

Investment director turnover and the impact on performance

If investment directors are talented you try to keep them. If they are not performing, they are asked to leave. But what is the effect of this on fund performance? **DAVID GALLAGHER** and **PRASHANTHI NADARAJAH** provide some recent research.

DAVID GALLAGHER PhD is a Senior Lecturer in the School of Banking and Finance at The University of New South Wales, and is Director of Portfolio Analytics Pty Limited.

PRASHANTHI NADARAJAH is an MCom (Honours) candidate in the School of Banking and Finance at The University of New South Wales.



Investment director turnover is closely scrutinised by almost all market participants—including investment consultants, ratings agencies, superannuation trustees, retail investors, analysts, as well as the financial press.

Senior staff departures from investment management institutions almost always receive coverage in financial newspapers. In addition, investment director departures often lead to an analysis of the implications for the investment firm, as well as speculation as to true reasons behind the resignation (or termination).

Departures are likely to arise through voluntary retirement, remuneration disagreements, personality clashes, management restructuring, opportunities to participate in new boutique fund start-ups, poaching by a rival entity, and through mergers or takeovers by competitors.

We cannot discount the possibility that any number of these factors are interrelated. However, the most likely and significant explanation of investment director turnover is expected to be performance.

So why are investment director changes of importance? This can be answered from a number of perspectives—the manufacturer's perspective (i.e. fund manager), the consumer's perspective (i.e. investor), and the analyst's perspective (i.e. asset consultants and ratings agencies).

Performance is a key driver

First, given that fund performance is a key revenue driver for the firm's fund managers, then good past performance should translate into positive fund inflows, which in turn impact profitability (given that earnings are determined as a percentage of assets under management). The converse is also the case for poor performers.

Investment firms should therefore be concerned about retaining their 'stars' and encouraging underperformers to consider other endeavours. Investors are also concerned with the implications for investment returns surrounding the departure of a key staff member, particularly on how the change might impact on the achievement of investment objectives.

Asset consultants and ratings agencies devote significant research resources to assisting their clients in making optimal investment decisions, including fund selection. Investment director replacement requires professional advisers to be forward-looking and form a view about the future prospects of incumbent investment management institutions.

Investment director expectations

While fund performance is a significant determinant of investment director changes, an equally important question remains—what performance impact is expected from an incoming investment

director? All three market participants (identified above) will be concerned about the future performance implications for those institutions experiencing investment director replacement. Managers will either seek to elevate an internal member of the investment team to replace the departing sector head, or to identify a talented individual from a competitor firm and encourage them to defect. The replacement decision is critically important for both outperforming and underperforming institutions.

This research examines the relationship between investment performance and investment director turnover experienced by Australian investment institutions. An empirical analysis is warranted, given the limited evidence concerning the performance impact surrounding the replacement of an investment director. Specifically, we investigate the extent to which investment director turnover is related to a fund's (1) relative performance in the market, (2) portfolio risk, and (3) net fund flow activity.

Prior research

Khorana published two US studies examining top management turnover of mutual fund managers in 1996 and 2001. Partitioning the sample into underperformers (negative excess returns to the benchmark) versus outperformers (positive excess returns to the benchmark), Khorana found:

- Underperformance in funds in the two years prior to replacement is a significant predictor of investment director turnover. Post-replacement, underperforming funds significantly improve their performance.
- Outperforming funds in the period prior to replacement experience a significant deterioration in performance after the departure.
- A significant difference existed in fund growth rates in the year prior to managerial turnover between those experiencing and not experiencing replacement. Underperforming funds experienced substantial decreases in net asset flows in the pre-replacement period.

An analysis of the Australian evidence has previously been examined

twice—first by the Frank Russell Company, and second by Gallagher (2001). Scott Donald from Frank Russell analysed the performance of Australian equity and fixed-interest portfolios both before and after the departure of the head of the portfolio management team. The study included 66 departures (43 in equities and 23 in fixed interest) between January 1994 and December 1999.

The main findings of the study were that on average, fixed interest

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performance increases after the departure, whereas for equity accounts, performance improved in more than half of the observed turnover events. Gallagher (2001) also briefly examined the performance–turnover relationship in Australian equities, finding that while performance decreased in the six-month post-replacement period, performance actually increased after a 12-month post-replacement period.

Data and research approach

Investment director changes are examined in the period January 1991 to April 2001. We define investment director changes as personnel changes in the roles of Head of Australian Equities (AEQ), Head of Australian Fixed Interest (AFI) and Chief Investment Officer (CIO).

This data was compiled using information contained in historical IFSA Investment Manager Questionnaires and data from Mercer Investment Consulting. To be included in the sample, the study requires investment managers to be employed in their role for a period of at least 12 months prior to the turnover month. Accordingly, the sample contains a total of 90 investment director changes (41—Head of AEQ, 16—Head of AFI and 33—CIO.)

In terms of performance data we identify wholesale funds of the investment managers in the appropriate asset classes. The balanced fund data is used to examine changes surrounding CIO replacement. For

wholesale equities and bonds, the study identifies all funds offered by the investment management firm.

In aggregate, the study includes 136 funds. The monthly fund performance and size data is obtained from Morningstar for actively managed Australian equities and Australian fixed interest funds. Only those active funds whose investment objectives were to outperform either the S&P/ASX 200 or the S&P/ASX 300 Accumulation Index

(Australian equities) or the UBS Warburg Composite Bond Index (all maturities and Australian bonds) are included. Balanced fund returns from Mercer Investment Consulting are employed, including benchmark asset allocations and fund size data.

When investment manager changes arise, the reasons for the departure cannot be explicitly identified. Accordingly, the study follows Khorana's (2001) technique as a means of assigning the possible reasons behind director replacement. This is achieved by partitioning all turnover events into two sub-samples—a negative performance sample (NP) and a positive performance sample (PP). Those investment director replacements whose returns in the period are above (i.e. PP) or below (i.e. NP) benchmark (for the relevant sectors) represent proxies for the potential reason behind replacement.

Performance measurement

Investment performance is measured using three approaches—the one and four-factor alphas (i.e. risk-adjusted excess returns), and the excess return to benchmark (not adjusted for risk). Risk-adjusted performance is estimated using the ordinary least squares method (OLS), and controls for the market factor only in the single index model.

The four-index model adjusts for risk in equity fund performance by accounting for additional risk factors explaining equity returns—namely the market index, investment style factors

(book-to-market and market capitalisation of stocks) and past price momentum. The four-factor alpha is essentially a risk-adjusted, style-controlled performance measure. Further details concerning these models can be found in Gallagher and Nadarajah (2003).

Risk

The study considers three measures of portfolio risk: systematic (non-diversifiable) risk (i.e. beta risk), idiosyncratic or residual risk (i.e. diversifiable risk) and tracking error. The systematic risk is defined as the portfolio's beta.

Residual risk is calculated as the standard deviation of residuals (or error term) from a one-factor model. The tracking error of a portfolio is defined as the standard deviation of monthly portfolio excess returns to the portfolio's benchmark index. The tracking error measure is of particular interest, given that the IFSA survey of manager responses tends to indicate that managers identify this measure as an important component of their risk control. The systematic and residual risk measures are also considered, given their importance in finance as measures of non-diversifiable and diversifiable risk components, respectively.

For the purposes of this study, we have defined Year 0 to represent the 12 months prior to the investment director replacement month. Likewise, Year -1 is the 12-month period prior to Year 0, Year 1 is the 12-month period after the managerial replacement month and Year 2 is the 12-month period after Year 1. Taken together, Year -1 and Year 0 is defined as the pre-replacement period, and Year 1 and Year 2 is defined as the post-replacement period.

Findings

Performance is measured using the excess return to the benchmark, one-factor alpha and the four-factor alpha (Australian equity funds only). As expected, in the pre-replacement period, average levels of performance (for all measures) are negative (positive) for the NP (PP) sub-sample.

Determining the impact on performance post-replacement represents one of the

FIGURE 1 AVERAGE PERFORMANCE (EXCESS RETURN TO THE BENCHMARK) IN ALL FUNDS IN THE PRE- AND POST-REPLACEMENT PERIODS

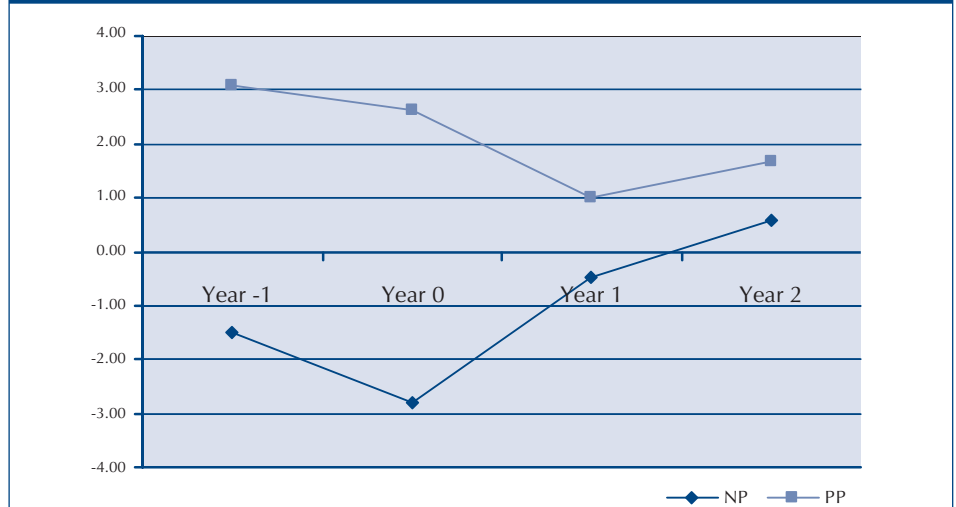


FIGURE 2 AVERAGE PERFORMANCE (ONE-FACTOR ALPHA) IN ALL FUNDS IN THE PRE- AND POST-REPLACEMENT PERIODS

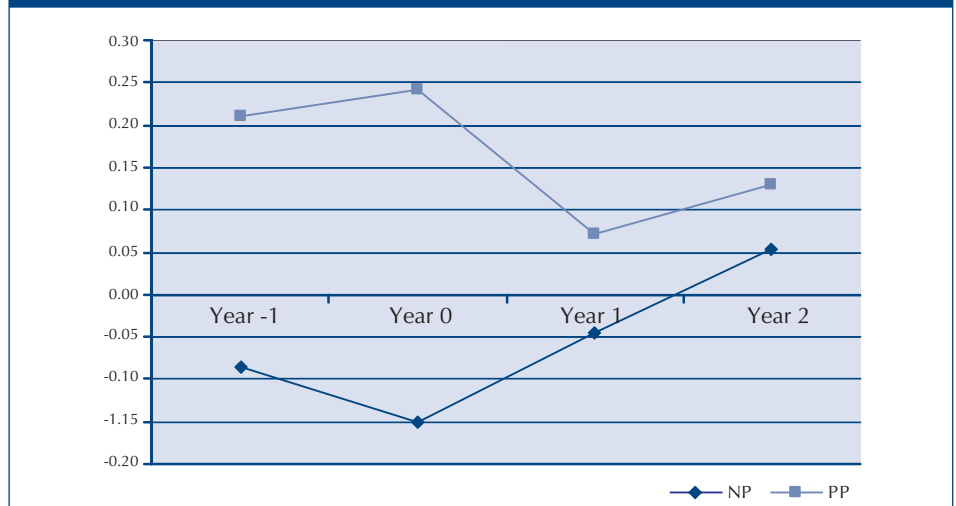


FIGURE 3 AVERAGE PERFORMANCE (FOUR-FACTOR ALPHA) IN EQUITY FUNDS IN THE PRE- AND POST-REPLACEMENT PERIODS

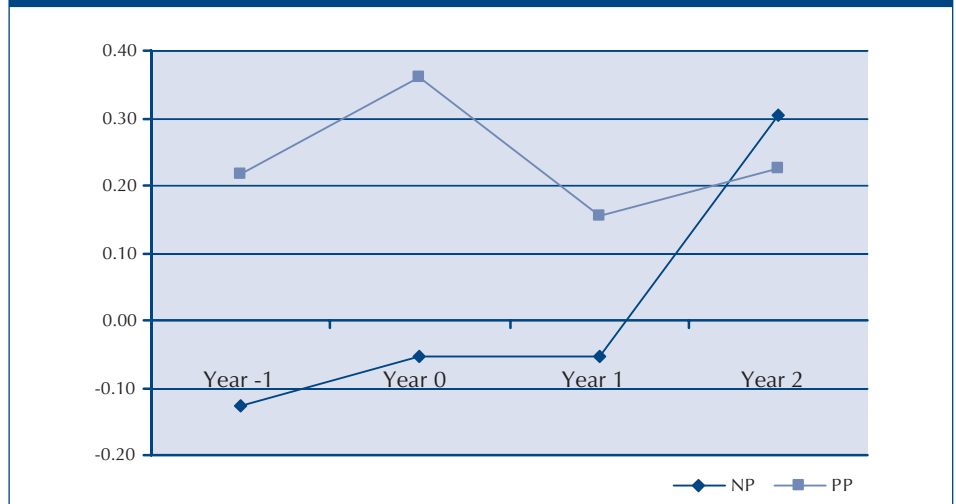


FIGURE 4 AVERAGE SYSTEMATIC RISK FOR ALL FUNDS IN THE PRE-AND-POST REPLACEMENT PERIODS

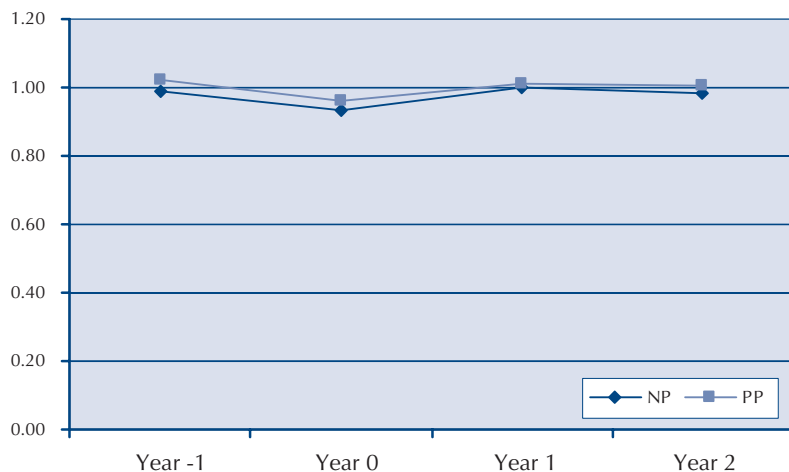
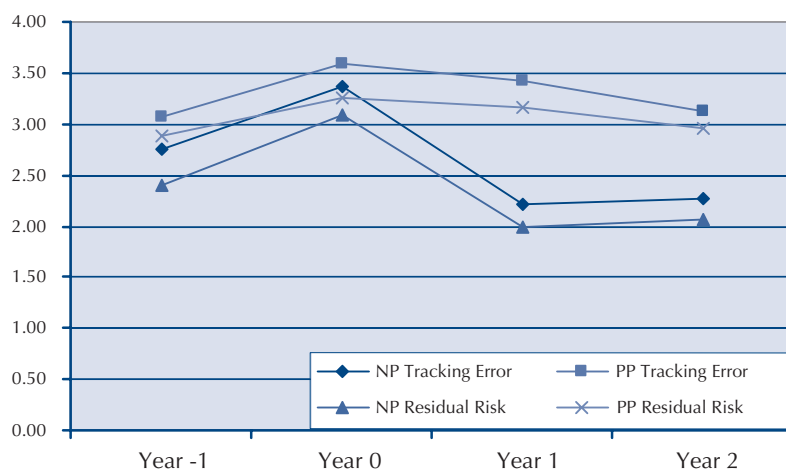


FIGURE 5 AVERAGE TRACKING ERROR AND RESIDUAL RISK FOR ALL FUNDS IN THE PRE-AND-POST REPLACEMENT PERIODS



most important contributions of this study. For the NP sample, both the one-factor alpha and the excess returns to the benchmark exhibit statistically significant increases in both the mean and median levels of performance in the post-replacement years.

These results emphasise that institutions discipline poor performers by terminating employment, and when termination arises, the post-replacement appointment delivers NP funds with a significant performance improvement. This confirms the activation of healthy internal corporate control mechanisms. The four-factor alphas provide a more rigorous examination of performance for active equity funds, given that the alphas control for investment style biases inherent in the portfolios. The results for four-factor alphas are also generally consistent with the overall findings.

Turnover of outperforming managers translates into significantly lower returns post-replacement. This indicates that superior performing managers departed organisations either on the basis of inadequate remuneration levels, being poached by a competitor, or retirement from the industry. We also report that for Australian equities measured using the four-factor model, performance two years post-replacement for NP funds is higher than that of PP funds. However, this is not to say that NP funds become outperformers in the overall market. This is because our study is only

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concerned with performance evaluation for managers experiencing replacement, rather than including all funds operating in the market and included in performance surveys. In addition, the turnover events occur at different points over the business cycle.

In terms of portfolio risk, the study finds that both the NP and PP samples decrease beta (i.e. systematic risk) as replacement approaches. However, in the post-replacement period, beta again increases towards unity—which is in line with the market index.

We also examine risk according to tracking error and idiosyncratic risk (or residual risk) measures. For background, if beta accounts for non-diversifiable market risk, then the residual risk component reflects the degree of risk that is otherwise diversifiable by holding a larger number of securities.

We also understand that beta and residual risk will be interactive, in the sense that increasing the number of stocks in the portfolio will bring the fund into closer alignment with the market, and therefore reduce residual portfolio risk. We also know that the CAPM only prices non-diversifiable systematic risk, such that returns are dependent on general market risk exposures.

Our study finds that underperforming managers increase both their fund's idiosyncratic (residual) risk and tracking error in the pre-replacement period. We might expect this to be the case if managers become concerned about rectifying their poor performance history. Our results further indicate that underperforming managers actively increase the portfolio composition away from benchmark weights in an attempt to reverse underperformance. This is in contrast to new hires (joining previously underperforming institutions) who subsequently reduce residual risk and tracking error in the post-replacement period (however, from a statistical perspective, we do not find that this risk reduction is statistically significant).

Our third and final evaluation of the turnover of investment directors considers the investor's response to fund performance, given the assets entering and leaving the fund. In

results not directly reported, we did consider a multivariate regression model that was used to determine the impact of underperformance vs. outperformance on net fund flows—contingent on investment manager turnover. We find that underperforming investment managers experience significantly lower net fund flows prior to replacement, indicating the existence of a well functioning external corporate control mechanism—investors indeed discipline poor performance. These results are not surprising, particularly given that the source of revenue for investment management firms is determined as some percentage of total assets under management.

Summary

This study provides a comprehensive analysis of the performance, risk and fund flow characteristics associated with the replacement of Australian investment directors. In particular we find that:

- Turnover for underperforming investment directors results in significantly higher performance in the post-replacement period (where the term 'significant' is used to indicate statistical significance);
- Departures for outperforming managers translate into significantly lower returns post-replacement;
- Underperforming investment managers significantly increase their fund's idiosyncratic (residual) risk and tracking error in the pre-replacement period. While newly appointed investment directors reduce the portfolio's residual risk and tracking error post-replacement, we find that this risk reduction is not statistically significant.
- Investors allocate significantly lower fund flows to underperforming investment managers prior to replacement, which is a contributor to executive termination.

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