Aspects of risk when resilience is important.
Portfolio risk from a different vantage point

What do natural hazard risks look like?

Loss events 01.01.11 – 31.09.11

Source: Munich Re

How natural hazard and market risks interact?

The case of earthquakes

Kobe earthquake

San Francisco earthquake

Source: Bloomberg
What can we learn from stress transmission in nature?
What can we learn from stress transmission in nature?

Geopolitical, terrorism and financial drivers

How systemic stress and markets interact

Lehman Brothers bankruptcy

9/11 attacks

OPEC oil crisis

Source: Bloomberg
What can we learn from stress transmission in markets?
What can we learn from stress transmission in markets?

Aspects of risk when resilience is important

- Periods of calm can indicate a build up of stress
- Fault lines are usually evident before an event
- Stress can be released quickly
- There are usually aftershocks
- Assets and liabilities can and do interact
- Profits can become illusory very quickly

About nature and markets

- Resilience: 1. The power or ability to return to the original form, position, etc., after being bent, compressed, or stretched; elasticity. 2. Ability to recover readily from illness, depression, adversity, or the like; buoyancy.
- Periods of calm can indicate a build up of stress
- Fault lines are usually evident before an event
- Stress can be released quickly
- There are usually aftershocks
- Assets and liabilities can and do interact
- Profits can become illusory very quickly

What does this mean?
Striving for resilience
A framework for insurers

Research has shown that an optimal investment strategy should involve three building blocks:

- A performance-seeking portfolio, longer-term growth orientated e.g. credit, equity, real-estate
- A liability-hedging portfolio, hedging liabilities e.g. long-term bonds and inflation linked bonds
- An endowment-hedging portfolio, hedging cash-flows e.g. cash, short-term fixed income, contingent capital

Linkages across assets and liabilities for an insurer

What individuals can learn from insurers
Striving for resilience
Striving for resilience

A framework for individuals

What is the default position for an individual?

Allocated to: property / cash in bank / credit

Basic income portfolio

Allocated to achieve applicable terms

Performance seeking portfolio

Linkages across assets and liabilities

Deutsche Bank
Markets
Financial Standard Best Practice Seminar, 17 September 2012
Portfolio risk from a different vantage point

What is the risk for individuals?

Average vested benefits by age

Source: APRA Superannuation Statistics

Only the top 25% can comfortably afford to retire in their 60s
While the less well off 25% still have to save to their 70s
The average Australian only begins to draw down in their 60s when they have $180k to $250k in their Super account
Both studies assume an initial retirement endowment of 6.5 times the average annual salary and a replacement ratio of 60% of the average annual salary (inflation-indexed). Investment returns are expected to be 4% real p.a.

Performance seeking portfolio

90% chance of securing retirement income

Years until Super asset are depleted

Volatility [%]

Efficient Frontier

Investment balance - Volatility = 5%

Investment balance - Volatility = 10%

Investment balance [multiple of real salary]

Efficient Frontier in real terms

Volatility [Yr]

How much investment risk is optimal after retirement?
There are three primary decisions here:

1. The contribution rate
2. The asset allocation
3. The hedges to put in place

How can we manage the risk of outliving the assets?
Deutsche Bank
Portfolio risk from a different vantage point
Financial Standard Best Practice Seminar, 17 September 2012

Achieving resilience
Our sample portfolio
Linkages across assets and liabilities

Statistically significant relationships
AU property correlations
－ 60% to CPI
－ 30% to Average Weekly Earnings
－ 50% to AU bonds
－ 20% to AU equities
Macro Hedge Funds
Note: based on indices noted overleaf, correlation of quarterly observations, 1990 until present

Credit
Implementing the concept

Macro Hedge Funds
Australian property
Australian bonds
Australian equities
Basic income
Performance seeking
Asset allocation is a critical decision

Achieving resilience

Portfolio risk from a different vantage point

Achieving resilience

Asset class returns

The asset universe

The asset universe

Source: Bloomberg

Achieving resilience

Asset class returns

The asset universe

Asset class returns

Asset class returns

The asset universe
Portfolio risk from a different vantage point

1 year returns
7 day returns

Rolling returns SP500 Jan 2000 - Jan 2012

Should we take resilience seriously?

Source: Bloomberg Finance LP, Standard & Poor's, Deutsche Bank GMR

Achieving resilience

Some concluding observations
Appendix and disclaimer

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