Property Portfolio Management

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TABLE OF CONTENTS

1 INTRODUCTION TO INVESTMENT PORTFOLIO MANAGEMENT AND ANALYSIS

The stock market provides a major investment market for listed companies; this includes listed property companies and REITs. However, the stock market is volatile and has high risk compared to other assets.

A-REITs are listed on the stock market and are major players in listed property investment. They are therefore exposed to volatile stock market risks. This can be seen as a result of the 2008 GFC with major losses in market cap. Again in 2011 due to stock market volatility.

Period	Stock Market Cap
2007	$61 trillion
2008	**$33 trillion**
2009	$48 trillion
2010	$55 trillion
2011	**$47 trillion**
2012	$55 trillion
2013	$60 trillion
2014	$64 trillion

Figure 1 – Stock market cap as a result of the GFC and market volatility.

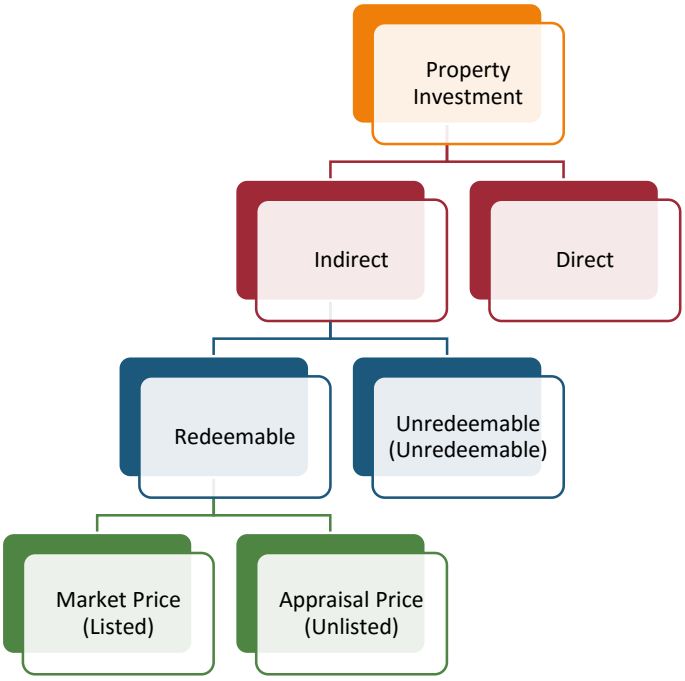
It can be noted that Australia represents about 2% of global stock market wealth.

Pension funds globally have over $30 trillion in assets; they are major investors across all asset classes, property included. Australia has 3 superannuation funds ranked inside the top 100 of global funds.

As of December 2014, Australian superannuation funds contribute to over $1.9 trillion in assets per APRA.

A key message for property investment is that the major players in the market (Charter Hall, AMP and etc.) are active in various sectors in order to maximise portfolio diversification and reduce risk.

To reinforce the diversity of property investment held by funds, PIR (2015) outline Charter Hall's diversity. This can be seen through their 19 funds shifting across retail, office and industrial to name a few.



2 ASSESSING PROPERTY INVESTMENT RETURN & RISK

2.1 RETURN

Investment returns are commonly cited in reports as a guide to investment performance. The use of **'total'** returns is the usual way to assess returns, as it clearly incorporates the 2 elements of an investment, being:

- Capital growth – involving changes in share prices or property values; and
- Income growth – involving dividends or net income.

To calculate the **various annual returns**, and convert indices to annual returns, we simply:

$$\text{Return} = \frac{\text{(Current year return – Prior year return)}}{\text{Prior year return}}$$

For example, indices are as follows:

Investment Performance Indices: 1984-2014

	Australian Composite Property	Australian CBD Office	Australian Retail	Australian Industrial
Dec-84	100	100	100	100
Dec-85	117	118	117	114
Dec-86	137	140	134	132
Dec-87	172	178	167	157

Average returns for the above are as follows:

	ACP	Office	Retail	Industrial
Dec-85	(117-100) / 100 **17%**	(118-100) / 100 **18%**	(117-100) / 100 **17%**	(144–100) / 100 **44%**
Dec-86	(137-117) / 117 **17.09%**	(140-118) / 118 **18.64%**	(134-117) / 117 **14.53%**	(132-114) / 114 **15.79%**
Dec-87	(172-137) / 137 **25.55%**	(178-140) / 140 **27.14%**	(167-134) / 134 **24.63%**	(157-132) / 132 **18.94%**

Examples on how to calculate average annual returns are as follows:

Example 4:

The total returns for the last five years for a property investment were:

2001: 17.3%
2002: 31.7%
2003: 30.2%
2004: -7.4%
2005: -2.3%

The average annual total return is 13.90%.

(17.3 + 31.7 + 20.2 + -7.4 + -2.3) / 5 = **13.90%**

Geomean

(1+0.173) x (1+0.317) x (1+0.302) x (0+0.926) x (0+0.977) = 1.8197

$(1.8197)^{0.20} - 1$

= **12.72%**

Example 5:

The total returns for the REIT accumulation index over the last five years were:

2001: 14.5%
2002: 20.3%
2003: 18.0%
2004: -5.0%
2005: 18.1%

The average annual total return is 13.18%.

(14.5 + 20.3 + 18 + -5 + 18.1) / 5 = **13.18%**

Geomean

(1+0.145) x (1+0.203) x (1+0.18) x (0+0.95) x (1+0.181) = 1.8236

$(1.8236)^{0.20} - 1$

= **12.77%**

2.2 Risk/Return Ratio

The risk/return ratio provides the number of units of risk associated with each unit of return. The smaller this value, the greater the risk-adjusted performance.

See example below for risk/return ratio and example.

Table 5: Commercial property performance analysis: June 1994-June 2004

Asset class	June 1994-June 2004 Average annual return	Annual risk	Risk-return ratio	
Total property	10.2%	1.95%	0.19(2)	1.95 / 10.20
CBD office	7.7%	2.63%	0.34(4)	2.63 / 7.70
Retail	13.2%	2.51%	0.19(1)	2.51 / 13.20
Industrial	12.3%	2.52%	0.21(3)	2.52 / 12.30
Shares	8.6%	11.49%	1.33(6)	11.49 / 8.60
LPTs	8.8%	13.48%	1.54(7)	13.48 / 8.80
Bonds	6.8%	4.90%	0.72(5)	4.90 / 6.80

3 MIXED-ASSET PORTFOLIO ANALYSIS

Mixed-asset portfolio analysis in essence is the calculation of risk and return based on a diversified portfolio. We examine the volatility and benefits involved in spreading our investment amongst various vehicles such as office, retail, A-REITs, bonds and etc.

In analysis of portfolio return and risk, we prefer a higher return and lower risk.

Examples in calculating mixed-asset portfolios are as follows:

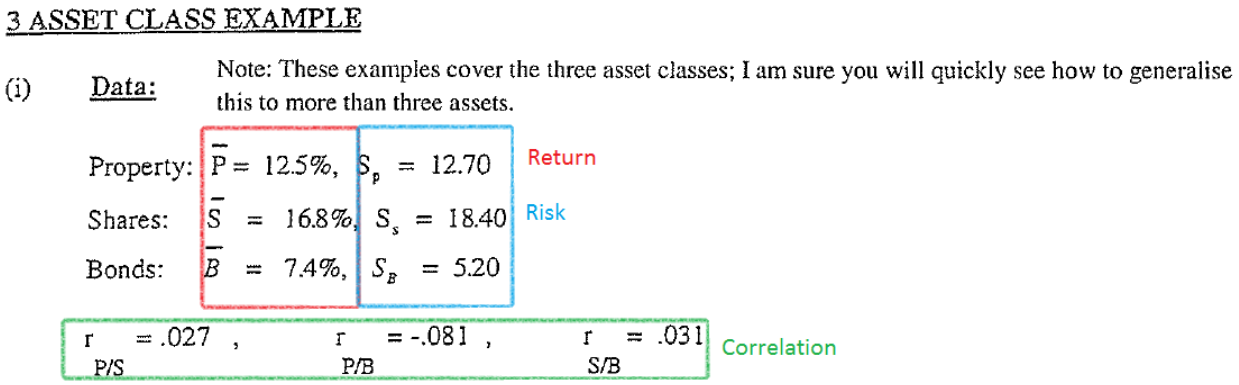


Figure 3 – Data set for the following examples.

(iii) **Portfolio Mixes:**

(1) 50% property/50% shares → $p_P = 0.5$, $p_s = 0.5$, $p_B = 0.0$

Portfolio Return =

Portfolio Risk =

4 ADVANCED PROPERTY PORTFOLIO ANALYSIS

4.1 SHARPE RATIO

The more standard measure of risk-adjusted returns in investment analysis is the Sharpe index, given by:

$$Sharpe\ index = \frac{\overline{R} - \overline{R}_f}{s}$$

where:

$\overline{R}$ = average return for investment

$\overline{R}_f$ = average risk-free rate (90-day bills)

s = risk for investment option.

The larger the Sharpe index, the better the risk adjusted performance. Negative ratio's show underperforming investments in comparison to 90-day bills.

The following table provides an example of the calculation of the Sharpe ratio.

The greatest performing investment option is All Industrials.
The worst performing investment option is 10 year bonds.

4.2 TRACKING ERROR

The Tracking error is another risk measure that is used to assess the performance of specific funds relative to their performance benchmark.

To calculate the tracking error, the benchmark fund return is subtracted from the specific fund return in each time period. The resulting excess returns are then used, and the standard deviation of these returns is calculated.

The tracking error determines how much risk has been taken on. Ideally, we prefer a figure of >2.

5 VALUATION OF A-REIT

The basic information needed to do the valuation of an A-REIT involves the profit and loss account and balance sheet for the A-REIT.

The use of the profit and loss is to calculate the distribution per unit (DPU). We calculate this as follows:

$$\text{Distribution per unit} = \frac{\text{Distribution paid}}{\text{Weighted average number of units}}$$

To calculate the net tangible assets per share (NTA) we calculate the following in 2 steps:

$$\text{Net assets} = \text{Assets} - \text{Liabilities}$$

$$\text{Net tangible assets per share (NTA)} = \frac{\text{Net Assets}}{\text{Number of Units}}$$

6 INDIRECT PROPERTY INVESTMENT VEHICLES

Indirect property investment displays exposure to the ASX as units purchased in A-REITs are subject to market volatility. Investment in assets typically include those of which are high volume transactions, such as the purchase of shopping centres and large commercial real estate.

Provided below is a summary of the scale of the fund types as provided by PIR (2015).

As evident above, unlisted retail is the largest based on number of funds whereas A-REITs hold the greatest value in assets.

7 INTERNATIONAL PROPERTY INVESTMENT VEHICLES

A key factor in international property in recent years has been the rapid development of REITs in many countries. Numerous countries such as:

- America;
- Canada;
- Germany;
- Japan and etc.

Emerging markets such as China and India are expected to develop REIT markets within 5 years as their real estate fund markets improve. US REITs account for over 50% of the global REIT market.

8 SOVEREIGN WEALTH FUNDS

Sovereign wealth funds are separate organisations set up by governments to invest their assets effectively. Their assets are often from oil revenues or trade surpluses.

Some sovereign wealth funds have established more local offices to increase the number of people on the ground in local markets, and it also seems likely that, while noted for buying trophy assets, sovereign wealth funds may also target a wider range of markets in the coking years.

9 PROPERTY PORTFOLIO ISSUES

Property portfolio issues to focus on include:

- Number of real estate funds currently in the market and how much capital they are seeking to raise;