The Impact of Corporate Governance on Closed-End Funds

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Abstract

This study uses a large sample of UK-listed funds to examine whether governance has an impact on two indicators of fund performance: the level of fund-management fees and the discount at which a fund trades. Fees are under the control of the directors, and we find that they are inversely related to fund returns, even after allowing for large differences across investment sectors. Fees are, on average, larger if a fund has a large board, few directors from outside the fund-family, many directors from within the fund-family, and low ownership by the management company. Discounts for funds are larger if the management company or any blockholder has a significant long-term stake, suggesting that investors are wary of entrenched management. The results suggest that boards are frequently compromised in their duty to shareholders by their dependence on fund-management companies.

JEL classification: G34, G30
Introduction

Despite a large research effort, there is little conclusive evidence about which aspects of corporate governance really matter. The result is that codes of governance are based mainly on *a priori* notions rather than on empirical research.\(^1\) One explanation for the lack of clear results from empirical research is the difficulty of defining and measuring performance of companies which are heterogeneous. This paper has the advantage of focusing on a single class of company: closed-end mutual funds. These are stock-exchange-listed companies established with the sole aim of managing a portfolio of investments on behalf of shareholders. Performance of closed-end funds can be measured simply as the net return on the shares, which is itself derived from three variables: the gross return on the underlying asset portfolio; the fund-management fees; and the changes in the discount to net-asset value at which the fund trades.

The objective of this paper is to examine whether corporate governance – as measured by the size/composition of the board and the pattern of blockholdings – has an impact on two of these three variables which drive performance: the fund manager’s fees and the discount at which the fund trades. The main focus is on the determinants of the fund manager’s fees. Although we also examine whether the discount is affected by governance, fees are the more important measure because they have a continuing impact on investor returns.

There have been few previous studies of governance in the mutual-fund sector, apart from Barclay, Holderness and Pontiff (1993) and Del Guercio, Dann and Partch (2003), who report on closed-end funds, and Tufano and Sevick (1997), who report on open-end funds.\(^2\) Our study of 246 funds in the UK brings international evidence to an area which has previously been limited to the US. One advantage of using UK data is that we have more equity-holding closed-end funds available than exist in the US, where two-thirds of funds hold only bonds. Equity funds are more likely to show governance effects than bond funds.

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\(^1\) Almost all of the world’s rich nations have introduced such codes over the last decade. In the UK the Cadbury Committee reported in 1992; the latest code is the Higgs Report of 2003. France has the Viénot Report of 1999 and Germany the Cromme Report of 2002. In the US the Sarbanes-Oxley Act of 2002 has extended the responsibilities of directors.

\(^2\) An early study of management of closed-end funds in the UK is Draper (1989).
for two reasons: first, their managers have more discretion over strategy; and second, the higher annual fees give the managers more incentive for rent-seeking behaviour.

We begin by showing that funds which have higher management fees tend to have worse performance: an increase of 1% in fees leads to an approximately 0.6% fall in returns, after allowing for differences in fees across sectors. If sectors are ignored, the effect is much larger. Higher fees are, however, not associated with portfolio outperformance, as measured by the alpha from a Fama-French three-factor model. Having established the importance of fund-management fees, we then investigate whether there is a relationship between fees and governance. We find that fund-management fees are higher if the board of directors is large and if there is a low level of fund ownership by the manager, circumstances under which the interests of managers and investors are not well-aligned. Fund-management fees are also higher if the board of the fund is “inward-looking”, in the sense that many of the directors sit on other boards within the same fund-family and few of them sit on the boards of funds which are outside the fund-family.

Apart from choosing managers and setting fees, many boards of closed-end funds consider that they can influence the discount at which the fund trades. We do not find any evidence to support this notion – there is no evidence to suggest that the level of the discount is affected either by board size or by board composition. The discount is, however, affected by the presence of blockholdings, held either by the fund-management company or by outsiders, which suggests that investors view blockholdings as potential impediments to the restructuring of a fund. This finding is consistent with US results of Barclay et al. (1993), but runs counter to the results of Del Guercio et al. (2003).

In summary, we find that smaller boards with a larger proportion of outside directors tend to perform better. Board focus and director independence are key elements of fund performance. Investors show a strong preference for funds which do not have concentrated ownership.

The paper is written as follows. In section 2 we set this study in the context of previous research on governance, both for conventional companies and for mutual funds. In section 3 we give details of the sample and discuss some of the measurement problems. Section 4 is the core of this work, in which we specify and estimate three separate cross-sections to explain
returns, fund-management fees and discounts respectively. Section 5 draws together the conclusions and implications of this study.

2. The Research Context and the Current Study

It is useful to keep in mind what motivates the managers of funds: their objective is to maximise the present value of the future stream of management fees. This implies that managers prefer weak boards and little external control, allowing them to raise the annual fund-management fee per dollar of investment. At the same time, managers have two reasons for wanting the fund to perform well: first, good performance will increase the value of assets under management and therefore the fee income; and second, good performance extends the time period over which the fund survives.

Corporate governance involves both internal and external mechanisms; the former are concerned with the size and composition of the board of directors; the latter are concerned with the influence of blockholders and the functioning of the market for corporate control. Although the literature is large and expanding, there is no unified theory linking governance and performance (John and Senbet, 1998). Most studies have focussed on the empirical relationship between a particular feature of governance and a chosen measure of performance.

The first such feature is board size. Small boards tend to be associated with superior performance, either in terms of higher Tobin’s Q (Yermack, 1996) or in terms of higher profitability (Eisenberg et al., 1998). This finding is attributed to the benefits of more effective co-ordination and improved decision-making. In relation to mutual funds, smaller boards have a more direct impact on performance because they negotiate cheaper fund-management contracts (Tufano and Sevick, 1997; Del Guercio et al., 2003).

The impact of board composition on performance is less clear. Some studies find a positive market reaction when new independent directors are appointed (Rosenstein and Wyatt, 1990), but most studies do not find any relationship between board independence and firm value (Agrawal and Knoeber, 1996; Yermack, 1996; Hermelin and Weisbach, 1991). There are, however, degrees to which directors can be considered to be ‘independent’; for example, they may be considered less independent if they hold many directorships (Bhagat and Black,
A study by Loderer and Peyer (2002) finds that the higher the number of directorships held, the lower the firm value, but another study by Ferris et al (2003) suggests that company performance is not worse if directors sit on many boards.

The notion of ‘director busyness’ has a particular relevance for mutual funds. Unitary boards, which have the same directors for each board in a fund family, are a characteristic of the US mutual-fund industry. The Investment Companies Institute argues that this is a cost-effective arrangement. The danger is that a high level of manager/director dependence might lead to inflated fund-management fees. Del Guercio et al. (2003), for example, find in one of their regressions that unitary boards lead to significantly higher fund-management fees. On the other hand, Tufano and Sevick (1997) find the opposite result for open-end funds.

Turning to external features of governance, it might be expected that external blockholders would exercise the same scrutinizing role as external directors, but the empirical findings for conventional companies are mixed. Bethel, Liebeskind and Opler (1998) find that purchases by blockholders have a positive impact on profitability and, consistent with this, Barclay and Holderness (1990) and Shome and Singh (1995) both report that share prices rise when block purchases are announced. On the other hand, Agrawal and Knoeber (1996), Wahal (1996), Faccio and Lasfer (2000), and Bhagat and Black (2001) find no link between firm performance and external blockholdings.

In the mutual-fund industry, the impact of blockholders depends critically on motive: are they long-term holders who are friendly to the existing managers, or are they short-term arbitrageurs who would profit from a re-structuring of the fund? Barclay, Holderness and Pontiff (1993) find that funds which have large external blockholders tend to have larger discounts, because the blockholders derive private benefits from the continuation of the fund and therefore oppose any re-structuring. However, Del Guercio et al. (2003) find the opposite: smaller discounts are associated with more external blockholders, suggesting that blockholders are not always friendly to the management.

Directors of a company may also hold shares and so be considered as internal blockholders. Morck, Shleifer and Vishny (1988) and Barnhart, Marr and Rosenstein (1994) examine the relationship between Tobin’s Q and the level of equity held by the firm’s inside directors. The
finding that a modest degree of ownership increases Q is attributed to the alignment of shareholder and manager interests, while the subsequent fall in Q at higher levels of director ownership is interpreted as reflecting the entrenchment of management.

Overall, previous research suggests that small boards with a large proportion of outside directors should be more effective monitors of management and should therefore increase company value. Whether multiple directorships are good or bad for performance is not clear, nor is the impact of significant blocks of fund equity, held either by managers or by outsiders. Our study addresses these issues for a particular sample of closed-end-fund companies.

3. Sample and Variables

At the end of 1996 there were 331 closed-end funds traded on the London Stock Exchange, with a total market value of £48 billion ($72 billion). The funds were spread across eleven different sectors: emerging (25), European (25), Far-East excluding Japan (26), international (48), Japan (14), resources (6) small company (40), split-capital (60), UK (57), US (8), and venture capital (22). There were 93 different fund-management companies, of which 46 managed only one closed-end fund; the other 47 fund-management companies had families ranging in size from two to twenty-two closed-end funds under management.

The data on prices and portfolio values used in this study come from Datastream. Companies listed in the UK are obliged to disclose the beneficial ownership of any blocks of shares which exceed 3% of the total; these data are obtained from the SBC Warburg Closed-End Funds Manual. All other data on individual funds are obtained from the Credit Lyonnais Investment Trust 1996 Yearbook.

We are not able to find a full set of data for all of the analyses. Starting with the universe of 331 funds, there are 8 funds with no data on assets and a further 3 funds with unreliable data. Of the remaining 320 funds, there are 74 which have assets of less than £30 million under management. Such small funds are not representative of the professional fund-management industry and are likely to show “small-company” effects. We therefore exclude them from the main part of the study, but at the end of the paper we also confirm that their exclusion has no major impact on the results. That leaves 246 funds for the study, of which 39 are split-capital funds for which the set of data is rather limited: in particular, we do not have data on
share-price returns or discounts for these funds, because they have several different classes of share. Nevertheless, we include these funds whenever possible, as they are likely to show strong governance effects; in particular, the number of split funds grew rapidly in the late 1990s and many subsequently failed, leading to questions about their governance.

Descriptive statistics of the data (including split-capital funds) and the sample size for each variable are given in Table 1. After removing the small funds with less than £30 million of assets, the median fund in the sample has a size of £83 million ($125 million) with a range up to £1884 ($2826). The median fund is 7 years old and has a board with 5 directors, of which one quarter come from the fund-management company. The median fund has an expense-ratio (measured as the fund-management fee divided by the net-asset value) of 1.09% per annum, with a range from 0.14% to 6.75%, and it trades at a market-to-book premium (discount) of -12.9% (estimated as the monthly average for 1995-98). The fund-management company of the median fund has a contract with 2 years of notice and the maximum notice for any fund is 5 years. The median fund has 5.8% owned by the fund-management company, but this ranges up to a huge 97%. The median fund also has outside blockholders who together own 35.5% of the fund (by value); the maximum is 94%.

Several of the variables in Table 1, such as the two ownership measures just given, have what appear to be extreme values and the question arises as to whether some observations should be excluded or winsorised (i.e. set to some acceptable maximum). We have experimented with excluding observations, but most of the distributions show no natural break-points. The distributions tend to be right-skewed, as can be discerned from variables in Table 1 for which the mean exceeds the median. Instead of excluding observations in the regressions, we have taken logs of several of the variables – assets, age, expense-ratio, percentage controlled by the manager, and percentage held by all outside blockholders. Taking logs makes the distributions more normal and attenuates the effects of the largest values. There are good explanations for the extreme values of the two ownership variables. First, with respect to manager ownership, some of the funds hold the shares as nominees on behalf of retail investors in tax-protected ‘Personal Equity Plans’ and ‘Individual Savings Accounts’. It is difficult to separate these holdings from others, but this may not matter very

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3 It should be noted that the expense ratio includes the fees of the directors.
4 For those variables which can have zero values, we have added 1 before taking logs.
much as this arrangement passes some of the characteristics of ownership and control to the fund-management company. Second, with respect to the proportion of a fund held by outside blockholders, the extreme values are explained by instances where the fund was established mainly to serve the needs of one or more pension funds. It is not unusual, in the UK, for a pension fund to diversify its portfolio by participating in the IPO of a closed-end fund.

We have not yet discussed the ‘board-insider’ and ‘board-outsider’ indices which are listed in Table 1. These indices are original to this study and shed some light on whether directors can be regarded as ‘insiders’ or ‘outsiders’. The ‘board-insider’ index is calculated as the average number of other boards within the same fund-family on which the directors of this fund sit. For example, if there are five directors on a particular board and they each sit on one other board within the same fund-family, this variable will take a value of 1. If there is only a single fund in the family then this variable will equal 0. The value of the ‘board-insider’ index ranges from 0 to 4.25, with a median of 0.29. In other words, a typical director in our sample sits on 0.29 other boards within the fund-family.

The ‘board-outsider’ index is calculated in a similar way -- it is the average number of fund directorships held by members of a particular board which are outside the fund-family (but within our universe of funds). For example, if there are five directors on a board and only one director has an outside directorship, then this index equals (1/5 =) 0.2. If two directors each have two outside directorships then the index equals (4/5 =) 0.8. The value of this index ranges from 0 to 3.33, with a median of 0.60. The typical director in our sample therefore sits on 0.60 boards of closed-end funds which are outside the fund-family.

It is customary in governance studies to use, as the determining variable, the proportion of independent directors sitting on an individual board. We think that the ‘board-insider’ index used here is a better measure of the extent to which the directors are dependent on the fund-management company, because it reflects the total number of family boards on which the directors of an individual fund sit. If there are many funds in the family and each fund had the same board (i.e. a unitary board), then this variable will be large. Similarly, the ‘board-outsider’ index reflects the total weight of outside influences on a particular board rather than whether an individual director is considered an outsider. Because the ‘board-insider’ and ‘board-outsider’ indices show a high degree of skewness, we take logs of (one plus) these variables when using
them in the regressions. Our measure of whether a director is an insider or outsider is consistent with the Voluntary Code of Conduct for investment-trust companies (introduced by the Association of Investment Trust Companies in 2004). In that Code a director who sits on any other board within the fund family is considered an insider.

Figure 1 illustrates with an example what we mean by ‘fund-families’, ‘insider’ directors and ‘outsider’ directors. At the end of 1996, Aberdeen Fund Managers had a family comprising 17 closed-end funds (as well as several open-end funds which we do not consider here). M.J. Gilbert was chairman of Aberdeen Fund Managers and sat on ten of these boards, including those of Abtrust Asian Smaller and Abtrust Scotland, as shown in the diagram. One of the directors of the latter fund was C.A. MacLeod, who also sat as an outside director on the board of the Scottish Eastern fund, part of the Martin Currie family of seven funds. The data given in Table 2 demonstrate the position of the Abtrust Scotland closed-end fund in terms of its ‘board-insider’ index and ‘board-outsider’ index. The seven directors of the Abtrust Scotland fund held a total of 11 other directorships within the Aberdeen family (‘board-insider’ index = 11/7 = 1.57) and a total of 2 directorships outside the Aberdeen Fund Manager family (‘board-outsider’ index = 2/7 = 0.29).5

4. Cross-Section Regressions

We carry out three separate cross-section analyses, which are reported in sub-sections 4.1 to 4.3. In 4.1 we examine whether expense-ratios affect returns; in 4.2 we investigate whether governance factors affect expense-ratios; and in 4.3 we examine whether governance factors affect discounts.

4.1 fund returns and management expense-ratios

The first step in our analysis is to examine whether average fund-specific returns (measured as the monthly average over the four-year period, January 1995 - December 1998) 6 are

5 An earlier version of this paper considered the funds as a network and measured the strategic importance of each fund to each other fund, using the methodology of Freeman (1979). This measure of 'betweenness' is correlated 0.68 with the 'board insider' index used here and the latter is preferred because it is simpler to compute and understand.

6 We avoid a survivorship bias, because we consider all funds which existed at the end of 1996. In computing monthly average returns and discounts over the 1995-1998 period, we use the full set of months of data which are available for each fund.
influenced by fund-specific expense-ratios (measured for the year 1996)\(^7\). Clearly, returns also depend on risk factors such as beta, market-to-book, size, and momentum (Carhart, 1997). These factors are proxied here by sector dummy variables. The specification is:

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\text{returns}_i = \alpha + a \log(\text{expense-ratio}_i) + b \text{ sector}_i + z_i \tag{1}
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where returns are either net-asset-value returns or share-price returns, expense-ratio is the annual fund-management fee divided by the net-asset value at the end of 1996, sector is a dummy variable, \(\alpha\) is an intercept term, \(z\) is a disturbance term, and subscript \(i\) denotes a particular fund. The White correction for heteroscedasticity is used in this and all subsequent regressions.

The results are given in Table 3. We report regressions with and without dummy variables for sectors. The two regressions with dummy variables (columns 1 and 3 of the table) indicate that expense-ratios are significant (5% level) in determining both net-asset-value returns and share-price returns. At the median expense-ratio of 1.1% per annum, a 1 percentage point increase in the expense-ratio leads to a \((0.0055/0.0110 = 0.050\%)\) drop in net-asset-value returns and a \((0.0069/0.0110 = 0.063\%)\) drop in share-price returns. Share-price returns are thus slightly more sensitive to fees than are net-asset-value returns, the difference being accounted-for by changes in discounts. Together, expense-ratios and sectors explain about 70% of the variance of net returns in cross-section. If we observe the two regressions which exclude dummy variables (columns 2 and 4), the effect of a 1% rise in the expense ratio is now a fall of about 1.5% in returns in both cases (significant at the 1% level). This higher sensitivity is because the sectors with the highest expense ratios, such as venture capital and emerging markets, had the worst returns over the sample period of 1995-98.

We have made two robustness checks on these results. In the first, we have examined whether gross returns rise with extra fees (including sector dummies) and the result is that there is some slight evidence that they do, but the result is only significant at the 10% level and only for net-asset-value returns. The impact of extra expenses on returns in our study is

\(^7\) Measuring the expense ratio with the net-asset value at year-end does not lead to a different value from estimating it with the net-asset value considered weekly during the year. For the conventional funds, for which we have such weekly data, the correlation of year-end and year-average values is 0.987.
therefore consistent with most of the literature, where extra expenses are more-or-less compensated by extra gross performance but generally lead to worse net performance (see for example: Elton et al., 1993; Carhart, 1997; Wermers, 2000; Del Guercio et al., 2003). In the second robustness check, we have estimated a three-factor Fama-French model on monthly net-asset-returns data for 1995 to 1998. The intercept (alpha) from such a regression is a measure of a fund’s risk-adjusted outperformance. We find that if we ignore sectoral differences, higher fees are associated with worse (alpha) outperformance, and if we take account of sectors, outperformance is not related to fees. Together, these results suggest that extra fees are not justified by extra gross performance for our sample of closed-end funds.

4.2 management expense-ratios and board characteristics

We turn now to whether governance affects expense-ratios. The factors which might influence expense-ratios can be divided into a set relating to governance and a set which controls for other influences. The latter set (of control variables) is as follows:

a. We expect that size of fund will have a negative effect on the expense-ratio, because of economies of scale. Even if there is imperfect competition between managers, some of the benefits of scale are likely to be passed to investors in terms of lower fees.

b. We expect that the age of the fund will have a negative effect on the expense-ratio, because new funds are launched with relatively high fees (Gemmill and Thomas, 2002).

c. We use eight dummy variables for the nine remaining sectors (split-capital funds having been excluded), because some types of fund (such as venture capital funds) will need more detailed research than others (such as UK general funds).

The set of governance variables is as follows:

d. We expect that the larger the board, the larger the expense-ratio. The rationale for this hypothesis is that larger boards lack focus in controlling managers.

e. We expect that if directors sit on many funds within the same fund-family, the expense-ratio will be larger because the directors are more likely to be beholden to the fund-management group. If they do not comply with the fund manager's wishes, they risk losing a whole set of directorships. Our measure of family connection for directors is the ‘board-insider’ index, as defined above.
f. We expect that if there are more directors with connections to funds ‘outside’ the fund-family, then there will be more ‘outsider’ influence and therefore pressure to reduce fees. We measure this with the ‘board-outsider’ index, as defined above.

g. If the manager owns a significant proportion of the fund, there is less incentive for the manager to press the directors into agreeing a large management fee. To the extent that the fee reduces the performance of the fund (as reported above), pushing for a larger fee leads to more income for the manager but also leads to lower performance. However, unless we move to the limit in which the manager owns all of the fund, the offset is partial so we expect higher fund-ownership by the manager to give a slightly lower expense-ratio.

h. A long notice period for the manager indicates an entrenched position and so we expect that the longer the notice period, the higher will be the expense-ratio.

i. If there are many directors from the fund-management company on the fund board, we expect there to be more pressure for a higher expense-ratio.

The specification of the equation which determines the expense-ratio is:

$$\text{Log(expense-ratio}_i) = \alpha + \{a \log(\text{asset-value}_i) + b \log(\text{fund-age}_i) + c \text{ sector-dummy}_i\} + \{d \log(\text{board-size}_i) + e \log(1+\text{board-insider index}_i) + f \log(1+\text{board-outsider index}_i) + g \log(1+\text{percentage of fund owned by manager}_i) + h \text{ notice period of manager}_i + \text{j directors from fund manager}_i\} + z_i$$

(2)

where subscript $i$ denotes a particular fund, the first set of curly brackets encloses the control variables, the second set of curly brackets encloses the governance variables, $\alpha$ is an intercept term, and $z$ is a disturbance term.  

8 There is a potential specification error in this (and other) regressions, because we treat each fund within a family as an independent observation. We have considered two alternative approaches and rejected them: (i) using a dummy variable for family would remove inter-family variation and leave only intra-family variation; and (ii) taking averages for each family, as done by Del Guercio et al (2003) in some of their regressions, would not work in our sample as we would be averaging across funds from very different sectors. Given that we have 93 fund-families in our sample, the problem is likely to be small.
Before estimating the equation in cross-section, we check whether there is collinearity across the right-hand-side variables. The correlation matrix is given in Table 4. Beginning with the top row, it is apparent that the expense-ratio is closely related to age (-0.48) and fund size (-0.41), but not correlated in any simple way with the governance variables. There is a complex set of intercorrelations between the independent variables, which suggests that they are co-dependent. In particular:

- old funds are large (+0.61) and have long notice periods (+0.37), suggesting that their management may be entrenched;
- larger funds have larger boards (+0.37);
- boards with family connections (as indicated by the ‘board-insider’ index) also have longer notice periods for the managers (+0.33).

Table 5 gives the results from estimating the expense-ratio regression (Equation 2). We run the regression both for conventional funds (first two numerical columns) and for split-capital funds (last two numerical columns). In the first regression we find that the two control variables – fund age and fund size – are significant determinants of the expense-ratio; as expected, old funds and large funds have lower expense-ratios. A 2-year-old fund has, on average, an expense-ratio which is 21% higher than that of a 20-year-old fund. A fund with £30 million under management has on average an expense-ratio which is 59% greater than that of a fund with £300 million under management. Turning to the governance variables, we find that larger boards, more ‘insider’ directors (proxied by the ‘board-outsider’ index), less ‘outsider’ directors (proxied by the ‘board-outsider’ index), and less manager-ownership all lead to significantly (5% level) higher expense-ratios. The other two variables – notice period and the number of directors from the fund manager – are not significant and this is likely to reflect their high correlation with the ‘board-insider’ index (see Table 4).

In the last two columns of Table 5, the results for the 39 split-capital funds with more than £30 million in assets are given. The variables for manager ownership, notice period and proportion of directors from the fund-management company are excluded, as we do not have

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9 We also examined whether manager ownership might have a non-linear impact by including a squared term. The sign on that term was positive which suggests that extra ownership by the managers beyond a given level might not hold-down fees, but the effect was only significant at the 20% level.
the relevant data. There are significant effects with expected signs for fund size (1% level), more ‘insider’ directors (5% level) and more ‘outsider’ directors (5% level). Board size is not significant for these funds. It is interesting to note that the ‘insider’ and ‘outsider’ variables have an impact which is more than twice as large as in the regression for the conventional funds. The poor governance of the split-capital funds has been highlighted by a the House of Commons Treasury Committee (2003) and our results are consistent with the hypothesis that having ‘insider’ directors may have been a shortcoming of these funds.

We need to consider whether the governance variables are economically as well as statistically significant and for this we use the results for the conventional funds. If there are six directors rather than the median five, then the expense-ratio at the median rises by about 4% (4.3 basis points). If the number of other family boards on which the directors sit (on average) rises from zero to 1, then there is a 10% increase in fees (12 basis points). This particular result is very similar to that of Del Guercio et al. (2003), who find that unitary boards have a small impact in raising fees for US closed-end funds, but it contrasts with the result of Tufano and Sevick (1997) for US open-end funds, who find that unitary boards have lower fees. If the number of outside boards on which directors sit (on average) rises from zero to 1, then there is an almost equal and opposite effect of a 10% reduction in fees. If manager ownership rises from zero to 10%, then there is an 8% reduction in fees. These results suggest that governance has a small, but economically significant, impact on a fund’s expenses, although it would require a large board with a large proportion of insiders to have a really important economic effect.

The message from the regressions in Table 5 is that large boards, and boards which lack external connections, are associated with managers who charge high fees. If managers own more of the fund, there is a small mitigating effect. Given that we already know that fees (on average) pass through to shareholder returns, the implication is that funds with small boards, a diverse set of directors, and in which the fund manager holds a stake, are likely to perform better.

4.3 discounts and governance variables

The third part of the analysis is concerned with testing, in cross-section, whether governance has any influence on the closed-end-fund discount. In their annual reports, directors often
discuss the discount and imply that they have some influence over it; for example: “The Board’s policy is to ensure that the shares of Personal Assets (unlike those of most other investment trusts) do not sell at other than a nominal discount to net asset value” (Personal Assets Investment Trust, Annual Report for year ended June 2003).

The Code of Corporate Governance of the Association of Investment Trust Companies (from 2004) also states in Principle 16: “Boards should monitor the level of the share price discount or premium (if any) and, if desirable, take action to reduce it”. Suggested actions include changing the mandate (which may mean the management company), increasing the expenditure on marketing, and repurchasing shares.

We know from other work (e.g. Gemmill and Thomas, 2002) that the premium/discount depends in the long term both on the expense-ratio and on the openeness of the fund to arbitrage, while in the short-term it depends on flows of retail money into the relevant sector (i.e. on investor sentiment). Because governance variables (such as board size) affect the expense-ratio, we would expect there to be a consequent effect of such variables on the discount.

The variables which might influence the individual-fund premium or discount (measured as an average of monthly data over the four years, January 1995 to December 1998) can be divided into a control set and a governance set. In the control set we hypothesise the following variables to be relevant:

a. **age**, as new funds are always launched at positive premia;

b. **expense-ratio**, as previous research indicates that the the premium is reduced by this;

c. **sentiment**, measured by flows of retail money to open-end funds investing in the same sector (including this variable also removes the need to have a sector dummy);

d. **unexplained past performance**, being that part of net-asset-value returns (averaged monthly over the period January 1995 to December 1998) not explained by the expense-ratio or by sector in equation (1).

In the governance set are:

e. **board size**, the effect of which is not clear *a priori*;
f. ‘board-insider’ index, which is expected to reflect the dependence of directors on
the management company and so have a negative effect on the premium;
g. ‘board-outsider’ index, which is expected to have a positive effect on the
premium;
h. proportion of fund owned by the manager, which is expected to have a negative
effect on the premium because it entrenches the manager and prevents re-
structuring;
i. notice period, which is expected to have a negative impact on the premium as it
also entrenches management;
j. blockholding by outsiders, the effect of which on the premium could be either
positive or negative, depending on whether it facilitates or hinders a change of
manager or re-structuring.

The specification of the equation which determines the premium (discount) is:

\[
\text{premium}_i = \alpha + \left\{ a \log(\text{fund-age}_i) + b \log(\text{expense-ratio}_i) + c \text{ retail flows to sector}_i + d \text{ nav performance not explained by fees or sector}_i \right\} \\
+ \left\{ e \text{ board-size}_i + f \log(1+\text{board-insider index}_i) + g \log(1+\text{board-outsider index}_i) \\
+ h \log(1+ \text{percentage of fund owned by manager}_i) + i \text{ notice period of manager}_i \\
+ j \log(1+ \text{blockholdings by outsiders}_i) \right\} \\
+ z_i \tag{3}
\]

where subscript \( i \) denotes a particular fund, the first set of curly brackets encloses the control
variables, the second set of curly brackets encloses the governance variables, \( \alpha \) is an intercept
term, and \( z \) is a disturbance term.

The result from the cross-section regression on fund premia is given in Table 6. The equation
explains 25% of the cross-sectional variance (corrected for degrees of freedom). There are
three influences which are significant at the 1% level and no others approaching statistical
significance. In the control variables, retail flows to the different sectors have the expected
positive impact on the premium, reflecting current investor sentiment. In the governance
variables, ownership by the fund-management company and blockholdings by outside owners
both have negative impacts on the premium. The other governance variables, such as board size and the insider/outsider variables, are not significant. We have also estimated equations with more parsimonious specifications, but the same variables remain significant.

These results provide only limited support for the claim by directors that they can influence the premium/discount. Consider the three effects which we find – retail flows, manager ownership and outsider blockholdings. First, managers would like to attract retail flows to a fund, but it is not clear how to do it for an existing fund. Managers would need to switch the fund into a sector which has positive investor sentiment, but such a change is equivalent to reconstructing the fund. Second, managers can limit the proportion of the fund which they own, but they may not want to do this as they are likely to have chosen that level of ownership when the fund was launched by them. Third, directors would find it difficult to limit the size of ‘outsider’ blockholdings (which would reduce the discount), because the managers are likely to have initiated and encouraged these holdings in the first place in order to protect their own positions. Note that the finding that more outside blockholdings are associated with larger discounts is consistent with the result for US closed-end funds of Barclay et al. (1993), but runs counter to the finding of Del Guercio et al. (2003).

The negative effect of outside blockholdings on the discount is one of the strongest results in our analysis, but it might be argued that we face an endogeneity problem: could it be that large blocks have been assembled in funds with large discounts in order to exploit the discount rather than the blocks causing the discount? To test this we have collected data on blockholdings at IPO for 25 funds and then checked to see if the size of blockholdings is much different after three years. It appears that the level of blockholdings does not change much. The correlation between blockholding levels at IPO and blockholding levels three years later is 0.77. We are therefore reasonably confident that blockholdings are causing discounts rather than the converse.

An interesting difference arises between our results and those of Ferris et al. (2003), who examine the governance of conventional companies. They conclude that the market-to-book ratio (which is equivalent to the fund premium) is higher if the board is large and directors sit on more boards. Our work on closed-end-fund companies does not support such a beneficial effect of board size on the market-to-book and we have already seen that large boards tend to
be associated with higher expense ratios. However, we do not find that firm value is significantly reduced by having a large board, which is what Loderer and Peyer (2002) find.

Robustness Check for Small Funds

At the beginning of this study we chose to exclude 74 funds with assets of less than £30 million, comprising 53 conventional funds and 21 split-capital funds. We have re-estimated each of the three cross-section regressions for a sample of up to 250 funds, which includes the 53 smaller conventional funds. All of the results are unaffected with one exception: net fund returns remain negatively related to expense-ratios, but gross fund returns are now positively related to expense-ratios. A regression of gross returns for the 53 small-size conventional funds by themselves confirms that gross returns rise, on average, for these funds as fees increase, but there is no relationship between fees and their net returns. There is no implication of this for the generality of our results concerning the effect of governance on fees or discounts, but it does confirm that small funds are different.

5. Conclusions and Implications

The aim of this paper has been to test whether corporate governance has an impact on the performance of closed-end funds, via the setting of fees and via directors’ influence on the discount. It is the first empirical study of its kind to use the large sample of funds which is traded on the London Stock Exchange, including a set of split-capital funds, and it justifies some new measures of ‘insider’ and ‘outsider’ directors.

Consistent with Elton et al. (1993) and other US studies of mutual funds, we find that higher fees lead to lower returns. In our sample, a 1% increase in the expense-ratio leads to an approximately 0.6% fall in returns. It follows that a board of directors which seeks the lowest-cost management contract will, on average, raise the net-returns of a fund.

Satisfied that fees have an important influence on returns, we investigate whether the size and characteristics of the board of directors can influence fees. We find that fees (as a proportion of fund value) are strongly related to governance in precisely those ways which might be expected: fees are higher if the board is large, if there are less ‘outsider’ directors, and if there are more ‘insider’ directors; fees are lower if the fund-management company is a large
shareholder. In carrying-out this analysis we have been careful in defining ‘insiders’ and ‘outsiders’ in the most relevant ways: our ‘insider’ measure relates to the average number of boards within the fund-family on which a director sits and our ‘outsider’ measure relates to the average number of boards outside the fund-family on which a director sits. Whether the director of a fund works for the fund-management company does not seem to matter for the setting of fees in our sample; what is important is whether directors sit on many boards within the same fund-family (which raises fees) and whether directors sit on boards outside the fund-family (which reduces fees). Our results run counter to those of Tufano and Sevick (1997), who find that unitary boards (where the same directors sit on all boards within a fund-family) have lower management fees. This might be attributable to the fact that Tufano and Sevick focus on open-end funds, where directors have a more limited role than the directors of closed-end funds examined in our study. Indeed, our results are in line with Del Guercio et al. (2003) who also focus on closed-end funds.

Our results also provide an interpretation of the findings of Ferris et al. (2003) that having directors with more seats on other boards is good for company performance. We find that appointing directors who hold seats on the boards of unrelated (non-family) funds is good for performance (in terms of lower fees), but if they hold seats on boards of related (family) funds that is detrimental to performance. It is the diversity of board positions held by directors which appears to be important and not just the total number of boards on which they sit.

Managing the ‘market-to-book’ (premium or discount) is something that concerns managers and directors of all public companies. It is the market’s equivalent of an approval rating. Our results suggest that the size and composition of the board does not flow through to any actions which might influence the level of the discount. Limiting total blockholdings – regardless of whether blocks are held by the managers themselves or by outside shareholders – is the only aspect which we find to be related to a narrowing of the discount. A larger influence on the discount than either of these two factors is the net flow of funds into the sector in which a fund operates. This suggests that directors could reduce the discount if they were able periodically to shift the style of the fund to that which was currently in fashion. Such a ‘style-rotation strategy’ is extremely difficult to accomplish, however, because shifts in sentiment are not easily predictable. The rational response of managers may rather be to
diversify the set of funds in their family, so that at least one fund is currently in fashion, as argued by Bowen and Statman (1997).

The code of governance for UK-listed closed-end funds, introduced in November 2003, requires a majority of the board to be independent, not more than one director to be linked to the fund manager, and the chairman to be independent. A revision of the code in January 2004 states that a director who serves on more than one board in the fund-family is not considered to be independent. Given our result that funds which have many in-family directors are likely to charge higher fees, such a recommendation is supported by our study.
References


Faccio, Mara and M. Ameziane Lasfer. "Do Occupational Pension Funds Monitor Companies In Which They Hold Large Stakes," Journal of Corporate Finance, 2000, v6 (1,Mar), 71-110.


Table 1  Descriptive Statistics for 246 Closed-End Funds Listed on the London Stock Exchange at the End of 1996 which Held Assets in excess of £30m.

<table>
<thead>
<tr>
<th>item</th>
<th>min.</th>
<th>max.</th>
<th>mean</th>
<th>median</th>
<th>s.d.</th>
<th>sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>assets (£m)</td>
<td>30</td>
<td>1884</td>
<td>186</td>
<td>83</td>
<td>255</td>
<td>246</td>
</tr>
<tr>
<td>age (years)</td>
<td>1</td>
<td>120</td>
<td>29.7</td>
<td>7</td>
<td>37.9</td>
<td>246</td>
</tr>
<tr>
<td>board size</td>
<td>3</td>
<td>11</td>
<td>5.55</td>
<td>5</td>
<td>1.3</td>
<td>246</td>
</tr>
<tr>
<td>board-insider index</td>
<td>0</td>
<td>4.25</td>
<td>0.58</td>
<td>0.29</td>
<td>0.74</td>
<td>246</td>
</tr>
<tr>
<td>board-outsider index</td>
<td>0</td>
<td>3.33</td>
<td>0.72</td>
<td>0.60</td>
<td>0.65</td>
<td>246</td>
</tr>
<tr>
<td>directors from fund manager (%)</td>
<td>0</td>
<td>0.60</td>
<td>0.24</td>
<td>0.25</td>
<td>0.15</td>
<td>246</td>
</tr>
<tr>
<td>total expense-ratio (% p.a.)</td>
<td>0.14</td>
<td>6.75</td>
<td>1.20</td>
<td>1.09</td>
<td>0.73</td>
<td>246</td>
</tr>
<tr>
<td>market-to-book premium (%)</td>
<td>-35.4</td>
<td>11.0</td>
<td>-12.1</td>
<td>-12.9</td>
<td>5.79</td>
<td>197</td>
</tr>
<tr>
<td>funds managed per manager</td>
<td>1</td>
<td>22</td>
<td>9.74</td>
<td>10</td>
<td>6.96</td>
<td>246</td>
</tr>
<tr>
<td>notice period for manager (years)</td>
<td>0</td>
<td>5</td>
<td>1.70</td>
<td>2</td>
<td>0.85</td>
<td>234</td>
</tr>
<tr>
<td>% owned by manager</td>
<td>0</td>
<td>96.8</td>
<td>12.0</td>
<td>5.8</td>
<td>17.1</td>
<td>196</td>
</tr>
<tr>
<td>% held by blockholders (excl. this fund manager)</td>
<td>0</td>
<td>94.4</td>
<td>39.1</td>
<td>35.5</td>
<td>19.8</td>
<td>196</td>
</tr>
</tbody>
</table>

Note
The table reports summary statistics for the sample of closed-end funds in London with assets exceeding £30 million ($45 million). Data relating to all variables are measured as at December 1996 and are extracted from the Credit Lyonnais and SBC Warburg Year Books. There are 207 conventional funds and 39 split-capital funds. The number of funds for which data on a particular feature are available varies between 196 and 246, as indicated in the final column.
Table 2  Data For Example Fund – Abtrust Scotland

Board size 7
Directors from fund manager 3
Funds in this manager’s family 17

Total number of other boards on which these 7 directors sit:
- family board directorships 11
- non-family board directorships 2
  - ‘board-insider’ index 11/7 = 1.57
  - ‘board-outsider’ index 2/7 = 0.29

Notice period 2 years
Expense-ratio 2.6% per annum
Age of fund 10 years
Size of fund £36 million
Premium (discount) -20%

Note
The table reports data relating to the Abtrust Scotland closed-end fund. The fund is one of the 17 managed by Aberdeen Fund Managers. The ‘board-insider’ index is the average number of other within-family directorship held. The ‘board-outsider’ index is the average number of outside-family directorships held. In both cases the universe of funds comprises all closed-end funds listed in the UK.
Table 3  Cross-Section Regressions of Annual Fund Returns on Expense-ratios and Sector Dummy-Variables

<table>
<thead>
<tr>
<th>Item</th>
<th>regression of returns based on net asset values</th>
<th>regression of returns based on share prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>0.0019 (0.15)</td>
<td>-0.0117 (-0.78)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.0622 (3.85)***</td>
</tr>
<tr>
<td>log(expense-ratio) (%)</td>
<td>-0.0055 (-2.17)**</td>
<td>-0.0069 (-2.23)**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.0156 (-4.45)***</td>
</tr>
<tr>
<td>dummy variables</td>
<td>included by sector</td>
<td>included by sector</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>adjusted R-squared</td>
<td>0.706</td>
<td>0.691</td>
</tr>
<tr>
<td></td>
<td>0.092</td>
<td>0.087</td>
</tr>
<tr>
<td>number of observations</td>
<td>197</td>
<td>197</td>
</tr>
</tbody>
</table>

Note
The table reports the estimates of the coefficients of the cross-sectional regression (1). The dependent variables (net-asset-value and share-price returns) are the annualised monthly returns averaged over the period January 1995-December 1998. The expense-ratio is the fund management charge for 1996 scaled by the fund asset-value in 1996. t-values are shown in parentheses. *** denotes significance at the 1% level. The White correction is used for heteroscedasticity.
Table 4  Correlation Matrix for Independent Variables in Expense- Ratio Regression

<table>
<thead>
<tr>
<th></th>
<th>expense ratio</th>
<th>age</th>
<th>fund size</th>
<th>board size</th>
<th>board-insider index</th>
<th>board- outsider index</th>
<th>manager ownership in %</th>
<th>notice in years</th>
<th>directors from fund manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>expense- ratio</td>
<td>1</td>
<td>-0.48</td>
<td>-0.41</td>
<td>+0.02</td>
<td>+0.19</td>
<td>-0.16</td>
<td>-0.00</td>
<td>-0.08</td>
<td>+0.05</td>
</tr>
<tr>
<td>age</td>
<td></td>
<td>1</td>
<td>+0.61</td>
<td>+0.22</td>
<td>+0.01</td>
<td>-0.02</td>
<td>-0.13</td>
<td>+0.37</td>
<td>-0.15</td>
</tr>
<tr>
<td>fund size</td>
<td></td>
<td></td>
<td>1</td>
<td>+0.37</td>
<td>+0.01</td>
<td>-0.02</td>
<td>-0.14</td>
<td>+0.24</td>
<td>-0.04</td>
</tr>
<tr>
<td>board size</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>+0.04</td>
<td>-0.12</td>
<td>-0.07</td>
<td>+0.16</td>
<td>+0.09</td>
</tr>
<tr>
<td>board-insider index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>+0.06</td>
<td>+0.04</td>
<td>+0.33</td>
<td>+0.25</td>
</tr>
<tr>
<td>board- outsider index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manager ownership in %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>notice in years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>+0.08</td>
</tr>
<tr>
<td>directors from fund manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note
The table reports the correlation coefficients across the 186 funds in the sample, for which the full set of data is available. All variables are measured as at December 1996 and are extracted from the Credit Lyonnais and SBC Warburg Year Books.
Table 5  Cross-Section Regressions of Expense-ratios on Fund and Board Characteristics

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONVENTIONAL FUNDS</th>
<th>SPLIT FUNDS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>coefficient</td>
<td>t-value</td>
<td>coefficient</td>
<td>t-value</td>
</tr>
<tr>
<td>constant</td>
<td>-1.6551</td>
<td>-4.76***</td>
<td>-0.6501</td>
<td>-0.51</td>
</tr>
<tr>
<td>log(fund age)</td>
<td>-0.0927</td>
<td>-4.06***</td>
<td>-0.0589</td>
<td>-1.32</td>
</tr>
<tr>
<td>log(fund size)</td>
<td>-0.2548</td>
<td>-7.81***</td>
<td>-0.3546</td>
<td>-3.01***</td>
</tr>
<tr>
<td>board size</td>
<td>0.0447</td>
<td>2.32**</td>
<td>0.0085</td>
<td>0.13</td>
</tr>
<tr>
<td>log(1+ board-insider index)</td>
<td>0.1513</td>
<td>2.31**</td>
<td>0.4231</td>
<td>2.62**</td>
</tr>
<tr>
<td>log(1+ board-outsider index)</td>
<td>-0.1440</td>
<td>-2.23**</td>
<td>-0.3173</td>
<td>-2.65**</td>
</tr>
<tr>
<td>log(1+manager ownership %)</td>
<td>-0.0351</td>
<td>-2.01**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>notice period</td>
<td>-0.0087</td>
<td>-0.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>directors from fund manager</td>
<td>0.0045</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sector dummy variables</td>
<td>included</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adjusted R-squared</td>
<td>0.673</td>
<td></td>
<td>0.409</td>
<td></td>
</tr>
<tr>
<td>number of observations</td>
<td>186</td>
<td></td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

Note
The table reports the estimated coefficients of the cross-sectional regression (2). The dependent variable (the expense-ratio) is measured as the fund management charge for 1996 scaled by the fund asset-value in 1996. The independent fund-specific variables are derived from data extracted from the Credit Lyonnais and SBC Warburg Year Books. t-values are shown in parentheses. ***, **, * denote significance at the 1%, 5% and 10% levels respectively. The White correction is used for heteroscedasticity.
Table 6  Cross-Section Regressions of Average Market-to-Book Premia on Fund and Board Characteristics

<table>
<thead>
<tr>
<th>Item</th>
<th>coefficient</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>0.0086</td>
<td>0.15</td>
</tr>
<tr>
<td>log(fund age)</td>
<td>0.0035</td>
<td>0.97</td>
</tr>
<tr>
<td>log(expense-ratio)</td>
<td>-0.0045</td>
<td>-0.40</td>
</tr>
<tr>
<td>net retail flows into fund sector</td>
<td>0.0538</td>
<td>2.98***</td>
</tr>
<tr>
<td>nav returns unexplained by fees or sector</td>
<td>0.1166</td>
<td>0.40</td>
</tr>
<tr>
<td>board size</td>
<td>-0.0031</td>
<td>-0.96</td>
</tr>
<tr>
<td>log(1+ board-insider index)</td>
<td>-0.0026</td>
<td>-0.23</td>
</tr>
<tr>
<td>log (1+ board-outsider index)</td>
<td>0.0175</td>
<td>1.32</td>
</tr>
<tr>
<td>log(1+ manager owned %)</td>
<td>-0.0072</td>
<td>-2.58***</td>
</tr>
<tr>
<td>notice period for manager</td>
<td>-0.0076</td>
<td>-1.41</td>
</tr>
<tr>
<td>log(1+ total blockholding in fund, excluding fund manager, in %)</td>
<td>-0.0365</td>
<td>-5.29***</td>
</tr>
<tr>
<td>adjusted R-squared</td>
<td>0.251</td>
<td></td>
</tr>
<tr>
<td>number of observations</td>
<td>175</td>
<td></td>
</tr>
</tbody>
</table>

Note
The table reports the estimated coefficients of the cross-sectional regression (3). The dependent variable is the fund-specific market-to-book premium (measured as the average premium over the period January 1995-December 1998). Data relating to average monthly retail flows into open-end funds investing in the various sectors are obtained from the Institutional Management Association. All other fund-specific data are measured as at December 1996 and are derived from the Credit Lyonnais and SBC Warburg Year Books. t-values are shown in parentheses. ***, **, * denotes significance at the 1%, 5% and 10% levels respectively. The White correction for heteroscedasticity is used.
Figure 1  Example to Show the Character of Fund Families and Inter-Family Connections

Aberdeen Fund Managers (17 funds)

Aberdeen Asian Smaller
Cayzer Elstob Gilbert, M. Tho Young

insider connection

Anderson Berry Govett Kemp Lessels Macleod Monk Scott

outsider connection

Abtrust Scotland
Gilbert, B. Gilbert, M. Little Macleod Pelham Robb Wightman

Scottish Eastern

Martin Currie Fund Management (7 funds)