SUPERANNUATION FUND MANAGERS — HOW DO THEY RATE?

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EDITORIAL NOTE: The performance of fund managers is of vital concern to many readers at JASSA. Whilst the authors pose the case that there is evidence that the managers do not rate well, some readers may have strong grounds for arguing a contrary view. Some commentators may think it interesting that the trend in the model portfolio performance appears entirely consistent with the movement in equity indices. Is it possible there may be undue weighting in the equity component of the model portfolio? Comments on the paper will be welcome for publication in future of JASSA. NHC

Praetz in a previous issue of this journal reported on the performance of Australian mutual funds and unit trusts. He concluded that the performance of these institutions was poorer than expected, which is a similar conclusion to other studies evaluating the same institutions. In this study we evaluate the performance of another group of investment managers — those who manage superannuation funds.

The data on quarterly returns earned by superannuation funds from January 1973 to June 1981 was supplied by Campbell and Cook. By June 1981, 380 individual funds under the control of 27 management organisations (hereafter called managers) were included in the Campbell and Cook survey. We aggregated the individual funds under the control of each manager in order to obtain a measure of the quarterly returns of the portfolio under the control of each manager. In this study we report on the performance of 15 managers for whom there was data for a reasonably sized portfolio over the entire data period.

We used the two performance evaluation techniques — the Sharpe and Treynor techniques — used by Praetz and also a third technique developed by Jensen. It proved that the performance measures for each manager, and their rankings, were very highly correlated under all three techniques so the findings reported in this paper are restricted to those obtained when using the Jensen measure.

The Jensen measure is a derivative of the risk premium form of the Capital Asset Pricing Model (CAPM). According to the CAPM, the expected excess return on any asset (portfolio) is represented by the following equation.

\[ E(R_{i}) - R_f = \beta_i [E(R_m) - R_f] \]

where \( E(R_{i}) \) = the expected return in portfolio \( i \)  
\( R_f \) = the return on the risk-free asset  
\( E(R_m) \) = the expected return on the market portfolio.  
\( \beta_i \) = portfolio \( i \)'s (relative) systematic risk.

If investor's expectations are realised on the average, then equation (1) can be approximated by the following equation:

\[ \bar{R}_{it} - R_{ft} = \beta_i [\bar{R}_{mt} - R_{ft}] + e_{it} \]

where all the variables are measured ex-post for each period, \( t \), and the expected value of the error term, \( e_{it} \), is zero.

Jensen's performance measure is derived from the following time series regression:

\[ R_{it} - R_{ft} = \alpha_i + \beta_i [R_{mt} - R_{ft}] + e_{it} \]

Since the CAPM asserts that the intercept term in equation (3) should be zero, this intercept term (\( \alpha_i \)) is the Jensen performance measure. A statistically significant positive (negative) intercept term can be interpreted as evidence of superior (inferior) performance.

In order to estimate equation (3) we had to obtain measures of the quarterly returns on the risk-free asset and the market portfolio. As an estimate of the return on the risk-free asset we used the yield on 13 week Treasury Notes. In order to be in strict accordance with
the CAPM, the return on the market portfolio is the return on a market value weighted portfolio of all assets. As such a measure is unobtainable we used the following proxy:

\[
R_{mt} = 0.1 X_{1t} + 0.1 X_{2t} + 0.1 X_{3t} + 0.7 X_{4t}
\]

where \(X_{1t}\) = the yield on 13 week Treasury Notes in period \(t\),

\(X_{2t}\) = the yield on government bonds, with 5 years to maturity, in period \(t\),

\(X_{3t}\) = the yield on semi-government securities, with 5 years to maturity, in period \(t\),

\(X_{4t}\) = the rate of return on the State Accumulation index, in period \(t\).

This proxy was chosen as it is consistent with restrictions on the investment alternatives available to the managers since all funds in our sample were subject to 30/20 requirements. The resulting Jensen measure for each manager measures his performance relative to a policy of investing 10 per cent of available funds in each of short-term government securities, medium-term government securities and medium-term semi-government securities and the remaining 70 per cent in an index fund based on the Statex Accumulation Index.

The results are reported in Table 1. We found that only one of the 15 managers had a positive Jensen measure. Applying a 90 per cent confidence interval, the Jensen measure for this manager was significant but only one manager had a significant negative Jensen measure. Based on this evidence, it would be difficult to accept the hypothesis that the overall performance of managers was superior to that which would have been achieved if they had invested their funds in the proxy market portfolio. In fact we found this to be true when we calculated the Jensen measure for a composite of the portfolios under the control of each manager.\(^5\)

Our finding that superannuation fund managers were unable to outperform the simple strategy of effectively investing in an index fund after satisfying the 30/20 requirements is somewhat damning.\(^6\) However, it must be recognised that there are two countervailing biases inherent in our analysis. Our analysis is biased against the managers as the returns on our proxy market portfolios are gross of all charges whereas our returns for the managers are net of transactions costs incurred with respect to the investment of new funds. On the other hand it is also biased in their favour as the simple strategy inherent in the index would involve lower management costs (and supposedly fees) and transaction costs to those currently incurred.

The question posed in the title of this paper was how do superannuation fund managers rate? On the basis of our evidence, the answer is not very well. However, this answer may be unreasonably damning of the managers as we found that their poor performance was confined to the early years covered in our study. The Jensen measure for the composite portfolio of all managers was \(-2.025\) per cent per quarter, (and significant) over the first nine quarters (i.e. January 1973 to March 1975) but \(+0.406\) per cent per quarter (but not significant) over the remaining 25 quarters (i.e. April 1975 to June 1981). Maybe the answer should be, not so good but getting better.

**FOOTNOTES**


3. The data was supplied by Campbell and Cook (Consulting Actuaries) on the basis that the names of individual funds and managers would not be disclosed.