



# THE Frontier Line

Thought leadership and insights from Frontier Advisors

Issue 156

February 2020

## Superannuation Performance No Risk, No Return

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# Introduction

APRA played the Christmas Grinch, delivering their Heatmap analysis in early December. The aim of the Heatmap was to improve transparency, providing “credible, clear and comparable information for all MySuper products”. According to APRA, this will lead to improved member outcomes, particularly for those funds which are underperforming, by holding them “publicly accountable” for their performance.

Our Frontier Line, [The Heat is on Underperformance](#), examined the details of the Heatmap and provided some preliminary analysis of the approach taken by APRA. We also provided our thoughts on the Heatmap specific investment metrics, its implications for the industry, as well as areas that we think could be further enhanced.

While APRA notes the Information Paper is not a consultation paper, it has indicated that it welcomes feedback from all stakeholders and will evolve the Heatmap over time.

Recognising the importance of risk, APRA risk-adjusted their Heatmap analysis using a growth/defensive measure to provide insights into the performance of each product.

In this article we analyse other investment risk metrics, using funds’ performance to December 2019. We examine the ten best performers and measure how much they earned and the degree of risk they took to achieve it.



# Calendar year performance

2019 was a good year for superannuation investors, with the average fund (as measured by SuperRating's SR50 Balanced) returning 14.7%. As always, performance varied considerably, with returns ranging from 12% to 18%. The top 10 performers (according to the SuperRating's SR50) earned over 16.5%, as highlighted in Table 1 below.

With inflation for the year at 1.6%, the average superannuation fund produced a real return of 13%. The typical fund is aiming produce a real return of 3-3.5% p.a., so the 2019 return far exceeded long-term expectations.

Even the worst funds in the survey returned inflation +10% for the year.

Again, the one year results highlight the danger of choosing a super fund based on short-term performance. Only half of the top ten performers for the year have a return better than average over five and ten years.

Understanding the relative performance of funds requires an analysis of not just the returns they achieved, but also the risk they took in achieving the returns.

Table 1: Top SR50 Balanced Funds – 31 December 2019

Fund – Option	Return (% p.a.) / Rank			
	One Year	Three Years	Five Years	Ten Years
UniSuper Accum - MySuper Balanced	18.4 (1)	10.2 (2)	9.1 (5)	8.9 (3)
AustralianSuper - MySuper Balanced	17.0 (2)	10.4 (1)	9.4 (2)	9.0 (2)
Aust Ethical Pers - Balanced	16.8 (3)	8.7 (19)	7.7 (25)	6.7 (44)
smartMonday PRIME - Balanced Growth - Active	16.4 (4)	8.1 (31)	7.1 (36)	7.6 (31)
SD Bus - Multi-manager Balanced	16.3 (5)	6.5 (49)	5.4 (50)	6.2 (47)
Mercy Super - MySuper Balanced	16.3 (6)	9.8 (4)	9.3 (3)	8.6 (6)
IOOF Employer Super Core - IOOF MultiMix Balanced Growth	15.9 (7)	8.3 (26)	7.3 (31)	6.8 (43)
LGIASuper Accum - Diversified Growth	15.9 (8)	9.1 (13)	8.0 (20)	7.9 (20)
First State Super MySuper - Life Cycle Growth	15.8 (9)	9.7 (5)	8.3 (11)	8.2 (15)
Mercer Super Trust - Mercer Growth	15.6 (10)	8.4 (24)	7.5 (26)	7.3 (38)
<b>Median</b>	<b>14.7</b>	<b>8.4</b>	<b>7.6</b>	<b>7.7</b>

Source: SuperRatings



# Defining risk

## Characteristics of Good risk measures

Before defining specific investment risk metrics, it is worthwhile considering the purpose of measuring risk. When determining risk metrics as part of any risk management process, the following questions are important.

- Does the metric help identify existing risks?
- Does it help quantify or measure the risks?
- Does it help monitor the exposure?
- Does it help manage the consequences?

Resulting from these questions, the following characteristics are important.

- Measurable – the metrics should be quantifiable.
- Comparable – between different entities and over time.
- Predictive – provide early warning signals.
- Informational – easy to understand and interpret.

In the following section, we identify specific investment risks. All of them meet the measurable characteristic. In the sections following, we analysis the degree to which they meet the other criteria.



## Investment risk measures

Any analysis of investment returns must be coupled with an understanding of investment risk. Superannuation investors need to take investment risk to earn returns, and one of the most significant risks they face is that they do not take enough risk, resulting in a poor outcome in retirement.

That said, one of the easiest ways to outperform peer funds is to take more risk, particularly when equity markets are rising. Inevitably, when the performance surveys are released, the old growth/defensive debate is revisited. The question raised is whether the top performing funds are “better” than other funds, or merely higher risk.

Frontier has argued that investment risk is multi-faceted and there is no single definitive definition of risk. The level of risk the funds took to achieve their returns can be measured in various ways.

- **Growth/defensive ratio** – as growth assets are typically more risky than defensive assets, a fund with a higher growth ratio can be more risky, although this may not show up in any particular year. Historically funds self-report their growth allocation, leaving this measure open to some interpretation. APRA set out its own definition in the Heatmap calculation.
- **Standard risk measure (SRM)** – the investment risk label, calculated as the expected number of negative returns in 20 years, is another measure of investment risk.
- **Standard deviation** – calculating the volatility of returns is a traditional measure of risk. However, it can be affected by the valuation policy used for illiquid assets.
- **Downside risk** – the SRM defines risk in terms of frequency of loss. While frequency is an important consideration, the magnitude of the potential drawdown also matters. Metrics such as CVaR provide a measure of how bad the return might be in extreme outcomes.
- **Equivalent equity exposure** – this measure converts a diversified portfolio into the equivalent level of broad equity market risk, as the summary measure for this structural risk level.

Risk can be defined in other ways as well, with the ultimate risk for members being that their superannuation is not adequate for their retirement. The risk measures above concentrate on how volatile the journey to retirement will be, rather than the final destination. As superannuation is a long term investment for most members, assessing the risk that a fund won't produce a sufficient real return is necessary.

The crucial issue for superannuation members is “what is the likelihood that a fund will meet my post retirement financial needs”. Importantly, as most members can't access their benefits prior to retirement, short term fluctuations in the value of their balance should not of concern so long as, in the long term, their benefit will meet their retirement needs. However, short term negative returns may cause members to move their superannuation balances into lower risk options, often at the worst possible time.

While not strictly risk measures, the investment return targets provide a measure of the whether members' long term retirement needs will be met. There are two common investment return targets:

- **Investment objective** – SPS 530 Investment Governance requires trustees set a specific and measurable return (and risk) objective from each investment option. For diversified multi-asset options, funds set the objective relative to inflation – aiming to outperform CPI by a specified margin.
- **Return target** – as part of their product dashboard, MySuper funds must list a return target. The return target is different from the investment objective. It must be worked out for a period of ten years, starting at the beginning of the current financial year. By comparison, most investment objectives are set over a longer timeframe and will not take into account current market conditions. In addition, the return target is the mean estimate, with the fund equally likely to out and underperform the return target. Most funds will set a higher probability of meeting the investment objective, typically around two-thirds.

## APRA Heatmap risk

APRA has identified the need to assess investment performance on a risk adjusted basis to ensure that differences across superannuation fund strategies are appropriately considered. The measure used for the risk adjustment they have chosen is the growth/defensive ratio as a proxy for risk.

In our view, the reliance on one measure to represent the risk of an investment strategy is a limitation of the Heatmap given investment risk is multi-faceted. Growth/defensive in particular is not an ideal selection for a single portfolio risk measure as it is a simplistic perspective of risk used primarily for reporting.

While it is positive to incorporate risk-adjustment, we think it would be appropriate also to include a measure of return versus the stated objective in the suite of metrics.

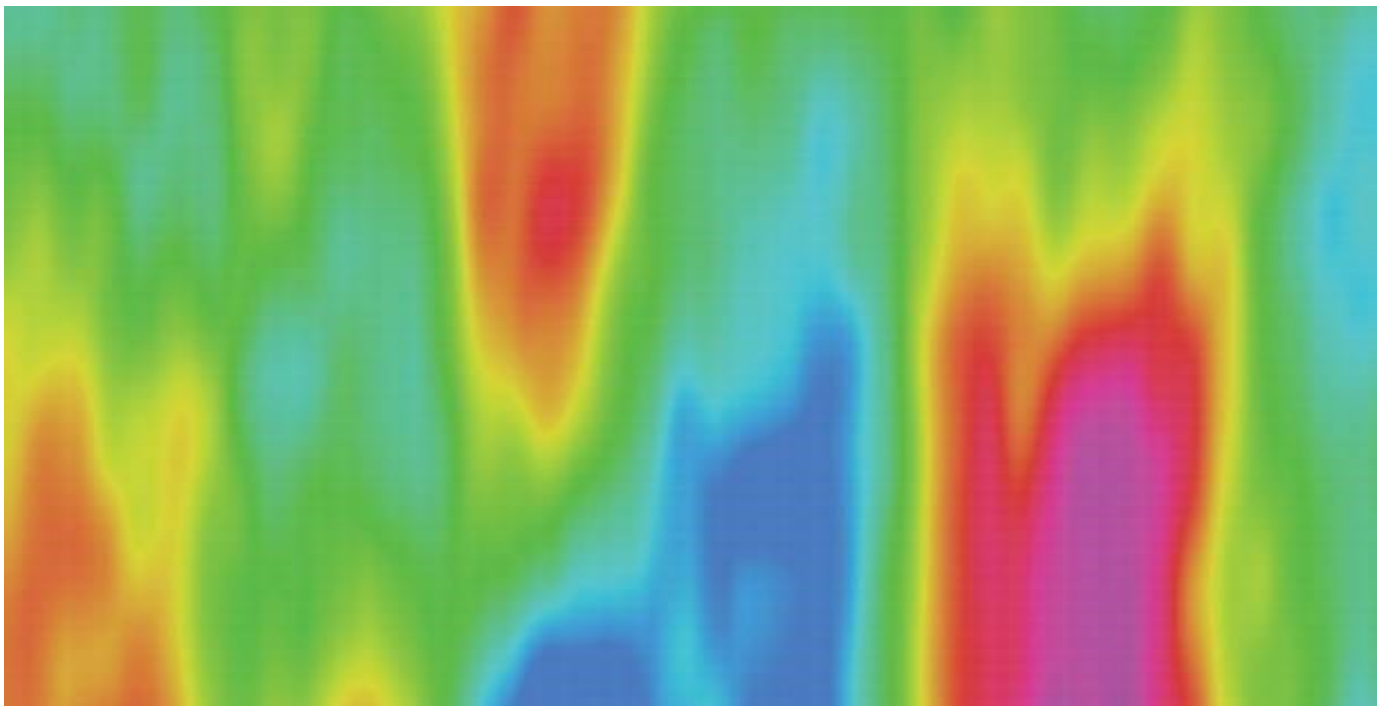
## Timeframes

Analysis of performance of superannuation funds, and particularly risk, should concentrate on longer term numbers. Consistent performance over the longer term should be more highly valued over great performance in a single year.

Corroborating this, APRA states that caution should be exercised when comparing funds' performance:

*"APRA also notes that performance over the long term is a key determinant of members' retirement outcomes and that there is likely to be considerable variability in some data over the short term. In that context, APRA strongly recommends that users of statistics exercise caution in making assessments or drawing conclusions based on short-term information."*<sup>1</sup>

The Heatmap includes both three- and five-year periods. The timeframe selection is restricted by the inception of MySuper in 2013, despite most funds having much longer history available – 48 of the 50 funds in the SuperRatings SR50 Balanced survey have at least ten years of data.



<sup>1</sup>APRA letter to RSE licensees, 9 February 2016

# Analysis of risk

## Risk measures

Table 2 below sets out the top performing funds over the ten years to 31 December 2019, together with their performance over the most recent five years. In addition, we have listed the investment metrics we identified earlier. The highlighted numbers indicated where a fund's metric is above the relevant average.

Table 2 helps understand the risk level for each of the top funds and therefore the degree to which it will have influenced their performance.

- In terms of the returns the top performing funds are targeting, the funds have higher return expectations than the average similarly managed fund.

- In contrast, few funds have a higher growth ratio than the average fund. Also, other than Hostplus, the APRA definition of growth was very similar to the ratio that the funds define.
- Six of the ten funds are expecting a higher number of negative years than average, but none significantly more.
- Finally, the volatility of the returns of most of the funds over both five and ten years was typically less than the average fund.

In the following sections, we further analyse the influence of these risk measures on the performance of the universe of superannuation funds.

Table 2: Risk metrics

Fund – Option	Return (% p.a.) / rank		Return expectations		Risk measures				
	Ten Years	Five Years	Objective (CPI + %)	Return Target (CPI + %)	Fund Growth (%)	APRA Growth (%)	SRM (years/20)	10yr St Dev (% p.a.)	5yr St Dev (% p.a.)
HOSTPLUS - Balanced	9.2 (1)	9.5 (1)	4.0	3.00	76	93	4.0	4.5	4.6
AustralianSuper - MySuper Balanced	9.0 (2)	9.4 (2)	4.0	3.84	70	74	4.0	5.1	5.5
UniSuper Accum - MySuper Balanced	8.9 (3)	9.1 (5)	4.6	4.60	70	68	4.0	5.6	6.0
Cbus - Growth (MySuper)	8.9 (4)	9.2 (4)	3.3	3.60	70	71	3.0	4.3	4.4
CareSuper - Balanced	8.7 (5)	8.6 (8)	3.0	5.70	70	74	2.8	4.2	4.2
Mercy Super - MySuper Balanced	8.6 (6)	9.3 (3)	3.5	3.50	70	73	3.2	4.6	4.9
HESTA - Core Pool	8.5 (7)	8.4 (10)	3.5	3.79	73	75	3.5	4.2	4.5
QSuper - QSuper Balanced	8.4 (8)	8.1 (18)	3.5	n/a	62	n/a	2-3	3.8	3.3
VicSuper - Growth (MySuper)	8.4 (9)	8.1 (17)	3.8	3.50	74	71	3.0	5.6	5.2
Equip MyFuture - Balanced Growth	8.4 (10)	8.1 (19)	3.5	3.75	70	72	3.6	5.2	5.3
<b>SR50 Balanced Median</b>	<b>7.7</b>	<b>7.6</b>	<b>3.0</b>	<b>3.5</b>	<b>70</b>	<b>n/a</b>	<b>3.5</b>	<b>4.8</b>	<b>4.9</b>

Source: SuperRatings, APRA



## Growth Ratio

The charts on this page plot the current growth ratio (as defined by the individual funds) compared to their ten year return.

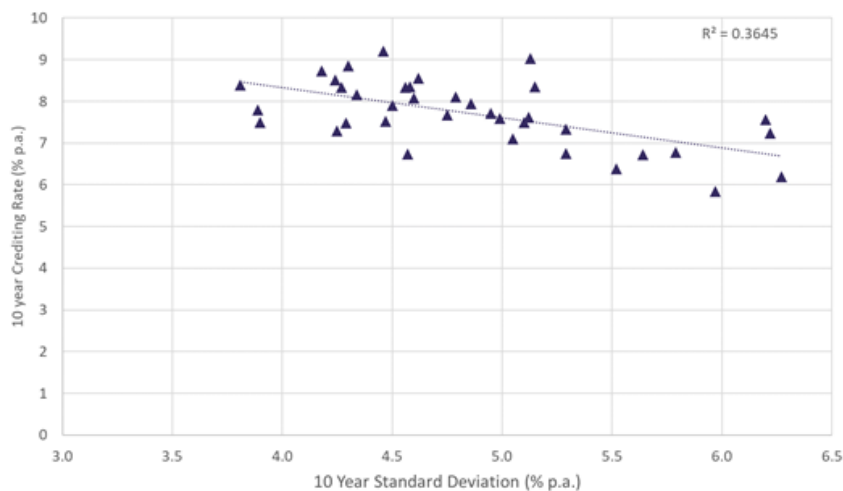
Chart 1 is for the full universe of MySuper funds, including the lower risk options for lifecycle funds. This shows a strong relationship between the growth ratio and the resultant return. This leads to the conclusion that the growth ratio is a good indicator of risk between funds over this time period.

Chart 2 has similar analysis but restricted to only those MySuper funds with a growth ratio between 60-76%.

In contrast this chart shows no clear relationship between the growth ratio and return.

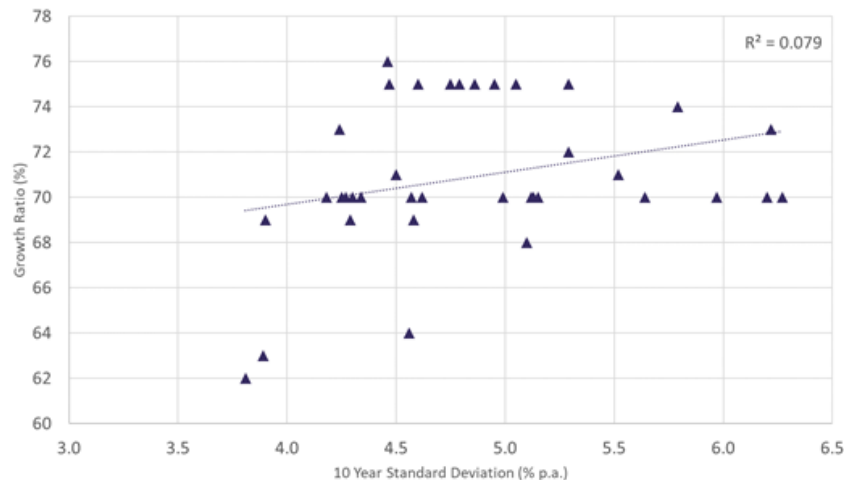
Based on this analysis, the growth ratio appears to be a good differentiator for funds which are managed to very different risk levels, but a poor indicator for funds managed to similar risk levels. That is, the growth ratio identifies a Conservative fund from a Balanced fund but is much less helpful at differentiating between Balanced funds.

Chart 1: Growth ratio—MySuper funds



Source: Frontier Glide, SuperRatings

Chart 2: Growth ratio—Balanced funds



Source: Frontier Glide, SuperRatings

## Volatility

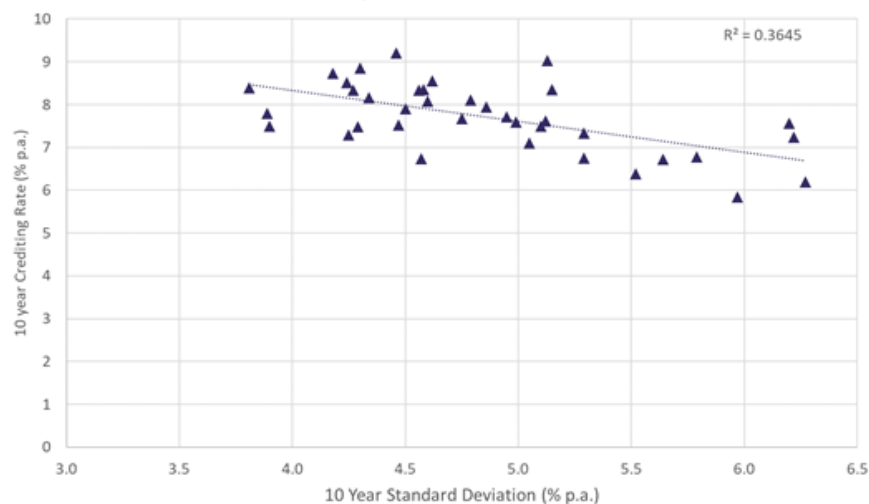
The traditional measure of investment risk is volatility, measured as the standard deviation of returns. Investment theory posits that investors require a higher return to compensate for the volatility of assets.

Chart 3 and 4 highlight the relationship between each Balanced fund's standard deviation and the return they have achieved over the last ten years.

Against expectation, there has been a negative relationship between risk and return. Funds with lower volatility have achieved higher returns. One explanation of this is as a result of the characteristics of unlisted assets. Unlisted assets (such as property and infrastructure) are valued less frequently than listed assets, and therefore exhibit lower volatility in returns.

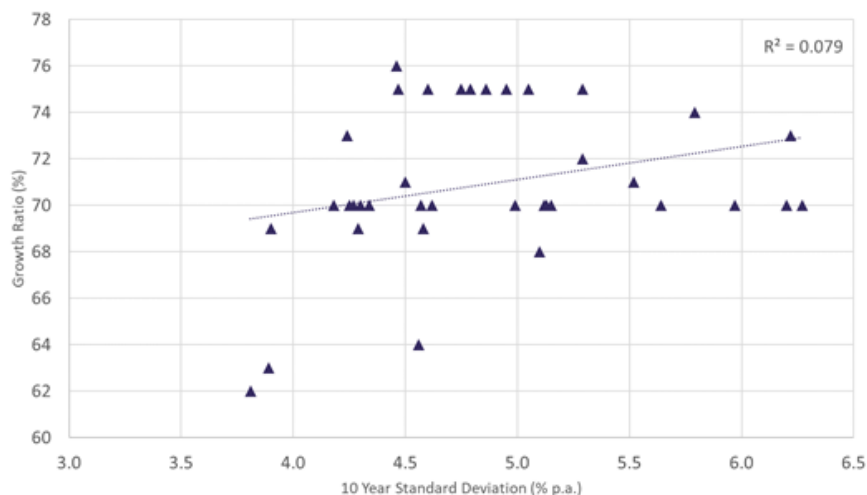
The relationship in Chart 4 between the growth ratio and the volatility of returns is also weak – the growth ratio isn't a particularly good predictor of the volatility of returns.

Chart 3: Standard deviation vs 10 year returns  
10 years to 31-Dec-2019



Source: Frontier, SuperRatings

Chart 4: Standard deviation vs growth ratio  
10 years to 31 Dec-2019



Source: Frontier, SuperRatings

## Standard risk measure

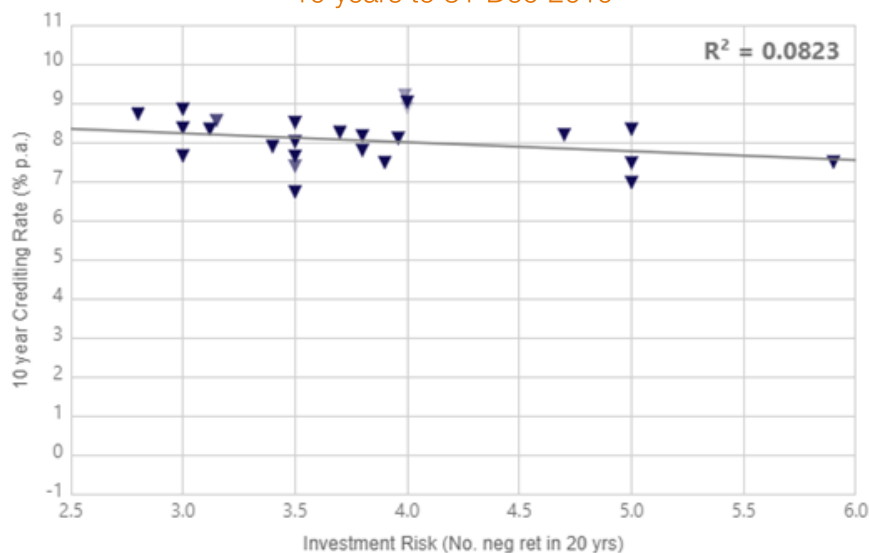
The Standard Risk Measure (SRM) is the expected number of negative years over a 20 year period. It is the measure that APRA requires MySuper funds to quote on their product dashboard. It indicates the frequency of loss but doesn't measure the magnitude of the loss.

Charts 5 and 6 highlight the relationship between each MySuper Balanced fund's current SRM and the return they have achieved over the last ten years.

Interestingly, chart 5 shows a slight (but not statistically relevant) negative relationship between the SRM and the return achieved. Chart 6 shows there is relationship between the SRM and the growth ratio, but a modest one.

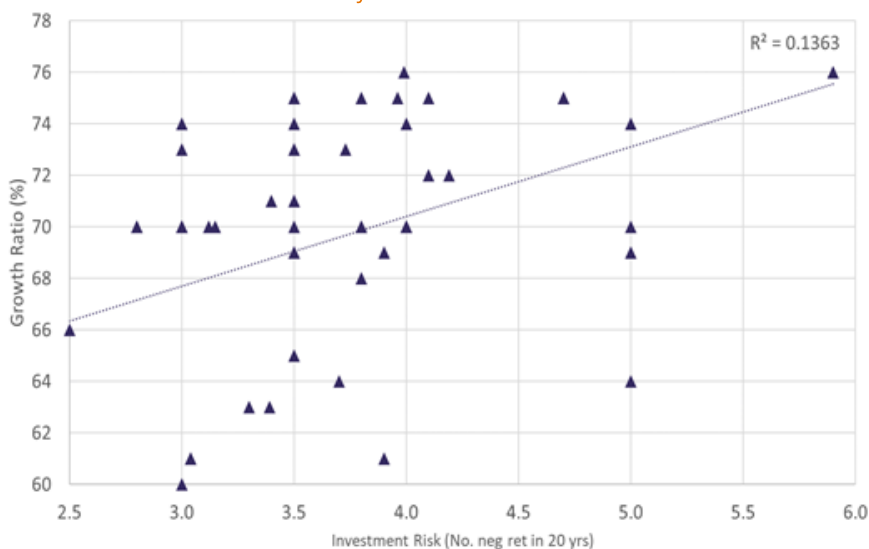
As much as anything, this highlights some inconsistencies in the calculation of the SRM by funds. The return and risk assumptions used in the SRM calculation will explain part of the differences between funds, rather than any actual difference in risk level.

Chart 5: Investment risk vs 10 year returns  
10 years to 31-Dec-2019



Source: Frontier, SuperRatings

Chart 6: Investment risk vs growth ratio  
10 years to 31-Dec-2019



Source: Frontier, SuperRatings

## Return Target

Whilst the return target is a forward-looking expectation, given the relationship between risk and return, it follows that funds with higher return targets may need to take more risk. Risk and return are entwined, with investment risk being a key driver of investment return outcomes.

Chart 7 and 8 highlight the relationship between each MySuper Balanced fund's current return target and the return they have achieved over the last ten years. The first thing that stands out is that funds are expecting lower returns over the next ten years than they have achieved over the last ten years.

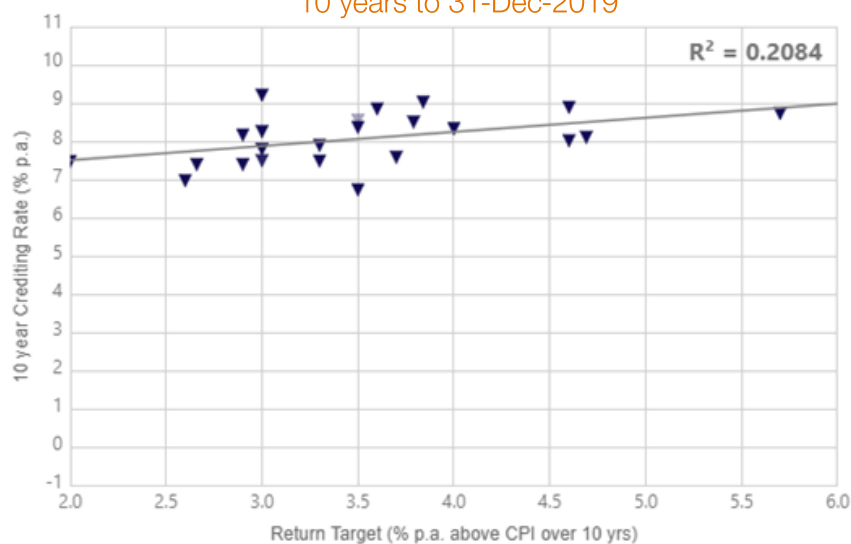
If inflation is expected to be within the RBA's target of 2-3% p.a., then most balanced funds are expecting a return of between 5-7% p.a. over the next decade – less than the 7.7% they have achieved.

Secondly, unlike the growth ratio, a relationship between return target and return can be discerned. When trying to differentiate between balanced funds, the return target currently has had more predictive power than growth ratio.

Thirdly, there is no relationship between the growth ratio of a fund and its return target. The growth ratio appears to have no influence on the return that the member should expect.

Chart 7: Return target vs 10 year returns

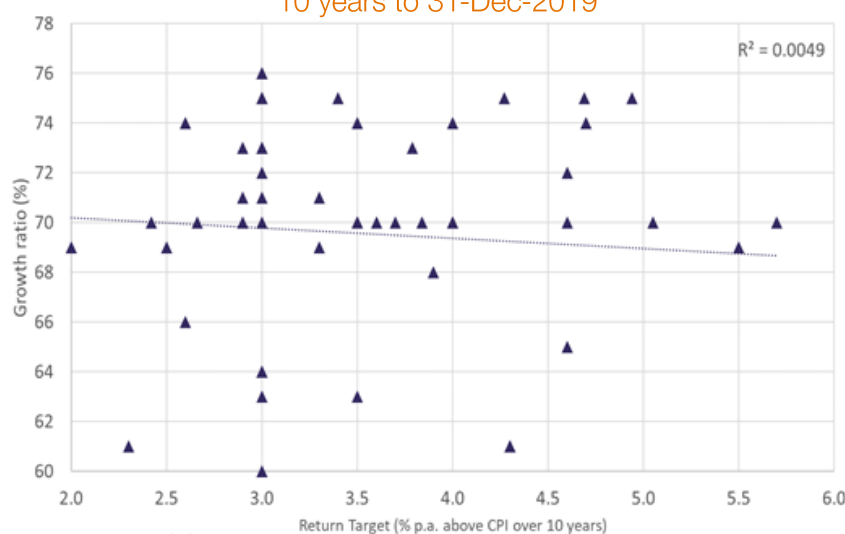
10 years to 31-Dec-2019



Source: Frontier Glide, SuperRatings

Chart 8: Return target vs growth ratio

10 years to 31-Dec-2019



Source: Frontier Glide, SuperRatings

## Comparing risk measures

Understanding the level of risk taken is key to assessing a fund's investment performance. Particularly over longer periods, higher investment performance can be achieved simply by taking more investment risk.

However, risk is not easily defined nor calculated.

Superannuation is a long term investment for most members, and this should be reflected in the risk metrics. Measuring risk over short periods may cause funds to minimise this risk, to the possible detriment of long term returns.

A good risk measure entails a number of key characteristics:

- **Measurable** – volatility of return is the most “unbiased” estimate of risk. The other measures considered all involve a degree of subjectivity (e.g. what are defensive assets?).
- **Comparable** – all measures are good at differentiating between different product types (e.g. balanced versus conservative options). However, none are particularly good at differentiating between similar risk products.
- **Predictive** – most of the metrics considered are longer term and change infrequently. As such, they will not react to increases/decreases in investment market risk. Volatility, being based on actual returns, will be the most sensitive to changes in risk levels.
- **Informational** – anecdotally, the return target and SRM (both which appear on the MySuper product dashboard) haven't resonated with members. From a simplicity perspective, the growth/defensive measure has some appeal.

We've measured funds' investment risk across a number of different metrics. Some of the metrics have more explanatory power than others. A few the risk metrics tell conflicting stories, with higher performing funds exhibiting lower risk on certain metrics.

Given the multi-faceted nature of risk, we believe that this outcome should be expected. Each metric gives a different perspective of investment risk. Understanding these differences can bring greater understanding of the investment risks being run.

The growth/defensive measure chosen by APRA in their Heatmap analysis shows good efficacy in differentiating between funds of different risk levels. However, this differentiation is already available, particularly through current performance surveys. The growth/defensive metric shows less ability to differentiate between funds of a similar risk level.

There is benefit in simplifying risk down to a single number, particularly when dealing with members. However, such simplification shouldn't come at the expense of properly assessing risk.

## The final word...

Superannuation is a long term investment, and it is long term returns which impact on member outcomes. Analysing short term performance can be helpful, especially in understanding how performance was achieved and whether there are any trends. Waiting ten years to determine that a fund is persistently underperforming will negatively affect members' benefits.

Adjusting for risk is important, but risk is multi-faceted and requires detailed knowledge and understanding. A reliance on one measure to represent the risk of an investment strategy is a limitation of the Heatmap in our view. Growth/defensive in particular is not an ideal selection for a single portfolio risk measure as it is a simplistic perspective of risk used primarily for reporting.

We have examined other risk measures in this paper and shown how they expose different facets of risk, at times with conflicting results. We think this analysis is beneficial in developing a greater understanding of risk.

Ultimately, one of the most significant risks superannuation members face is that they do not take enough risk, resulting in a poor outcome in retirement. It is important that any analysis of risk doesn't overemphasise short term measures, and in particular doesn't result in members or funds reducing risk to the detriment of members' long term outcomes.



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