The Impact of Manager Changes on Fund Performance

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ABSTRACT

Using our unique database of UK fund manager changes and event study methodology, we examine the impact of such changes to establish whether this impact varies depending upon whether the fund manager is male or female; whether the fund is a developed or emerging market; and depending upon the fund's style, that is, growth, value or small cap. Our results show clearly across different categories of funds that a change in fund manager can have a significant impact on fund performance. We document that funds improve their performance after a female fund manager has been replaced. Finally, we find persistence in performance of the bottom performing funds compared with the top performing funds pre-and post management change.

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1. Introduction

In recent years, studies on investment styles and fund manager performance have become wide-spread. In particular, studies by Chevalier and Ellison (1999) and Wermers et al. (2004) focused on the characteristics of fund managers, such as experience and education, and found evidence that fund performance is positively correlated with manager education and experience. However, there has been little evidence devoted to the influence of gender on fund management. For example Niessen et al. (2006) look at the different management styles between male and female fund managers in the US market, and found significant differences between them: while men are more aggressive, women appear to be more methodological and risk averse in their investment choices. However, most of the studies on gender of fund mangers tend to assess the behavioural issues rather than look at the manger performance which is if essence to investors. There has been little attention devoted to the fund manager tenure and its relationship to performance of a fund and additionally, most of the research in this area has been focusing on the US market.

The objective of this paper is to examine the performance of mutual funds and in particular, to study how the performance of a fund is affected when its fund manager leaves. Using our unique database of UK fund manager changes in recent history (2002-2005), we examine whether the impact of a change is more pronounced among male or female managed funds, emerging or developed market funds and weather the persistence of performance depends on fund's style, i.e. growth, value or small cap. We also examine the persistence of the top performing funds compared with the bottom performing funds pre-and post management change. This study attempts to fill the gap in the literature by offering a comprehensive study of fund manager changes and gender influences in different types of funds in the UK managed fund industry and to highlight the effect a fund manager change (replacement) has on the performance of a fund.

This paper presents the first evidence of the effect of fund management changes in the UK's fund management industry.

2. Literature Review

Although mutual funds have stated investment objectives, the fund manager normally has a significant impact on the selection of the individual securities in a fund's portfolio and, therefore, the risk and return characteristics of the portfolio. It would be logical to assume that there is a direct correlation between fund performance and portfolio manager experience, age, education and even gender. If a fund has experienced persistently positive performance, investors often assume that positive performance to continue as long as the same manager is associated with a particular fund.

2.1. Does Gender Matter?

From previous studies it has been shown that performance can persist. But how much of this performance persistence is accountable by female managers? It is a known fact that women and men behave differently and this may affect fund manager performance. Apart from characteristics such as fund's size, structure and expenses, the age tenure, educational level and compensation of the manager that can influence performance of a fund, the issues such as turnover and risk profile of the fund are key differentiating characteristics between male and female managed funds. It is a known fact that women view money, risk and investing differently to men. This may not have been a major issue in the past as the funds management industry has traditionally been male dominated, however, nowadays there are more women managing money on behalf of others. Furthermore, with women being more risk averse would imply that they prefer lower levels of portfolio volatility, individual stock volatility, beta and size.

Atkinson et al. (2003) compare the performance and investment behaviour of female and male fixed-income mutual fund managers. They find that there is no significance difference between the two groups of managers in terms of performance, risk, and other fund characteristics. Their results suggest that differences in investment behaviour often attributed to gender may be related to investment knowledge and wealth constraints. In addition, despite the similarities between male and female managers, there is evidence that gender influences the decision-making of mutual fund investors.

A recent study by Niessen et al. (2006) investigated gender differences between US equity mutual fund managers. Their results indicate that women seen to take moderately less unsystematic risk and less small firm risk, while the total risk does not differ. Higher idiosyncratic risk taken by male fund managers implies that they trade more actively then the female fund managers. Furthermore, authors report that female fund managers follow less extreme investment styles and that their styles are more stable over time. However, they conclude that although the differences in behaviour between female and male fund managers are apparent, the differences in abnormal returns between the two are not significantly high. Bliss and Potter (2002) find that both US and international female fund managers obtain higher raw returns than male. They do not find that women are more risk averse then men as suggested by some of the previous studies and find that both men and women managers have the same turnover ratio in US funds, while men have higher turnover in international funds. Additionally, according to traditional performance measures such as Sharpe ratio and Alpha, their findings suggest that women outperform men in US funds but not in international ones.

2.2 Does Style of investing matter?

Chevalier and Ellison (1999) find that the older managers use momentum strategies. However, in given that they also report that older managers are out performed by the younger managers, this finding is somewhat contrary to the findings of Carhart (1997) and Daniel, Grinblatt, Titman and Wermers (1997), who showed that momentum strategies are the main reason for performance persistence. Subsequently, the MBA managers showed a statistically significant tendency to purchase 'glamour' stocks (stocks with lower book-to-market ratios). Gallagher's (2003) findings indicate that better performance is achieved by fund managers who follow stock picking aporach.

2.3. Is there persistence in mutual fund performance?

Past studies on performance persistence have shown mixed evidence that performance actually persists. Blake and Timmerman (1998) formed portfolios of high and low alpha funds and evaluated that performance did persist for a holding period of up to two years. Allen and Tan (1999) verified that performance persisted even after adjusting for risk and for holding periods of up to two years among 131 UK funds. Quigley and Sinquefied (1998) find that underperforming funds continue to under

perform, while outperforming funds do not continue to outperform. Keswani and Stolin (2004, 2006) suggest that performance persistence differs between sectors, and conclude that it is not the sector characteristics that explain the different levels of persistence, but the differences in securities invested. Similarly to Hendriks at al. (1993), Elton et. al. (1996) report that past 'winner' funds outperform past 'loser' funds in short term periods and also for longer periods of three years. Goetzman and Ibbotson (1994) find that two-year performance is predictive of performance over the successive two years. They report evidence of relative performance persistence, particularly for underperforming funds. Moreover, Malkiel (1995) found that performance persists in the 1970s but does not continue in the 1980s. The evidence of non-persistence can be found in Carhart (1997) and Daniel at al. (1997) for example.

Given the evidence form prior literature which suggests that there is performance persistence in the short run and that investment strategies of a fund depend largely on managers themselves and their characteristics, this paper will examine how the change of a fund manger in a fund impacts its performance and weather different conclusions apply to different types of funds.

3. Data and Methodology

We use an event study methodology to examine the relationship between mutual fund performance in the pre and post managerial turnover. We apply steps suggested by Campbell, Lo and MacKinlay (1997):

1. **Event definition**: Our event is the managerial turnover, which is defined as the event that occurs when a fund manager is replaced/resigned from the fund. The event date is the month of the management change. Standard event studied use daily data, however, we believe that 1) using a month of managers' change as an event date is sufficient to capture the effect of the change and 2) the data on mangers' changes is only available on month-to-month basis. We measure the performance of the fund three years before the event date and one year after the event date[2], which constitutes our event window of 36 month prior to the event and 12 months after the event. We require this pre-event time period as Khorana (2001) in his paper advocates that funds which experience a management turnover have at least two years of performance

[2] Where the manager has not managed the fund three years prior to the event, we apply a minimum data requirement of one year prior to the event date.

history before the management replacement month. Furthermore, Hendricks et al. (1993), Goetzmann et al. (1994) and Brown et al. (1995) all find evidence of performance persistence in mutual funds over a horizon of one to three years. In addition, to a certain extent, this will also enable us to determine the reason of replacement. Some of the reasons to which fund manager changes occur are retirement, poor performance of the fund manager or good performance. In the latter case, good performance can give rise of opportunities to the fund manager where s/he moves to a better job position or is simply taken by another fund management company.

2. **Selection criteria for managers:** Our sample of managers and their corresponding fund performance originates from our primary data source of Citywire[3], and the Financial Express Database. Both databases cover UK mutual funds and provide information on fund management structures, investment objectives, benchmarks, fund managers' characteristics and other fund characteristics. Furthermore, the Standard & Poor's data source provides us with information of manager replacements from April 2002 to December 2005. Our sample data includes a total of 255 fund manager changes. The price data for the funds and their respective benchmarks is obtained form Datastream. We concentrate our analysis on single-managed funds and exclude all manager changes that occur in team-managed funds. In a way, this will assist us to distinguish the differences in fund behaviour due to management structure (team- vs. single-managed) from differences that can be attributed to gender of the manager or investment strategy (value or growth, developed or emerging markets etc.) for example.

3. **Normal and abnormal performance:** To generalise our results across different groups of funds we group our funds according to the following categories: (1) male managed, (2) female managed, (3) emerging markets funds, (4) developed markets funds, (5) equity value funds, (6) equity growth funds, (7) equity small cap funds, (8) top 10 percent performing funds before the management change and (9) bottom 10 percent performing funds before the management change.

We measure the performance of the funds pre-and post- event date in three ways:

a) Performance using benchmark adjusted model:

[3] Source: Citywire is a UK data source providing information on UK fund managers and tracks their performance.

The traditional event study methodology is using Market model, which is a statistical model, estimated through OLS regression, it relates fund i return to the market return and estimates parameters α_{it} and β_{it} that are used for calculation of abnormal returns. This implies that the estimation period for alphas and betas is needed. Since most of our funds have quite a short history prior to management change, we find that this method is not appropriate for our analysis. The alternative to use in such circumstances is the Market-adjusted model. Since the funds for which we analyse the impact of fund managers' changes are benchmarking their performance against benchmarks pre-defined in their investment objectives, we feel that it is more appropriate to calculate abnormal returns adjusted for benchmark returns, rather then the market (i.e. FTSE All Share Index) itself. Therefore, the benchmark adjusted return model we use can be treated as restricted Market model in which α_{it} is equal to zero and β_{it} is equal to one. According to Campbell et. al. (1997), since coefficients alpha and beta are prespecified, an estimation period is not required and abnormal returns can be calculated as:

$$AR_{it} = R_{it} - R_{bt} \tag{1}$$

Where AR_{it} is abnormal return of fund i in period t, R_{it} is the actual return of fund i in period t and R_{bt} is the actual return of the benchmark for fund i in period t.

Further, we calculate Average Abnormal Returns for each of the 12 groups of funds:

$$\overline{AR_t} = \frac{1}{n}\sum_{i=1}^{n} AR_{it} \tag{2}$$

Where n is the number of funds in which the change of a fund manager has occurred.

Additionally, typical event study methodology will assess the impact of the event by testing weather there is a difference between cumulative abnormal returns for fund i before and after the event, in our case the change of fund manager:

$$CAR_{it} = \sum_{t=-36}^{+12} ARi_t \tag{3}$$

CAR_{it} gives us returns from investing in fund i from the start of the event horizon till the 12 months post event date.

For each of our group of funds we calculate Average Cumulative abnormal returns:

$$\overline{CAR}_{it} = \sum_{t=-36}^{+12} \overline{ARi}_t \tag{4}$$

b) Performance using mean adjusted model:

$$AR_{it} = R_{it} - \overline{R}_i \tag{5}$$

Where $\overline{R}_i$ is the mean return of fund i for which the management change has occurred over the pre-event estimation period (in our case 36 months prior to the change of fund manager) as suggested by Campell et al. (1997). Although this model appears to be the simplest out of the three, Brown and Warner (1980, 1985) state that it often gives similar results as the other more complex models.

In the same manner as in a), we calculate Average Abnormal Returns, Cumulative Abnormal Returns and Average Cumulative Abnormal Returns for the Mean Adjusted Model using equations (2), (3) and (4).

c) Performance using information ratio:

$$IRi_{t<0} = \frac{\overline{Ri}_{t<0} - \overline{Rb}_{t<0}}{St.Deviation(Ri_{t<0} - Rb_{t<0})} \text{ and}$$

$$IRi_{t>0} = \frac{\overline{Ri}_{t>0} - \overline{Rb}_{t>0}}{St.Deviation(Ri_{t>0} - Rb_{t>0})} \tag{6}$$

Where $IRi_{t<0}$ ($IRi_{t>0}$) is the information ratio obtained by fund i before (after) the management change; $\overline{Ri}_{t<0}$ ($\overline{Ri}_{t>0}$) is the average return of fund i before (after) the event; $\overline{Rb}_{t<0}$ ($\overline{Rb}_{t>0}$) is the average return of the benchmark for the pre-event (post-event) period; and Standard deviation of $Ri_{t<0} - Rb_{t<0}$ ($Ri_{t>0} - Rb_{t>0}$) is taken as measure of total risk over the pre-event (post-event) period. The information on appropriate benchmarks for each fund is obtained from Citywire, S&P database or fund fact sheets.

Further, to avoid any fund-specific bias in our results, we calculate the average Information Ratio for each of our 12 groups of funds as:

$$\overline{IR}_{t<0} = \sum_{i=1}^{n} IRi_{t<0} \quad \text{and} \quad \overline{IR}_{t>0} = \sum_{i=1}^{n} IRi_{t>0} \tag{7}$$

Where $\overline{IR}_{t<0}$ ($\overline{IR}_{t>0}$) is the average information ratio of n funds for each of our 12 groups in the period prior to (after than) event.

4. Testing procedure: To test for significance of Average abnormal returns and Average cumulative abnormal returns in b) and c) we need to calculate the aggregate pre-event standard deviation of abnormal returns for each of the funds within each of the 12 sample groups (brown and Warner (1985):

$$\sigma_{i,pre-event} = \sqrt{\frac{\sum_{t=-36}^{-1} (\overline{AR}_{it} - \overline{AR}_{pre-event})^2}{n-1}} \tag{8}$$

Where $\sigma_{i,pre-event}$ is the standard deviation of abnormal returns of fund i estimated from pre-event period, $\overline{AR}_{pre-event}$ is the average abnormal return of fund i in the pre-event period and n is the number of months in the pre-event period (in our case 36).

The aggregate standard deviations across all funds in each of the 12 sample groups are calculated as:

$$\sigma_{N,pre-event} = \sqrt{\frac{\sum_{i=1}^{N} \sigma_{i,pre-event}^2}{N}} \tag{9}$$

Where N is the number of funds in the sample.

Using these standard deviations, we calculate T-test for ARs and CARs as:

$$\overline{AR}t_{T-test} = \frac{\overline{AR_t}}{\sigma_{N,pre-event}} \tag{10}$$

and

$$\overline{CAR}t_{T-test} = \frac{\overline{CAR_t}}{\sigma_{N,pre-event}\sqrt{t_2 - t_1 + 1}} \tag{11}$$

Where t_1 is the first day and t_2 is the last day in the period over which we calculate cumulative returns.

4. Empirical Results

Analysis that follows shows that three alternative methods of measuring abnormal performance generate to some extent similar results. We report the results both for the overall sample of funds and by fund categories.

4.1. All Funds

According to benchmark adjusted method, twenty-four months prior to the event date, the average abnormal returns are at their lowest and are more volatile during the pre-event period. Subsequently, the average abnormal returns for all the funds increase and continue to do so after the event date. Appendix 1 shows the average abnormal returns and the cumulative abnormal returns over the event period for the full sample of 255 funds. Additionally, the sum of the benchmark adjusted average abnormal returns before the event date (-0.0531) is lower than the sum of the average abnormal returns after the event date (-0.0042), as shown in Table 1, Appendix 2. The benchmark adjusted cumulative abnormal returns shown in Figure 1 show a decrease in value during the pre-event period and form period *t-12* to *t-1* they are statistically significant. However, from the event date until *t+10*, the cumulative average abnormal returns continue to decrease in value, but at a substantially lower rate. After month t+10 the average abnormal returns show a large increase in value which has a positive impact on cumulative average abnormal returns.

- Insert Figure 1 –

Overall, the funds in our sample are exhibiting a persistent decrease in returns before the change in manager. Once a manager has been replaced, the returns and the overall performance of the funds improve after a number of months. This can lead us to conclude from our sample of funds that the performance of the fund managers was unsatisfactory leading to a replacement, but the replacement manager has around 10 months of the 'adjustment period' before the performance starts to improve.

The mean adjusted average abnormal returns, reported in Appendix 2, are statistically significant at periods *t-34*, *t-24*, *t-18*, *t=0* and *t+1*, and have a less mean-reverting trend as a comparison to the benchmark-adjusted average abnormal returns. Nevertheless, the results are leading to the same conclusion as for benchmark adjusted returns. In particular, funds exhibit positive average abnormal returns nine months before the event date. However, during the event date and two months after the fund manager leaves, the average abnormal returns decrease to negative values before they start increasing again. This implies that a new fund manager will take up to a few months before adjusting to a new position of running the fund. Mean adjusted cumulative average abnormal returns shown in Figure 2 exhibit similar pattern as the benchmark-adjusted ones: returns are at their lowest one year before the event while eight months after the change in fund manager the funds exhibit increase in cumulative abnormal returns which continues in the succeeding months.

- Insert Figure 2 -

To conclude, according to mean-adjusted method of performance, a change in fund manager does improve the funds' performance based on average abnormal returns after the event date, but cumulative abnormal returns still remain negative.

Finally, we would expect to draw similar conclusions from the analysis of information ratios and benchmark-adjusted method, as they are both benchmark-based performance measures. Table 1 provides the results of the average standard deviations, sum of the average and cumulative benchmark adjusted abnormal returns and information ratios both pre-event date and post-event for the total sample of funds and each of the categories of funds. For the total sample of funds, the information ratio is lower for the post-event period (-0.0853) in comparison to the pre-event period (-0.0655). This implies that given the decrease in tracking error post event, the funds overall do not exhibit higher average abnormal returns relative to their

corresponding benchmarks in the post-event period as a comparison to the pre-event period. Once a new fund manager takes over the fund, s/he is more cautious which may explain the fall in the average standard deviation and decline in the risk preference taken.

- Insert Table 1 -

Information ratios by fund category from Table 1 will be discussed in the sections that follow.

4.2. Male vs. Female Managed Funds

Two thirds of funds in our data sample are male managed. The sum of benchmark-adjusted average abnormal returns for the male managed funds is lower for the pre-event period (-0.0476) than for the post-event period (-0.0053). The sum of the benchmark adjusted average abnormal a return for the female managed funds during the pre-event period is -0.0795, whereas the post-event period entails a positive return sum of 0.0012[4]. This indicates that both male and female managed funds improve performance after the manager change but female managed funds have a performance edge over male managed funds as they manage to generate positive abnormal returns in the post event period. Looking at both benchmark-adjusted and mean-adjusted cumulative abnormal returns on Figure 3 and Figure 4, it can be seen that the performance of those funds managed by women is more volatile during the pre-event period, and that the performance of the fund actually improves on average after the female fund manager has been replaced.

- Insert Figure 3-

- Insert Figure 4-

According to benchmark-adjusted return criteria, once the male fund manager is replaced, the cumulative average abnormal returns continue to decline until *t+10*, where the performance begins to advance until *t+12*, but overall remains negative. For female managed funds, around the event-period the cumulative average abnormal returns are at their lowest, but the benchmark-adjusted cumulative abnormal returns show an improvement in months *t+7* to *t+9*. Mean adjusted cumulative average abnormal returns on Figure 4 show somewhat different picture: although the male and female fund performance trend is similar prior to manager change, we see that

[4] The full set of results for AARs and CAARs for all individual groups of funds is available from the authors.

replacement of female managers leads to quicker improvement in performance (from t+5) and positive mean-adjusted cumulative returns in comparison to the benchmark adjusted method.

In both cases and using both methods of estimation, the average abnormal returns increase after the change in fund manager, generating abnormal returns. However, the improvement in performance is higher for the previously female managed funds.

In terms of information ratios, information ratio for male managed funds remains lower in the post-event (-0.0785) compared to the pre-event (-0.0572) period. On the other hand, the average standard deviation for the female managed funds is slightly higher in the post-event period, which may explain the lower information ratio after the change (-0.0853) in female fund manager in relation to the pre-event (-0.0655). These information ratio results are consistent with the results we obtain for the benchmarks adjusted method.

4.3. Emerging Markets vs. Developed Markets Funds

Although the majority of the funds in our data sample are developed markets funds, there are 30 merging markets funds in our sample which predominantly invest in the Asian markets. Analysing benchmark adjusted cumulative average abnormal returns for both developed and emerging markets we find that emerging markets outperform their respective benchmarks generating positive cumulative average abnormal returns from t-16 onwards. Their performance after the fund manager change is very similar to the benchmarks adjusted performance before the manager change and they continue to outperform, generating slightly lower cumulative abnormal returns. Developed markets funds on the other hand continue to underperform their benchmarks before and after manager change. This leads us to conclude that both of these groups of funds exhibit persistence in performance before and after manager change.

- Insert Figure 5 -

When we take into account the mean-adjusted performance we see a somewhat different picture: the trend of mean adjusted performance for both emerging and developed market funds is the same. Figure 6 indicates that although emerging markets funds outperform their benchmarks, they do not manage to outperform their

mean either before or after the management change. Developed market funds on the other hand, do not outperform their mean or their benchmarks before or after the management change.

-Insert Figure 6-

Some improvement in mean-adjusted performance occurs in months t+7 to t+12 for both groups of funds but it is not sufficient to generate cumulative outperformance.

Information ratio analysis suggests that emerging markets funds are the only group of funds that generated positive information ratios prior to the event. After the event, although cumulative return remains positive, average of the abnormal returns for the post event period is negative, causing a decrease in the information ratio.

4.4. Growth Funds, Value Funds and Small Capitalization Funds

In this section we divide the equity funds into style categories, specifically growth funds, value funds and small capitalization funds. Out of the entire sample of funds, 65 of them are equity growth, 25 are small cap and three funds follow value style. From Table 1 we can see that the small capitalization funds and the value funds display positive benchmark-adjusted average abnormal returns up to the event date, with the latter showing high values of benchmark-adjusted average abnormal returns of up to 3.9% one year before the event date. This can be explained by the fact that the small capitalization and value funds tend to be more risky, having higher standard deviation than other groups of funds particularly before the event period. In addition, the sum of the average abnormal returns for small cap and growth funds increases after the event period, while value funds show a decline the sum of average abnormal returns in the post-event period (0.0478), as opposed to the pre-event period (0.2774). Nevertheless, the post event benchmark adjusted average abnormal returns for value funds remain positive. This can also be seen in Figure 7, which demonstrates the cumulative average abnormal returns for the growth funds, value funds and small capitalization funds.

-Insert Figure 7-

Benchmark-adjusted cumulative average abnormal returns before the event date are statistically significant for the growth funds (*t-14* to *t-1*), value funds (*t-32* to *t-1*) and small capitalization funds (*t-15* to *t-1*). During the twelve months following the event date, the value funds show a decrease in the average abnormal returns, although the

performance of the funds improves after month *t+10*. On the other hand, the small capitalization funds prove that the sum of the average abnormal returns generate higher values in the post-event period rather than the pre-event period. From these results, we can conclude that the change in fund manager has been in favour for the growth funds and small capitalization funds. Conversely, this has not been the case for the value funds which showed a decline in performance and returns after the change in fund manager.

The first glance of mean adjusted cumulative abnormal returns suggests the three fund classes did not manage to outperform their mean before the event although majority have outperformed their benchmarks. All three fund categories exhibit similar pattern and generate negative values of cumulative average abnormal returns from *t-35* until *t-2*. Only the small capitalization funds show a short-term increase in the cumulative average abnormal returns from *t-30* to *t-24*, following a sharp decline in the following six months. However, the three fund classes experience an increase in the cumulative average abnormal returns until the fund manager is replaced. The months following the event date, the cumulative average abnormal returns are more volatile; nonetheless, generating positive values six months after the new fund manager takes over.

- Insert Figure 8-

In terms of information ratios, all three fund categories exhibit increase in the information ratio after the event from 0.19 to 0.21 for value funds, -0.04 to 0.06 for growth funds and -0.11 to -0.08 for small cap funds.

4.5. Best Ten Percent vs. Worst Ten Percent Performing Funds: Is there Persistence in Performance?

In this section we assess whether the performance of the funds in our sample persists. In particular, we examine whether the top performing funds, or the 'winners', continue to outperform, and whether the bottom performing funds, or the 'losers', persist on underperforming after the change in fund manager. In order to rank the performance of the funds, we use the pre-event and the post-event information ratio and select top 10% and bottom 10% of funds both before and after the event.

According to our results of benchmark adjusted abnormal returns, two months before the event date, the top 10% funds of the pre-event period generate lower returns resulting in a decline in average abnormal returns. The deterioration of returns continues into the post-event period, resulting in lower returns in comparison to the corresponding benchmark and the pre-event period. We can also observe this movement when taking into account the cumulative average abnormal returns, as in Figure 9.

-Insert Figure 9-

Figure 9 shows the rise in the cumulative average abnormal returns from the start of our analysis, *t-36*, up to the event date, *t=0*. However, after the event date the cumulative average abnormal returns gradually start to decline until the end of our sample period, *t+12*. From these results, we can conclude that the previous, or pre-event, winner funds do not exhibit the same performance in the post-event period due to the fact that their average abnormal returns are relatively lower in the post-event period. Our results indicate that the ten percent of top performing funds before the change in fund manager continue to outperform, but only for a very short period until performance declines. This indicates that the manager's portfolio decisions continue to have a positive impact after they have left, but eventually this positive influence wanes and is generally not replicated by the new management.

Cumulative abnormal returns of bottom 10% of the funds according to pre-event information ratio have a different pattern. In particular, they decline prior to the event date and as the fund a manager is replaced, they persist to decline but at a lower diminishing rate.

-Insert Figure 10-

Therefore, the performance of the 'loser' funds does continue to persist in the post-event period as in the pre-event period, even if a new fund manager has taken over the funds. In other words, investors in these funds should not pin their hopes on a rapid turnaround in performance when their poorly performing manager leaves.

5. Conclusion

The study examines how is the performance of UK funds affected when a fund manager leaves. In particular, we assess whether there is an impact of a manager change and whether this impact varies depending upon whether the fund manager is male or female; whether the fund is a developed or emerging markets fund; and depending upon the fund's style, that is, growth, value or small cap. In addition, we examine if there is persistence in performance across top and bottom performing funds before and after management change.

We construct a unique database for UK manager changes in the period April 2002 to December 2005 and use an event study methodology to assess performance before and after management change. Specifically, we measure the performance using 1) benchmark adjusted returns, 2) mean-adjusted returns and 3) information ratios three years prior to the change in fund manager and one year after that change.

Our findings suggest that the performance of the funds in our sample broadly improve following a change in manager. Two years prior to the manager change the average abnormal returns are at their lowest and are generally more volatile during the pre-event period compared with the post-event period. We document evidence that suggests that the performance of those funds managed by women is more volatile during the pre-event period, and that the performance of the fund actually improves on average after the female fund manager has been replaced. We find greater persistence in out-performance across emerging market funds. Further, small cap and growth equity funds improve their performance after the manager change. Last, but not least, focussing on the prior performance of the funds in our sample, our results indicate that the ten percent of top performing funds before the change in fund manager continue to outperform, but only for a very short period until performance declines. This implies that there is no persistence in performance in funds classified as 'winners' before the event date. We find however that the bottom ten percent of performers prior to the manager change makes little difference to their subsequent performance, so that underperformance persists at least for the following 12 months. This paper presents the first evidence of such phenomena in the UK's fund management industry.

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APPENDIX 1: Benchmark-Adjusted AARs and CAARs (*indicates significant at 5% level)

Event Time	Average Abnormal Returns	*T-test*	Cumulative Average Abnormal Returns	*T-test*
t-36	0.004314302	1.62	0.004314302	0.228
t-35	0.00053391	0.20	0.004848212	0.256
t-34	-0.001483869	-0.56	0.003364344	0.178
t-33	-0.006397176	-2.40*	-0.003032833	-0.160
t-32	0.003498183	1.31	0.000465351	0.025
t-31	-0.000740737	-0.28	-0.000275387	-0.015
t-30	-0.001028939	-0.39	-0.001304326	-0.069
t-29	-0.000729925	-0.27	-0.002034251	-0.108
t-28	0.000804434	0.30	-0.001229817	-0.065
t-27	-0.003782734	-1.42	-0.005012551	-0.265
t-26	0.001612215	0.61	-0.003400336	-0.180
t-25	0.000307357	0.12	-0.003092979	-0.164
t-24	-0.003227322	-1.21	-0.006320301	-0.334
t-23	-0.00940271	-3.53*	-0.015723012	-0.832
t-22	0.000872481	0.33	-0.014850531	-0.785
t-21	-0.001113567	-0.42	-0.015964098	-0.844
t-20	-0.006184065	-2.32*	-0.022148163	-1.171
t-19	-0.001508671	-0.57	-0.023656834	-1.251
t-18	-0.000617128	-0.23	-0.024273962	-1.284
t-17	-0.001059697	-0.40	-0.025333659	-1.340
t-16	-0.000662308	-0.25	-0.025995967	-1.375
t-15	0.000226	0.08	-0.025769966	-1.363
t-14	-0.004162014	-1.56	-0.02993198	-1.583
t-13	0.00058912	0.22	-0.02934286	-1.552
t-12	-0.002976535	-1.12	-0.032319395	-1.709*
t-11	-0.000976182	-0.37	-0.033295577	-1.761*
t-10	-0.001596914	-0.60	-0.034892491	-1.846*
t-9	-0.003816025	-1.43	-0.038708516	-2.047*
t-8	-0.004110115	-1.54	-0.042818631	-2.265*
t-7	-0.002069901	-0.78	-0.044888532	-2.374*
t-6	-0.00184448	-0.69	-0.046733012	-2.472*
t-5	-0.000287807	-0.11	-0.047020819	-2.487*
t-4	-0.002677181	-1.01	-0.049698	-2.629*
t-3	0.000226273	0.09	-0.049471727	-2.617*
t-2	-0.003541863	-1.33	-0.05301359	-2.804*
t-1	-0.000133914	-0.05	-0.053147504	-2.811*
t=0	0.000331215	0.12	-0.052816	-2.793*
t+1	-0.002278706	-0.86	-0.055095	-2.914*
t+2	0.000361195	0.14	-0.054734	-2.895*
t+3	-0.001062844	-0.40	-0.055797	-2.951*
t+4	0.00032502	0.12	-0.055472	-2.934*
t+5	-0.002018345	-0.76	-0.05749	-3.040*
t+6	0.0006675	0.25	-0.056822	-3.005*
t+7	-0.00087749	-0.33	-0.0577	-3.051*
t+8	0.00066233	0.25	-0.057038	-3.016*
t+9	-0.001452885	-0.55	-0.058491	-3.093*
t+10	-0.002025754	-0.76	-0.060516	-3.200*
t+11	0.000237361	0.09	-0.060279	-3.188*
t+12	0.002889389	1.09	-0.05739	-3.035*

*significant at 5% level

APPENDIX 2: Mean-Adjusted AARs and CAARs (*indicates significant at 5% level)

Event Time	Average Abnormal Returns	*T-test*	Cumulative Average Abnormal Returns	*T-test*
t-36	0.004686	0.82	0.004686	0.30
t-35	0.006861	1.20	0.011547	0.74
t-34	-0.00964	-1.68*	0.001904	0.12
t-33	-0.00327	-0.57	-0.00137	-0.08
t-32	0.001942	0.34	0.000571	0.03
t-31	0.002585	0.45	0.003156	0.20
t-30	0.005031	0.88	0.008188	0.53
t-29	-0.00048	-0.08	0.007708	0.49
t-28	-0.0036	-0.63	0.004105	0.26
t-27	-0.00191	-0.33	0.002192	0.14
t-26	-0.00279	-0.48	-0.00059	-0.03
t-25	0.002349	0.41	0.001754	0.11
t-24	-0.00912	-1.59	-0.00736	-0.47
t-23	-0.01701	-2.98*	-0.02438	-1.58
t-22	0.000517	0.09	-0.02386	-1.54
t-21	-0.00048	-0.08	-0.02434	-1.57
t-20	-0.00514	-0.89	-0.02947	-1.91*
t-19	0.00615	1.07	-0.02333	-1.51
t-18	-0.01099	-1.92*	-0.03432	-2.22*
t-17	-0.00448	-0.78	-0.0388	-2.51*
t-16	0.00269	0.47	-0.03611	-2.34*
t-15	0.000879	0.15	-0.03523	-2.28*
t-14	0.000947	0.16	-0.03428	-2.22*
t-13	0.008218	1.43	-0.02606	-1.68*
t-12	-0.00691	-1.21	-0.03297	-2.13*
t-11	0.006241	1.09	-0.02673	-1.73*
t-10	0.005398	0.94	-0.02133	-1.38
t-9	-0.00178	-0.31	-0.02312	-1.49
t-8	-0.00093	-0.16	-0.02405	-1.55
t-7	-0.00057	-0.09	-0.02461	-1.59
t-6	0.000954	0.167	-0.02366	-1.53
t-5	0.0038	0.66	-0.01986	-1.28
t-4	0.000885	0.15	-0.01897	-1.22
t-3	0.008811	1.54	-0.01016	-0.65
t-2	0.003632	0.63	-0.00653	-0.42
t-1	0.004424	0.77	-0.00211	-0.13
t=0	-0.01137	-1.99*	-0.0134	-0.87
t+1	-0.00955	-1.67*	-0.0230	-1.49
t+2	-0.00196	-0.34	-0.024977	-1.61
t+3	-0.00035	-0.06	-0.025331	-1.64
t+4	-0.00319	-0.55	-0.028519	-1.84*
t+5	0.005523	0.96	-0.022996	-1.49
t+6	0.003489	0.61	-0.019507	-1.26
t+7	-0.00318	-0.55	-0.022684	-1.47
t+8	0.002692	0.47	-0.019992	-1.29
t+9	0.001031	0.18	-0.018961	-1.22
t+10	0.002806	0.49	-0.016154	-1.04
t+11	0.008224	1.44	-0.00793	-0.51
t+12	0.005226	0.91	-0.002704	-0.17

Table 1: Information Ratio Summary

	Average Standard Deviation		Information Ratio		Sum Average Abnormal Return		Sum Cumulative Average Abnormal Return	
	Pre-event	**Post-event**	**Pre-event**	**Post-event**	**Pre-event**	**Post-event**	**Pre-event**	**Post-event**
Total Sample	0.0248	0.0175	-0.0655	-0.0853	-0.0531	-0.0042	-0.7917	-0.7396
Male	0.0241	0.0175	-0.0572	-0.0785	-0.0476	-0.0053	-0.7100	-0.6813
Female	-0.1237	-0.1238	-0.0655	-0.0853	-0.0795	0.0012	-1.1908	-1.0149
Emerging Markets	0.0290	0.0189	0.0226	-0.0202	0.0219	-0.0036	0.0924	0.2733
Developed Markets	0.0241	0.0173	-0.0768	-0.0943	-0.0629	-0.0043	-0.9047	-0.8725
Value	0.0364	0.0135	0.1870	0.2086	0.2774	0.0478	9.3634	4.1641
Growth	0.0278	0.0193	-0.0404	0.0594	-0.0809	0.0270	-1.2680	-0.8975
Small	0.0364	0.0244	-0.1151	-0.0844	-0.2149	-0.0193	-3.6495	-3.0913

Figure 1: Benchmark-adjusted Cumulative Average Abnornal Returns - All Funds

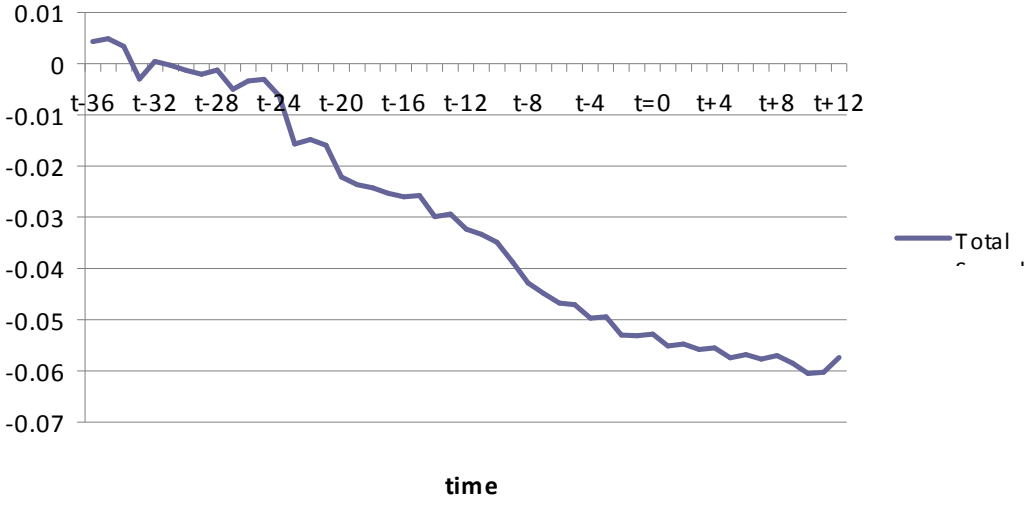

Figure 2: Mean-Adjusted Cumulative Average Abnormal Returns - All Funds

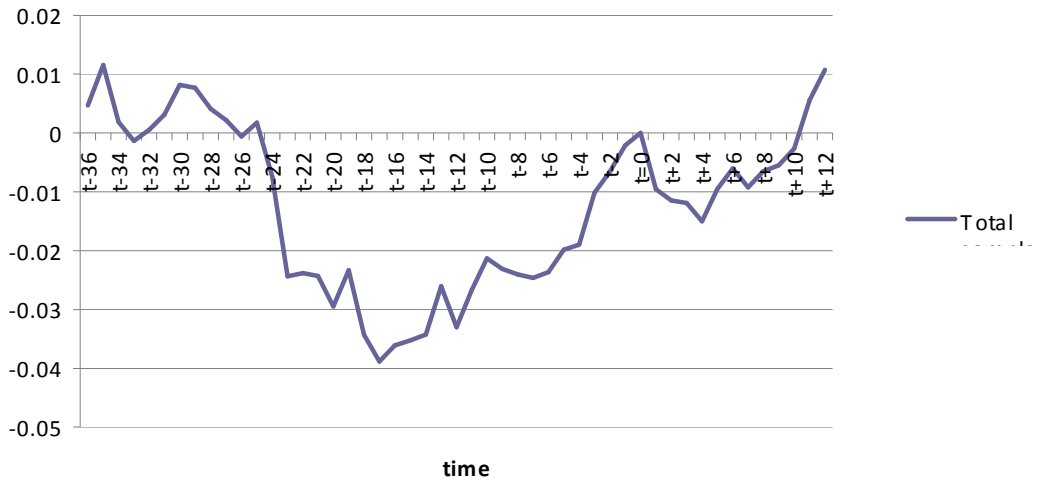

Figure 3: Female vs. Male Managed Funds - Benchmark-adjusted Cumulative Average Abnormal Returns

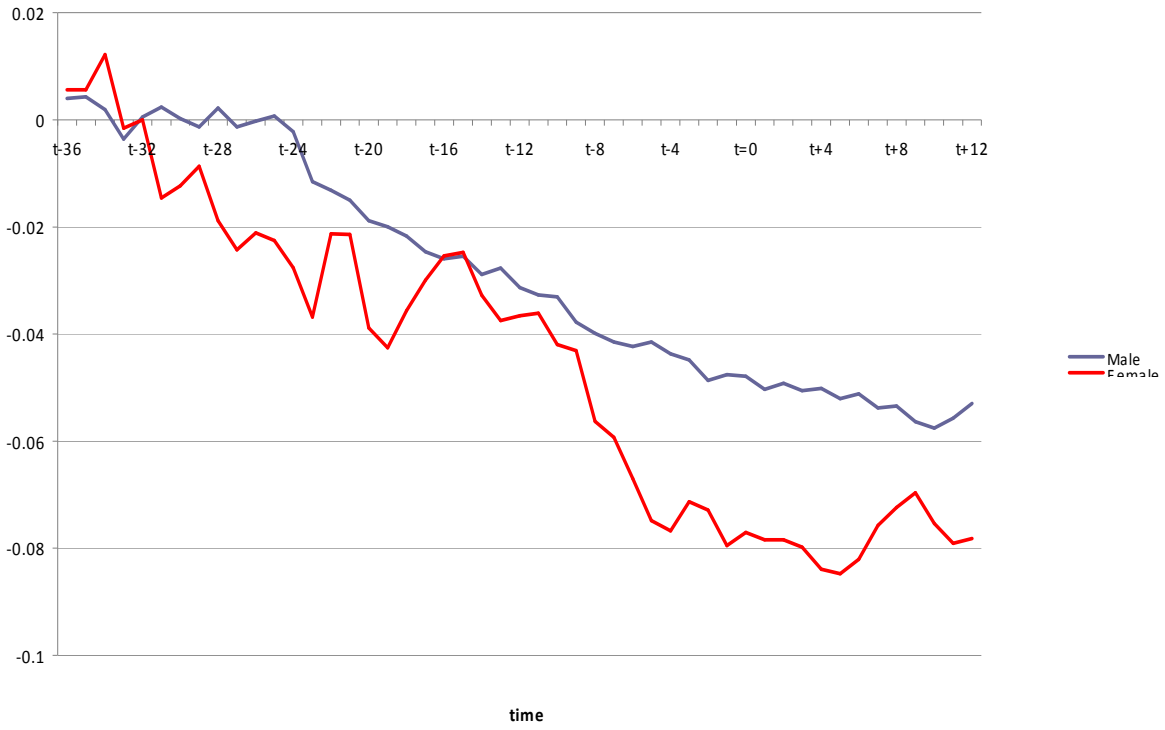

Figure 4: Female vs. Male Managed Funds - Mean-adjusted Cumulative Average Abnormal Returns

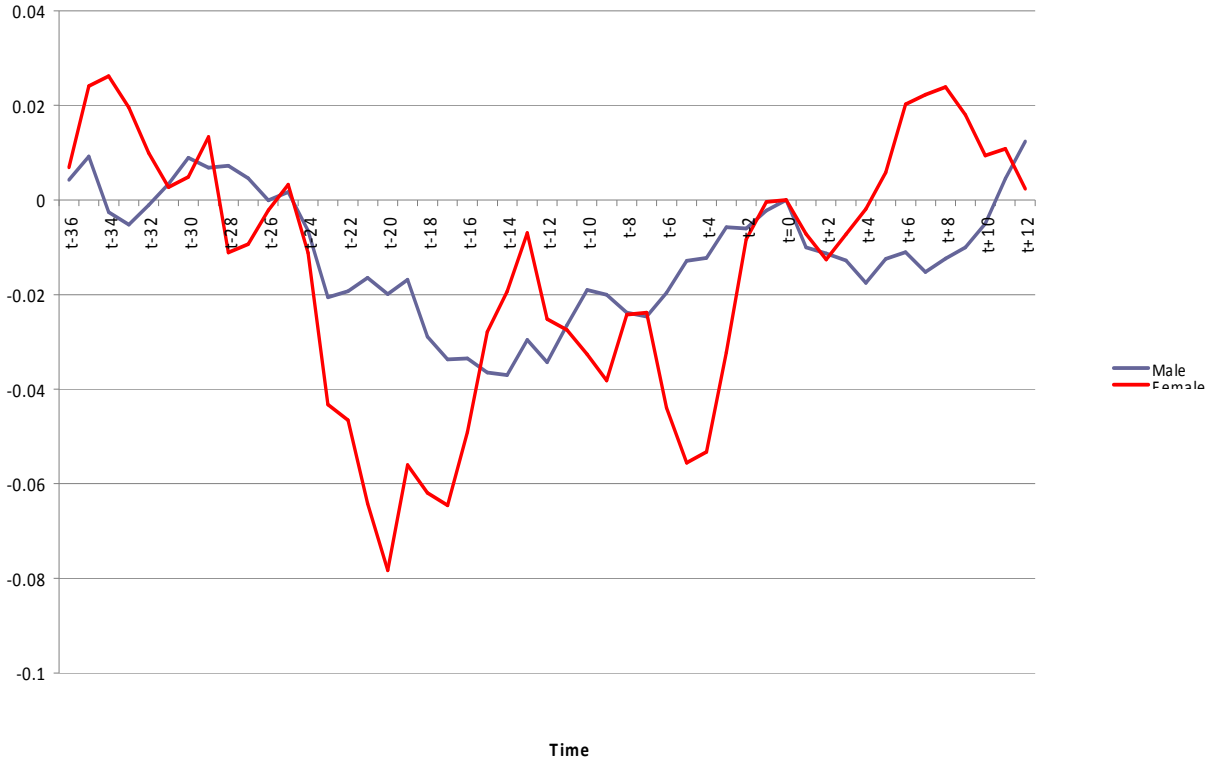

Figure 5: Emerging vs. Developed Market Funds - Benchmark-Adjusted Cumulative Average Abnormal Returns

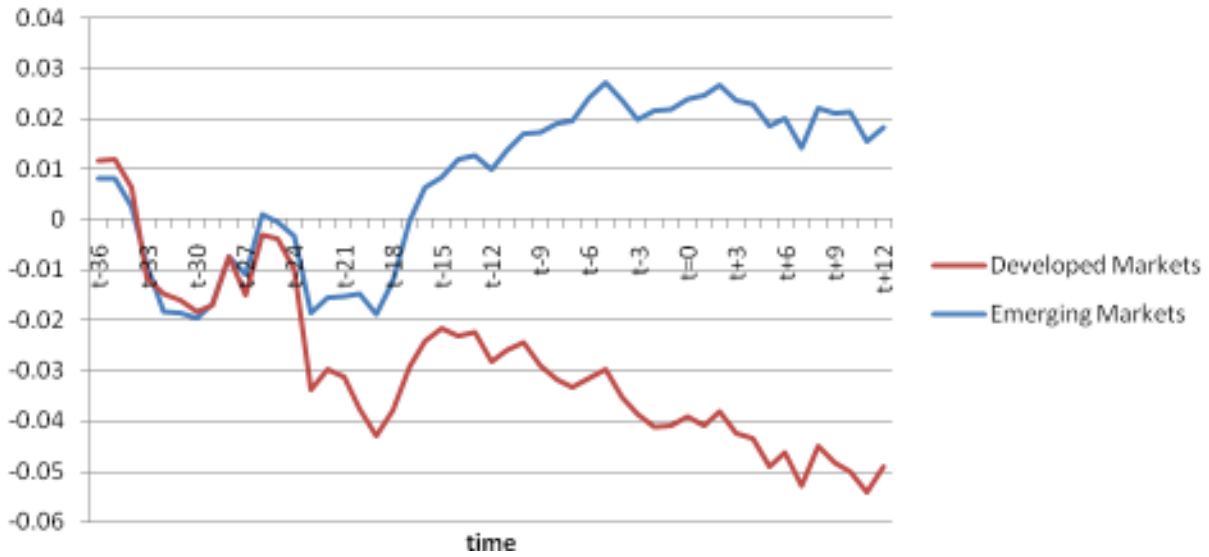

Figure 6: Emerging vs. Developed Market Funds - Mean adjusted Cumulative Average Abnormal Returns

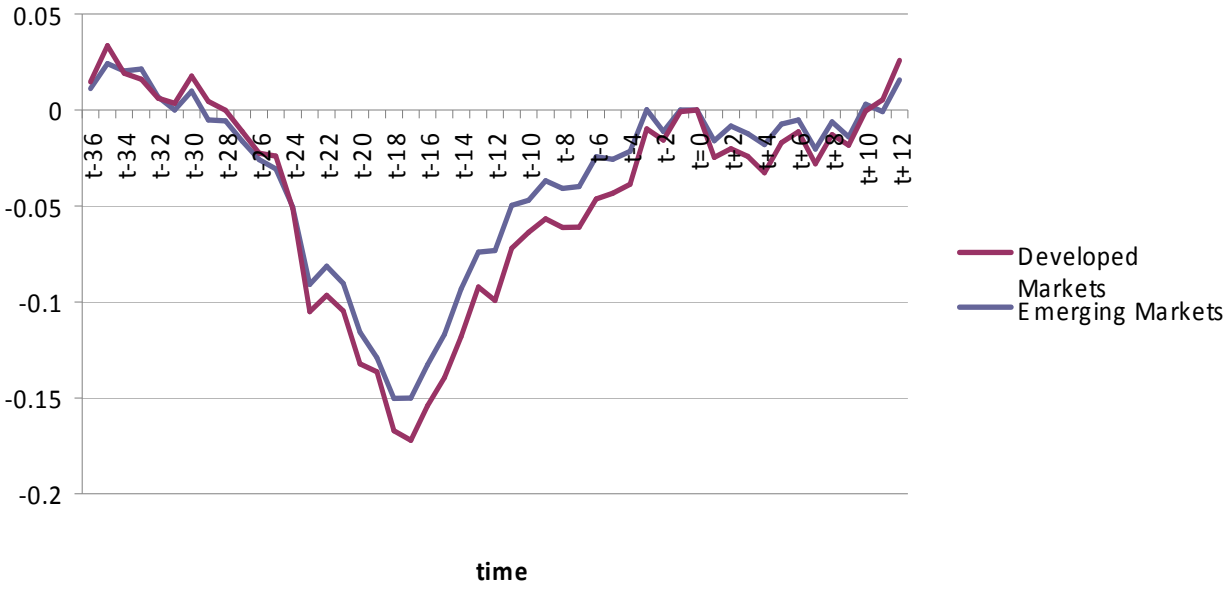

Figure 7: Growth, Value and Small-Cap Funds - Benchmark-Adjusted Cumulative Average Abnormal Returns

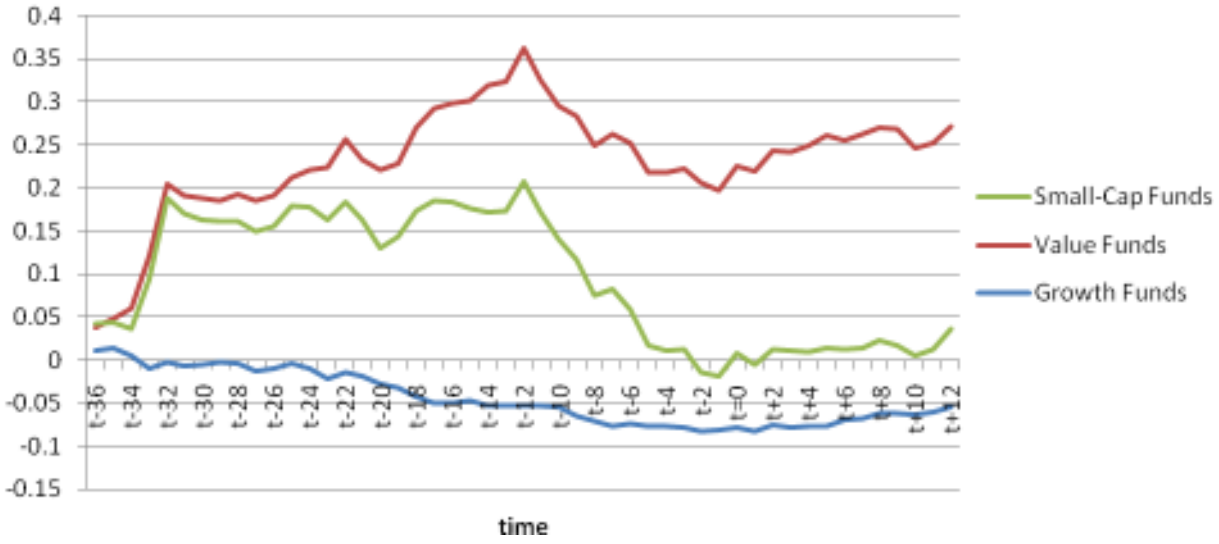

Figure 8: Value, Growth and Small-Cap Funds - Mean ajdusted Cumulative Average Abnormal Returns

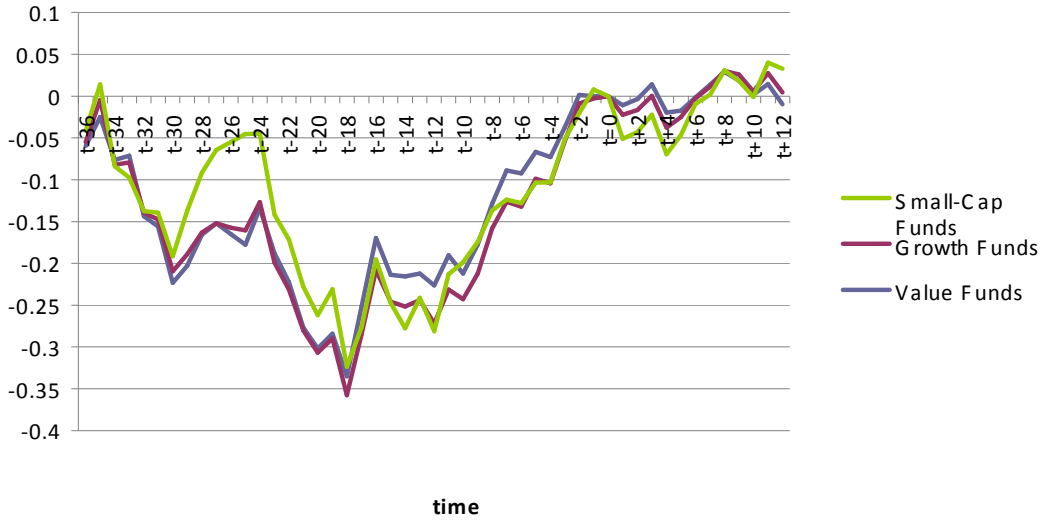

Figure 9: Top 10% of Funds according to IR pre-event

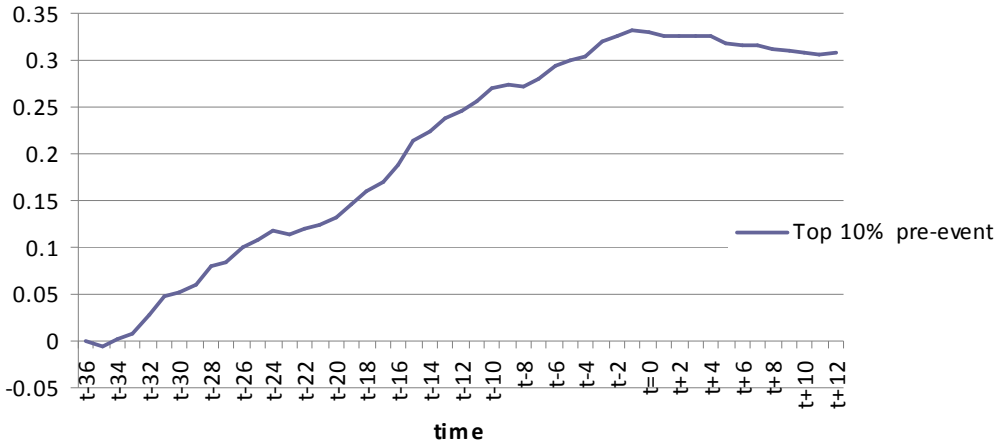
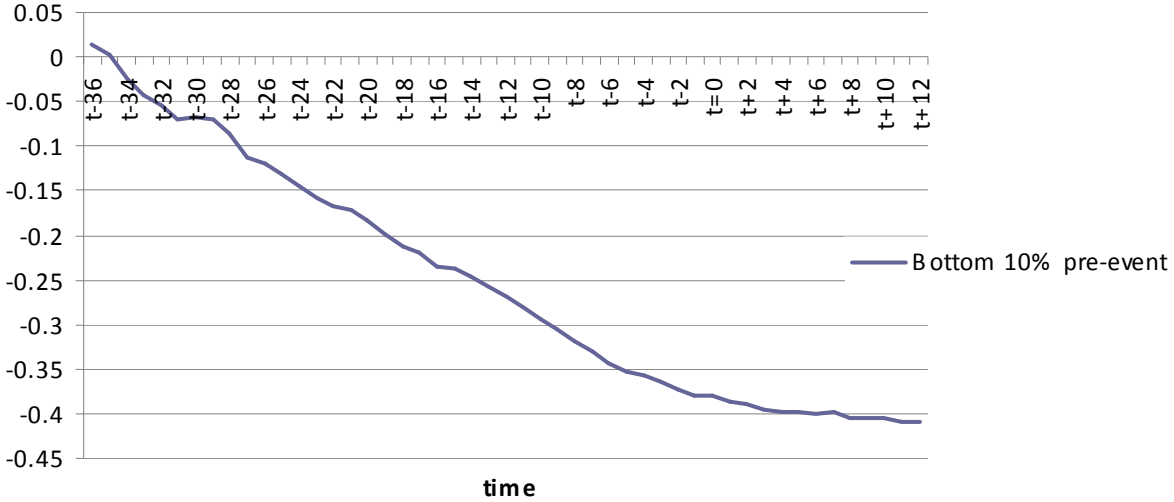
Figure 10:Bottom 10% of Funds according to IR pre-event