Investing for the Long Term in an Era of Volatility

Liabilities that stem from long term Guarantees

| Discount rate | (It is the Economy) |
|--------------------------|---------------------------|
| Rate of Return of Assets | (It is the Discount Rate) |

Events

- 1. HIG announced the completion of the sales of three businesses (most notably Retirement Plans and Individual Life).
- 2. Aviva is undergoing a major restructuring which last year saw £275million of annual cost savings and a £1.1billion deal to exit US life and pensions.
- In fact, the whole US insurance industry runs an incredibly conservative balance sheet with the overwhelming majority of assets held in "low risk" fixed income securities at considerable cost in the long run to the industry and its clients

| Partial Solution |
|--|
| Stop selling Retirement plans (especially with periodic payments) |
| Just sell Wealth Accumulation , then at retirement sell annuities. |

Benefits:

☐ No biometric Risk at least for the time being
☐ No guarantee return for 60 or so years, just for less than 30 years

Wealth Accumulation annuity

Investing

Inflation
 Navigating volatile markets with a focus on the long term
 Emerging Markets
 Investing in Infrastructure
 ETFs

Inflation

- $\hfill \Box$ Managing inflation in portfolios is more important than ever
- ☐ Inflation drivers have changed
- lacktriangledown Reducing inflation liabilities enables better risk budgeting

PRE-CRISIS, INFLATION MANAGEMENT WAS EASY



Inflation Drivers have changed

☐ Green energy costs

Political instability

□ Climate change

■ Weather extremes

☐ Government imposed inflation

Possible Solutions

☐ Global Internal Index Bond Markets

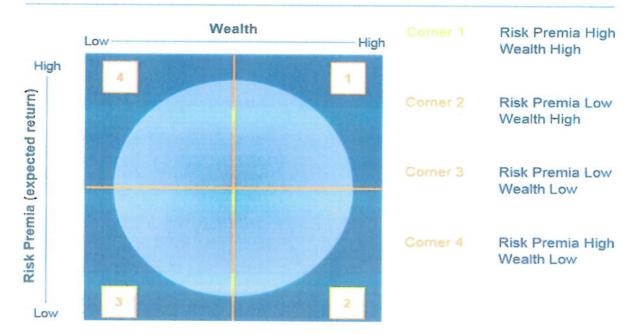
☐ Real Estate Inflation Related Assets

☐ Alternatives Sectors new sources: Infrastructure projects

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Risk preferences

Exploring the corners



Corners 2 and 3 when risk premia are low Risk appetite 'should' be low irrespective of wealth But Watch out for behavioral biases Impact of regulation/accounting on economic decisions

- Discount rates

Corner 1 when risk premia and wealth are high

- ☐ An opportunity to de-risk or to earn further wealth?
- ☐ Factors to consider
 - Size of the fund in relation to the sponsoring organisation
 - Financial health and risk preferences of the sponsor
 - Maturity of the fund
 - The potential to flex contribution rates
 - The age of the investor

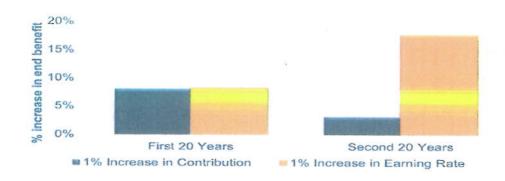
Corner 4 risk premia are high and wealth is low

- ☐ Regulatory/accounting environment
 - -Insurance/solvency rules
 - -Portfolio insurance/put option
 - -implied costs
 - -The case of the Chubb and St Paul Insurance companies

Interestingly, on both occasions the UK regulator took a pragmatic decision to relax the rules thereby helping the UK insurance industry avoid becoming a forced seller. You could argue that was a big gamble on the part of the regulator. However, so far it has paid off.

Path dependency - The money weighted problem

Impact of contributions and investment returns as members age



40 Year Savings Outcomes

Impact of contributions and investment returns as members age



When there isn't a risk free asset!

| Many ways to default: | Re-thinking | the | role | of |
|-------------------------|---|------|-------|-------|
| -Can't pay, won't pay | government bo | onds | | |
| -Negotiated debt relief | –Financial repression | | | |
| (Greece PSI) | Government | bono | ls | carry |
| -Negative real interest | considerable | | dur | ation |
| rates | (valuation) or both | cred | t ris | k or |

Example: 65 year old male with 60 year old spouse, both in reasonable health, £250,000 pension savings ☐ The annuity option: ☐ The equity income fund option: -5 years guaranteed -3.2% annual increment minimum (FT Allshare -3% annual increment dividends last 20 years) -50% spouses pension -100% spouses pension -Zero "terminal" value -100% residual value ☐ 3.5% annuity ☐ 4.5% yield (IMA)

-£11,250 income

-£8,750 income

Emerging Markets

| Emerging markets are the subject of an ongoing binary debate between |
|--|
| advocates and detractors |
| ☐ Global macroeconomic fundamentals still strongly favor emerging economies |
| However, the key country-specific challenges must be analyzed |
| to distinguish macroeconomic and market factors that drive credit, currency, and local bond returns |
| ☐ Key global themes—energy, policy activism, and the tension between inflation and growth—will create winners and losers within the Emerging Market universe |

Diversification in Yield Using Emerging Market Corporate Debt

However, the fact that fixed-income market can remain healthy at the same time its associated currency is weakening, or vice versa, reminds us of a basic principle in investment, which holds that a bond and its associated currency are two separate investments that do not necessarily move together.

In reality, they are driven by different fundamental factors.

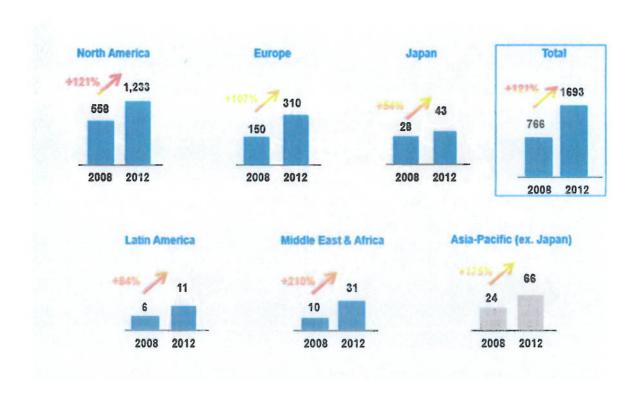
The bond markets reflect local monetary policy, inflation expectations, credit spreads and local real yields, while currency movements are determined by cross-border differences in price levels, the quality of traded goods and expected return on assets.

Distressed Debt and High Yield Opportunities

Opportunities still abound:

They include lending to energy producers making private loans to the middle market, buying whole loans from banks and investing in some asset-backed securities. There is still some opportunity in senior loans, primarily because spreads over Libor are still good and most now have a Libor floor giving some insulation if rates rise.

Practical Applications of Exchange Traded Funds



| Application | Objective | Potential ETP Solution |
|--|--|---|
| Cash Equitization | Remain fully invested while maintaining liquidity | ETPs are an attractive alternative solution to futures due to their transparency, lack of documentation and roll slippage |
| Tactical Adjustments | Over or underweight certain market segments based on short term outlook | ETPs represent virtually every asset class and offer efficient vehicles for implementing a tactical idea |
| Transitions | Maintain market exposure while searching for a new manager | Invest the proceeds of a manager liquidation in an ETP which tracks the appropriate benchmark until new manager has been selected |
| Rebalancing | Increase the speed and efficiency of rebalancing across the asset allocation | ETPs can make rebalancing more efficient due to their intraday liquidity than moving assets from illiquid managers |
| Asset Class Exposure | Establish exposure to a difficult to reach market segment | There are a variety of ETPs which provide exposure to difficult to reach asset classes |
| Liquidity Management | Increase liquidity in overall asset allocation without changing allocation | Use ETPs for a given percentage of each asset class to provide a liquidity buffer across the asset allocation |
| Portfolio Completion | Fill any asset allocation holes without engaging a new investment manager | Use an ETP to gain exposure to an asset class that is underrepresented in the asset allocation |
| Fixed Income Duration and Credit Adjustments | Tweak duration and credit exposure to meet specified targets | Fixed Income ETPs provide an efficient means to adjust duration and credit exposure |
| Small Institutional Plans | Implement desired asset allocation regardless of plan size | Implement an asset allocation efficiently using ETPs. Advantages include no minimum fees and simplified rebalancing. |

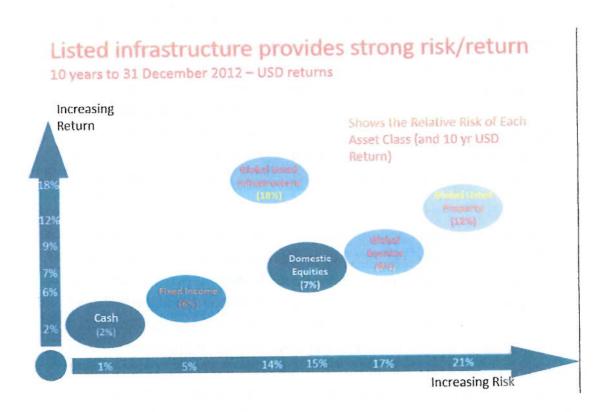
ETP liquidity is primarily driven by the liquidity of the underlying securities

| | ETP Provider | | | | | | |
|---|------------------------|---------|--|--|--|--|--|
| Underlying Securities (In-kind transfer) ETP Shares | | | | | | | |
| Primary Market | Authorized Participant | | | | | | |
| Secondary Market | | | | | | | |
| | ETP Shares | | | | | | |
| Buyers | Stock Exchange | Sellers | | | | | |

Investing in Infrastructure

Why Infrastructure

- ☐ Higher equity like returns with lower volatility
- ☐ Investment options in Inflation hedge protection
- Less correlated with GDP than general equities
- ☐ Enhanced diversification of the larger investment portfolio enabled
- ☐ Risk Return profile consistent with Core Property, providing a greater number of options for that capital allocated to defensive investment strategy plays.



- 6. At the end of September 2012, the combined U.S. pension system had 24.9 percent of assets in public equity, 12.7 percent in private equity, 22.3 percent in traditional fixed income, 10.3 percent in inflation-linked bonds, 8.4 percent in commodities, 4.5 percent in real estate, 7.2 percent in absolute-return strategies, 8 percent in risk parity allocation and the balance in cash.
- 7. To build some wiggle room into the austere Dutch discount rate, regulators in October 2012 adopted a new benchmark, called the ultimate forward rate. It makes a small upward adjustment in the rate after 20 years to reflect the fact that the swap market, which provides , the basis for calculating the discount rate, isn't very liquid at longer maturities.
- 8. In 2006 the Pension Protection Act (PPA) required that private companies use corporate bond rates as the discount rate to determine funded rations and contribution rates. In 2012, after the 2008 financial crisis had dealt a harsh blow to most pension plans, Congress took action to ease the funding squeeze, tucking it into a highway bill known as MAP-21. Now corporations can use a 25-year interest rate average to determine their minimum funding requirements.
- 9. The California Public Employees' Retirement System, recently reported returns of 7,67% a year, on average, over the ten years through September 30,2012 and 7,77% over 20 years. Both rates exceed CALERS's actuarial return assumption of 7,5%. Similarly it was found that median returns for the ten years ended September 30, 2012, where 8,23% for Corporate Pension Funds and 7,61% for Public Funds.Public Funds with assets greater than \$1 billion had median ten-year returns of 8,31%.

Solvency II- Long Term Guarantees

Solvency II was meant to introduce market valuation as a foundation for insurance regulation, and was vigorously supported by the industry in the boom.

It is now evident that asset prices go through phases of overconfidence as well as extreme risk avoidance.

To the extent that this results in temporary volatility, market-consistent valuation induces excessive volatility in solvency ratios for insurers with matched long-term liabilities. Solvency II should introduce measures recognizing the possibility of temporary adjustments in required solvency ratios, to facilitate carrying matched long-term promises.

The majority of the investments is a result of offering products with long-term guarantees such as annuities and endowments, which pay substantially fixed amounts over a defined period of time in the future.

Because of the stable and defined nature of these liabilities insurers can invest in assets that have long maturity dates with fixed interest payments to meet these obligations (primarily bonds issued by corporations and governments and other forms of debt).

In reality this asset-liability matching is done across large portfolios. The key to understanding the problem which has been created by market consistency is understanding how these long-term liabilities are valued.

Broadly speaking there are three measure for discounting liabilities currently under discussion in the Omnibus II trilogue. Matching Adjustment (previously Matching Premium) — reduces the amount of capital that needs to be held for long-term liabilities that are 'matched' by a portfolio of assets with similar duration and cash flows. This is to be a permanent measure that can only be applied to specific assets and liabilities that meet a strict set of criteria.

Counter-Cyclical Premium (CCP) – reduces the discount rate used to value liabilities in times of excessive market volatility. This temporary measure will apply to all liabilities in the portfolio (other than those benefiting from a Matching Premium). It is proposed that the CCP will be introduced by EIOPA.

Extrapolation – an extrapolation of the risk-free interest rate where market data is no longer considered deep, liquid and transparent. This is a permanent measure.