Spring 1983

Additional Evidence on the Incremental Information Content of the 10-K

Taylor W Foster, III
David Randall Jenkins
Don W Vickrey

Available at: https://works.bepress.com/perfect_and_beautiful_woman/50/
A Judgemental International Classification
by C.W. NOBES
This paper briefly surveys some recent "... and that their methodology relies upon th
rather than to test them. This paper
which is more detailed and defines its research. The testing selects factors deem
difference in measurement practices, and
ation. Analysis is performed in sever;
clustering techniques. The results seem to
and to be consistent with (but more det

On the Measurement of Auditing Standards
by CHEE W. CHOW
This study analyzes whether it is approp
opinions issued by an auditor as a measu
done. It points out that incentives exist
standards, and for ellen ts to self-select (t
auditing standards affect the propensity
served percentages of qualified opinions
in auditing standards. This proposition i:
A sample of auditors was split betwee
standard" category based on the percent:
controlling for client firm size, leverag
earnings, auditing standard category is 
with firm-specific stock returns.

The Structure and Performance of the U
by PAUL BARNES and COLIN DODDS
This article seeks to discuss some of the i
of the Building Society Movement in the U
statistical evidence for certain hypothese
this period. It is hypothesized that the s
affected its performance in a number of
the individual level in imperfect markets. It also discount cash outflows. The model used to integrate reference model of security valuation; the most general

Premium for Risk Adjusted Discount Rates: A Reply

that the results of Professor Booth’s application of the framework to the negative risk premium problem are the analysis presented in Berry and Dyson (1980). Reference of this earlier paper are thereby shown to be invalid.

are then offered about the phenomenon of negative

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Berry

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discretionary policies. The article cites branching policies particularly of the medium sized Societies and the regression results presented cast doubt upon the efficacy of such policies, validating in turn the hypotheses of expense preference and X inefficiency. In addition, evidence is offered on the concentration and competition within the Movement which together with the apparent discretionary policies found, provide a justification, in the view of the authors, for future legislative action.

Additional Evidence on the Incremental Information Content of the 10–K by TAYLOR W. FOSTER III, D. RANDALL JENKINS and DON W. VICKREY

The goal of this investigation is to provide additional evidence concerning the incremental information content of the 10–K from the aggregate market perspective. As in Foster and Vickrey (1978), the phrase, incremental information content of the 10–K, refers to the information content of the data set in the 10–K which is in excess of that which is contained in the related annual report to shareholders and other preceding announcements such as earnings releases. The statistical procedures seem to imply that the 10–K did not, in general, possess incremental information content from the aggregate perspective for the firms considered herein.

Decomposition Measures and the Prediction of Financial Failure by PETER J. BOOTH

Lev has indicated that the decomposition measures of failed firms are larger than those of non-failed firms and concludes that decomposition measures may be usefully included in financial failure prediction models. This paper extends the use of decomposition measure concepts for financial failure prediction. Firstly, on a univariate basis, attributes of decomposition measures are tested for discriminating ability between failed and non-failed companies. Secondly, all decomposition measures tested are used to derive a discriminant analysis model for failure prediction. The paper concludes that (1) the stability and size of some balance sheet derived decomposition measures discriminate between failed and non-failed companies as far as four years before failure, and (2) a discriminant analysis model of balance sheet derived decomposition measures is not successful at predicting financial failure.

Sign Tests for Actual Investments with Latter Period Net Cash Outflows by RICHARD A. GRIMLUND and ROBERT CAPETTINI

Easily calculated sign tests are presented for analyzing the net present value characteristics and the number of internal rates of return of two important practical cases of cash flow patterns with multiple sign changes. Using two tables which summarize the test procedures, it is possible for a decision maker to economically proceed from simple to more advanced procedures (as needed) when analyzing these cash flow patterns. Also considered is a deceptive feature of certain investment projects which have cash flows with multiple sign changes and a unique internal rate of return.

Dominance Criteria for the Ranking Market by F.M. WILKES

Dominance criteria are established for discrete investments where financial lending interest rates. In the general case for all investors to prefer cash flow Q can be converted to a superior feasible combination of the decision making of the negative arguments of the decision making is necessary and sufficient that realized for R at all times. A four stage procedure where no inter-project dominance exists.


make a limited review of summarized q This paper examines the reaction of implied risk adjustment parameters to limited review of financial statements subject to limited review for the 197 fiscal year.

Bounding Certainty Equivalent Factors by ØYVIND BØHREN

The risk adjustment parameters of the discount rate models are defined univalued. Bounding numerical values starts is of little help when expected cashflow is a mixture of contingent in time involves very restrictive cashflow model. Intuition may be a poor guide profiles, particularly so if the cashflow ch

On the Negative Risk Premium for Risk and extension by LAURENCE D. BOOTH

This paper develops conditions necessary...
ADDITIONAL EVIDENCE ON THE INCREMENTAL INFORMATION CONTENT OF THE 10–K

Taylor W. Foster III, D. Randall Jenkins and Don W. Vickrey*

A recent study (Foster and Vickrey, 1978) provides evidence which supports the conclusion that the 10–K possesses incremental information content from the aggregate market perspective. This conclusion is quite important since it implies that the 10–K might provide a benefit to society which justifies its production. In any case, the evidence found in Foster and Vickrey (1978) is unexpected since a substantial portion of the seemingly more important data which are contained in the 10–K are disseminated widely prior to the public release of the 10–K. Because of the unexpected nature of this evidence, the authors consider it desirable to gather additional evidence concerning the incremental information content of the 10–K. Thus, the objective of this study is to re-examine the issue of the incremental information content of the 10–K from the aggregate perspective using a larger sample and more recent data than were utilized in Foster and Vickrey (1978). In this context, the phrase, incremental information content of the 10–K, refers to the information content of the data set in the 10–K which is in excess of that which is contained in the related annual report to shareholders and other preceding announcements such as earnings releases. This investigation, like all similar studies, relies on the substantial evidence which supports semi-strong form market efficiency to provide a basis for drawing conclusions concerning information content using market-derived evidence.

The remainder of this paper is divided into three sections. The following section identifies the time periods, sample, and unexpected return-generating methods which are employed in the paper. The next section describes the data-analysis techniques and the related results, and the last section contains a brief summary and the final conclusions. Because of the somewhat replicatory nature of this study, there is no elaboration on the incremental data set which typically is contained in the 10–K (see Foster and Vickrey, 1978).

Time Periods, Sample, and Residual-Generating Methodology

The objectives of this subdivision are to describe the time periods, sample, and unexpected return-generating methods which are employed in the paper. The next section describes the data-analysis techniques and the related results, and the last section contains a brief summary and the final conclusions. Because of the somewhat replicatory nature of this study, there is no elaboration on the incremental data set which typically is contained in the 10–K (see Foster and Vickrey, 1978).

*Taylor W. Foster and Don W. Vickrey are Associate Professors of Accounting, and D. Randall Jenkins is Visiting Professor of Accounting, at the University of Arizona. (Paper received December 1981, revised June 1982)

content from the aggregate perspective and that the market was efficient in the semi-strong form. The first day of this week is the public release date of the 10–K (i.e., as specified in criterion 1 below). The week prior to the impact week, week 49, is designated as a clearing week. One function of this week is to absorb any lingering information effects of news items released more than five trading days prior to the 10–K impact week. The second purpose of this week is to aid one in attempting to isolate the aggregate information effect of the incremental data set which is contained in the 10–K. That is, the sample selection criteria discussed below are meant to insure, among other things, that no significant news items, which might have produced information effects in the expected 10–K impact week, were released during the clearing week. Figure 1 also identifies the foundation and nonreport periods for the study. The foundation period (weeks 1-99) is the period from which the data which were used in fitting the regression equations (see below) were obtained. The nonreport period is considered to be weeks 25-49 and 51-75. The unexpected returns from these weeks are used comparatively in assessing the incremental information content of the 10–K. The sample is considered next.

**FIGURE 1**

**TIME PERIODS PERTINENT TO THE STUDY**

<table>
<thead>
<tr>
<th>Clearing week—week 49</th>
<th>Impact week—week 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonreport period—weeks 25 - 49</td>
<td>Nonreport period—weeks 51 - 75</td>
</tr>
<tr>
<td>Foundation Period—weeks 1-99</td>
<td></td>
</tr>
</tbody>
</table>

The initial set of firms (asures) considered in this study consists of all New York Stock Exchange firms which filed both a 10–K and an annual report to shareholders (ARS) with the SEC for a fiscal year ending during the period January 1975 – December 1977. As in Foster and Vickrey (1978), this set was identified via the Disclosure Journal: Annual Edition, SEC Corporate Profiles (Disclosure Inc., 1976, 1977, and 1978). In arriving at the initial set, the years 1975-1977 were focused on in order to deal with the incremental information content of the 10–K in a recent period which encompasses a variety of economic conditions. The final selection criteria to the initial set. The final selection criteria to the initial set.

**CRITERION I** – The date that the release date of the 10–K. That is, the SEC was the first day that the public reference room of the SEC was referred to as the public release date of the 10–K. This criterion was specified in Foster and Vickrey (1978).

**CRITERION II** – There must be no stock dividend, stock split, earnings announcement, or anything else which might have produced information effects during week 49, the clearing week (as indicated by The Wall Street Journal). This criterion was specified in Foster and Vickrey (1978).

**CRITERION III** – The ARS must be received prior to the clearing week. The public release of the ARS for the fiscal year ending December 31, 1977 was specified in Foster and Vickrey (1978).

For those firms whose release date of a given ARS was more than three mail-delivery days. Second, related ARSs were received by the university's mailroom.

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Additional Evidence
and that the market was efficient in the week is the public release date of the low. The week prior to the impact week, k. One function of this week is to absorb items released more than five trading weeks prior to the impact week. The second purpose of this week is to aid in a study of the incremental information effect of the incremental K. That is, the sample selection criteria among other things, that no significant information effects in the expected clearing week. Figure 1 also shows periods for the study. The foundation on which the data which were used in fitting were obtained. The nonreport period is 1-75. The unexpected returns from these sing the incremental information content next.

| CRITERION I - The date that the 10-K was received by the SEC must be identifiable either via the Disclosure Journal or the university's microfiche file of 10-K's. | This criterion was meant to allow one to ascertain the public release date of the 10-K. That is, the date that the 10-K was received by the SEC was the first day that the public could view the report in the Washington, D.C. public reference room of the SEC (Foster and Vickrey, 1978, p. 925). This date is referred to as the public release date of the 10-K. It appears to be a reasonable beginning point for the expected 10-K impact week for the reasons specified in Foster and Vickrey (1978, p. 926). |
| CRITERION II - There must be no significant news announcements (e.g., cash or stock dividend, stock split, earnings, and sales forecast announcements, etc.) during week 49, the clearing week, and week 50, the expected 10-K impact week (as indicated by The Wall Street Journal Index). This criterion, in combination with the following one, was intended to enable one to isolate any existing aggregate information effect of the 10-K from the effects of other announcements. In this context, a news announcement was considered to be significant if it dealt with a variable that has been shown to generate unexpected returns (e.g., the earnings number), with a variable which is closely related to the former class of variables (e.g., a sales forecast), or with any other variable which, in the authors' judgment, might generate an unexpected return even though this sort of variable has not yet been shown to produce unexpected returns (e.g., merger negotiations). |
| CRITERION III - The ARS must be publicly available at least five trading days prior to the clearing week. The purpose of this criterion was to insures that the public release of the ARS did not produce an aggregate information effect during the expected 10-K impact week. This criterion was operationalized using two methods. First, a questionnaire which requested the dates that the various New York Stock Exchange firms began mailing their 1975-1977 ARSs to shareholders was directed to the pertinent officers of these firms. Table 1 provides relevant data concerning the authors' questionnaire and shows, in summary, that 1063 firms (of a possible 1524) responded to the questionnaire. For those firms which responded to the questionnaire, the public release date of a given ARS was designated as the beginning mailing date plus three mail-delivery days. Second, in the case of nonresponses, the dates that the related ARSs were received by the SEC (i.e., as stamped on the ARSs) were obtained from the university's microfiche file of ARSs. Under these conditions, the SEC receipt date was considered to be the public release date of a given ARS. |
TABLE 1
ANNUAL REPORT MAILING DATE QUESTIONNAIRE

Results

<table>
<thead>
<tr>
<th>Number of questionnaires sent</th>
<th>1,524</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of responses received</td>
<td>1,063</td>
</tr>
<tr>
<td>Number of firms in the 159 firm sample (see below) whose ARS public release dates were identified via the questionnaire</td>
<td>127</td>
</tr>
</tbody>
</table>

TABLE 2
DISTRIBUTION OF SAMPLE FIRMS BY INDUSTRY CLASSIFICATION

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry, and Fishing</td>
<td>2</td>
</tr>
<tr>
<td>Mining</td>
<td>4</td>
</tr>
<tr>
<td>Construction</td>
<td>1</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>97</td>
</tr>
<tr>
<td>Transportation, Communication, Electricity, Gas, and Sanitary Services</td>
<td>17</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>5</td>
</tr>
<tr>
<td>Retail</td>
<td>15</td>
</tr>
<tr>
<td>Finance, Insurance, and Real Estate Services</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>159</td>
</tr>
</tbody>
</table>

CRITERION IV — The 10-K must the period March 26—April 3 (of 1) this criterion was invoked to prec effects being excluded from the exp of the possible inaccessibility of period.

CRITERION V — Return data mu the CRSP tape for each firm for t criterion insured that sufficient d regression purposes and for the Additional Evidence
TABLE 1

DISTRIBUTION OF SAMPLE FIRMS' 10-K RECEIPT DATES
BY MONTH OF RECEIPT

<table>
<thead>
<tr>
<th>SEC 10-K Receipt Date</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>6</td>
</tr>
<tr>
<td>February</td>
<td>1</td>
</tr>
<tr>
<td>March</td>
<td>19</td>
</tr>
<tr>
<td>April</td>
<td>18</td>
</tr>
<tr>
<td>May</td>
<td>13</td>
</tr>
<tr>
<td>June</td>
<td>24</td>
</tr>
<tr>
<td>July</td>
<td>3</td>
</tr>
<tr>
<td>August</td>
<td>12</td>
</tr>
<tr>
<td>September</td>
<td>30</td>
</tr>
<tr>
<td>October</td>
<td>8</td>
</tr>
<tr>
<td>November</td>
<td>8</td>
</tr>
<tr>
<td>December</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>159</td>
</tr>
</tbody>
</table>

CRITERION IV — The 10-K must not have been received by the SEC during the period March 26—April 3 (of 1975-1977). As in Foster and Vickrey (1978), this criterion was invoked to preclude the possibility of 10-K information effects being excluded from the expected 10-K impact week as a consequence of the possible inaccessibility of incompletely processed 10-Ks during this period.

CRITERION V — Return data must be available on the university's copy of the CRSP tape for each firm for the 99 weeks of the foundation period. This criterion insured that sufficient data would be available for each firm for regression purposes and for the generation of needed unexpected returns.

Additional Evidence
Application of the sample selection criteria produced a sample of 159 firms (i.e., a number of firms appear in the sample more than once since they satisfied the above criteria in more than one year). Table 2 shows the breakdown of the sample by industry in accordance with the related SIC codes and indicates that most of the sample firms are manufacturing firms. Table 3 classifies each firm in accordance with the month its 10-K was received by the SEC. This table reveals that the SEC 10-K receipt months were quite diverse. While not apparent in Table 3, the 10-K receipt days within the various months also were quite diverse. In combination, these two factors tend to mitigate any possible bias from cross-sectional residual correlation. The authors’ method of generating unexpected returns is considered next.

The unexpected returns which are employed in the following subdivision in assessing the incremental information content of the 10-K were produced consistently with the procedures employed in Foster and Vickrey (1978). That is, an unexpected return is defined as:

\[
\mu_{it} = R_{it} - E(R_{it}|R_{mt}) \]  

where

- \( \mu_{it} \) = the unexpected return from firm i’s common stock in week t,
- \( R_{it} \) = the actual return from firm i’s common stock in week t
- \( R_{mt} \) = the return on the market in week t (i.e., the value of the market factor in week t as approximated using Standard and Poor’s 500 Composite Index),
- \( E(R_{it}|R_{mt}) \) = the expected return for firm i’s common stock in week t conditional on the ex post value of the market return.

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The E(\( \widetilde{R}_{it}|R_{mt} \)) were generated in:

\[
\widetilde{R}_{it} = a_i + b_i R_{mt} + \epsilon_{it} \\
E(\widetilde{R}_{it}) = a_i + b_i E(R_{mt}) \\
E(\widetilde{R}_{it}|R_{mt}) = a_i + b_i R_{mt} 
\]

where:

- \( a_i \) and \( b_i \) = the intercept and slope between \( R_{it} \) and \( R_{mt} \)

The \( a_i \) and \( b_i \) were obtained by regressing the stock on the related weekly market returns. For each firm, a separate regression was run for which an unexpected return was calculated. For instance, the returns from the 10-K receipt date to the week under consideration were considered. In sum, 8,109 regression equations were run.

The appropriateness of the regression equations was assessed using standard plots and implied that the assumptions of the regression equations were met.

**Statistical Methods and Results**

In testing the incremental information analysis of the means of the absolute unexpected returns from their expectation impact and nonreport periods was calculated. The mean of such values for a given week t is

\[
AV_t = \frac{1}{n} \sum_{i=1}^{n} |\mu'_{it}| 
\]

where

- t = a specific week during the period
- n = the number of securities in t
- \( \mu'_{it} \) = the unexpected return of the tth security

Additional Evidence
criteria produced a sample of 159 firms more than once since they satisfied the related SIC codes and indicates that some firms. Table 3 classifies each firm in its received by the SEC. This table reveals that quite diverse. While not apparent in the various months also were quite the authors’ method of generating employed in the following subdivision content of the 10-K were produced in Foster and Vickrey (1978).

\[1\] \[
E(R_{it}) = \alpha_i + \beta_i E(R_{mt}) \] (3)
\[2\] \[
E(R_{it}|R_{mt}) = \alpha_i + \beta_i R_{mt} \] (4)

where:

\[ a_i \] and \[ b_i \] = the intercept and slope which define the linear relationship between \[ R_{it} \] and \[ R_{mt} \]

The \[ a_i \] and \[ b_i \] were obtained by regressing weekly returns on firms i’s common stock on the related weekly market returns using the ordinary least squares technique. For each firm, a separate regression equation was fit for each week for which an unexpected return was generated (i.e., weeks 25-75). In each instance, the returns from the 10-K impact week, the clearing week, and the week under consideration were eliminated in fitting the related equation. In sum, 8,109 regression equations were fit (i.e., 159 firms x 51 weeks). The appropriateness of the regression model was investigated over the foundation period using standard plots and statistical procedures. This investigation implies that the assumptions of the regression model were satisfied.

Statistical Methods and Results
In testing the incremental information content of the 10-K, an ordinal analysis of the means of the absolute values of the derivations of the unexpected returns from their expected values for each of the 51 weeks in the impact and nonreport periods was utilized. As in Foster and Vickrey (1978), the mean of such values for a given week is:

\[ \bar{AV}_t = \frac{1}{n} \sum_{i=1}^{n} | \mu_{it}' | \]

where:

\[ t = \text{a specific week during the period studied} \ (t = 25, \ldots, 75) \]
\[ n = \text{the number of securities in the sample} = 159 \]
\[ \mu_{it}' = \text{the unexpected return of the } i\text{th firm in week } t, \mu_{it}, \text{ minus} \]
\[ E(\mu_{it}) = \mu_{it} - 0 \]

Additional Evidence
Table 4 presents the results of the ordinal analysis. This table reveals that week 50, the expected 10-K impact week, produced only the 32nd highest \( \bar{AV}_t \). In contrast, the expected 10-K impact week in Foster and Vickrey (1978) produced the sixth highest (out of 55) \( \bar{AV}_t \). Thus, the ordinal analysis of the current study provides evidence which is at variance with that contained in the earlier investigation. That is, the results of Foster and Vickrey (1978) seem to imply that the 10-K possessed incremental information content from the aggregate market perspective for the firms investigated, while this study allows no such inference for the related firms. More specifically, the present authors' conclusion is that the 10-K failed generally to produce aggregate market-derived data which are consistent with the view that this report induced changes in expectations which generated re

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Week</th>
<th>( \bar{AV}_t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28</td>
<td>0.0434</td>
</tr>
<tr>
<td>2, 3</td>
<td>30, 39</td>
<td>0.0412</td>
</tr>
<tr>
<td>4</td>
<td>29</td>
<td>0.0390</td>
</tr>
<tr>
<td>5</td>
<td>27</td>
<td>0.0380</td>
</tr>
<tr>
<td>6</td>
<td>40</td>
<td>0.0373</td>
</tr>
<tr>
<td>7</td>
<td>38</td>
<td>0.0368</td>
</tr>
<tr>
<td>8, 9</td>
<td>32, 34</td>
<td>0.0366</td>
</tr>
<tr>
<td>10</td>
<td>42</td>
<td>0.0361</td>
</tr>
<tr>
<td>11</td>
<td>54</td>
<td>0.0357</td>
</tr>
<tr>
<td>12</td>
<td>52</td>
<td>0.0354</td>
</tr>
<tr>
<td>13</td>
<td>41</td>
<td>0.0351</td>
</tr>
<tr>
<td>14, 15</td>
<td>26, 31</td>
<td>0.0349</td>
</tr>
<tr>
<td>16</td>
<td>43</td>
<td>0.0348</td>
</tr>
<tr>
<td>17</td>
<td>67</td>
<td>0.0346</td>
</tr>
<tr>
<td>18</td>
<td>44</td>
<td>0.0345</td>
</tr>
<tr>
<td>19</td>
<td>55</td>
<td>0.0341</td>
</tr>
<tr>
<td>20</td>
<td>53</td>
<td>0.0339</td>
</tr>
</tbody>
</table>

Summary and Final Conclusions

This study was designed to provide incremental information content of the 10-K. The results of the statistical procedures with a null hypothesis of no aggregate combinations considered herein, failed to detect aggregate-market-derived evidence that the 10-K induced changes in prices of the securities in the sample and if the results apply generally the value of the 10-K can subsist in the context of functions such as governmental-type functions. If, as is suspected, the 10-K is not enough to play a significant role in maximizing portfolios, then it follows the context of governmental-type functions above conclusions are valid, then a consistency of the SEC's goals with that of this report. In this context, it appears the investment prospects of business firms by 537,748, 2,748, 375, and 5

NOTES

1. If the 10-K receipt date was not identified (1976, 1977, and 1978), then this point was stamped on the 10-K as revealed by

2. The critical aspects of the study are reported.

Additional Evidence
ordinal analysis. This table reveals that week, produced only the 32nd highest -K impact week in Foster and Vickrey of 55) AVt. Thus, the ordinal analysis of which is at variance with that contained in results of Foster and Vickrey (1978) seem incremental information content from the firms investigated, while this study allows 4. More specifically, the present authors' generally to produce aggregate market-view that this report induced changes in expectations which generated revisions in the prices of the securities in the sample.5 The divergent findings of the two studies probably is a consequence of actual information content differences which arose because of (a) differences in the firms in the two samples, (b) differences in the data disclosed in the 10-Ks of the two samples, or (c) a narrowing of the differences between the data presented in the 10-K and the data which typically are disclosed prior to the 10-K. In this context, note that the divergence between the contents of the ARS and the 10-K has narrowed somewhat in recent years.6

### Summary and Final Conclusions

This study was designed to provide additional evidence concerning the incremental information content of the 10-K from the aggregate-market perspective. The results of the statistical procedures provide evidence which is consistent with a null hypothesis of no aggregate-information content for the firm-year combinations considered herein. More specifically, the procedures failed to detect aggregate-market-derived evidence which is consistent with the view that the 10-K induced changes in expectations which led to revisions in the prices of the securities in the sample. If the 10-K was useless in setting prices and if the results apply generally to other recent firm-year combinations, then the value of the 10-K can subsist only at the level of the individual and in the context of functions such as governmental-level monitoring and data-gathering functions. If, as is suspected, the 10-K is not disseminated or used widely enough to play a significant role in the selection of individuals' expected utility maximizing portfolios, then it follows that this report is useful only in the context of governmental-type functions such as those mentioned above. If the above conclusions are valid, then a sense of pessimism is created in regard to the consistency of the SEC's goals with respect to the 10-K and the actual effects of this report. In this context, it appears that the SEC has adopted the view that its primary goal (in regard to reporting requirements) is to ensure the provision of material facts which are relevant to investors in forming expectations about the investment prospects of business enterprises (Securities and Exchange Commission, 1975).

### NOTES

1. If the 10-K receipt date was not identified in the Disclosure Journal, (Disclosure Inc., 1976, 1977, and 1978), then this date was obtained by observing the date of receipt stamped on the 10-K as revealed by the microfiche file.

2. The sequential application of the sample selection criteria reduced the initial set of firms by 537, 748, 2, 748, 375, and 5 firms respectively.

3. The critical aspects of the study were duplicated using the alternative formulation \( \ln \left[ \frac{p_t + d_t}{P_{t-1}} \right] = a_1 + b_1 \ln \left[ \frac{R_{mt}}{R_{m_{t-1}}} \right] + \epsilon_t \). The results were insensitive to this difference; thus, only the results consistent with equations (1) – (4) are reported.
4 The authors also conducted ordinal analyses for each of the years 1975–1977. These per year analyses also failed to imply incremental information content for the 10-K.

5 To allow for the possibility of beta nonstationarity, the ordinal analysis described above was duplicated using a reduced sample of 112 firms each of which appeared to have a stationary beta. Beta stationarity was ascertained using the Chow test. More specifically, for each firm in the sample of 159 firms, the foundation period was divided in half and the firm’s betas were determined for both of the resulting subperiods. Subsequently, the Chow test (at the .05 significance level) was used to test the null hypothesis of no difference between the betas of these subperiods for each firm. On the basis of this procedure, 47 firms appeared to have nonstationary betas and, consequently, were eliminated from consideration. The expected 10-K impact week, week 50, produced only the 29th highest AVt when the ordinal analysis was applied to the reduced sample of 112 firms.

6 In attempting to reconcile the findings of this study with those of Foster and Vickrey (1978), the Chow test procedure described in footnote 5 was applied to the sample from the later mentioned study. This procedure produced a reduced sample of 73 firms. After application of this procedure, the Foster and Vickrey (1978) expected 10-K impact week produced the 3rd highest AVt. Thus, it appears that the existence of nonstationarities has no explanatory power with respect to the divergent findings of the two studies. Note also that one could not investigate the incremental information content of the 10-Ks of the firms in Foster and Vickrey (1978) during the 1975–1977 time period because these firms failed generally to satisfy the sample selection criteria which were applied during this period.

REFERENCES


DECOMPOSITION MEASURES OF FINANCIAL FAILURE

Peter J. Booth*

Introduction

Theil (1969) pioneered the application of decomposition measures to accounting. Financial statement aggregate figures, e.g. total assets or sales, can be used to measure the change in financial position between financial statement dates. This approach has been widely used to assess the usefulness of decomposition measures. (Bedford and Onsi, 1966; Belkaoui, 1969; Moyer, 1977; Pendlebury, 1981).

Lev (1969) has investigated the potential of decomposition measures to predict financial failure. Using data on total assets and total liabilities, Lev compared the decompositions of failed and non-failed companies for four time periods. The average decomposition measures of failed companies were lower than those of non-failed companies for each time period, and the difference was statistically significant. Overall, Lev concluded that

"... information measures were found to be superior to failure prediction. This result suggests that the measures have discriminatory power.

Walker et al (1979, p.180) report similar results for the decompositions of assets.

The purpose of this paper is to further investigate the potential of decomposition measures to predict failure. The approach is in two stages: evaluation of the relationship between failed and non-failed companies for the time periods when the average decomposition measures of failed companies were lower than those of non-failed companies. Financial failure is defined as a company going out of business, or being acquired by another company.

*The author is Lecturer in Accounting Administration, Griffith University, Australia. Professor J.K. Courtis, J. Trueman and N. Hathaway of Griffith University conducted the original research, and also helped the paper. (Paper received November 1980.)