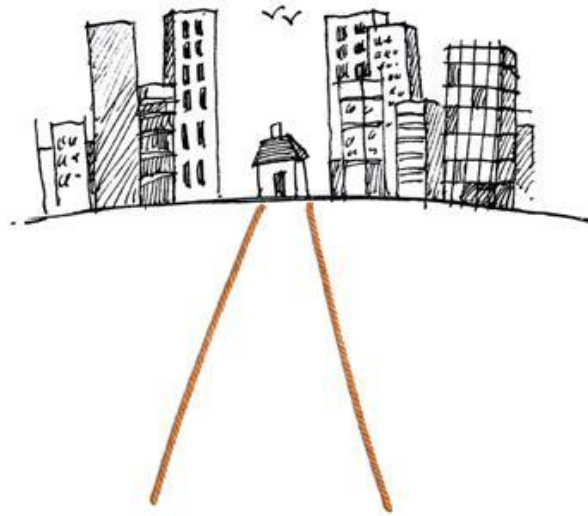




# **The Case for Private Equity as part of a Diversified Pension Fund Portfolio**



*Straight advice from an  
independent perspective.*

By Malcolm Fair

September 2011

# RisCura Solutions Introduction

- Africa's premier independent financial analytics provider and investment consultant
- Servicing 7 of Africa's 10 largest pension funds that represent more than USD150 billion AUM and money managers with over USD 5 billion in hedge fund AUM and PE committed capital.



- London
- Cape Town, Johannesburg
- Windhoek
- Lusaka, Accra, Port Louis

# Client profile

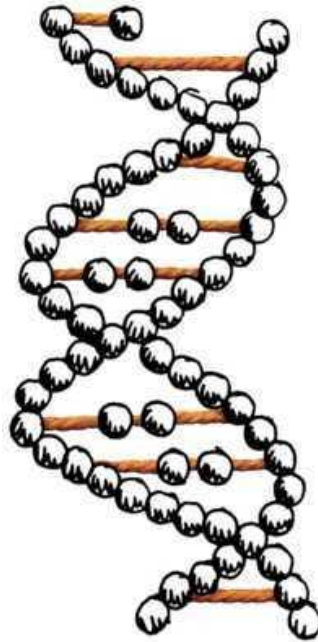
- RisCura's client base comprises a number of clients ranging from large (\$1bn - \$100bn) to smaller Funds (>\$50m)



# Building the case for Private Equity

- A framework for determining Pension Fund Investment Portfolios
  - Understanding member expectations
  - Modeling expectations as cash flow liabilities
  - Understanding and modeling the Asset Classes
  - Determining the asset mix to meet liabilities
- Where does Private Equity fit in?
- The Case for Private Equity

# **A framework for determining Pension Fund Investment Portfolios**



*Intelligence at the core.*

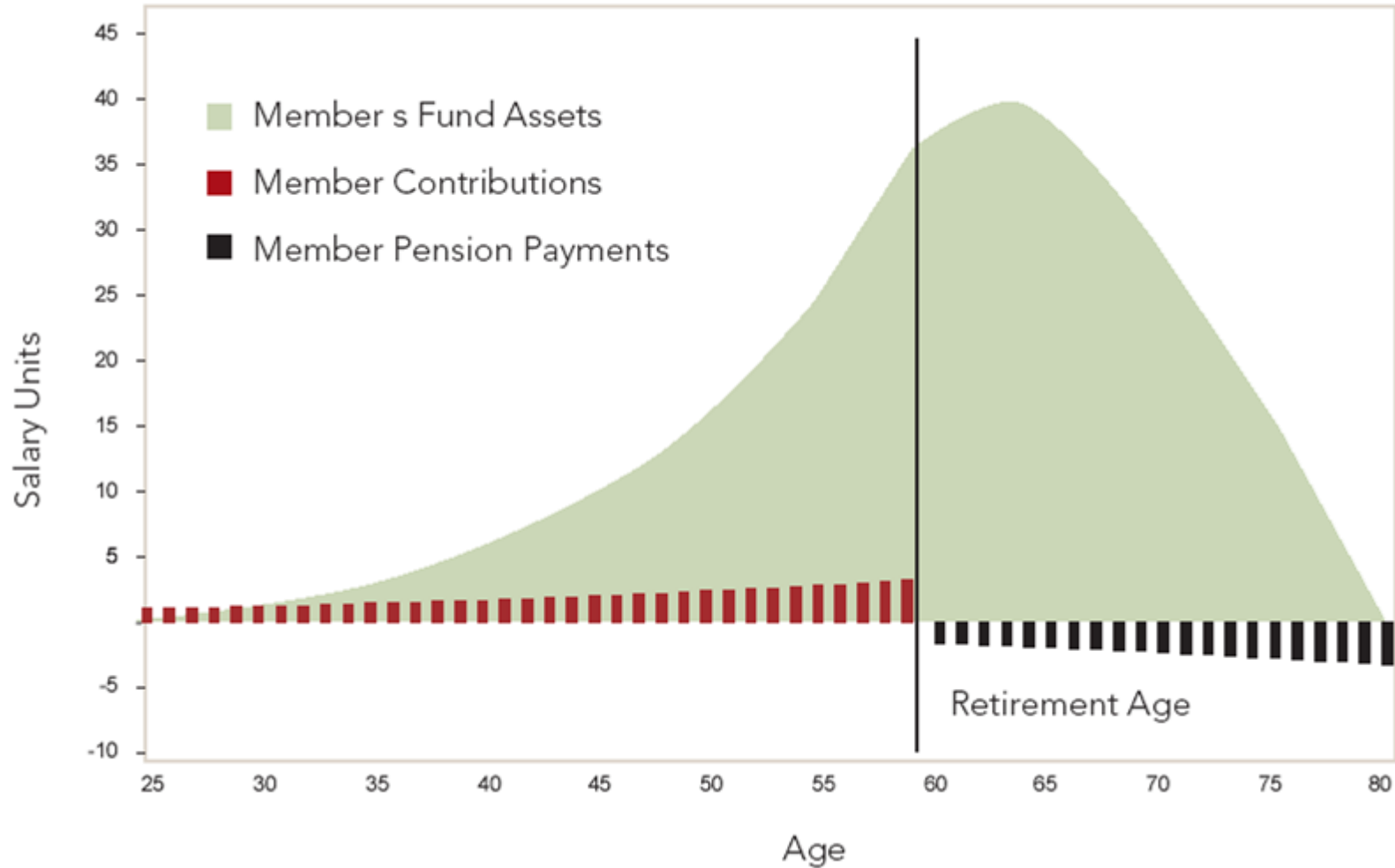
# Understanding member expectations



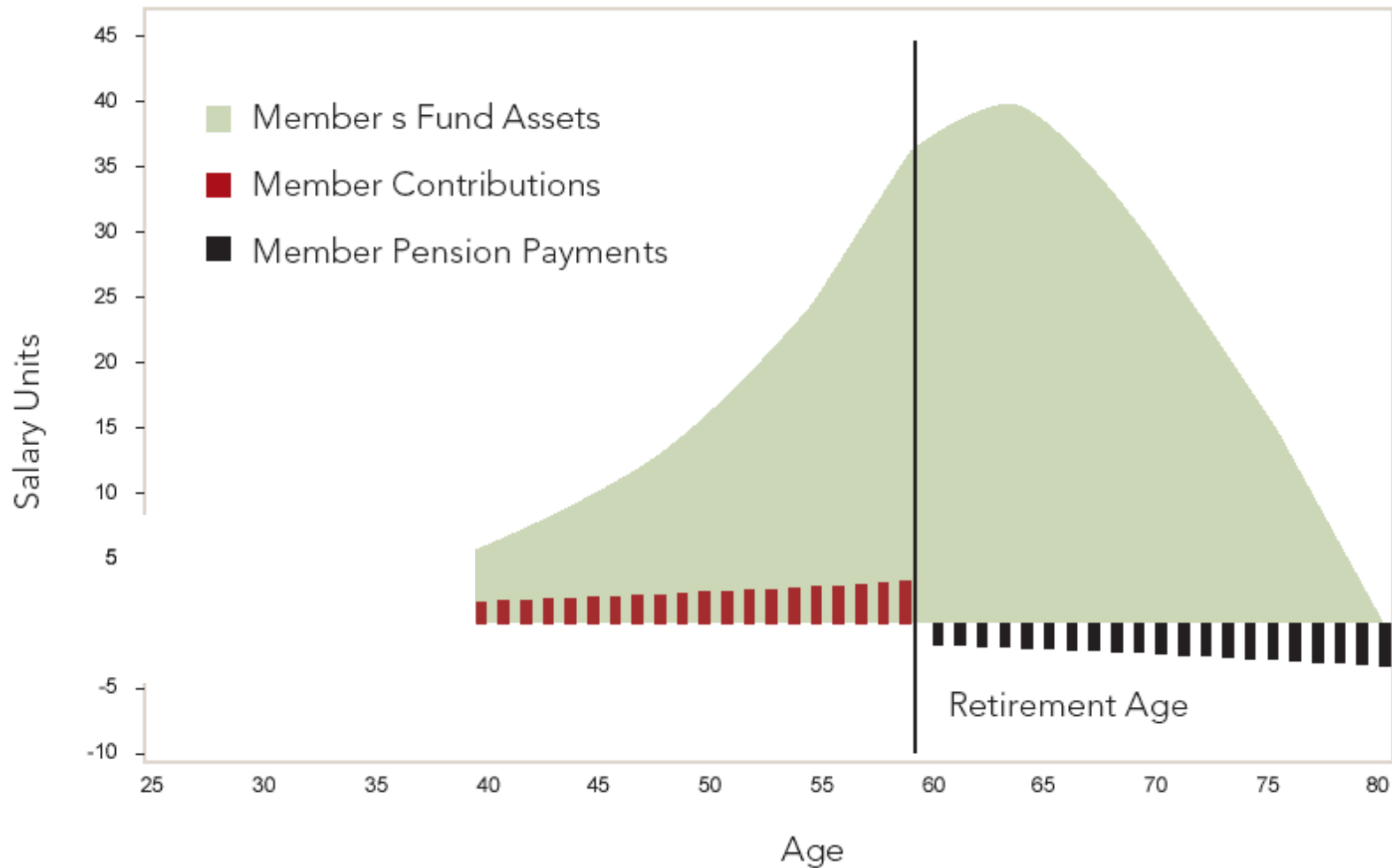
Protect what matters.



# Retirement Funding: Mr. X – 25 years old

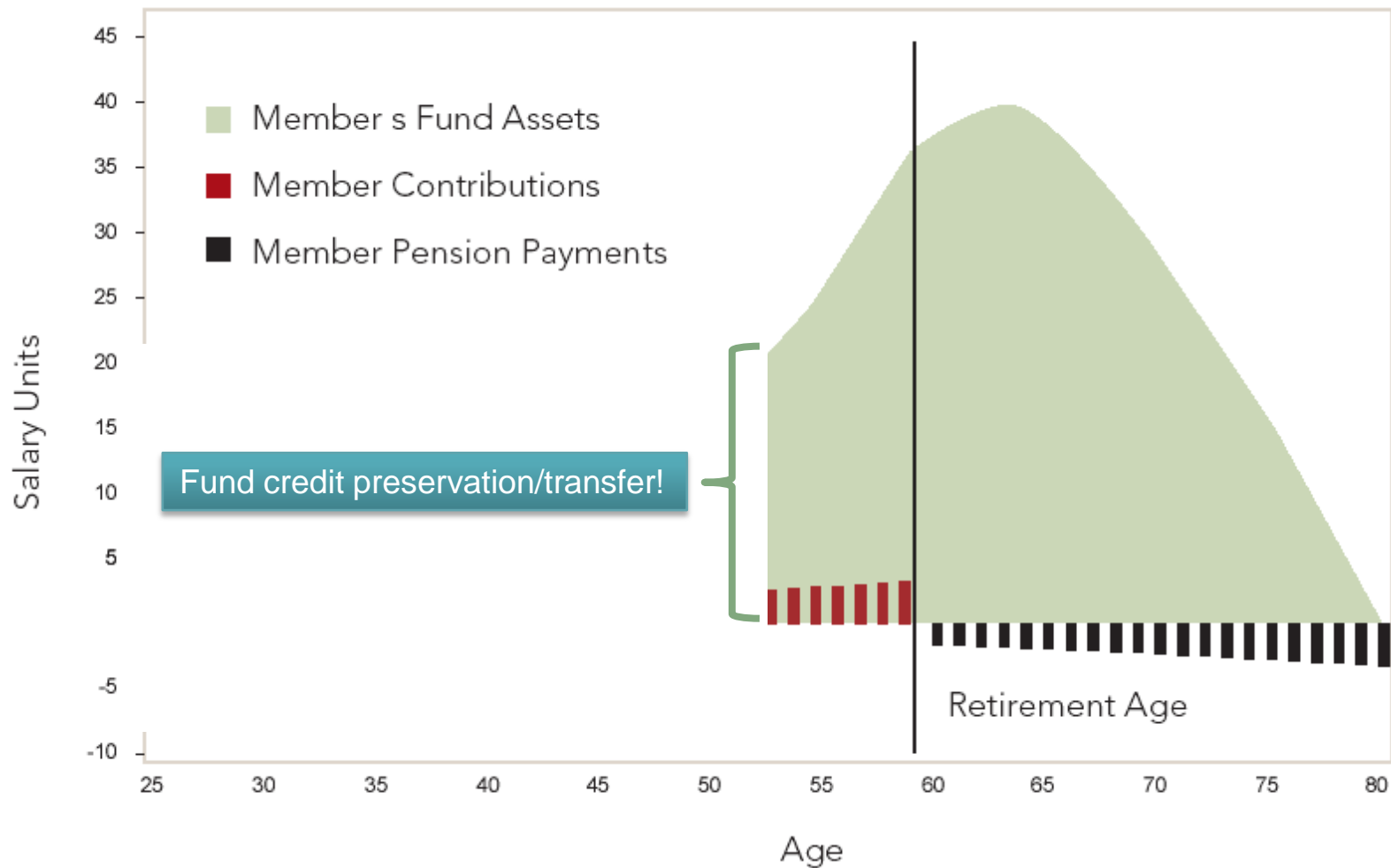


# Retirement Funding: Mr. Y – 40 years old

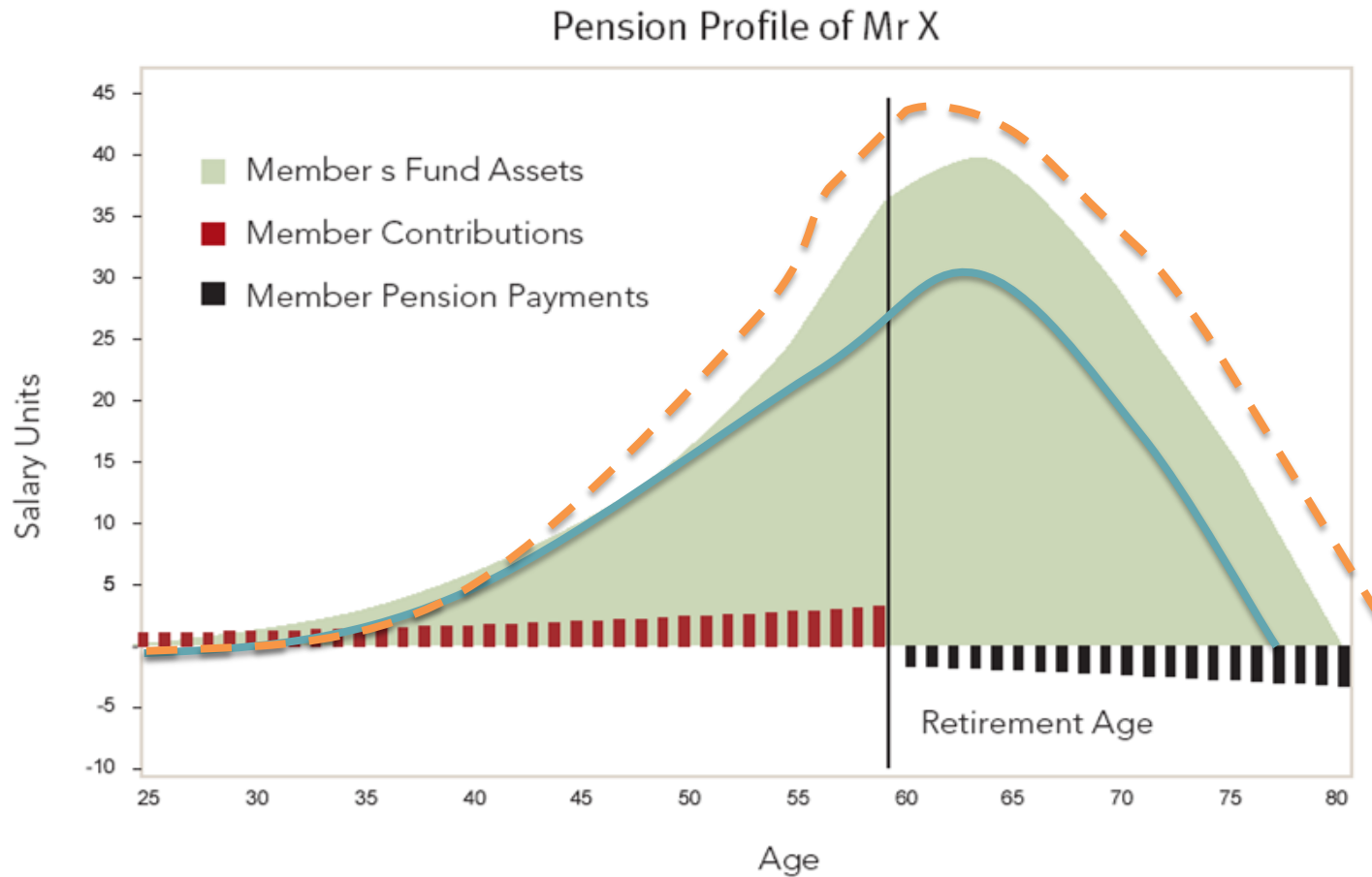




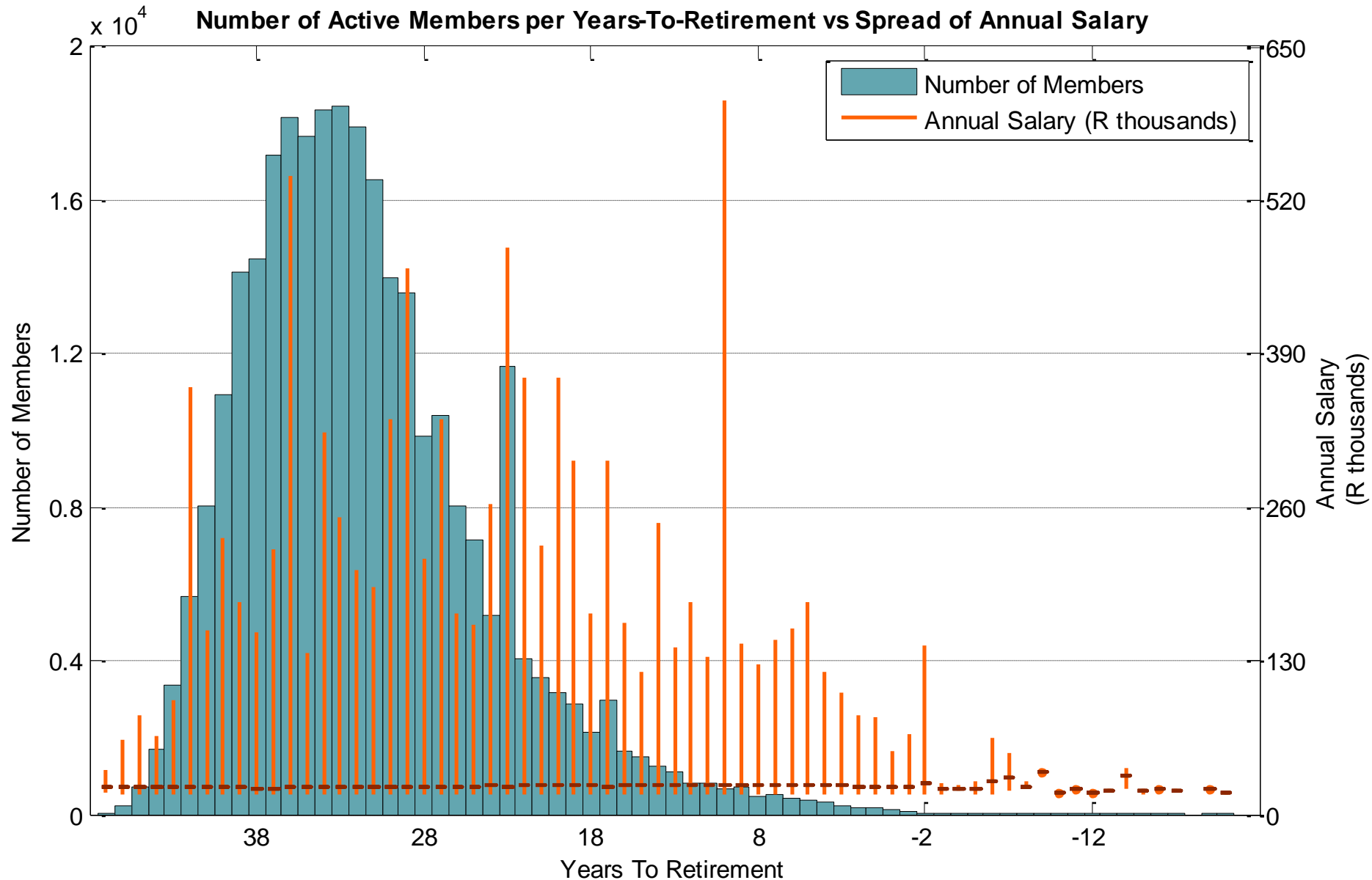
# Retirement Funding: Mr. Z – 55 years old



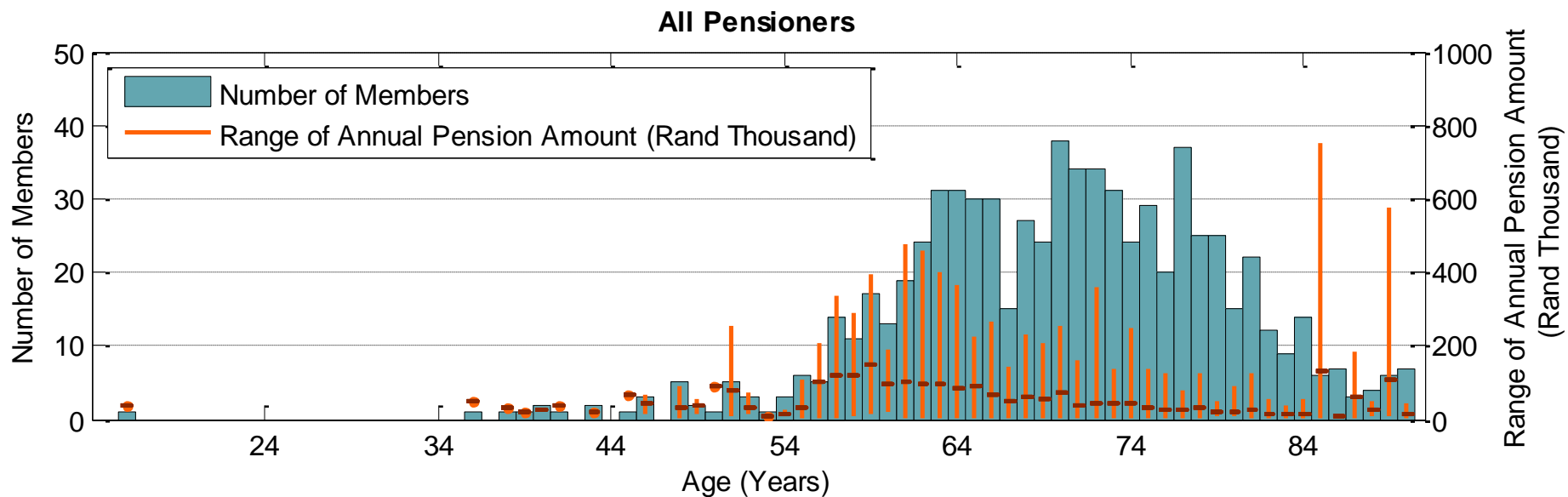
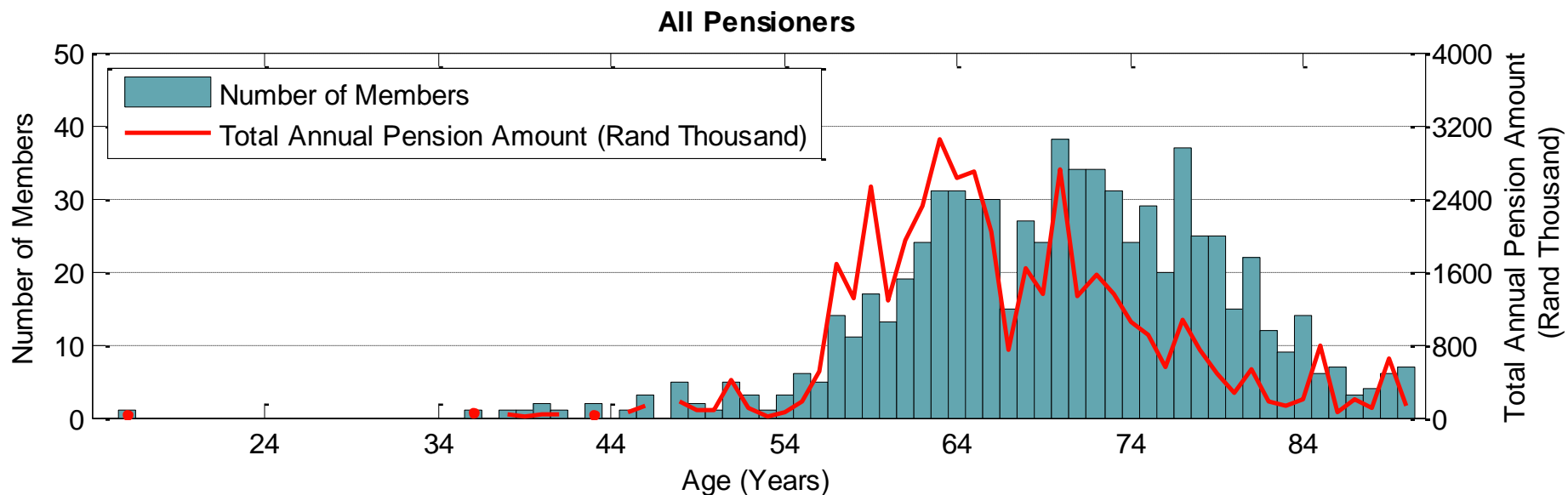
# Retirement Funding: The risk



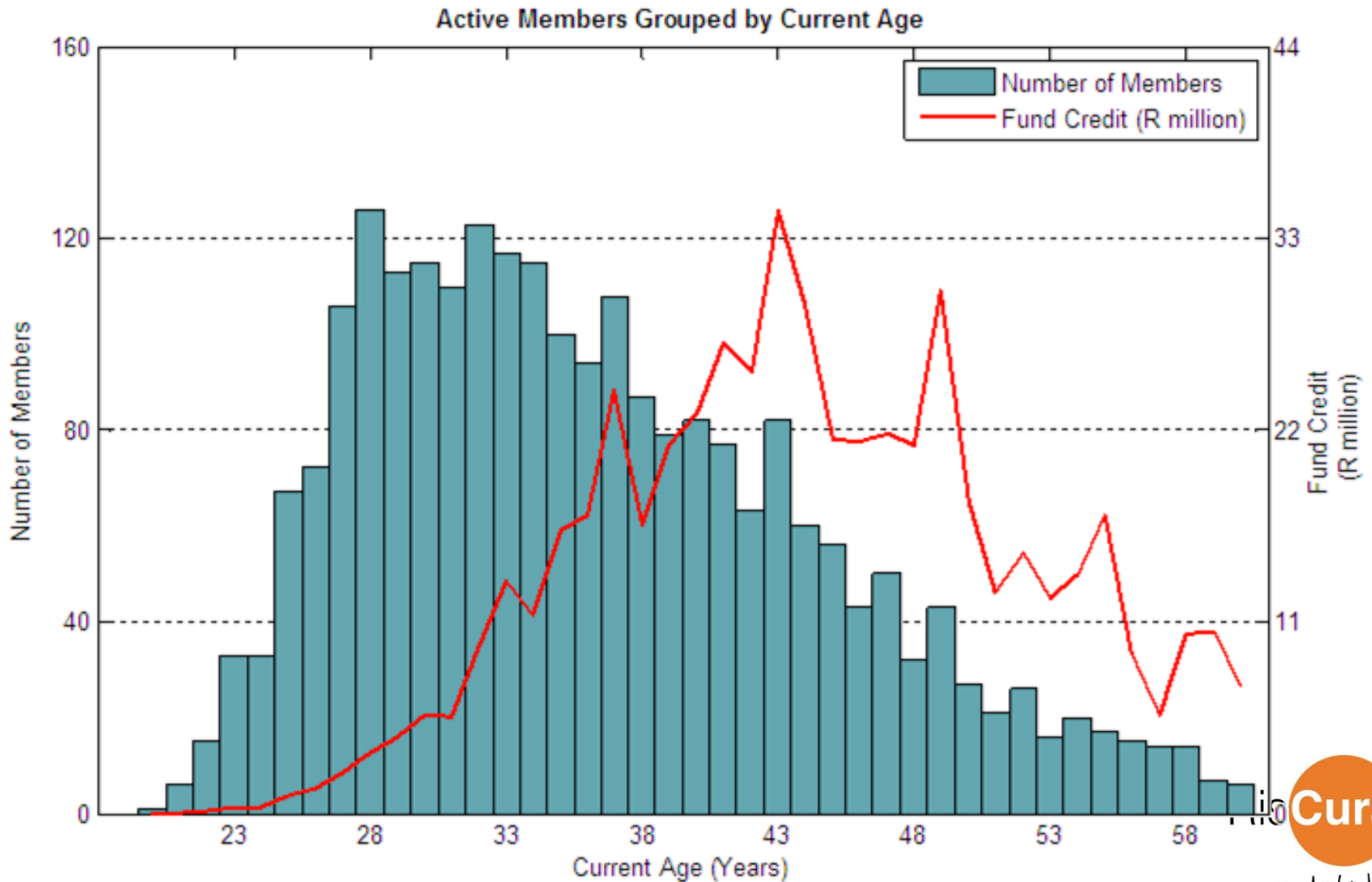
# Fund member profile – Young Membership



# Fund member profile – Old Membership



# Fund member profile – Mixed



# **Modelling expectations as cash flow liabilities**



*Risk and investments in harmony.*



## Member concern

“How much do I need to maintain my standard of living in retirement?”

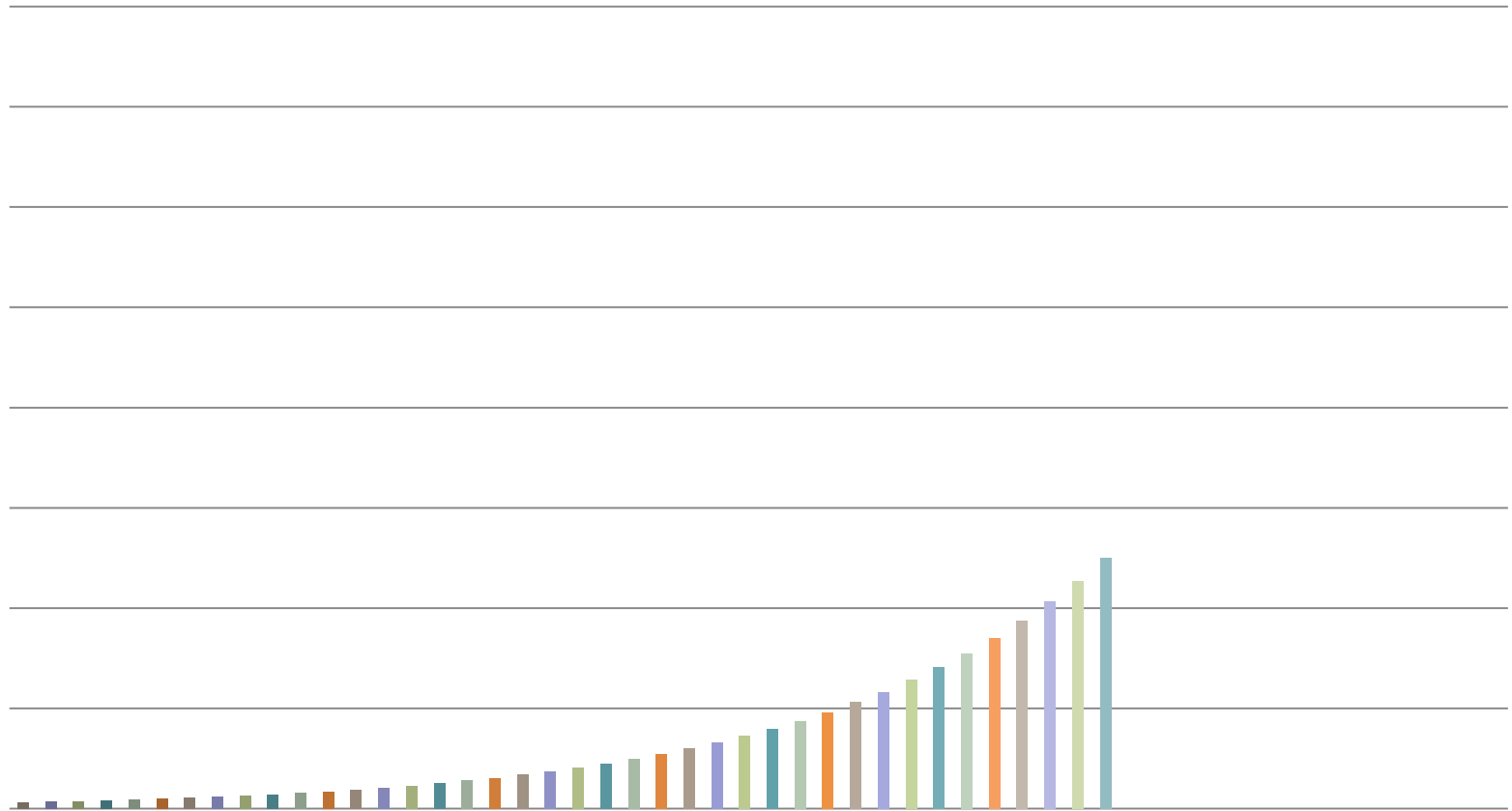
## **Member concern – DB and DC**



“How much do I need to maintain my standard of living in retirement?”

**Applies for Defined Benefit (DB) and  
Defined Contribution (DC) Funds**

# Replacement Ratio – Important in DC




Age

# Replacement Ratio



# Replacement Ratio – a DC scheme target



- Pensions are “deferred wages” for post retirement
- Pensioners want to **maintain standard of living** in retirement
- Replacement ratio = initial pension / ending salary
- Target replacement ratio is dependent on required standard of living
- DC schemes – should target 75% or above

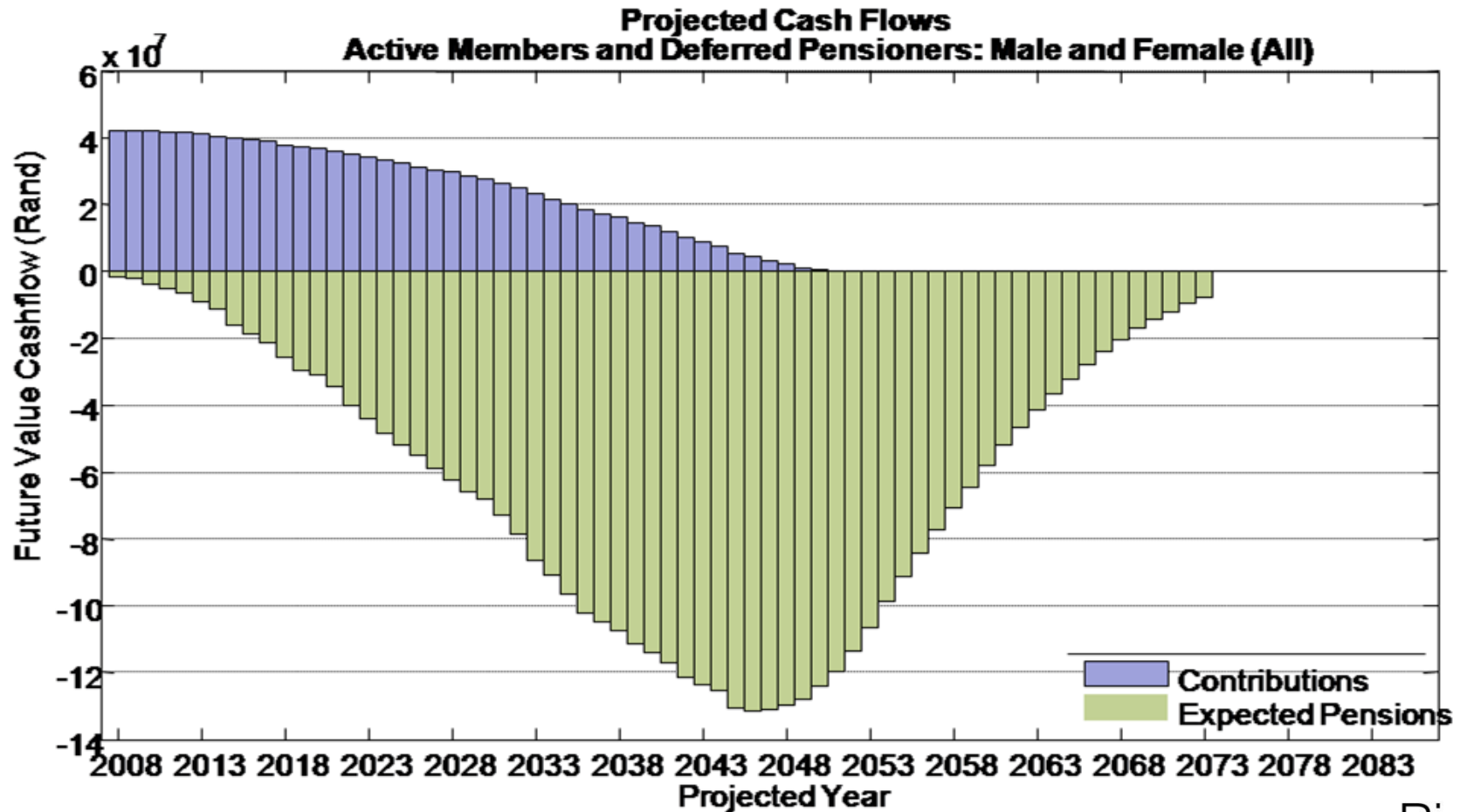
# Modelling Future Fund Cash flow liabilities



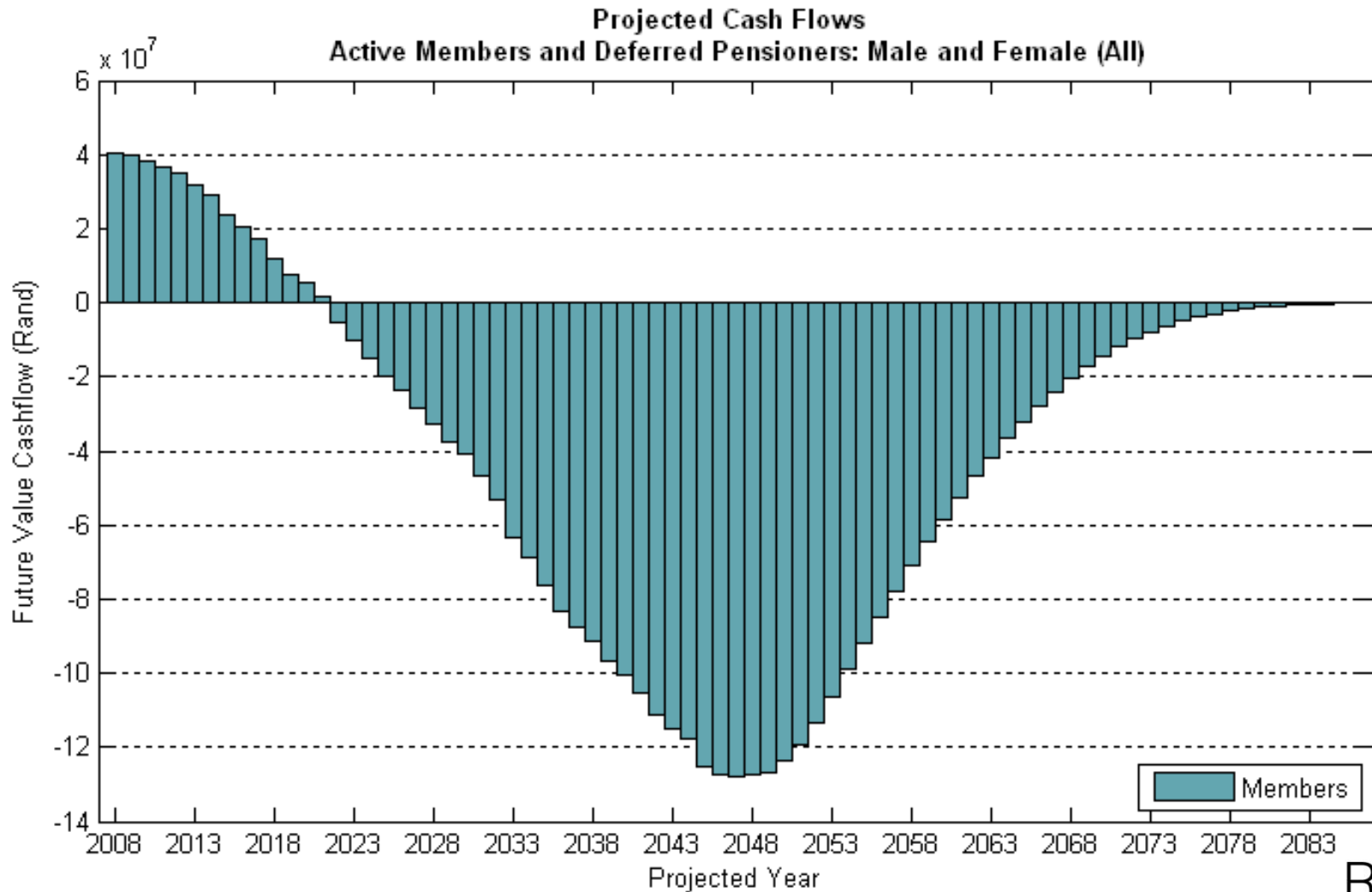
Expectations & Goals for Retirement  
=  
Pension Fund cash flow liabilities



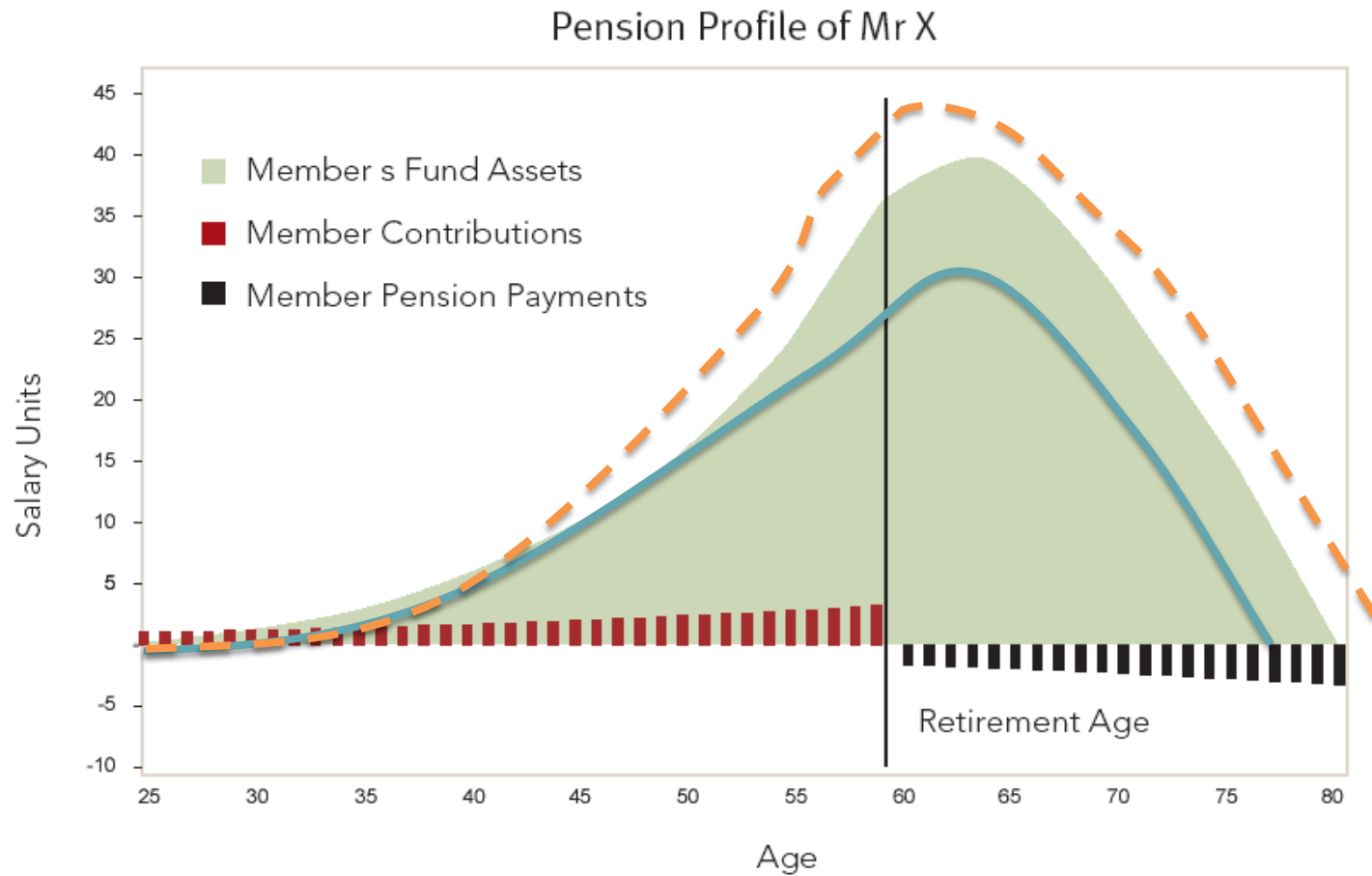
# Calculating a Fund Cash Flow Profile



# Net cash flows



# Why does it matter?



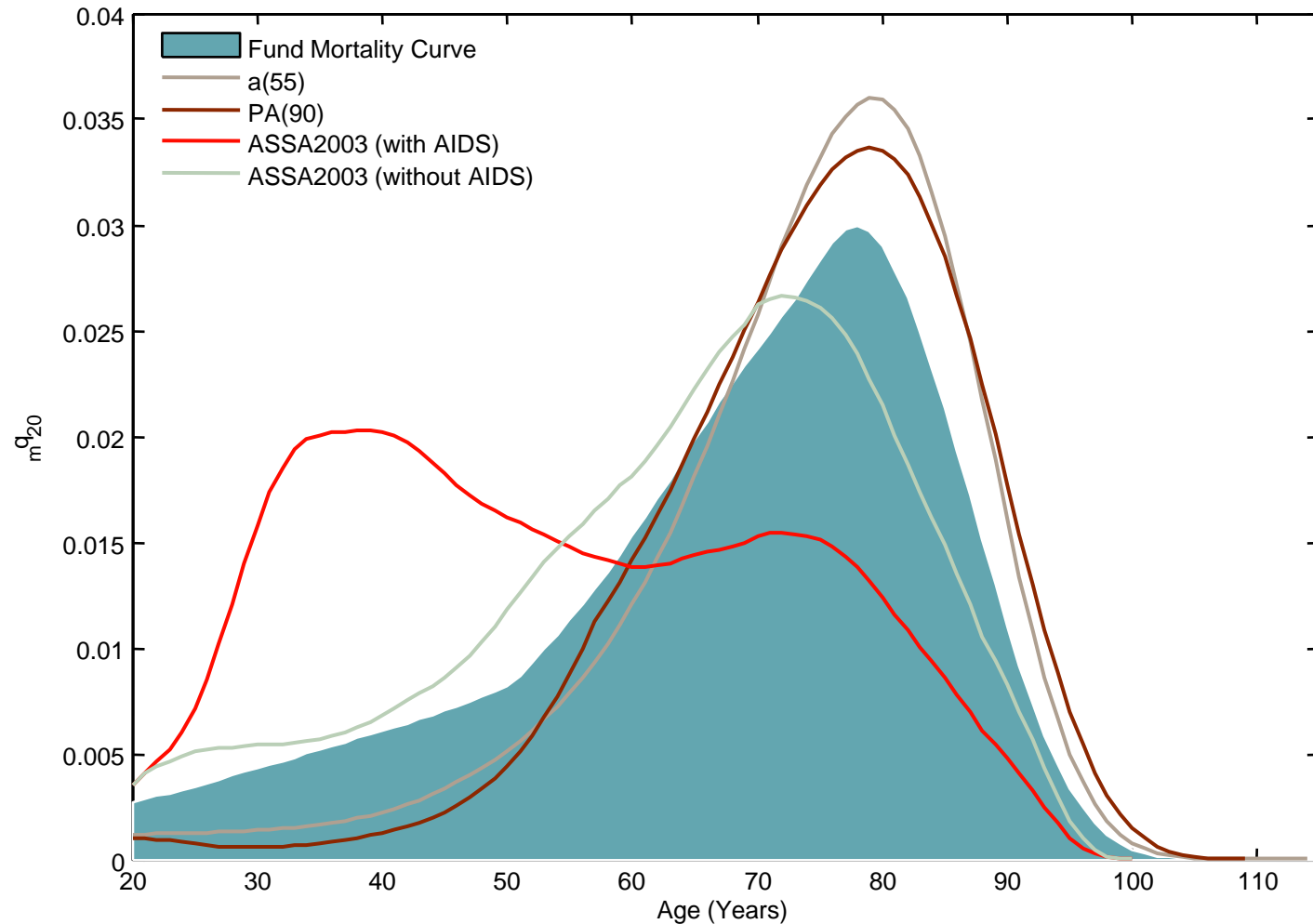
# Modeling liability Sensitivity to ...



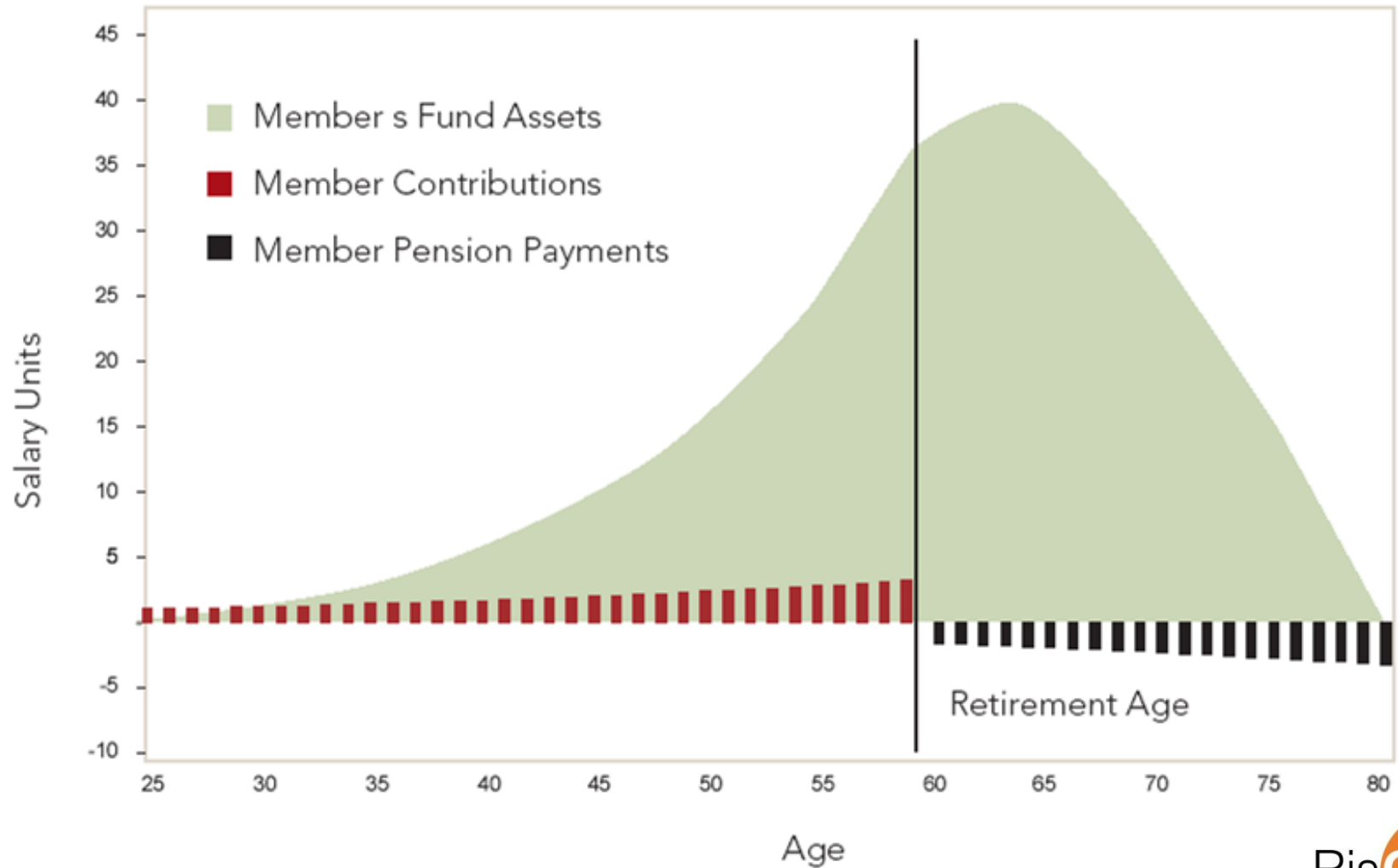
- Mortality

# Considering mortality - 20 year old

## Effect of different mortality tables on male aged 20



# How does it affect Mr. X?





# Modeling liability Sensitivity to ...

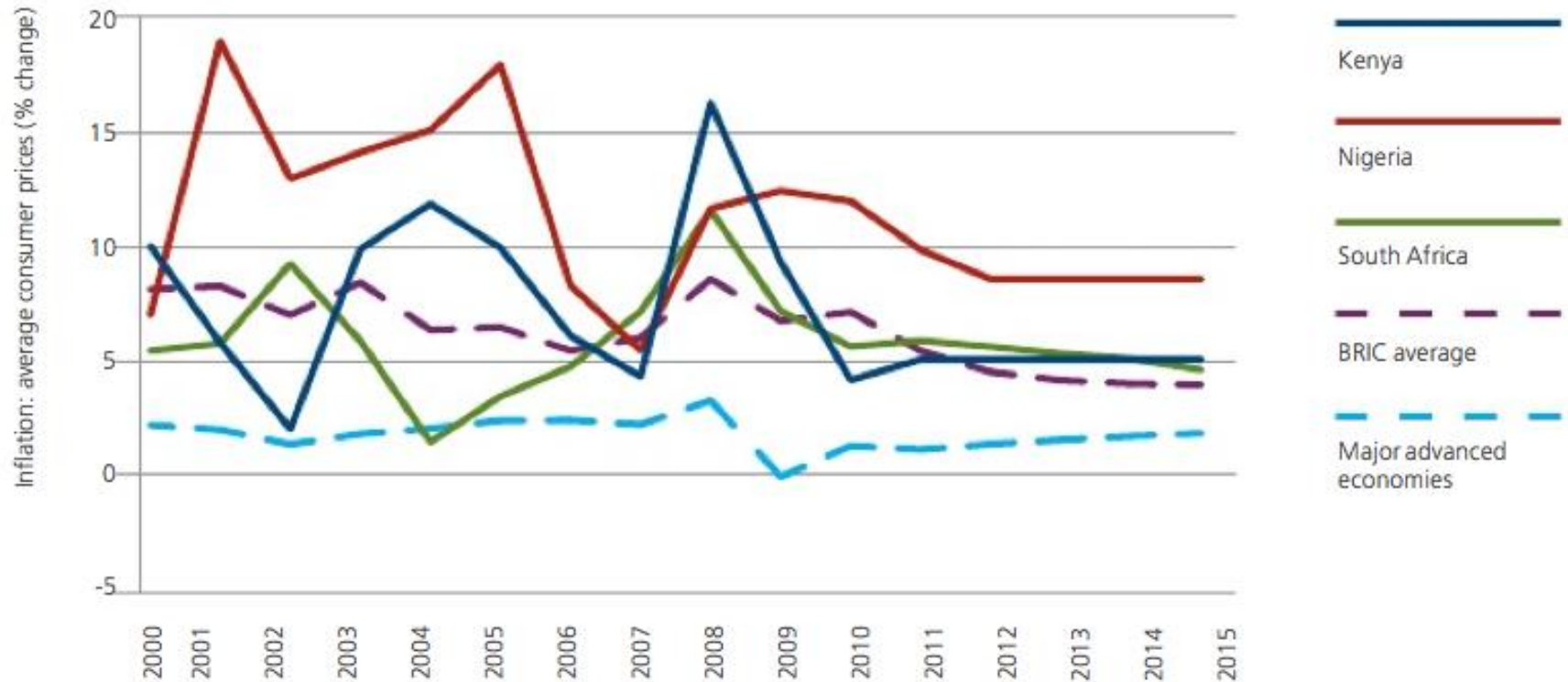


- Mortality
- Inflation

# Inflation – past and expected

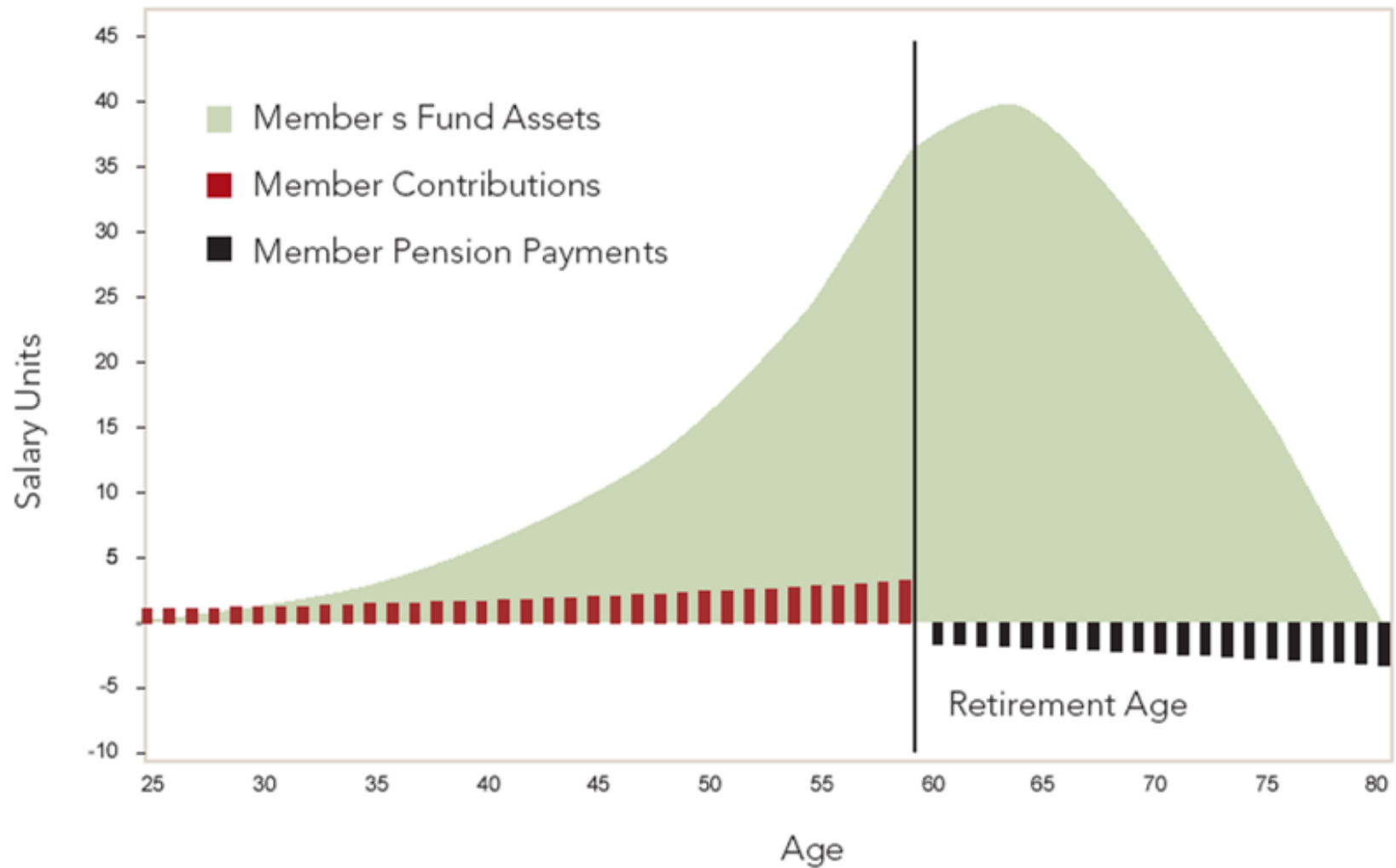
Inflation as an indicator of the rise in the cost of living

## DECREASING INFLATION



Source: International Monetary Fund (IMF). Data and Statistics: Inflation, average consumer prices. January 2011.

# How does it affect Mr. X?



# Sensitivity to ...

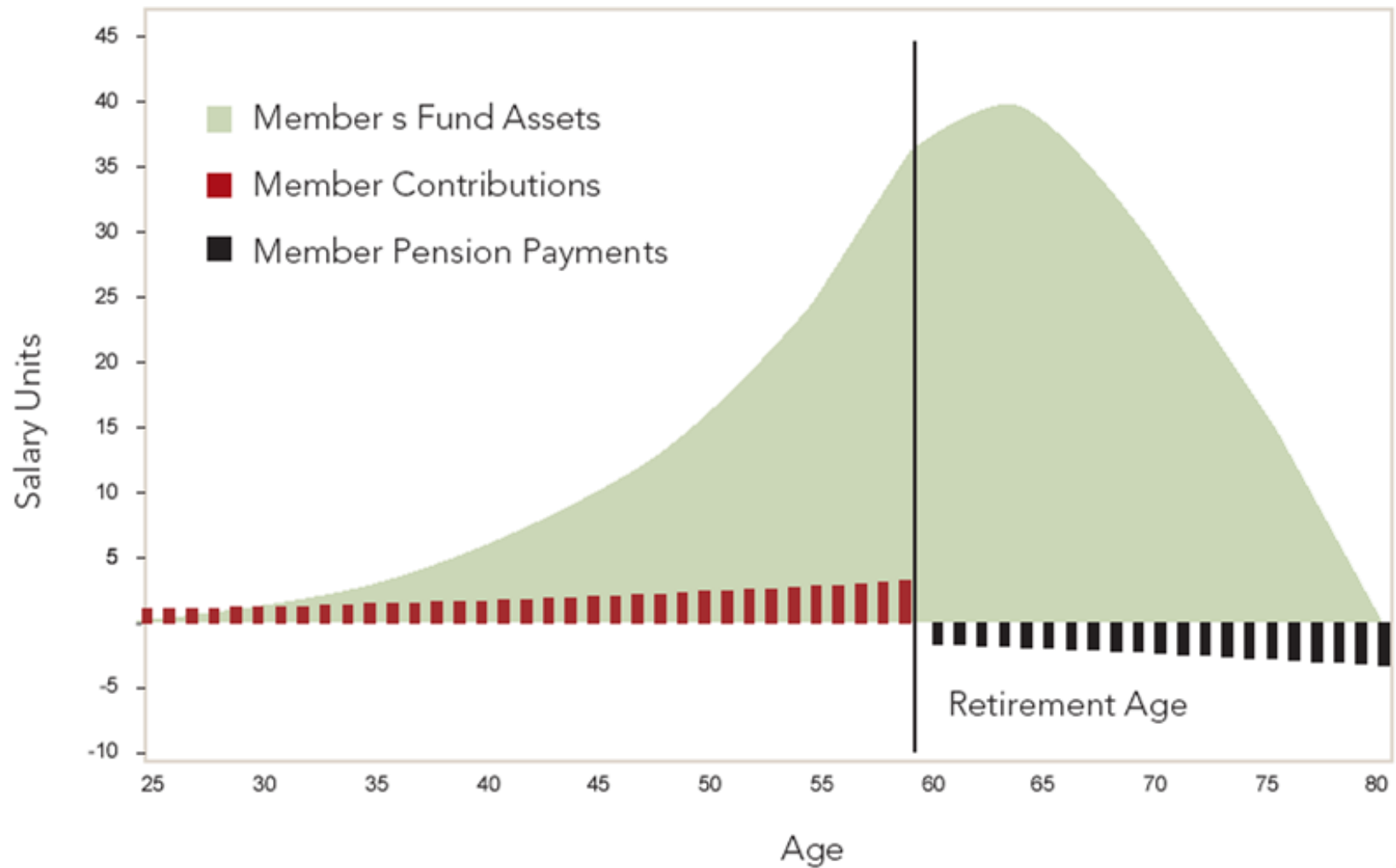


- Mortality
- Inflation
- Replacement ratio

# Replacement Ratio



# How does it affect Mr. X?



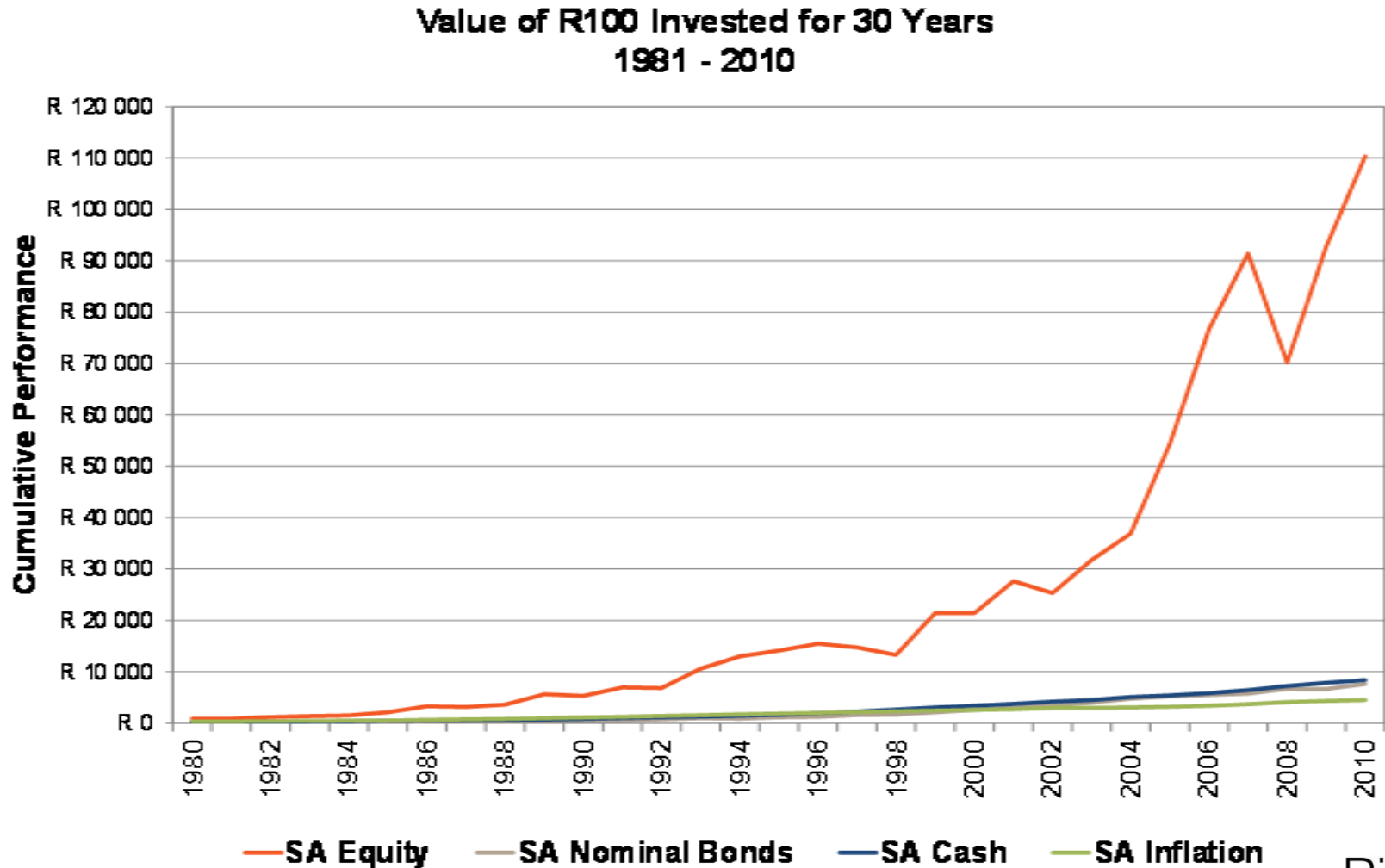


# Understanding and Modelling the Asset Classes

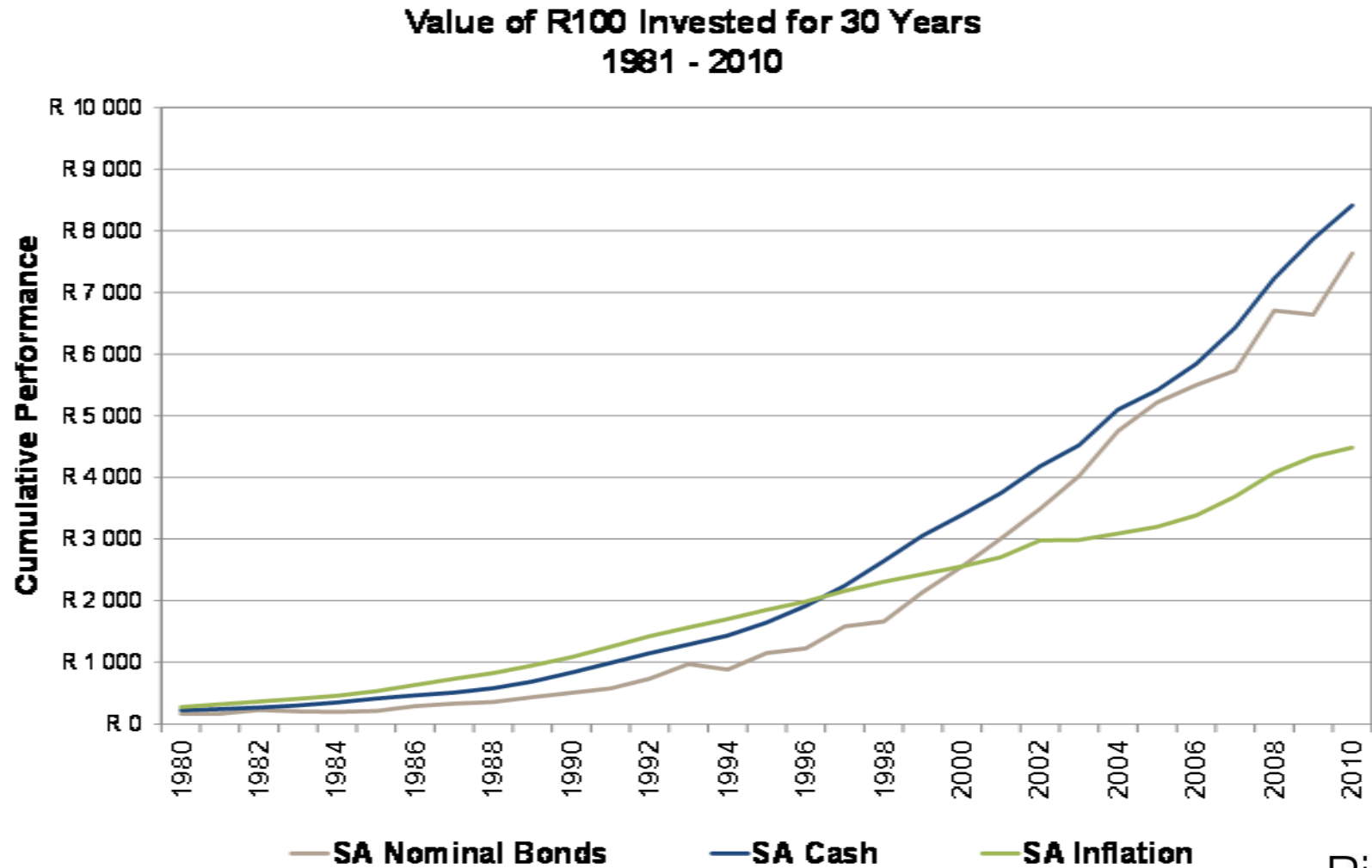


An outside perspective.

# Asset class - 30 year performance

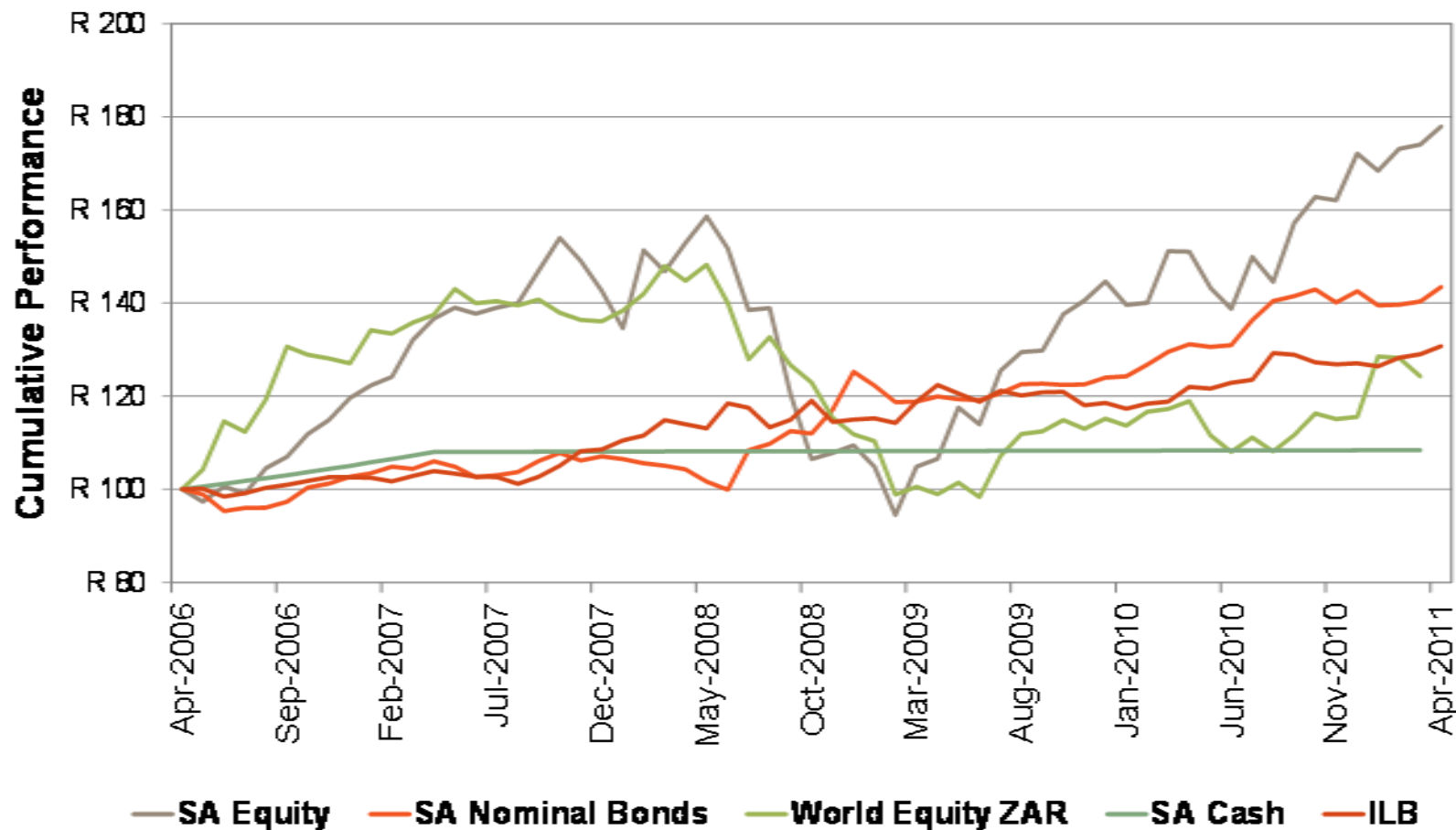


# Asset class - 30 year performance

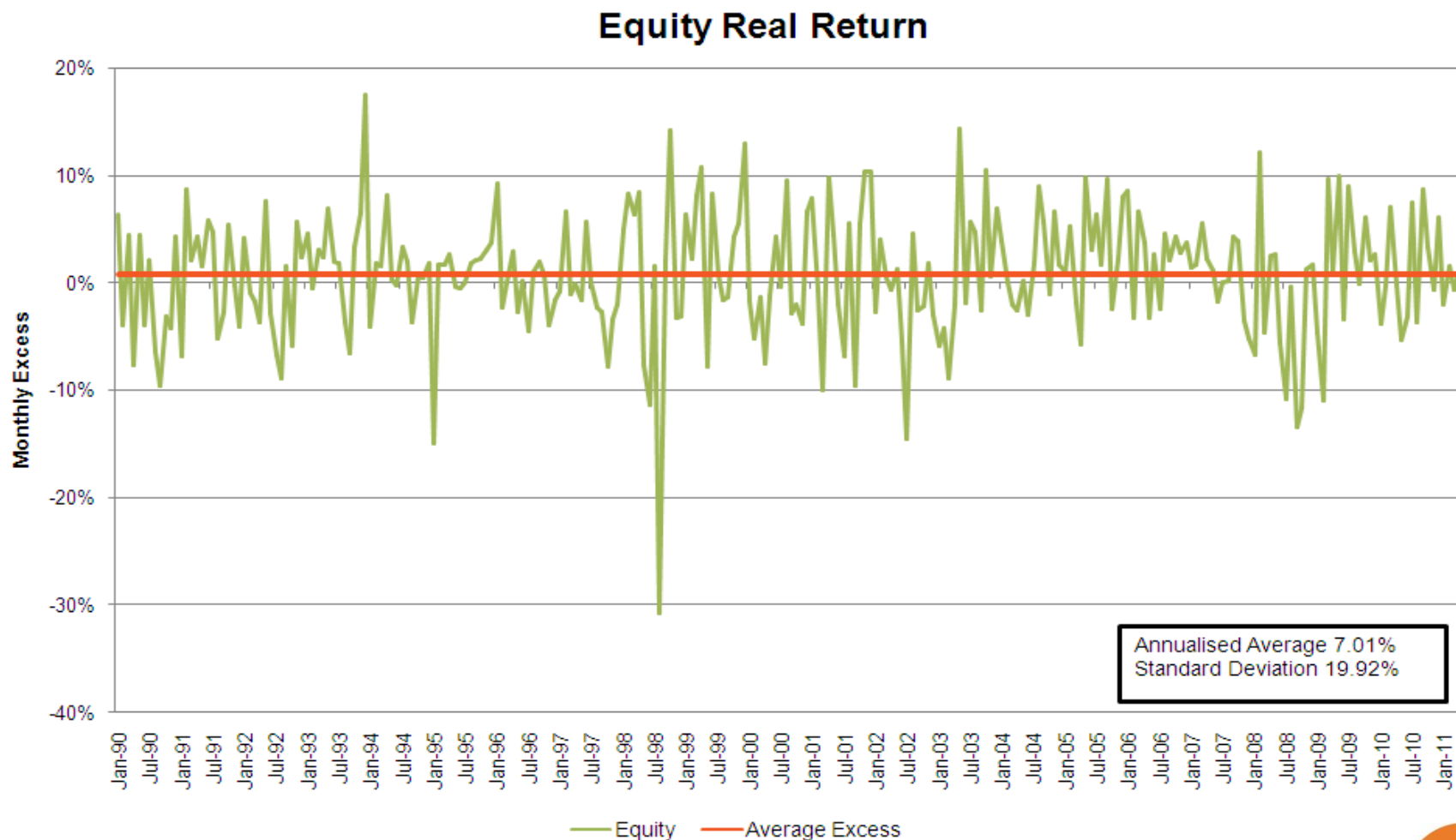


# Asset Class – 5 Year Performance

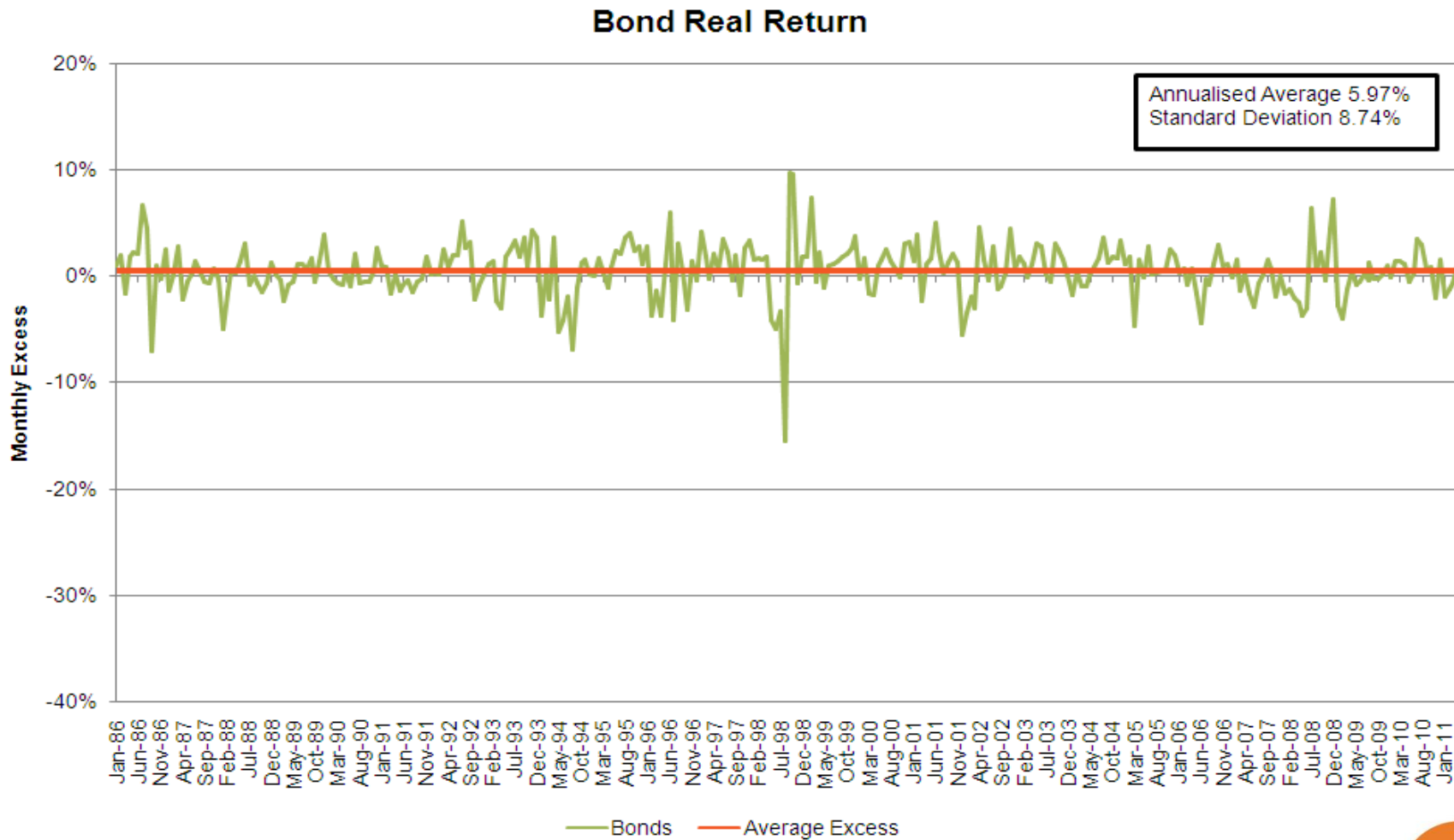
Value of R100 Invested for 5 Years  
2006 - 2011



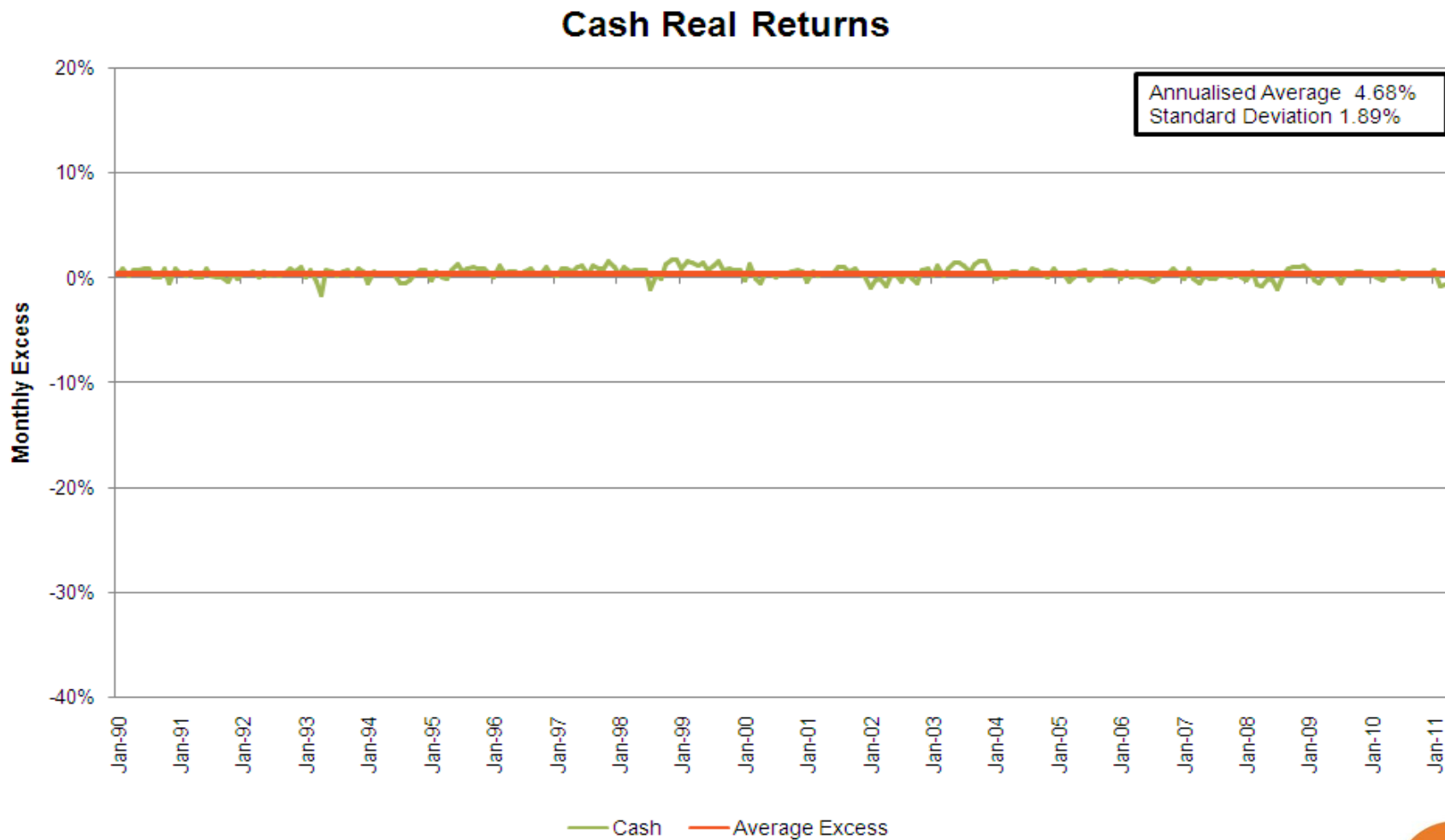
# Equity Volatility



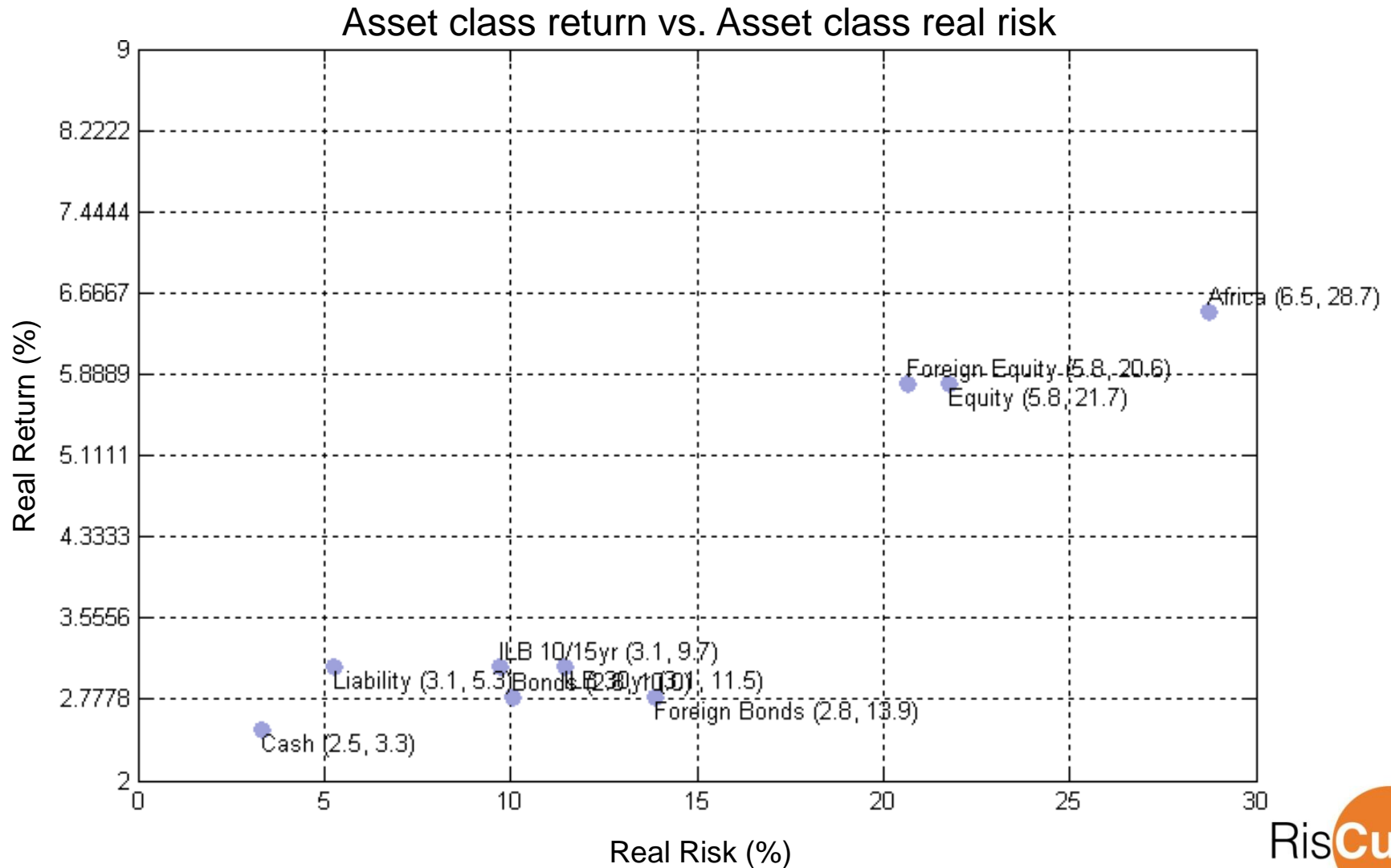
# Bond Volatility



# Cash Volatility



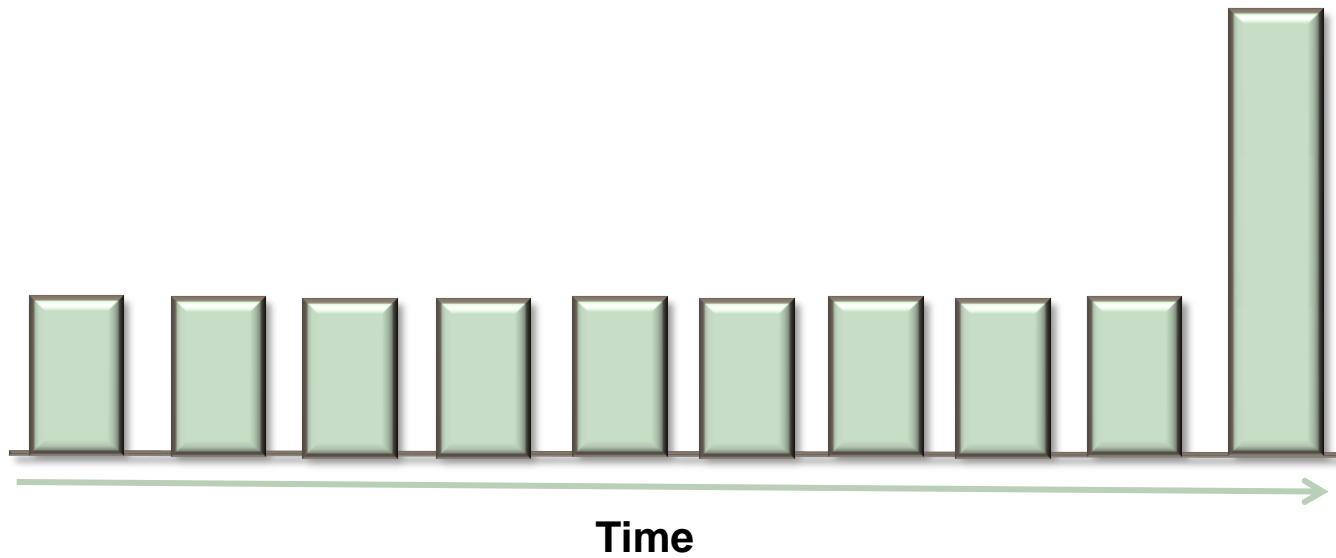
# Asset Classes: Risk vs. Return



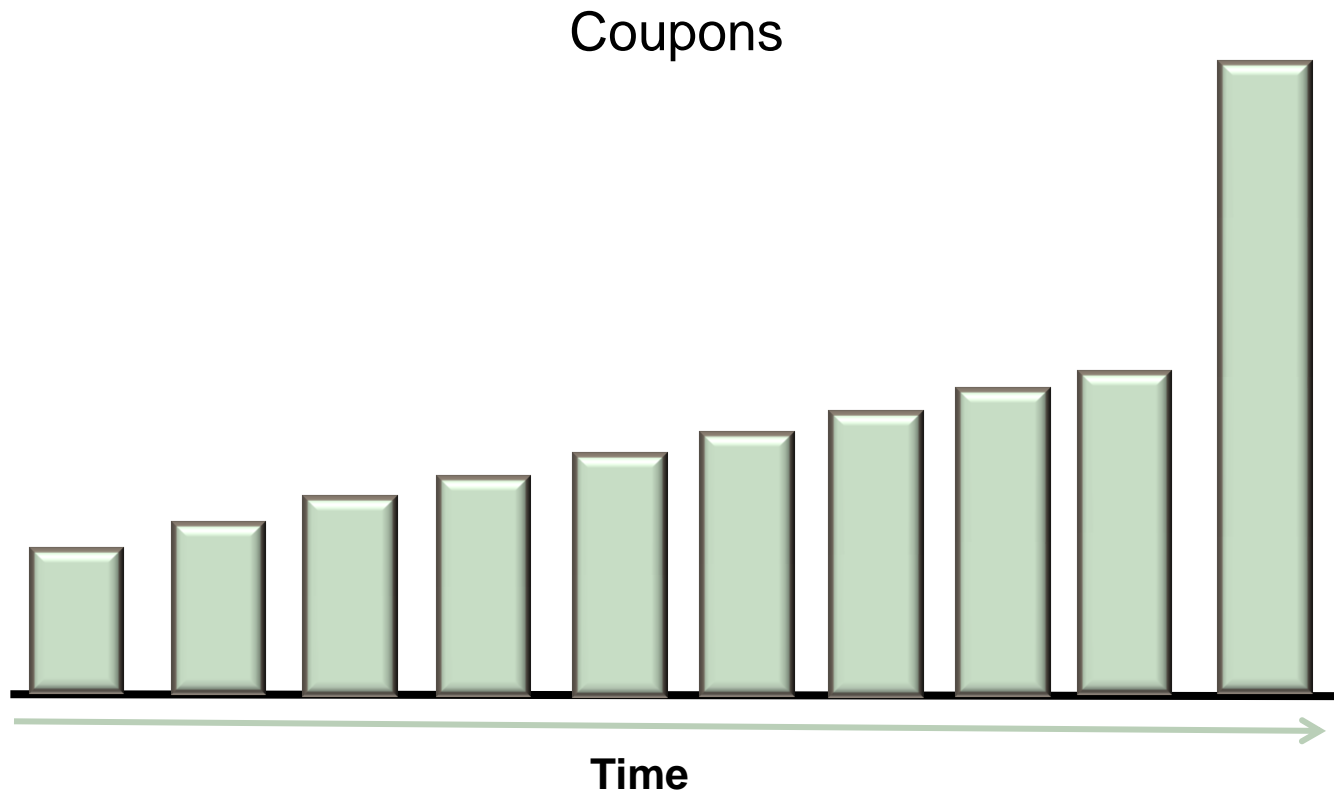


# Nominal Bonds cashflows

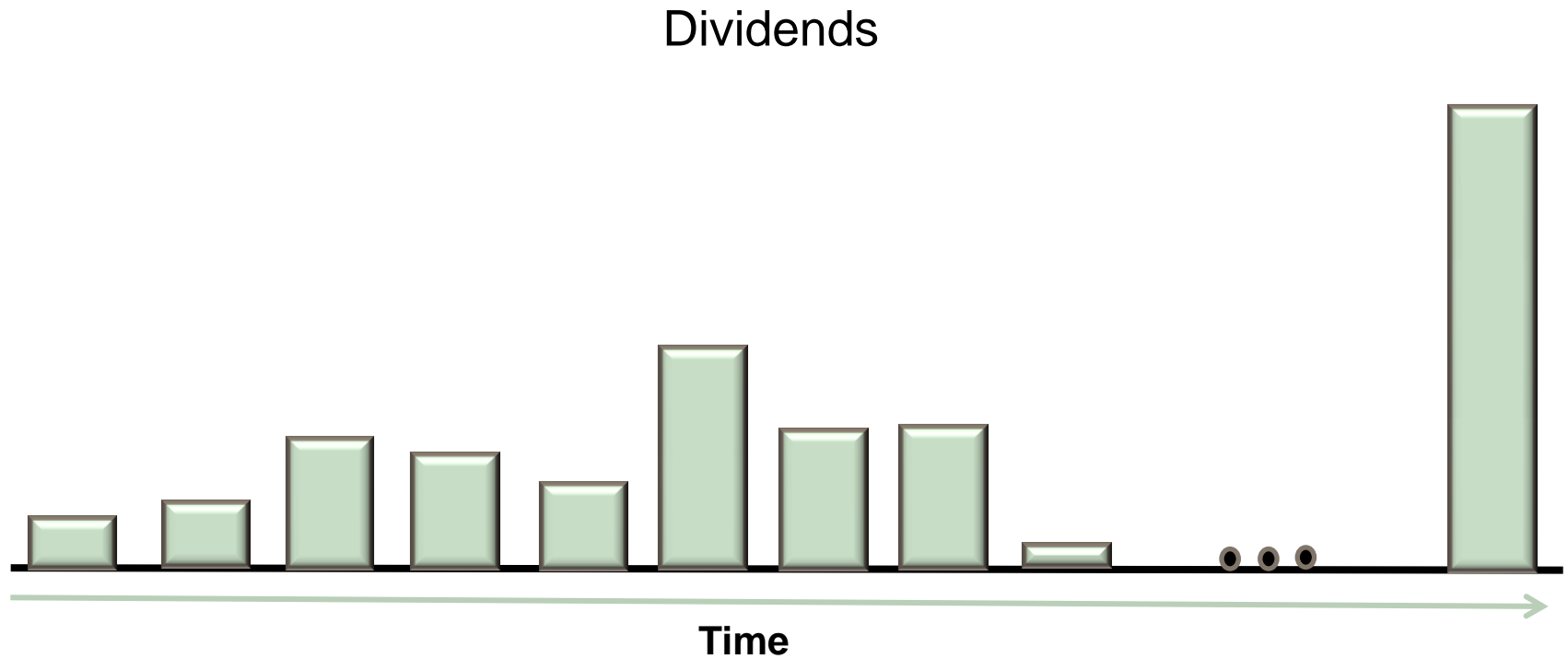
Fixed Coupons



# Inflation-Linked Bonds cashflows

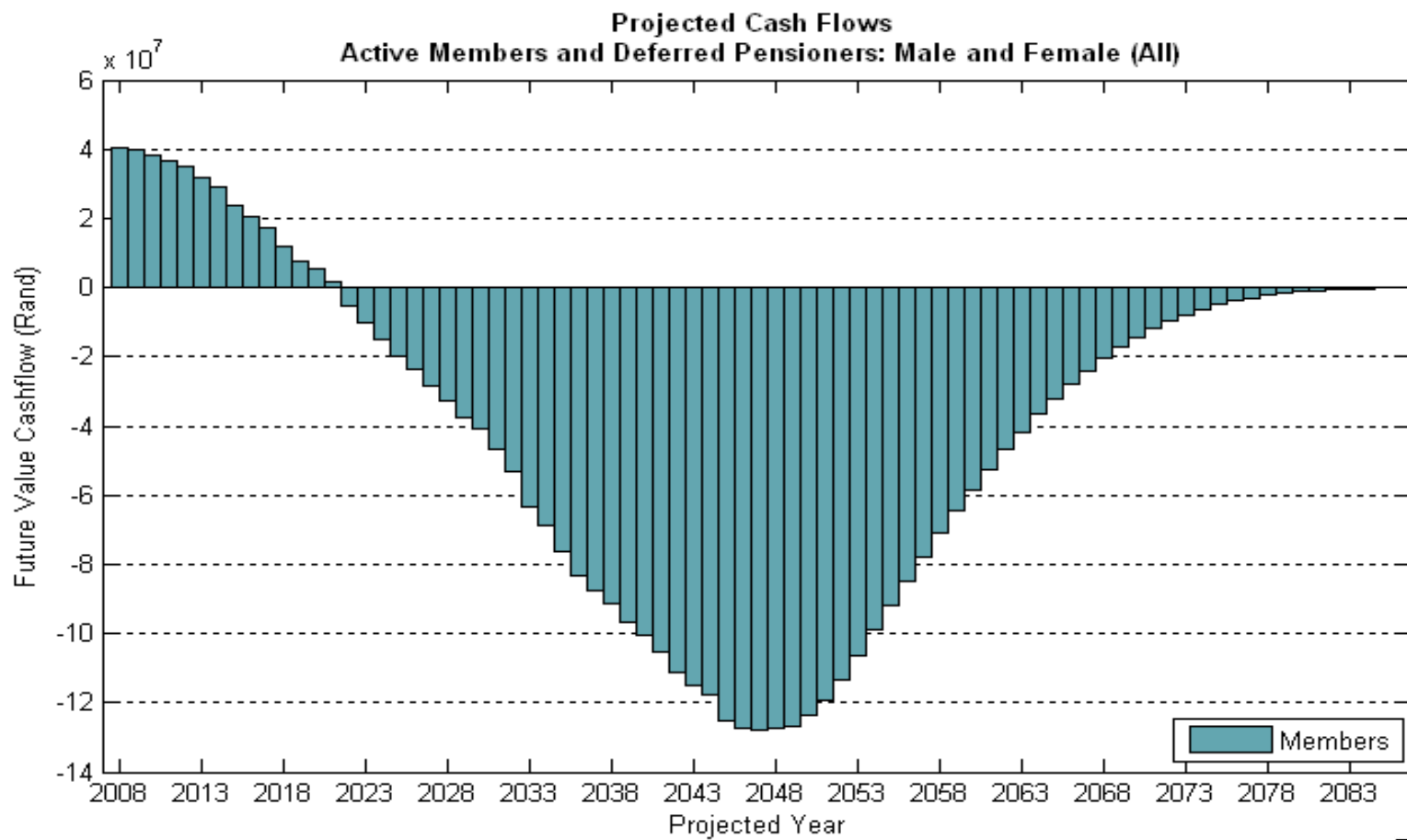


# Equity cashflows



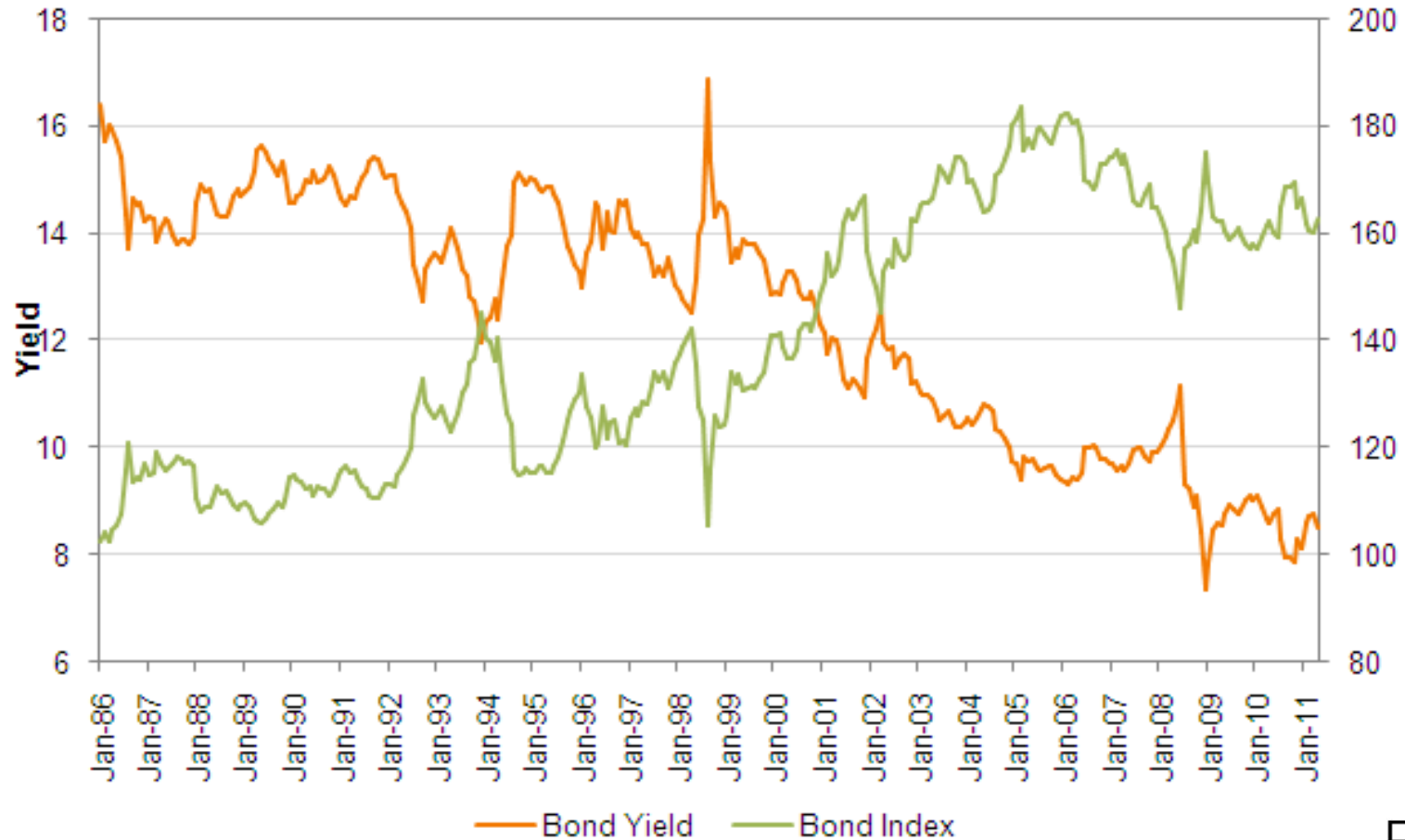
# Recall your members liability cashflows?

## Liabilities



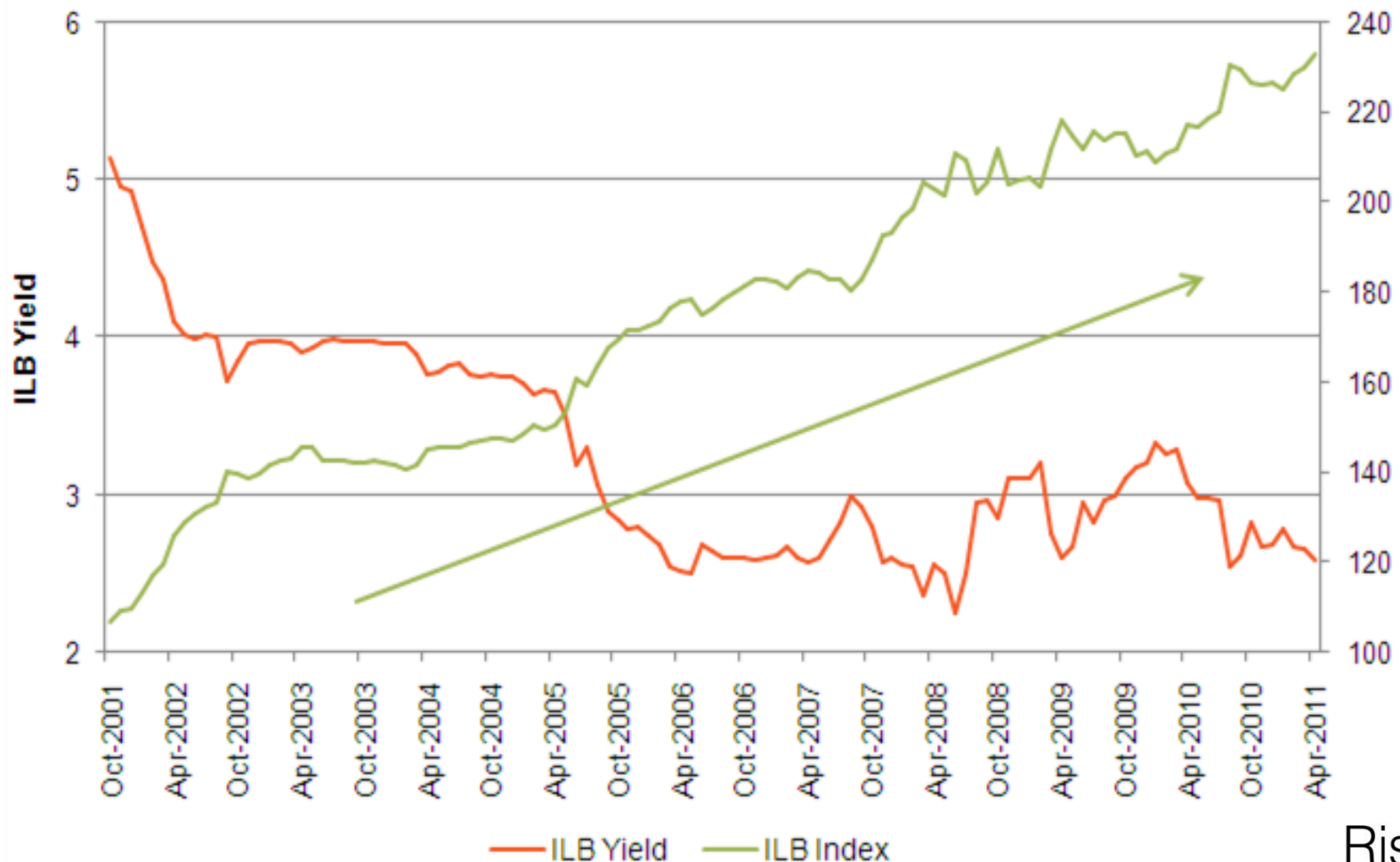
# Bond yields down... Bond prices up

Bond Index and Bond Yield Since 1986



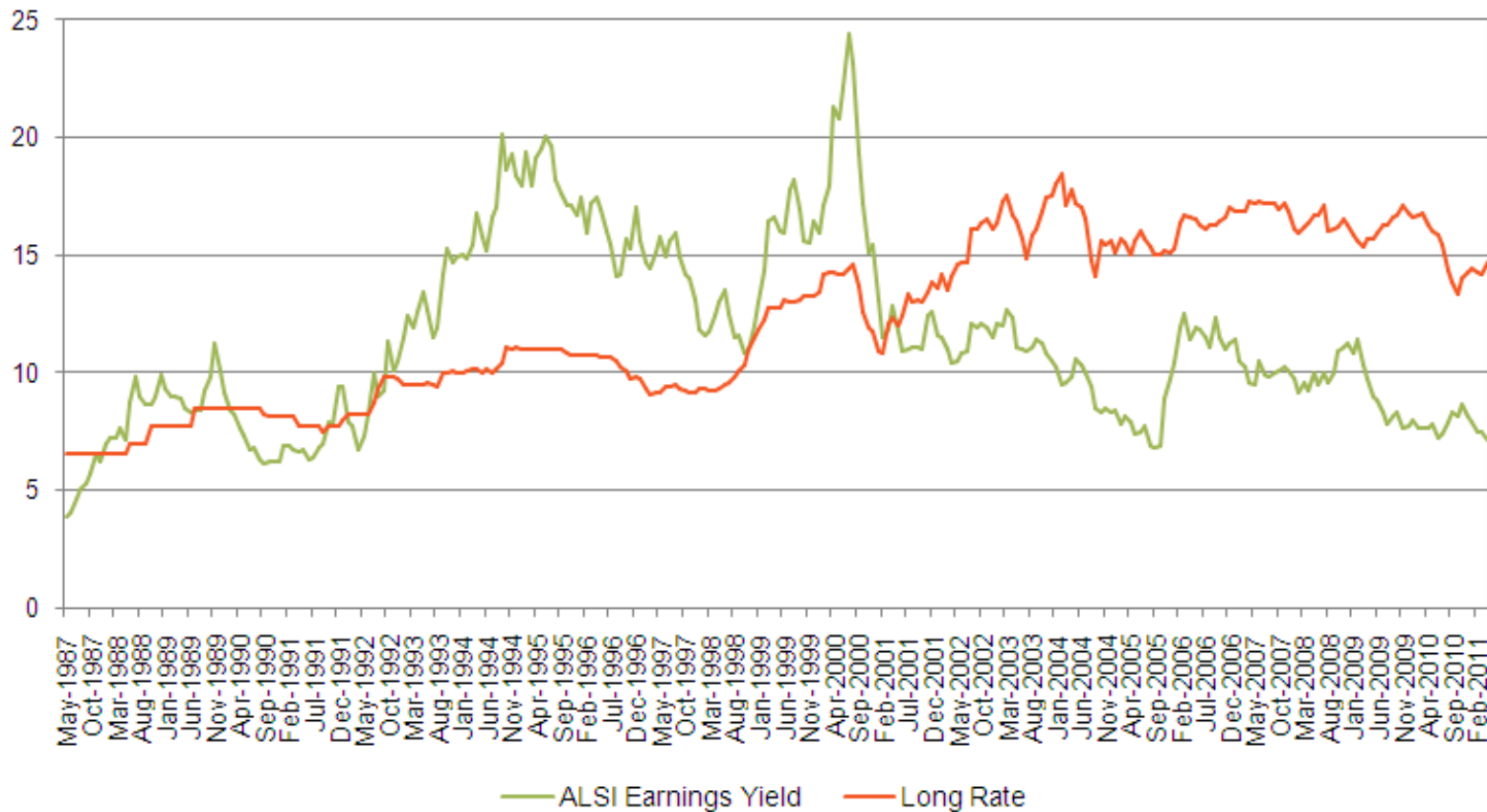
# Real yields down... ILB prices up

ILB Index and ILB Yield Since 2001

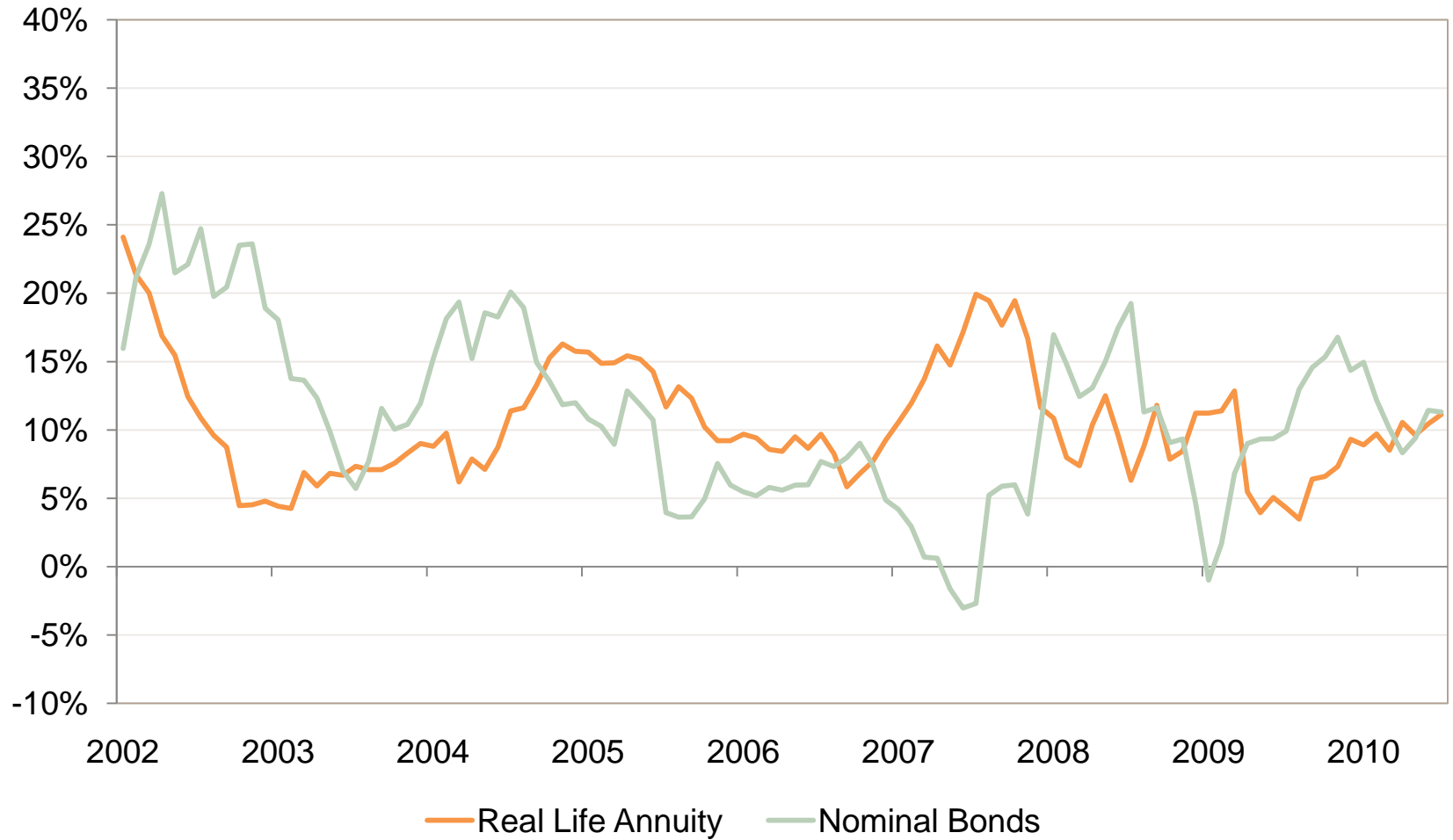


# In theory: equity yield down... equity prices up

**Equity Earnings Yield vs. Long Rate**  
for the period ended 29 April 2011

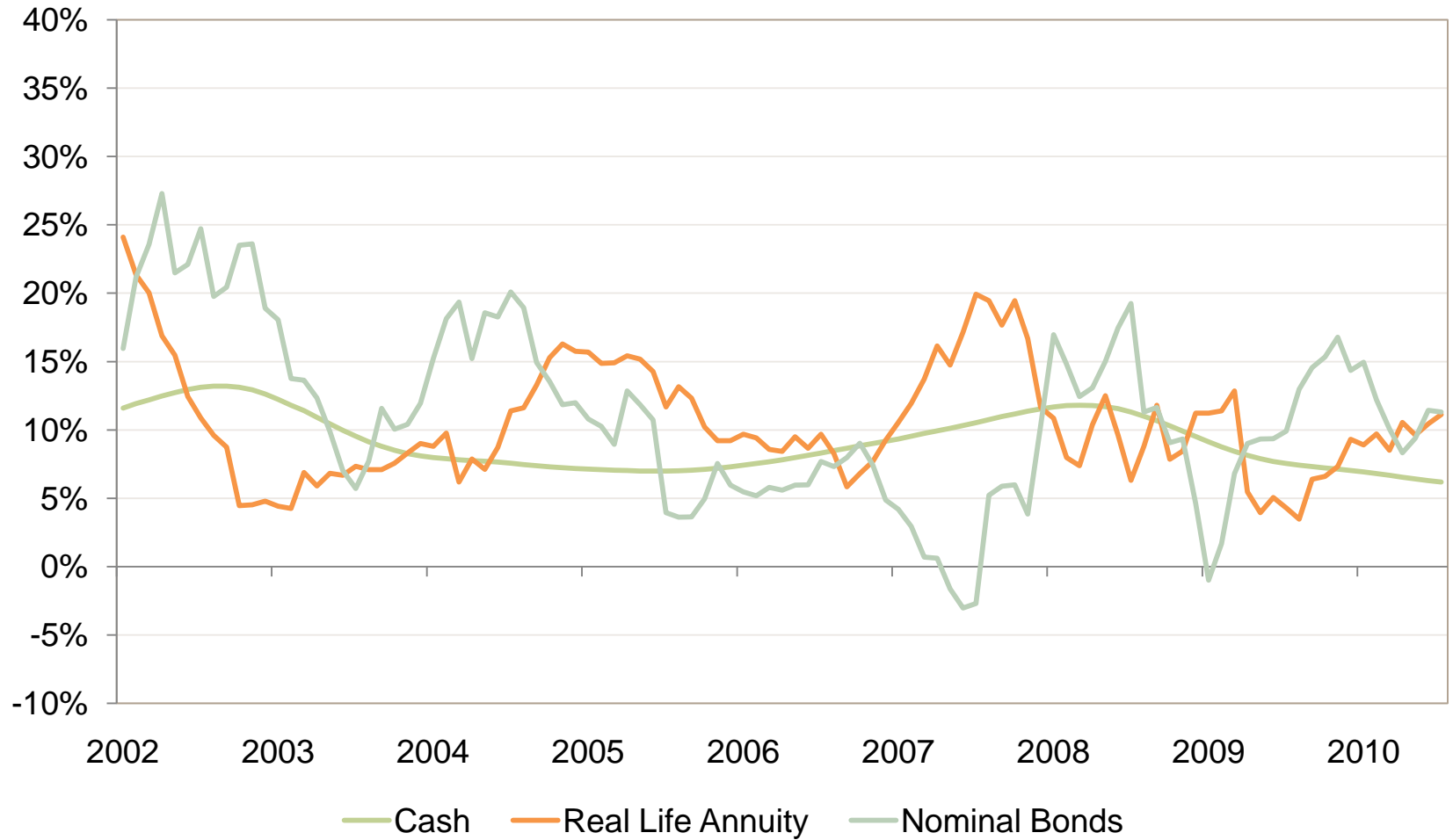


# Which asset classes do I choose?

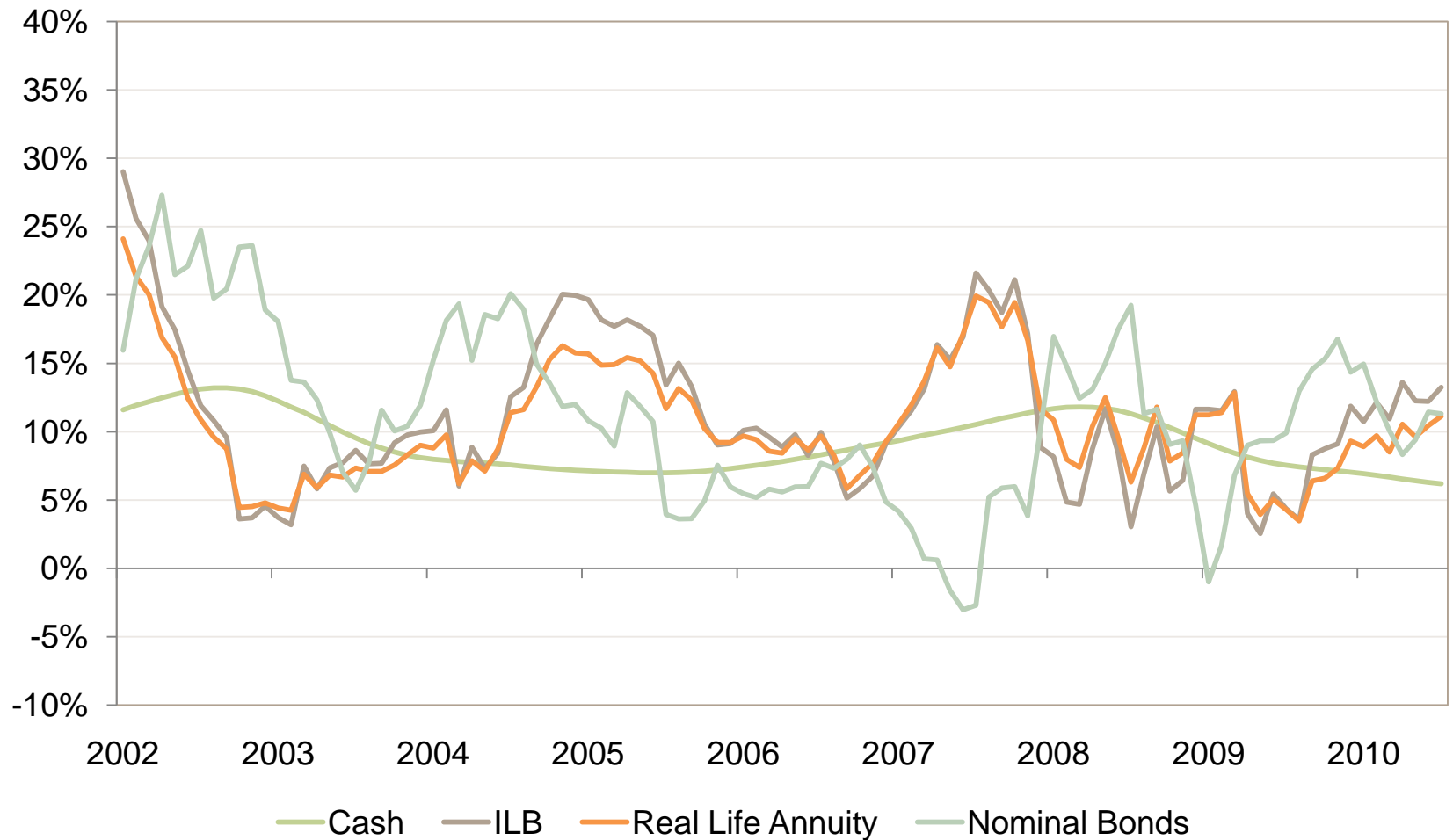




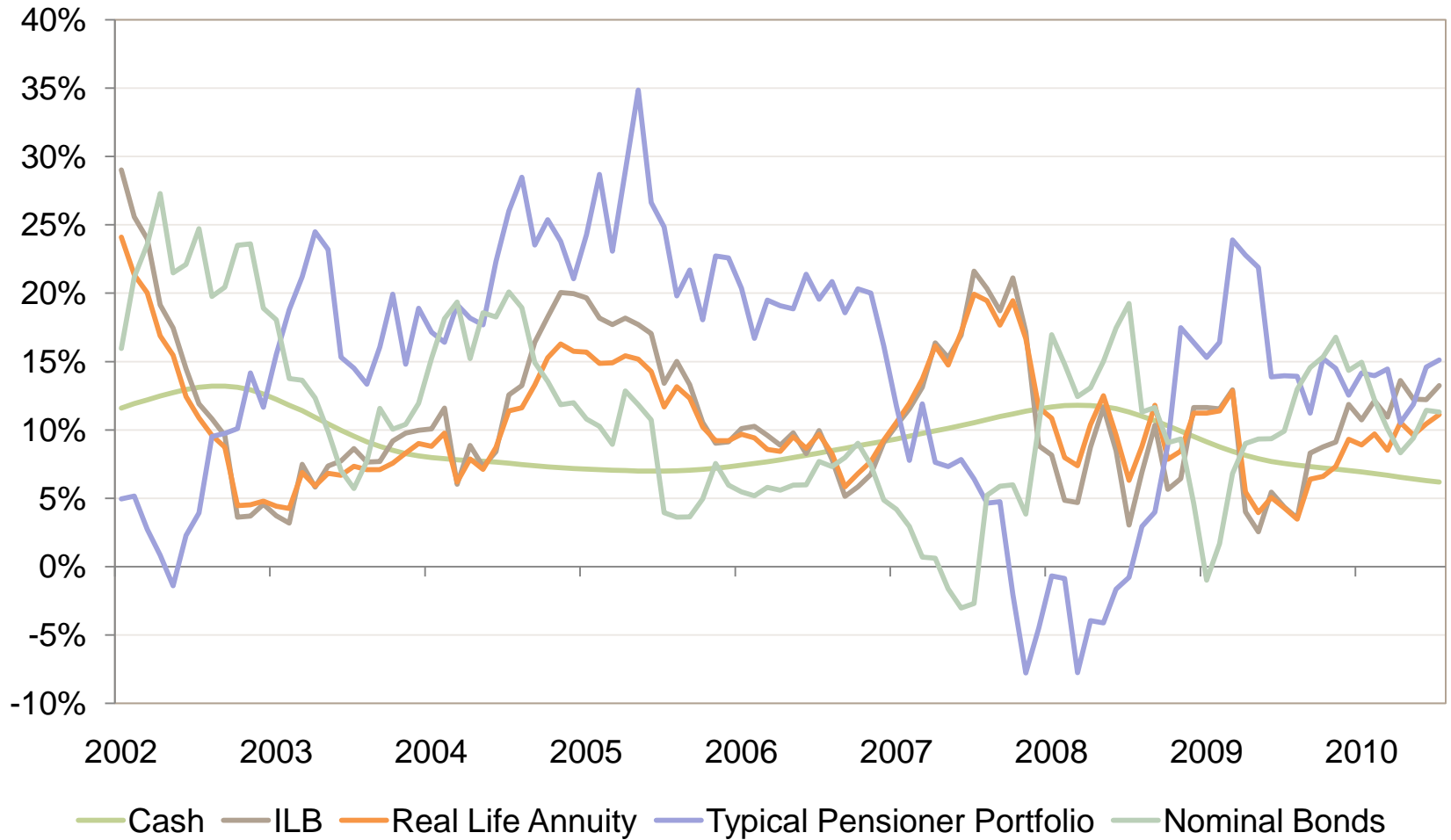
# Which asset classes do I choose?



# Which asset classes do I choose?



# Which asset classes do I choose?

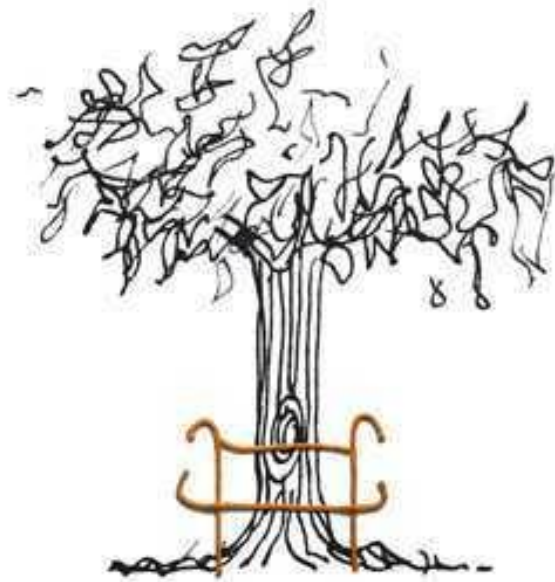


# Which asset classes do I choose?

Asset Class	2010 Naira Bn	%	2009 Naira Bn	%
Local Ordinary Shares	358.0	17.6%	220.7	14.4%
Open/Close-End Funds	8.6	0.4%	5.7	0.4%
Foreign Ordinary Shares	24.1	1.2%	2.8	0.2%
Real Estate Properties	170.5	8.4%	142.9	9.4%
FGN Securities	829.2	40.9%	498.9	32.6%
State Govt Securities	69.6	3.4%	33.7	2.2%
Corporate Debt Securities	50.7	2.5%	31.2	2.0%
Unquoted Securities	8.2	0.4%	6.2	0.4%
Local MM instruments	489.3	24.1%	542.2	35.5%
Foreign MM instruments	7.4	0.4%	17.7	1.2%
Cash and Other Assets	14.2	0.7%	27.5	1.8%

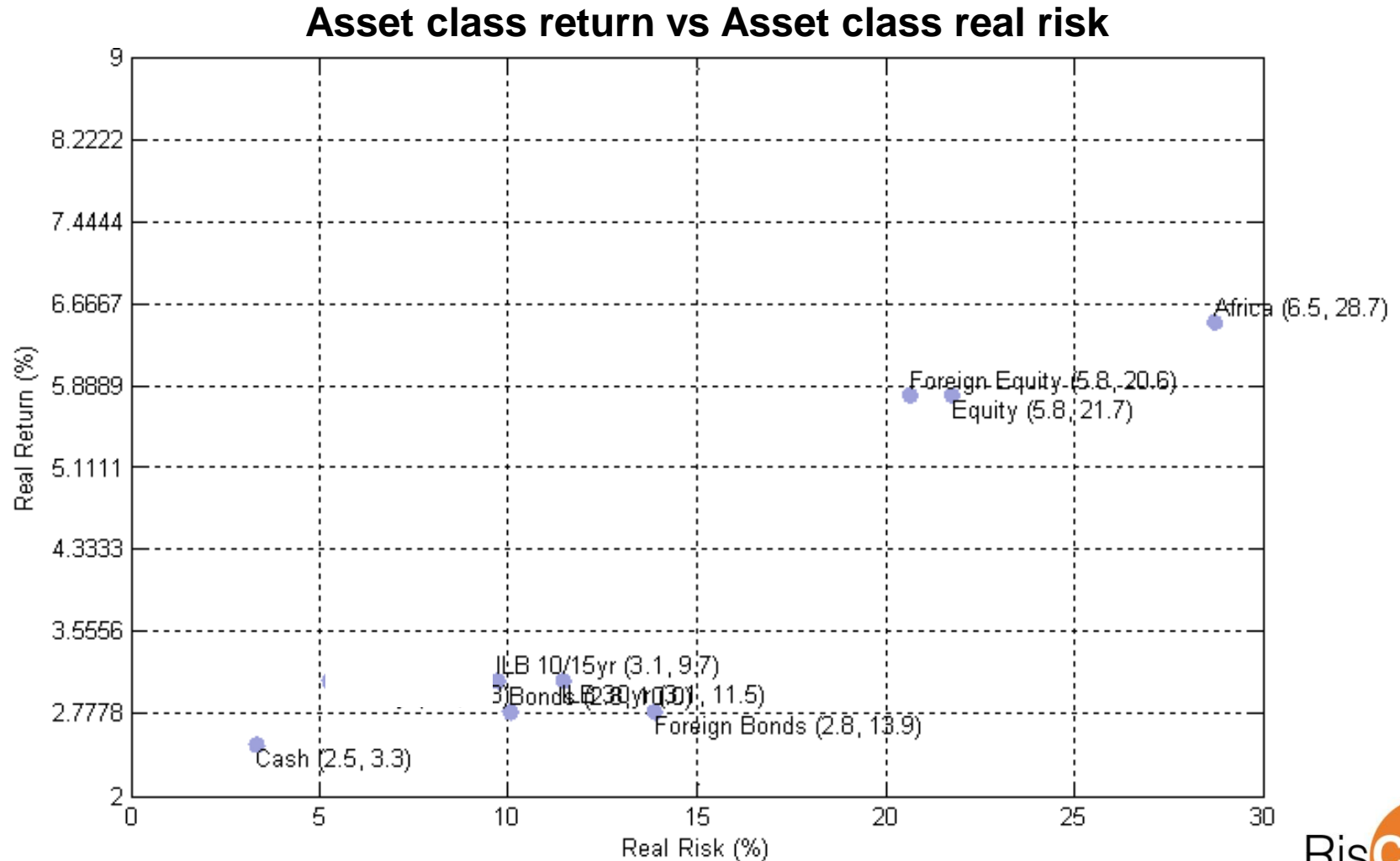
**Source: National Pensions Commission 2010 Annual Report**

# Choosing the asset mix to meet liabilities



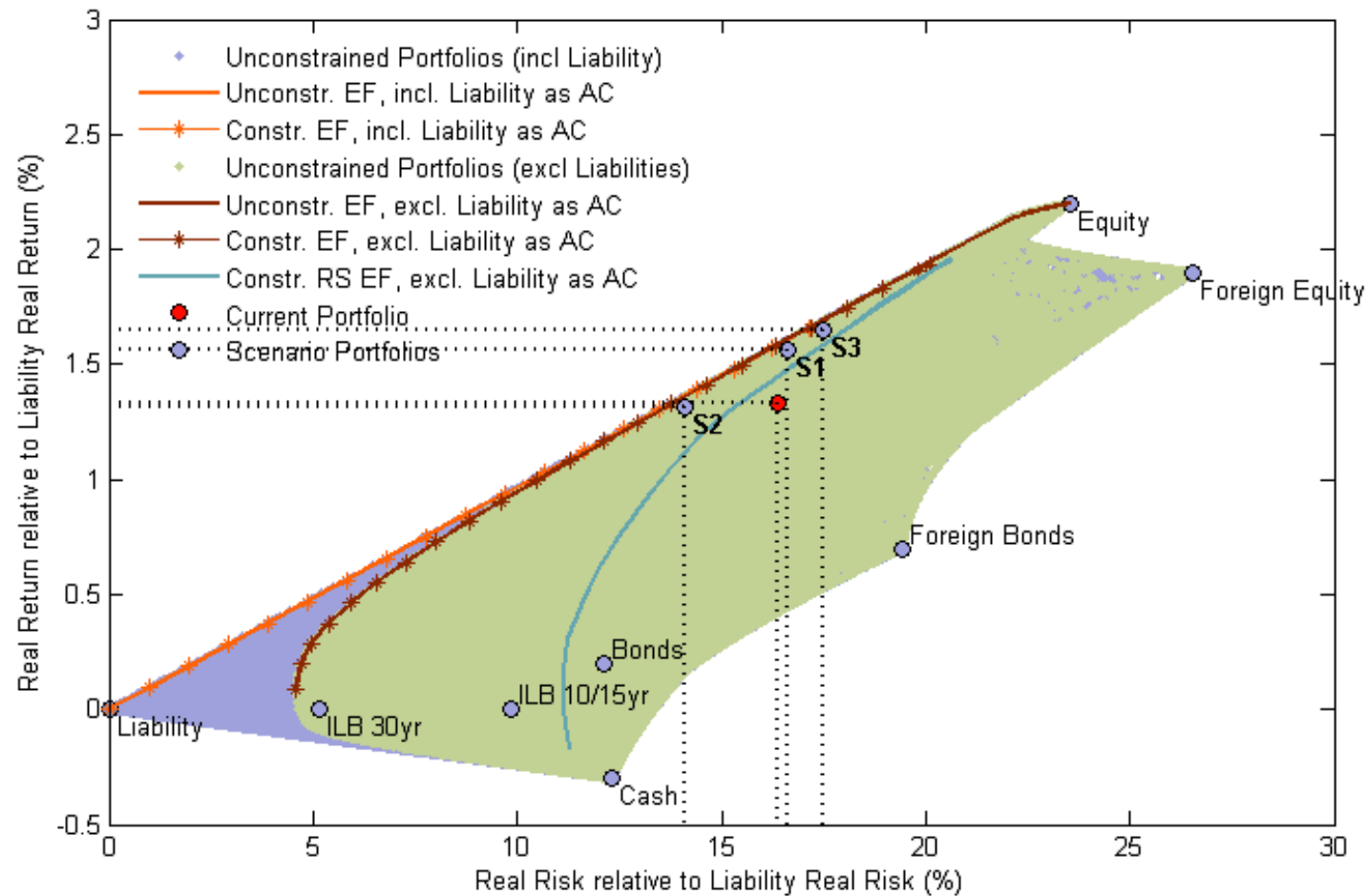
Protect your assets. Help them grow.

# Risk and return trade-off



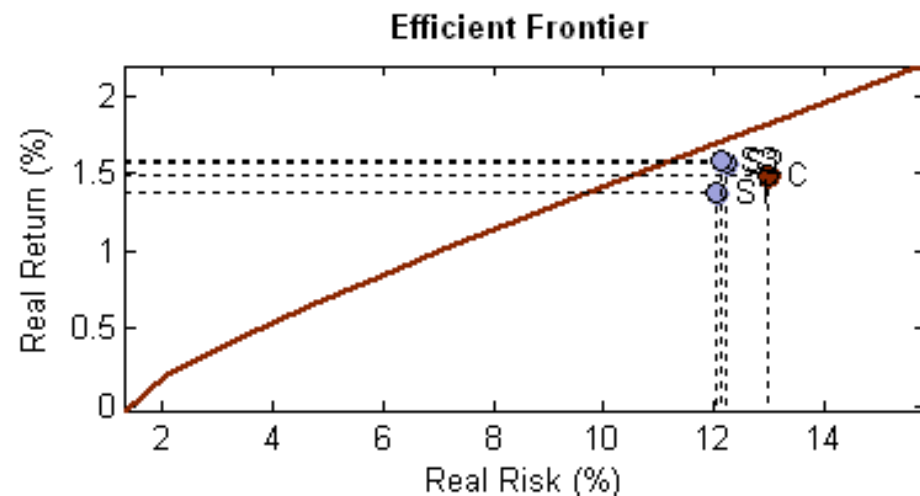
# Determining Optimal Asset Mix

## POD: Portfolio in real liability space



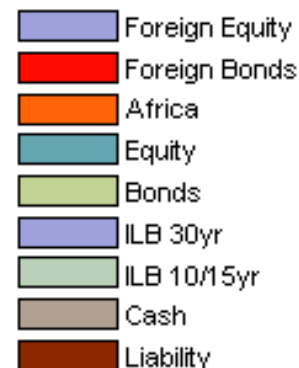
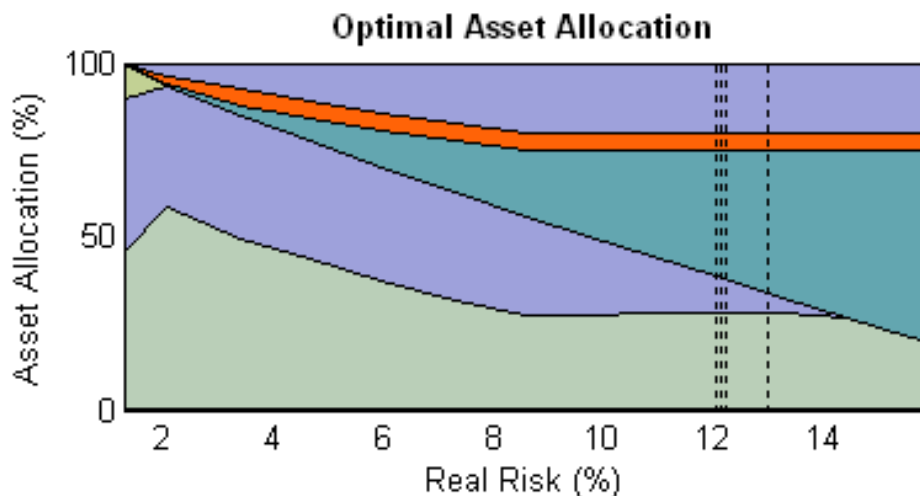
# Determining Strategic Asset Allocation

## Portfolio in real liability space (with constraints)



### Portfolio Allocation

	C	S1	S2	S3
Cash	14.0%	5.0%	5.0%	5.0%
ILB 10/15yr	9.2%	15.0%	15.0%	20.0%
ILB 30yr	0.0%	0.0%	0.0%	0.0%
Bonds	15.7%	20.0%	20.0%	15.0%
Equity	40.9%	45.0%	35.0%	35.0%
Africa	0.0%	0.0%	5.0%	5.0%
Foreign Bonds	1.0%	5.0%	0.0%	0.0%
Foreign Equity	19.1%	10.0%	20.0%	20.0%
Liability	0.0%	0.0%	0.0%	0.0%





# Arriving at the Strategic Asset Allocation

Asset Class	SAA	Ranges
Equity	15%	5 - 20%
Real Estate	10%	0 - 15%
Bonds	50%	35 - 65%
Inflation Linked Bonds	0%	0 - 10%
Foreign Assets	5%	0 - 10%
Cash	20%	10 - 30%

# Investing according to the SAA

Asset Class	Asset Type	Actual	SAA	Ranges
Equity	Local Ordinary Shares	10%	15%	5 - 20%
	Open-End Fund	5%		
Real Estate	Properties	5%	10%	0 - 15%
Bonds	FGN Securities	52%	50%	35 - 65%
	State Govt Securities	2%		
	Corporate Debt Securities	2%		
Inflation Linked Bonds			0%	0 - 10%
Foreign Assets		2%	5%	0 - 10%
Cash	Local MM instruments	20%	20%	10 - 30%
	Cash in bank	2%		

# The Case for Private Equity



All gain. No pain.

# Why would pension funds invest in PE?

“Long term savings vehicles, such as pension funds, are uniquely positioned to manage the long investment term and limited liquidity of private equity investment to capture what appears to be a significant performance premium and diversification benefits.”

- *“Is Private Equity a suitable investment for South African Pension Funds?”*

*Actuarial Society of South Africa: October 2006*

## Asset optimisation

- Aligns with long term nature of liabilities
- Performance premium to listed equity
- Alpha diversification in “Equity” asset class

## Diversification benefits

- Low correlation to listed equity indices (becoming more correlated)
- Exposure to small and medium sized companies

# SA PE compared to listed market (PME)

## Public market equivalent results



# Why would pension funds invest in PE?

## Alignment of incentives and risk

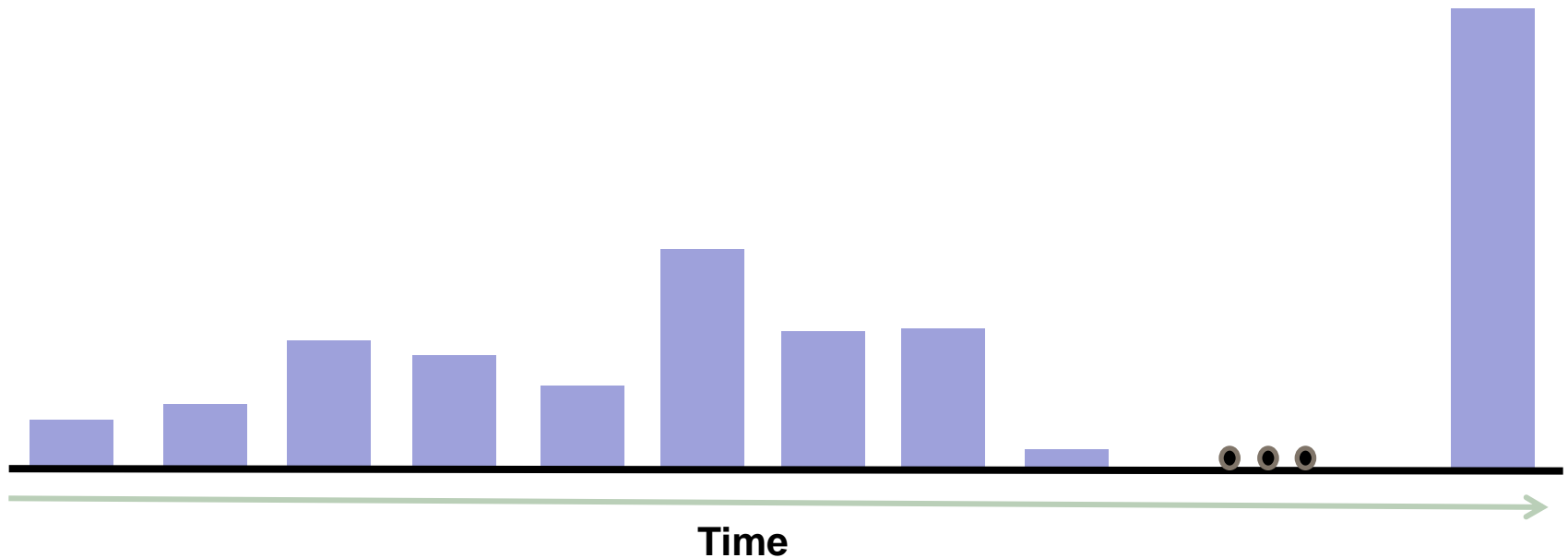
- PE fund managers are only rewarded after investors realise their return
- Co-investment by the fund manager is standard practice (5% in Nigeria)

## Economic and developmental benefits

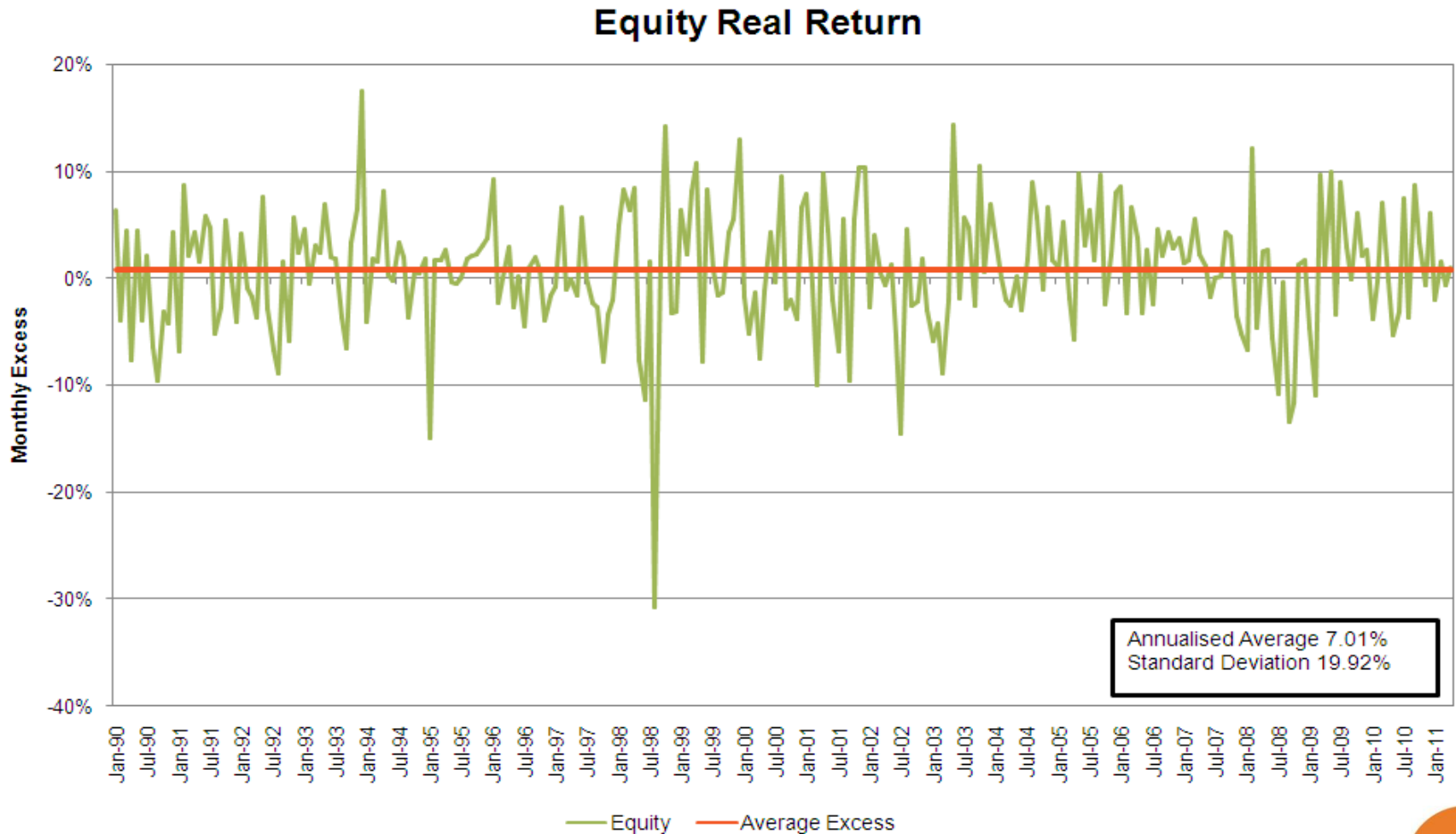
- Provides much needed capital to an important sector of the economy
- Provides finance and expertise to unlisted companies
- Improves governance
- Efficient markets concept - keeps the pricing of the listed markets in check and prevents under-pricing
- A source of growth for listed markets as private equity companies consider a listing as an exit event

# PE – Has Equity-like cash flow characteristics

Dividends, Realisations



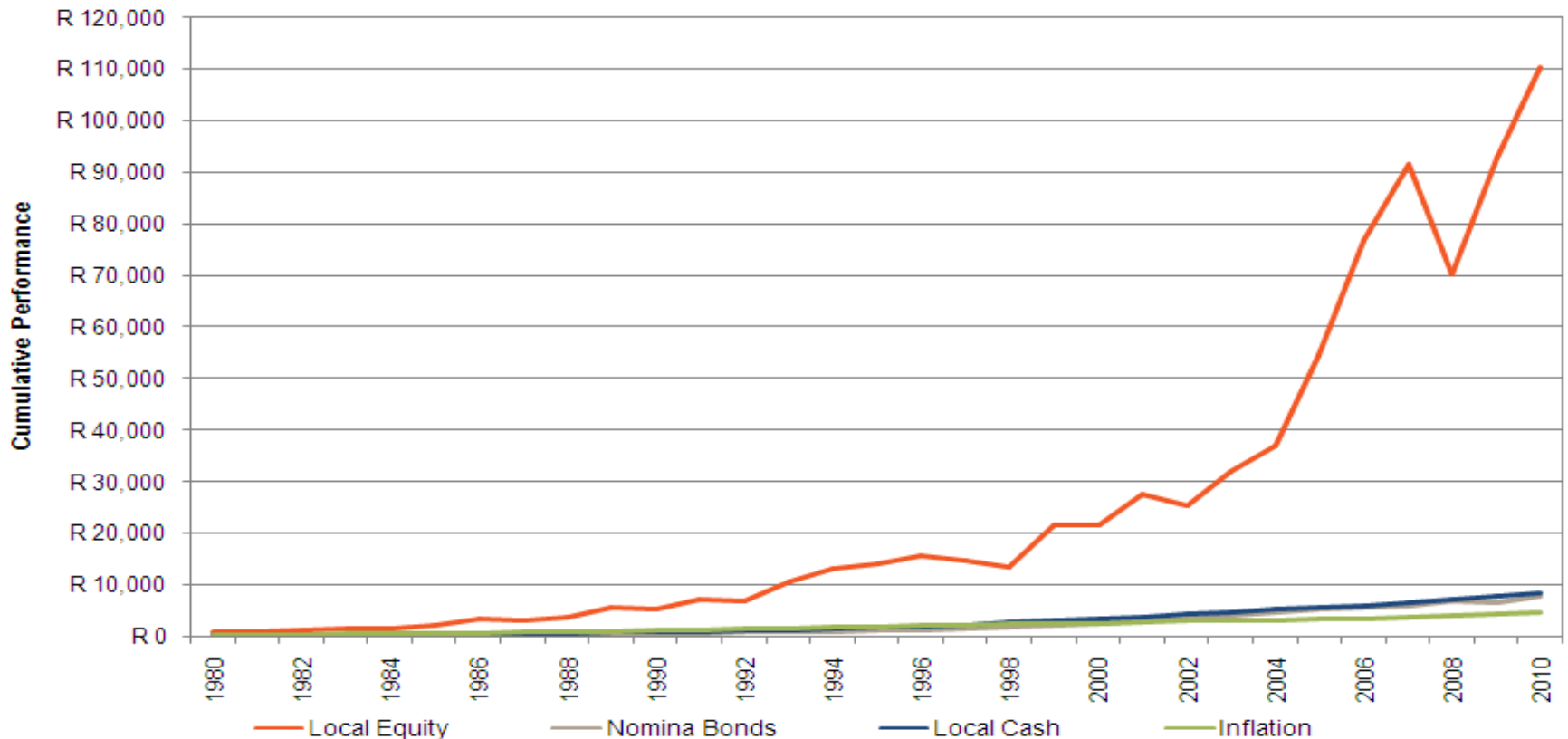
# PE – Valuation smoothing = Lower Volatility





# Asset class - 30 year performance

Value of R100 Invested for 30 Years  
1981 - 2010



# Investing according to the SAA

Asset Class	Asset Type	Actual	SAA	Ranges
Equity	Local Ordinary Shares	8%	15%	5 - 20%
	Open-End Fund	5%		
	Private Equity	2%		
Real Estate	Properties	5%	10%	0 - 15%
Bonds	FGN Securities	52%	50%	35 - 65%
	State Govt Securities	2%		
	Corporate Debt Securities	2%		
Inflation Linked Bonds			0%	0 - 10%
Foreign Assets		2%	5%	0 - 10%
Cash	Local MM instruments	20%	20%	10 - 30%
	Cash in bank	2%		

# Global Pension Fund investments in PE

## LARGE US PENSION FUNDS' ALLOCATIONS TO PE

Investor name	2005 Allocation		2009 Allocation	
	(\$bn)	(% of AUM <sup>8</sup> )	(\$bn)	(% of AUM <sup>9</sup> )
California Public Employees' Retirement System	9.8	5.1	24.3	12.1
California State Teachers' Retirement System	6.9	5.4	15.9	12.1
CPP Investment Board	2.9	3.6	14.1	11.4
Michigan Department of Treasury	5.9	11.0	8.2	17.6
New York State Common Retirement Fund	9.4	6.3	11.6	9.2
Oregon State Treasury	5.1	7.6	9.2	14.1
University of Texas Investment Management Company	1.2	8.4	3.5	22.0
Washington State Investment Board	6.9	5.4	11.5	16.3
Wellcome Trust	2.7	11.5	4.5	20.5

# Disclaimer

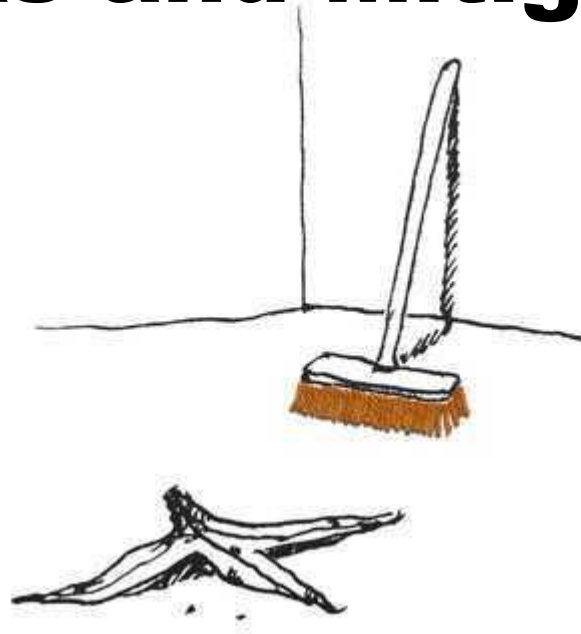


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**Thank you**



# Private Equity for PF: Risks and Mitigants



No unpleasant surprises.

# What are the risks of investing in PE?

RISK	MITIGANTS
PE is a non-regulated sector	<ul style="list-style-type: none"><li>• Largely self-regulated by contracts with investors</li><li>• Investors perform Due Diligence of fund managers prior to making an allocation</li><li>• Investors require significant reporting and governance structures</li><li>• Advisory board (composed of investor base and GP/Trustee)<ul style="list-style-type: none"><li>• Manage conflicts of interest</li><li>• Adherence to management obligations</li><li>• Reporting and valuation obligations</li></ul></li></ul>

# What are the risks of investing in PE? (cont.)

RISK	MITIGANTS
Non-regulated product	<ul style="list-style-type: none"><li>• GPs/Trustees believe that product regulation is impractical due to unique characteristics of each PE fund raised</li><li>• It is important that investors carefully evaluate each PE product</li></ul>
Liquidity	<ul style="list-style-type: none"><li>• Pension funds can afford to invest in assets with a longer term liquidity profile</li><li>• Institutional allocation to PE is generally small in the portfolio, and liquidity to meet capital calls is manageable</li><li>• Can be mitigated by investing across vintage years</li></ul>



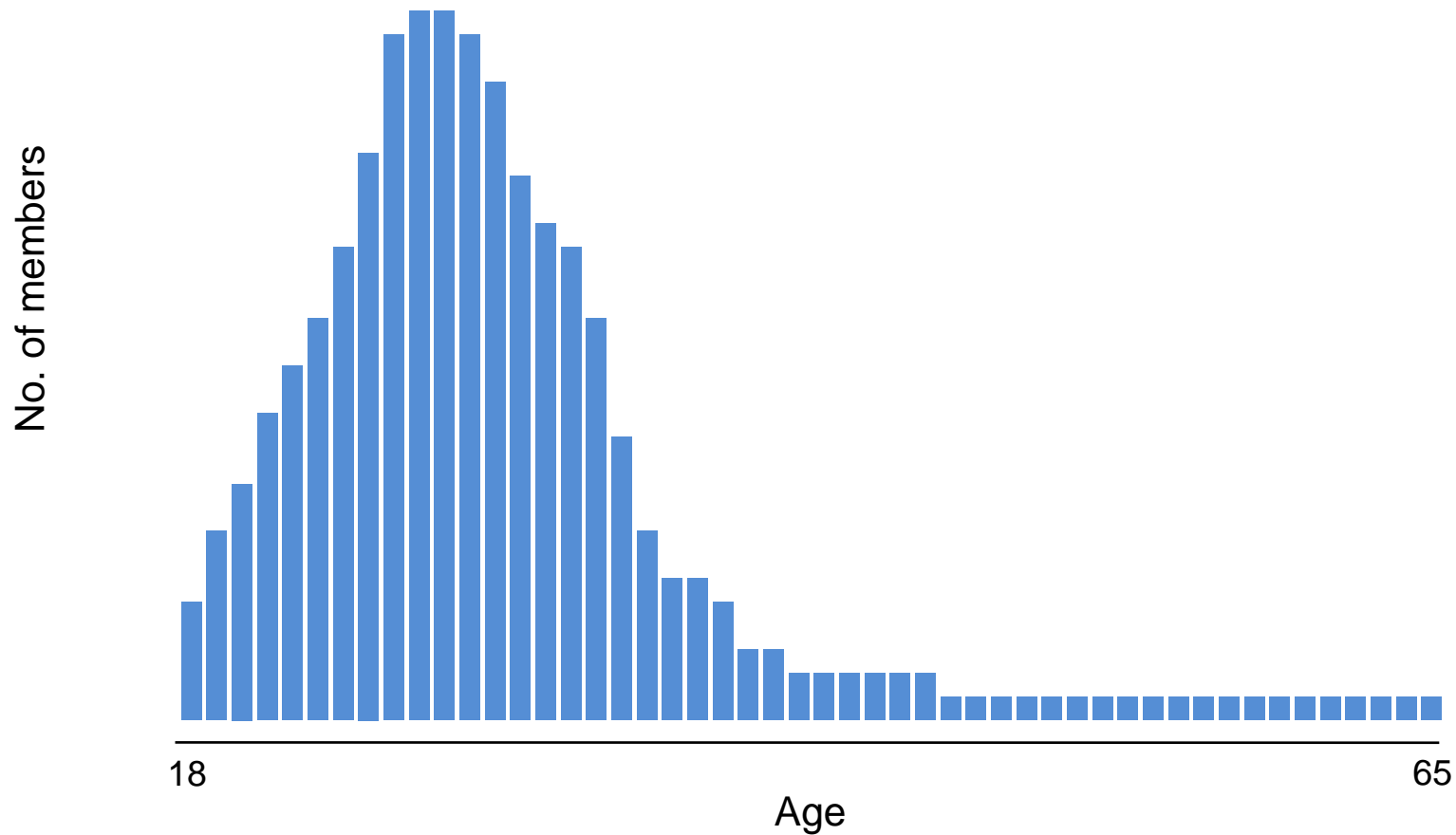
# What are the risks of investing in PE? (cont.)

RISK	MITIGANTS
Concentration	<ul style="list-style-type: none"><li>• A PE fund will typically invest in less than 10 companies over its life</li><li>• Investors can mitigate this risk by spreading their PE allocation amongst several PE funds, or investing in a Fund of Funds</li></ul>
Valuation	<ul style="list-style-type: none"><li>• Funds should apply International PE valuation Guidelines</li><li>• Value portfolio quarterly</li><li>• Quality and frequency has improved</li></ul>
Committed Capital	<ul style="list-style-type: none"><li>• Cash not drawn down places a drag on Equity Performance. PF should liquidate equity to invest in PE.</li></ul>

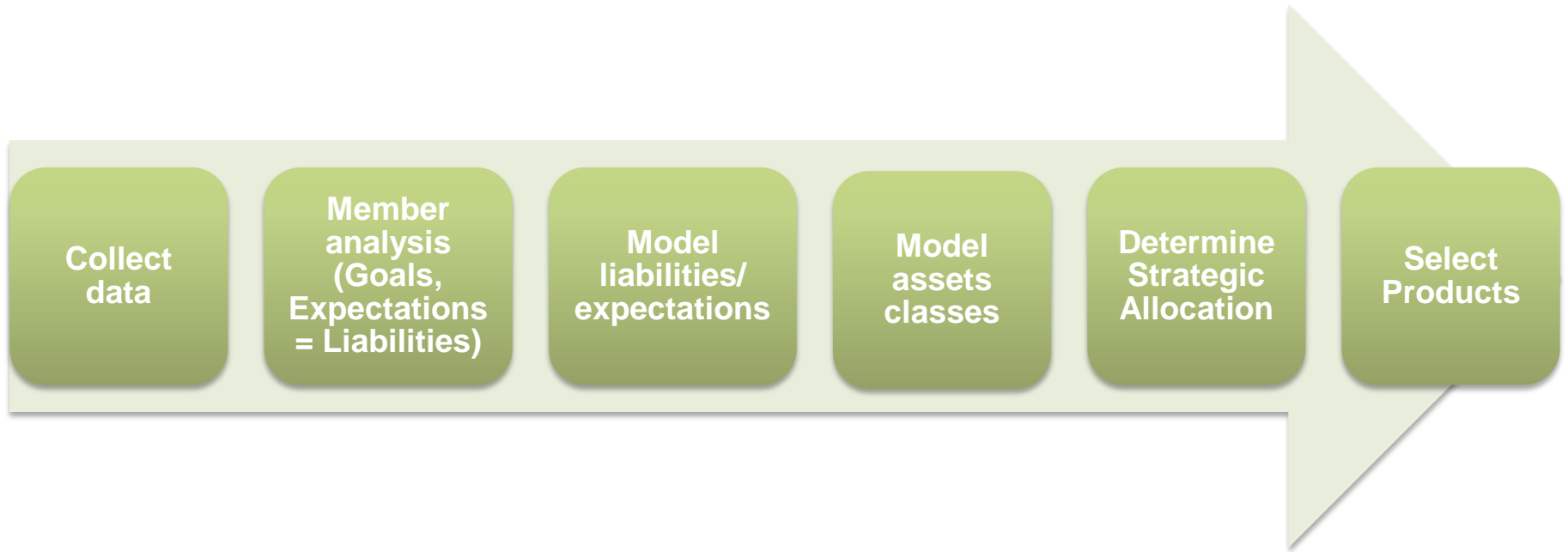
# What are the risks of investing in PE? (cont.)

RISK	MITIGANTS
Pipeline	<ul style="list-style-type: none"><li>• Manager must have good sources and network to establish a deal pipeline</li></ul>
Ability to exit	<ul style="list-style-type: none"><li>• Manager should have a proven track record of ability to exit through different methods. Eg. IPO, trade sale, sale to another financial investor.</li></ul>
Conflicts of interest	<ul style="list-style-type: none"><li>• May be conflict of interest where management team has interest in portfolio company</li><li>• Require a high level of disclosure</li></ul>

# Fund member profile – Young Membership



# Setting investment strategy

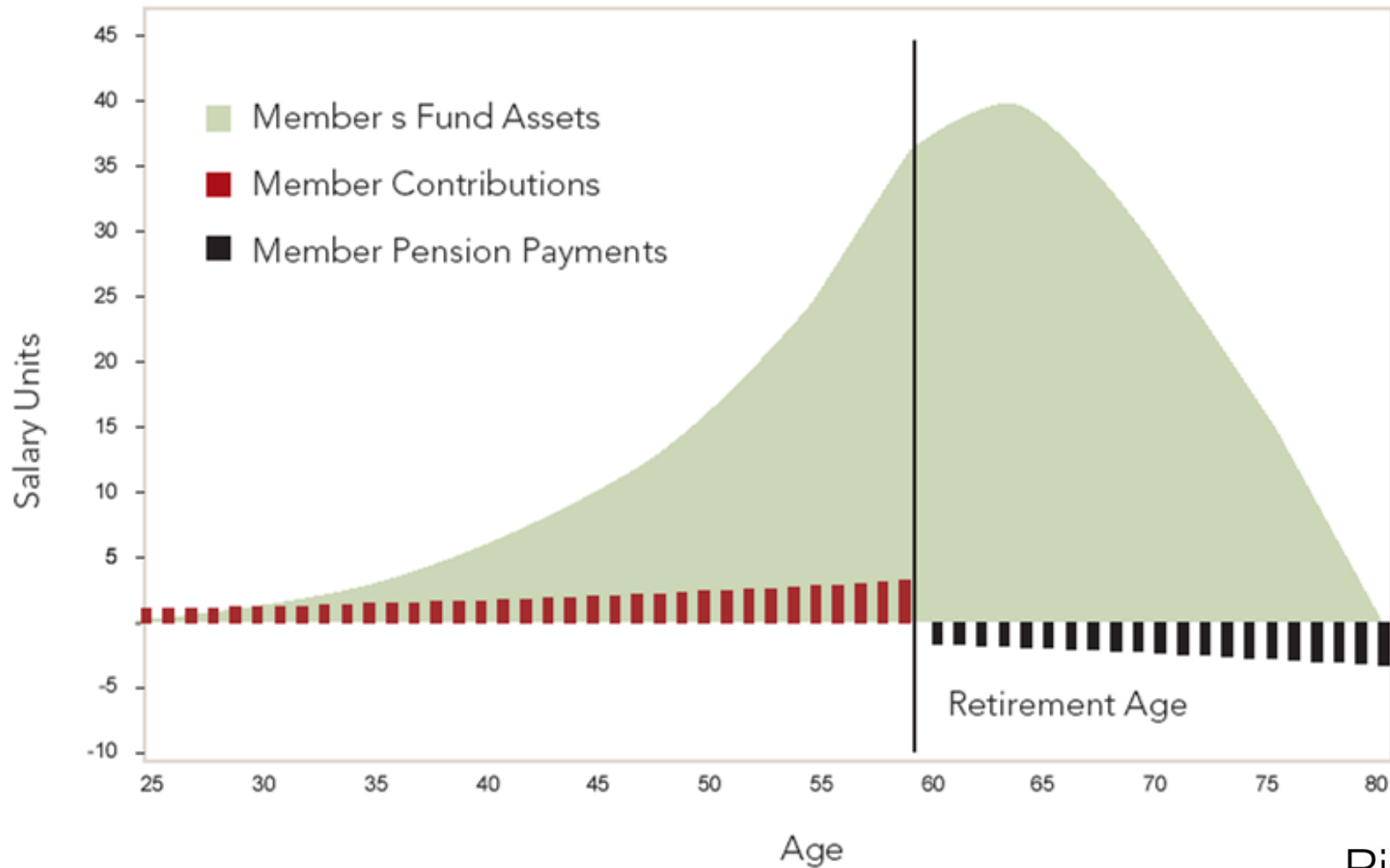


# Varied Investment Risks



- Market
- Credit
- Currency
- Manager specific
- Manager choice
- Unintended aggregation
- Liquidity

# How does it affect Mr. X?



# Real returns

- Real returns = Return - Inflation

	1900-2000	1980-2000	1990-2000	2000-2009
Real Equity returns	6.8	6.1	3.5	9.6
Real Bond returns	1.4	2.4	7.9	6.2
Real Cash returns	0.8	3.2	6.1	3.4
<b>Inflation</b>	<b>4.8</b>	<b>11.7</b>	<b>9.1</b>	<b>6.8</b>

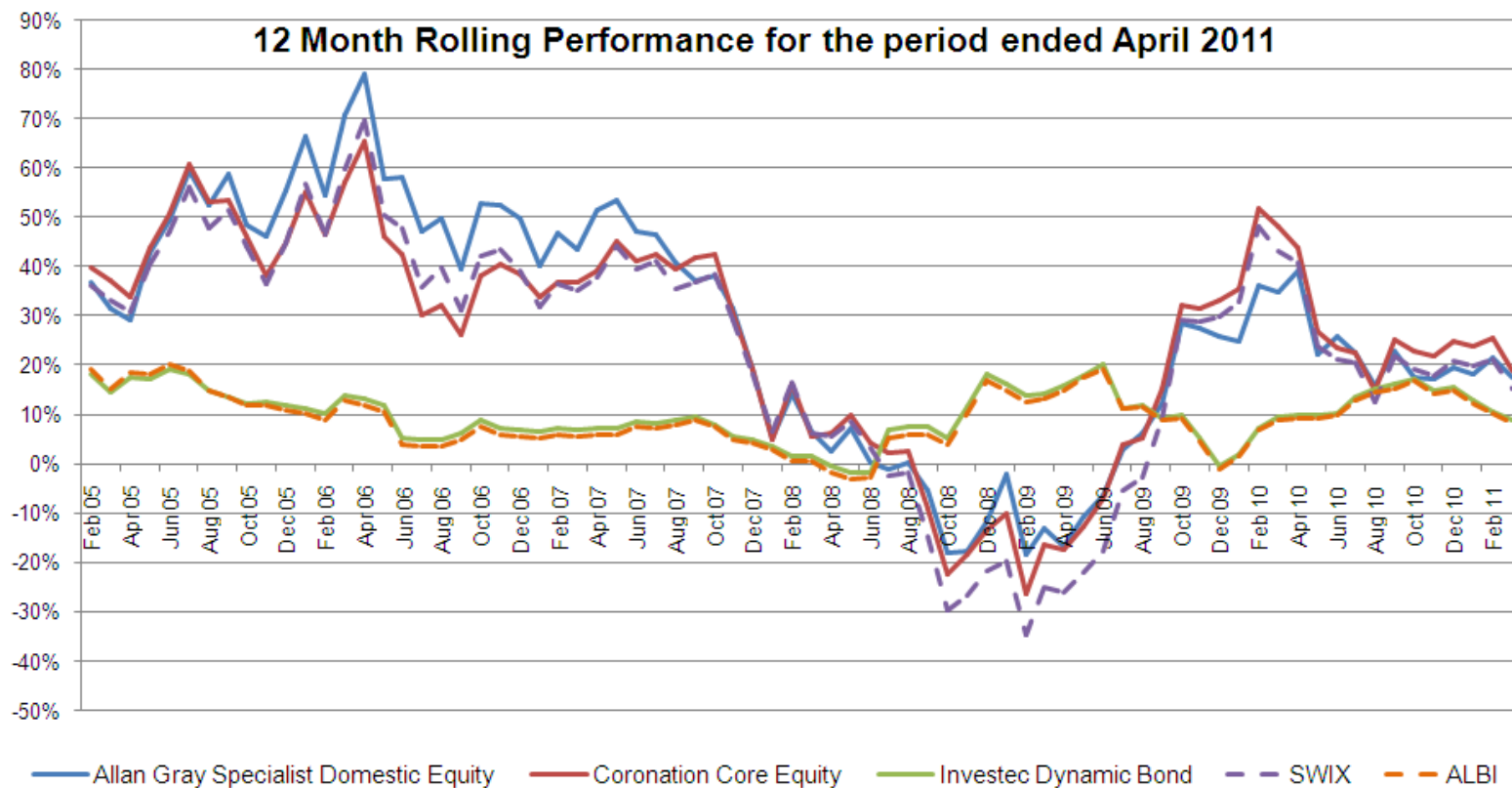
# Strategic asset allocation (SAA)

Study shows that 93.6% of final performance of pension funds determined by their investment policy and asset allocation. Range of performance added by manager selection – 6%. Both are important but asset allocation key! \*



# Setting objectives and strategy

- Biggest return and risk contributor
- Asset allocation will have a bigger impact on performance than manager selection



# What do your members want in retirement?

