



Retail Investment Risk Descriptions

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Dangerous and Misleading?

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1. Introduction

Retail superannuation providers are required to give potential investors a description of the investment risks they will face for each of the investment options provided. The typical risk description has equities as “high risk” and bonds as “low risk”. Little or no explanation of the influence of the customers investment time horizon is usually provided.

For superannuation, the operation of preservation rules mean that, for almost all investors, the investment time horizon is long or very long. As a result, the typical risk descriptions are seriously inconsistent with the characteristics of the investments that will be made.

This paper adopts a definition of investment risk which is consistent with the customers’ understanding of investment risk. It quantifies the likely order of magnitude of the investment risk over the long time horizons involved in superannuation on the basis of such a definition of risk and concludes that the typical retail investment risk description is likely to be seriously misleading. In addition, it makes the issue of “educating” the consumer as to the “best” investment choices a far more difficult process than it needs to be.

The paper does not attempt a comprehensive analysis of the alternative definitions of risk which are possible; nor does it attempt to deal with the range of distributions of returns which might be assumed for various investment portfolios. These are areas which are the subject of ongoing research.

2. Industry Risk Descriptions

A sample of brochures from eight superannuation providers representing around 43% of the retail superannuation market was examined.

Only one provider emphasised the influence of investment time horizon. “By regarding risk as the likelihood that your investment needs will not be met, we see that risk is not an inherent quality of an asset, but rather depends on the investment needs that you want the asset to satisfy”.

All the other providers described risk in the “high return – high risk” form.

Examples included

Australian equities - “Investors ... who can accept a high risk of negative returns, particularly in the short term”

“ ... higher returns over the long term (such as shares) carry a higher risk of fluctuating returns ...”

Australian equities – “This is a relatively high risk option.”

“ ... higher returns ... are generally exposed to a higher risk of capital loss in the short term ...”

The style of the conventional investment risk description is, with the exception of one provider, remarkably consistent and unanimously using a risk definition based on relative variance.

3. Definitions of Risk

The risk definition implied by the typical risk descriptions used is that risk equals relative variance of annual returns. While such a definition may describe accurately a particular view of risk it is clearly only one of a number of strikingly disparate definitions which could be used.

The basic dictionary definition of risk is “the possibility of suffering harm or loss or other adverse consequences“. This definition is exclusively focussed on negative outcomes.

The risk definition which should be the focus for retail investment risk descriptions is that used and understood by the potential consumers. The vast majority of consumers will use and understand risk in the sense of the general dictionary definition i.e. the possibility of loss.

Loss, in the customer's understanding, is only realised at the end of the specific time horizon for an investment. Hence, the consumer's time horizon must be part of any risk definition. In addition, the consumer's risk understanding is in terms of "possibilities" i.e. the probability of loss.

The conventional investment risk descriptions, based on relative variance, are just not consistent with such a consumer understanding of risk.

The consumer's risk understanding is, however, consistent with a definition of investment risk as

the probability that the performance of a particular investment portfolio over the whole of the investment time horizon will be less than some other portfolio

Note that such definition is relative. Since the overall objective of superannuation investment is to achieve the highest possible investment return over the whole period from commencement to "retirement" it is not possible to assign an absolute probability since the objective is not quantifiable in absolute terms. It can only be quantified in relative terms i.e. one investment portfolio outperforms other investment portfolios over the applicable time horizon.

4. Relative Investment Performance Over Different Time Horizons

In order to examine the “risk” as defined in Section 3 the relative investment performance of two investment portfolios has been analysed. The two portfolios are those that traditionally are viewed as being “most risky” and “least risky”, namely

100% Australian equities, and

100% Australian Government bonds.

To derive a distribution of the potential long term investment returns from each portfolio a simulation technique was used. The annual returns from each portfolio were assumed to be normally distributed and so a mean-variance description is appropriate. Alternative distributional assumptions are the subject of ongoing research. The means and standard deviations were calculated from the annual returns derived from the ASX Equity and Bond accumulation indices for the period 1929 to 1995. They were

Portfolio	Mean	Standard Deviation
100% equities	12.2%	19.9%
100% bonds	6.6%	7.1%

For each successive year of the time horizon a random choice from each normal distribution was made. The resulting returns were accumulated for the relevant period. This process was repeated for 10,000 simulations.

The mean and standard deviations of the resulting overall annual returns were calculated. For each of the 10,000 simulations the pairs which are the accumulation over each time horizon from each portfolio were compared and the number of cases where the 100% equity portfolio had a higher accumulation than the 100% bond portfolio was counted.

The results of these simulations are shown in the table.

Time Horizon	100% Bonds		100% Equities		Probability Shares > Bonds
	Mean	Std Dev	Mean	Std Dev	
1	6.6	7.1	12.2	19.9	.61
5	6.4	3.2	10.7	9.1	.67
10	6.4	2.3	10.5	6.5	.72
20	6.4	1.6	10.5	4.6	.80
30	6.4	1.3	10.4	3.7	.85
40	6.4	1.1	10.4	3.2	.88

On the basis of a definition which expresses risk in terms of the relative probability of one portfolio outperforming other portfolios, these probabilities do not justify the proposition that equities constitute a “high risk” investment strategy. In the case of the longer investment time horizons, it would be appropriate to describe equities as “low risk” and bonds as “high risk” under our risk definition. This is, of course, the opposite of the typical risk descriptions used by retail providers.

Even for a one year time horizon, the equity portfolio will outperform the bond portfolio 61% of the time. Yet most advice given to superannuation consumers concerning investment risk would strongly advise that the equity

portfolio possesses the higher risk, even if the investor's time horizon was to be an influencing characteristic in the risk determination.

A thirty year time horizon is, for the vast majority of superannuation contributors, a very realistic investment time horizon for their superannuation. For this time horizon there is an estimated 85% probability that the equity portfolio would outperform the bond portfolio. Even when the progressively shorter time horizons applicable to each year's contributions are allowed for, the probability of the equity portfolio outperforming the bond portfolio remains suitably high.

By way of comparison a racehorse running at '6 to 1 on' is about as short a price as you will ever see. While comparisons with gambling may make some investors uncomfortable, the inherent role risk plays in both settings is incontrovertible. Such odds may not represent a certainty but they hardly constitute "high risk".

5. Implications for Member Choice

It is almost universally agreed that one of the crucial issues for a successful implementation of "member choice" is the extent and quality of education provided to members. Most industry analysts interpret the need for this education as critical to ensure that members do not automatically make

“conservative” investment choices. The fear fund trustees hold for such “conservative” investment choices is that they will lead to lower final benefit outcomes than if “less conservative” investment choices were made. Such an outcome would bring significant member pressure on the trustees as members seek to maximise their retirement benefit. It would also materially reduce the contribution from private superannuation savings to the overall retirement savings pool. “Conservative” in this context is consistent with our bond portfolio while “less conservative” is represented by our equity portfolio.

Such an education objective is totally consistent with the relative probabilities of outperformance shown in section 4. As a result, risk described in the terms suggested in this paper is in complete harmony with the agreed outcomes regarded as reflecting desirable levels of ultimate benefit – that is, high levels of equities for most investment portfolios.

However, if the typical retail risk descriptions remain in widespread use, an education program directed at the above outcomes will seem to most superannuation product consumers to be completely opposite to what they are being advised in the context of investment risk. In other words, education programs offer consumers the hope of higher returns but investment advice is unmitigatingly gloomy in describing risk. In fact, as this paper shows, “higher risk” alternatives outperform their “low risk” counterparts most of the time.

How can education really hope to convince investors that the “correct” investment choice is the one which is labelled as “high risk”? Indeed, one can surely ask how the educators can honestly suggest that the “high risk” choice is the appropriate investment choice? If the equity investment portfolio is really the “correct” choice then, surely, in logical terms it must be the “low” risk option.

The divide between “education advice” and investment advice in product description make the process of appropriately informing consumers several orders of magnitude more difficult. However, if the messages are consistent then the education task must be materially easier. Using risk descriptions as suggested in this paper would make the education message and the message conveyed by the risk descriptions totally consistent.

6. Conclusions

On the basis of a statistical analysis of the estimated probabilities of a 100% equity portfolio outperforming a 100% bond portfolio, this paper has concluded that

- The conventional retail investment risk descriptions are effectively inconsistent with the risks of outperformance implied by those probabilities, and as a result the conventional description might fairly be described as “dangerous and misleading”

- The continued use of those conventional risk descriptions will make the agreed education objectives for a “member choice” environment materially more difficult to achieve.