

# The influence of environmental information contained in the annual financial reports of South African listed companies on the investment decisions taken by unit trust fund managers

MC van Niekerk

Q Vorster

## Abstract

As a result of the sustained increase in the environmental awareness of the community, it is to be expected that investors in unit trusts will require socially responsible investment behaviour from the fund managers of their unit trusts. Little research has yet been done in this regard. This article endeavours to determine to what extent fund managers of unit trusts invest in listed companies that fulfil their environmental responsibility.

A checklist and assessment scale were used to evaluate the extent to which companies fulfil their environmental obligation. This information was then used to evaluate the environmental responsibility of companies in which the fund managers invest.

## Key words

*Environmental information*

*Socially responsible behaviour*

*Investment decisions*

*Fund managers of unit trusts*

*Portfolio managers*

## 1 Introduction

The background to this investigation, namely the increased environmental awareness of various stakeholders of the social impact of companies and the increasing popularity of unit trusts as an investment medium will be addressed briefly.

## **1.1 Environmental awareness**

Various stakeholders globally show a growing demand for information on the social effects on the activities of an enterprise (Estes 1992:100). This includes information on the effect of the enterprise on the environment. The current keen interest in the environmental effect of an enterprise arose in the 1960s (Gray 1990:65-68 and Bebbington & Gray 1990:17-20 in Lubbe & Vorster 1991:658).

During the 1970s there was an increase in the demand for information on the social responsibility of enterprises (Estes 1976:14; Buzby & Falk 1979:24; Anderson & Frankel 1980:467; Ullman 1985:540) and companies voluntarily began to disclose more information on their social involvement in their annual financial reports (Trotman & Bradley 1981:355; Shane & Spicer 1983:521; Patten 1992:275). Since the beginning of the 1980s, reporting by companies on environmental matters increased to the extent that it could no longer be considered to be a marginal activity (Gray, Kouhy & Lavers 1995a:57), and the expectations of the community continued to increase (Raby 1991:24; Anderson 1992:65; Simmons, Neu & Ruff 1993:50). However, it was only in the 1990s that reporting on environmental matters became prominent: "... the major explosion of interest in green, and more particularly environmental, issues has only taken place in the past couple of years or so ..." (Harte & Owen 1993:172). "In the last five years, there has been a marked 'shift in gear' in corporate thinking to ensure that environmental issues are considered alongside the primary object of wealth creation." (Leake 1984:5). "... increased environmental awareness and legislation are now influential in promoting accounting expressions of involvement with the environment." (Orr 1994:59).

## **1.2 Interest in unit trusts**

At present, unit trusts are a popular investment medium in South Africa. Since the first unit trust was established in South Africa in 1965 (Effektetrustjaarboek, 1986:24 in Van der Merwe 1990:17), unit trusts have experienced sustained growth. According to the Unit Trust Survey undertaken by the Graduate School of Business at the University of Pretoria (for the quarters ending on 31 December 1991, 1994 and 1996), there were 41 unit trusts at the end of 1991 of which 35 were capital growth trusts and 6 income trusts; by the end of 1994 this number had increased to 69 of which 52 were capital growth trusts and 17 income trusts; and at the end of 1996, there were 107 unit trusts of which 81 were capital growth trusts and 26 income trusts.

## **2 The problem and aims of the investigation**

As a result of the sustained increase in the environmental awareness of the community, it is to be expected that investors in unit trusts will require socially responsible investment behaviour from the fund managers of their unit trusts. These managers in turn mainly invest in shares on the stock market. Little research has yet been done on the investment criteria that are applied by institutional investors (Rosen, Sandler & Shani 1991:222). A survey undertaken by Longstreth & Rosenbloom (1973) revealed that 57,4% of the institutional investors who responded, take both social and economic factors into account when making investment decisions. In contrast, research undertaken by a number of environmentally conscious organisations indicated that the managers of mutual funds state that they are environmentally conscious, but that they do not necessarily invest in the shares of companies that act responsibly towards the environment (Young 1996:A138).

There is therefore a need for an investigation to determine to what extent fund managers of unit trusts invest in listed companies that fulfil their responsibility towards the environment. An investigation of this nature could contribute to the clarification of the current situation and also reveal trends over time.

The aim of this article is to determine whether fund managers of unit trusts take the social responsibility of companies towards the environment into account in making investment decisions, and if so, whether the social responsibility of companies are given precedence in their investment decisions.

## **3 Research design**

### **3.1 Source of information**

The annual financial reports published by South African listed companies were used as a source of information to evaluate the extent to which companies fulfil their environmental obligation. This was done in the awareness that environmental reporting is not necessarily limited to annual financial reports. However, there is overwhelming evidence that researchers consider the annual financial reports of companies to be the most important source of information in respect of reporting on environmental matters (Singhvi & Desai 1971; Buzby 1974; Trotman & Bradley 1981; Wiseman 1982; Harte, Lewis & Owen 1991;

Owen 1993; Tilt 1994; Epstein & Freedman 1994; Kreuze, Newell & Newell 1996). Notwithstanding the widespread use of annual financial reports, their usefulness can be criticised on several grounds, for example that the information they contain is incomplete in respect of environmental disclosure (Rockness & Williams 1988; Roberts 1993). Gray and co-writers (1995b) consider the annual financial report to be the focal point of reporting. It is a statutory document which is made available regularly and is also the most important document for the portrayal of the social image of the enterprise (Hines and Neimark in Gray *et al.* 1995b:82).

### **3.2 Checklist**

A checklist comprising 23 questions, divided into five categories, was used to record the environmental information which each of the companies included in the investigation disclosed in its annual financial report (Van Niekerk 1997:227-228,236-278).

### **3.3 Assessment scale**

An assessment scale developed by Van Niekerk (1997:228-233) was used to assess as objectively as possible the quality of the information gathered by means of the checklist

### **3.4 Selection of companies**

The investigation included all companies listed on the Johannesburg Stock Exchange of which the annual financial report was available (1994: 559 companies; 1995: 594 companies; 1996: 605 companies). It was assumed that all companies can fulfil certain criteria for good disclosure of environmental information, as required in the checklist. Account was taken of the fact that certain environmental information, of which the checklist requires disclosure, is not or can not be applicable to a particular company. For this reason the environmental reporting scores of all companies were not determined in terms of the same grand total. Comparability of the environmental reporting scores of the various companies was achieved by expressing the environmental reporting score of each company as a percentage of the total number of environmental reporting points applicable to that company.

The period of investigation covers the calendar years 1994, 1995 and 1996. Reporting on environmental matters by companies in their annual financial report only gained prominence on a worldwide basis in the 1990s. In South Africa this development occurred even later, with the result that before 1994 no generally meaningful disclosure of environmental information appeared in annual financial reports.

### 3.5 Selection of unit trusts

The following criteria were used for the selection of unit trusts:

- Only unit trusts that were established in South Africa and were already in operation on 31 December 1991 were included in the investigation. The information was obtained from the Bureau for Financial Analysis at the University of Pretoria (*Effektetrust-Opname no. 12*). The reason for this approach in selecting unit trusts was to permit sufficient time for a unit trust to solve its initial problems, for example not being able to invest in the shares of its first choice due to a lack of availability of these shares. The unit trusts included had therefore been in existence for at least three years by 1994, the year which was used as the starting year for the research.
- Only unit trusts which mainly invest in shares were included in the investigation. In terms of this criterion, the following groups of funds were included or excluded:

<b>Included</b>	<b>Excluded</b>
General Equity Funds	Namibian Funds
Specialist Equity Funds	Fixed Interest Funds
Managed Funds	Bond Funds

Thirty-two unit trusts fulfilled all the prescribed criteria and were included in the investigation. It was not before 1996 that unit trusts which have the specific aim of serving the interests of environmentally conscious investors, were established in South Africa.

## 4 The investigation

The first part of the investigation comprised the gathering and processing of data.

- The data were gathered by obtaining the annual financial reports of all the listed companies for 1994, 1995 and 1996. The checklist was used to determine the environmental reporting of each company for each of the years covered by the investigation.
- The quality of the gathered data was thereafter determined by using the assessment scale. This made it possible to allocate an environmental reporting score to each company.
- An average environmental reporting score was calculated for all the listed companies collectively for each of the years 1994, 1995 and 1996. This was done by dividing the total of the environmental reporting percentages of all the listed companies included in the investigation for the year concerned by the number of companies included in the investigation for that year.
- The companies in which each of the unit trusts included in the investigation, held investments on 31 December 1994, 31 December 1995 and 31 December 1996 were obtained from the data bank of the Bureau for Financial Analysis at the University of Pretoria and an environmental reporting score, determined as described earlier, was awarded to each of these companies.
- The average environmental reporting score of the listed companies in which a unit trust held investments on 31 December of each of the years was calculated for each of the unit trusts. The score was calculated by adding the environmental reporting scores of all the listed companies in which a unit trust held investments on 31 December of the year concerned and dividing the total by the number of companies in the investigation in which the unit trust held investments at that date.
- The average environmental reporting score of the listed companies in which all the unit trusts collectively had invested, was calculated for each of the years 1994, 1995 and 1996 by adding the average environmental reporting score of the listed companies in the investment portfolios of each of the 32 unit trust and dividing the total by 32.
- The listed companies included in the investigation were ranked from high to low in terms of the environmental reporting scores awarded to each of them.

- The listed companies in which the 32 unit trusts held investments on 31 December 1994, 31 December 1995 and 31 December 1996 were also ranked from high to low in terms of the environmental reporting scores awarded to each 7 of them.

The aim of the second part of the investigation was to determine how the average environmental reporting scores of the listed companies in which the unit trusts had invested, differs from the average environmental reporting score of all the listed companies included in the investigation.

In the third part of the investigation, the ten listed companies in which the most unit trusts had invested were identified in order to determine to what extent they disclose environmental information. An attempt was also made to determine whether the average percentage disclosure of environmental information by these ten companies collectively differs significantly from the average percentage disclosure of environmental information by the total number of listed companies in which the unit trusts had invested.

In the fourth part of the investigation, the listed companies in which the least number of unit trusts, namely only one unit trust, had invested, were identified. This was done in order to determine to what extent these companies disclosed environmental information as well as whether the average percentage disclosure of environmental information by these companies collectively differs significantly from the average percentage disclosure of environmental information by the total number of listed companies in which the unit trusts had invested.

The fifth part of the investigation aimed to determine to what extent the unit trusts in the investigation had invested in listed companies that fulfil the prescribed criteria for sound environmental reporting to a large extent .

In the sixth part of the investigation an attempt was made to determine to what extent the unit trusts in the investigation had invested in listed companies that totally fail to fulfil the prescribed criteria for sound environmental reporting.

## 5 Results of the investigation

The most important results are presented in Table 1.

**Table**  
**Summary of the results of the investigation**

Ref	Item	1994	1995	1996
1	Number of companies in which unit trusts had invested, as a percentage of the total number of companies in the investigation	43,65%	44,95%	47,44%
2	Number of companies disclosing environmental information in which unit trusts had invested, as a percentage of the total number of companies in which unit trusts had invested	33,20%	38,58%	35,19%
3	Average disclosure of environmental information by the total number of companies in the investigation	8,67%	11,46%	13,22%
4	Average disclosure of environmental information by the companies in which unit trusts had invested	23,52%	24,57%	26,38%
5	Average disclosure of environmental information by the ten companies collectively in which the most unit trusts had invested	37,80%	40,00%	42,70%
6	Average disclosure of environmental information by the companies disclosing environmental information within the ten companies in which the most unit trusts had invested	47,25%	57,14%	53,38%
7	Average disclosure of environmental information by the companies in which only one unit trust had invested	7,45%	9,38%	13,14%
8	Average disclosure of environmental information by the ten companies which fulfilled the prescribed criteria to a large extent in respect of the disclosure of environmental information	73,70%	76,50%	80,10%
9	Number of unit trusts that invested in the ten companies which fulfilled the prescribed criteria to a large extent in respect of the disclosure of environmental information, as a percentage of the total number of unit trusts in the investigation which could have invested in these companies	31,25%	26,25%	23,44%
10	Number of unit trusts that invested in companies which did not fulfil any of the prescribed criteria for sound environmental reporting, as a percentage of the total number of unit trusts in the investigation which could have invested in these companies	10,89%	11,41%	12,72%



The results are briefly discussed. (To facilitate easy cross-reference with the table, the numbers of the items in the table are repeated in the text).

- The number of companies in which unit trusts had invested, expressed as a percentage of the total number of listed companies in the investigation<sup>1</sup>, showed a larger increase for the period 1994 to 1996 than the increase in the number of companies disclosing environmental information in which unit trusts had invested, expressed as a percentage of the total number of listed companies in which unit trusts had invested<sup>2</sup>.
- Although the average percentage disclosure of environmental information by companies in which unit trusts had invested<sup>4</sup>, had increased, the average percentage disclosure of environmental information by the total number of companies in the investigation<sup>3</sup> increased faster. The result is that the disclosure of environmental information by the companies in which unit trusts had invested<sup>4</sup>, had in fact decreased if compared with the average percentage disclosure of environmental information by the total number of listed companies in the investigation<sup>3</sup>. In 1994 the average percentage disclosure of environmental information by companies in which unit trusts had invested<sup>4</sup> was 2,7 times more than the average percentage disclosure of environmental information by the total number of companies in the investigation<sup>3</sup> while in 1996 it was only 2 times more.
- Notwithstanding the result mentioned above, the average percentage disclosure of environmental information by companies in which unit trusts had invested<sup>4</sup> was still double the percentage disclosure by the total number of companies in the investigation<sup>3</sup> in 1996.
- There were a few cases in 1995 and 1996 in which a unit trust had invested in companies of which the average percentage disclosure of environmental information was lower than the average percentage disclosure of environmental information by the total number of companies in the investigation<sup>3</sup>.
- In each of the years of the investigation, at least half of the unit trusts in the investigation had invested in the ten companies which were the most popular investments among the unit trusts<sup>6</sup>.
- Although most of the ten most popular companies (seen from the investment perspective of the unit trust managers) did disclose environmental information, there were in each of the years of the

investigation at least two of these companies that did not disclose any environmental information.

- The average percentage disclosure of environmental information by the ten companies collectively in which the most unit trusts had invested<sup>5</sup>, was markedly higher for each of the years of the investigation than the average percentage disclosure of environmental information by the total number of companies in which unit trusts had invested<sup>3</sup>.
- The average percentage disclosure of environmental information by the companies in which only one unit trust had invested<sup>7</sup>, was lower for each of the three years under review than the average percentage disclosure of the total number of companies included in the investigation<sup>3</sup>. In 1994 and 1995 the difference was small and in 1996 it was minimal.
- The average percentage disclosure of environmental information by the companies in which the least number of unit trusts had invested, namely only one unit trust<sup>7</sup>, increased more over the period 1994 to 1996 than that of the average percentage disclosure of environmental information by the ten companies collectively in which the most unit trusts had invested<sup>5</sup>.
- For each of the years in review, the average percentage disclosure of environmental information by the companies in which unit trusts had invested<sup>4</sup>, was markedly higher than the average percentage disclosure of environmental information by the companies in which only one unit trust had invested<sup>7</sup>. However, this difference decreased annually from 1994 to 1996, namely 3,2 times in 1994, 2,6 times in 1995 and 2,0 times in 1996.
- The average percentage disclosure of environmental information by the ten companies which fulfilled the prescribed criteria to the largest extent<sup>8</sup> in respect of the disclosure of such information, was markedly higher than the average percentage disclosure of environmental information by the ten companies in which the most unit trusts had invested<sup>5</sup> for each of the years of the investigation.
- The average percentage disclosure of environmental information by the ten companies which fulfilled the prescribed criteria to the largest extent in respect of the disclosure of such information<sup>8</sup> reflects a net increase from 1994 to 1996, yet the number of unit trusts that invested in these companies, expressed as 'n percentage of the total number of unit trusts

in the investigation which could have invested in these companies<sup>9</sup>, reflects a sustained decrease over the period of the investigation.

- The number of unit trusts that invested in companies which did not fulfil any of the prescribed criteria for sound environmental reporting, expressed as a percentage of the total number of unit trusts in the investigation which could have invested in these companies<sup>10</sup>, increased for each of the years from 1994 to 1996. On the other hand, there was a decrease in the number of unit trusts that invested in the ten companies which fulfilled the prescribed criteria to the largest extent in respect of the disclosure of environmental information, expressed as a percentage of the total number of unit trusts in the investigation which could have invested in these companies<sup>9</sup> for each of the years from 1994 to 1996.

## **6 Limitations of the investigation**

The investigation was subject to several limitations. It is important to be aware of these limitations, because they can influence the results obtained. The results in turn form the basis for the conclusions drawn.

The following were the most important limitations:

- The number of companies listed on the Johannesburg Stock Exchange, and which form the universum on which the investigation was done, is relatively small in comparison with other countries, for example the United States of America. This means that the number of listed companies which can disclose environmental information in their annual financial report is also relatively small. The result is that shares in companies which fulfil the criteria for sound disclosure of environmental information to a large extent are not always readily available when the managers of unit trusts have funds available to invest in these companies. In these cases the fund managers are obliged to invest in companies which fulfil the criteria for sound disclosure of environmental information to a lesser extent.
- Until 1996 there were no unit trusts which had been established with the specific aim of serving the interests of environmentally conscious investors. For the purposes of this investigation, it was therefore necessary to include only those unit trusts that serve the interests of the general investor.

This investigation only considered the disclosure of environmental information in the annual financial reports of companies. There are also other methods by means of which a company can disclose its environmental involvement and these methods were not included in the investigation.

- Reporting on environmental matters in annual financial reports globally only became prominent at the beginning of the nineties. In South Africa, this development occurred later still. The result was that before 1994 there was no generally significant disclosure of environmental information in annual financial reports in South Africa. Due to this fact, the investigation could only cover the years 1994, 1995 and 1996.
- There are at present no laws in South Africa which compel companies to disclose environmental information in their annual financial report. It is therefore possible that a company can act with great social responsibility towards the environment, but prefer not to disclose its environmental involvement in its annual financial report. In contrast, there could be companies which act with a minimal degree of social responsibility towards the environment, but disclose a great deal of environmental information in respect of trivial matters in their annual financial report with the purpose of promoting their corporate image. A company's annual financial report therefore does not in all cases necessarily reflect the true state of affairs in respect of the fulfilment of its social responsibility towards the environment. If there were evidence of an external environmental audit, it would have ensured greater reliability of the environmental information contained in an annual financial report. Regrettably, little evidence of external environmental audits were found in the course of the investigation.
- Although the checklist and assessment scale were applied as objectively as possible, they remain subject to a measure of subjectivity. As a result of the fact that environmental information is often provided in general terms, it is difficult to determine with certainty to what extent a company fulfils certain prescribed criteria.
- It is also considered to be a limitation that there is an absence of similar previous investigations with which the results of this investigation can be compared.

## 7 Conclusions

The following conclusions are based on the results of the investigation. Thereafter a general conclusion is drawn:

- The fund managers of the unit trusts in the investigation do consider the social responsibility of companies in respect of the environment when making decisions regarding investments in listed companies.
- Although the fund managers of unit trusts apply the social responsibility of a company towards the environment as a criterion in making investment decisions, measures other than the social responsibility of a company are probably considered to be more important in making investment decisions.
- Although there is a growing awareness among companies of their social responsibility towards the environment and their duty to report on it to stakeholders, the percentage of companies that fulfil the prescribed criteria for sound environmental reporting to a large extent, remains low.
- It is possible that the increase in the average percentage disclosure of environmental information by listed companies in which the unit trusts had invested, could be partially ascribed to the greater environmental consciousness of the companies in which the unit trusts already hold core investments from previous years. It does not necessarily relate to the environmental consciousness of companies in which investments were made in the period covered by the investigation.
- Fund managers of unit trusts invest in companies that perform better than the average in respect of the disclosure of environmental information. However, it could be that investment decisions are based on other considerations than the extent to which the companies act with social responsibility, and that it is merely accidental that, from an investment perspective, the companies concerned acted with social responsibility towards the environment.
- The few cases in which a unit trust invested in companies of which the average percentage disclosure of environmental information was lower than the average percentage disclosure of the total number of listed companies in the investigation were so negligible that they could be

considered to be exceptions.

- The fact that the average percentage disclosure of environmental information by the ten companies that were most popular for investments among unit trusts increased slower than the average percentage disclosure of environmental information by the companies in which only one unit trust invested, can possibly be ascribed to the fact that these ten companies already disclosed a large measure of environmental information in their annual financial report, and that a drastic increase in the disclosure of environmental information is therefore not relevant.
- Because the average percentage disclosure of environmental information by the listed companies in which only one unit trust invested, corresponds to the average percentage disclosure by the total number of companies in the investigation, the fund manager of the unit trust that invested in such a company probably did not base his investment decision on the consideration of the social responsibility of the company towards the environment.

The following general conclusion is reached:

- Unit trusts invest in companies that perform markedly better than the average for listed companies in respect of the disclosure of environmental information;
- Fund managers of unit trusts do take the social responsibility of companies towards the environment into account in making investment decisions.
- There are other factors than the social responsibility of companies that are given precedence by fund managers in making investment decisions. It is probably because fund managers act as agents for their clients. If the clients do not have a strong environmental awareness, they will not expect of their agents to use the social responsibility of companies as the most important criterion in making investment decisions.

## 8 Recommendations

The general conclusion indicates that fund managers of unit trusts do consider the social responsibility of companies towards the environment to be one of the criteria in taking investment decisions and that they invest in companies that perform markedly better than the average for the listed companies in respect of the disclosure of environmental information. Companies which want to attract investments and promote their corporate image should therefore become more environmentally aware and disclose their environmental involvement in their annual financial report, because the annual financial report is currently considered to be the most important source of information for stakeholders and therefore also for fund managers. The disclosure of environmental information in monetary terms has more information value than the disclosure of environmental information in general, descriptive terms and should be taken into account by companies in the preparation of their annual financial report in order to increase the quality of the disclosure of environmental information.

The general conclusion also indicates that although fund managers of unit trusts consider the social responsibility of companies towards the environment in making investment decisions, there are other factors which enjoy a higher priority with them than the social responsibility of the companies towards the environment. There is an increasing awareness globally that companies should act with social responsibility towards the environment. In South Africa investors in unit trusts were up to 1996 obliged to invest in general unit trusts due to the absence of unit trusts which can claim that they specifically invest in companies which act with social responsibility towards the environment. Fund managers act as agents for their clients and should be aware of the priorities of their clients. Furthermore, fund managers have a responsibility to reconsider the place that the social responsibility of companies towards the environment has in their priorities in respect of investment decisions.

## Bibliography

Anderson, R. 1992. *Accounting with a conscience*. CA Magazine, Vol.CXXV, No.2, pp.62-65.

Anderson, J.C.& Frankle, A.W. 1980. *Voluntary social reporting: An Iso-Beta portfolio analysis*. The Accounting Review, Vol.LV, No.3, pp.467-479.

Buzby, S.L. 1974. *Selected items of information and their disclosure in annual reports*. The Accounting Review, Vol.XLIX, No.3, pp.423-435.

Buzby, S.L. & Falk, H. 1979. *Demand for social responsibility information by university investors*. The Accounting Review, Vol.LIV, No.1, pp.23-37.

*Effektetrusts-Opname, Kwartaal geëindig 31 Desember 1991 - nr. 12*. Pretoria: Nagraadse Bestuurskool, Universiteit van Pretoria.

Epstein, M.J. & Freedman, M. 1994. *Social disclosure and the individual investor*. Accounting, Auditing and Accountability Journal, Vol.VII, No.4, pp.94-109.

Estes, R. 1976. *Corporate social accounting*. New York: John Wiley & Sons.

Estes, R. 1992. *Social accounting - past and future: Should the profession lead, follow - or just get out of the way?* Advances in Management Accounting, Vol.I, pp.97-108.

Gray, R., Kouhy, R. & Lavers, S. 1995a. *Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure*. Accounting, Auditing and Accountability Journal, Vol.VIII, No. 2, pp.47-77.

Gray, R., Kouhy, R. & Lavers, S. 1995b. *Methodological themes: Constructing a research dataabase of social and environmental reporting by UK companies*. Accounting, Auditing and Accountability Journal, Vol.VIII, No.2, pp.78-101.

Harte, G., Lewis, L. & Owen, D. 1991. *Ethical investment and the corporate reporting function*. Critical Perspectives on Accounting, Vol.2, pp.227-253.

Harte, G. & Owen, D. 1993. *Current trends in the reporting of green issues in the annual reports of United Kingdom companies*. In: Owen, D. (ed.) *Green reporting: Accountancy and the challenge of the nineties*. London: Chapman & Hall.



Kreuze, J.G., Newell, G.E. & Newell, S.J. 1996. *Environmental disclosures: What companies are reporting*. Management Accounting, Vol.VIII, pp.37-43.

Leake, G. 1994. *Meet the new 'green' accountant*. Accountancy SA, pp.5-7.

Longstrech, B. & Rosenbloom, H.D. 1973. *Corporate social responsibility and the institutional investor*. New York: Praeger Publishers.

Lubbe, D.S. & Vorster, Q. 1991a. *Sosiale rekeningkunde: Agtergrond en problematiek*. Koers, Vol.LVI, No.4, pp.655-662.

Orr, B. 1994. *Local authority environmental awareness*. Chartered Accountants Journal, pp.59-62.

Owen, D. 1993. *The implications of current trends in green awareness for the accounting function: an introductory analysis*. In: Owen, D. (ed.). *Green reporting: Accountancy and the challenge of the nineties*. London: Chapman & Hall.

Patten, D.M. 1995. *Variability in social disclosure: A legitimacy-based analysis*. Advances in Public Interest Accounting, Vol.VI, pp.273-285.

Raby, D. 1991. *The environment - What line managers must do*. Practising Manager, VolXI, No. 2, pp.23-26.

Roberts, C. 1993. *Environmental disclosures in corporate annual reports in Western Europe*. In Owen, D. (ed.) *Green reporting: Accountancy and the challenge of the nineties*. London: Chapman & Hall.

Rockness, J. & Williams, P.F. 1988. *A descriptive study of social responsibility mutual funds*. Accounting, Organizations and Society, Vol.XIII, No.4, pp.397-411.

Rosen, B.N., Sandler, D.M. & Shani, D. 1991. *Social issues and socially responsible investment behaviour: A preliminary empirical investigation*. The Journal of Consumer Affairs, Vol.XXV, No.2, pp.221-234.

Shane, P.B. & Spicer, B.H. 1983. *Market response to environmental information produced outside the firm*. The Accounting Review, Vol.LVIII, No.3, pp.521-538.

- Simmons, C.V., Neu, D. & Ruff, C. 1993. *Socially responsible reporting*. CGA Magazine, Vol.XVII, No.11, pp.49-52.
- Singhvi S.S. & Desai, H.B. 1971. *An empirical analysis of the quality of corporate financial disclosure*. The Accounting Review, pp.129-138.
- Tilt, C.A. 1994. *The influence of external pressure groups on corporate social disclosure: Some empirical evidence*. Accounting, Auditing and Accountability Journal, Vol.VII, No.4, pp.47-72.
- Trotman, K.T. & Bradley, G.W. 1981. *Associations between social responsibility disclosure and characteristics of companies*. Accounting, Organizations and Society, Vol.VI, No.4, pp.355-362.
- Ullman, A.A. 1985. *Data in search of a theory: A critical examination of the relationship among social performance, social disclosure, and economic performance of U.S. firms*, Academy of Management Review, Vol.x, No.3, pp.540-557.
- Van Niekerk, M.C. 1997. *Die ontwikkeling van 'n objektiewe meetinstrument vir die beoordeling van die kwaliteit van omgewingsverslagdoening*. Meditari, pp.225-241.
- Young, L. 1996. *Study finds mutual funds invest big in environmentally unfriendly stocks*. Wall Street Journal, April 15, pp.A138.
- Van der Merwe, J.H.P. 1990. *Inkomstebelastingimplikasies van effektetrusts*. Ongepubliseerde skripsie, Universiteit van Pretoria.
- Wiseman, J. 1982. *An evaluation of environmental disclosures made in corporate annual reports*. Accounting, Organizations and Society, VolVII, No.1, pp.53-63.

---

MC van Niekerk  
Professor  
Department of Accounting  
University of Pretoria  
Pretoria

Q Vorster  
Professor  
Head: Department of Accounting  
University of Pretoria  
Pretoria