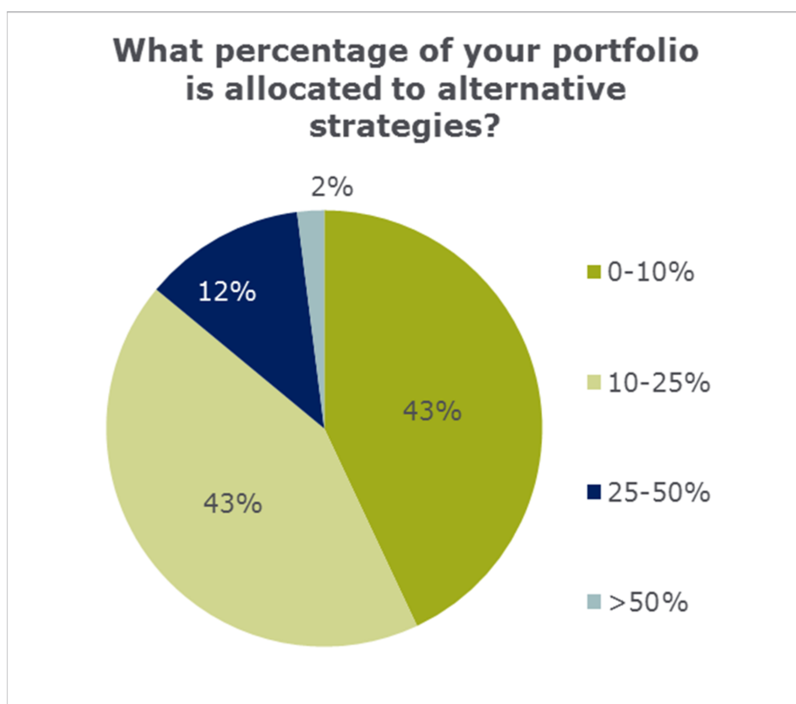


- **Majority of plan sponsors have implemented lump sum payouts**

- **Roughly 23% of plan sponsors have considered but rejected other liability reductions strategies such as partial annuitization or plan termination**
  - Respondents that have not considered or rejected annuitization cited cost as the number 1 reason (69%)
  - Respondents that have not considered or rejected hibernation cited not having sufficient information at this time (51%)



- **In addition to the growing use of alternatives in LDI programs, many plan sponsors have allocated to alternatives in general**
  - 55% of respondents have a 10-50% allocation to alternatives
  - While the majority expect to maintain the same allocation over the next year, there are slightly more plan sponsors that are considering increasing versus decreasing



NEPC Case Study: Evolutions in Total Portfolio De-Risking

- **NEPC Corporate DB client with specific risk control and EROA requirements**
  - Mostly frozen plan with $1.1 billion in total assets

- **Plan is well-funded (96%) and client has been a long-term user of LDI strategies**
  - Plan is almost completely de-risked from an interest rate perspective (85% hedge ratio)
  - 60% of portfolio allocated to long duration managers in a multi-manager structure
  - 40% allocated to diversified return seeking portfolio including equities, core real estate and risk parity
  - No plans to terminate

- **Client was concerned with the remaining risks in the return seeking portfolio, however;**
  - Sensitive to additional reduction in EROA, but wanted assets to work for beneficiaries
  - Did not want additional long bond exposure

- **NEPC provided an evaluation of additional de-risking strategies that reduced total portfolio volatility without increasing the hedge ratio**

- NEPC's recommendations were specific to the client represented and may not be applicable to all investors.
- Past performance is no guarantee of future results.
- Please see Appendix for additional disclosures.

- **NEPC proposed multiple investment strategies designed to reduce equity risk**
  - Included defensive equity, low volatility equity and hedge fund strategies
  - Eliminated consideration of private equity and private real estate due to time horizon

- **Goal was to reduce asset volatility and maximize risk adjusted returns**

	Current	5% Hedge Funds	10% Hedge Funds	20% Hedge Funds
Cash	**3%**	**1%**	**1%**	**1%**
Total Equity	**24%**	**21%**	**17%**	**15%**
Total Fixed Income	**60%**	**60%**	**60%**	**50%**
Real Estate (Core)	8%	8%	8%	10%
Hedge Funds	0%	5%	10%	20%
Total Alternatives	**8%**	**13%**	**18%**	**30%**
Risk Parity	5%	5%	5%	5%
Total Other	**5%**	**5%**	**5%**	**5%**
Asset Duration	***10.0***	***10.0***	***9.9***	***8.4***
Liability Duration	***11.4***	***11.4***	***11.4***	***11.4***
Interest Rate Hedge Ratio	***86%***	***86%***	***85%***	***72%***
Expected Return (5-7 Year)	***5.2%***	***5.2%***	***5.1%***	***5.3%***
Expected Return (30 Year)	***6.4%***	***6.3%***	***6.2%***	***6.2%***
Standard Dev of Asset Return	***9.6%***	***9.2%***	***8.9%***	***8.1%***
Standard Dev of Surplus Return	***6.9%***	***6.5%***	***6.2%***	***6.9%***
Sharpe Ratio	***0.36***	***0.38***	***0.38***	***0.44***

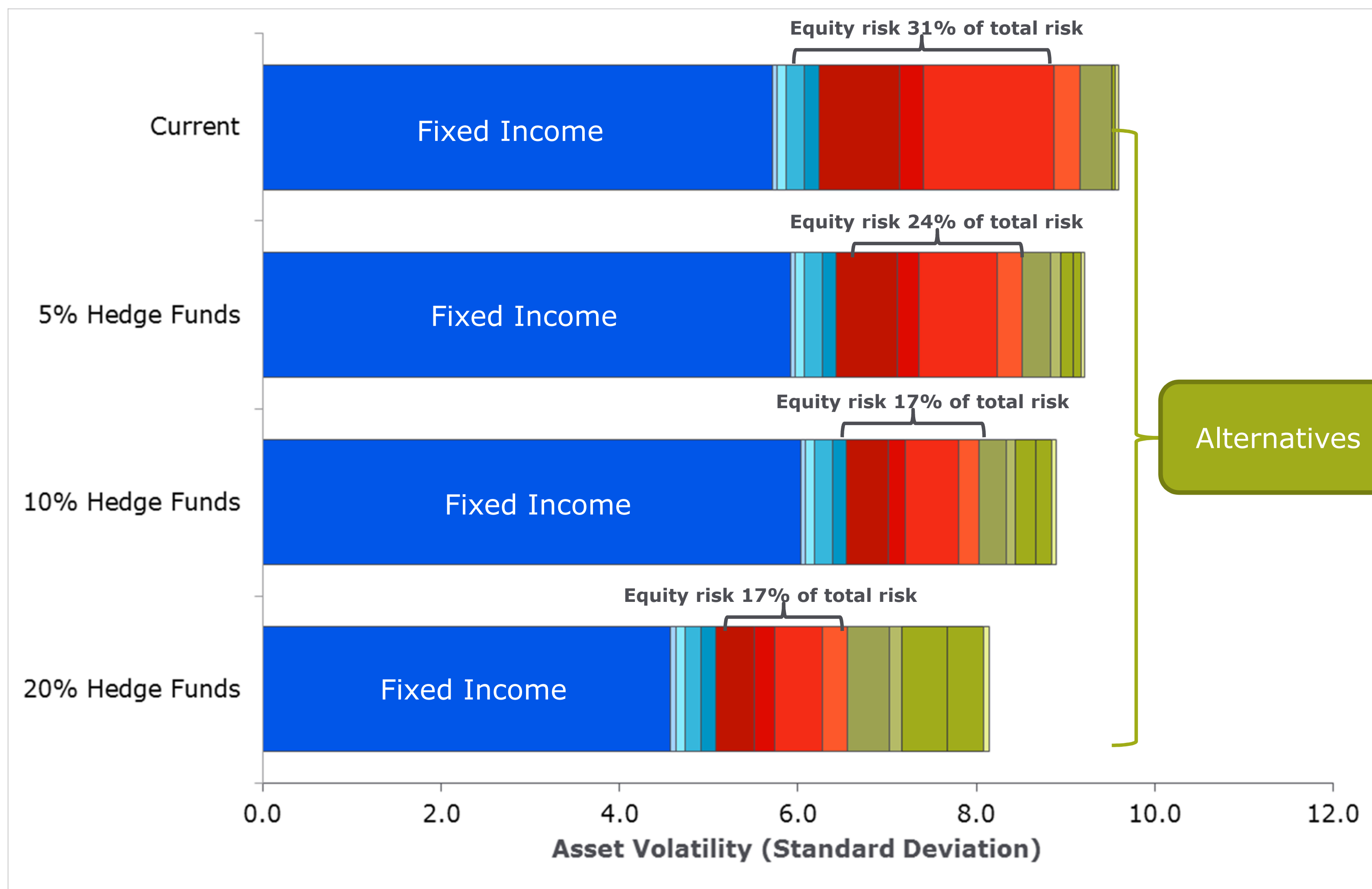
Stable EROA

Reduced Volatility

Improved Sharpe Ratio

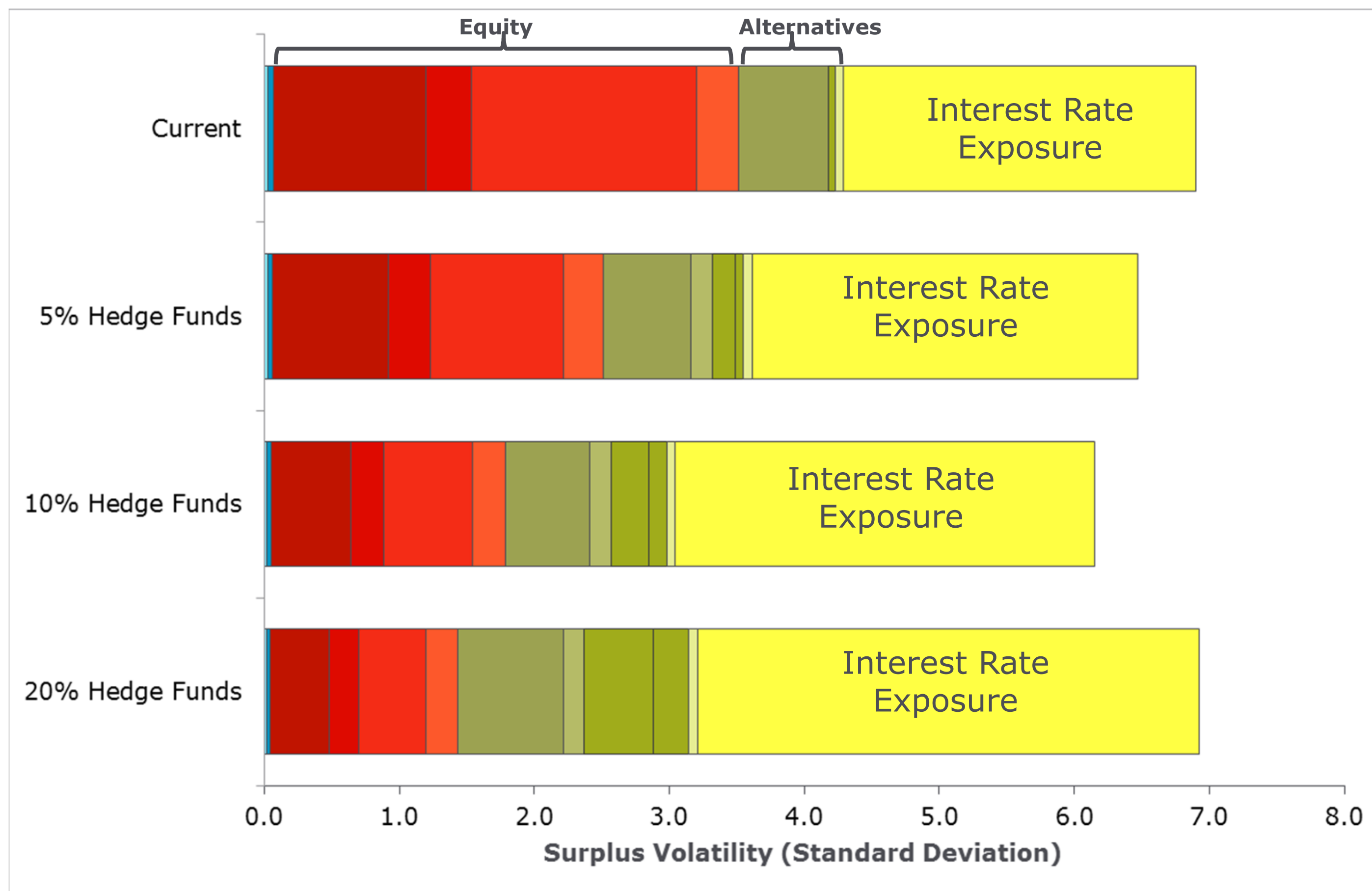
Past performance is no guarantee of future results

- **Proposed portfolio strategies expected to reduce asset risk and equity risk versus current portfolio**



- **Secondary benefit of proposed portfolios related to surplus volatility improvement**

- **Surplus volatility reduced using 5% and 10% allocation to hedge funds and remained the constant for the 20% allocation**



Hedge Fund Comparison to Traditional Investment Structures

- **Through education with the client, we discussed the merits and challenges with managing a direct hedge fund program**

	Long-Only Funds	Hedge Funds
Value Proposition	Market Dependent; Benchmark Oriented	Skill Based; Benchmark Agnostic
Primary Manager Incentive Structure	Grow Fund Assets	Performance Oriented
Type of Exposure	Long Only	Flexible Exposure: Long or Short, Market Neutral
Investing Style	Style Constraints (Value, Growth, etc.)	Broad Guidelines, Few Constraints
Instruments Traded	Predominately Stocks and Bonds	Stocks, Bonds, Derivatives (Futures, Swaps, Options)
Leverage Employed	Usually None	Frequently Employs Leverage, Varies by Manager/Strategy
Alignment of Interests	Varied Co-investment Amount and Ownership Position	Large Manager Co-investment, Ownership position
Liquidity	Frequent Liquidity	Restricted Liquidity
Business Model	Scalable	Capacity Constrained

Note: Factors will vary depending on characteristics of funds selected.

Weighing Benefits & Risks of Hedge Funds vs. Traditional Investment Structures

- **Benefits:**
  - Incentive structure focused on performance during all market environments
  - Potential for non-correlated returns to traditional asset classes
  - Strategies often reduce overall portfolio volatility and drawdowns
  - Potentially superior capital preservation vehicles
  - Strong alignment of interests between manager and investor
  - Historically has compounded capital net of fees at a greater rate than traditional investment options

- **Considerations:**
  - Complicated entities, more challenging to evaluate managers
  - Complex investment structures
  - Liquidity constraints
  - Less transparent
  - Higher fees, expensive
  - Access to top managers more limited
  - Potential for higher "headline risk"
  - Regulatory environment in flux
  - Level 2 and 3 fair value measurement

Partial list only. Please see Appendix for additional risk disclosures.

Custom Hedge Fund Portfolio Structure: Client Specific

Portfolio objectives for the Client's hedge fund portfolio:

- **Reduce the total portfolio's equity volatility while being mindful of LDI component**
- **Access strategies that are less liquid and more complex than traditional asset classes if opportunity set warrants**
- **Increase diversification of total portfolio which could potentially reduce downside risk during market volatility**

Initial Hedge Fund Portfolio Recommendation

- **Holistic portfolio construction using a core and satellite approach**
  - Recommendation specific to client's goals & objectives
  - NEPC completed a "look-through" of client's portfolio to determine hedge fund strategy type and allocations

Manager	Position	Asset Class	Strategy	HF Weight	Total Plan Weight (10% HF)
Manager 1	Core	Equity-Linked	SMID Cap Fundamental	10%	1.0%
Manager 2	Core	Equity-Linked	European Systematic	8%	0.8%
Manager 3	Satellite	Equity-Linked	Technology	7%	0.7%
Manager 4	Satellite	Equity-Linked	Healthcare	7%	0.7%
Manager 5	Core	Credit-Linked	Corporate	10%	1.0%
Manager 6	Core	Credit-Linked	Structured	10%	1.0%
Manager 7	Core	Event Driven	Multi-Event	15%	1.5%
Manager 8	Core	Trading	Discretionary/Systematic	15%	1.2%
Manager 9	Satellite	Trading	Discretionary-Commodities	8%	0.8%
Manager 10	Core	Multi-Strategy	Tactical	10%	1.0%
Total				**100%**	

- **Liquidity terms and fees were of concern to this particular client**

Manager	Liquidity	Days' Notice	Lock-Up (Years)*	Management Fee	Incentive Fee	SEC Registered
Manager 1	Quarterly	60	1 - Hard	1.0%	20.0%	Yes
Manager 2	Monthly	30	0	2.0%	20.0%	Yes
Manager 3	Monthly	45	1 - Soft	1.5%	20.0%	Yes
Manager 4	Quarterly	65	1 - Hard	1.5%	20.0%	Yes
Manager 5	Quarterly	60	1 - Soft	2.0%	20.0%	Yes
Manager 6	Quarterly	60	0	1.5%	20.0%	Yes
Manager 7	Quarterly	65	0	1.5%	20.0%	Yes
Manager 8	Monthly	3	0	2.0%	25.0%	Yes
Manager 9	Monthly	30	1 - Soft	2.0%	20.0%	Yes
Manager 10	Quarterly	45	0	1.0%	20.0%	Yes

Representative Share Classes list - managers may have additional share classes with different fees, liquidity or lockups.
*A soft lock-up means capital can be redeemed during the initial lock-up by paying a penalty. A hard lock-up means the capital is unavailable during the initial lock-up
Not shown are specific hurdles, gates or penalties that may be applicable to each manager.

- **Hedge Fund Portfolio Results (Historical View)**
  - Returns were similar to current equity portfolio
  - Significant drawdown improvement
  - Material reduction in exposure to equities (beta)

	Current Equity Composite	Proposed Hedge Fund Composite
Wilshire U.S. 5000 Total Market Index	12.5%	-
MSCI ACWI ex US	12.5%	-
Hedge Fund Composite	-	100.0%
Return	10.9%	9.5%
Standard Deviation	12.8%	3.6%
Max Drawdown	-20%	-3.9%
Sharpe Ratio (RFR: Citi 3-Month T-Bill)	0.9	2.6
Beta to S&P 500	1.1	0.2

Common Time Period: April 2010 to May 2015.

The above Composites are backward-looking and are not indicative of future performance. The proposed portfolio does not reflect the results of any particular client. Actual results may vary.

Final Portfolio Decisions

- **Client successfully adopted a holistic de-risking strategy by incorporating both the return-seeking and hedging portfolios in the analysis**
- **Project evolved over a 12 month time horizon and included multiple vetting and educational sessions with the senior management**
- **Client was able to maximize risk-adjusted returns within the LDI framework**
- **Most closed and frozen plans still have an intermediate to long-term investment horizon, as a result fiduciaries should seek to maximize risk-adjusted returns**
- **De-risking is more than just long-bonds and actuarial estimates, plan sponsors should not ignore the asset side of the equation**

Conclusion

Conclusion

- **Funded status estimates continue to be volatile and are impacted by more than market dynamics**
  - Maximizing risk adjusted returns continue to be important
- **Those plan sponsors not utilizing LDI are either waiting for a market event or remain committed to a total return approach**
- **The instruments used in LDI allocations remain diversified and continue to evolve**
  - Increased usage of custom and alternative strategies
  - Alternatives are increasingly used by plan sponsors to mitigate total portfolio risk
- **Longevity improvements and funded status declines have led plan sponsors to evaluate glide path strategies to determine if still appropriate**

Webinar Details

You can submit a question at this time using the Q&A function.

Additional information and custom benchmark comparisons are available by contacting Brad Smith (bsmith@nepc.com) or Kelly Regan (kregan@nepc.com)

Disclosure

Greenwich Associations U.S. Client Evaluations – Investment Consulting Business
2014 Rankings of 10 Largest Consultants: Key Success Factors

	NEPC	Firm A	Firm B	Firm C	Firm D	Firm E	Firm F	Firm G	Firm H	Firm I
Market Position (# of Clients)	**1**	2	3	4	5	6	7	7	9	10
Overall Greenwich Quality Index	**1**	4	6	2	8	9	5	10	3	7
Investment Counseling										
Understanding Clients' Goals & Objectives	**2**	2	6	2	7	9	10	7	5	1
Advice on Long-term Asset Allocation	**1**	2	9	8	5	6	4	10	7	3
Provision of Proactive Advice & Innovative Ideas	**2**	3	7	5	8	3	1	10	6	9
Capability of Consultant Assigned to Your Fund	**2**	4	5	3	5	9	8	9	7	1
Credibility with Investment Committee	**1**	6	4	2	8	10	9	6	4	3
Advice on DC Plan Structure and Design	**2**	5	7	3	1	8	4	9	6	10
Manager Selection										
Knowledge of Investment Managers	**1**	5	3	1	4	9	8	10	7	6
Satisfaction with Manager Recommendations	**3**	8	5	5	3	5	1	10	9	2
Client Servicing										
Responsiveness to Requests for Information	**1**	4	6	2	4	10	6	9	3	8
Personal Meetings	**1**	6	3	2	5	9	7	8	4	9
Usefulness of Written Investment Reviews	**1**	5	3	1	7	9	3	10	7	5
Sufficient Professional Resources to Meet Your Needs	**2**	2	5	1	4	10	7	9	7	6
Timeliness in Providing Written Information & Reports	**1**	7	6	2	8	2	5	10	4	9
Commercial Arrangement										
Reasonable Fees (Relative to Value Delivered)	**2**	5	7	4	10	7	6	9	3	1

Source: Greenwich Associates, 2014 Evaluations by U.S. Institutional Investors.
- Greenwich Associates is an independent research firm. Their rankings do not represent an endorsement of NEPC.
- Past performance is no guarantee of future results.

Disclaimer / Disclosures

- **Data used to prepare this report was obtained directly from the plans surveyed and other external sources. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**

- **Past performance is no guarantee of future results.**

- **Any opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**

- **All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.**

- **This report contains summary information regarding the investment management approaches described herein but is not a complete description of the investment objectives, portfolio management and research that supports these approaches. This analysis does not constitute a recommendation to implement any of the aforementioned approaches.**

Alternative Investment Disclosures

- **It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds and private equity:**
  - Performance can be volatile and investors could lose all or a substantial portion of their investment
  - Leverage and other speculative practices may increase the risk of loss
  - Past performance may be revised due to the revaluation of investments
  - These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
  - A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value
  - These funds are not subject to the same regulatory requirements as registered investment vehicles
  - Managers may not be required to provide periodic pricing or valuation information to investors
  - These funds may have complex tax structures and delays in distributing important tax information
  - These funds often charge high fees
  - Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy