

Your Future Your Super Performance Test

Constraints and Sustainable Tracking Error

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Author: David Bell

Modelling reviewed by Nick Callil (WTW)



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1. Introduction

The results of the second round of the Your Future, Your Super (YFYS) performance test provided an interesting datapoint. Of the thirteen funds which failed in the first year, only four of nine (44%) failed a second time (four merged), yet different research pieces¹ suggested that in a controlled environment the expectation would be that six-to-eight of those nine remaining funds would fail.

One interpretation of this observed difference is that super funds are actively managing their funds (investment strategies and administration fees) to pass the YFYS performance test. This shouldn't be a surprise given the consequences of failure.

If we assume that all funds are accounting for the YFYS performance test in the design of their investment strategies, this motivates two important questions which are critical to the current review of the YFYS reforms.

The first matter is how well the performance test aligns with the objective of providing best outcomes for members. This is a complex issue which warrants significant attention. Hopefully the YFYS submission process will create a body of research on this issue.

The second issue is the degree to which the YFYS performance test constrains super fund investment strategies. Anecdotes suggest that the performance test is constraining the investment strategy of funds, but the degree of constraint is unknown. This is what we explore in this paper.

Through recent interview work and broader industry engagement we believe most funds track, or are on a pathway to tracking, their rolling performance and the likelihood of failing the performance test accounting for the estimated tracking error of their portfolios. Anecdotally we see many funds running at a tracking error of around 2% - 2.5%, figures sourced largely from funds with positive "performance test buffer". We suspect funds with little buffer are running at lower levels.

We previously researched this question when the YFYS performance test was first announced². This research suggested that an appropriate tracking error target for funds was around 1%.

Given the discrepancy between what appears to be happening at funds and our original research findings we thought it appropriate to revisit our original research on this subject. This afforded us the opportunity to extend our models to update for learnings and reflections. In particular we refined our definition of a sustainable investment strategy to be one where funds are at low risk of having to substantially reduce their performance test tracking error in response to the yearly performance cycle.

Overall we estimate that a sustainable level of performance test tracking error remains 1%. This level seems to be less than the level of tracking error many funds are operating at. The possible

¹ Research by Parametric (media report: SuperReview: "[20% of super funds may fail](#)") and CEM Benchmarking ("[What is the value of the Your Future, Your Super test](#)") was undertaken in a closed process environment.

² "[Your Future Your Super Performance Test Exploring the Impact on Super Fund Investment Strategies](#)"

scenarios from here are that (1) funds continue to reduce their performance test tracking error, (2) they run an elevated risk of experiencing a shock to their performance test buffer and have to sizably alter their investment strategy, or (3) the performance test is altered to reduce the degree of restriction. If pathway (2) is followed and funds obtain their tracking error through similar activities, then there is a risk that a cohort of funds experience difficulty at the same time.

Further, we find that existing positive buffer levels do not impact the sustainable level of tracking error – it simply affords the ability to take a short-term tactical bet. This means that the findings of our research are relevant to all funds.

Naturally, our estimate depends on assumptions. We consider a range of assumptions and make the model open source ([here](#)) to enable industry and policymakers to better understand this important issue.

Finally, we explore the opportunity cost of the constraints created by the YFYS performance test. Assuming that, over time, industry reduces tracking error towards the sustainable level identified in this paper, and assuming a modest reward for taking performance test tracking error, we estimate the opportunity cost to consumers, in the form of lower expected returns, is \$3.1b per annum.

2. Industry response to YFYS

There has been much interest in industry’s response to the YFYS performance test. The full impact may never be known as funds guard their strategy. Our research into this area³, which focused on funds which have performed well against the performance test, suggests that:

- While all funds are performance test-aware when designing their investment strategy, funds are at different stages of the integration process.
- Many funds have reduced their performance test tracking error.

The emergence and use of YFYS jargon highlights the impact of the performance test. Some common jargon which we refer to in this paper:

- Performance test tracking error: the tracking error of a portfolio calculated against the benchmarks used in the YFYS performance test. This has proven difficult to calculate, with issues such as unlisted assets and accounting for autocorrelation proving to be challenges.
- Performance test buffer: the accrued performance gap, against the performance test, over the past full period (e.g. 8 years). More detailed measures adjust for the performance year which will roll out of the buffer calculation.
- Limp mode: a fund which has little buffer which, to increase the likelihood of survival, needs to significantly reduce performance test tracking error. Unless a fund has one or two significantly bad years rolling out of the performance test calculation soon, recovering from

³ [“Assessing the impact of YFYS through interviews with CIOs of funds with performance “buffer””](#)

limp mode can take an extended period, as it is difficult to restore buffer without taking on performance test tracking error.

While fewer funds are failing the test, likely because they are actively managing their situation, we suspect some funds are operating in limp mode and that it may take years to emerge from that position. It is not a situation that can be publicised by affected funds.

Funds are at different stages of accounting for the YFYS performance test in their investment strategy. Broadly, we believe there are two specific factors which drive the degree of implementation:

1. Size, which informs overall resourcing and capability.
2. The degree of buffer, whereby funds with buffer have a need to monitor the test very closely.

This framing is reflected in Figure 2 which stylises the different situations that funds may find themselves in.

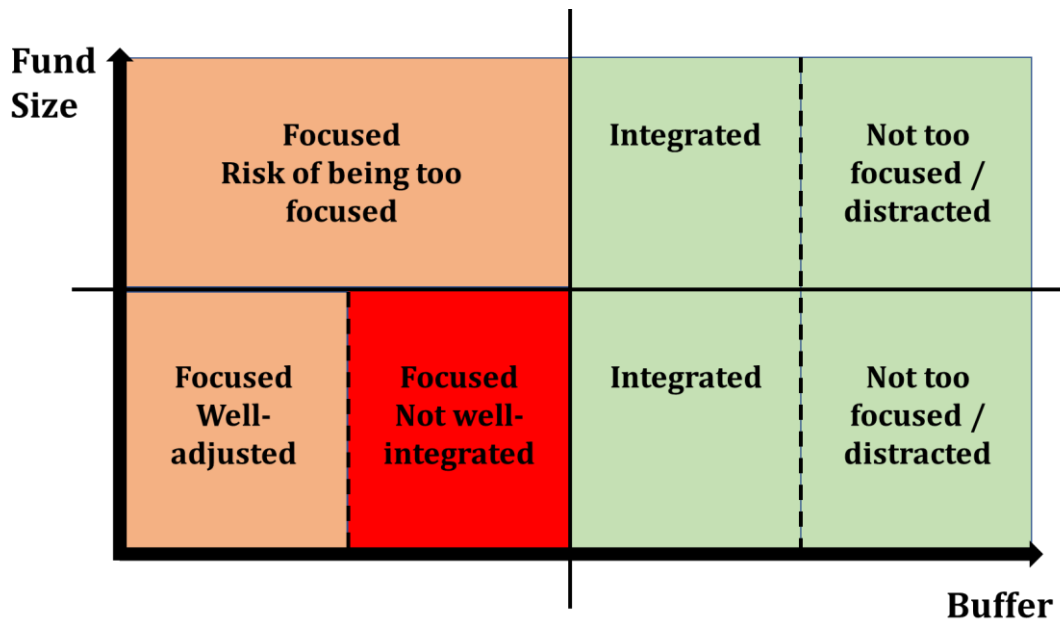


Figure 2: Super funds and approaches to integrating the YFYS performance test into investment strategy design. Stylised assessment by David Bell.

Observe in Figure 2 that there are two categories within three of the segments. We do this to broadly capture fund-level specific reasons (e.g. not well-equipped, don't want to change existing processes). Overall, our estimate of how the industry is presently positioned to account for the performance test:

- The majority of funds have a good handle of their rolling annual performance position, and account for the risk of failing in the next year incorporating an estimate of portfolio tracking error.
- Many funds don't look ahead more than the next year in determining their present year's tracking error.
- Most funds manage the risk of failure and aren't yet considering the risk of falling into limp mode.

Based on these estimates our concern is that funds may be targeting an unsustainably high level of performance test tracking error which does not account for future return series or the risk of falling into limp mode.

The outcome if funds target a relatively high a level of performance test tracking error is a higher possibility of falling into a limp mode scenario which can be costly (transaction costs, investment relationships) and long-lasting (since lower tracking may make it more difficult to re-build a buffer).

3. Modelling sustainable tracking error

We aim develop a model which can be used to estimate an appropriate level of performance test tracking error for super funds. We aim to incorporate relevant factors that a fund should consider in determining its investment strategy which. We frame our modelling through two steps.

The first step is a regular review process, detailed in Figure 3. This reflects the process of a fund which routinely undertakes a review of the appropriate level of performance test tracking error.

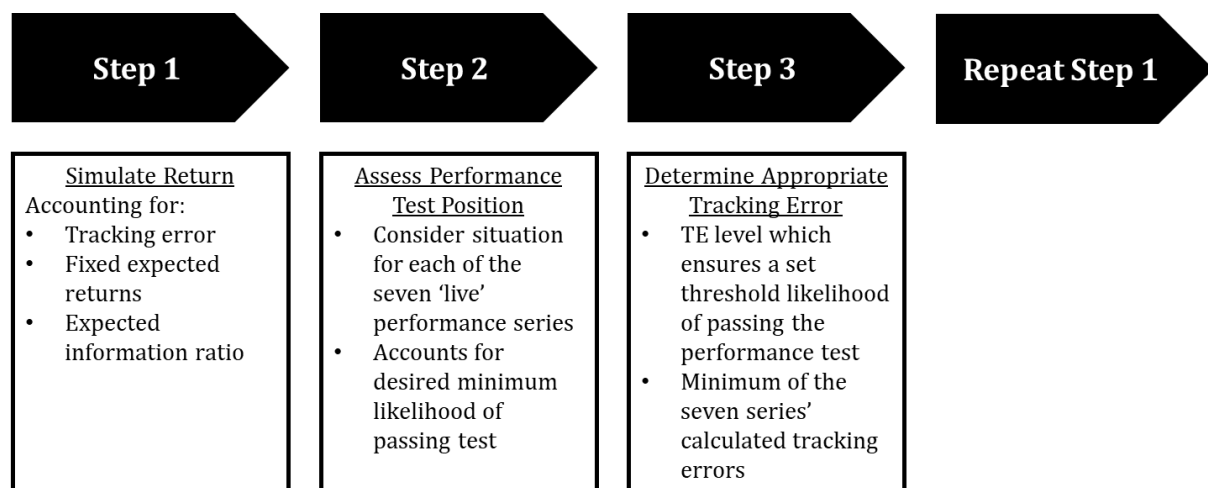


Figure 3: Model of the regular process for a fund reviewing the appropriate level of performance test tracking error.

The second step is to account for the concept of a sustainable investment strategy. Here, we believe a sustainable investment strategy is one where the investment strategy does not incur significant disruption, as we consider this detrimental to long-term outcomes⁴.

⁴ The potential adverse consequences of substantial change include:

- Higher transaction costs.
- The need to reduce exposure to illiquid assets which are difficult to sell.

To account for this consideration the model simulates many outcomes and calculates the percentage which experienced substantial through-time change in investment strategy.

3.1. Assumptions and results

We set the base case assumptions for a fund as:

1. Fixed expectation of outperforming its YFYS tailored benchmark by 20bp pa (e.g. associated with cost advantages).
2. Expected information ratio of 0.2, meaning an additional outperformance expectation of 0.2 times the performance test tracking error target.
3. Desire to maintain a 95% likelihood of passing the performance test over any rolling 8-year period, starting from now (t=0).
4. Desire to be 95% sure of maintaining a sustainable investment strategy over a rolling 8-year period, starting from now (t=0).
5. Defined threshold level for a sustainable investment strategy is not having to reduce performance test tracking error by more than one-third (cumulative, over time).

Note that assumption (3) is dominated by assumption (4) and doesn't drive the sustainable level of performance test tracking error calculation. In the model the one number is used for both assumptions.

When we apply these assumptions to our model, we find that 1% to be approximately the sustainable level of performance test tracking error. Figure 4 presents a set of simulations of the ongoing tracking error management process to illustrate the variability in the investment strategy over an 8-year cycle.

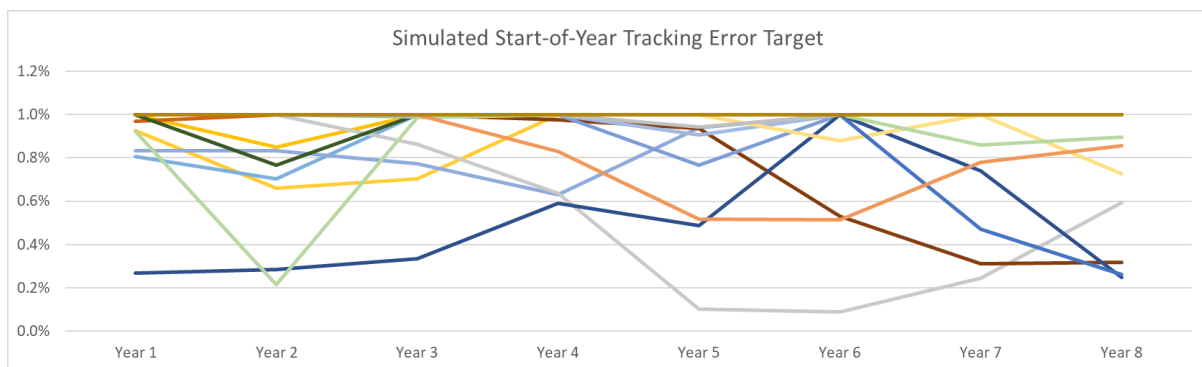


Figure 4: Simulated through-time tracking error management for a scenario using base case assumptions.

- Not being able to manage risks to member outcomes to the degree which the Trustee would like or committed to. Notable examples include managing ESG risk, portfolio overlays and diversification strategies.
- Funds may potentially be ‘squeezed’ out of positions at a time when they are undervalued.
- Funds may impair their standing and relationships with external fund managers.

3.2. Sensitivities

In Figure 5 we consider the impact of changing each assumption on the sustainable level of tracking error. The base case assumptions and the ranges considered are detailed in Table 1.

	Base Case	Range
Expected return	0.2%	0% - 0.5%
Information ratio	0.2	0 - 1.0
Threshold level of certainty (of both passing text and of not experiencing substantial modifications beyond threshold)	95%	90% - 99%
Sustainability threshold (maximum permitted cumulative reduction in tracking error)	33.3%	20% - 50%

Table 1: Base case assumptions and ranges considered for sensitivity analysis of sustainable level of tracking error.

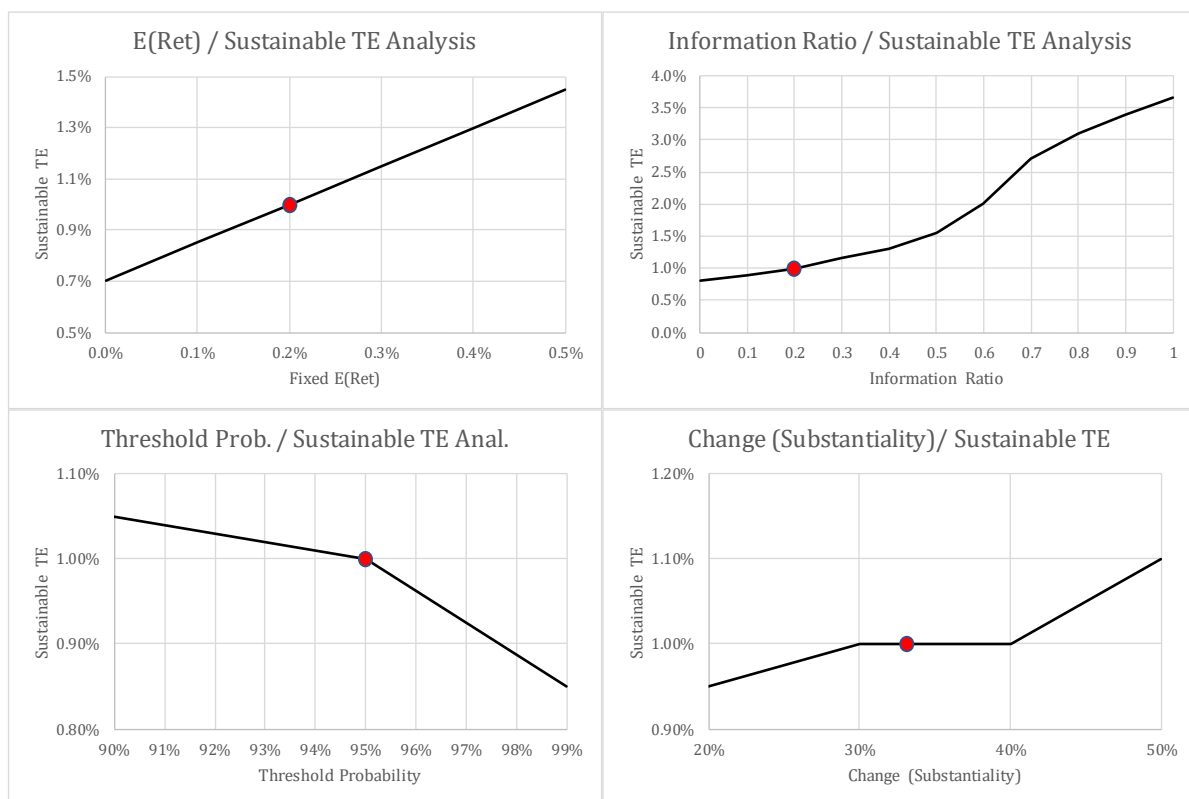


Figure 5: Sensitivity analysis of sustainable tracking error. Red dots reflect the base case assumptions. One parameter is explored at a time, holding the other three variables fixed at their base case assumption levels.

From Figure 5, we identify that assumptions relating to information ratio have greatest impact on the level of sustainable tracking error.

3.3. A comment on performance test buffer

A common anecdote is that funds with positive performance test buffer can operate a higher tracking error strategy. We thought this warranted further consideration because of the way it could distort investment strategies between super funds (between those with and without buffer).

We manipulated our models to consider this. We considered different levels of cumulative performance buffers (i.e. accrued outperformance) ranging from 1% to 5%. The sustainable tracking error did not change in any of these scenarios.

This result may surprise but it makes sense once our modelling is explained. The model searches for the sustainable level of tracking error. This is a long-term consideration, and the model only explores the second 8-year window once performance track records for a first 8-year window have been simulated (effectively a seasoning process).

Funds with higher performance test buffer could elect to run at a tracking error above the sustainable level. In effect, this is a tactical decision. Each year of performance is reflected in eight performance series, so higher short-term tracking error creates potential for a future limp mode situation.

3.4. Opportunity Cost

From this analysis it is possible set out a basic estimate of the expected opportunity cost of the YFYS performance test constraints. This is based on an assumed industry-level information ratio and the reduction in performance test tracking error.

The estimated annual cost of the constraint can be estimated by:

Assumed information ratio	x	Size of impacted asset pool	x	Reduction in performance test tracking error
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Applying the following assumptions:

0.2 (assumed information ratio)	x	\$1.55t (capital in non-public sector non-SMSF, non-DB super funds ⁵)	x	1% (assumed reduction in performance test tracking error)
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On the basis outlined, the estimated opportunity cost to consumers, in the form of lower expected returns, is \$3.1b per annum. This is slightly lower than the estimate in our previous (March 2021) work (\$3.3b pa)⁶. The differences are based on an improved insight into the level of performance test tracking error being taken by super funds.

⁵ We assume that 50% of DB super assets are held in public sector funds.

⁶ [“Your Future Your Super Performance Test: Estimating the Opportunity Cost to Consumers”](#)

4. Conclusion

In this paper we estimated a sustainable level of performance test tracking error for super funds to be 1%. This accounts for the concept of a sustainable investment strategy, meaning a strategy which won't require an unworkable degree of change through time. All our modelling is open-source so that alternative assumptions can be explored.

Further, we explored the case of performance test buffer. Our modelling suggests buffer affords a tactical tracking error decision but has little impact on the sustainable level of YFYS tracking error. It seems that many funds with positive buffer are running at higher levels of tracking error than the sustainable level identified in this paper. Unless their return expectations (particularly information ratio assumptions) are justifiably higher than ours, they run a reasonable likelihood of experiencing strategy impairment (limp mode) in the future. If these funds obtained their tracking error through similar activities, then there is a risk that a cohort of funds experience difficulty at the same time.

Assuming that, over time, industry reduces tracking error towards the sustainable level identified in this paper, and assuming a modest reward for taking performance test tracking error, we estimate the opportunity cost to consumers, in the form of lower expected returns, is \$4b per annum.