

# Assessing the Effects of Buybacks on Investment Trust Discounts

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**Abstract:** Buybacks for investment trusts have become common since 1999. The stated motivations for investment trusts buying back shares include ongoing reduction of discounts and a reduction in discount volatility. We describe the buybacks made over the study period and try to assess the circumstances in which this has led to discount reductions. We also investigate the effect on discount volatility.

## 1. Introduction

The presence of discounts in Investment Trust Companies, and other closed end funds, is a well known phenomenon which has been examined at great length in academic literature, e.g. Dimson & Marsh-Matthews [1]. Reasons put forward can be characterised as either economic explanations or behavioural explanations. Part of the motivation for the research is the possibility of exploiting the discount to generate excess returns to investors.. While large discounts may provide an investment opportunity, the widening of discounts destroys value for existing investors and managers have looked at various ways of managing discounts. Buybacks are considered to be one way of doing this.

The large scale use of buybacks for Investment Trust Companies is a recent event. Until the late 1990s it was difficult for most trusts to buy back shares and retain their advantageous tax status. Since the start of 1998 most of the problems have been solved (though some restrictions still remain) and many companies have bought back substantial amounts of shares.<sup>1</sup>

There are several reasons why trusts may wish to buyback shares. The main ones are listed in a report for the AITC by Kershaw [2] and discussed therein in some depth. These are (in the same order):

- Discount reduction
- Reduction in discount volatility
- Enhancement of Net Asset Value (NAV)
- Balancing supply and demand

He also mentions two other considerations – the effects of shrinkage and alternatives. This paper uses data from buybacks over the calendar years 1999 and 2000 to examine whether some of these reasons are justified.

Kershaw states, with qualifications, that “trusts which use share buy-backs have lower discounts than those which do not.” This paper examines this assertion in two ways. In Section 2 it looks at average discounts within sectors to compare companies which buyback shares with those that do not. In Section 3 a form of event study is used to assess whether the buy-back itself has any effect on the discount. Both of these show that the evidence to support discount reduction is weak at best, though there are significant differences between sectors. This may suggest that buybacks are rarely a dominating factor in determining discounts.

Another reason for investment trust buybacks is that discount volatility may be reduced. A slightly uncharitable interpretation could be that as some trusts have found that they are unable or unwilling to reduce the discount by large scale buybacks, a different target of maintaining a steady discount has been adopted. Kershaw [2] uses a graph produced by the authors of this paper at an early stage of our research to argue that discount volatility is reduced. The further work presented here supports this thesis, though there are some qualifications which require further investigation.

The enhancement of NAV is a mathematical certainty, if shares are bought back at a discount to NAV. This in itself may seem to be a valid reason for buybacks. The size of the enhancement depends on the amount of shares purchased and the discount. As Kershaw points out, buying back 10% of capital at a

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<sup>1</sup> Note that although the term “shares” is used throughout this paper when referring to buybacks, the actual capital purchased may take many forms such as warrants, preference shares, convertibles etc.

10% discount will enhance the NAV by 1%. Buying back smaller amounts at lower discounts may not give enough benefit to overwhelm the counter arguments. The process of NAV enhancement would seem to improve shareholder value, although that this will only happen if the enhancement is reflected in the share price. The balancing of supply and demand is considered important as over recent years there has been a gradual disinvestment from the sector by institutions which has not been balanced by the increase in retail demand. Buybacks intuitively seem like a way to address this, but there is insufficient data available so this issue is not examined further here.

There are two arguments against buybacks. For many trusts shrinking the capital base may reduce liquidity for remaining investors. There is also the matter of borrowings to consider, especially where a company is locked into long-term debt. This is especially important for funds with illiquid assets. There are also alternatives, such as reconstructing the trust or even liquidating it. While most trusts do not consider such radical alternatives in normal circumstances, they are a benchmark against which actions may have to be measured when discounts are substantial.

## **2. Description of Data**

### **2.1 Data**

Share buy-back data were obtained from Cazenove & Co Ltd. Data were split by the Association of Investment Trust Companies (AITC) sector classifications (e.g. Global Growth, UK Growth, UK Growth & Income etc.). The data included:

1. Date of the buy-back
2. Method of buy-back (i.e. repurchase or tender)
3. Price paid
4. Percentage of outstanding shares bought back

Data was supplied for the two-year period commencing 1 January 1999 and ending on 31 December 2000. The start date of 1 January 1999 was chosen as there were very few buy-backs prior to that date.

There were twenty-eight sectors for which data were available. Of these, four sectors met our initial criteria of containing at least five investment trusts with buy-backs, and at least five without. These four sectors formed the basis of our study and are shown below.

- Global Growth
- UK Growth
- UK Growth & Income
- UK Smaller Companies

In order to calculate the discount to net asset value (NAV), daily data on investment trust companies' adjusted share prices and fully diluted net asset values (NAV's) were obtained from Datastream. This data was extracted on a daily basis in order to gauge any change in the discount to NAV before and after the date of each buy-back.

### **2.2 Results of Pilot Study - Global Growth Sector**

A pilot study of the data was initially carried out on the Global Growth sector. This sector had 22 trusts with buy-backs and 9 without so it met our initial criteria of having at least five different investment trusts with buy-backs, and at least five without.

As well as having more investment trust companies than any other sector, the Global Growth sector also had the greatest amount of buy-backs in money terms and so looked a potentially interesting sector to start our investigation. It was acknowledged however that the Global Growth sector's constituent companies might arguably be less homogenous than other sectors such as UK Growth.

When investigating the effect of buybacks within the Global Growth sector, we focused on movements in the following four measures over the period of investigation:

1. Comparative average discount of investment trusts with and without buy-backs versus the number of buy-backs.
2. Difference in average discount of investment trusts with and without buy-backs versus the number of buy-backs.
3. Comparative average share price index of investment trusts with and without buy-backs versus the number of buy-backs.
4. Relative average share price index of investment trusts with/without buy-backs versus the number of buy-backs.

The results of the pilot study on the Global Growth sector suggested:

1. The average discount to NAV of investment trusts which had experienced buy-backs was visually less volatile over the shorter and longer-term when compared to those trusts experiencing no buy-backs (see Figure 2.1).
2. Nothing major could be deduced from investigating the difference in average discount of investment trusts with and without buy-backs versus the number of buy-backs.
3. Nothing major could be deduced from investigating the comparative average share price index of investment trusts with and without buy-backs versus the number of buy-backs.
4. The relative share price of investment trusts with buy-backs, to those without, appeared to rise over time (see Figure 2.2).

Following these initial results of the pilot study on the Global Growth sector, it was decided to repeat the investigations across other sectors to see if similar results were observed.

## 2.3 Overall Results

There were three other sectors that also met our criteria of having at least five constituent trusts that had experienced buy-backs, and five which had not. These sectors were UK Growth, UK Growth & Income and UK Smaller Companies. These sectors are detailed below along with the Global Growth sector. For each sector, the numbers of trusts with and without buy-backs are shown.

<u>Sector</u>	<u>Number IT's With Buy-backs</u>	<u>Number IT's Without Buy-backs</u>
Global Growth (Pilot Study Sector)	22	9
UK Growth	12	6
UK Growth & Income	9	15
UK Smaller Companies	16	12

Once again we investigated the discounts and share prices of each sector, and compared the trusts with buy-backs to those without. As in the pilot study:

1. We repeatedly found that over short periods of time, the average discount to NAV of investment trusts that had experienced buy-backs appeared less volatile compared to those experiencing no buy-backs.

Paradoxically, when calculating the standard deviation of the discounts over the whole two year period of investigation, only in the cases of the Global and UK Growth sectors were the standard deviations lower for those trusts with buy-backs (see table of results below). Otherwise, there was little difference between the observed standard deviations. It is proposed that future work will investigate whether these results are somehow a function of the incidence of the buy-backs or simply a reflection that these sectors had a larger number of trusts with buy-backs to those without.

<u>Sector</u>	<u>Standard Deviation of discount <b>with</b> buy-backs</u>	<u>Standard Deviation of discount <b>without</b> buy-backs</u>
<b>Global Growth (Pilot Study Sector)</b>	<b>1.42</b>	<b>1.89</b>
<b>UK Growth</b>	<b>1.20</b>	<b>5.10</b>
UK Growth & Income	2.07	2.00
UK Smaller Companies	3.17	3.10

2. Nothing major could be deduced from investigating the difference in average discount of investment trusts with and without buy-backs versus the number of buy-backs.
3. Nothing major could be deduced from investigating the comparative average share price index of investment trusts with and without buy-backs versus the number of buy-backs.
4. The relative share price of investment trusts with buy-backs, to those without, was generally found to rise over time. The UK Growth sector was the exception. In this case the relative share price of trusts with buy-backs, to those without, fell by over 24% during the period (Figure 2.3).

The table below summarises the percentage rise by sector over the period of investigation of the relative share prices of investment trusts with buy-backs, to those without.

<u>Sector</u>	<u>% Increase in Share Price of Trust With/Without Buy-backs</u>
Global Growth (Pilot Study Sector)	5.1
UK Growth	<b>-24.4</b>
UK Growth & Income	10.5
UK Smaller Companies	36.1

There were only 6 trusts without buy-backs in the UK Growth sector. Two of these (Capital Opportunities and Finsbury Trust) had share price rises of approximately 125% over the period. The majority of the former trust's performance came in the run-up to March 2000, whereas the majority of the latter trust's performance came after this date. This date represented roughly the peaking out of the "TMT" bubble in equity markets, so it is a possibility that these trusts excess returns were linked to this. Nonetheless, these superior returns largely explain the 24.4% fall in the share price relative of UK Growth sector trusts with buybacks, to those without.

### 3. Event Study

One of the arguments put forward for share buybacks is that they can narrow the discount. As doing a buyback alters the balance between buyers and sellers this is not unreasonable. Here we try to examine this hypothesis. We attempt to answer three questions. Does a buyback narrow the discount? If so, for how long is the discount narrowed? And finally, does the size of the buyback affect either of these issues?

To look at these issues, a form of event study was used. But unlike a normal event study, which focuses on cumulative abnormal returns (see Armitage [3]), we use relative discounts.

The relative discount at time  $t$ ,  $RD_t$ , is defined by

$$RD_t = \frac{\text{discount at time } t}{\text{discount at buyback}}$$

From this definition a reduction in the discount would be shown by a reduction in the discount relative and vice versa. As buybacks generally only take place when discounts are significant there are no problems with the denominator approaching zero.

The value of  $t$  is determined relative to the time of the buyback. An event window of 4 weeks prior to the buyback up to 8 weeks after the buyback was used. The relative discounts were calculated at

weekly intervals. As a benchmark, the relative discount of the sector over the event window, using the date of the buyback as a base, is also calculated.

Once the discount relatives for each buyback are calculated, an average of all buybacks within each sector is calculated. These have been graphed and samples are shown in Figures 3.1-3.10.

Figure 3.1 shows the data for all buybacks in the Global Growth sector. There does seem to be a small positive effect on the discount at the time of the buyback, both absolutely and relative to the sector. Bearing in mind that the average discount for the sector is 13.5% over the study period and 16.5% for companies with buybacks at the time of the purchase it is difficult to argue that there is a significant effect here.

There is a possible blurring of the picture here. Frequently buybacks are not isolated events – many investment trusts operate ongoing programmes in which buybacks are sustained over a period. To examine this further Figures 3.2 & 3.3 show the movements in relative discounts when there are further buybacks in the event window (Figure 3.2) and no further buybacks in the event window (Figure 3.3.) Figure 3.2 shows that sustained buybacks appear to have a similar effect to before. There is a very small positive benefit, but it does not last as long as before. Figure 3.3, however, shows a very different picture. The improvement over the study period corresponds to a reduction in the discount of approximately 320bp on average after 42 days. However, there is no indication of causality here – if an investment trust's discount is narrowing then it is less likely to buy back shares and the graph may merely reflect this rather than any effect of the buybacks.

It is perhaps worth examining the two sets of buyback data to see if they are different and whether these features may be causing the improvement. The grouping with no subsequent buybacks is much smaller (46 buybacks against 622) and start from a slightly lower discount (15.5% against 16.6%). If we consider repurchases of shares only (i.e. not warrants, preference shares etc.) then the repurchases with no subsequent buybacks are slightly larger at 0.52% of outstanding share capital, compared to 0.42% with subsequent buybacks. Other than the difference in size, there does not appear to be much difference between the sample characteristics.

To examine the third question posed above – whether the size of the buyback makes a difference – the calculations above were adjusted. The calculation of the relative discount is repeated, but the average is a weighted average. The weights used are the proportion of the share capital purchased in each buyback. The consequence of this is that only purchases of ordinary shares are considered. It may be possible to extend the study in the future to include warrants or convertibles and to use the fully diluted capital.

Figure 4 shows the weighted average relative discounts for the Global Growth sector. Comparing with Figure 1 it can be seen that the initial impact of the buyback is greater, suggesting that larger buybacks do have a larger impact, though the amount is still not substantial. However the effect lasts only two weeks and reverts to the level at the time of the buyback. Figures 3.5 & 3.6 can be compared with Figures 3.2 & 3.3. Figures 3.2 and 3.5 seem to have the same relation as Figures 3.1 and 3.4. Figure 3.6 shows a similar effect to Figure 3.3, though the magnitude is higher initially and lower by the end of the study period. The patterns would suggest that larger buybacks do have a greater effect in the first couple of weeks after a buyback, but other factors may be dominating thereafter.

The data for other sectors is less clear cut. Figure 3.7 shows the unweighted average graph for the UK Growth sector. Here it can be seen that there is no benefit from buybacks – indeed it appears that buybacks have been mostly carried out at the lowest discount over the event period. However, this is not entirely true, as Figure 3.8 shows the unweighted average with no subsequent buyback again shows continual improvement. The weighted averages give a similar picture.

For the UK Growth & Income sector, Figure 3.9 again shows no improvement. Even for no subsequent buybacks (Figure 3.10) the picture is unclear, though the sample size here is quite small (25 buybacks.)

#### **4. Summary**

We set out to investigate the effect of buy-backs on the discount to net asset value of investment trusts. Data on buybacks were obtained for the two-year period ending on 31 December 2000. The study then

focused on four investment trust sub-sectors. It was observed that over short periods of time, the average discount of investment trusts with buy-backs was less volatile compared to those without. However, over whole period of investigation, only within the Global and UK Growth sectors were trust discounts with buybacks less volatile. It is proposed that future work will investigate whether these results are somehow a function of the incidence of the buy-backs or simply a reflection that these sectors had a larger number of trusts with buy-backs than without buybacks.

Furthermore, with the exception of the UK Growth sector (which contained two trusts without buy-backs that experienced large share-price gains), it was found that the share price of trusts with buybacks rose over the period of investigation relative to trusts with no buy-backs.

An event study of the discount relative to the discount at the time of the buyback was also carried out to examine whether a buy-back narrowed the discount and if so, for how long. This study was extended to examine whether the size of the buy-back had any effect. It was felt that a clearer picture would be obtained by splitting trusts with repeated or subsequent buy-backs from those with one-off or no subsequent buy-backs. In the case of subsequent buy-backs on the Global Growth sector, there was found to be a small reduction in the discount but the duration of this effect was limited to approximately 14 days. For one-off buy-backs for the same sector, the average discount relative fell by approximately 320bp after 42 days. However, it was not ascertained whether the one-off buy-backs were causing the discount to narrow subsequently or if other factors were driving this which then reduced the need for subsequent buybacks.

When weighted by the proportion of share capital purchased in each buyback, the fall in the initial discount relative to the date of buy-back is more pronounced but still not large in absolute terms. This suggests that larger buy-backs have a bigger effect but to a limited degree. This effect was short lived, however, with the discount again widening back to its initial level after about 14 days on average.

When the event study was repeated for the UK Growth and UK Growth & Income sectors, the results were similar but to a lesser degree than for the global growth sector.

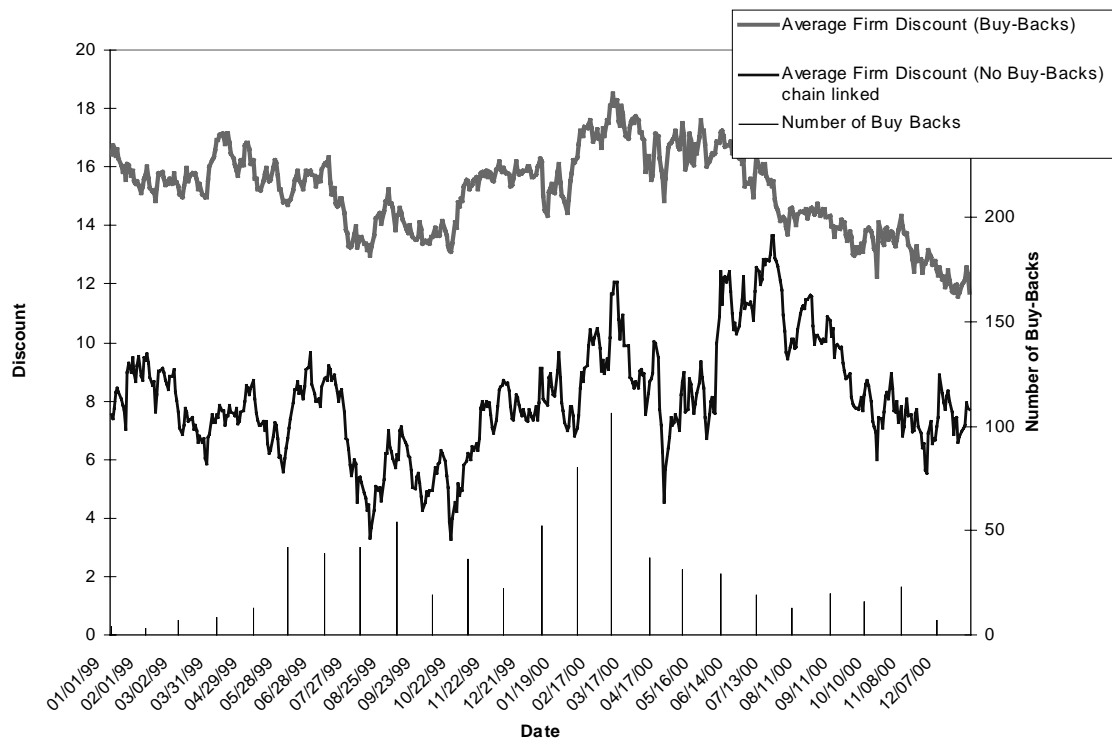
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1. Dimson, E. and Marsh, P. (2000) Closed-end funds: a survey, *Financial Markets, Institutions and Instruments*, 9(3).
2. Kershaw, G (2002) Report on share buybacks for ITCs, *A Handbook for Directors of Investment Trusts*, Appendix 6.
3. Armitage, S.E. (1995) Event study methods and evidence on their performance, *Journal of Economic Surveys*, 9(1), 25-52.

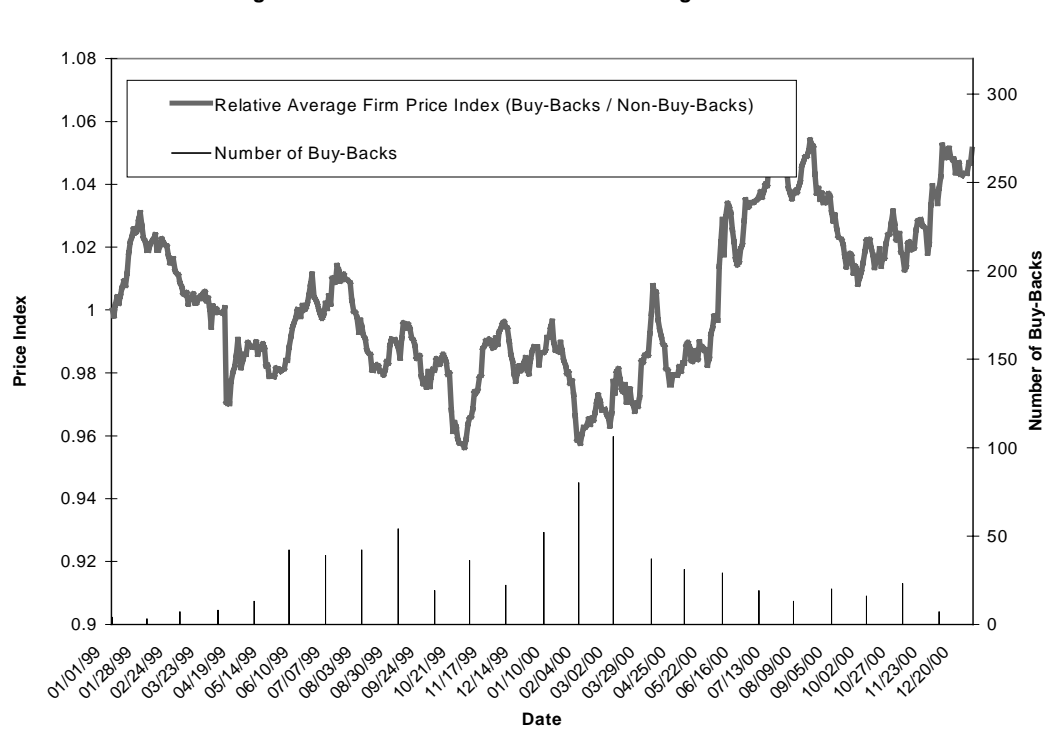
## Acknowledgements

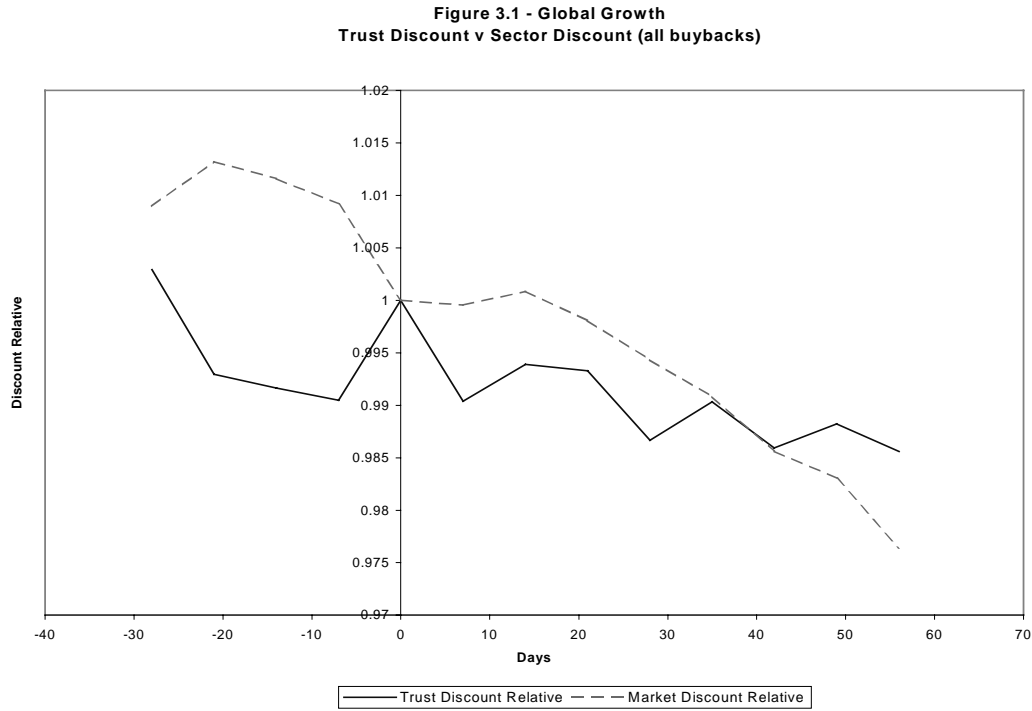
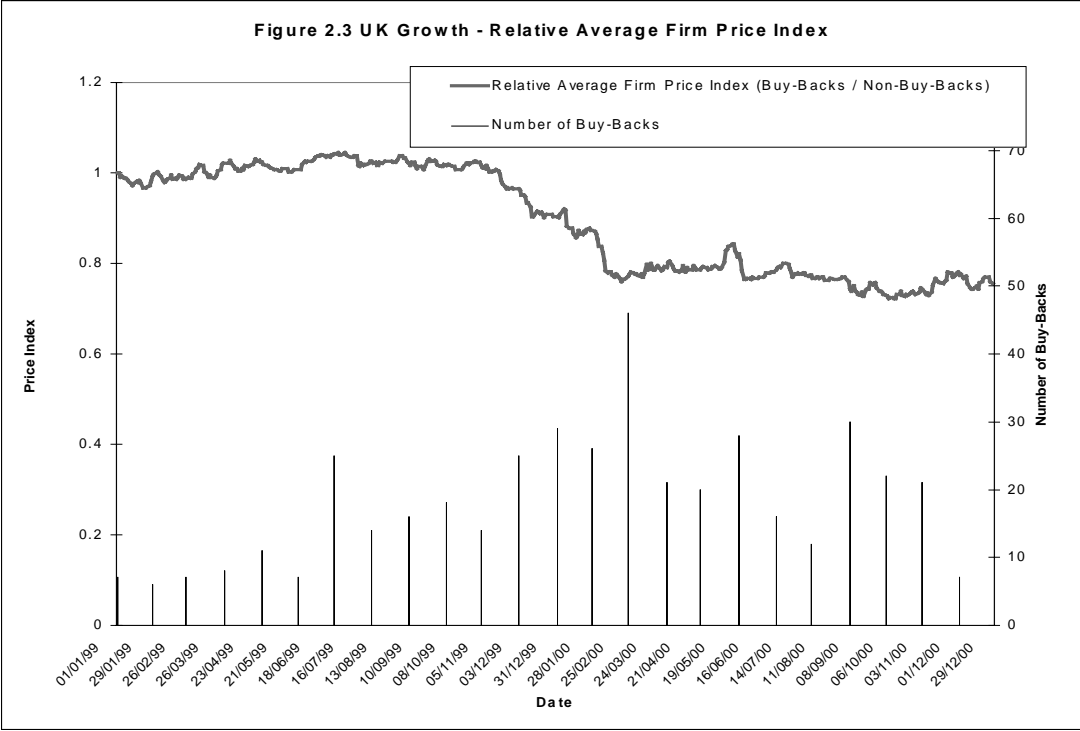
We would like to thank Chris Brown at Cazenove & Co. Ltd. for supplying us with the data on buybacks. We would also like to thank Jon Jesky of Edinburgh University for his help with the data collection and analysis, and Edinburgh University for funding his time. Finally we would like to thank the Centre for Financial Markets Research (Edinburgh University), Scottish Value Management and Scottish Widows Investment Partnership for hosting the research meetings.

**Figure 2.1 Global Growth - Comparative Average Firm Discount**



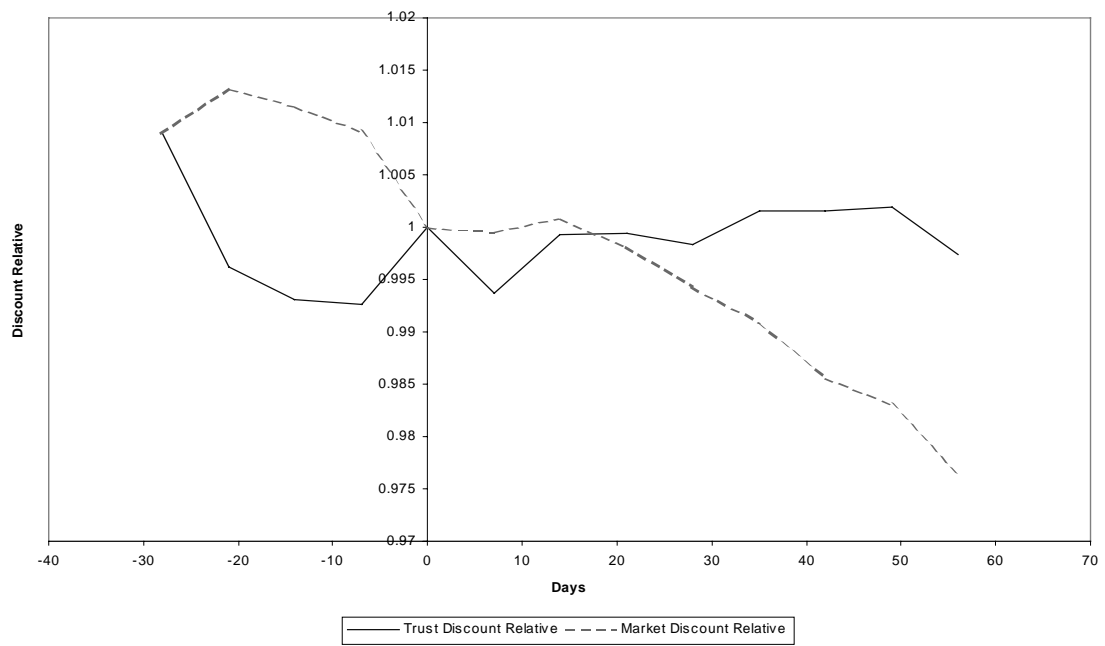
**Figure 2.2 Global Growth - Relative Average Firm Price Index**



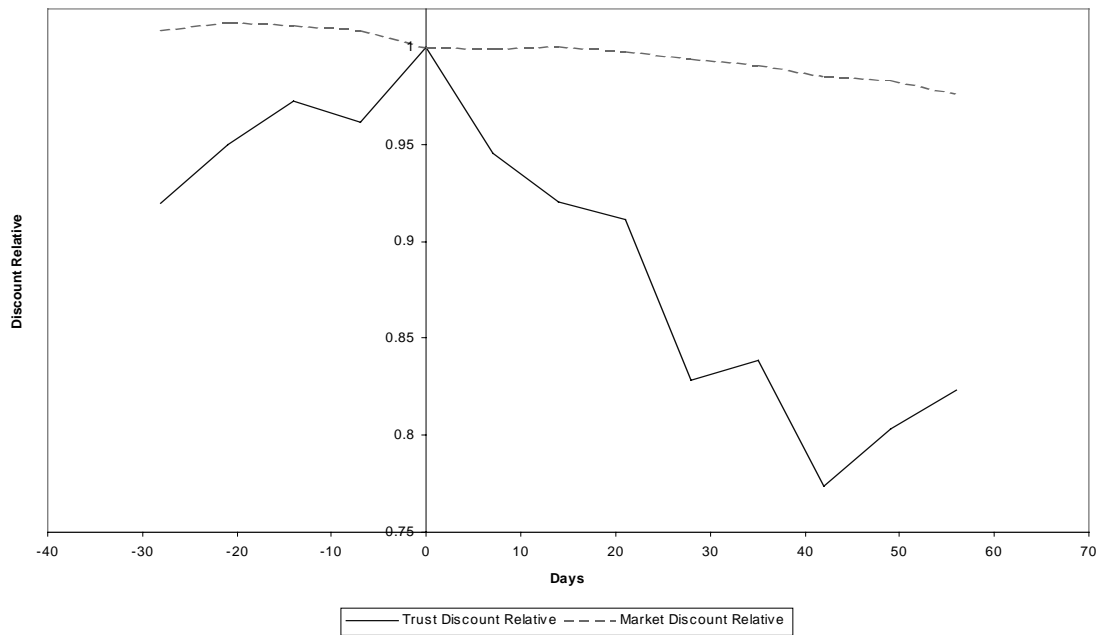




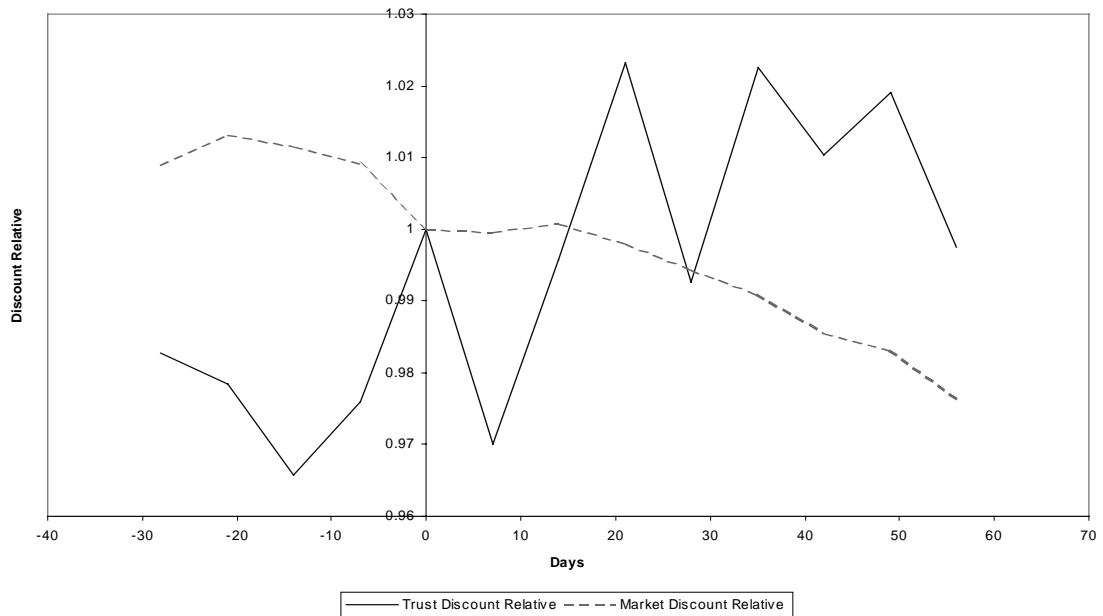
**Figure 3.2 - Global Growth**  
**Trust Discount v Sector Discount (subsequent buybacks)**



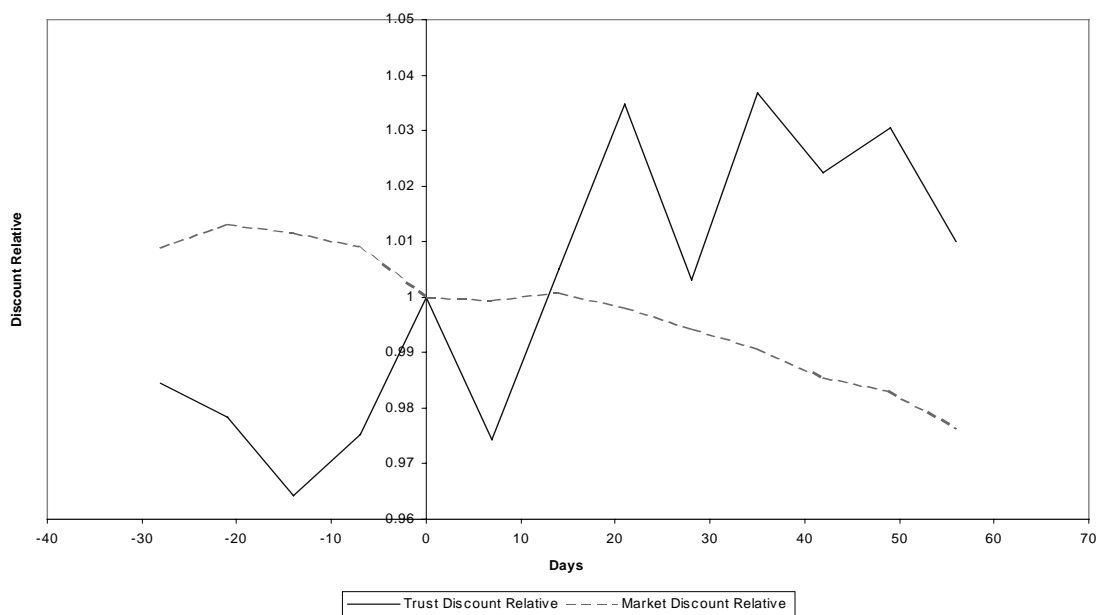
**Figure 3.3 - Global Growth**  
**Trust Discount v Sector Discount (no subsequent buybacks)**



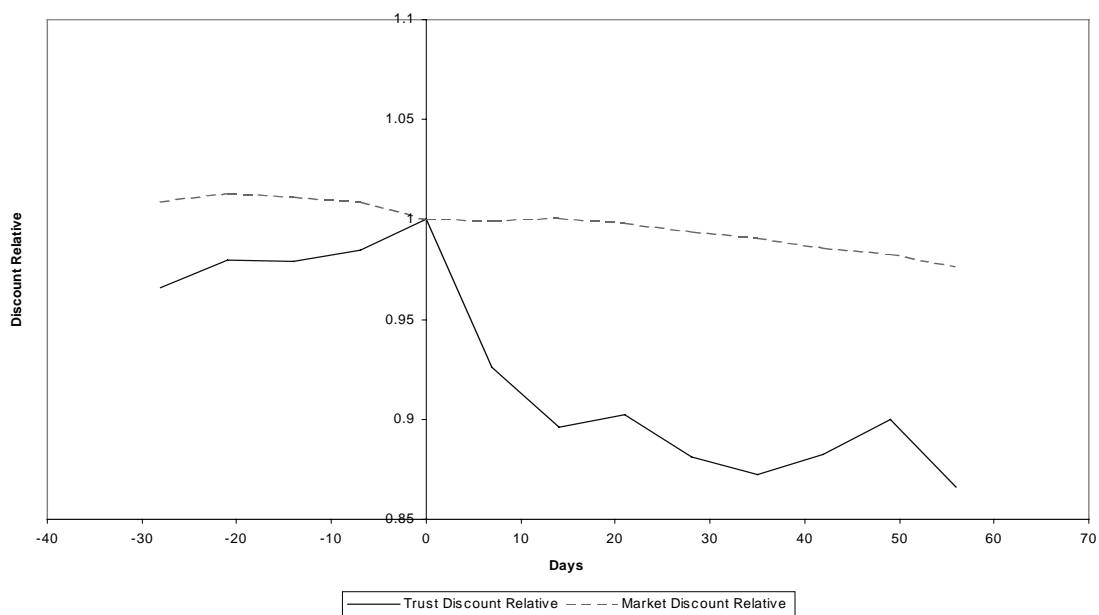
**Figure 3.4 - Global Growth**  
**Trust Discount v Sector Discount (all buybacks)**  
**(weighted by proportion bought back)**



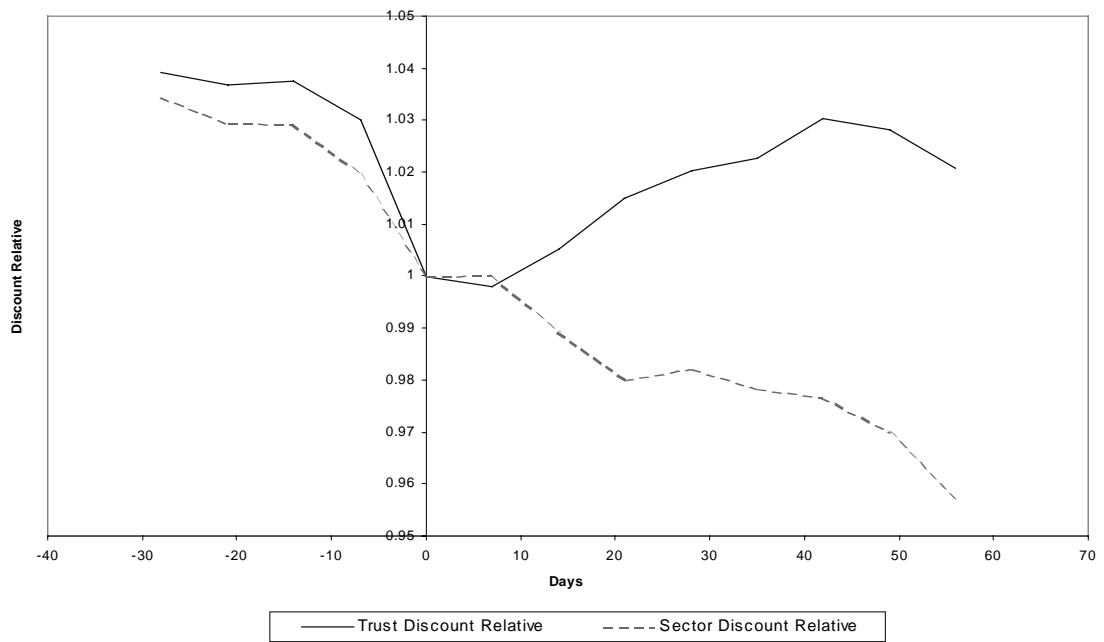
**Figure 3.5 - Global Growth**  
**Trust Discount v Sector Discount (subsequent buybacks)**  
**(weighted by proportion bought back)**



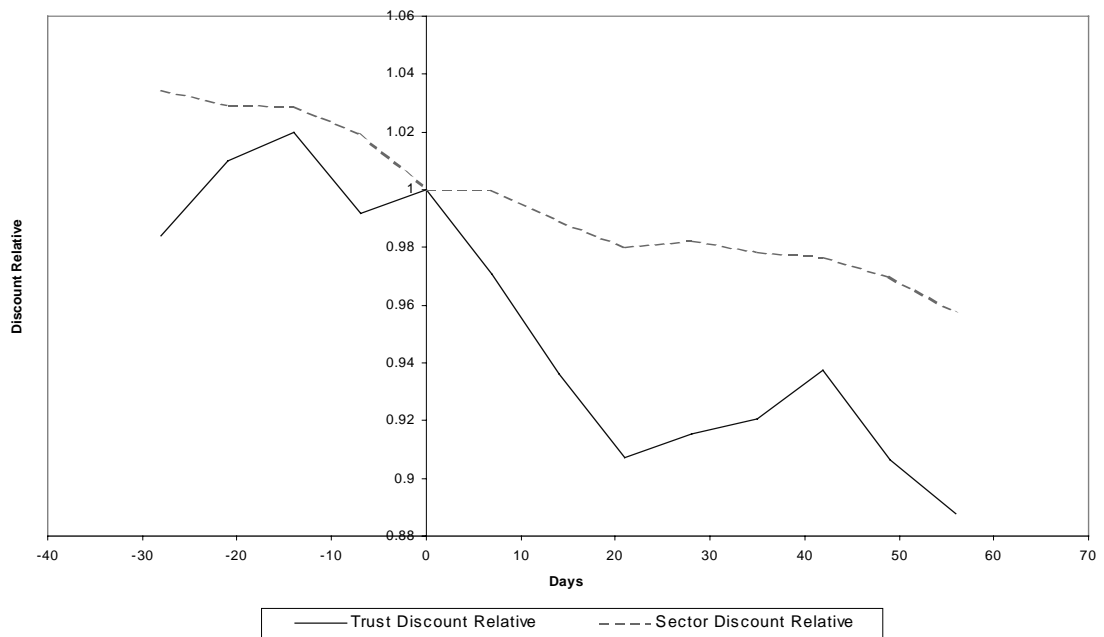
**Figure 3.6 - Global Growth**  
**Trust Discount v Sector Discount (no subsequent buybacks)**  
**(weighted by proportion bought back)**



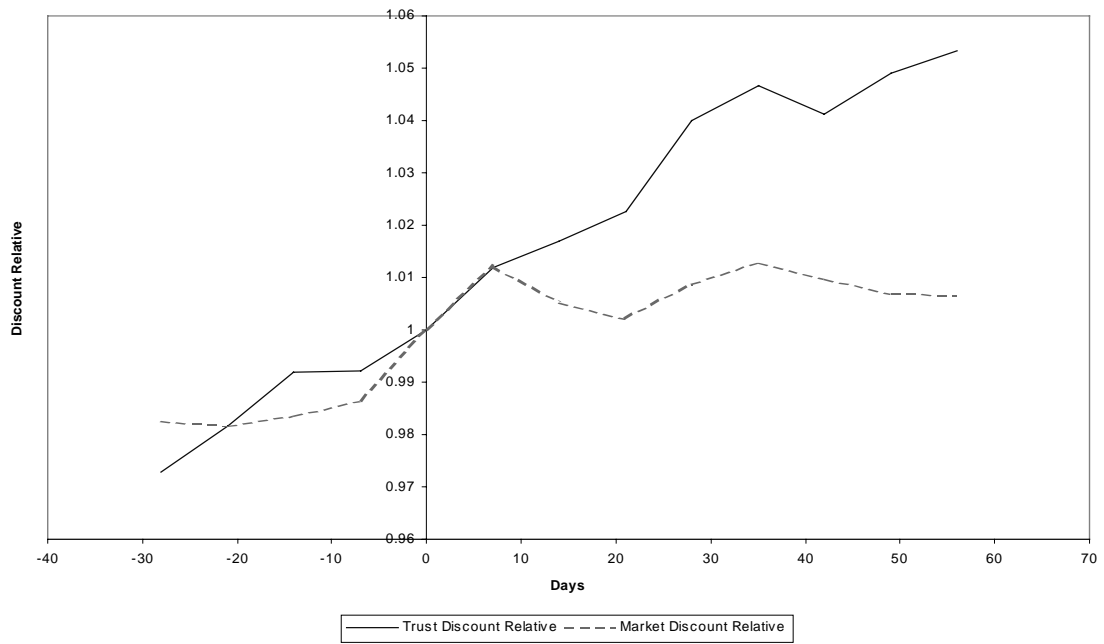
**Figure 3.7 - UK Growth Sector (unweighted)**  
**Trust Discount v Sector Discount (all buybacks)**



**Figure 3.8 - UK Growth Sector (unweighted)**  
**Trust Discount v Sector Discount (no subsequent buybacks)**



**Figure 3.9 - UK Growth & Income (unweighted)**  
**Trust Discount v Sector Discount (all buybacks)**



**Figure 3.10 - UK Growth & Income (unweighted)**  
**Trust Discount v Sector Discount (no subsequent buybacks)**

