



Institute of Actuaries of Australia

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Innovation in Financial Markets

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Alternative Assets

**Liquid, Efficient Access and
use in Portfolio Construction**

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Discussion Outline

- Introduction to Alternatives
 - Benefits & Barriers
- Beta Access to Alternative Risk Premia
 - Liquid, Transparent, Inexpensive, Less Complex
- Alternative Beta – Some Examples
 - Equity, Commodity, Currency, Insurance-Linked



Portfolio Construction

Why use risk premia other than equity and FI?

- Return and volatility benefits
 - Higher Sharpe Ratio
 - Early mover advantage
- Diversification benefits
 - Low correlation
 - Improve portfolio performance



Return, Volatility & Correlation Benefits

Hedge Funds* 94-06

- Similar return to equity
- Much lower volatility

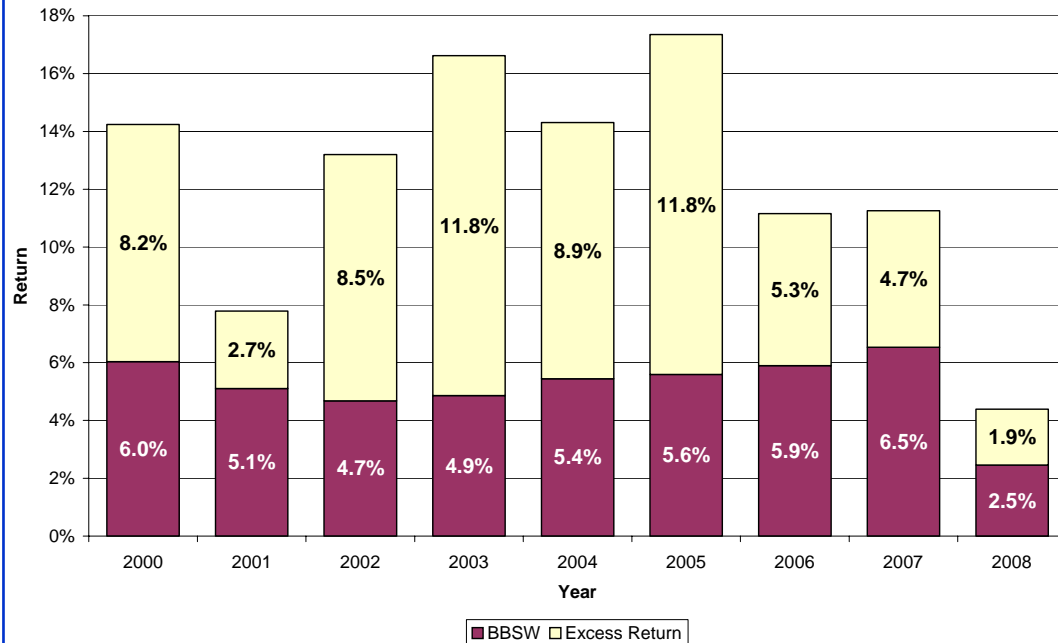
Currency* 80-06

- Similar return to equity
- Similar volatility
- 5% correlation

* Source: An Introduction to Alternative Assets & Structured Investments, DB, July 2007

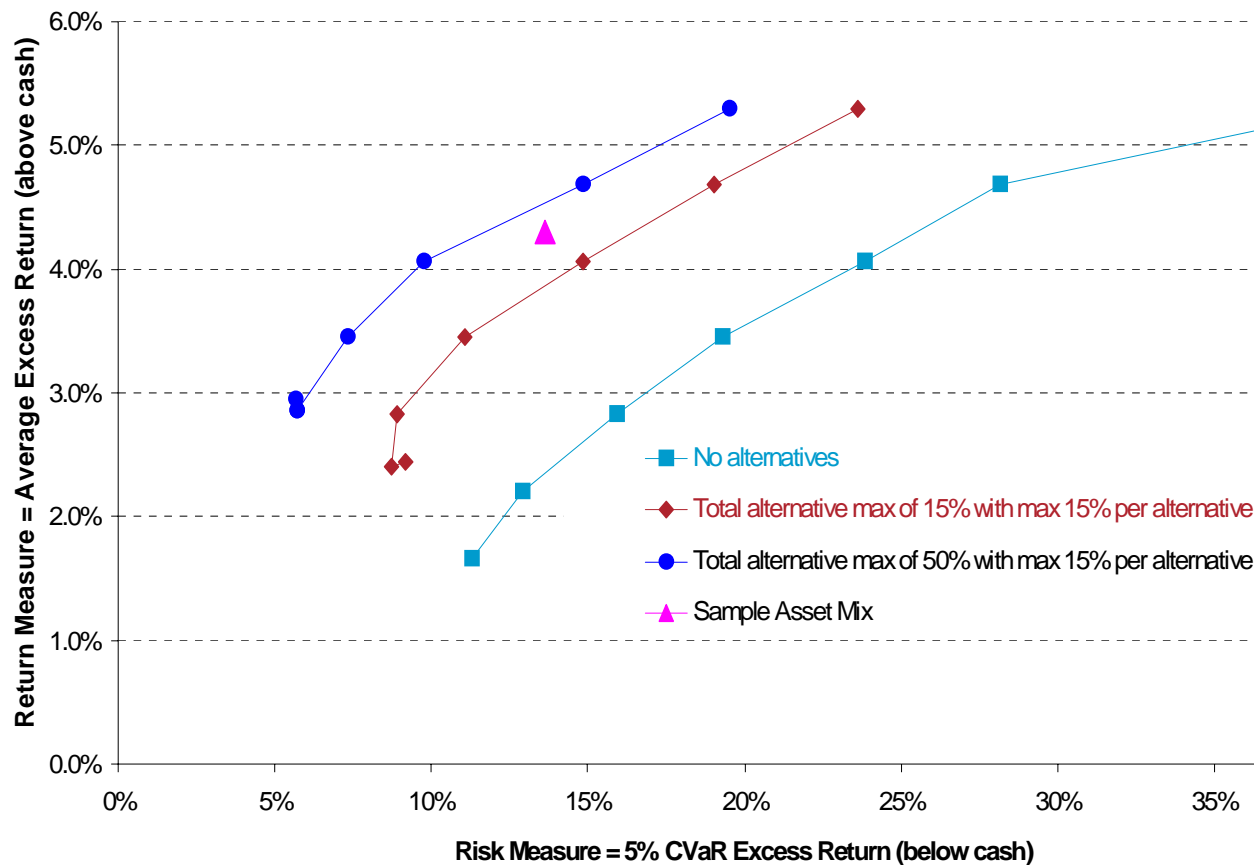
Basket of Alternatives 99-08

- Sharpe ratio of 2.4





Efficient Frontier Analysis



Sample Asset Mix

Government Bonds	2
Investment Grade Credit	8
International Equities	10
Domestic Equities	20
Real Estate	10
Emerging Markets	7.5
Commodities	5
Hedge Funds	7.5
Private Equity	5
Infrastructure	5
Currency	10
Long-Short Equity	10



Alternative Asset Classes

Hedge Funds

Private Equity

Commodities

Currency

Infrastructure

Property

Emerging Markets

Insurance-Linked



Alternative Assets: Pros and Cons

Pros	Cons
Higher Risk-Adjusted Returns	Low Liquidity
Low Volatility and Correlation	Lack of Transparency
Improved Portfolio Efficiency	Expensive
	Complex

- Consider risk premia instead of asset class
- Use beta access



Beta Access to Alternative Risk Premia

- Don't pay Alpha prices for Beta in disguise
 - Need appropriate benchmark
 - Understand risk premia
- Beta: Inexpensive, Transparent, More Liquid, Less Complex
 - Cheap market or benchmark exposure
 - Easily replicated
- Portable beta
 - Actively allocating across risk premia...
 - Using modern portfolio construction...
 - To generate scalable and sustainable real-returns...
 - At the lowest possible cost and market impact.



Alternative Beta - where to start?

- Breaking down Betas into their parts
 - **Equity:** momentum, small cap, value, behavioural, volatility, correlation/dispersion
 - **Commodity:** spot, roll, convenience
 - **Currency:** value, momentum, carry
 - **Insurance:** catastrophe, weather, extreme mortality, longevity



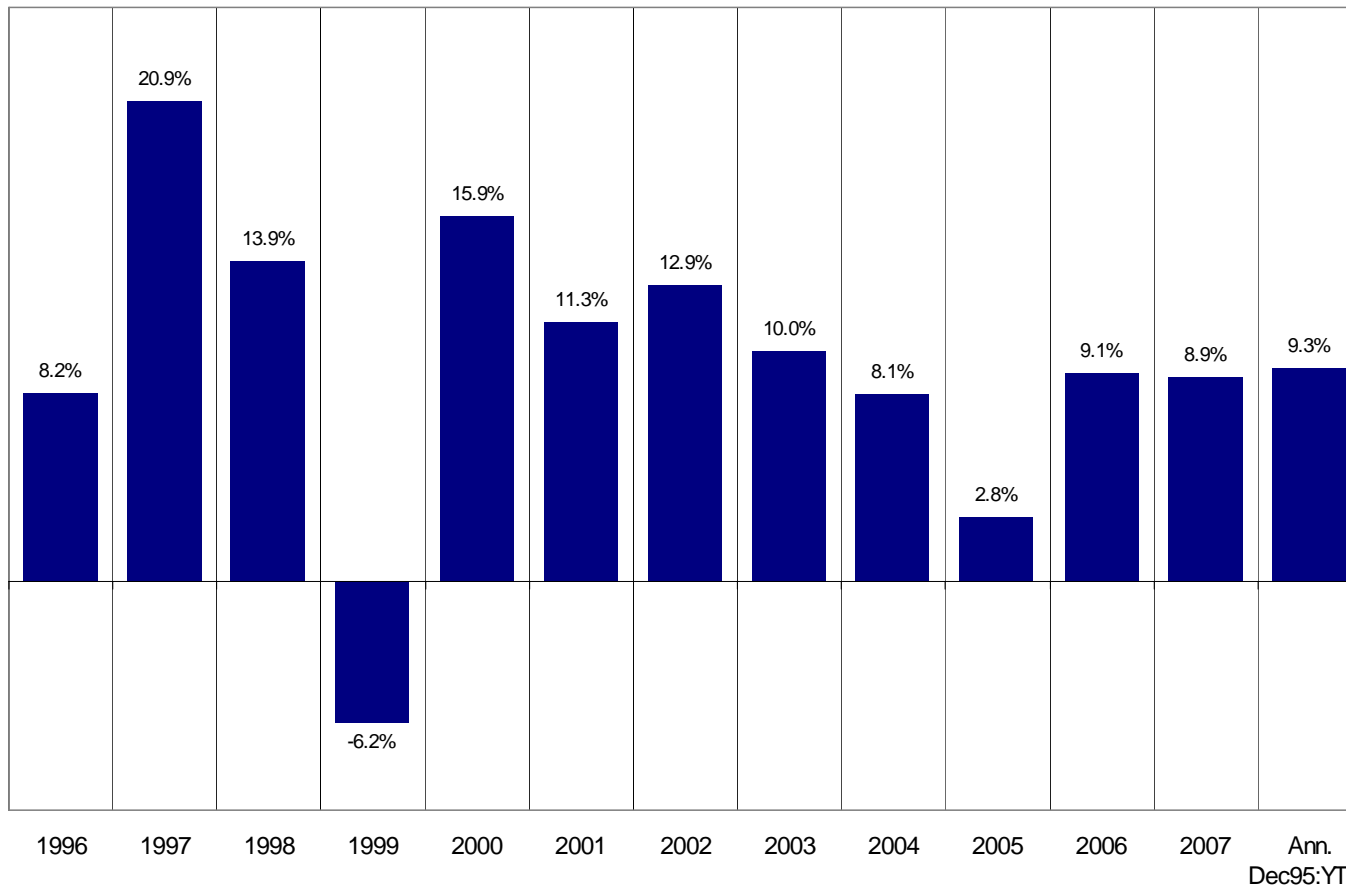
Equity Beta

- Momentum
- Small cap
- Value
- Behavioural
- Volatility
- Correlation/dispersion



Equities: Value Beta

70 long and 70 short global stocks



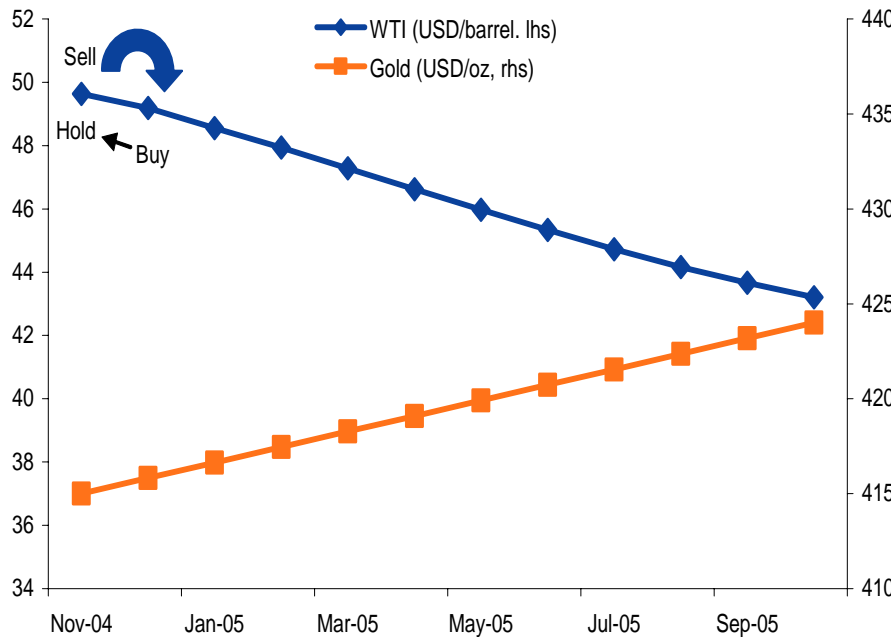


Commodity Beta

- Spot
- Roll
- Convenience



Commodities: Roll Beta

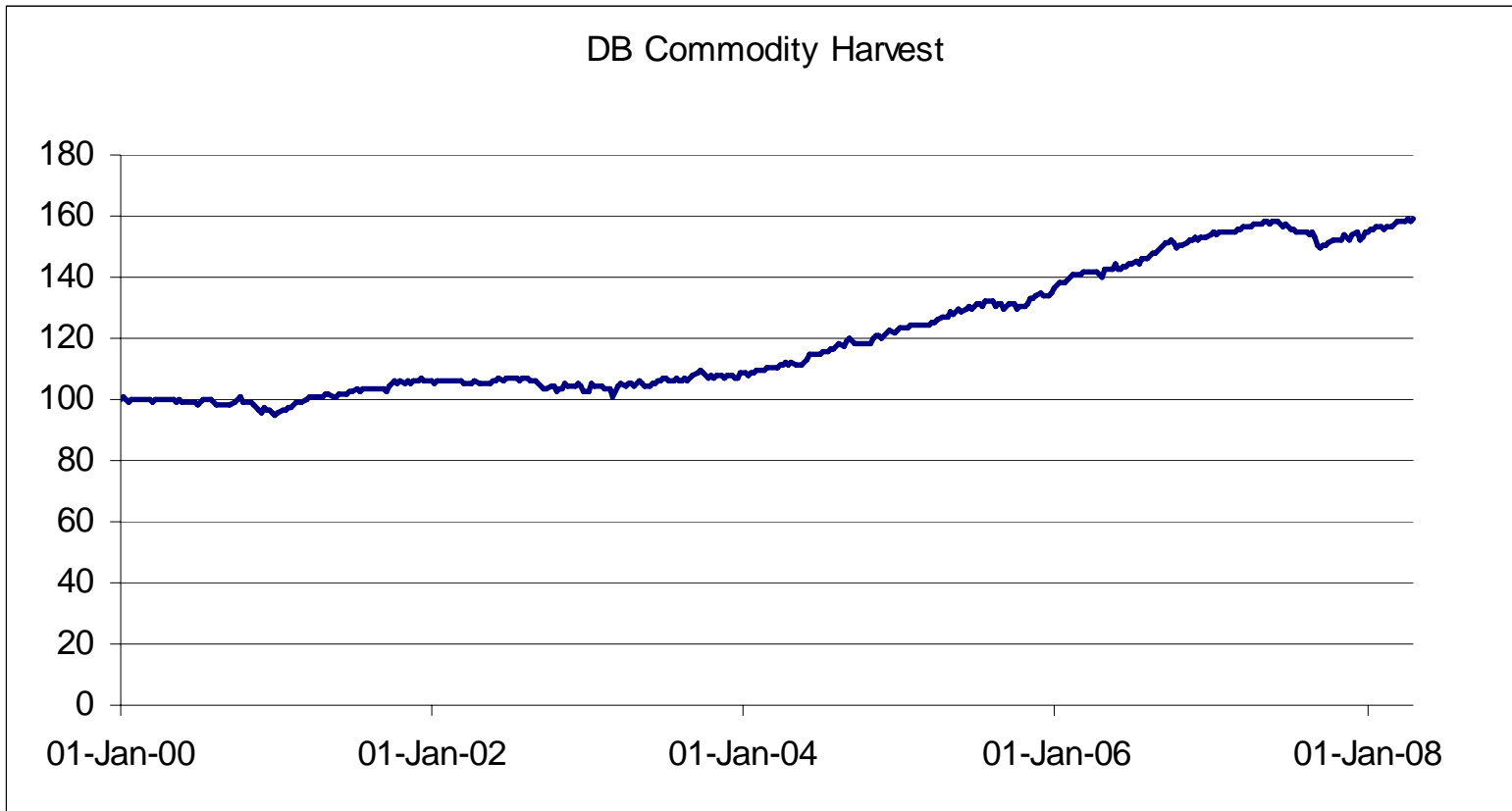


The roll return is positive when the term structure is backwardated, or downward sloping.

The roll return is negative in a contangoed market.



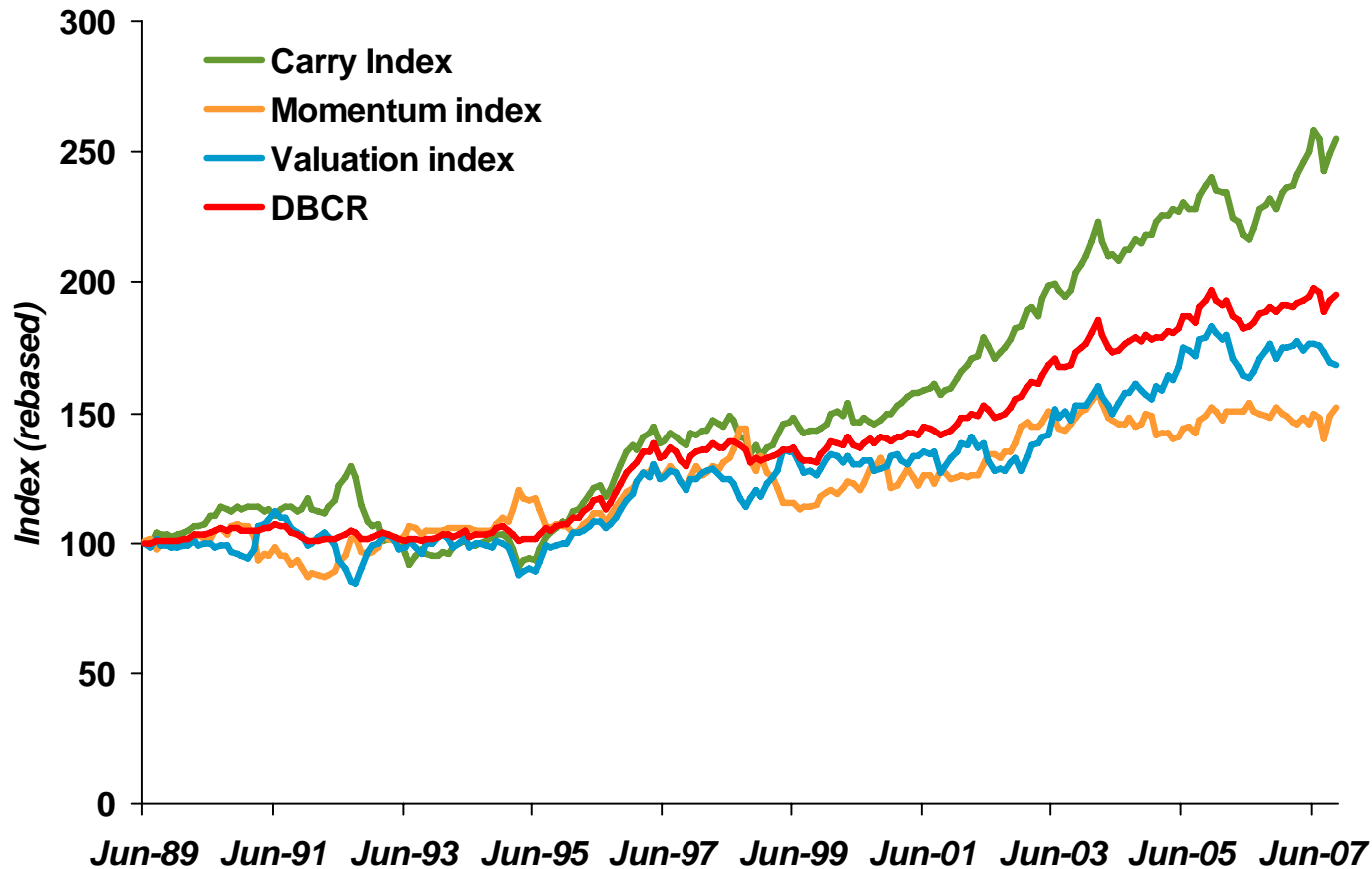
Commodities: Roll Beta



Source: Bloomberg



Currency Beta: Carry, Momentum, Value



Source: Bloomberg

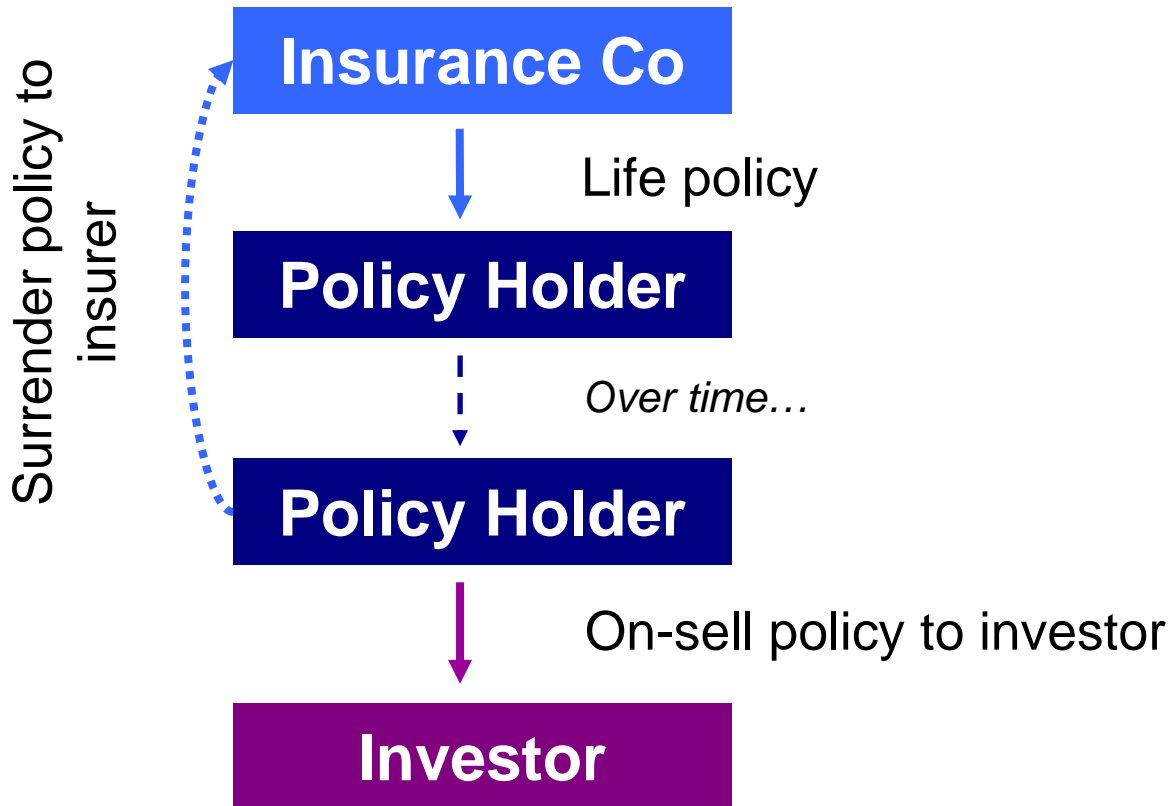


Insurance Linked Investments

- Catastrophe
- Weather
- Extreme mortality
- Longevity



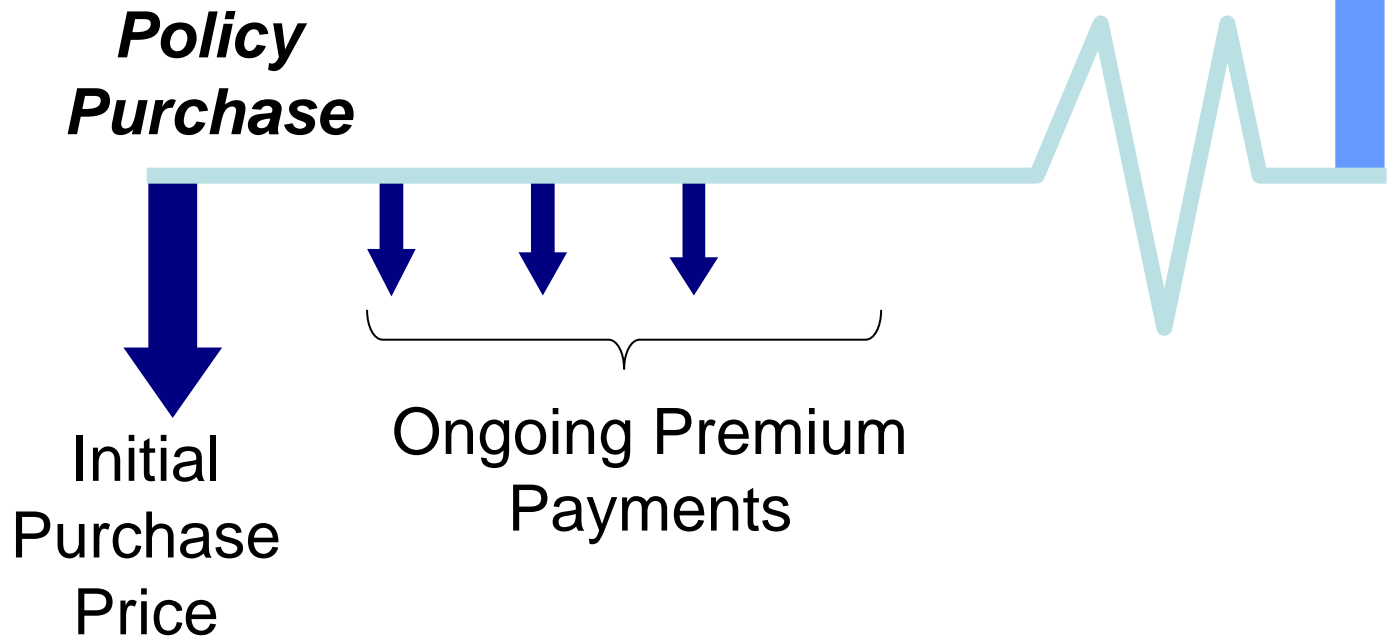
Longevity Beta





Longevity Beta

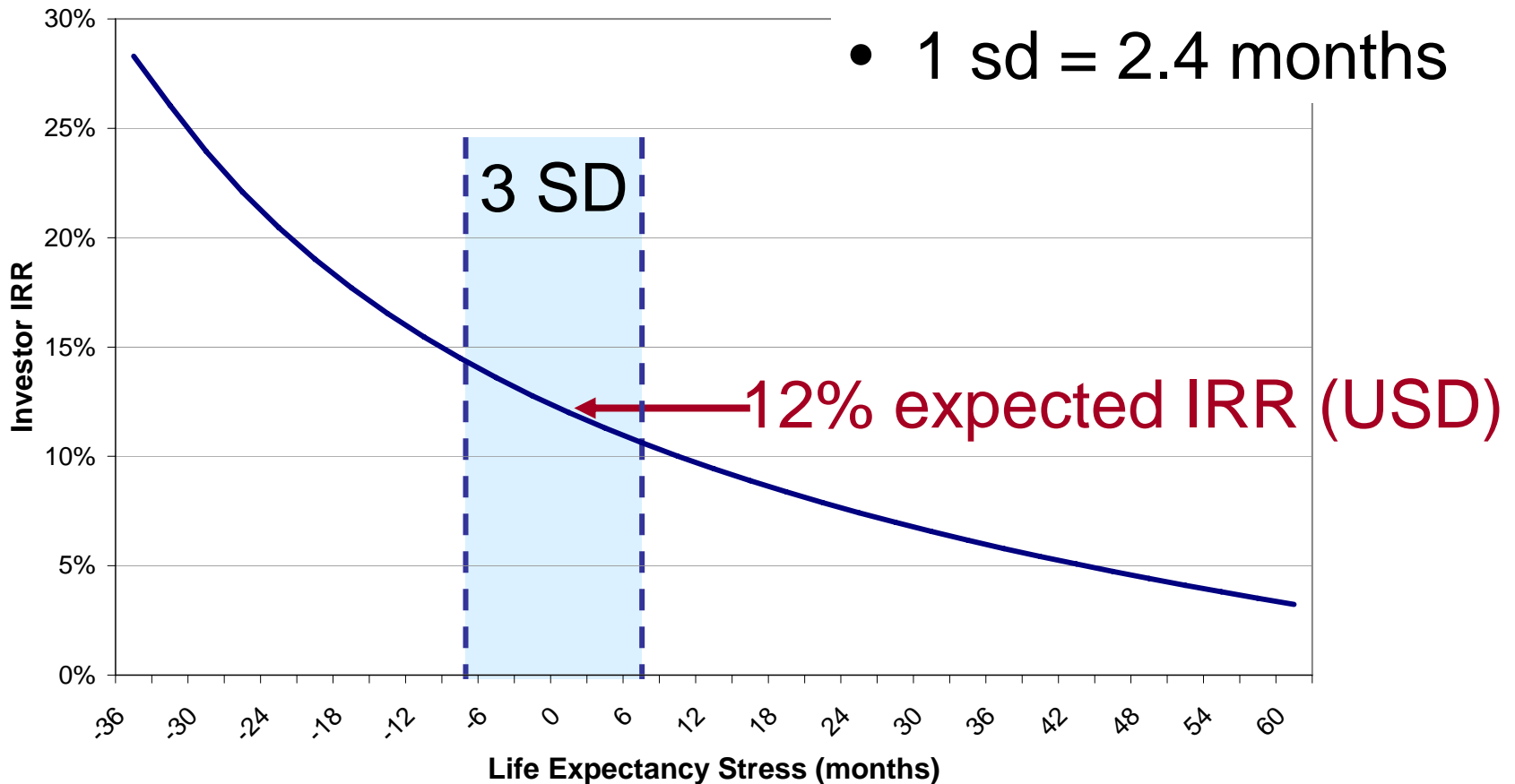
Death benefit received upon death of the individual insured





Longevity Beta

- 500 individuals
- 96 month LE
- 1 sd = 2.4 months





Summary

- **Alternative assets**
 - Return, volatility, diversification benefits
- **Beta risk premia**
 - Low cost, transparent, more liquid, less complex
- **Alpha / Beta separation**
 - Need appropriate benchmarks
 - Don't pay Alpha prices for Beta in disguise



Questions

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