Working Paper

Are funds true to label? Matching qualitative and quantitative information

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Are funds true to label? Matching qualitative and quantitative information

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Abstract

Our contribution to funds management research is in matching qualitative information sourced from the fund manager with their own quantitative data concerning what assets they own, how they trade, and how their portfolios are managed. We find that survey responses are informative of characteristic values relative to other funds e.g. funds that declare higher maximum tracking errors tend to have higher tracking errors. Furthermore, self-declared number of stocks held and turnover are less indicative of future fund characteristics than actual past measures. Overall, our study suggests that the Questionnaire responses do contain some information value when used by asset consultants to compare funds.

Keywords

Asset consultants, concentration, fund managers, tracking error, turnover

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Introduction

This study examines the informativeness of Investment Management Questionnaires\(^1\) in accurately describing fund managers’ intended investment characteristics in terms of the number of stocks held, portfolio tracking error and turnover. The responses to the standardised questionnaires require considerable effort in their compilation (each document is, on average, approximately 90 pages long), and are widely distributed to asset consultants as a convenient alternative to individual solicitation for general fund information. However, the content of the questionnaire responses is not legally enforceable, and provides an opportunity for fund managers to promote their products by claiming overly favourable characteristics such as portfolio concentration, tracking error, and turnover. On the other hand, close scrutiny of fund managers subsequent to being hired may easily reveal whether their claimed behaviour had been exaggerated. Hence, fund managers are motivated to tread the fine line between the hard truth and an attractive fiction in order to meet their dual goals of being hired and staying hired. In the context of these complex incentives, we find that funds do indeed breach their stated concentration, tracking error, and turnover thresholds. However, claimed characteristics do not seem to be completely random—funds claiming to hold more stocks and trade more frequently do in fact hold more stocks and trade more frequently than other funds, even if they do not adhere to their stated levels.

This study uses a sample of Australian active fund managers, which is pertinent in a number of ways. Australia’s pension market, valued at $US1.6 trillion, is the fastest growing in the world, ranked fourth largest internationally\(^2\). Superannuation funds are also strongly influenced by asset consultants, the latter of whom are the intended users of these questionnaires.

Asset consultants play a key role in helping multi-manager funds, such as superannuation funds, make hiring and firing decisions regarding underlying managers. These asset consultants use a variety of information sources, including self-declared investment characteristics, to provide key insights into the performance, investment characteristics, and management of fund managers. Self-declared characteristics are communicated

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\(^1\) The Financial Services Council (FSC) (formerly the Investment and Financial Services Association) provides the Investment Management questionnaires “for the provision of data by fund managers to asset consultants, research houses, dealer groups, platforms and other parties requiring comprehensive information on any fund management group’s operations and processes” (FSC, 2014).

through direct interviews with fund managers, as well as captured through periodic Investment Management Questionnaires. However, recent evidence from the US suggests little evidence to support any value added by asset consultant recommendations (Jenkinson, Jones and Martinez, 2015) in terms of returns performance.

Asset consultants use the questionnaire responses in a number of ways. Firstly, resource constraints mean that not all funds can be thoroughly examined. The questionnaires provide a means by which funds can be filtered for more in-depth screening. Fund managers themselves use their questionnaire responses as a source of information when promoting their products to asset consultants. The questionnaire provides a consistent format for funds to communicate relevant information to potential clients. Secondly, the questionnaire responses are one of a number of sources of information used by asset consultants as a basis by which the actual track record of fund managers may be verified. This occurs both when fund managers are examined in depth by the asset consultant for an initial review, and as part of the ongoing review process.

In this study, we focus on two measures of concentration/diversification—the number of stocks held and tracking error—and turnover. The importance of fund managers’ non-returns characteristics in a multi-manager fund’s selection process has been highlighted by Foster and Warren (2014). Essentially, this paper extends the literature by establishing the extent to which unverified information presented by the fund managers themselves can be relied upon when informing hiring decisions at the multi-manager fund level.

Our study finds that funds generally comply with self-declared limits on the number of stocks held in the portfolio (both minimum and maximum), but tend to exceed self-declared maximum tracking error and turnover bounds. This may suggest that fund managers are more likely to comply with self-declared characteristics that they have greater control over, and those that are more salient to end users. For example, it may be easier for asset consultants and multi-manager funds to check ex-post the number of stocks held from reported holdings than either tracking error and turnover, which require trade-level information. Nevertheless, we do find that the self-declared number of stocks held and portfolio turnover are positively correlated to the actual characteristics across the cross-section of funds. In relation to tracking error we find statistically
insignificant low positive correlations between the self-declared and actual values. These results are robust in both up- and down-markets. In the absence of other qualitative indicators, such information may be useful to asset consultants when determining if a prospective fund manager will fit into an existing portfolio of funds. Questionnaire responses, however, are not as strong an indicator for the actual number of stocks held (and, to a lesser extent, portfolio turnover) as actual observed values prior to the questionnaire date. This suggests that historical data provides marginal value in addition to questionnaire responses when determining relative and nominal characteristics of funds on a forward-looking basis. We find no evidence from univariate panel regressions to suggest that self-declared characteristics are related to either raw or four-factor excess returns. These results are qualitatively consistent when controlling for fund changes in the sample market state and cross-sectional volatility.

Our findings have a number of implications. From a practitioner point of view, this study gives some indication of how reliable self-declared information from fund managers is at informing their subsequent investment decisions. The variability in actual levels of compliance to self-declared limits could mean that relatively more weight should be put on actual historical investment characteristics than self-declared limits, if the former is available. This study represents the first academic attempt to test whether funds deviate significantly from their publicly stated investment constraints, in the absence of legal enforceability.

The remainder of the paper is structured as follows—the next section summarises the data used; the methods and results of this study are discussed and, finally, concluding remarks are provided. Relevant background literature, further information regarding the data and fund sample, and a robustness section are included in an online appendix.

Data

This study uses Investment Management Questionnaires to determine the self-declared investment characteristics of individual fund managers. In 1997, a number of major asset consulting firms3 and other interested parties operating in Australia formed a user group to produce a single questionnaire which consolidated the individual questionnaires that

asset consulting firms had previously required fund managers to complete. The goal of this was to help reduce the duplication of effort on behalf of the fund managers. The questionnaire broadly surveys different asset classes within each firm (e.g. Australian Shares, International Shares, Small Caps etc.). However, we focus only on the Australian Shares section, as this is most relevant to the fund holdings data that we have access to. The questionnaire responses are prepared with considerable effort, and contain detailed descriptions of each fund’s investment paradigms, objectives and constraints. We have a database of Investment Management Questionnaire documents for 39 fund family institutions. As a quantitative gauge of effort on the part of fund managers to prepare these documents, we present in Figure 1 of the online appendix the distribution of page counts of the questionnaire response documents in 2000. The minimum page count is 16 pages and the maximum is 235 pages, with the average being 92.

We use the 2000 edition of the Investment Management Questionnaire responses for this study. We were not able to obtain more recent versions of the questionnaire responses. However, the 2000 edition of the questionnaire responses is nevertheless useful by itself as it enables us to verify the self-declared characteristics both before and after the questionnaire date. We provide a number of justifications for the use of our cross-sectional sample of survey responses in the online appendix.

In order to address the potential staleness of the questionnaire data we examine the paper’s main results (i.e., those in Tables 1 and 2) over the period 1997 to 2003 and these are found to be consistent with those presented over the complete sample period (see Tables A2 and A3 in the Robustness section of the online appendix).

Our complete database contains the daily transactions and monthly equity holdings of 59 active Australian equity funds, spanning fifteen years from 1995 to 2010 inclusive. However, we use a subsample of 37 of these funds for which we have self-declared characteristics for either concentration (n=33 funds), tracking error (n=17 funds) or turnover (n=10 funds). Furthermore, we also filter out all months in which the total market value of the Australian equity holdings is less than A$10 million. Daily price levels and dilutions data are sourced from the SIRCA Australian Equities Tick History database, market capitalisation and dividend data from the Share Price and Price Relative database, and book value data from the Aspect Huntley Financial Statement database.
Table A1 of the online appendix summarises the composition of the fund sample and provides actual average fund characteristics.

Methods and Results

Compliance with self-declared characteristics

In this section we investigate whether the funds comply with their self-declared characteristic values provided in the 2000 questionnaires by examining actual values as at December in each year. We use annual observations as the monthly values do not differ substantially from one period to the next. Table 1 Panel A reports the level of compliance for each characteristic over the complete sample period. In addition, Panels B and C present results pre- and post-2000, respectively. The post-2000 results are inclusive of observations in the year 2000. Separating these two sub-periods enables us to control for periods in which funds have the ability to examine their actual historical characteristics when forming responses to the questionnaire. The number of stocks held is subject to both maximum and minimum self-declared limits, while only maximum limits are self-declared for turnover and tracking error.

Thirty-three funds in our sample declared minimum and maximum bounds for the number of securities held in their respective portfolios, with 53% of annual portfolio holdings complying with these limits. Compliance with the self-declared number of stocks held appears to have improved over time; only 29% of annual portfolio snapshots comply with their self-declared limits prior to 2000, while 64% of annual snapshots comply in 2000 and later. The improvement in compliance arises from decreases in both the number of snapshots exceeding and falling below self-declared bounds. Given the prior link between concentration and fund performance (Brands, Brown and Gallagher, 2005, Huij and Derwall, 2011), our findings provide assurance around the accuracy of

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4 We also generate the results in Table 1 using a limited sample period from 1997 to 2003 in order to address the potential staleness of the questionnaire data. The results are qualitatively consistent with those presented, these are provided in the Robustness section in the online appendix.

5 The questionnaire responses are primarily dated in the first half of 2000 (most commonly 30th April). We include 2000 itself in the post-2000 period since we believe this sample to be mostly free of look-back bias since the responses are provided early in the year. Furthermore, when controlling for the same funds that exist both pre- and post-2000, these funds only have data until then end of 2001; hence, including 2000 data in the post-2000 sample helps bolster the number of observations.

6 In our results, we have equal-weighted the sample with respect to time from when the survey responses are reported. In this case, we chose equal-weighting over time-weighting as the latter would cause excess weight to be applied to sample funds with longer available historical data, which reflects solely a characteristic of the data not necessarily fund age.
self-declared number of stocks held for asset consultants and institutional investors who use this as a factor in their fund selection decisions.

Funds generally have poorer compliance with their self-declared maximum Turnover. We define Turnover in this study as the minimum of buy and sell trades over the past year, divided by the average monthly portfolio value over that period. Ten funds in the sample declare maximum annual Turnover and have at least one year of data coverage (to compute historical turnover). 70% of fund-year observations exceed the maximum Turnover self-declared in their questionnaire responses. The level of compliance (non-compliance) decreased (increased) slightly from 31% (69%) in the pre-2000 period to 29% (71%) in the post-2000 period. Unreported analyses show that all funds were within a 30% increased tolerance limit to the self-declared maximum Turnover (i.e. the self-declared Turnover x 1.3).

Of the three characteristics examined in this study, Tracking Error is the most systematically underestimated in the responses to the Investment Management Questionnaires. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) factors (market, size, value and momentum), over the past 12 months. Of the 68 annual snapshots from the 17 funds for which we could measure Tracking Error, 75% exceed the self-declared maximum Tracking Error. Furthermore, the number complying (exceeding) with their Tracking Error maximum has decreased (increased) substantially from 31% (69%) in the pre-2000 period to 19% (81%) in the post-2000 period.

The results in Table 1 suggest that funds self-declare lower portfolio Turnover and Tracking Error values. Declaring a lower maximum Turnover value may lead to the expectation of lower transaction costs than those actually incurred by a fund. Similarly, underestimating Tracking Error improves a fund’s expected information ratio (excess returns divided by tracking error), and provides the impression of greater skill than the fund actually possesses. It is unclear whether this is due to deliberate misguidance or systematic underestimation of these characteristics embedded in the fund manager’s investment processes. However, mild exaggeration of their abilities may increase a fund manager’s chances of attaining an in-depth examination by the asset consultant.
In part, the low levels of compliance with portfolio Turnover and Tracking Error may also be a result of how these values are calculated. The questionnaires themselves do not specify which methodology to use. Our measure of Turnover (the minimum of buys and sells divided by the mean portfolio size) accounts for net cash flows in and out of the fund, and is a relatively conservative measure. On the other hand, our measure of Tracking Error is conservative as it controls for four common risk factors—we explore the impact that different calculation methods have on the Tracking Error results in the Robustness section in the online appendix.

Correlation between self-declared characteristics and actuals

While the results in the section ‘Compliance with self-declared characteristics’ suggest that the absolute self-declared limits for Number of Stocks Held, Turnover and Tracking Error are not good indicators of actual fund characteristics, we show in this section that they nevertheless provide information about the relative characteristics when funds are compared to each other. We use actual characteristic values measured at the end of December each year.

Table 2 presents the mean and standard deviation of self-declared characteristic values and actual values across the entire sample (Panel A), the pre-2000 sample (Panel B), and the post-2000 sample (Panel C). The Number of Stocks Held values compare the actual number held to the self-declared maximum, since over-diversification provides little marginal benefit to already-diversified multi-manager funds. The last column shows Spearman’s rank correlations between self-declared characteristics and scaled actual characteristics for each panel, which are our results of interest. We use Spearman’s rank correlation coefficient as it does not make any assumptions about the distribution of data and is less sensitive to outliers.

Because observations are pooled across different time periods, we scale the actual characteristics in order to control for time-series variation when calculating correlations. Values reported in the columns for means and standard deviations are not scaled. The scaled value of each observed characteristic is computed by subtracting the

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7 A limited sample period extending from 1997 to 2003 is used as a robustness test of the results presented in Table 2; these results are qualitatively consistent with those presented and provided in the Robustness section in the online appendix.
contemporaneous mean, and only years with at least two observations (i.e. at least two funds have trades and holdings data in that year) are retained.

The summary statistics for the means and standard deviations for self-declared and actual characteristics (Table 2 Panel A) are consistent with the results in Table 1 – the mean No. of Stocks Held in actuality is lower than the mean self-declared maximum No. of Stocks held, while both actual Turnover and actual Tracking Error exceed the self-declared maximums for these characteristics. Table 2 also demonstrates that there is less variability in the self-declared maximums for No. of Stocks Held and Turnover than the actual cross-sectional dispersion of those characteristics in the observed data. However, the standard deviation for actual Tracking Error across funds is slightly lower than the standard deviation of self-declared values.

The actual values for No. of Stocks Held and Turnover are positively and statistically significantly related to their self-declared characteristics. This indicates that self-declared characteristics in the Investment Management Questionnaires responses are useful for determining the rank-relative differences for these characteristics across funds. However, only small positive and statistically insignificant correlations are determined for Tracking Error. Nevertheless, given the extent to which the self-declared Turnover and Tracking Error values are exceeded, we affirm the value of incorporating other data sources during the asset consultant’s fund selection process.

Panels B and C in Table 2 present the results pre- and post-2000 in relation to the self-declared fund characteristics. We find that self-declared characteristics are more correlated with actual characteristics in the post-2000 period than the pre-2000 period. This suggests responses to the questionnaire are prepared with forward-looking expectations rather than reflecting scaled-down values of observed past characteristics, and adds support to our view that questionnaire responses are useful for informing fund characteristics in a relative context. Table 2 results are consistent when using the Pearson correlation coefficient (unreported).

Indicativeness of self-declared characteristics vs. actual historical characteristics

We examine whether self-declared characteristics from Investment Management Questionnaire responses are more reliable indicators of relative fund characteristics in
the post-2000 period than actual observed characteristics pre-2000. For this test, we use a sub-sample of funds, which exist in both the pre-2000 and post-2000 period, with self-declared characteristics of interest (henceforth referred to as the common funds subset). Actual observations for December of each year are used for the qualifying funds. We look at both the Pearson and Spearman rank correlation coefficients between self-declared characteristics and actual post-2000 characteristics, and between actual pre-2000 characteristics and actual post-2000 characteristics. The actual values both pre- and post-2000 are demeaned to control for year effects. Table 3 presents these results.

We find that the actual No. of Stocks Held pre-2000 is a much stronger indicator of the No. of Stocks Held in actuality post-2000 than the funds’ self-declared maxima for this characteristic, both in terms of the Pearson correlation (0.92 vs. 0.53) and Spearman rank correlation (0.89 vs. 0.58). Actual pre-2000 portfolio Turnover seems to be more strongly linked relative to post-2000 Turnover than the self-declared maxima when we examine Pearson correlations; however this difference is not apparent based on Spearman rank correlations. Finally, we find no evidence to suggest that pre-2000 Tracking Error has a stronger relationship to post-2000 Tracking Error compared to the self-declared Tracking Error limit. However, we note that because we use annual holdings snapshots for the limited set of funds that have reported holdings before and after 2000, the sample sizes for the common funds subsets are quite small, particularly in the Turnover analysis. Hence, the results here should not be treated as conclusive evidence.

The aforementioned analyses provide support for the use of actual historical characteristics, which is consistent with industry practice. Specifically, research analysts prefer evidence of actual performance and other factors (e.g. quality of personnel and assessment of prospects of the manager’s relevant capability to generate outperformance on a prospective basis) to secondary sources of information such as data collection exercises not connected to actual performance.

*Self-declared characteristics vs. performance measures*

We find no strong evidence from univariate panel regressions to suggest that self-declared Number of Stocks Held, portfolio Turnover and Tracking Error could be used

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8 This information was collected in an unrecorded interview with a former senior officer at a major international asset consultant and multi-manager fund provider.
to forecast future fund returns. The regression specifications use raw and excess returns as dependent variables, self-declared characteristics – maximum Number of Stocks Held, portfolio Turnover, and Tracking Error – as independent variables, and control for time-series effects. We use univariate regressions since the sample of funds that declare all three characteristics are limited. Panel regressions controlling for time-series effects are appropriate as the (unreported) model fit statistics indicate that statistically significant year effects are at play.⁹

We measure excess returns using a characteristic-selectivity approach established by Daniel, Grinblatt, Titman and Wermers (DGTW) (1997). The DGTW approach involves creating characteristic-matched benchmarks for each stock based on size, book-to-market and momentum. Excess return is then computed as the return on a stock minus the return on its characteristic-matched benchmark portfolio. In the US the DGTW portfolios are formed based on a five x five x five sort of stocks based on their size, book-to-market and momentum characteristics (i.e. 125 benchmark portfolios). Since there are less stocks listed on the Australian Stock Exchange, Pinnuck (2003) forms DGTW portfolios based on a five x four x three sort, resulting in 60 benchmark portfolios.

We follow Fong, Gallagher and Lee’s (2008) approach for the Australian market, which includes only common stocks in the S&P/ASX 300. This has the advantage of representing the investable universe for fund managers. The stocks are first sorted into three portfolios based on size, then into three portfolios based on book-to-market, and finally into three portfolios using momentum, resulting in 27 benchmark portfolios containing approximately ten stocks each month. Stocks are weighted by their index weight and reweighted to sum to 1 in each benchmark portfolio. Portfolios are formed monthly based on the style characteristics in the prior month (month t-1) and held for six months, resulting in six benchmark return values for each month (one for the portfolio formed in the current month and one each for portfolios formed in the past 5 months). The benchmark return used is the equal-weighted average return of these six portfolios.

We measure size by market capitalisation. Book-to-market uses the most recent book value that is at least three months prior to the portfolio construction month. Lastly,

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⁹A two-way fixed effects regression which also controls for cross-sectional effects is not appropriate here since there is only one self-declared characteristic value per fund.
momentum is computed as the prior 12-month return, skipping one month to avoid bid-ask bounce effects.

In order to obtain the annual DGTW Alpha values we first compute the raw return and DGTW benchmark return, for each fund, on a monthly basis as follows:

\[
Raw\ Return_{j,t} = \sum_{i=1}^{N} w_{i,j,t} R_{i,t}
\]

\textit{Where}
- \(W_{i,j,t}\) is the weight of stock \(i\) in fund \(j\) as at month \(t\). The weight is based on the holding value of the stock as at month \(t-1\).
- \(R_{i,t}\) is the raw return for stock \(i\) in month \(t\).

Similarly,

\[
DGTW\ Benchmark_{j,t} = \sum_{i=1}^{N} w_{i,j,t} R_{BM,i,t}
\]

\textit{Where}
- \(W_{i,j,t}\) is the weight of stock \(i\) in fund \(j\) as at month \(t\). The weight is based on the holding value of the stock as at month \(t-1\).
- \(R_{BM,i,t}\) is the return to the characteristic-benchmark matched to stock \(i\), for month \(t\).

The annual raw and DGTW benchmark returns are calculated as the simple compound of the 12 component monthly raw returns. Finally, the annual DGTW Alpha value is calculated as the annual raw return minus the annual DGTW benchmark return.

Table 4 reports the panel regression results. The self-declared Number of Stocks Held is not economically or statistically significant for either raw returns or DGTW alpha\(^{10}\), which appears to contrast with the prior literature indicating a positive relationship between concentration and performance. However, our measure of concentration differs from prior measures that use portfolio position sizes relative to a benchmark. The latter

\(^{10}\) The results remain non-significant if we compute Number of Stocks Held as the difference between the self-declared maximum and minimum values.
is not self-declared in the Investment Management Questionnaires. In addition, our results do not find a significant relationship between self-declared Tracking Error and either measure of performance. Finally, we do find a mildly significant relationship between self-declared Turnover and excess returns (p-value = 0.0511). While this provides weak evidence to suggest that funds which declare higher levels of Turnover have stronger performance, we cannot establish causality between self-declared portfolio Turnover and performance. In unreported analyses panel regressions controlling for time-series and cross-sectional effects show that actual measures of Number of Stocks Held, Tracking Error and actual portfolio Turnover are not significantly related to either raw returns or DGTW excess returns.

**Conclusion**

Our study represents the first systematic review of the usefulness of self-declared investment characteristics of Australian equity fund managers as captured through their responses to the Investment Management Questionnaire. The questionnaire responses allow us to investigate how funds behave when their claims are not legally enforceable, but potentially incur a reputational cost if the funds deviate too far from their stated characteristics. We focus on three particular characteristics—Number of Stocks Held, Tracking Error and Turnover— which we believe to be important factors when determining whether a new product fits into an existing portfolio of funds.

Our findings support two broad conclusions. Firstly, fund managers appear to be more compliant with self-declared characteristics that they have greater control over, or which are more easily verified by the client. However, there is nevertheless significant variation in compliance both across funds and across time. We do not find strong evidence to suggest that compliance with self-declared characteristics has improved overall in the post-2000 period compared to the pre-2000 period. This may be due, in part, to the presence of extreme market events (e.g. the collapse of the dot-com bubble and the GFC) in our post-2000 sample period. Secondly, we show that, while funds may not necessarily comply with their self-declared limits on the Number of Stocks Held, Tracking Error, or Turnover, the levels of the self-declared limits across funds are nevertheless indicative of their actual characteristics, relative to each other. This is consistent in both up- and down-markets. Our results indicate that questionnaire responses are informative in a relative setting, rather than at face value.
There are a number of potential reasons why the questionnaires are only informative in a relative manner. There is a trend to the use of separate accounts rather than pooled vehicles, to allow tailoring of investment management services to the needs of the investor. This allows a multi-manager to exert greater control/influence over the manager’s decision-making e.g. to pursue tax related objectives, and much greater transparency over the manager’s activities as compared to its stated style and service.\footnote{This information was collected in an unrecorded interview with a former senior officer at a major international asset consultant and multi-manager fund provider.} Given this trend it is likely that the questionnaires are less informative than they were five to 10 years ago as the data needs of industry have evolved and are less capable of being met by a ‘one size fits all’ approach. Furthermore, technological advancements have resulted in a new generation of information flows, databases, networks between consultants, clients and fund managers, and improvements in disclosure. Such advances may render static information in the form of industry-adopted template questionnaires obsolete or at least of secondary interest.

**References**


Table 1. Compliance with self-declared fund characteristics over time.

This table reports the proportion of sample funds' year-end observations that comply with their self-declared characteristic values provided in the 2000 Investment Management Questionnaires. Panel A reports the level of compliance for each characteristic over the complete sample period. Panels B and C present results pre- and post-2000, respectively. The post-2000 results are inclusive of observations in the year 2000. No. of Stocks Held is the number of securities in a fund's portfolio. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) four-factors (market, size, value and momentum), over the past 12 months. Turnover is the minimum of buys and sells over the past year, divided by the average monthly portfolio value over that period. No. of Funds is the number of funds for which there is self-declared characteristic data. No. of Obs. is the number of annual observations for these funds. Fall Below, Comply and Exceed report the proportion (%) of total observations falling into each category. No. of Stocks Held is subject to both maximum and minimum self-declared limits, while only maximum limits are self-declared for turnover and tracking error. For No. of Stocks Held, observations are categorised as Fall Below if the value falls below the minimum; Comply if the value is between the minimum and maximum and Exceed if the value exceeds the maximum. For Turnover and Tracking Error, Comply indicates observations which are less than or equal to the maximum and Exceed indicates those greater than the maximum.

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<th>Panel A: Compliance from 1995 to 2010</th>
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<td>No. of Funds</td>
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<td>No. of Stocks Held</td>
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<td>Tracking Error</td>
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<td>Turnover</td>
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<th>Panel B: Compliance pre-2000</th>
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<td>No. of Funds</td>
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<td>Tracking Error</td>
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<td>Turnover</td>
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<th>Panel C: Compliance post-2000</th>
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<td>No. of Funds</td>
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<td>No. of Stocks Held</td>
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<td>Tracking Error</td>
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<td>Turnover</td>
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Table 2. Self-declared vs. actual fund characteristics.

This table reports summary data for the self-declared characteristics and the corresponding actual characteristic values. The self-declared characteristic values are obtained from the 2000 Investment Management Questionnaires. We use actual characteristic values as at December of each year. No. of Stocks Held is the number of securities in a fund's portfolio. Turnover is the minimum of buys and sells over the past year, divided by the average monthly portfolio value over that period. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) four-factors (market, size, value and momentum), over the past 12 months. N indicates the number of annual observations for funds declaring each characteristic. Self Dec. Mean is the average of the self-declared characteristics. Self Dec. S.D. is the standard deviation of the self-declared characteristics. We focus on the self-declared maximum number of securities to be held for Number of Stocks Held. Actual Mean is the average of the actual characteristic values. Actual S.D. is the standard deviation of the actual characteristic values. The Spearman correlation between the scaled actual characteristic value and the self-declared characteristic value is also presented. The scaled value of each actual characteristic is computed by subtracting the contemporaneous mean and only years with at least 2 observations are retained. Panel A presents results over the complete sample period. Panels B and C present results pre- and post-2000, respectively. The post-2000 results are inclusive of observations in the year 2000.

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<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>158</td>
<td>67.60</td>
<td>35.72</td>
<td>53.99</td>
<td>38.03</td>
<td>0.57***</td>
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<td>Tracking Error (%)</td>
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<td>1.24</td>
<td>4.72</td>
<td>1.13</td>
<td>0.21*</td>
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<td>32.11</td>
<td>10.86</td>
<td>47.16</td>
<td>32.99</td>
<td>0.55***</td>
</tr>
</tbody>
</table>

Panel B: Comparison pre-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>48</td>
<td>74.48</td>
<td>40.00</td>
<td>54.65</td>
<td>31.06</td>
<td>0.47***</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>32</td>
<td>4.16</td>
<td>0.88</td>
<td>4.56</td>
<td>0.84</td>
<td>0.18</td>
</tr>
<tr>
<td>Turnover</td>
<td>13</td>
<td>30.77</td>
<td>10.96</td>
<td>48.05</td>
<td>28.63</td>
<td>0.59**</td>
</tr>
</tbody>
</table>

Panel C: Comparison post-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>110</td>
<td>64.59</td>
<td>33.43</td>
<td>53.71</td>
<td>40.83</td>
<td>0.61***</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>33</td>
<td>3.70</td>
<td>1.49</td>
<td>4.88</td>
<td>1.35</td>
<td>0.28</td>
</tr>
<tr>
<td>Turnover</td>
<td>33</td>
<td>32.64</td>
<td>10.94</td>
<td>46.80</td>
<td>34.97</td>
<td>0.64***</td>
</tr>
</tbody>
</table>

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

N.B. the complete sample size for Tracking Error (Turnover) is 65 (47) however, due to the requirement that at least 2 observations be used to de-mean the actual values to compute the correlation between the scaled actual value and the self-declared value the sample sizes decrease slightly. The Mean and S.D. results are consistent for the complete sample.
Table 3. Self-declared vs. historical fund characteristics post-2000.

This table reports correlation statistics for a sub-sample of funds which exist in both the pre-2000 and post-2000 period. We use actual characteristic values as at December of each year. No. of Stocks Held is the number of securities in a fund’s portfolio. Turnover is the minimum of buys and sells over the past year, divided by the average monthly portfolio value over that period. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) four-factors (market, size, value and momentum), over the past 12 months. N indicates the number of annual observations for funds declaring each characteristic. We look at both the Pearson and Spearman rank correlation coefficients between self-declared characteristics and actual post-2000 characteristics, and between actual pre-2000 characteristics and actual post-2000 characteristics. The actual values both pre- and post-2000 are demeaned to control for time-series effects.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>Actual vs. Self-Declared</th>
<th>Actual vs. pre-2000 Actual</th>
<th>Actual vs. Self-Declared</th>
<th>Actual vs. pre-2000 Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>26</td>
<td>0.58***</td>
<td>0.89***</td>
<td>0.53***</td>
<td>0.92***</td>
</tr>
<tr>
<td>Tracking Error (%)</td>
<td>18</td>
<td>0.24</td>
<td>0.26</td>
<td>0.30</td>
<td>0.32</td>
</tr>
<tr>
<td>Turnover (%)</td>
<td>6</td>
<td>0.83**</td>
<td>0.84**</td>
<td>0.47*</td>
<td>0.60***</td>
</tr>
</tbody>
</table>

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.
Table 4. Panel Regressions.

This table reports results from univariate panel regressions of annual performance measures against the self-declared characteristics. The regression specifications use raw and excess returns as dependent variables, self-declared characteristics – maximum number of stocks held, turnover, and tracking error – as independent variables, and controls for one way fixed effects (time-series effects). We measure excess returns following the Daniel, Grinblatt, Titman and Wermers (DGTW) characteristic-matched benchmark approach adapted to the Australian market as per Fong et al. (2008). DGTW Alpha controls for size, book-to-market and momentum effects. The annual raw and DGTW benchmark returns are calculated as the simple compound of the 12 component monthly returns. Finally, the annual DGTW Alpha value is calculated as the annual raw return minus the annual DGTW benchmark return. N is the number of fund/year observations. Intercept and β are the parameter estimates from the regression. S.E. is the standard error of the β estimate and the p-value indicates the statistical significance of the β estimate.

<table>
<thead>
<tr>
<th>Panel A: Maximum No. of Stocks Held</th>
<th>N</th>
<th>Intercept</th>
<th>β</th>
<th>S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Return (%)</td>
<td>136</td>
<td>0.25</td>
<td>0.01</td>
<td>0.01</td>
<td>0.62</td>
</tr>
<tr>
<td>DGTW Alpha (%)</td>
<td>136</td>
<td>-4.83**</td>
<td>0.00</td>
<td>0.01</td>
<td>0.95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B: Tracking Error</th>
<th>N</th>
<th>Intercept</th>
<th>β</th>
<th>S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Return (%)</td>
<td>67</td>
<td>-1.00</td>
<td>37.55</td>
<td>46.26</td>
<td>0.42</td>
</tr>
<tr>
<td>DGTW Alpha (%)</td>
<td>67</td>
<td>-6.15*</td>
<td>24.91</td>
<td>40.18</td>
<td>0.54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C: Turnover</th>
<th>N</th>
<th>Intercept</th>
<th>β</th>
<th>S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Return (%)</td>
<td>48</td>
<td>-1.79</td>
<td>8.35</td>
<td>7.39</td>
<td>0.27</td>
</tr>
<tr>
<td>DGTW Alpha (%)</td>
<td>48</td>
<td>-7.20*</td>
<td>11.90*</td>
<td>5.86</td>
<td>0.05</td>
</tr>
</tbody>
</table>

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.
Are funds true to label? Matching qualitative and quantitative information

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24 September 2015

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Abstract
Our contribution to funds management research is in matching qualitative information sourced from the fund manager with their own quantitative data concerning what assets they own, how they trade, and how their portfolios are managed. We find that survey responses are informative of characteristic values relative to other funds e.g. funds that declare higher maximum tracking errors tend to have higher tracking errors. Furthermore, self-declared number of stocks held and turnover are less indicative of future fund characteristics than actual past measures. Overall, our study suggests that the Questionnaire responses do contain some information value when used by asset consultants to compare funds.

Keywords
Asset consultants, concentration, fund managers, tracking error, turnover

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Introduction

This study examines the informativeness of Investment Management Questionnaires\(^1\) in accurately describing fund managers’ intended investment characteristics in terms of the number of stocks held, portfolio tracking error and turnover. The responses to the standardised questionnaires require considerable effort in their compilation (each document is, on average, approximately 90 pages long), and are widely distributed to asset consultants as a convenient alternative to individual solicitation for general fund information. However, the content of the questionnaire responses is not legally enforceable, and provides an opportunity for fund managers to promote their products by claiming overly favourable characteristics such as portfolio concentration, tracking error, and turnover. On the other hand, close scrutiny of fund managers subsequent to being hired may easily reveal whether their claimed behaviour had been exaggerated. Hence, fund managers are motivated to tread the fine line between the hard truth and an attractive fiction in order to meet their dual goals of being hired and staying hired. In the context of these complex incentives, we find that funds do indeed breach their stated concentration, tracking error, and turnover thresholds. However, claimed characteristics do not seem to be completely random—funds claiming to hold more stocks and trade more frequently do in fact hold more stocks and trade more frequently than other funds, even if they do not adhere to their stated levels.

This study uses a sample of Australian active fund managers, which is pertinent in a number of ways. Australia’s pension market, valued at $US1.6 trillion, is the fastest growing in the world, ranked fourth largest internationally\(^2\). Superannuation funds are also strongly influenced by asset consultants, the latter of whom are the intended users of these questionnaires.

Asset consultants play a key role in helping multi-manager funds, such as superannuation funds, make hiring and firing decisions regarding underlying managers. These asset consultants use a variety of information sources, including self-declared investment characteristics, to provide key insights into the performance, investment characteristics, and management of fund managers. Self-declared characteristics are communicated

\(^1\) The Financial Services Council (FSC) (formerly the Investment and Financial Services Association) provides the Investment Management questionnaires “for the provision of data by fund managers to asset consultants, research houses, dealer groups, platforms and other parties requiring comprehensive information on any fund management group’s operations and processes” (FSC, 2014).

through direct interviews with fund managers, as well as captured through periodic Investment Management Questionnaires. However, recent evidence from the US suggests little evidence to support any value added by asset consultant recommendations (Jenkinson, Jones and Martinez, 2015) in terms of returns performance.

Asset consultants use the questionnaire responses in a number of ways. Firstly, resource constraints mean that not all funds can be thoroughly examined. The questionnaires provide a means by which funds can be filtered for more in-depth screening. Fund managers themselves use their questionnaire responses as a source of information when promoting their products to asset consultants. The questionnaire provides a consistent format for funds to communicate relevant information to potential clients. Secondly, the questionnaire responses are one of a number of sources of information used by asset consultants as a basis by which the actual track record of fund managers may be verified. This occurs both when fund managers are examined in depth by the asset consultant for an initial review, and as part of the ongoing review process.

In this study, we focus on two measures of concentration/diversification—the number of stocks held and tracking error—and turnover. The importance of fund managers’ non-returns characteristics in a multi-manager fund’s selection process has been highlighted by Foster and Warren (2014). Essentially, this paper extends the literature by establishing the extent to which unverified information presented by the fund managers themselves can be relied upon when informing hiring decisions at the multi-manager fund level.

Our study finds that funds generally comply with self-declared limits on the number of stocks held in the portfolio (both minimum and maximum), but tend to exceed self-declared maximum tracking error and turnover bounds. This may suggest that fund managers are more likely to comply with self-declared characteristics that they have greater control over, and those that are more salient to end users. For example, it may be easier for asset consultants and multi-manager funds to check ex-post the number of stocks held from reported holdings than either tracking error and turnover, which require trade-level information. Nevertheless, we do find that the self-declared number of stocks held and portfolio turnover are positively correlated to the actual characteristics across the cross-section of funds. In relation to tracking error we find statistically
insignificant low positive correlations between the self-declared and actual values. These results are robust in both up- and down-markets. In the absence of other qualitative indicators, such information may be useful to asset consultants when determining if a prospective fund manager will fit into an existing portfolio of funds. Questionnaire responses, however, are not as strong an indicator for the actual number of stocks held (and, to a lesser extent, portfolio turnover) as actual observed values prior to the questionnaire date. This suggests that historical data provides marginal value in addition to questionnaire responses when determining relative and nominal characteristics of funds on a forward-looking basis. We find no evidence from univariate panel regressions to suggest that self-declared characteristics are related to either raw or four-factor excess returns. These results are qualitatively consistent when controlling for fund changes in the sample market state and cross-sectional volatility.

Our findings have a number of implications. From a practitioner point of view, this study gives some indication of how reliable self-declared information from fund managers is at informing their subsequent investment decisions. The variability in actual levels of compliance to self-declared limits could mean that relatively more weight should be put on actual historical investment characteristics than self-declared limits, if the former is available. This study represents the first academic attempt to test whether funds deviate significantly from their publicly stated investment constraints, in the absence of legal enforceability.

The remainder of the paper is structured as follows—the next section summarises the data used; the methods and results of this study are discussed and, finally, concluding remarks are provided. Relevant background literature, further information regarding the data and fund sample, and a robustness section are included in an online appendix³.

**Data**

This study uses Investment Management Questionnaires to determine the self-declared investment characteristics of individual fund managers. In 1997, a number of major asset consulting firms⁴ and other interested parties operating in Australia formed a user group to produce a single questionnaire which consolidated the individual questionnaires that

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³ The internet appendix can be found at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2666818
asset consulting firms had previously required fund managers to complete. The goal of this was to help reduce the duplication of effort on behalf of the fund managers. The questionnaire broadly surveys different asset classes within each firm (e.g. Australian Shares, International Shares, Small Caps etc.). However, we focus only on the Australian Shares section, as this is most relevant to the fund holdings data that we have access to. The questionnaire responses are prepared with considerable effort, and contain detailed descriptions of each fund’s investment paradigms, objectives and constraints. We have a database of Investment Management Questionnaire documents for 39 fund family institutions. As a quantitative gauge of effort on the part of fund managers to prepare these documents, we present in Figure 1 of the online appendix the distribution of page counts of the questionnaire response documents in 2000. The minimum page count is 16 pages and the maximum is 235 pages, with the average being 92.

We use the 2000 edition of the Investment Management Questionnaire responses for this study. We were not able to obtain more recent versions of the questionnaire responses. However, the 2000 edition of the questionnaire responses is nevertheless useful by itself as it enables us to verify the self-declared characteristics both before and after the questionnaire date. We provide a number of justifications for the use of our cross-sectional sample of survey responses in the online appendix.

In order to address the potential staleness of the questionnaire data we examine the paper’s main results (i.e., those in Tables 1 and 2) over the period 1997 to 2003 and these are found to be consistent with those presented over the complete sample period (see Tables A2 and A3 in the Robustness section of the online appendix).

Our complete database contains the daily transactions and monthly equity holdings of 59 active Australian equity funds, spanning fifteen years from 1995 to 2010 inclusive. However, we use a subsample of 37 of these funds for which we have self-declared characteristics for either concentration (n=33 funds), tracking error (n=17 funds) or turnover (n=10 funds). Furthermore, we also filter out all months in which the total market value of the Australian equity holdings is less than A$10 million. Daily price levels and dilutions data are sourced from the SIRCA Australian Equities Tick History database, market capitalisation and dividend data from the Share Price and Price Relative database, and book value data from the Aspect Huntley Financial Statement database.
Table A1 of the online appendix summarises the composition of the fund sample and provides actual average fund characteristics.

**Methods and Results**

*Compliance with self-declared characteristics*

In this section we investigate whether the funds comply with their self-declared characteristic values provided in the 2000 questionnaires by examining actual values as at December in each year. We use annual observations as the monthly values do not differ substantially from one period to the next. Table 1 Panel A reports the level of compliance for each characteristic over the complete sample period. In addition, Panels B and C present results pre- and post-2000, respectively. The post-2000 results are inclusive of observations in the year 2000. Separating these two sub-periods enables us to control for periods in which funds have the ability to examine their actual historical characteristics when forming responses to the questionnaire. The number of stocks held is subject to both maximum and minimum self-declared limits, while only maximum limits are self-declared for turnover and tracking error.

Thirty-three funds in our sample declared minimum and maximum bounds for the number of securities held in their respective portfolios, with 53% of annual portfolio holdings complying with these limits. Compliance with the self-declared number of stocks held appears to have improved over time; only 29% of annual portfolio snapshots comply with their self-declared limits prior to 2000, while 64% of annual snapshots comply in 2000 and later. The improvement in compliance arises from decreases in both the number of snapshots exceeding and falling below self-declared bounds. Given the prior link between concentration and fund performance (Brands, Brown and Gallagher, 2005, Huij and Derwall, 2011), our findings provide assurance around the accuracy of

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5 We also generate the results in Table 1 using a limited sample period from 1997 to 2003 in order to address the potential staleness of the questionnaire data. The results are qualitatively consistent with those presented, these are provided in the Robustness section in the online appendix.

6 The questionnaire responses are primarily dated in the first half of 2000 (most commonly 30th April). We include 2000 itself in the post-2000 period since we believe this sample to be mostly free of look-back bias since the responses are provided early in the year. Furthermore, when controlling for the same funds that exist both pre- and post-2000, these funds only have data until then end of 2001; hence, including 2000 data in the post-2000 sample helps bolster the number of observations.

7 In our results, we have equal-weighted the sample with respect to time from when the survey responses are reported. In this case, we chose equal-weighting over time-weighting as the latter would cause excess weight to be applied to sample funds with longer available historical data, which reflects solely a characteristic of the data not necessarily fund age.
self-declared number of stocks held for asset consultants and institutional investors who use this as a factor in their fund selection decisions.

Funds generally have poorer compliance with their self-declared maximum Turnover. We define Turnover in this study as the minimum of buy and sell trades over the past year, divided by the average monthly portfolio value over that period. Ten funds in the sample declare maximum annual Turnover and have at least one year of data coverage (to compute historical turnover). 70% of fund-year observations exceed the maximum Turnover self-declared in their questionnaire responses. The level of compliance (non-compliance) decreased (increased) slightly from 31% (69%) in the pre-2000 period to 29% (71%) in the post-2000 period. Unreported analyses show that all funds were within a 30% increased tolerance limit to the self-declared maximum Turnover (i.e. the self-declared Turnover x 1.3).

Of the three characteristics examined in this study, Tracking Error is the most systematically underestimated in the responses to the Investment Management Questionnaires. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) factors (market, size, value and momentum), over the past 12 months. Of the 68 annual snapshots from the 17 funds for which we could measure Tracking Error, 75% exceed the self-declared maximum Tracking Error. Furthermore, the number complying (exceeding) with their Tracking Error maximum has decreased (increased) substantially from 31% (69%) in the pre-2000 period to 19% (81%) in the post-2000 period.

The results in Table 1 suggest that funds self-declare lower portfolio Turnover and Tracking Error values. Declaring a lower maximum Turnover value may lead to the expectation of lower transaction costs than those actually incurred by a fund. Similarly, underestimating Tracking Error improves a fund’s expected information ratio (excess returns divided by tracking error), and provides the impression of greater skill than the fund actually possesses. It is unclear whether this is due to deliberate misguidance or systematic underestimation of these characteristics embedded in the fund manager’s investment processes. However, mild exaggeration of their abilities may increase a fund manager’s chances of attaining an in-depth examination by the asset consultant.
In part, the low levels of compliance with portfolio Turnover and Tracking Error may also be a result of how these values are calculated. The questionnaires themselves do not specify which methodology to use. Our measure of Turnover (the minimum of buys and sells divided by the mean portfolio size) accounts for net cash flows in and out of the fund, and is a relatively conservative measure. On the other hand, our measure of Tracking Error is conservative as it controls for four common risk factors- we explore the impact that different calculation methods have on the Tracking Error results in the Robustness section in the online appendix.

**Correlation between self-declared characteristics and actuals**

While the results in the section ‘Compliance with self-declared characteristics’ suggest that the absolute self-declared limits for Number of Stocks Held, Turnover and Tracking Error are not good indicators of actual fund characteristics, we show in this section that they nevertheless provide information about the relative characteristics when funds are compared to each other. We use actual characteristic values measured at the end of December each year.

Table 2 presents the mean and standard deviation of self-declared characteristic values and actual values across the entire sample (Panel A), the pre-2000 sample (Panel B), and the post-2000 sample (Panel C). The Number of Stocks Held values compare the actual number held to the self-declared maximum, since over-diversification provides little marginal benefit to already-diversified multi-manager funds. The last column shows Spearman’s rank correlations between self-declared characteristics and scaled actual characteristics for each panel, which are our results of interest. We use Spearman’s rank correlation coefficient as it does not make any assumptions about the distribution of data and is less sensitive to outliers.

Because observations are pooled across different time periods, we scale the actual characteristics in order to control for time-series variation when calculating correlations. Values reported in the columns for means and standard deviations are not scaled. The scaled value of each observed characteristic is computed by subtracting the

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*A limited sample period extending from 1997 to 2003 is used as a robustness test of the results presented in Table 2; these results are qualitatively consistent with those presented and provided in the Robustness section in the online appendix.*
contemporaneous mean, and only years with at least two observations (i.e. at least two funds have trades and holdings data in that year) are retained.

The summary statistics for the means and standard deviations for self-declared and actual characteristics (Table 2 Panel A) are consistent with the results in Table 1 – the mean No. of Stocks Held in actuality is lower than the mean self-declared maximum No. of Stocks held, while both actual Turnover and actual Tracking Error exceed the self-declared maximums for these characteristics. Table 2 also demonstrates that there is less variability in the self-declared maximums for No. of Stocks Held and Turnover than the actual cross-sectional dispersion of those characteristics in the observed data. However, the standard deviation for actual Tracking Error across funds is slightly lower than the standard deviation of self-declared values.

The actual values for No. of Stocks Held and Turnover are positively and statistically significantly related to their self-declared characteristics. This indicates that self-declared characteristics in the Investment Management Questionnaires responses are useful for determining the rank-relative differences for these characteristics across funds. However, only small positive and statistically insignificant correlations are determined for Tracking Error. Nevertheless, given the extent to which the self-declared Turnover and Tracking Error values are exceeded, we affirm the value of incorporating other data sources during the asset consultant’s fund selection process.

Panels B and C in Table 2 present the results pre- and post-2000 in relation to the self-declared fund characteristics. We find that self-declared characteristics are more correlated with actual characteristics in the post-2000 period than the pre-2000 period. This suggests responses to the questionnaire are prepared with forward-looking expectations rather than reflecting scaled-down values of observed past characteristics, and adds support to our view that questionnaire responses are useful for informing fund characteristics in a relative context. Table 2 results are consistent when using the Pearson correlation coefficient (unreported).

Indicativeness of self-declared characteristics vs. actual historical characteristics

We examine whether self-declared characteristics from Investment Management Questionnaire responses are more reliable indicators of relative fund characteristics in
the post-2000 period than actual observed characteristics pre-2000. For this test, we use a sub-sample of funds, which exist in both the pre-2000 and post-2000 period, with self-declared characteristics of interest (henceforth referred to as the common funds subset). Actual observations for December of each year are used for the qualifying funds. We look at both the Pearson and Spearman rank correlation coefficients between self-declared characteristics and actual post-2000 characteristics, and between actual pre-2000 characteristics and actual post-2000 characteristics. The actual values both pre- and post-2000 are demeaned to control for year effects. Table 3 presents these results.

We find that the actual No. of Stocks Held pre-2000 is a much stronger indicator of the No. of Stocks Held in actuality post-2000 than the funds’ self-declared maxima for this characteristic, both in terms of the Pearson correlation (0.92 vs. 0.53) and Spearman rank correlation (0.89 vs. 0.58). Actual pre-2000 portfolio Turnover seems to be more strongly linked relative to post-2000 Turnover than the self-declared maxima when we examine Pearson correlations; however this difference is not apparent based on Spearman rank correlations. Finally, we find no evidence to suggest that pre-2000 Tracking Error has a stronger relationship to post-2000 Tracking Error compared to the self-declared Tracking Error limit. However, we note that because we use annual holdings snapshots for the limited set of funds that have reported holdings before and after 2000, the sample sizes for the common funds subsets are quite small, particularly in the Turnover analysis. Hence, the results here should not be treated as conclusive evidence.

The aforementioned analyses provide support for the use of actual historical characteristics, which is consistent with industry practice. Specifically, research analysts prefer evidence of actual performance and other factors (e.g. quality of personnel and assessment of prospects of the manager’s relevant capability to generate outperformance on a prospective basis) to secondary sources of information such as data collection exercises not connected to actual performance.9

Self-declared characteristics vs. performance measures
We find no strong evidence from univariate panel regressions to suggest that self-declared Number of Stocks Held, portfolio Turnover and Tracking Error could be used

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9 This information was collected in an unrecorded interview with a former senior officer at a major international asset consultant and multi-manager fund provider.
to forecast future fund returns. The regression specifications use raw and excess returns
as dependent variables, self-declared characteristics – maximum Number of Stocks Held,
portfolio Turnover, and Tracking Error – as independent variables, and control for time-
series effects. We use univariate regressions since the sample of funds that declare all
three characteristics are limited. Panel regressions controlling for time-series effects are
appropriate as the (unreported) model fit statistics indicate that statistically significant
year effects are at play.\textsuperscript{10}

We measure excess returns using a characteristic-selectivity approach established by
Daniel, Grinblatt, Titman and Wermers (DGTW) (1997). The DGTW approach involves
creating characteristic-matched benchmarks for each stock based on size, book-to-
market and momentum. Excess return is then computed as the return on a stock minus
the return on its characteristic-matched benchmark portfolio. In the US the DGTW
portfolios are formed based on a five x five x five sort of stocks based on their size,
book-to-market and momentum characteristics (i.e. 125 benchmark portfolios). Since
there are less stocks listed on the Australian Stock Exchange, Pinnuck (2003) forms
DGTW portfolios based on a five x four x three sort, resulting in 60 benchmark
portfolios.

We follow Fong, Gallagher and Lee’s (2008) approach for the Australian market, which
includes only common stocks in the S&P/ASX 300. This has the advantage of
representing the investable universe for fund managers. The stocks are first sorted into
three portfolios based on size, then into three portfolios based on book-to-market, and
finally into three portfolios using momentum, resulting in 27 benchmark portfolios
containing approximately ten stocks each month. Stocks are weighted by their index
weight and reweighted to sum to 1 in each benchmark portfolio. Portfolios are formed
monthly based on the style characteristics in the prior month (month t-1) and held for six
months, resulting in six benchmark return values for each month (one for the portfolio
formed in the current month and one each for portfolios formed in the past 5 months).
The benchmark return used is the equal-weighted average return of these six portfolios.
We measure size by market capitalisation. Book-to-market uses the most recent book
value that is at least three months prior to the portfolio construction month. Lastly,

\textsuperscript{10} A two-way fixed effects regression which also controls for cross-sectional effects is not appropriate here
since there is only one self-declared characteristic value per fund.
momentum is computed as the prior 12-month return, skipping one month to avoid bid-ask bounce effects.

In order to obtain the annual DGTW Alpha values we first compute the raw return and DGTW benchmark return, for each fund, on a monthly basis as follows:

$$Raw\ Return_{j,t} = \sum_{i=1}^{N} w_{i,j,t} R_{i,t}$$

Where
- $w_{i,j,t}$ is the weight of stock $i$ in fund $j$ as at month $t$. The weight is based on the holding value of the stock as at month $t-1$.
- $R_{i,t}$ is the raw return for stock $i$ in month $t$.

Similarly,

$$DGTW\ Benchmark_{j,t} = \sum_{i=1}^{N} w_{i,j,t} R_{BM,i,t}$$

Where
- $w_{i,j,t}$ is the weight of stock $i$ in fund $j$ as at month $t$. The weight is based on the holding value of the stock as at month $t-1$.
- $R_{BM,i,t}$ is the return to the characteristic-benchmark matched to stock $i$, for month $t$.

The annual raw and DGTW benchmark returns are calculated as the simple compound of the 12 component monthly raw returns. Finally, the annual DGTW Alpha value is calculated as the annual raw return minus the annual DGTW benchmark return.

Table 4 reports the panel regression results. The self-declared Number of Stocks Held is not economically or statistically significant for either raw returns or DGTW alpha\textsuperscript{11}, which appears to contrast with the prior literature indicating a positive relationship between concentration and performance. However, our measure of concentration differs from prior measures that use portfolio position sizes relative to a benchmark. The latter

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\textsuperscript{11} The results remain non-significant if we compute Number of Stocks Held as the difference between the self-declared maximum and minimum values.
is not self-declared in the Investment Management Questionnaires. In addition, our results do not find a significant relationship between self-declared Tracking Error and either measure of performance. Finally, we do find a mildly significant relationship between self-declared Turnover and excess returns (p-value = 0.0511). While this provides weak evidence to suggest that funds which declare higher levels of Turnover have stronger performance, we cannot establish causality between self-declared portfolio Turnover and performance. In unreported analyses panel regressions controlling for time-series and cross-sectional effects show that actual measures of Number of Stocks Held, Tracking Error and actual portfolio Turnover are not significantly related to either raw returns or DGTW excess returns.

**Conclusion**

Our study represents the first systematic review of the usefulness of self-declared investment characteristics of Australian equity fund managers as captured through their responses to the Investment Management Questionnaire. The questionnaire responses allow us to investigate how funds behave when their claims are not legally enforceable, but potentially incur a reputational cost if the funds deviate too far from their stated characteristics. We focus on three particular characteristics—Number of Stocks Held, Tracking Error and Turnover— which we believe to be important factors when determining whether a new product fits into an existing portfolio of funds.

Our findings support two broad conclusions. Firstly, fund managers appear to be more compliant with self-declared characteristics that they have greater control over, or which are more easily verified by the client. However, there is nevertheless significant variation in compliance both across funds and across time. We do not find strong evidence to suggest that compliance with self-declared characteristics has improved overall in the post-2000 period compared to the pre-2000 period. This may be due, in part, to the presence of extreme market events (e.g. the collapse of the dot-com bubble and the GFC) in our post-2000 sample period. Secondly, we show that, while funds may not necessarily comply with their self-declared limits on the Number of Stocks Held, Tracking Error, or Turnover, the levels of the self-declared limits across funds are nevertheless indicative of their actual characteristics, relative to each other. This is consistent in both up- and down-markets. Our results indicate that questionnaire responses are informative in a relative setting, rather than at face value.
There are a number of potential reasons why the questionnaires are only informative in a relative manner. There is a trend to the use of separate accounts rather than pooled vehicles, to allow tailoring of investment management services to the needs of the investor. This allows a multi-manager to exert greater control/influence over the manager’s decision-making e.g. to pursue tax related objectives, and much greater transparency over the manager’s activities as compared to its stated style and service. Given this trend it is likely that the questionnaires are less informative than they were five to 10 years ago as the data needs of industry have evolved and are less capable of being met by a ‘one size fits all’ approach. Furthermore, technological advancements have resulted in a new generation of information flows, databases, networks between consultants, clients and fund managers, and improvements in disclosure. Such advances may render static information in the form of industry-adopted template questionnaires obsolete or at least of secondary interest.

References


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12 This information was collected in an unrecorded interview with a former senior officer at a major international asset consultant and multi-manager fund provider.
Table 1. Compliance with self-declared fund characteristics over time.

This table reports the proportion of sample funds' year-end observations that comply with their self-declared characteristic values provided in the 2000 Investment Management Questionnaires. Panel A reports the level of compliance for each characteristic over the complete sample period. Panels B and C present results pre- and post-2000, respectively. The post-2000 results are inclusive of observations in the year 2000. No. of Stocks Held is the number of securities in a fund's portfolio. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) four-factors (market, size, value and momentum), over the past 12 months. Turnover is the minimum of buys and sells over the past year, divided by the average monthly portfolio value over that period. No. of Funds is the number of funds for which there is self-declared characteristic data. No. of Obs. is the number of annual observations for these funds. Fall Below, Comply and Exceed report the proportion (%) of total observations falling into each category. No. of Stocks Held is subject to both maximum and minimum self-declared limits, while only maximum limits are self-declared for turnover and tracking error. For No. of Stocks Held, observations are categorised as Fall Below if the value falls below the minimum; Comply if the value is between the minimum and maximum and Exceed if the value exceeds the maximum. For Turnover and Tracking Error, Comply indicates observations which are less than or equal to the maximum and Exceed indicates those greater than the maximum.

### Panel A: Compliance from 1995 to 2010

<table>
<thead>
<tr>
<th>No. of Funds</th>
<th>No. of Obs.</th>
<th>Fall Below</th>
<th>Comply</th>
<th>Exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>33</td>
<td>158</td>
<td>19.62</td>
<td>53.16</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>17</td>
<td>68</td>
<td>n/a</td>
<td>25.00</td>
</tr>
<tr>
<td>Turnover</td>
<td>10</td>
<td>47</td>
<td>n/a</td>
<td>29.79</td>
</tr>
</tbody>
</table>

### Panel B: Compliance pre-2000

<table>
<thead>
<tr>
<th>No. of Funds</th>
<th>No. of Obs.</th>
<th>Fall Below</th>
<th>Comply</th>
<th>Exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>13</td>
<td>48</td>
<td>33.33</td>
<td>29.17</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>9</td>
<td>32</td>
<td>n/a</td>
<td>31.25</td>
</tr>
<tr>
<td>Turnover</td>
<td>3</td>
<td>13</td>
<td>n/a</td>
<td>30.77</td>
</tr>
</tbody>
</table>

### Panel C: Compliance post-2000

<table>
<thead>
<tr>
<th>No. of Funds</th>
<th>No. of Obs.</th>
<th>Fall Below</th>
<th>Comply</th>
<th>Exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>33</td>
<td>110</td>
<td>13.64</td>
<td>63.64</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>17</td>
<td>36</td>
<td>n/a</td>
<td>19.44</td>
</tr>
<tr>
<td>Turnover</td>
<td>10</td>
<td>34</td>
<td>n/a</td>
<td>29.41</td>
</tr>
</tbody>
</table>
Table 2. Self-declared vs. actual fund characteristics.

This table reports summary data for the self-declared characteristics and the corresponding actual characteristic values. The self-declared characteristic values are obtained from the 2000 Investment Management Questionnaires. We use actual characteristic values as at December of each year. No. of Stocks Held is the number of securities in a fund's portfolio. Turnover is the minimum of buys and sells over the past year, divided by the average monthly portfolio value over that period. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) four-factors (market, size, value and momentum), over the past 12 months. N indicates the number of annual observations for funds declaring each characteristic. Self Dec. Mean is the average of the self-declared characteristics. Self Dec. S.D. is the standard deviation of the self-declared characteristics. We focus on the self-declared maximum number of securities to be held for Number of Stocks Held. Actual Mean is the average of the actual characteristic values. Actual S.D. is the standard deviation of the actual characteristic values. The Spearman correlation between the scaled actual characteristic value and the self-declared characteristic value is also presented. The scaled value of each actual characteristic is computed by subtracting the contemporaneous mean and only years with at least 2 observations are retained. Panel A presents results over the complete sample period. Panels B and C present results pre- and post-2000, respectively. The post-2000 results are inclusive of observations in the year 2000.

Panel A: Comparison from 1995 to 2010

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>158</td>
<td>67.60</td>
<td>35.72</td>
<td>53.99</td>
<td>38.03</td>
<td>0.57***</td>
</tr>
<tr>
<td>Tracking Error (%)</td>
<td>65</td>
<td>3.92</td>
<td>1.24</td>
<td>4.72</td>
<td>1.13</td>
<td>0.21*</td>
</tr>
<tr>
<td>Turnover (%)</td>
<td>46</td>
<td>32.11</td>
<td>10.86</td>
<td>47.16</td>
<td>32.99</td>
<td>0.55***</td>
</tr>
</tbody>
</table>

Panel B: Comparison pre-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>48</td>
<td>74.48</td>
<td>40.00</td>
<td>54.65</td>
<td>31.06</td>
<td>0.47***</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>32</td>
<td>4.16</td>
<td>0.88</td>
<td>4.56</td>
<td>0.84</td>
<td>0.18</td>
</tr>
<tr>
<td>Turnover</td>
<td>13</td>
<td>30.77</td>
<td>10.96</td>
<td>48.05</td>
<td>28.63</td>
<td>0.59**</td>
</tr>
</tbody>
</table>

Panel C: Comparison post-2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>110</td>
<td>64.59</td>
<td>33.43</td>
<td>53.71</td>
<td>40.83</td>
<td>0.61***</td>
</tr>
<tr>
<td>Tracking Error</td>
<td>33</td>
<td>3.70</td>
<td>1.49</td>
<td>4.88</td>
<td>1.35</td>
<td>0.28</td>
</tr>
<tr>
<td>Turnover</td>
<td>33</td>
<td>32.64</td>
<td>10.94</td>
<td>46.80</td>
<td>34.97</td>
<td>0.64***</td>
</tr>
</tbody>
</table>

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

N.B. the complete sample size for Tracking Error (Turnover) is 65 (47) however, due to the requirement that at least 2 observations be used to de-mean the actual values to compute the correlation between the scaled actual value and the self-declared value the sample sizes decrease slightly. The Mean and S.D. results are consistent for the complete sample.
Table 3. Self-declared vs. historical fund characteristics post-2000.

This table reports correlation statistics for a sub-sample of funds which exist in both the pre-2000 and post-2000 period. We use actual characteristic values as at December of each year. No. of Stocks Held is the number of securities in a fund's portfolio. Turnover is the minimum of buys and sells over the past year, divided by the average monthly portfolio value over that period. Tracking Error is measured as the standard deviation of the residuals from regressions of the monthly portfolio returns against the contemporaneous Carhart (1997) four-factors (market, size, value and momentum), over the past 12 months. N indicates the number of annual observations for funds declaring each characteristic. We look at both the Pearson and Spearman rank correlation coefficients between self-declared characteristics and actual post-2000 characteristics, and between actual pre-2000 characteristics and actual post-2000 characteristics. The actual values both pre- and post-2000 are demeaned to control for time-series effects.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>Actual vs. Self-Declared</th>
<th>Actual vs. pre-2000 Actual</th>
<th>Actual vs. Self-Declared</th>
<th>Actual vs. pre-2000 Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Stocks Held</td>
<td>26</td>
<td>0.58***</td>
<td>0.89***</td>
<td>0.53***</td>
<td>0.92***</td>
</tr>
<tr>
<td>Tracking Error (%)</td>
<td>18</td>
<td>0.24</td>
<td>0.26</td>
<td>0.30</td>
<td>0.32</td>
</tr>
<tr>
<td>Turnover (%)</td>
<td>6</td>
<td>0.83**</td>
<td>0.84**</td>
<td>0.47*</td>
<td>0.60***</td>
</tr>
</tbody>
</table>

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.
Table 4. Panel Regressions.

This table reports results from univariate panel regressions of annual performance measures against the self-declared characteristics. The regression specifications use raw and excess returns as dependent variables, self-declared characteristics – maximum number of stocks held, turnover, and tracking error – as independent variables, and controls for one way fixed effects (time-series effects). We measure excess returns following the Daniel, Grinblatt, Titman and Wermers (DGTW) characteristic-matched benchmark approach adapted to the Australian market as per Fong et al. (2008). DGTW Alpha controls for size, book-to-market and momentum effects. The annual raw and DGTW benchmark returns are calculated as the simple compound of the 12 component monthly returns. Finally, the annual DGTW Alpha value is calculated as the annual raw return minus the annual DGTW benchmark return. N is the number of fund/year observations. Intercept and β are the parameter estimates from the regression. S.E. is the standard error of the β estimate and the p-value indicates the statistical significance of the β estimate.

<table>
<thead>
<tr>
<th>Panel A: Maximum No. of Stocks Held</th>
<th>N</th>
<th>Intercept</th>
<th>β</th>
<th>S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Return (%)</td>
<td>136</td>
<td>0.25</td>
<td>0.01</td>
<td>0.01</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.10)</td>
<td>(0.50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DGTW Alpha (%)</td>
<td>136</td>
<td>-4.83**</td>
<td>0.00</td>
<td>0.01</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.42)</td>
<td>(0.06)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Panel B: Tracking Error

<table>
<thead>
<tr>
<th>N</th>
<th>Intercept</th>
<th>β</th>
<th>S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Return (%)</td>
<td>67</td>
<td>-1.00</td>
<td>37.55</td>
<td>46.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.28)</td>
<td>(0.81)</td>
<td></td>
</tr>
<tr>
<td>DGTW Alpha (%)</td>
<td>67</td>
<td>-6.15*</td>
<td>24.91</td>
<td>40.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.00)</td>
<td>(0.62)</td>
<td></td>
</tr>
</tbody>
</table>

Panel C: Turnover

<table>
<thead>
<tr>
<th>N</th>
<th>Intercept</th>
<th>β</th>
<th>S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Return (%)</td>
<td>48</td>
<td>-1.79</td>
<td>8.35</td>
<td>7.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.34)</td>
<td>(1.13)</td>
<td></td>
</tr>
<tr>
<td>DGTW Alpha (%)</td>
<td>48</td>
<td>-7.20*</td>
<td>11.90*</td>
<td>5.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.74)</td>
<td>(2.03)</td>
<td></td>
</tr>
</tbody>
</table>

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.