

Are active fund managers more successful?

Exclusive research by **DAVID GALLAGHER** and **ADRIAN LOOI** examining daily equity transactions undertaken shows that active equity fund managers outperformed the index in the 2001 bull market.

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Australian investment managers are significant participants within the financial services sector.

According to the Australian Bureau of Statistics, the size of the Australian investment management industry was in excess of \$A655 billion at 31 March 2002. Considering that the Australian equities component of aggregate assets continues to be the most significant individual asset class within diversified multi-sector portfolios, the importance of the domestic shares sector cannot be understated.

While the trading activities of investment managers vary across individual firms, the most significant determinant of overall trading behaviour is the investment strategy adopted. The fund's strategy governs the manager's overall activities.

Investment strategy also provides investors and market analysts with an ability to form expectations concerning the likely performance characteristics and risk exposures attributed to the investment products offered to the investing public.

The two competing (and diametrically opposed) fund strategies, which ultimately determine the trading behaviour of investment managers, are active management and passive portfolio strategies. Active managers attempt to outperform a passive (or informationless) market index through the collection and synthesis of price-sensitive information. The use of information by active managers, in both trade execution and portfolio management, is designed to add value from two sources—stock selection and market timing.

The trading behaviour of active equity managers may also be differentiated on the basis of the investment style adopted (i.e. growth versus value; large-cap versus small-cap) as well as the aggressiveness with which the manager executes the strategy.

The success of the manager's investment process is dependent on how well (and opportunely) the manager can identify profitable trade opportunities on behalf of clients, while at the same time minimising transaction costs incurred in the execution of stock selection decisions.

There are other factors which help to determine a manager's trading behaviour, including capital flows experienced by the fund (inflows and outflows), the size of the portfolio (and manager), and both the nature and composition of the underlying benchmark index that represents an appropriate yardstick for performance measurement.

Measuring the trade performance of 'informed' investors

While this article evaluates the trading behaviour of active equity fund managers, an additional contribution is an assessment of the degree to which institutional managers are "informed" based on their daily trade execution strategies.

If fund managers are 'informed', then we would expect their trades to exhibit superior performance (after taking into account general market movements). However, due to market frictions incurred in trading (such as brokerage and market impact costs), managers should only trade when the expected benefits exceed the costs.

Given that larger managers are likely to face higher market impact costs, we may expect the trading performance of larger managers to be less than that of smaller managers.

Manager trades may not always be information-motivated. If large applications or redemptions are experienced within a period, the manager may need to purchase or liquidate stock in order to meet cash requirements.

However, such liquidity-motivated trades are likely to be small in magnitude in comparison to information-based trades. Partitioning the sample based on trade parcel size helps to control for the effect of liquidity-motivated trading. Therefore, by classifying transactions as either liquidity-motivated or information-motivated, analysts have improved inferences in the assessment of trade performance.

Data

The research is drawn from a database of more than 30 active Australian equity managers' daily transactions in the calendar year 2001, sourced from each manager's largest institutional equity fund. Of the total sample group of managers, 26 managers provided data in an appropriate format that could be easily used in this study.

The study represents symmetrical distribution of managers from across the industry in terms of institutional size and equity management style. The data employed in the study represents a subset of the Portfolio Analytics Transactions Database, confidentially stored on the super-computing facilities of the Australian Centre for Advanced Computing and Communications (AC3). (Access to the data is restricted to the authors for use in Mercer-sponsored research.)

The Portfolio Analytics Transactions Database includes all daily stock transactions of the participating investment managers for the representative fund for which data was requested (stocks, warrants, futures, options, and interest-rate securities).

We requested that each active manager provide data for their largest pooled institutional equity vehicle.

Given that funds generally flow to the more successful managers, a potential selection bias may have arisen. This occurs where more successful funds experience significant fund inflow, thereby becoming larger.

This issue may skew our results in favour of finding outperformance. On the other hand, using data for the largest fund helps to enhance inferences of manager performance at an aggregate level, and is perhaps more representative of a manager's process.

For the purposes of this initial study and to ensure simplicity, only the transactions of equity securities are evaluated.

Methodology

This paper is the first (to our knowledge) that investigates the trade performance of Australian fund managers directly. The academic literature has thus far taken an indirect route in measuring the performance of institutional trading, by inferring trades from changes in portfolio holdings on a monthly basis.

However, an 'inferring trades' methodology will not detect intra-month trading activity, as it is possible for a manager to buy and sell a stock within the month with no visible net change in position at month end. Accordingly, this article circumvents this problem by examining daily transactions.

The study employs two separate methodologies in evaluating the trading performance of each fund manager in the database.

Method 1

The first approach labels 'trade packages' as 'successful' if the security was sold at a higher price than it was purchased and vice versa for 'unsuccessful' packages. A 'trade package' is a series of trades made in the same direction: for example, if BHP Billiton was purchased three times over a five-day period, then the trade package of three trades would be considered one trade package purchased at an average price weighted by each transaction size.

The concept of the 'trade package' is used because a large proportion of

manager transactions occur within several days of each other—indicating that manager trades have been broken up into smaller trades over several days. This technique is likely to minimise market impact costs, and acknowledges the fact that, although several trades have been executed, collectively they represent a single trade decision.

Method 2

The second method involves analysing the rate of return of a security relative to that of the market in the period immediately following a manager's purchase or sale transaction as follows:

$$AR_{i,t} = R_{i,t} - M_{i,t}$$

where t is a time subscript indicating the number of trading days after the manager's transaction in stock i .

The abnormal return (AR) for security 'i' at time 't' days after the manager's purchase or sale is simply the difference between the security return (R) and the market portfolio (M= S&P/ASX All Ordinaries Index) return.

This measures the net return (in the case of a purchase) or opportunity cost (in the case of a sale) of the trade relative to the market's return. The abnormal returns in excess of the market portfolio are then aggregated by taking the product across the 60-day event window immediately after a transaction to give the cumulative abnormal return (CAR).

The CARs are then averaged over the sample to give the equally weighted average CAR. The choice of the All Ordinaries as a proxy for the market portfolio, rather than an alternative index (e.g. the S&P/ASX 200 index), was made on the basis that the All Ordinaries Index is a broader market index—and therefore more accurately reflects risks associated with the market as a whole.

Therefore, the choice of the market portfolio is independent of the manager's self-stated benchmark objective.

Empirical results

The 26 active equity managers' funds in the sample totalled more than \$A20.1 billion as at 31 December 2001.

In the calendar year, these funds transacted in excess of \$A20.3 billion of equity securities listed on the ASX.

Active managers attempt to outperform the market by buying underpriced securities and selling overvalued securities. These managers are expected to engage in significant trading activity based on the information they hold. In our sample over the 2001 calendar year, the median turnover ratio of managers was 1.2 times fund assets and ranged between 0.22 and 5.2 times. By investment style, neutral, value and growth managers turned over their portfolio 0.83, 1.18 and 0.94 times in the year respectively.

The average number of securities traded by the managers in our sample was 81.46 and the aggregate number of trade parcels for all managers was 34,208 (almost equally divided between buy and sell transactions). The range across funds of different stocks transacted in the year was between 39 and 202 securities. The average trade size executed by the sample group (as a proportion of average fund assets) was 0.14%, ranging between 0.01% and 0.44%.

When we partition funds into 'small' and 'large' categories (small defined as below median fund size and large being above median), the percentage trade size for large funds was 0.27%, whereas

the percentage trade size for small funds was 0.19%. On average, the time between individual trades was 7.75 days with over half of the funds exhibiting a median time between trades of less than five days. However, when transactions were grouped according to trading packages, the average time between trade packages lengthened to 25.2 days. This indicates that fund managers on average maintain positions in stocks for over one month, before adjusting the portfolio allocation to reflect changes in expectations.

The 2001 calendar year performance for the market was 10.4%. Of the active managers in the sample, the median manager's annual performance in the corresponding period was 12.7% before expenses. The performance data also shows that 18 of the 26 fund managers in our sample (almost three quarters) outperformed the index for the calendar year.

This finding is certainly controversial, particularly given that the literature overwhelmingly supports capital market efficiency. While Gallagher (2002) finds evidence of significantly positive risk-adjusted returns over longer periods for Australian active equity funds, recent finance literature has re-examined the issue of capital market efficiency relating to fund performance.

A number of these studies have since

concluded that fund performance appears to be consistent with informational efficiency, whereby managers outperform to a level that approximates their information search expenses and transaction costs.

The database of 26 funds initiated a total of 10,916 equity trading packages, of which 57.4% were 'successful'. This indicates that, on average, 57.4% of securities traded by managers were sold for higher prices than they were purchased.

On an individual level, all the managers in the database except one had more 'successful' than 'unsuccessful' trade packages.

The second method for evaluating manager trading performance yields similar results. In aggregate, the performance of stocks in the 60 days (approximately 3 months of trading days) immediately following a purchase transaction outperformed the market index by 4.3%.

Interestingly, the performance of stocks following sell transactions also exhibited outperformance, albeit only 3.5% above the market return. This result is understandable in the light of changing manager expectations. As manager expectations change, they will adjust their portfolios to be long in stocks for which the manager is most bullish.

Fund manager trades were further partitioned by relative transaction size (see Figure 2). The relative transaction size was measured as the trade parcel's value as a proportion of the total portfolio divided by the market capitalisation of the stock.

Buy transactions in the top quartile (largest relative trades) yielded a return of 6.2% over the market index within 60 days of the transaction, while large sell transactions yielded only 5.2%. The higher abnormal return to large buy trades is consistent with the theory that managers' trading behaviour is positively related to superior information.

Small (relative) trades are likely to contain many liquidity-motivated trades. Therefore we should not expect the same degree of outperformance from these trades compared to larger transactions. The results in Figure 3

FIGURE 1 CUMULATIVE ABNORMAL RETURNS FOR BUY AND SELL TRANSACTIONS: CALENDAR YEAR 2001

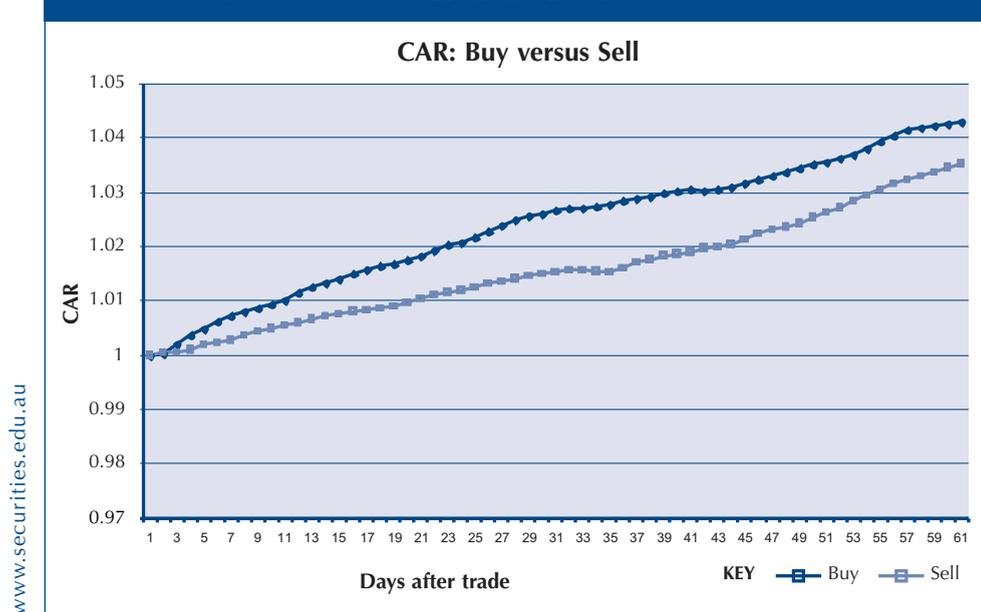
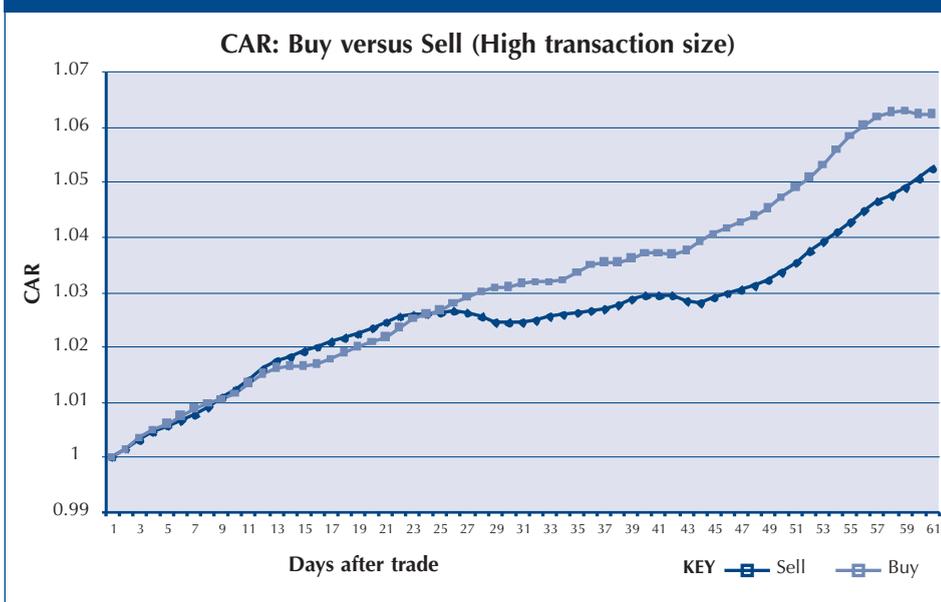


FIGURE 2 CUMULATIVE ABNORMAL RETURNS FOR BUY AND SELL TRANSACTIONS IN TOP QUARTILE (RELATIVE TRANSACTION SIZE): CALENDAR YEAR 2001



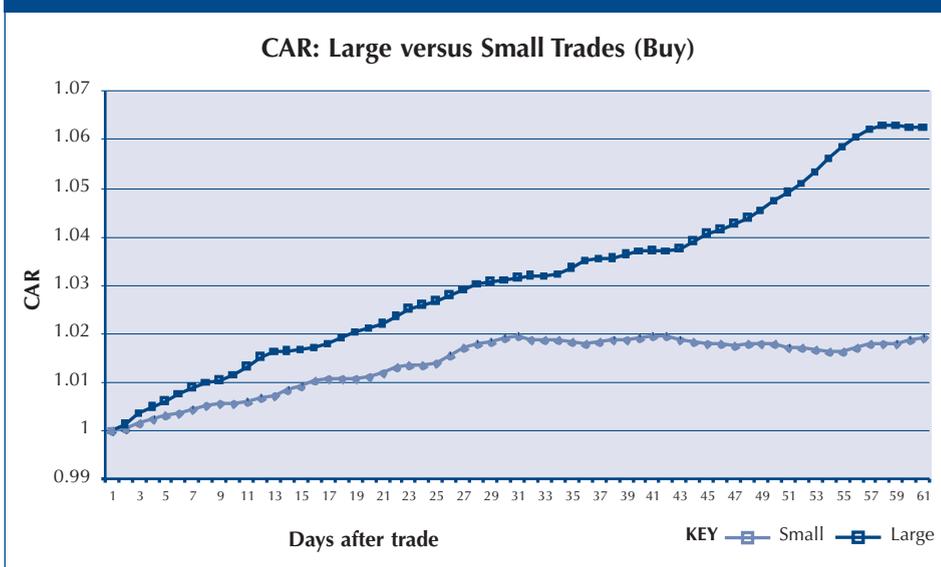
confirm that small trades indeed yield lower abnormal returns.

On an individual fund level, 19 of the 26 managers recorded higher cumulative abnormal returns for buy trades than for sell trades. These managers can be considered 'successful', given that the stocks they purchase tend to yield positive returns over and above the market index, while the remaining managers tend to sell stocks that outperform and buy stocks that

subsequently underperform.

The high proportion of successful trading activity is to be expected given the good performance of the majority of the managers in our sample. The average performance of the 19 'successful' managers was 13.8%, while that of the remaining seven 'unsuccessful' managers was 9.3%. The ability of trading success to predict future performance is an area of further research the authors are currently exploring.

FIGURE 3 CUMULATIVE ABNORMAL RETURNS FOR BUY TRANSACTIONS (LARGE VERSUS SMALL): CALENDAR YEAR 2001



Trade success can be severely affected by the market impact of trading. Large managers are likely to face high market impact costs due to illiquidity and thus one would expect large managers to exhibit lower trading success. Dividing our sample into high and low portfolio size halves, we find the abnormal return to buy trades of large managers to be 4.9% while that of small managers to be 6.0%.

CONCLUSIONS

This study provided preliminary research results concerning the trading behaviour and 'success' of active equity managers for the 2001 calendar year. Some of the most important findings are as follows:

- As expected, the trading activity of active Australian equity managers is substantial;
- The majority of funds comprising the sample outperformed the market in the year (before expenses);
- The majority of trades executed by funds were 'successful' over a 60-day event window, of which larger trade sizes exhibited higher abnormal returns compared to smaller transactions;
- Transactions made by smaller funds earned higher abnormal returns in the period, compared to trade parcels transacted by larger funds.

Further research is currently underway, and will evaluate the ability of active equity managers to outperform the market—including an understanding of the sources of value-add derived by investment managers.

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REFERENCES

Gallagher (2002). *Investment Manager Characteristics, Strategy, Top Management Changes and Fund Performance*, Working Paper, The University of New South Wales.