

The usefulness of the value added statement:

A review of the literature

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Abstract

The increased incidence of publication of the value added statement in South Africa does not seem to be supported by evidence substantiating its usefulness. This study sets out to determine whether sufficient evidence on the usefulness of the statement, from the perspective of the users, exists. A review of the local and international literature revealed 23 studies using empirical tests or surveys to obtain evidence of usefulness. Despite some contradictory claims, the results indicate that on the whole the studies reported in the literature do not demonstrate sufficient evidence of usefulness from the perspective of the users of the value added statement.

Key Words

Usefulness and value added

Value Added Statements

Surveys and value added

explanatory power and value added

1 Introduction

The value added statement is a financial statement that is published with the annual financial statements by some companies. The incidence of publication is increasing in South Africa with more than 200 of the approximately 600 companies listed on the Johannesburg Stock Exchange (JSE) publishing a value added statement in 1996 (De Villiers 1997). This is the highest incidence of publication of such statements reported to date.

It would appear that the publication of the value added statement was initially aimed at broadening the scope of financial reporting. Whereas financial reports were traditionally aimed primarily at the shareholders and

their advisors, Suojanen (1954) envisaged the value added statement as a report that would be aimed at various participants, for example the employees and the public. Harris (1982) supports this aim when he states that reports designed to disclose a company's result as a whole, without isolating those features relevant to a specific user group, should be based on its product rather than its profit.

A review of the literature on the subject revealed more than 150 articles, books and research reports published on the subject since 1954, when Suojanen wrote the first article linking value added with accounting. More than eighty percent of these publications were published after the Corporate Report (ASSC) in 1975. Most of the research was done from the perspective of the company publishing the statement.

Although the value added statement initially aimed at broadening the scope of financial reporting, it is not clear whether it has actually achieved this aim. This study departs from the view that as value added statements have been published for more than 25 years, it would be reasonable to expect the literature on the subject to contain evidence on the usefulness of the statement.

2 Aim

The aim of this study is therefore to identify empirical studies and surveys on the usefulness of the value added statement, in order to ascertain whether they contain sufficient evidence of usefulness from the perspective of the users and to evaluate such evidence. Usefulness is evidenced when results show that users have actually used the statement, or that value added information has explanatory and predictive power.

3 Results

The review revealed five main themes in the literature on the usefulness of value added statements in 23 publications.

3.1 Research ranking companies using value added information

The research in this section uses value added information to rank companies. The aim is usually to demonstrate that the ranking that uses value added information is better than the ranking that uses other accounting information like turnover or total assets.

Braynt (1989) used value added information to rank the top 160 UK companies. He compared this to their ranking using gross income. Davis and Kay (1990) used a value added ranking to calculate the "intensity" with which value added is created. Their study was limited to six principal groups in the UK food-retailing sector. Riahi-Belkaoui (1992) calculated value added variables for USA companies for the period 1983 - 1988. He ranked the companies according to the value added variables.

Although all these studies claimed that the ranking using value added is better than other rankings, none of them attempted to prove the superiority of the value added rankings by comparing them for example with the future performance of the company.

In a study by Riahi-Belkaoui and Fekrat (1994) the variability and persistency of derived accounting indicator numbers were tested. They found that the numbers based on value added had lower variability and higher persistency than corresponding numbers based on either earnings or cash flows. This, they concluded, was mainly due to the absence of the effects of accounting practice and smoothing of the total return earned by the firm as computed by the value added figure. Lower variability and higher persistency made the value added information potentially more useful than data derived from the accrual and cash flow sources.

The consulting firm, Stern Stewart developed two performance measures called market value added (MVA) and economic value added (EVA). MVA measures the difference between the market value of the shares and the capital invested in the company (Walbert 1993), while EVA measures whether a company has earned enough profit to cover the cost of capital (Stewart 1995). Although these measures use the term value added, they are not in any way related to the definition of value added or the value added statement and therefore fall outside the ambit of this study.

Most of the studies in this section did little to demonstrate the usefulness of value added, because they did not link the ranking to a specific use or an external indicator. The exception is the 1994 study by Riahi-Belkaoui and Fekrat, which claimed that the value added indicators had a lower variability and higher persistency than other indicators based on accrual accounting numbers. Table 1 summarises the studies ranking the companies using value added.

Table 1
Research ranking companies using value added

Study	Origin	Publication	Period	Yrs	Sample size
Braynt (1989)	UK	article	1987/88	1	160 companies
Davis and Kay (1990)	UK	article	1988/89	1	6 companies
Riahi-Belkaoui (1992)	USA	book	1983 - 1988	6	Not specified
Riahi-Belkaoui and Fekrat (1994)	USA	article	1981 - 1990	10	673 companies

3.2 Research testing productivity as expressed by value added measures

The research in this section deals with empirical studies linking productivity, as expressed by value added, with market indicators. The aim is to establish whether improved productivity impact on the market's evaluation of the company.

Bao and Bao (1989) found from a reasonably small sample of 57 companies in two industries that the association between a company's value and productivity measures is higher than that between the company's value and earnings measures. They concluded that productivity does affect a company's share price. Askren, Bannister and Pavlik (1994) used 34 treatment firms and 26 control firms to test the impact of the adoption of a performance plan on value added based measures of productivity. They found that the treatment and control firms do not differ significantly on accounting return or productivity measures in the five years immediately

preceding and the five years following the adoption of an accounting-based performance plan. In 1996 Riahi-Belkaoui (1996a) found that productivity did not provide information about future profitability incremental to that provided by the current profitability.

With one exception, the studies in this section could not find a link between productivity and future market indicators. The claims that the value added statement could be used to measure and improve productivity (Cox 1979, Miller, Jackson and Parsons 1992, Foyster 1995), are therefore not supported conclusively by the empirical evidence. Table 2 summarises the studies testing productivity.

Table 2
Research testing productivity as expressed by value added measures

Study	Origin	Publication	Period	Yrs	Sample size
Bao & Bao (1989)	USA	Article	1979 - 1983	5	57 comp./year
Askren, Bannister and Pavlik (1994)	USA	Article		11	70 comp./year
Riahi-Belkaoui (1996a)	USA	Book	1973 - 1990	18	3 398 comp.-year observations

3.3 Research testing the usefulness of value added information among users

The research in this section deals with studies establishing the actual use of value added statements using questionnaires or other surveys. The aim of this research is generally to establish whether the value added statement is used by the users.

Purdy (1981) found from a survey among UK companies that although the companies have some user groups in mind when publishing the statement, none of them did a formal assessment to follow up whether it was used by those groups and whether it met their needs. Joubert (1991) found from a survey of SA companies publishing a value added statement that only a very small number had investigated the extent to which it achieved the aim for

which it was published. Stainbank (1991) also surveyed SA companies and also only from the perspective of the companies. In her survey Stainbank included a section testing whether the company publishing the statement actually used it.

These three surveys found little evidence of actual use. The companies that responded used the statement mostly for employee communication and wage negotiations. Less than half of them actually used the statement themselves.

Jordaan (1997) did a survey by way of a questionnaire among ten user groups. Five of these groups were not clearly defined, neither was their selection motivated. The selection of the samples was apparently done in an ad hoc way. The questionnaire that he used contained some unexplained deviations from the norm in the presentation of the value added statement and the definition of income, which resulted in overoptimistic results. The results of his study are therefore discarded, as they appear to be unreliable.

Table 3 contains a summary of the surveys conducted.

Table 3
Summary of surveys conducted on value added

Study	Origin	Publication	Period	Sample size
Purdy (1981)	UK	article	1978	133 companies
Joubert (1991)	SA	M Thesis	1988	112 companies
Stainbank (1991)	SA	M Thesis	1989/90	138 companies
Jordaan (1997)	SA	report	unspecified	199 respondents

3.4 Other empirical research on usefulness

The research covered in this section, entails all other empirical research on usefulness. Only one study was found to be noteworthy. This empirical study defined the profile of companies who publish value added statements voluntarily compared to those who do not publish the statement at all.

Deegan and Hallam (1991) explored corporate management's incentives to voluntarily disclose value added statements in the annual financial reports.

Adopting a political cost perspective, a number of hypotheses relating to value added disclosures were tested. The results suggest that, compared to a randomly selected control group, the companies that voluntarily presented value added statements are larger (in terms of size and concentration), more capital intensive, more heavily taxed and more likely to come from the manufacturing or agricultural industries.

The sample was small (30 companies) and the period used was only one year.

3.5 Research testing value added information against market indicators

The research in this section deals with empirical studies comparing value added information with market information. The aim is normally to find whether value added information has additional explanatory and predictive power compared to other accounting information.

In the USA Riahi-Belkaoui has done a series of studies linking value added information to external market indicators. With Karpik (1990) he established that value added accounting information could supply considerable explanatory power of market risk beyond that provided by earnings or cash flow measures, especially at the individual firm level. With Bannister (1991) he examined the ability of value added to identify firms targeted for take-over. They concluded that value added is worthy of consideration as a tool for the evaluation of the performance of the company. In 1993 he established that value added information can supply *some* explanatory power of security returns beyond that provided by earnings or cash flow measures. He did a similar study with Picur (1994) in which they concluded that value added information can supply *important* explanatory power of security valuation beyond that provided by earnings. With Pavlik (1994) he examined the effect of ownership structure on a value added-based measure of performance. They concluded that when the concentration of ownership is low, total return maximisation as measured by value added is also low and vice versa. In 1996 (1996a) he found that value added information published concurrently with earnings does have additive information content. In the same year, (1996b) he found that value added-returns relationships offered better explanatory power than the earnings-returns relationships, when the relationships were expressed by a non-linear, convex-concave function.

In contrast with this, Boshoff (1996) found that value added information did not have predictive power with regards to share price and price earnings ratio. She did, however, find that there were statistically significant associations between value added information and EVA. As share prices track EVA more closely than they track such measures as earnings per share or operating margins or return on equity (Tully 1993), this is an important finding. Bao and Bao (1996) examined the time series properties of value added as well as the prediction accuracy of the value added series. They found that the random walk model, which indicates that the effects of the factors that affect value added, and the direction of the changes, are not predictable, best fitted the value added measures and was consistent with that of annual earnings and share prices.

Most of the studies in this section found strong associations between value added variables and external indicators. All the studies that found strong associations were authored or co-authored by Riahi-Belkaoui. However, the results of one of his most recent studies seems to contradict some of his earlier findings. In this study, Riahi-Belkaoui (1996a) found that value added variables did not provide information about a company's future profitability that is incremental to that provided by current profitability. As the relationship between earnings measures and share price had been accepted by Riahi-Belkaoui in previous studies (Karpik and Belkaoui 1990), it would be reasonable to infer that the 1996 findings contradict his earlier results, on the basis of which he claimed that value added variables provide information on future share price that is incremental to that provided by earnings. In a South African study Boshoff (1996) also found that there was no association between value added variables and some external indicators.

Table 4 summarises the studies testing value added to external indicators.

Table 4
Research testing value added information to external indicators

Study	Origin	Publication	Period	Yrs	Sample size
Karpik & Belkaoui (1990)	USA	article	1968- 1987	20	103 comp./year
Bannister and Riahi-Belkaoui (1991)	USA	article	1977 -1989	12	234 companies
Riahi-Belkaoui (1993)	USA	article	1981- 1987	7	4 325 company-year
Riahi-Belkaoui and Picur (1994)	USA	article	1979- 1983	4	2 398 company-year
Pavlik and Riahi-Belkaoui (1994)	USA	article	1988	1	394 companies
Riahi-Belkaoui (1996a)	USA	book	1973- 1991	19	156-220 companies/year
Riahi-Belkaoui (1996b)	USA	article	1981- 1990	10	4 660 company-year
Boshoff (1996)	SA	M Thesis	1991- 1993	3	87 comp./year
Bao and Bao (1996)	USA	article	1966- 1985	20	163 comp./year

Note to table 4: company-year means company-year observations.

4 Factors limiting the evidence

In the analysis of the results of the studies examined for this review of the literature, three factors limiting the general application of the results were identified.

Firstly, the method of calculation of value added could present a problem. The USA companies do not publish a value added statement at all. The research on these companies therefore calculated value added as the sum of the allocations.

The following calculation was used in the studies in which Riahi-Belkaoui was involved:

Net value added = The sum of labour expenses, corporate taxes, dividends, interest expenses, minority shareholders in subsidiaries and retained earnings for the year (1992, 1996a).

Boshoff (1996) used published value added statements in her study. She standardised the statement to the net value added calculation. Her calculation agrees in essence with the calculation used by Riahi-Belkaoui.

Bao and Bao (1989) used a different calculation:

Gross value added = The sum of profit before taxes, depreciation, rent, rates, insurance, wages and salaries, employee benefits, advertising, professional services, interest expense and other overheads.

In their 1996 study, they used both gross and net value added.

From the literature on the subject it is evident that the value added statement is not standardised and therefore the differences in calculation could lead to different results when testing against external indicators.

Secondly, the selection of the samples could limit the reliability of the results. In almost all the studies the sample included all the companies that published the necessary information to calculate value added (in most cases salaries and wages information was the determining factor). No random or other statistical selection was therefore done. This could have implications for the interpretation of the results.

It also raises the question of whether the samples were representative of the population of listed companies. Although some of the USA studies apparently use big samples, (500 companies per year for a period of 10 years giving more than 5 000 company-year observations), Riahi-Belkaoui (1996) states that at present less than 10% of the companies listed in the USA disclose labour expenses. Boshoff's South African study confirmed that 87 companies published value added statements over a period of three years, which is just over 10% of the companies listed on the JSE.

Although the results of the study by Deegan and Hallam (1991) indicate that the companies that voluntarily publish the value added statement are normally the larger companies, their own study was based on a very small sample. In addition, the large companies do not necessarily represent all companies.

From the literature it is clear that the samples selected in the studies that were reviewed might not be statistically significant.

Thirdly, the additional information contained in the value added statement is limited. As indicated above, the only additional information needed to calculate value added from the information disclosed already, is the salaries and wages information (see the calculation done by Riahi-Belkaoui). All the other information in the value added statement is published in the income statement as well. The publication of value added statements therefore discloses limited additional information and although this information might be useful, it is doubtful whether the inclusion of salaries and wages information should make a substantial difference to the predictive and explanatory power of financial information.

5 Conclusion

Although evidence was found in this review that value added information has greater predictive and explanatory power than earnings, these findings were inconclusive for the following reasons:

- Research studies were found that contradict these findings.
- The calculation of value added was not done in a consistent way in all the studies.
- The samples used were not necessarily large enough or statistically selected which could have an impact on whether the results are representative.
- All the studies that produced evidence of predictive power used USA data.
- The additional information content of value added is limited.

It is surprising that after the value added statement had been published for nearly 25 years in various countries, the only evidence of explanatory power should originate from the USA, where the statement was never published. The fact that the studies which produced this evidence seem to have been initiated mainly by one researcher, exacerbates the problem. It is suggested that more research should be conducted in this area to confirm these findings.

The surveys conducted among the companies preparing the statements found little evidence of actual use. No reliable studies were found testing for actual use among the other users of the value added statement.

As the evidence of usefulness found in this study is inconclusive, it is concluded that sufficient evidence of the usefulness of the value added statement from the perspective of the users could not be found.

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