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The relative information content of audited and unaudited financial data releases

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This article reports the results of a study which empirically investigates the relative information content of the three statutory reports required in terms of the Companies Act (1973) (*viz.* the interim report, the preliminary report and the annual report) in the context of the Johannesburg Stock Exchange. The relative information content of audited and unaudited data releases was likewise evaluated in this setting. The results presented indicate that the three statutory reports referred to each have significant information content although the PR appears to have a significantly larger information content than the others. Surprisingly, audited data do not appear to have a significantly different information content than unaudited data. A possible explanation which is tentatively offered is that audited data releases tend to be far less timely than unaudited data releases and this feature may result in a decaying of the former's incremental information content, if indeed any exists.

Hierdie artikel reflekteer die bevindinge van empiriese navorsing van die relatiewe inligtingsinhoud van die drie statutêre verslae ten opsigte van die Maatskappywet (1973) (die interim verslag, die voorlopige verslag en die jaarverslag) binne die konteks van die Johannesburgse Effektebeurs. Die relatiewe inligtingsinhoud van geouditeerde en nie-geouditeerde data is soortgelyk geanaliseer binne dié verband. Die bevindinge toon dat die drie statutêre verslae betekenisvolle inligtingsinhoud bevat alhoewel die voorlopige verslag 'n meer betekenisvolle inligtingsinhoud voorsien vergeleke met die ander. Die geouditeerde data het nie 'n meer betekenisvolle inligtingsinhoud as die nie-geouditeerde data nie. 'n Moontlike verduideliking vir hierdie verrassende bevinding is dat die geouditeerde data neig om veel minder tydig te wees as nie-geouditeerde datavystellings en hierdie element mag lei tot die vermindering van die geouditeerde data se inkrementele inligtingsinhoud.

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Firms listed on the Johannesburg Stock Exchange (JSE) in South Africa are required to release data on their financial results three times a year. These are, an interim report (IR) and a preliminary report (PR) required within three months of the end of the first and second half of the financial year respectively, and an annual report (AR) required within approximately nine months of the financial year end. The IR and the PR require identical disclosures restricted to summarized income statement data whereas the AR is a more comprehensive document similar to U.S. annual reports.

In terms of the South African Companies Act (1973) only the AR is required to be audited. The audit feature for the other two reports is therefore voluntary. Virtually all IRs are not audited, but a significant proportion of firms release audited results at the preliminary stage. Most reports indicate whether or not the results are audited.

A number of research studies on markets in the U.S., Europe and Australia have shown that various data releases by firms are contemporaneously associated with abnormal share price changes. An information content has thus been ascribed to these releases. More recently research has been reported on the relative information content of various reports and on the effect of the reports' timeliness on their information content. Much less research has been published on the incremental information contributed by the audit feature of audited data.

The purpose of this paper is to provide additional empirical evidence on the information content of accounting reports on a hitherto untested data set *viz.* the

JSE. Furthermore, preliminary evidence on the relative information content of audited and unaudited accounting data are reported.

The results presented indicate that the three statutory reports referred to each have significant information content although the PR appears to have a significantly larger information content than the others. Surprisingly, audited data do not appear to have a significantly different information content than unaudited data. A possible explanation which is tentatively offered is that audited data releases tend to be far less timely than unaudited data releases and this feature may result in a decaying of the former's incremental information content, if indeed any exists.

Research design

Abnormal changes in share prices are generally interpreted as being information-induced changes in investor expectations. Clearly, in an informationally efficient market only events which signal information incremental to that information set implied in share prices have the potential to change these prices. Thus, an observable contemporaneous association between financial data releases and abnormal share price changes is sufficient to confirm the information content of these releases. This interpretation of 'information content' will be adopted in the current study.

Abnormal share price changes (returns) were calculated using the familiar market model technique of Fama, Fisher, Jensen & Roll (1969). A metric employed by Beaver (1968) was used to measure the average abnormal return in the weeks surrounding the three

types of data releases. Weekly share price data were available at the University of Cape Town for 130 industrial shares listed on the JSE for the period January 1973 through December 1980. However, the exact dates of data releases were available for only 270 firm/years. All these announcements were included in the study. In total, therefore, 810 announcements were examined, i.e. 270 in each of the three experiments on data releases (IR, PR, AR). No other exclusion criteria were applied although it is worth noting two features of the firms included:

Firstly, they were all well-traded shares and therefore the estimation problems associated with nonsynchronous data are unlikely to affect the study in any significant way.

Secondly, the releases were fairly evenly distributed across calendar months and consequently any bias due to cross-sectional dependence in the residual analysis should be avoided.

The weekly returns for each share were regressed on the weekly returns on the Rand Daily Mail 100 (RDM 100) industrial index. The Ordinary Least Squares estimates of the share-specific α_i and β_i coefficients obtained were employed to calculate the residuals (unsystematic returns) in the 20-week period surrounding each data release week (i.e. 10 weeks before the week of the release and 10 weeks after, hereafter the study period). The abnormal return index (U_{jt}) suggested by Beaver (1968) was then calculated for each week in the study period for each release. U_{jt} is defined as

$$U_{jt} = u_{jt}^2 / s_i^2 \quad t = -10, \dots, +10$$

where, u_{jt}^2 is the squared residual estimated via the market model for firm/year j ; s_i^2 is an estimate of the variance (σ_i) in the weekly residuals for share i .

U_{jt} was then averaged across announcements (i.e. across j) to derive a metric (${}^R\bar{U}_t$) which measures the average abnormal return for each week (t) relative to a financial data release (R). The major advantage of this abnormal return index is that it abstracts from the direction of the impact of the information on investor expectations, thus obviating the need to specify highly detailed models of these expectations. Under the null hypothesis of no information content ${}^R\bar{U}_t$ would have an expected value of one, whilst an index value greater than one would be indicative of the arrival of an abnormal level of information. Twenty-one such statistics were calculated for each type of data release. The results of these experiments are presented in Figures 1, 2 and 3 and are discussed below.

In order to evaluate the relative information content of audited and unaudited financial releases the PRs were partitioned into two groups, audited and unaudited. Of the 220 PRs included in the study 100 were audited and 120 were unaudited. ${}^R U_{jt}$ was then averaged across j for both groups separately and thus 21 ${}^{\text{PR}}\bar{U}_t$ s were obtained for both the audited and unaudited PRs viz. ${}^{\text{PRA}}\bar{U}_t$ and ${}^{\text{PRU}}\bar{U}_t$. The behaviour of the abnormal return indices during the study period was then examined to determine

erential information content between the two groups.

A similar partitioning was not possible for the IR or the AR data releases because the former were all unaudited and the latter were all audited. The results of this aspect of the study are presented in Figure 4 and are discussed below.

Results

The Information Content of PR, IR and AR

The general pattern of ${}^R\bar{U}_t$ in the study period is very similar for the three data releases. These in turn are very similar to the results obtained by Beaver (1968) and May (1971).

The largest value of ${}^{\text{PR}}\bar{U}_t$ (Figure 1) occurs on week $t = 0$ (1,784) which indicates that the magnitude of share price changes in the week of the release of the PR is much larger (78,4% higher) than expected. This abnormal price behaviour in the week of the data release is consistent with the PR possessing information. The value of ${}^{\text{PR}}\bar{U}_t$ is close or equal to unity in all weeks prior to the data release which suggests that little or no firm-specific information consistently affects prices in this period. ${}^{\text{PR}}\bar{U}_t$ is greater than unity in a number of weeks in the post-release period. This is likely to be the effect

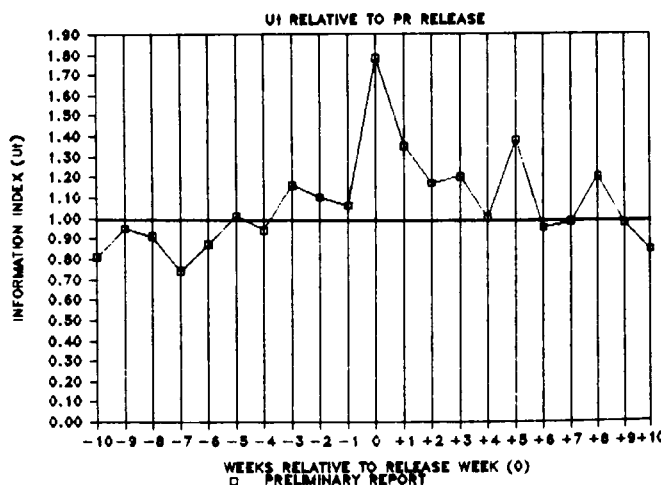


Figure 1 U_t relative to PR release

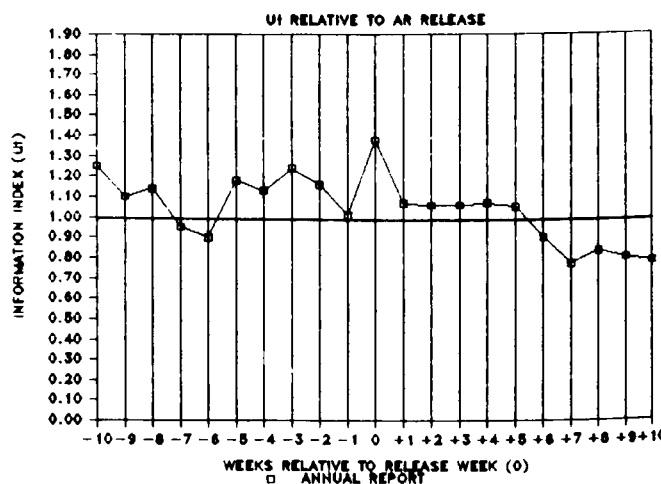


Figure 2 U_t relative to AR release

of AR releases which occur at varying lags after the PR.

The results for the AR are presented in Figure 2. Again, the largest value of ${}^{\text{AR}}\bar{U}_t$ is week $t = 0(1,388)$ which is consistent with the AR possessing information. The value of ${}^{\text{AR}}\bar{U}_t$ in the pre-release period is greater than unity in eight of the ten weeks, indicating that the pre-release period exhibits high price activity. It must be noted that this activity does not reflect the effect of PRs which may have been released in the period, since the ${}^{\text{AR}}U_{jt}$ which co-incided with ${}^{\text{PR}}U_{j0}$ was omitted when averaging across j to calculate ${}^{\text{AR}}\bar{U}_t$. This abnormal price activity may be associated with various other sources of information prevalent at this time, e.g. chairmen's press statements, analysts' forecasts, etc. The activity in the post-release period seems considerably less than in the pre-release period.

Figure 3 presents the results for the IR study period. The largest value of ${}^{\text{IR}}\bar{U}_t$ is week $t = 0(1,455)$ which is consistent with the IR possessing information. The next two highest values of ${}^{\text{IR}}\bar{U}_t$ are the weeks immediately contingent to the release week although of considerably lower magnitude (1,204).

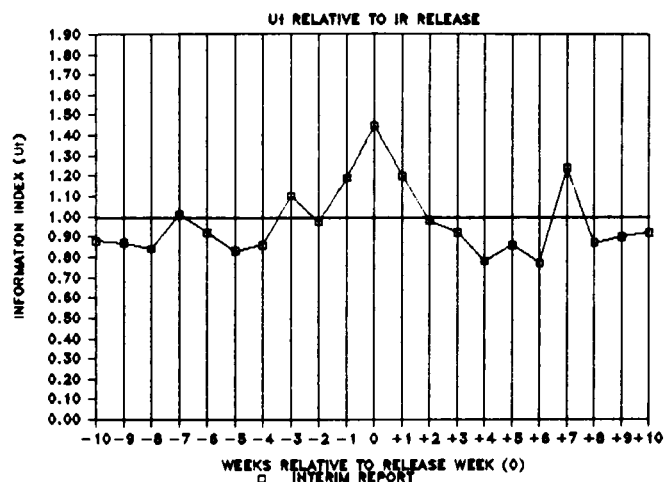


Figure 3 U_t relative to IR release

The significance of these results was confirmed with t tests, i.e. ${}^{\text{R}}U_{j0}$ was found to be significantly larger than one. Furthermore, the only other ${}^{\text{R}}U_{jt}$ which was found to be significantly different from one were weeks -1 and +1 for the IR announcement.

The Mann-Whitney U test was used to test the significance of the differences in the magnitude of ${}^{\text{R}}U_{j0}$ among the three announcements. The ${}^{\text{PR}}U_{j0}$ was found to be significantly larger than both the ${}^{\text{AR}}U_{j0}$ and the ${}^{\text{IR}}U_{j0}$ although the difference between the latter two was not significant. All tests were conducted at the 5% level of significance.

The relative information content of audited and unaudited PRs

The ${}^{\text{PRA}}\bar{U}_t$ and ${}^{\text{PRU}}\bar{U}_t$ for the study period are presented in Figure 4 and as one would expect, given the results of Figure 1, the largest value of ${}^{\text{PR}}\bar{U}_t$ occurs on week $t = 0$ (i.e. the week of the data release) for both audited and unaudited PRs. One would assume that if the audit

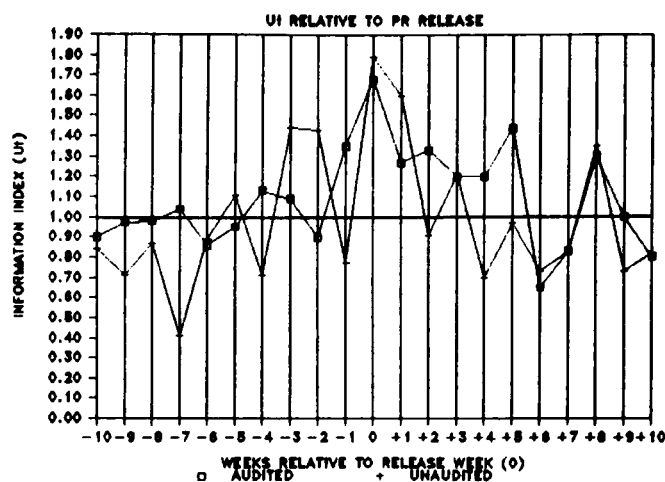


Figure 4 U_t relative to PR release

feature enhanced the information value of the data releases then the information content observed should be greater for the audited group than for the unaudited group i.e. ${}^{\text{PRA}}\bar{U}_0 > {}^{\text{PRU}}\bar{U}_0$.

However, the value of ${}^{\text{PRA}}\bar{U}_0$ (1,680) is lower on average than the value of ${}^{\text{PRU}}\bar{U}_0$ (1,790). Thus, the hypothesis that the audited releases provide more information is not supported by the data. In fact, the opposite may be true as on average ${}^{\text{PRU}}\bar{U}_0 > {}^{\text{PRA}}\bar{U}_0$ which would imply that the audited data are less informative than their unaudited counterparts. This is a rather surprising result since it is difficult to imagine the value of the audit feature as negative. This difference in magnitude, however, was found to be insignificant at both the 5% and 1% levels using the Mann-Whitney U test statistic.

It is possible that the lack of differential information content observed was caused by a selection bias. The observed results may be a function of some omitted variable. The most likely candidate is the timeliness of the release. Figure 5 presents a frequency distribution of reporting time-lags for the audited and unaudited PRs, where a reporting time-lag is defined as the number of weeks between the date of a firm's financial year end and the date of the release of the PR.

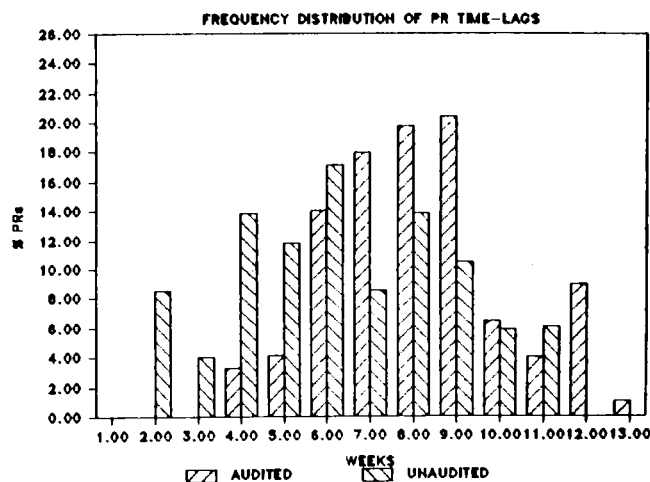


Figure 5 Frequency distribution of PR time lags

Clearly, the audited reports are significantly less timely than the unaudited reports. The mean lags were found to be significantly different at the 1% level. This is to be expected as the difference in timeliness will to some extent represent the time required to audit the results.

It cannot therefore be concluded that the audit feature *per se* does not enhance the information content of the data releases. It is more likely that any information content is diminished by the reduced timeliness of audited reports. This diminution in information content is likely to be caused by the pre-emptive effect of alternative information releases, both firm-specific (e.g. press statements by company officials and cross sectional, i.e. the release of information [unaudited?] by other companies in the industry).

Although a recent study on the U.S. markets by Chambers & Penman (1984) suggested that there is little association between the magnitude of security return variability and timeliness, they did find that unexpectedly early reports possess additional information content. Furthermore, a study by Kross & Schroeder (1984) reported evidence of timeliness enhancing information content of quarterly earnings announcements. Further evidence of additional information in early reports *vis à vis* other announcements is reported by Foster (1981).

The study of the interactive effects of the audit feature and timeliness on information content is currently being researched. Specifically, the data releases will be grouped according to their various time-lags and investigated for differential information content using the methods described above. These groups would then be further partitioned into audited and unaudited groups and re-evaluated in an attempt to calibrate the effects of timeliness and audit on the information content of these releases. Another approach being considered is the testing for differential information content between ARs that were preceded by audited and those by unaudited PRs.

Conclusion

The overall conclusions on the results presented in the first part of this note are:

- (i) all three data releases are accompanied by abnormal share price activity which is consistent with their possessing information;
- (ii) the preliminary report appears to contain significantly more information than the other two data

releases; and

- (iii) although the preliminary report appears more informative than the AR it seems that the additional data contained in the AR over the PR are perceived as useful by the market.

The tentative conclusion on the results presented in the second part of this note is that any incremental information content contributed by the audit attribute to financial data releases is dominated by the timeliness attribute.

Finally, it must be emphasized that the experiments presented and suggested will never adequately control the no-audit feature in a setting where all the underlying data in the various releases are ultimately subjected to an audit.

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