AFP® Annual Conference

OCTOBER 27–30, 2013 | LAS VEGAS

ORIGINAL→ESSENTIAL→UNBIASED→INFORMATION

Association for Financial Professionals®

Pension Glide Paths: More Than Stocks and Bonds?

Jay Roney, CTP
Partner

Carolyn Smith
Partner

Biographies

- **Jay E. Roney, CTP**
  Partner
  – Twenty years' investment experience
  – Member: Executive Committee
  – MBA, Northeastern University; BS, University of Maine

- **Carolyn Smith**
  Partner
  – Twenty-five years' investment consulting experience
  – Member: Small Cap Equity Advisory Group, Due Diligence Committee
  – BS in Finance, University of Utah

NEPC Firm Summary

- **Independent consulting firm since 1986**
  - 100% employee-owned with 33 partners creating a vibrant and engaged venture
  - 321 clients with $726 billion in total assets
  - 100% of NEPC's revenue is from investment consulting
- **Stable, consistent business**
  - Consistently superior client ratings relative to our 10 largest competitors
  - 27 consecutive years of client growth
  - Only firm to have excelled at both parameters

Table of Contents

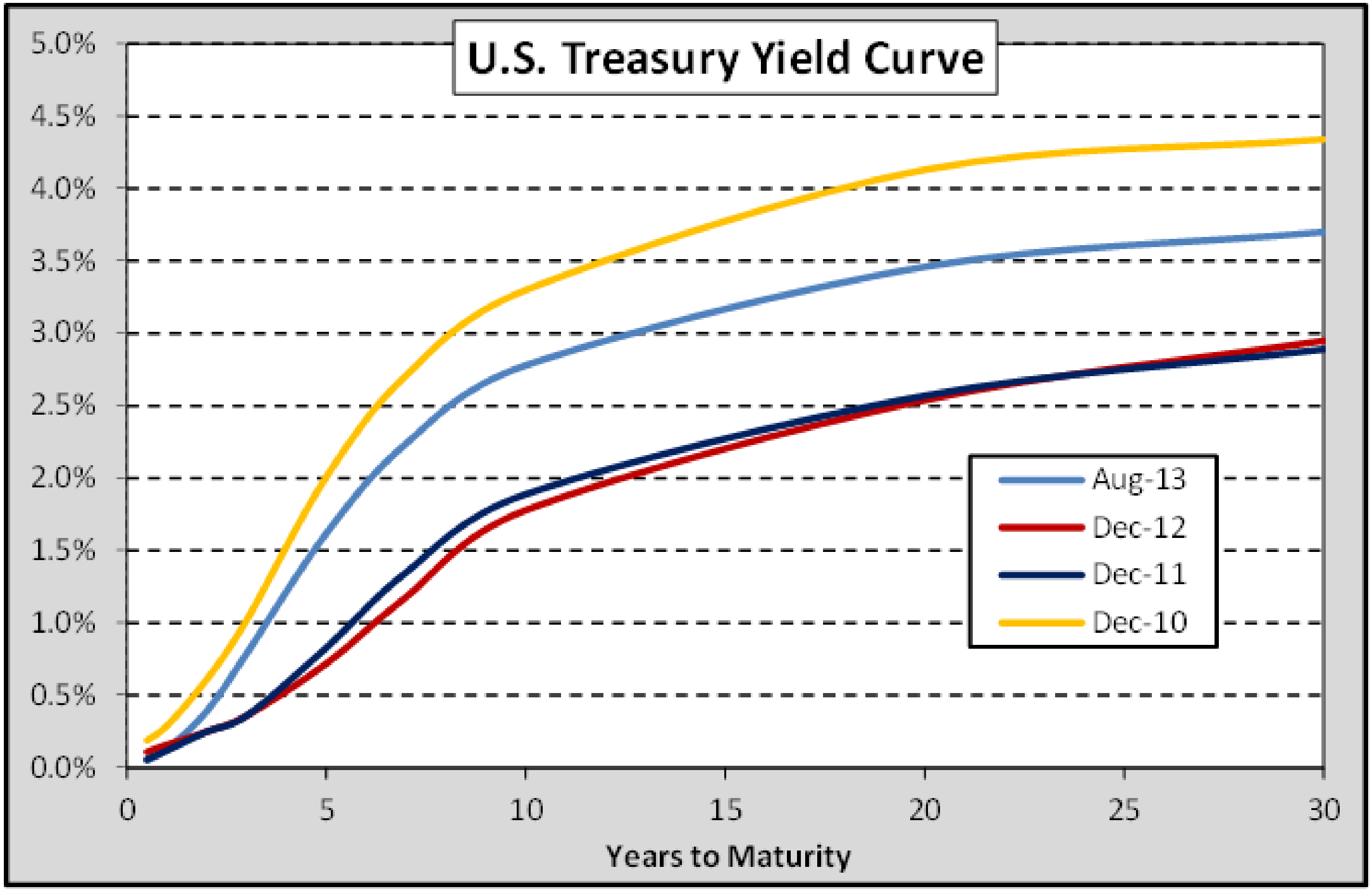
Market Environment

Interest Rates: Where are we now?

- **The higher volatility environment has been challenging**
  - Indications the Fed would taper its stimulative policy earlier than expected
  - Treasury yields spiked on expectations of tapering, and continued to rise through August
  - Growth assets fell precipitously in June, rebounded sharply in July and struggled in August
  - Market rallies as Fed stays the course in September

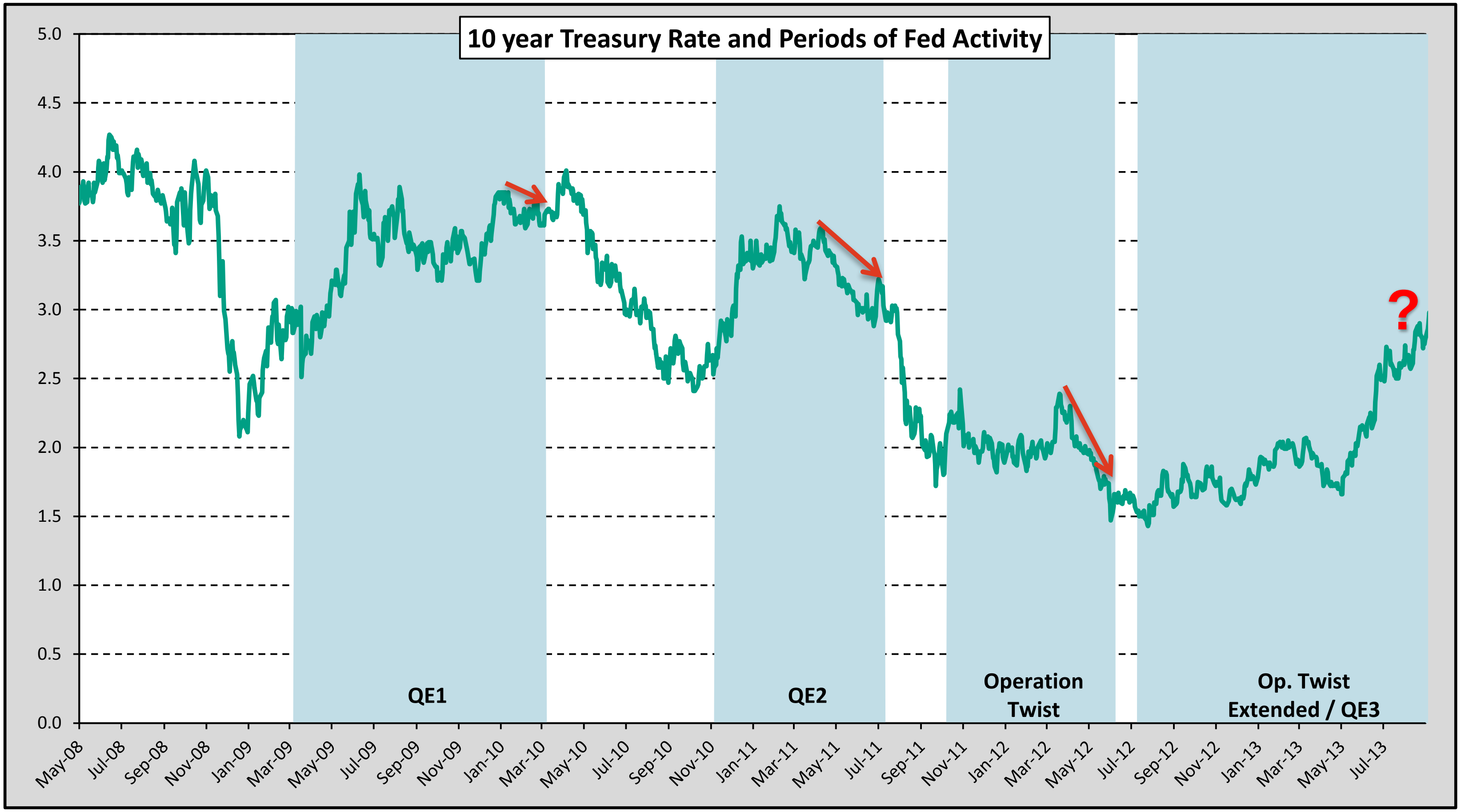
- **However…**
  - Rates are still low and stimulative policy is still in place
  - The appointment of the next Federal Reserve Chairman could impact the current direction of stimulative policy

Treasury Rates Have Risen Rapidly, but Remain Low Overall



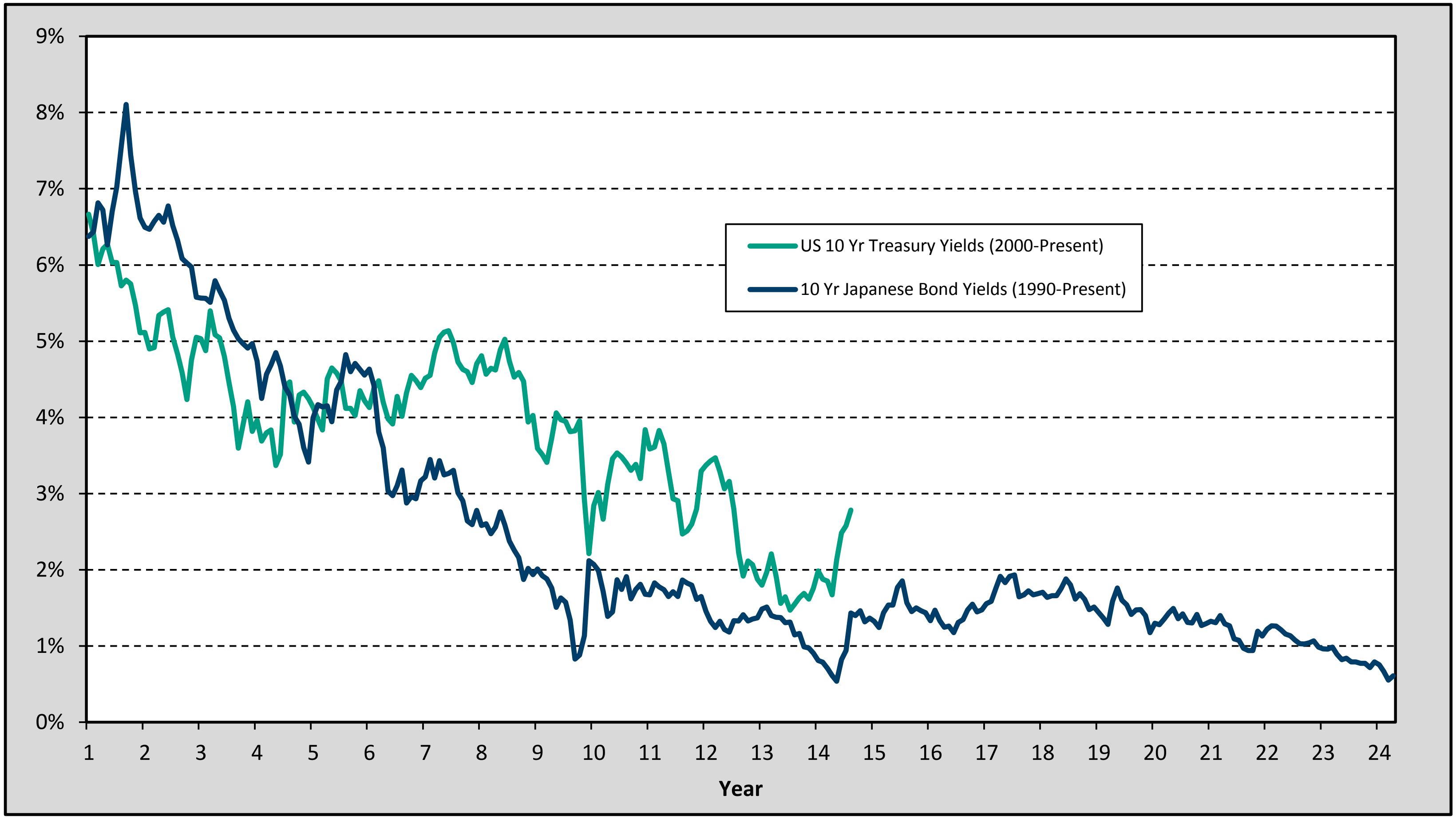
Source: US Treasury as of 8/31

Not So Fast – Previous Winding Down of Easing Cycles Has Actually Led to Yields Falling



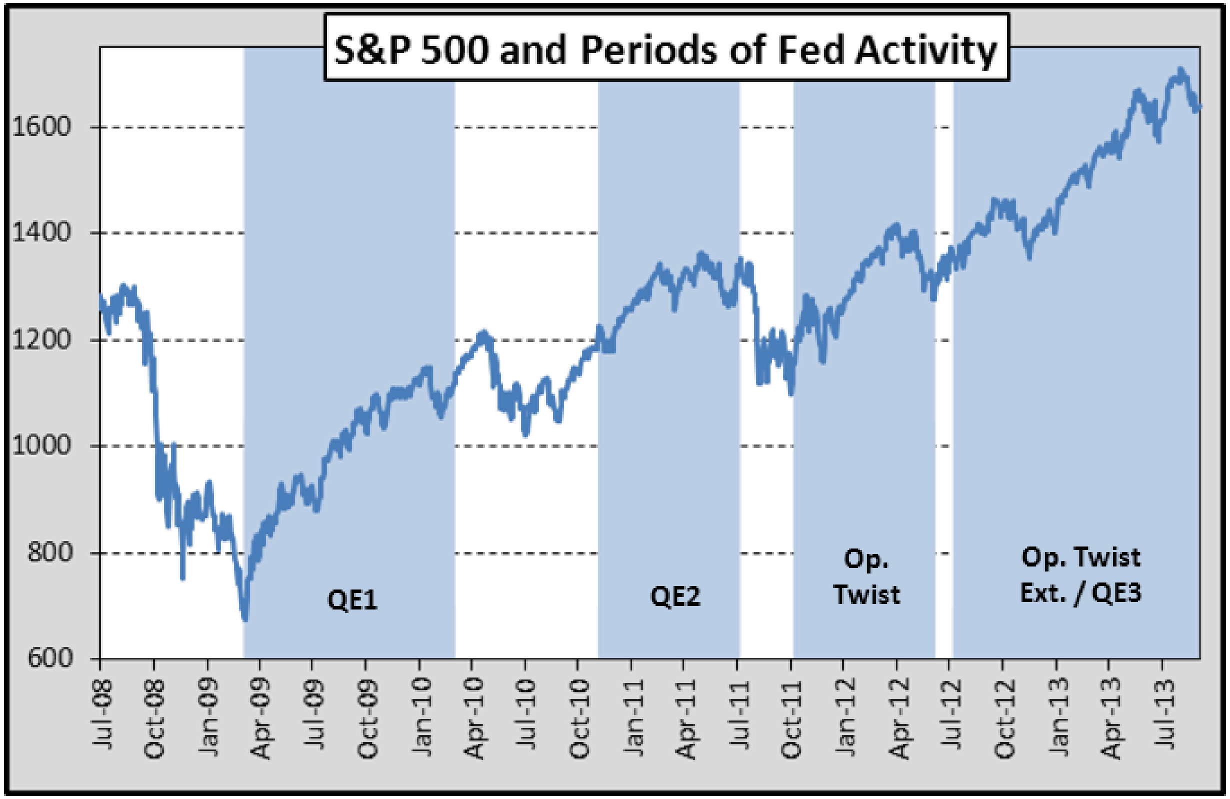
Source: Bloomberg as of 8/31

US vs. Japan 10 Year Yields – It Could Be A Long Journey Still…



Source: Bloomberg as of 8/31

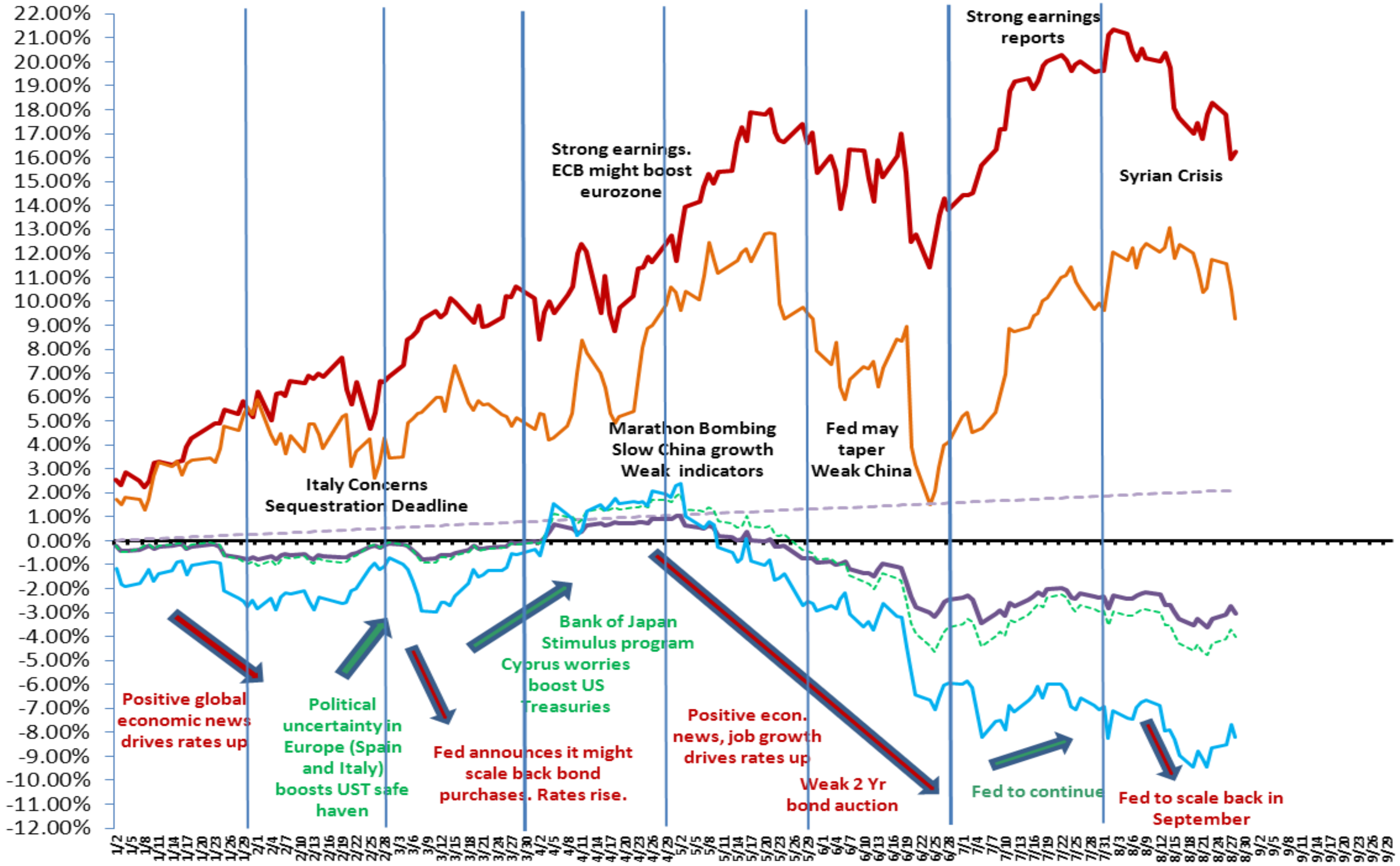
The Fed Continues to Prove it Can Drive Markets



Source: Bloomberg as of 8/31

2013 Year In Review

Volatility evident in both equity and fixed income markets this year.



Source: Standard and Poor's, MSCI EAFE, BC Markit Hub

Investment Market Update: As of August 31, 2013

PERFORMANCE THROUGH 8/31/2013

Sector	Index	Q1	Q2	JUL	AUG	2013
Small Cap	Russell 2000	12.4%	3.1%	7.0%	-3.2%	20.0%
Large Cap	S&P 500	10.6%	2.9%	5.1%	-2.9%	16.2%
Int'l Developed	MSCI EAFE	5.1%	-1.0%	5.3%	-1.3%	8.1%
Diversified	Diversified*	5.9%	0.1%	3.4%	-2.1%	7.5%
High Yield	Barclays US High Yield	2.9%	-1.4%	1.9%	-0.6%	2.7%
Core Bonds	Barclays US Agg Bond	-0.1%	-2.3%	0.1%	-0.5%	-2.8%
Global Bonds	Citi WGBI	-2.8%	-3.0%	1.3%	-0.4%	-4.8%
Commodities	DJ UBS Commodity	-1.1%	-9.5%	1.4%	3.4%	-6.2%
Long Credit	Barclays US Long Credit	-1.8%	-6.3%	0.9%	-1.4%	-8.5%
Long Govt/Credit	Barclays US Govt/Credit Long	-2.0%	-6.1%	-0.2%	-1.2%	-9.2%
Emerging Equities	MSCI EM	-1.6%	-8.1%	1.0%	-1.7%	-10.2%
Treasury STRIPS	Barclays US Strips 20+ Yr	-5.4%	-7.6%	-3.6%	-0.8%	-16.4%

* 35% LC, 10% SC, 12% Intl Equity, 3% Emerging Equity, 25% Core Bonds, 5% HY, 5% Global Bonds, 5% REITS

Sources: Barclays, Bloomberg, Wilshire

LDI Trends

NEPC 2012 LDI Survey: Key Findings

- **Majority of plans continue to report using some form of LDI strategy and virtually all plans have now considered using LDI**
  - While LDI is used by a majority of respondents, it is not an appropriate strategy for all plans

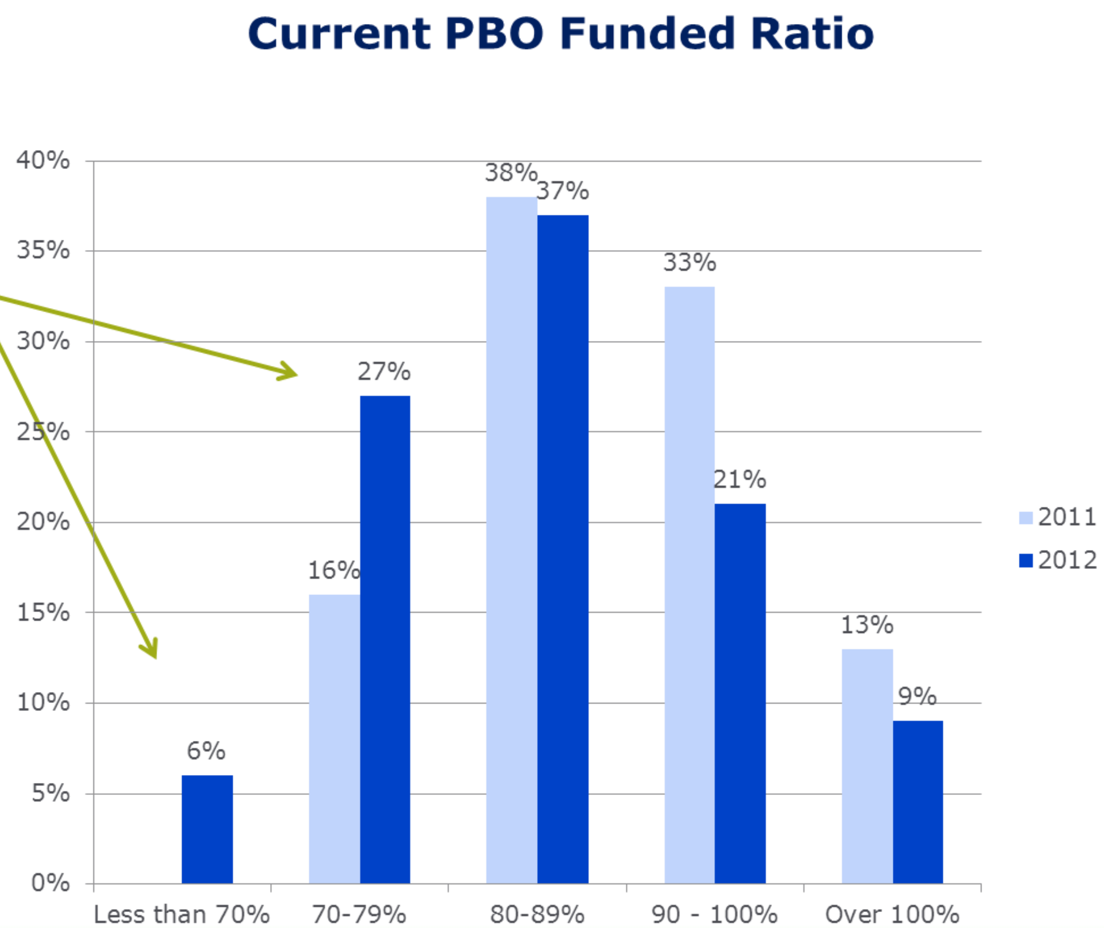
- **Plan size was a differentiating factor in the way LDI was implemented and how glide paths are managed**
  - Surprisingly, funded status was not as important

- **Dramatic increase in the use of glide paths**
  - Despite falling rates and volatile funded ratios, we observed a significant increase in the total allocations to hedging assets

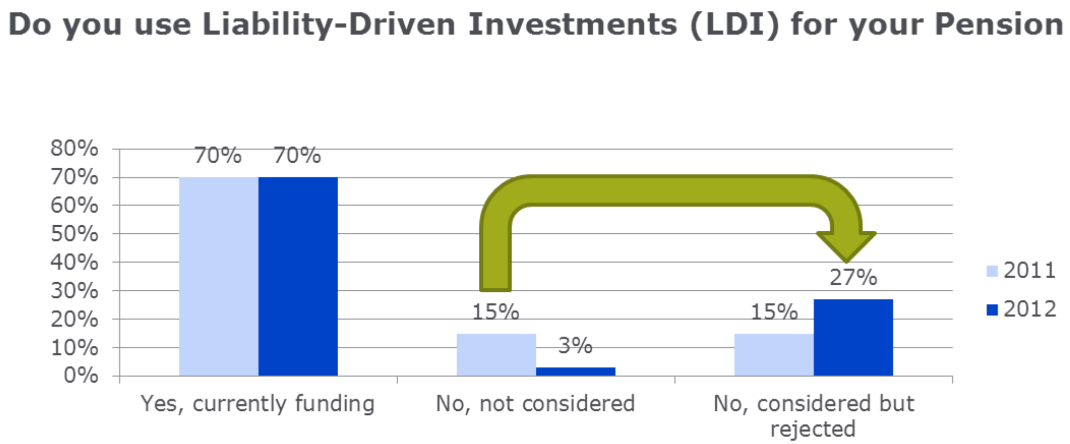
- **Nearly all plan sponsors outsource glide path monitoring**

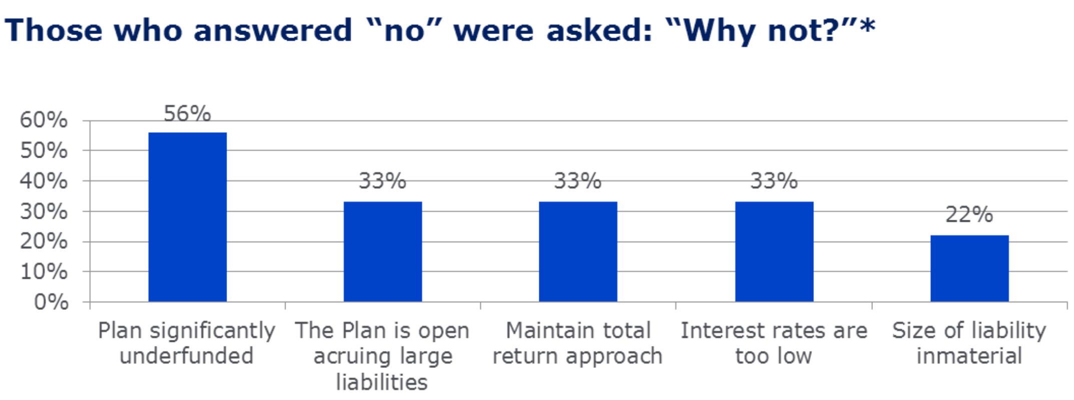
Estimated Funded Ratios as of October 2012

33% of plans reported a current funded ratio of less than 80% in 2012 versus 16% in 2011.



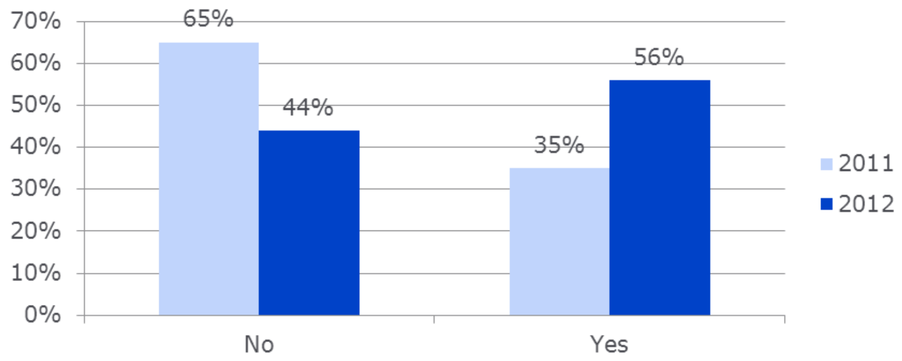
Liability-Driven Investment (LDI) Usage





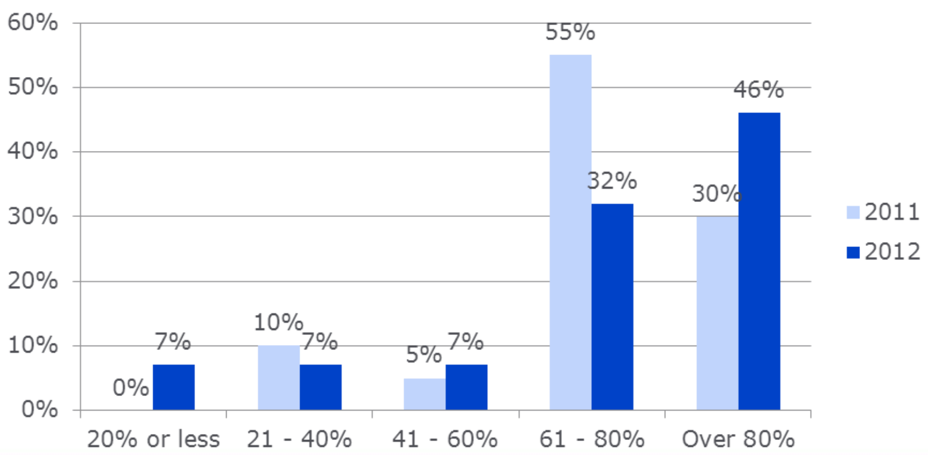
* Respondents were able to select more than one response

Do You have a Long-term Target Hedge Ratio?



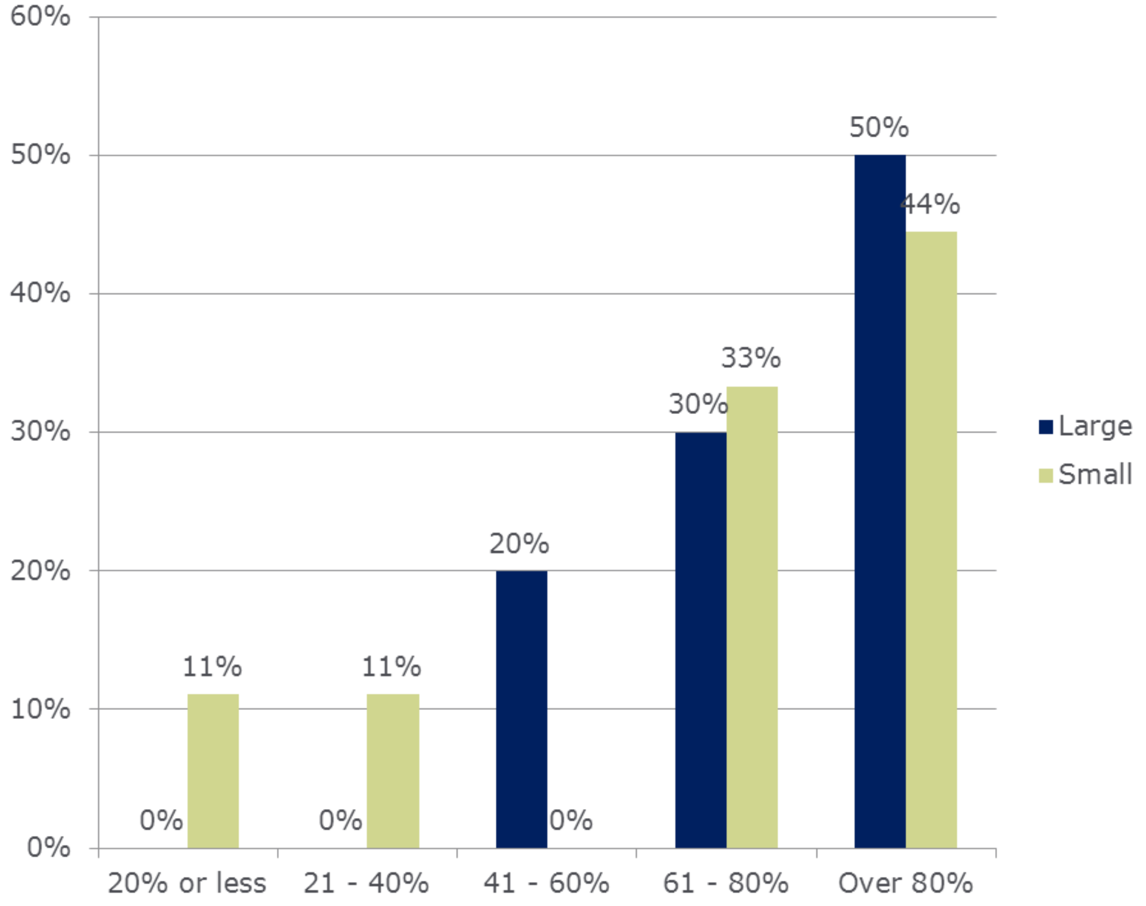
There was a 60% increase in the percentage of plans with a long-term hedge ratio.

Those who indicated "yes" were asked: "What is your long term hedge ratio?



Hedge ratios continue to be very client specific and funded status was not a factor.

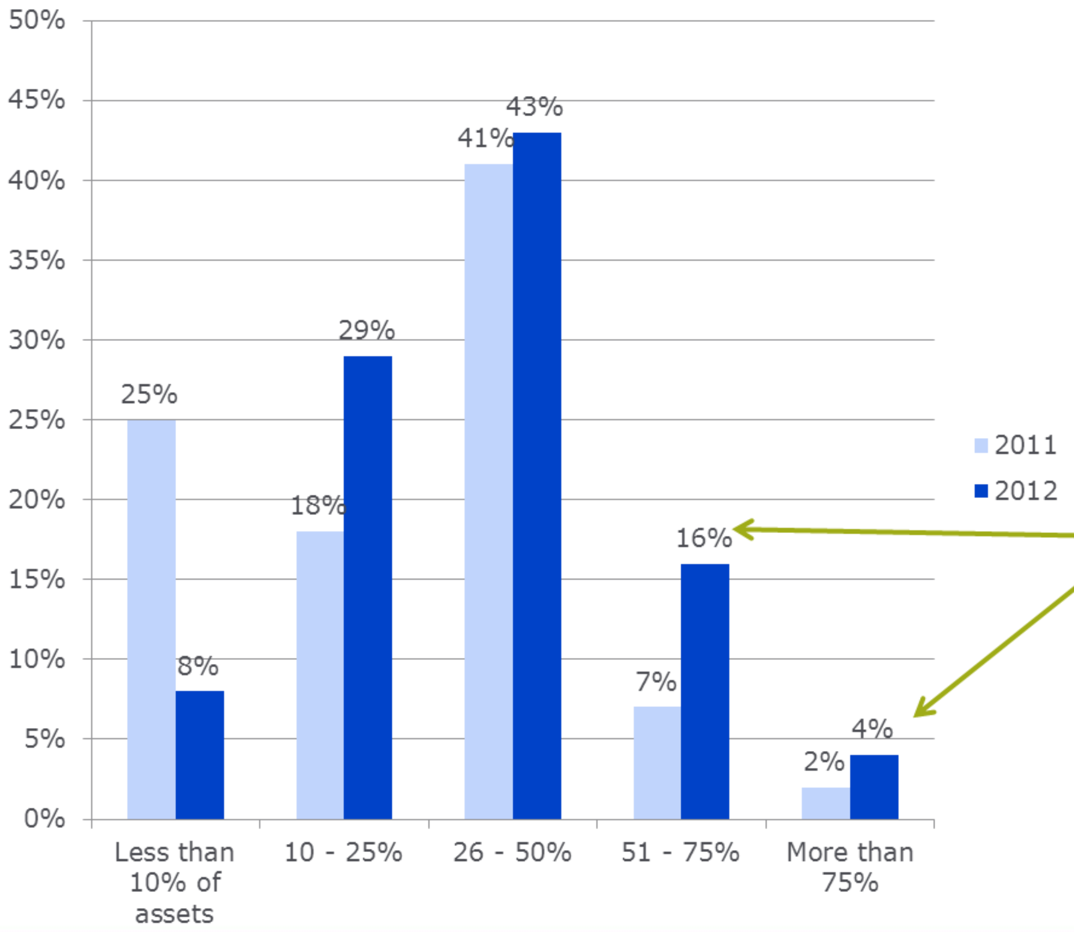
What is Your Long-term Target Hedge Ratio?



Larger plans tend to be more sensitive to changes in funded status and are more likely to have a higher target hedge-ratio

These findings differed from the 2011 Survey where no clear factor was visible based upon plan status (open, closed or frozen), plan size, or funded status.

What is Your Present Commitment to LDI Relative to the Total Assets of your Pension?



Percent of plans reporting total LDI assets represent 51% or more of total assets more than doubled (20% vs. 9%) from 2011 Survey.

In general, larger plans reported a higher allocation to LDI assets.

Funded status was not a key indicator.

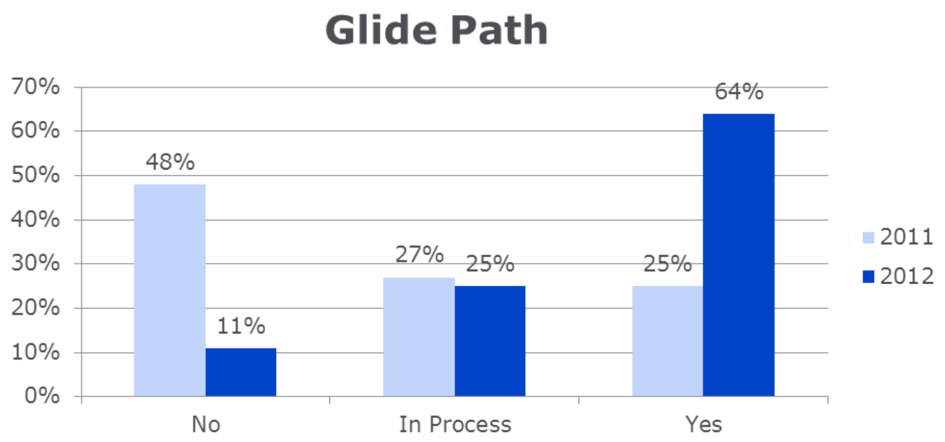
Glide Path Management

- **The survey highlights a significant increase in the use of hedging glide paths**

- **A glide path is a systematic de-risking strategy that increases allocations into hedging assets based upon predefined targets**
  - Frequent triggers are funded status, interest rates and/or time
  - When funded status improves, plans have more assets per dollar of liabilities and assets don't need to "work" as hard
  - Higher hedge ratios reduce expected volatility in funded status
  - Typical glide paths do decrease expected return as they decrease risk

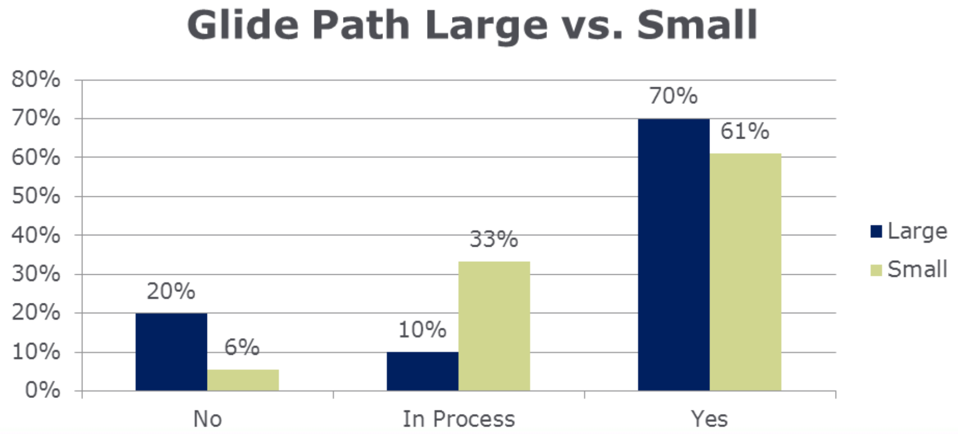
- **Glide paths should be plan-specific and they have unique governance requirements**
  - Change the definition of success from peer group performance comparisons to improvement in funded status
  - Establish structure to execute de-risking promptly and efficiently

Do You Have a Hedging “Glide Path" in Place?



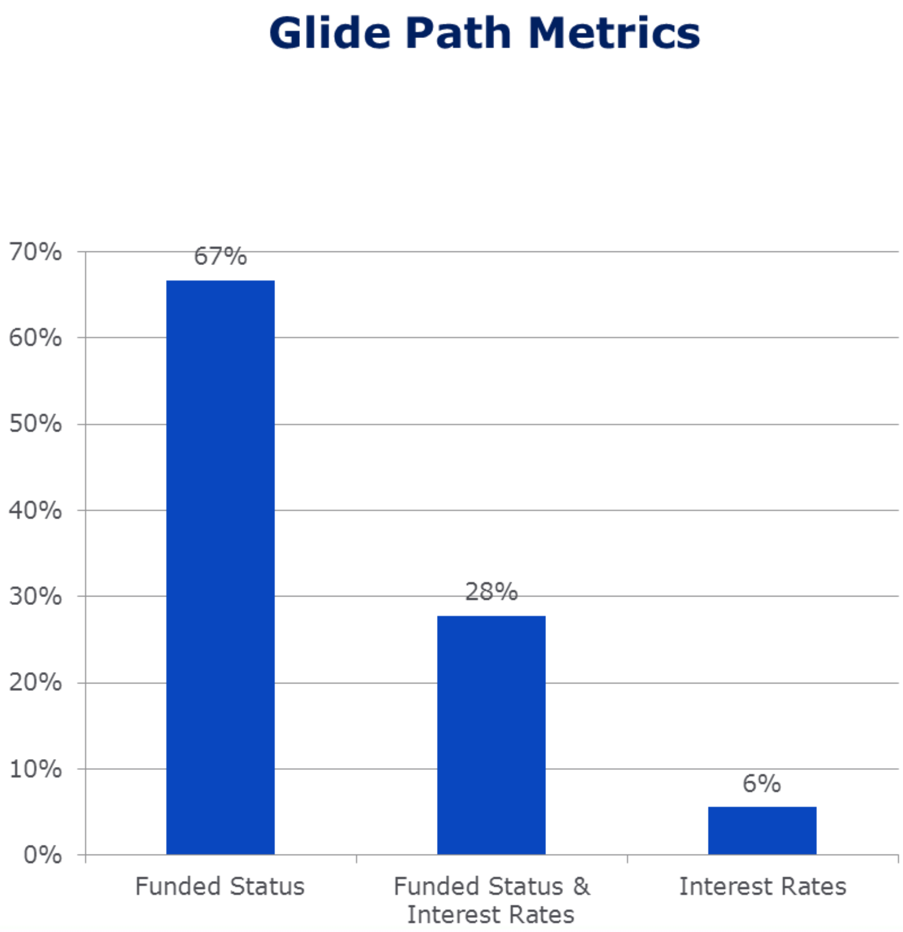
Significant growth in percentage of plans using a glide path.

This trend is consistent with our findings in the 2011 Survey.



While more large plans have currently adopted a glide path, small plans will likely surpass larger plans in the adoption of a glide path in 2013.

Metrics used to Monitor Glide Path?



73% of plan's utilize one factor to manage glide path (either funded status or interest rates).

Given the recent increase in funding levels and yields, how are plan sponsors reacting?

- **Glidepath milestones have been triggered causing additional assets to move into LDI strategies**
  - Investment managers with glidepath monitoring and traditional long bond mandates have never been busier

- **Plan sponsors with high hedge ratios (~70%) are staying put**

Hedging Portfolio

Actions for Corporate Pension Clients

- **Expect funded status improvement despite cautious market outlook**
  - Last 4 years: Funded status decline despite strong asset returns
  - Next 5-7 years: Low asset returns but funded status improvement

- **Examine your plan's hedge ratio and glidepath**
  - Funding relief, artificially low long-term interest rates, and an elevated threat of inflation argue for maintaining duration at low end of target range
  - Size the hedge appropriately as the damage from lower rates remains a concern

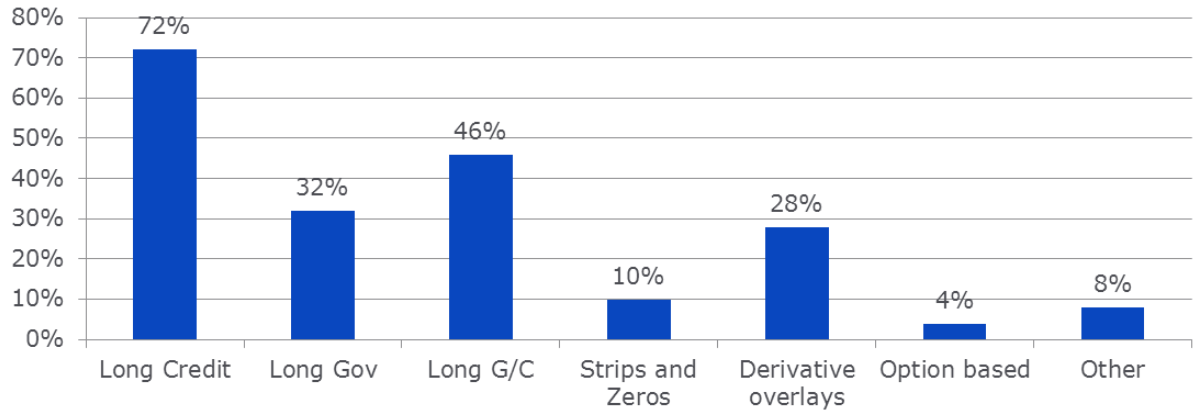
- **Continue to diversify risky assets due to global economic uncertainty**
  - Risk Parity and Global Asset Allocation provide a better risky asset core than the S&P 500
  - Revisit the split between domestic, international, and emerging market equity
  - Explore unique low-cost alternative beta strategies and single strategy hedge funds

- **Consider more frequent monitoring of interest rates and funded status for opportunities to pursue de-risking along a glidepath**
  - Disciplined rebalancing and timely implementation can add significant value
  - Ensure the proper governance and monitoring structure is in place to act quickly in response to volatile markets

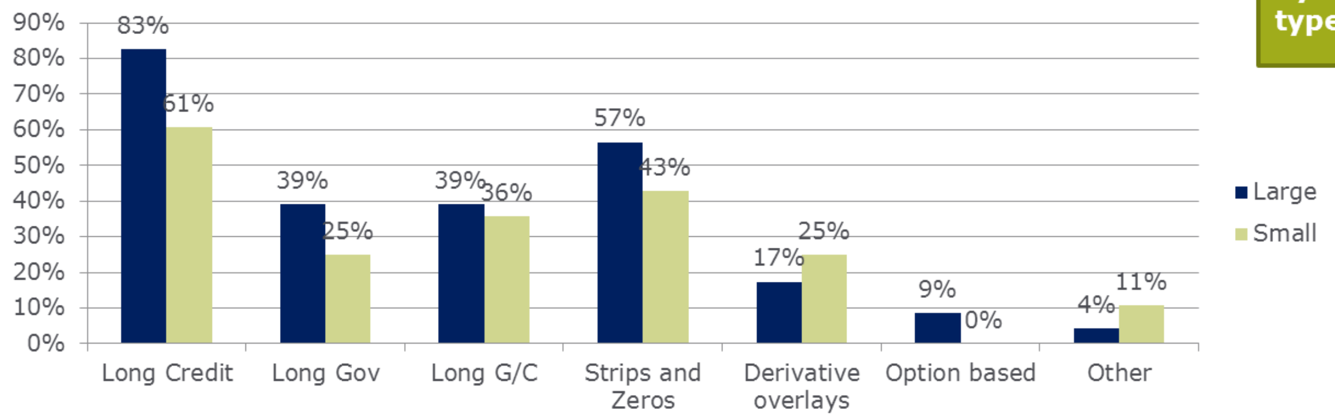
Strategies to Increase Portfolio Duration

- **Traditional long duration fixed income**
  - Long government, long credit, and combined products (duration 10 to 15 years)
- **Extended duration strategies**
  - STRIPS / zero coupon investments (duration 20 to 30 years)
- **Capital efficient strategies**
  - Primarily derivate-based, using futures and/or swaps (duration 30 to 45 years)
  - Can include products with dual beta sources (e.g., S&P 500 index and long bonds)
  - Commingled products available
- **Overlays and Structured Products**
  - Customized derivative based strategies (duration varies)
  - Can include options to protect downside, while participating in upside

NEPC 2012 LDI Survey: What instruments do you use as part of your LDI portfolio?



Although traditional long credit and Gov./Credit mandates are widely utilized derivatives remain an important tool utilized by all plan types.



Note: Respondents were able to select more than one response

Portfolio Comparison w/ Capital Efficient Strategy

	Traditional	Capital Efficient
Cash	**0%**	**-5%**
Total Global Equity	**45%**	**35%**
Long Govt/Credit	50%	0%
Long Credit	0%	25%
40 Year LDI Product	0%	5%
Total Fixed Income	**50%**	**30%**
Private Debt	0%	3%
Real Estate (Core)	5%	5%
Hedge Funds Mod Vol	0%	10%
Total Alternatives	**5%**	**18%**
GAA/Risk Parity	**0%**	**22%**
Asset Duration	***7.5***	***7.2***
Liability Duration	***12***	***12***
Interest Rate Hedge Ratio	***50%***	***48%***

Expected Return	***6.4%***	***7.1%***
Standard Dev of Asset Return	***11.3%***	***12.4%***
Standard Dev of Surplus Return	***12.6%***	***14.4%***
Sharpe Ratio	***0.49***	***0.51***

Futures and/or swaps to obtain long duration exposure

Allocate to more diversified return seeking assets

Improve return expectations and liability matching

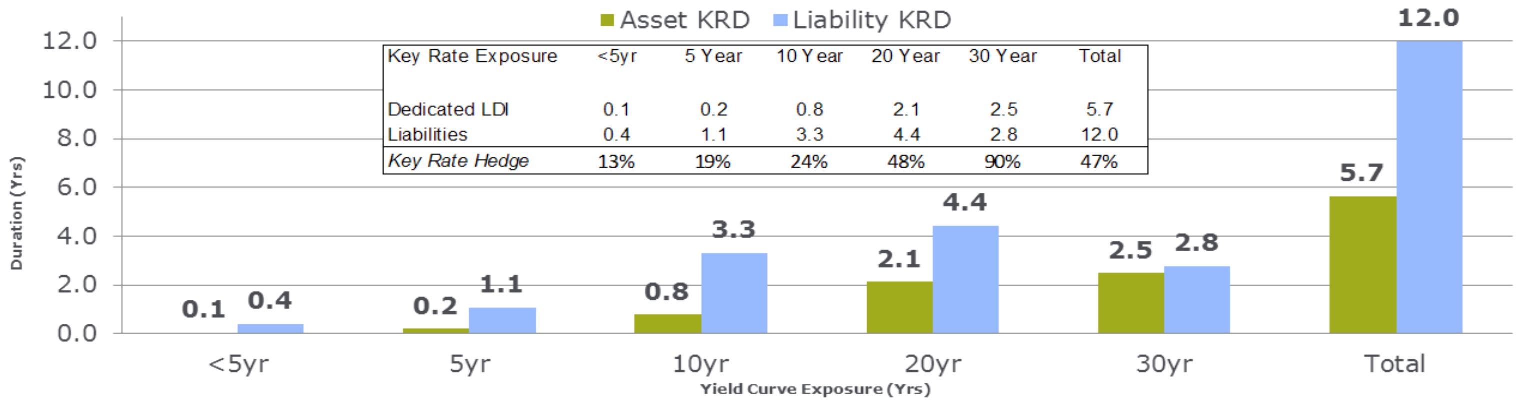
Capital efficient strategies

- **Benefits:**
  - Customize duration exposure to better match changes in liability obligations
    - **Also, derivative usage is easier and less expensive than holding physical bonds to adjust exposures**
      - **Better liquidity too**
  - Minimal capital requirement due to use of derivatives
  - Provide a hedge against changes in funded status while still maintaining return expectations

- **Risks:**
  - More complex strategy for Investment Committees to understand and develop a comfort level

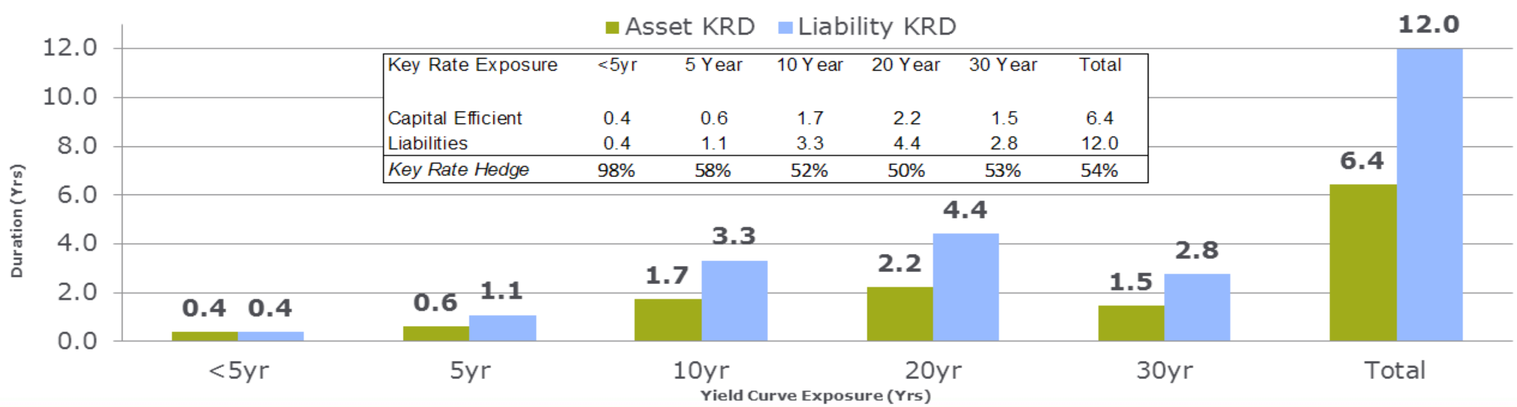
Asset Key Rate Exposure

Traditional Asset/Liability Key Rate Exposure



Key Rate Exposure	<5yr	5 Year	10 Year	20 Year	30 Year	Total
Dedicated LDI	0.1	0.2	0.8	2.1	2.5	5.7
Liabilities	0.4	1.1	3.3	4.4	2.8	12.0
Key Rate Hedge	13%	19%	24%	48%	90%	47%

Capital Efficient Asset/Liability Key Rate Exposure



Key Rate Exposure	<5yr	5 Year	10 Year	20 Year	30 Year	Total
Capital Efficient	0.4	0.6	1.7	2.2	1.5	6.4
Liabilities	0.4	1.1	3.3	4.4	2.8	12.0
Key Rate Hedge	98%	58%	52%	50%	53%	54%

Glidepaths Can be a Powerful Tool in Implementing Derisking Strategies

- **Each glidepath is customized to client needs and risk profile**

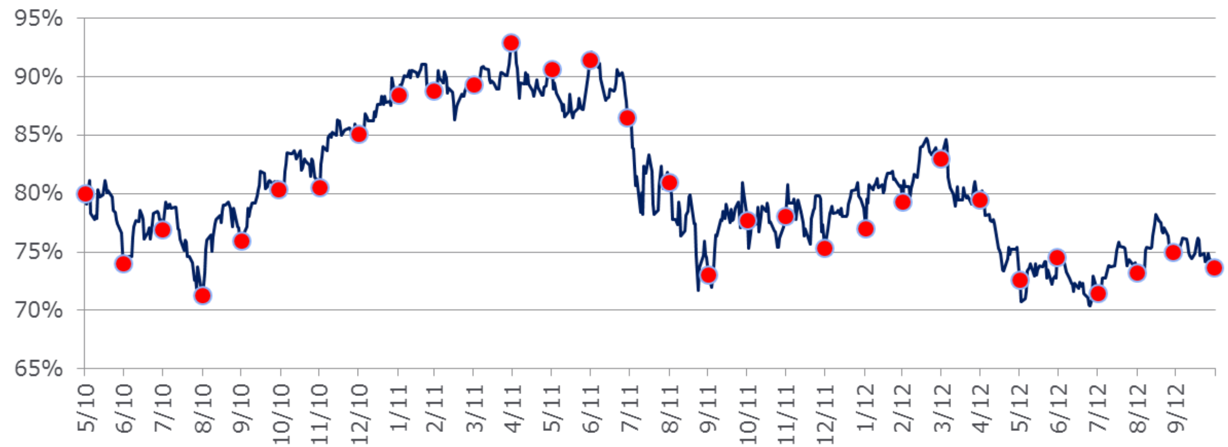
- **General characteristics of a glidepath include:**
  - Range of acceptable investments are identified
  - Trigger(s) to move down the glidepath are then decided upon – typically this will be funding status so the calculation of the monthly funding status is also discussed
  - A glidepath is developed which outlines the various asset allocation at select trigger points
    - **Many times this will include an immediate rebalancing away equities to diversifying asset classes, such as GAA and/or risk parity**
    - **The LDI product will be selected, but not necessarily funded – depending upon the plan's funding level and overall risk tolerance**
  - The glidepath is reviewed at least annual to ensure it continues to meet the plan's overall risk/return needs, as well as responding to the market conditions

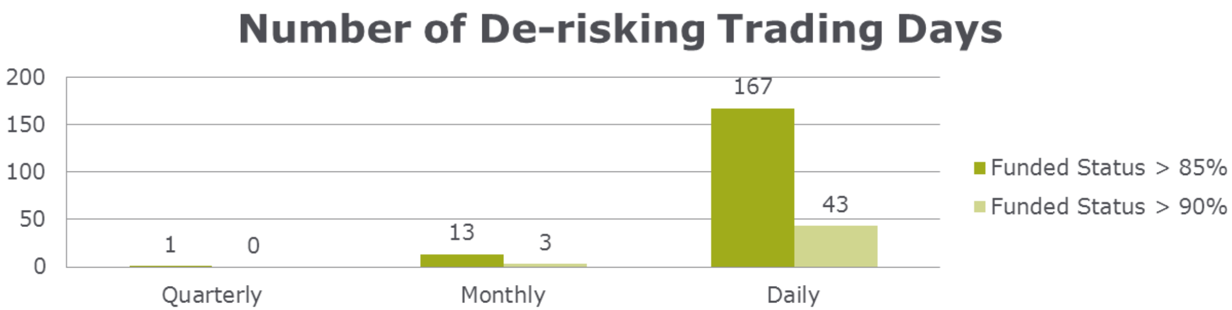
- **Benefits of the glidepath**
  - Provides a measured path to derisking the funding status volatility of the portfolio
  - Moves focus to funding status and not just asset returns in reporting
  - Can be quickly modified to address changes in the plan structure or the corporate goals for the plan (e.g. large contribution, lump sum distributions, etc.)

Daily Monitoring of Glide Path

- **A glide path that is never triggered is essentially a buy and hold strategy**
  - Plans with a glide path in place have not de-risked until assets shift into hedging assets
- **Daily monitoring will improve probability of triggering a de-risking event**
  - Daily monitoring is not market timing or day trading
  - Translates market volatility into effective “buy low, sell high” framework
  - Transaction costs can be mitigated by allowing wider ranges and not re-risking
- **Liability calculations are estimates based upon multiple actuarial assumptions and can’t be perfectly hedged**
  - Credit downgrades, credit defaults, demographics, actuarial smoothing, legislative changes, etc.

Estimated Funded Status Volatility





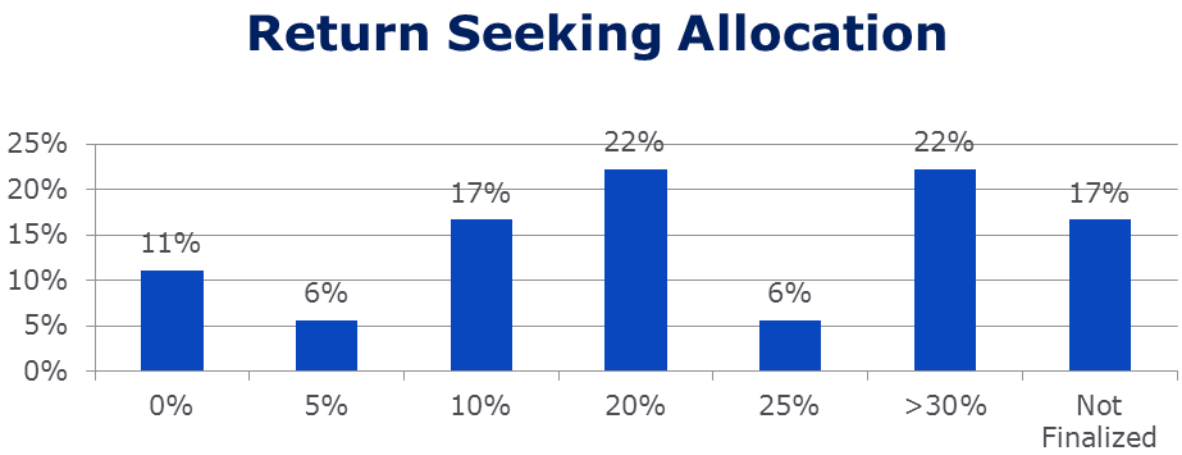
Source: BNY Mellon Asset Management, Standard & Poor's, NEPC, LLC

Return-Seeking Portfolio

General Actions for Clients

- **Focus on strategic allocations in a time with few tactical opportunities**
  - Confirm your policy objectives and investment goals
  - Avoid stretching for higher returns through increased risk
  - Be prepared to act if opportunities do present themselves
- **Position for a continuation of macro-driven themes**
  - Examine existing managers' capabilities
    - **Add to global asset allocation and top-down active strategies**
  - Use flexible active managers to implement allocations to policy-driven markets
    - **Non-US equities have attractive valuations, but return premium reflects downside risk**
    - **Credit markets have recovered but liquidity has fallen, making market dynamics less stable**
- **Use Risk Parity as a stable foundation of a diversified program**
  - Reconsider what constitutes a "core" investment in this environment
    - **No longer just stocks and bonds**
  - Risk Parity can be used as a liquid placeholder while tactical opportunities are limited
- **Continue building allocations in emerging markets and real assets**
  - Developing countries consistently demonstrate superior fundamentals to G7 markets
  - Most investors remain vulnerable to higher inflation, with limited real assets exposure
- **Allocate to less liquid strategies with patience**
  - Distressed assets thesis is compelling but current opportunities are limited
  - Strategies providing capital to markets that have traditionally relied on banks are appealing with high income and relatively shorter time horizons
  - Significant system stress remains in real estate market but conditions have improved

NEPC LDI 2012 survey: What is the final return seeking allocation?



50% of plans reported a final return seeking allocation of 20% or more.

General Thoughts

- **Focus on strategic allocations in a time with few tactical opportunities**
  - Confirm your policy objectives and investment goals
  - Avoid stretching for higher returns through increased risk
  - Be prepared to act if opportunities do present themselves

- **Position for a continuation of macro-driven themes**
  - Examine existing managers' capabilities
    - **Add to global asset allocation and top-down active strategies**
  - Use flexible active managers to implement allocations to policy-driven markets
    - **Non-US equities have attractive valuations, but return premium reflects downside risk**
    - **Credit markets have recovered but liquidity has fallen, making market dynamics less stable**

- **Use Risk Parity as a stable foundation of a diversified program**
  - Reconsider what constitutes a "core" investment in this environment
    - **No longer just stocks and bonds**
  - Risk Parity can be used as a liquid placeholder while tactical opportunities are limited

- **Continue building allocations in emerging markets and real assets**

Global Asset Allocation

What is GAA?

- A method of tactical portfolio management with exposure to a diverse set of asset classes, e.g., foreign and domestic stocks and bonds, real assets, currencies, commodities
- Allocations are typically around a neutral benchmark, i.e., 60% global stocks/40% global bonds or based on achieving an absolute/real return target, i.e., CPI + 5%
- Tactical asset class weightings can add value above static, strategic allocations by taking advantage of mispricings and exploiting relationships among global markets
- Most strategies have strong liquidity terms and reasonable fee structures
- Risk parity is also an option

Why GAA?

- **GAA strategies are broadly diversified**
  - Multiple, timely asset class decisions rather than one big decision
  - Ability to underweight risky asset classes when risk premia are unattractive

- **Manager skill can add value through asset class rotation and security selection**
  - Better, more timely exploitation of market opportunities
  - An efficient way to diversify the portfolio with fewer managers
  - Diverse alpha sources

- **Strategies combine top-down asset class selection, portfolio construction & risk management techniques**

- **Tactical asset class weightings can add value above static, strategic allocations by taking advantage of mispricings and exploiting relationships within the global markets**

Hedge Fund Replication

What is Hedge Fund Replication?

- **An attempt to deliver the proposed benefits of hedge funds,**
  - Attractive returns
  - Low volatility
  - Low correlation with traditional investments

- **Without the drawbacks? Products typically have:**
  - Low fees (~1%-2%)
  - Monthly or daily liquidity
  - Full transparency

- **In return for these benefits, alpha is largely sacrificed, as illiquidity and complexity premia are generally not captured**

- **Managers typically attempt to replicate the returns of a broad-based index, such as the HFR Fund Weighted Composite**
  - Products available on a more granular level
    - **Long/short equity, managed futures, event-driven, merger arb, etc.**

Potential Implementation of Hedge Fund Replication

- **Benchmarking**
  - Can be used as hedge fund benchmarks, in lieu of traditional hedge fund benchmarks that are typically not investable
- **Temporary allocation to immediately gain access to the hedge fund "asset class"**
  - Position would be reduced or eliminated over time as attractive hedge fund managers are identified
  - Could also do inverse and create customized short allocation to immediately reduce hedge fund exposure
- **"Core" portion of "core/satellite" hedge fund program**
  - Could be entire core or liquidity buffer portion of core exposure along side fund of funds
  - Re-think how satellite exposure might change
    - **Higher allocation to more illiquid strategies (i.e. distressed)**
- **Entire hedge fund exposure**
- **A better way to think about risk and sources of return**

Conclusion

- **These are challenging times due to increased market volatility, but many positives remain**
  - US equities have posted strong gains through September
  - Interest rates remain low relative to historic levels and stimulation remains in place for now
  - The US economy is slowly recovering and the fiscal deficit has been declining

- **Plan sponsors should not become complacent**
  - Plenty of opportunity to improve hedging techniques
  - Smarter or better beta exposure can be had