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## Is Poor Performance of UK Unit Trusts Explained by Recession Bias[*]

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**Abstract** — This study investigates the performance of UK Unit Trusts to examine the effect of fund managers' stock picking ability (selectivity) or ability to time the market (timing). Previous studies of fund performance have found no evidence of superior performance and in some cases, findings have indicated poor performance. (Byrne, Fletcher and Ntozi, 2006, Cuthbertson, Nitzsche and O'Sullivan, 2008 and Cuthbertson, Nitzsche and O'Sullivan, 2009). However, there are only a few studies that have attempted to explain factors that could have contributed to the poor performance of UK unit trusts. This study investigates the extent to which fund manager selectivity and timing as well as other factors such as business cycles may explain the performance of UK unit trusts. By splitting the sample we discover that poor performance is typical during recession periods. However, the non-recession periods show neutral results. The study of recessions and expansions continues to prevail in Finance research. (Kaushik et al, 2010, Kosowski, 2006) and Moskowitz, 2000).

**Keywords:** UK Unit Trusts, Selectivity and Timing, Conditional Performance

# Introduction

Fund management remains an issue of debate since the early 2000s when illegal market timing strategies became a focus of attention. International funds were found to exploit inefficiencies in time zones to make abnormal returns (Houge and Wellman, 2005). Davis, Payne and McMahan, 2007 studied mutual funds involved in illegal market timing and late trading, and found evidence that illegal practices were most common among high fee funds. Recent academic studies continues to concentrate on market timing (Buttimer, Chen and Chiang, 2012, Cuthbertson, Nitzsche and O'Sullivan, 2010) with most emphasis on legal market timing.

According to the Investment Management Authority, 2013, UK represents 11 percent and the fifth position in the European Investment fund industry as at end-2012. IMA, 2013:51, report that "U.K. domiciled authorised Unit trusts and OEICs are by far the largest part of the UK fund market". UK domiciled funds managed £660 billion as at December 2012, an increase of 14% from the previous year.

Despite the economic contribution of UK fund management, investors have key decisions when selecting individual funds for their investment. These funds would therefore be chosen depending on performance. UK studies on fund performance commonly present performance as a combined ability rather than breaking it down into selectivity and market timing (Ferson and Mo, 2012). Ferson and Mo, 2012, argue that by combining selectivity and market timing skills, it leads to misspecification when both types of behaviour are present". Selectivity and market timing are therefore regarded as important distinct factors when assessing the determinants of fund performance. They provide insights into the ability of a fund to pick or to choose investments that would perform well in the future and insights into the movements relative to the market respectively. This paper unlike many previous articles examines for selectivity and market timing in this growing industry

US studies suggest that apart from fund management abilities of selectivity and timing, fund performance can also be affected by macroeconomic and business factors. US mutual funds are found to display poor performance during expansions and strong performance when the economy is in recession (Kosowski, 2006, Kaushik, Pennathur and Barnhart, 2010 and Moskowitz, 2000). Avramov and Wermers, 2006 investment strategies result in better performance during both recession and expansion periods. The investment strategies lead to stronger performance during recessions than expansions. These results are puzzling and inconclusive with regards to expansions and recessions. In trying to explain this puzzle, some other factors have been presented such as the benchmark chosen (Kaushik et al, 2010).

Cederburg, 2008, finds evidence that investors behave differently during expansions than they do in recessions. He indicates that during expansions investors can identify talented managers that can achieve high alphas, however, during recessions investors do not base their decisions heavily on managerial performance as they do in expansions. Instead, recession investment decisions are based largely on exposure to aggregate risk factors.

In the UK, research on the performance of unit trusts (Byrne, Fletcher and Ntozi, 2006, Cuthbertson, Nitzsche and O'Sullivan, 2008 and Cuthbertson et al, 2009) provides surprising results that fund managers generally fail to beat the market. Our research will therefore investigate whether funds are not able to outperform basic indices such as the FTSE All Shares Index. In addition, the paper explores whether the poor performance of fund managers can be interpreted as a result of the recession periods included in the sample. This relationship between fund performance and prevailing economic conditions has not been explored in the UK.

## Conditional Performance Models

According to Keswani and Stolin, 2006, competition among unit trusts is based on price and non-price strategies. These strategies are planned depending on fees and performance respectively. The

performance measure studied in this research will test for selectivity and market timing. Ferson, 2013 defines selectivity as the ability of unit trusts to pick individual companies and bonds that are 'undervalued' at current market prices, and therefore may be predicted to provide future superior returns. Market timing, on the other hand, is the skill to invest in the market at the appropriate time and make money.

Kaushik et al, 2010 argue that sector fund managers should be able to predict their fund's response to a recession or expansion given that funds normally invest in a single sector as opposed to a range of companies. Kaushik et al, 2010 argue further that the fund can adjust beta holdings depending on the expected outcome. This is in line with the concept of the conditional model of Ferson and Schadt, 1996 and Ferson and Qian, 2004. According to conditional performance, skilled fund managers should increase their beta holding when the market is expected to outperform and reduce the holding when it is predicted to underperform.

Conditional measures are argued to be more reliable in comparison to their unconditional counterparts. Ferson and Schadt, 1996 argue that common variation in risk levels and risk premia will be confounded with average performance. They are of the view that a managed portfolio strategy that can be replicated using readily available public information should not be judged as having superior performance, as is with unconditional measures. They therefore advocate for a model that uses predetermined instruments to capture time-varying factor loadings.

The conditional approach takes into account the predictability of share returns such that unit trusts are tested for whether their skill is over and above the ability to respond to public information. Finance studies show strong evidence that certain variables such as Treasury bills and dividend yields are able to predict share returns (Fama and French, 1988 and Fletcher, 2001). Ferson and Schadt, 1996 include conditional variables in their model. The predictable variables used are

Treasury Bills (similar to Avramov and Wermers, 2006 and Cuthbertson et al, 2008) and dividend yields (Cuthbertson et al, 2008).

According to the conditional Treynor and Mazuy, 1966 cited by Ferson and Schadt 1996 [hereafter, CTM], an investment manager that can predict market returns will hold a greater proportion of the market portfolio when the return on the market is high and a smaller proportion when the market return is low. Therefore the portfolio return will be a nonlinear function of the market return. The CTM regression can be written as follows:

$$r_{pt+1} = a_p + b_p r_{mt+1} + C_P'(z_t r_{mt+1}) + \gamma_{tmc}(r_{m,t+1})^2 + v_{pt+1} \qquad \text{(I)}$$

$r_{pt+1}$ is the trust return, measured in excess of the one-month UK Treasury Bill return. $r_{mt+1}$ is the excess return of the Financial Times All Share (FTA) market index. $z_t$ is a vector of lagged predetermined variables, in demeaned form. $a_p$ and $\gamma_{tmc}$ are the measures of selectivity and timing performance respectively.

Ferson and Schadt (1996) adjust the Henriksson and Merton (1981) model [hereafter, CHM] for conditional variables. According to CHM, a fund manager has a down market and an upmarket forecast. The downmarket forecast is the target beta when the unit trust predicts that the market return will underperform Treasury Bills. The upmarket forecast, on the other hand, is when the unit trust predicts a higher market return than Treasury Bills. According to this theory, a rational forecaster's up-market beta should always exceed the down-market beta.

The CHM model is written as:

$$r_{pt+1} = a_p + b_d r_{mt+1} + B_d'[z_t r_{mt+1}] + \gamma_c r_{mt+1}^* + \Delta'[z_t r_{mt+1}^*] + u_{p,t+1} \qquad \text{(II)}$$

$r_{pt+1}$ is the unit trust excess return, measured in excess of the one-month U.K. Treasury Bill return.

$r_{mt+1}$ is the excess return of the FTA market index. $z_t$ is a vector of lagged predetermined variables, in demeaned form. $r_{m,t+1}^* = r_{m,t+1} I\{r_{m,t+1} - E(r_{m,t+1} \mid Z_t) > 0\}$ The indicator, I, takes the larger of

the figures between the excess return of the market and zero.     $a_p$ and $\gamma_c$ are the measures of selectivity and timing performance respectively.

## Data Description

In this study we consider a wider category of unit trusts than the Fletcher and Forbes, 2002; by including the smaller company trusts and balanced trusts. The smaller company trusts are a recent category that was available from only January 1992. This category should be considered given the evidence that smaller companies generally perform better than larger companies (Fama and French, 1993).  Jiang, Yao and Yu, 2007 identify a link between fund size and market timing performance. They report that market timing is lined by small capitalisation shares.  Their results show that negative biases in the return-based measures have a link to size with particular emphasis to small-capitalisation shares.

Our study includes the balanced fund category. Balanced funds are excluded in UK market timing studies (Fletcher and Forbes, 2002, Cuthbertson et al, 2008) and yet this fund category is designed for market timing. Balanced funds are such that investment can be switched between shares and bonds in anticipation of booms and busts respectively.

Our results control for survivorship bias of Brown, Goetzmann, Ibbotson and Ross, 1992 and Brown and Goetzmann, 1995. Survivorship bias is a limitation where only trusts in existence at the end of the sample period are included and therefore can cause an upward bias in the estimates of performance if the poor performers are liquidated or merged into other funds.

Though our sample is free of survivorship bias, the methodology may still be subject to look-ahead bias (Horst, Nijman and Verbeek, 2001). Horst et al, 2001, on the other hand, report that look-ahead bias is of minor importance in the estimated short-term or medium term persistence patterns. They

also report that the average Jensen alphas that are uncorrected for look-ahead bias are not significantly different from their counterparts that are corrected for look-head bias.

The study is based on monthly data for the period January 1988 to December 2002. 432 U.K. unit trusts are examined under the five categories outlined in Table I. Panel A of Table I shows the entire study period while Panel B is a summary of the period excluding the bear years of 2001 and 2002. Whereas the average returns across fund categories are mixed in Panel A, the mean returns (excluding bear periods) in Panel B are all positive average returns. These results are the first sign of how the recession period may bias the returns of the UK unit trusts.

Balanced funds indicate a low monthly average of 0.03% returns (or annual of 0.36%) between 1988 and 2002. On the other hand, this category of funds has the highest average returns of 0.4% (or annual of 4.9%) for the period 1988 to 2000 that excludes the recession. The annual returns are lower than those of Derwall and Koedijk, 2009, namely of 9.08% obtained from socially responsible balanced funds. However the latter seem to provide raw returns as opposed to excess returns. The Derwall and Koedijk, 2009 paper also indicates that the socially responsible balanced funds have a higher return and a low standard deviation compared to their conventional peers. Our results also indicate that balanced funds have the least correlation with other funds in our sample as indicated in Panel C. This may be explained by the fact that they are a mix of both equity and bond investments.

Smaller company trusts in the period 1988 to 2000 are of the highest annual returns namely 6.5% but least volatility of all categories. The excess returns of growth and income trusts are in line with Cortez, Silva and Areal, 2009 who find excess returns of -0.057% per month among their UK global equity category.

## Empirical Results

Conditional Performance over the whole Sample Period

The conditional approach to performance evaluation applied in this research, takes the position that if the return of a unit trust can be replicated by mechanical trading, based on known information, such a fund cannot be judged to possess superior performance, Ferson, 2013: 280.

This research runs a regression model to test the relationship between the returns of unit trusts and conditional variables. The regression output from the five unit trust categories, the portfolio of all unit trusts and the market index are presented in Table II. The conditional variables examined are the Treasury Bills and Dividend Yields (similar to Byrne et al, 2006). Both these variables indicate strong evidence of prediction of UK unit trust returns. Treasury bills have a negative relationship with the unit trust portfolios (similar to Fama and Schwert, 1977, Ferson, 1989 and Breen, Glosten, and Jagannathan, 1989 and Fletcher, 2001). On the other hand, there is a positive relationship between the fund categories and dividend yields (similar to Fama and French, 1988).

Table III presents empirical results from the conditional selectivity and market timing of UK unit trusts by objectives for the period January 1988 to December 2002. The results are from the empirical models I and II. Panel A shows the results when funds are categorised by trust objectives. Panel B presents portfolios of: all-funds [All], funds that survived the entire study period, and the difference between the surviving portfolio and the all-portfolio. The corresponding White (1980) heteroscedastic consistent t-statistics are given in parentheses and adjusted R-squares are presented in square brackets.

According to the results, growth funds report significant negative market timing skill. This result shows that even though growth funds are known for their aggressive objectives and high fees in fund management (Grinblatt and Titman,1989), this group of unit trusts are not able to outguess the market. Badrinath and Gubellini (2012) also examine the "growth" sector of open-ended mutual

funds for general performance and find the following results: "Growth" funds are particularly poor performers when the market is in an expansion and do well when the market is in recessions. Our results indicate that for a combination of expansion and recession periods, the growth funds underperform the market.

According to Ferson (2013), market timing may be defined as the ability to switch a portfolio between bonds and shares, anticipating which asset class will excel in the future. Balanced funds are the category of trusts that can flexibly split their investments between shares and bonds. Ferson and Qian, 2004 particularly include this category of funds in their sample to test for market timing.

The results indicate that although balanced funds saw a yearly increase in fund management of 30% to £39 billion in December 2009, there is negative market timing among this category of funds. These findings suggest that balanced funds take an opposite position from the market outcome. However, balanced funds are neutral at share picking. These findings are different from Kosowski, 2006 argument that underperformance of mutual funds is due to the unconditional measures applied, given that our study uses conditional measures but still finds negative market timing. Kosowski, 2006, suggests that underperformance documented in expansion and recession research should be in expansion periods when funds have negative performance, and that good performance should be in recessionary periods. On the other hand, our findings are in support of the Efficient Market Hypothesis theory which argues that fund managers should not earn abnormal returns.

In December 2009, according to the Investment Management Association, 2010, the bestselling equity sector in the UK was the "income and growth" funds. Badrinath and Gubellini (2012) results indicate that though this fund sector is marketable, it has no evidence of good performance. The results from our paper further indicate poor share picking skill and neutral market timing from this category of funds over the sample period of 2002 to 2012.

Conditional Performance over a two-sample Period

Barras, Scaillet and Wermers, 2010 undertake a study to examine for short-run performance by partitioning their sample into 5-year sub-periods. In their study, Barras et al, 2010, treat each 'fund' during each sub-period as a separate 'fund' and then pool all these 'funds' to compute their performance estimates. We address the need for a sub-sample study by looking at a 2-period and 3-period sample in Tables IV and V.

Table IV reports results of selectivity and market timing obtained from running conditional models on a sample of U.K. unit trust objective portfolios over two-sub periods namely January 1988 to June 1995 and July 1995 to December 2002. The corresponding White (1980) heteroscedastic consistent t-statistics are given in parentheses and adjusted R-squares are presented in square brackets. From Table IV the negative share picking among the growth and income funds may originate from the first half of the sample period namely January 1988 to June 1995. These results are different from those of Kacperczyk, Nieuwerburgh and Veldkemp, 2011, who underline that share picking skill is more prevalent in recessions. Our results indicate that the recession period following the Black Monday had poor stock picking ability among growth and income funds.

The market timing results for the two period analysis indicate significantly negative performance in the first half of the sample period among three categories of funds. This result is a reflection of the negative performance found across the entire study period. The second period, on the other hand does not show statistically significant results and therefore shows neutral market timing of UK unit trusts across all fund portfolios. This result shows that negative market timing may be a result of a recession whereas the neutral market timing was in the non-recession period. Kacperczyk, Nieuwerburgh and Veldkemp, 2011 results that market timing skill is more common in expansions is closely in line with our findings.

Conditional Performance over a three-sample Period

Similar to Barras et al, 2010, Bauer, Otten and Rad (2006) that split their Australian sample into three equal non-overlapping periods. Bauer et al (2006) show that the results were dependant on the sample period analysed. For instance, during the period 1992 to 2003, Australian ethical funds underperformed conventional funds; however the results of 1996 to 2003 showed that the ethical funds and conventional funds were similar.

In line with Bauer et al (2006), we split our sample into three equal samples; namely January 1988 to December 1992, January 1993 to December 1997 and January 1998 to December 2002 as presented in Table V. Selectivity and timing results from running conditional models with corresponding White (1980) heteroscedastic consistent t-statistics are given in parentheses and adjusted R-squares are presented in square brackets.

From splitting the sample period into two (Table IV), the negative selectivity among the 'growth and income' funds may be explained by the first period 1988 to 1995. A further split into a three-sample indicates that the statistically significant negative selectivity may be from the recession period of 1988 to 1992. This period was particularly known for the early 1990s recession that was a result of the Black Monday of October 1987 and the oil crisis of early 1990s. Bogle, 2008 analyses the impact of the Black Monday which he calls a black swam and reports it as the largest daily decline of the Dow Jones, a drop of almost 25%, twice the largest previous daily decline of 13 percent.

Similar to the selectivity results, there is significantly negative market timing common among growth, income and balanced group of funds which is accounted for in the early period of the sample. The negative market timing may be argued to be common in our database given that our sample controls for survivorship bias. Our sample period includes unit trusts that were closed at any point during the sample period until these funds disappear. Brown et al, 1992 reports that by

excluding dead mutual funds there is a tendency to overestimate mutual fund performance. Bauer et al, 2006, found that by restricting their sample to surviving funds would overestimate their average returns for Australian domestic funds by 0.20% and for international funds by 1.13% per year. Though Badrinath and Gubellini, 2012 suggest that growth funds do well during recessions but underperform in expansions. The Sawicki and Ong, 2000 study underlines that the Australian risk premium increased during recessions of 1990 to 1991 but declined in the expansionary periods. They argue that risk premia rises during economic contractions and falls during expansions. On the contrary, our findings suggest that the recession periods of the early 1990s had negative market timing, while the recession period of the years coming up to 2002 present neutral market timing. Income funds and balanced funds are also negative market timers during the recession period of the early 1990s. Infact, Reid, 2000:3 reports that U.S. share markets experienced several sharp sell-offs during the market downturn in 1990. In this period, domestic equity funds experienced net outflows or net redemptions that were very small relative to assets and of short duration.

## Conclusion

Conditional performance measures, adopted in this research, match the unit trust risk dynamic with a dynamic strategy as a benchmark (Ferson, 2013 : 279) to examine for selectivity and market timing. This paper focuses on the selectivity and market timing of UK unit trusts to investigate for conditional performance and examine whether this performance is a result of recession bias. The study covers 432 UK equity and balanced unit trusts over the period 1988 to 2002 and finds evidence of negative market timing skill among UK unit trusts and negative selectivity among the "growth and income" category of unit trusts but finds that that poor performance is specific to recession periods.

The sample is then broken down into two- and three- sub periods. Portfolios of equity and balanced groups of UK unit trusts show negative market timing but this is specific to the recession bias of the sample period. In particular, the first half of the two- and three- sub periods namely 1988 to 1995

and 1988 to 1992 respectively, biases the results. These sub periods show evidence of negative average returns and negative market timing whereas the rest of the sample period is neutral.

The evidence of negative performance would lead one to conclude that unit trusts underperform the market and therefore that they underperform index funds, however our results indicate that this would be misleading information given that the poor performance is specific to recession periods. Our study instead show evidence that UK unit trusts are not poor performers but instead simply lack the skill to outperform the market, and therefore may be at par with index funds. The results of this study therefore indicate that market timing and share picking is generally neutral and show no statistically significant difference from index funds.

According to the strong form of the Efficient Market Hypothesis (EMH), current prices reflect public and private information. In this study we consider private information such as analytical information from UK unit trusts, and find that for our given sample, this information is quickly reflected in asset prices as shown by the neutral performance. Fama, 1991, underlines that assessing mutual fund performance is a way of examining whether some investors have private information, and therefore is one of the tests for the strong form of EMH. Fama, 1991, concludes that the new evidence on whether professional investment managers have private information is murky and clouded by the joint-hypothesis problem. On the whole, our results can only be suggested for the analytical information in fund management but would not consider the aspect of insider information which is still a debatable research area.

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### Table I. Summary Statistics by Fund Objective

These are percentage monthly excess returns. Equally weighted portfolios are formed annually with respect to the unit trust objective. "GroInc" denotes growth and income trusts, while "Small" are unit trusts that invest in small companies. There are 180 observations for most trusts categories with the exception of 132 observations among smaller company trusts. "stdev" denotes the standard deviation while Min and Max are the minimum and maximum respectively. Q1 and Q3 signify the first and third quartiles.

| | Mean | Median | Stdev | Min | Max | Q1 | Q3 |
|---|---|---|---|---|---|---|---|
| Panel A: 1988 – 2002 | | | | | | | |
| Growth | -0.037 | 0.395 | 4.145 | -12.932 | 10.442 | -2.656 | 2.568 |
| Income | 0.112 | 0.292 | 3.945 | -12.329 | 10.835 | -1.926 | 2.624 |
| GroInc | -0.057 | 0.319 | 3.995 | -11.643 | 11.434 | -2.113 | 2.528 |
| Balanced | 0.030 | 0.331 | 4.868 | -18.666 | 16.694 | -2.907 | 2.845 |
| Small | 0.208 | 0.562 | 3.355 | -9.573 | 11.002 | -1.559 | 2.679 |
| All | 0.010 | 0.410 | 3.976 | -13.264 | 10.441 | -2.467 | 2.677 |
| Panel B: 1988 – 2000 | | | | | | | |
| Growth | 0.282 | 0.537 | 3.927 | -12.062 | 10.442 | -2.164 | 2.586 |
| Income | 0.330 | 0.528 | 3.808 | -10.353 | 10.835 | -1.749 | 2.671 |
| GroInc | 0.248 | 0.524 | 3.819 | -10.423 | 11.434 | -1.719 | 2.528 |
| Balanced | 0.409 | 0.676 | 4.521 | -14.444 | 16.694 | -2.119 | 2.977 |
| Small | 0.539 | 0.693 | 3.225 | -8.697 | 11.002 | -1.265 | 2.821 |
| All | 0.304 | 0.557 | 3.762 | -11.214 | 10.441 | -2.024 | 2.728 |
| Panel C: Correlations 1988 - 2002 | | | | | | | |
| | Growth | Income | GroInc | Balanced | Small | | |
| Growth | | 0.93 | 0.97 | 0.83 | 0.91 | | |
| Income | | | 0.95 | 0.71 | 0.94 | | |
| GroInc | | | | 0.76 | 0.93 | | |
| Balanced | | | | | 0.63 | | |

### Table II. Predictability of Returns

The table presents statistics from regressing the excess returns of UK unit trust objectives against the predetermined variables. The predetermined variables include the month Treasury bills and one month dividend yields. Heteroskedasticity-consistent t-ratios are reported in parentheses adjacent to their corresponding coefficients. P-values are provided for both the F-statistics (fpval) and the Wald tests which examine whether the parameters are jointly equal to zero. * and ** denote 10% and 5% significance level.

| | Lagged Treasury Bills | Lagged Dividend Yields | fpval | Pwald |
|---|---|---|---|---|
| Growth | -3.862 | 1.269 | 0.004** | 0.004** |
| | (-2.55)** | (3.15)** | | |
| Income | -1.856 | 0.871 | 0.015** | 0.014** |
| | (-2.08)** | (2.38)** | | |
| Growth and income | -1.524 | 0.912 | 0.003** | 0.003** |
| | (-2.61)** | (2.57)** | | |
| Balanced | -1.628 | 0.781 | 0.035** | 0.034** |
| | (-2.29)** | (-1.51) | | |
| Smaller companies | 1.099 | 0.738 | 0.927 | 0.927 |
| | (-0.29) | (2.12)** | | |
| All trusts | -3.444 | 1.158 | 0.008* | 0.007* |
| | (-2.33)** | (3.01)** | | |
| FTA | -2.309 | 1.147 | 0.087* | 0.085* |
| | (-1.33) | (2.75)** | | |

## Table III. Conditional Selectivity and Market Timing of UK Unit Trusts by Objective

The table presents the selectivity and timing results from running Conditional models on a sample of unit trust sectors that range from the period of January 1988 to December 2002. The Ferson and Schadt (1996) conditional models of TM and HM performed are given in equations I and II. The table reports selectivity and timing estimates with their corresponding White (1980) heteroscedastic consistent t-statistics in parentheses and adjusted R-squares are given in square brackets. * denotes statistics that are significantly different from zero. The predictability variables are the one month Treasury bills and one month dividend yields. Both variables are lagged by one month.

| | Selectivity | | Market Timing | |
|---|---|---|---|---|
| | TM | HM | TM | HM |
| **Panel A: Fund Category** | | | | |
| Growth Funds | -0.002 | -0.033 | -1.113* | -0.101 |
| | (-0.01) | (-0.20) | (-2.23) | (-1.22) |
| | [85%] | [86%] | [85%] | [86%] |
| Income Funds | 0.102 | 0.092 | -1.044* | -0.117 |
| | 0.71 | 0.55 | (-2.19) | (-1.41) |
| | [85%] | [84%] | [85%] | [84%] |
| Growth and Income | -0.196* | -0.215 | -0.212 | -0.006 |
| | (-2.02) | (-1.79) | (-0.60) | (-0.09) |
| | [92%] | [92%] | [92%] | [92%] |
| Balanced Funds | 0.284 | 0.221 | -1.840* | -0.182 |
| | (1.10) | (0.77) | (-2.00) | (-1.01) |
| | [54%] | [53%] | [54%] | [53%] |
| Smaller companies | 0.137 | 0.123 | -0.968 | -0.082 |
| | (0.85) | (0.67) | (-1.38) | (-0.79) |
| | [82%] | [82%] | [82%] | [82%] |
| **Panel B: All Funds** | | | | |
| All | 0.005 | -0.018 | -0.928* | -0.090 |
| | (0.05) | (-0.13) | (-2.13) | (-1.16) |
| | [88%] | [88%] | [88%] | [88%] |
| Survive Whole Period | 0.025 | -0.015 | -0.928* | -0.078 |
| | (0.23) | (-0.11) | (-2.20) | (-1.02) |
| | [89%] | [89%] | [89%] | [89%] |
| Survive - All Portfolio | 0.020 | 0.003 | 0.000 | 0.012 |
| | (0.39) | (0.06) | (0.00) | (0.50) |
| | [0.98%] | [0.04%] | [0.98%] | [0.04%] |

**Table IV. Two Period Analysis of UK Unit Trusts by Objective**

This table presents estimates from performing selectivity and timing conditional models on unit trust sectors over two sub-periods. The sub periods of 90 observations each are studied. These include: January 1988 to June 1995 and July 1995 to December 2002. The Ferson and Schadt (1996) conditional models of TM and HM performed are given in equations I and II. The table reports selectivity and timing estimates with their corresponding White (1980) heteroscedastic consistent t-statistics in parentheses and adjusted R-squares are given in square brackets. * denotes statistics that are significantly different from zero. The predictability variables are the one month Treasury bills and one month dividend yields. Both variables are lagged by one month.

| | Selectivity | | Market Timing | |
|---|---|---|---|---|
| | First Half | Second Half | First Half | Second Half |
| Fund Category | | | | |
| Growth Funds | -0.039 | 0.009 | -2.053* | -0.278 |
| | (-0.17) | (0.05) | (-2.68) | (-0.36) |
| | [84.5%] | [87.6%] | [84.5%] | [87.6%] |
| Income Funds | 0.001 | 0.231 | -1.428* | -1.035 |
| | (0.00) | (1.18) | (-2.82) | (-1.39) |
| | [87.0%] | [81.8%] | [87.0%] | [81.8%] |
| Growth and Income | -0.248* | -0.148 | -0.691 | 0.125 |
| | (-2.14) | (-0.91) | (-1.93) | (0.19) |
| | [95.7%] | [88.7%] | [95.7%] | [88.7%] |
| Balanced Funds | 0.207 | 0.509 | -2.204* | -1.325 |
| | (-0.71) | (1.08) | (-3.06) | (-0.52) |
| | [71.5%] | [45.2%] | [71.5%] | [45.2%] |
| Smaller companies | 0.379 | 0.083 | -2.333 | -0.436 |
| | (1.24) | (0.44) | (-1.40) | (-0.59) |
| | [87.5%] | [77.8%] | [87.5%] | [77.8%] |
| Bonferroni P Value | 0.18 | 1.21 | 0.02* | 0.84 |

**Table V. Three Period Analysis of UK Unit Trusts by Objective**

This table presents estimates from performing selectivity and timing conditional models on unit trust sectors over three sub-periods. The three sub periods of 60 observations each are studied. These include: January 1988 to December 1992, the January 1993 to December 1997 and January 1998 to December 2002. The Ferson and Schadt (1996) conditional models of TM and HM performed are given in equations I and II. The table reports selectivity and timing estimates with their corresponding White (1980) heteroscedastic consistent t-statistics in parentheses and adjusted R-squares are given in square brackets. * denotes statistics that are significantly different from zero. The predictability variables are the one month Treasury bills and one month dividend yields. Both variables are lagged by one month.

| | Selectivity | | | Market Timing | | |
|---|---|---|---|---|---|---|
| | First Period | Second Period | Third Period | First Period | Second Period | Third Period |
| Panel A: Fund Category: Growth | | | | | | |
| Funds | -0.303 | 0.233 | -0.072 | -1.715* | -1.037 | -0.274 |
| | (-0.98) | (1.14) | (-0.30) | (-2.02) | (-0.98) | (-0.31) |
| | [85.5%] | [80.7%] | [87.6%] | [85.5%] | [80.7%] | [87.6%] |
| Income Funds | -0.158 | 0.176 | 0.289 | -1.100* | -0.705 | -1.467 |
| | (-0.50) | (0.97) | (1.01) | (-2.03) | (-0.45) | (-1.62) |
| | [86.6%] | [84.9%] | [80.8%] | [86.6%] | [84.9%] | [80.8%] |
| Growth and Income | -0.471* | 0.109 | -0.244 | -0.219 | -1.087 | 0.162 |
| | (-3.29) | (0.87) | (-1.01) | (-0.68) | (-0.99) | (0.20) |
| | [96.6%] | [91.7%] | [87.7%] | [96.6%] | [91.7%] | [87.7%] |
| Balanced Funds | -0.297 | 0.404 | 0.73 | -1.803* | -0.087 | -1.998 |
| | (-1.12) | (0.92) | (1.08) | (-2.48) | (-0.07) | (-0.69) |
| | [82.2%] | [31.8%] | [46.6%] | [82.2%] | [31.8%] | [46.6%] |
| Smaller companies | 0.233 | 0.173 | 0.121 | 0.515 | -1.589 | -0.735 |
| | (0.47) | (0.72) | (0.47) | (0.25) | (-0.88) | (-0.86) |
| | [95.3%] | [73.4%] | [78.1%] | [95.3%] | [73.4%] | [78.1%] |
| Bonferroni P Value | 0.01* | 1.29 | 1.42 | 0.08 | 1.63 | 0.56 |