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Analysis of Value Added Ratios of Indian Oil Corporation Ltd.

B.S. Yogesha, Dr. B. Mahadevappa
Research Scholar, Department of Studies in Commerce, Post Graduate Centre, Hemagangotri, Hassan, University of Mysore
Professor, Department of Studies in Commerce, Post Graduate Centre, Hemagangotri, Hassan, University of Mysore

Abstract: *The aim of this paper is to analyze value added ratios of a public sector undertaking in India. The sample company selected for the study is Indian Oil Corporation Ltd. Value added statements were prepared for this company for eight years from 2004-05 to 2011-12 based on their audited financial statements. Value added ratios were calculated on the basis of value added statements and analysed. This paper focuses on how the Value added ratios were helps to the company to measure the productivity and efficiency of an organization.*

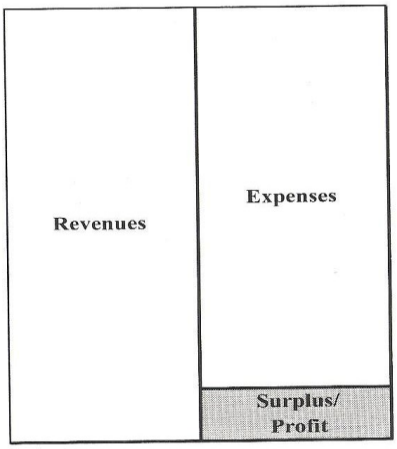
I. Introduction:

The term 'value added' means excess of turnover plus income from services over the cost of bought-in-goods and services. Value added may be known as the wealth created by the company from its operation. Value added has been defined by Corporate Report as "the wealth, the reporting activity has been able to create by its own and its employee's efforts." In accounting terms, Brown and Howard have pointed out that "value added is sales value less the cost of bought-in-goods and services used in producing those sales". John Sizer says that "value added is the wealth the company has been able to create by its own and its employee's efforts during a period." According to Richard Lewis et al, "value of the goods or services produced by the team i.e., sales revenue less the value of the goods and services purchased from outsiders i.e., the cost of bought-in-materials and services." Value added is an important measure to judge the efficiency of an enterprise. According to Norkett Paul, "Many companies choose added value as the performance yardstick for their productivity scheme, as a ratio between wages and value added."

II. The Concept of Value Added:

The conventional accounting models challenge the notion that accounting is an objective, neutral, value free and technical enterprise that simply attempts to capture a picture of reality-much like a disinterested photographer snapping a picture of an event. Critical perspectives question what is included and what is left out in accounting and look for reasons and the consequences (Morgan 1988). Furthermore, critics of conventional accounting have prompted an interest in alternative forms that broaden the scope of the issues to be addressed and, by so doing, have sparked a variety of initiatives to assess the extent to which companies contribute to the achievement of social and environment goals-hence, building a better society (Boyce 1998; Gray1992). It has been argued that conventional accounting does not simply take its cues from the profit-oriented reward structure but actively contributes to it. By emphasizing profit based on historical-cost transactions, conventional accounting favors shareholders and company executives at the expense of workers and the environment (Greider).

Figure: 1 The Concept of Profit



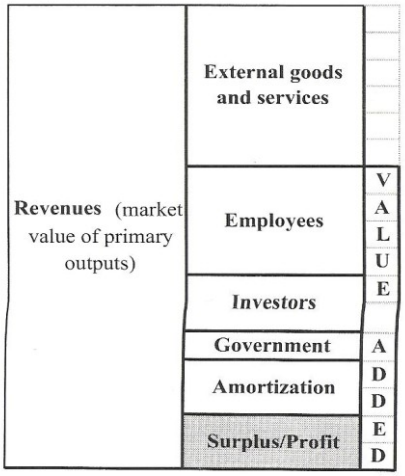
Value added is a measure of the total return generated in a firm through the utilization of its productive capacity, i.e., labor and capital in the broad classical sense. In a macroeconomic sense, value added represent a firm contribution to the nation's domestic product and is measured by the extent to which the value of a product is enhanced between the point at which it is acquired by the firm and the point at which it is sold or made available for sale by the firm. A value added statement is used to disclose the computation of this value enhancement on either a gross or net basis or its distribution among all the stakeholders. In this sense, the value added statement is viewed as a report on the return to a larger group of "Stakeholders"- providers of debt and equity capital for interest and dividend, employees for current and deferred the compensation, the reporting entity itself for capital replenishment and the growth and government taxes.

Value added is a measure of economic performance of an economic entity which has a fairly long history of application in economics. It has been regarded as increase in wealth of an economic entity. Thus, it is a particular concept of income measurement. It has its traditional roots in macroeconomics, especially regarding the calculation of national income which is measured by the productive performance of a national economy and which is called National Product or Domestic Product. These notions represent value added of a national economy during a specific period other than this universally. Common use of the value added concept it has also been discussed and practiced as a useful economy and performance indicator in different areas of economics and business administration.

The fact that it represents the result of a calculation means that the value added concept is related very much to accounting. But in contrast to the traditional income calculation one of its major characteristics is that it can be and has been used not only in one or two accounting area but in all three types of systems namely; National accounting, Financial accounting, Managerial accounting.

This result from the fact that the phenomena of value added is an inherent part of all economic activities. The objective to value added is the driving force for every economic aim because it represents the creation of wealth.

Figure: 2 The Concept of Value Added



III. Review of Literature:

This paper has reviewed the following research studies.

Michael F. Morley (1979) this study relates the structure of the value added statement to the underlying theory of company team membership and the statement in contrasted with the earnings statement which it resembles. The advantages and disadvantages of including a value added statement in annual reports are discussed. The alleged advantages are difficult to verify but on balance the value added statement is concluded to be a useful newcomer to the annual report provided it can be standardized. Recommendations on an accounting standard are given, including the conclusion that value added should be calculated after deducting depreciation.

The study conducted by American Accounting Association Committee on Accounting and Auditing Measurement (1991) examines empirically the relative merits of derived performance indicator numbers from value added reporting, accrual accounting and cash flow accounting. The results show that the derived performance indicator numbers based on net value added had lower variability and higher persistency than corresponding numbers based on the either earnings or cash flows of 673 US firms for the 1981-1990 periods. The findings of the study made a strong case for both mandatory disclosure and increased research on the usefulness of value added reporting in US context

Riahi-Belkaoui and Pavlik (1994) argued that the effects of ownership structure and performance are best examined when performance expresses total return rather than being restricted to accounting returns. Using

a sample of US firms, they found a significant non-monotonic relationship between values added based performances and ownership structure. Value added based performances declines up to a turning point before increasing proportionally to the increases in ownership structure measures. The phenomenon held regardless of whether ownership structures are measured by management stock holding, stock concentration, or a sum of the two measures. This result is compatible with a) A dispersion of ownership and the non- value maximizing behavior where holdings are less than 10% ownership, and b) A convergence of interest for the maximization of value added based performance between managers and share holders where there is more than 10% ownership. The third context concerns the firm performance resulting from the adoption of performance plans. This context follows from theoretical arguments indicating that long term accounting-based performance plans motivates executives to improve firm performance in the long run.

Askren et al.(1994) presents the results based on a sample of US firms indicating that firms adopting accounting based performance do not experience any greater gains in accounting return or value added based productivity measures than do a set of control firms. Further he argued that the nature of the relation varies with the ownership structures of the firm. Using the sample of firms, his results supported this connection with respect to owner-controlled but not manager – controlled firms.

Heller and Stoloney (1995) in their study reveal a very low comparability of the published value added statements in Germany which weakens the information contents of these statements. Additionally they are all nothing else than restructured income statements and therefore provide very little additional information. Further the research paper conclude that although the academic accounting interest in value added as an economic performance measure is relatively limited this paper show that in France and Germany there has been a varied discussion and practical application of the value added concept. But even in France, where it is incorporated in general accounting plan and used as an important analytical tool by the "Banque de France" it has so far not widely used in corporate accounting, not even in these two countries, in which this figure is generally regarded as attaining the great popularity. The publication practice of the surveyed companies reveals the perception of value added by the management of those companies.

Staden (1998) in the research paper he opined "The value added statement was published by 210 of the 400 companies listed in the industrial sector on the JSE. It appears from a literature review that the usefulness Of the statement has never been tested in depth from the perspective of the users. The importance of this study stems from the increased incidence of publication of the statement in south Africa and lack of evidence substantiating its usefulness". The results indicate that the respondents do not make significant use of the value added statement.

Serge Evraet (1998) opines that the role of earnings in external financial reporting is being seriously challenged by the emerging trends and new ways of accounting systems and mainly the role of value added data. He further states "inclusion of such data in the financial reports of US corporations has been suggested by American Association committee on accounting and auditing (1991 and in the international accounting and research literature (e.g. Zabaidur 1990; Meek and Gray 1998; Deegan and Hallman 1991)**.** It is well accepted in UK, Germany and France." He further states "Value added represents the total wealth of the firm that could be distributed to all capital providers, employees and the government. Earnings represents the return to shareholders while other value added components reflects returns to the other stakeholders- i.e. the government, bondholders and employees". Though value added statement and accounting has emerged as new trend in redefining the way we look at the any companies contributions to all stake holders not much research has undergone around the world about it's utility and how that could be used by not only the finance personnel and top-level management and how it could be utilized to reposition the company value before the society.

Arangies.G, et.al.(2008) opines that owing to the absence of accounting standards for the preparation of a value added statement, a large variety of methods are used in financial statements and the study reveals the published value added statements of companies listed on the JSE securities exchange during the period 1976-2005 have been standardized by the graduate school of business of the university of stellendosch in order to quantify the differences between the standardized value added statement and the published value added statement.

IV. Objectives of Study:

a. To compute gross value added and net value added.
b. To understand the usefulness of value added ratios.
c. To compute value added ratios and analyze them.

V. Methodology

5.1 Sample:

Indian Oil Corporation a leading public sector undertaking in India has been selected as a sample for the study. Audited Financial Statements of Indian Oil Corporation for eight years from 2004-05 to 2011-12 forms the base for analysis in this study. Value added statements were prepared on the basis of information available in the annual financial statements.

5.2 Models for Computation of Value Added:

Value added has been calculated using additive model and subtractive model. Models developed for computation of value added are given below:

5.2a Additive Value Added Model

In this model, value added by the firm is equal to the aggregate amount of contribution given by the firm to the employees, government, capital providers (lenders) and shareholders.

Value Added=CE+CG+CCP+CS/RE

The components of the model are explained below:

Contribution to Employees (CE): It includes wages and salaries, payment of bonus, contribution to provident fund, ESI and other benefits, staff welfare expenses, payment of gratuity, director's remuneration, etc.

Contribution to Government (CG): It includes the amount of excise duty, customs duty, local taxes, sales tax, octroi duty, income tax, wealth tax, etc.

Contribution to capital providers (CCP): It includes the amount of interest payable by the firm on all types of borrowed capital.

Contribution to shareholders/Retained earnings (CS/RE): It includes the amount of dividend paid to shareholder by the firm, amount transferred to any reserve by whatever name called and retained profits.

5.2b Subtractive Model:

In this model, value added by the firm is equal to the difference between sales and bought of goods & services from outside side.

Value Added=S-B

Or

Value Added=O-I

The components of the model are explained below:

SALES/TURNOVER: While calculating value added in value added reporting consider the net sales after deducting excise duty, sales tax, sales returns, discount, rebates, commission and brokerage.

BOUGHT-IN-MATERIAL: Which include cost of raw material, work-in-progress, finished goods, stores & spares , dyes, chemicals, power, fuel, water, repairs and maintenance and packing material and all other direct expenses.

BOUGHT-IN-SERVICES: Which includes all indirect expenses such as rent and rates, legal charges, repairs and maintenance, power and fuel , bank commission, advertising, insurance charges, postage & telegram, printing & stationery, audit fees, travelling expenses, carriage outwards, entertainments, etc.

STOCK: Increase or decrease in stock of raw material, work-in-progress and finished goods adjusted to net sales to calculate exact value of output.

OTHER INCOME: It includes dividend received, rent received, interest received, royalty received, etc. Further, consider the other income any exordinarygain or exordinaryloss arising in the business to be adjusted.

5.3 Ratio Analysis:

Ratios were calculated between value added and net worth, capital employed, sales, net profit, share capital, fixed assets, material cost and labor cost.

5.4 Data Collection and Analysis:

Information disclosed in the financial statements Indian Oil Corporation for the period 2004-05 to 2011-12 were collected from the annual reports of the company. Value added statements were prepared and analysed. For analysis, Value added ratios were calculated and interpreted.

VI. Results and Discussion:

6.1 Analysis of Value Added Statement:

Value added statements of Indian Oil Corporation Ltd. Prepared on the basis of profit and loss account information given in the annual reports of the company. Value added statements reveal that how the company

generated Gross Value Added and how it is distributed Net Value Added to the different stakeholders of the company. In Table 1 both Gross Value Added and Net Value Added figures have increased over time from 2004-05 to 2011-12 except 2010-11.

Figure-3 Gross Value Added of Indian Oil Corporation

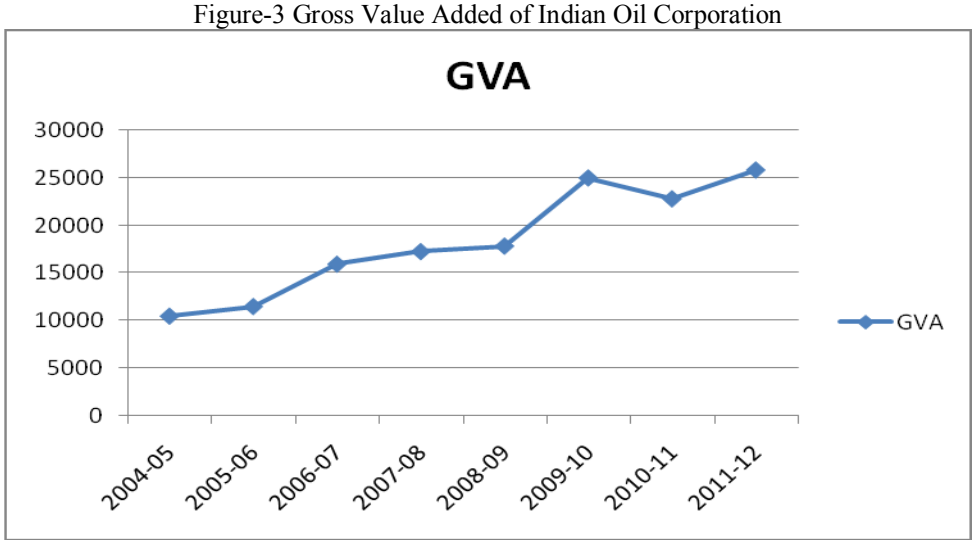


Figure-4 Net Value Added of Indian Oil Corporation

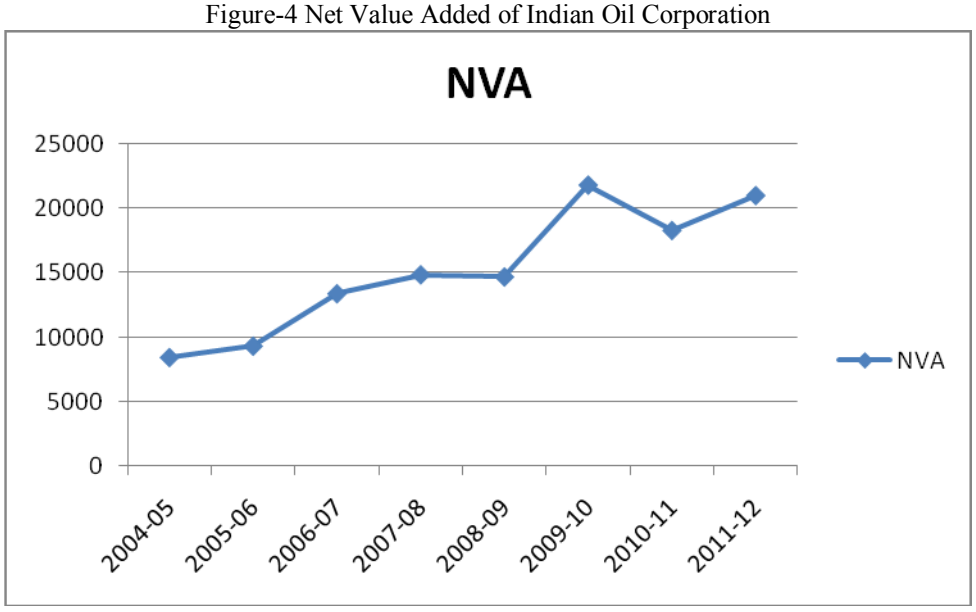


Table -1
Value Added Statement Of Indian Oil Corporation Ltd., For The Period Of 2004-05 To 2011-12(Rs. In Cr.)

particular	2005	2006	2007	2008	2009	2010	2011	2012	Aver-age
Generation of Value Added:									
Sales of products and services	139230.60	174158.30	216447.00	246740.76	307018.81	269366.34	332245.15	438829.68	265504.58
Change in stock	1653.90	2599.33	-180.73	1958.09	-1674.56	5044.25	4972.93	2852.13	2153.17
Value of Production(VP)	140884.50	176757.63	216266.27	248698.85	305344.25	274410.59	337218.08	441681.81	267657.75
VP Indices									
Other income	1489.13	2618.39	5139.99	4857.86	5387.38	6975.21	3451.53	10055.90	4996.92
Gross Output	142373.63	179376.02	221406.26	253556.71	310731.63	281385.80	340669.61	451737.71	272654.67
Less: Brought-in-goods and services purchased									
(a) Material used	122749.12	158487.26	193003.90	222904.19	273890.91	240098.25	300686.43	397108.49	238616.07
(b) Other expenditure	9151.31	9405.38	12466.99	13129.03	19311.36	16294.74	17186.00	28805.17	15718.75
Gross Value Added(GVA)	10473.20	11483.38	15935.37	17523.49	17529.36	24992.81	22797.18	25824.05	18319.85
GVA indices									
Depreciation charged	2072.80	2201.46	2590.31	2709.70	2881.71	3227.14	4546.67	4867.79	3137.20
Net Value Added(NAV)	8400.40	9281.92	13345.06	14813.79	14647.65	21765.67	18250.51	20956.26	15182.66
NAV indices									
Distribution of NAV:									
To Workers/Employees(Staff cost)	1829.17	1844.16	2619.43	2912.26	5692.67	5736.12	6435.55	4980.06	4006.18
To Providers of capital(Loan interest)	604.17	1052.79	1535.77	1589.72	4020.98	1572.35	2702.14	5642.80	2340.09
To Government(Tax)	1063.80	1790.87	2985.53	3117.82	1379.04	3885.54	1650.38	-200.31	1959.08
To Owners (Dividend +Retained Earnings)	4903.26	4594.10	6204.33	7193.99	3554.96	10571.66	7462.44	10533.71	6877.31
Net Value Added	8400.40	9281.92	13345.06	14813.79	14647.65	21765.14	18250.51	20956.26	15182.66

6.2 Analysis of value added ratios:

Table-2 reveals the different ratios computed for Indian Oil Corporation Ltd., for the period of study and their analysis is presented below:

i) Value Added to Material Cost Ratio: It reveals the material productivity of the enterprise. Higher the ratio will be the efficiency of the enterprise in terms of utilization of materials. These ratios were minimum of 0.06 and maximum of 0.10. The average ratio for the period was 0.08 indicating that for every 1 rupee of material cost, value added represents 0.08.

ii) Value Added to Labor cost Ratio: It reveals the labor productivity of the enterprise. A high ratio indicated that the enterprise is highly efficient in terms of labor productivity. . These ratios were minimum of 2.57 and maximum of 6.23. The average ratio for the period was 3.92 indicating that for every 1 rupee of labor cost, value added represents 3.92.

iii) Value Added to Sales Ratio: It reveals the Contribution of Company's sales revenue towards the value addition. An effective sales promotion policy would enable a company to enhance the performance of the company in this regard. These ratios were minimum of 0.05 and maximum of 0.09. The average ratio for the period was 0.07 indicating that for every 1 rupee of sales, value added represents 0.07.

iv) Net Profit to Value Added Ratio: It expresses the owner share in the pool. Higher the ratio, higher will be the concentration of income in few hands and vice-versa. These ratios were minimum of 2.02 and maximum of 5.02. The average ratio for the period was 2.66 indicating that for every 1 rupee of net profit, value added represents 2.66.

v) Value Added to Share Capital Ratio: It indicates the contribution by the company towards the society at large. These ratios were minimum of 7.19 and maximum of 14.69. The average ratio for the period was 11.09 indicating that for every 1 rupee of share capital, value added represents 11.09.

vi) Value Added to Fixed Asset Ratio: It expresses the capital productivity of the enterprise. Greater the ratio higher will be the efficiency of the enterprise in terms of capital productivity. . These ratios were minimum of 0.25 and maximum of 0.68. The average ratio for the period was 0.47 indicating that for every 1 rupee of fixed assets, value added represents 0.47.

vii) Value Added to Net Worth Ratio: It indicates the amount of Value Added created per rupee of Net Worth. Greater the Ratios, higher will be the safety of providers of capital. These ratios were minimum of 0.31 and maximum of 0.49. The average ratio for the period was 0.43 indicating that for every 1 rupee of net worth, value added represents 0.43

viii) Value Added to Capital Employed Ratio: It reveals the efficiency of capital utilization in generating the quantum of value added. The main purpose of computing this ratio is to find out how much is added per unit of capital investment. These ratios were minimum of 0.16 and maximum of 0.26. The average ratio for the period was 0.22 indicating that for every 1 rupee of capital employed, value added represents 0.22.

Table-2
Value Added Ratios of Indian Oil Corporation Ltd., from 2004-05 to 2011-12

Particulars	Set of Ratios	2005	2006	2007	2008	2009	2010	2011	2012	Average
Value Added to Material Cost Ratio	GVA to Material Cost	0.08	0.07	0.08	0.08	0.06	0.10	0.07	0.06	0.08
	NVA to Material Cost	0.07	0.06	0.07	0.07	0.05	0.09	0.06	0.05	0.06
Value Added to Labor Cost Ratio	GVA to Labor Cost	5.72	6.23	6.08	6.02	3.13	4.34	3.54	5.18	3.92
	NVA to Labor Cost	4.59	5.03	5.09	5.08	2.57	3.79	2.83	4.20	3.78
Value Added to Sales Ratio	GVA to Sales	0.07	0.06	0.07	0.07	0.06	0.09	0.069	0.06	0.07
	NVA to Sales	0.06	0.05	0.06	0.06	0.05	0.08	0.05	0.05	0.06
Value Added to Net Profit Ratio	GVA to Net Profit	2.14	2.5	2.57	2.43	5.02	2.36	3.05	2.45	2.66
	NVA to Net Profit	1.71	2.02	2.15	2.06	4.12	2.06	2.45	1.99	2.21
Value Added to Share Capital Ratio	GVA to Share Capital	8.97	9.83	13.36	14.69	14.68	10.29	9.39	10.64	11.09
	NVA to Share Capital	7.19	7.95	11.19	12.42	12.07	8.96	7.52	8.63	9.19
Value Added to Fixed Asset Ratio	GVA to Fixed Asset	0.68	0.46	0.31	0.53	0.51	0.60	0.39	0.43	0.47
	NVA to Fixed Asset	0.57	0.37	0.25	0.45	0.42	0.52	0.31	0.35	0.39
Value added to Net Worth Ratio	GVA to Net Worth	0.40	0.39	0.45	0.43	0.41	0.49	0.41	0.45	0.43
	NVA to Net Worth	0.32	0.31	0.38	0.36	0.33	0.43	0.33	0.36	0.36
Value Added to Capital Employed Ratio	GVA to Capital Employed	0.24	0.21	0.26	0.23	0.20	0.26	0.21	0.19	0.22
	NVA to Capital Employed	0.19	0.17	0.22	0.19	0.16	0.23	0.17	0.16	0.18

VII. Suggestions for practice and research:

The findings of the study would help to improve the current accounting practice by restating profit and loss account into value added statement. As value added is different from profit figure, it would help users of accounting to use value added information to make decisions. For prepares, gross or net value added information would help to understand how the company has generated value added and how it has distributed to different stakeholders. Investors would know the contribution of the company in terms of value addition.

Further research in this area is needed to understand value added by public sector undertakings and private sector undertakings. Longitudinal study would help to know how an entity has generated it value and distributed to different stakeholders.

VIII. Conclusions

This paper begins with the concept of value added and analysed how it is different from the concept of profit. It collected the financials statements of Indian Oil Corporation Ltd., for eight years and restated them into value added statements. Ratio analyses were conducted to understand the usefulness of different value added ratios.

References

[1]. Askren, James W. Bannister and Ellen L. Pavlik (1994) "The impact of performance plan adoption on value added and earnings" Managerial Finance Nov 20 Pp. 27-43.

[2]. Avel haller and herve Stolwy(1995) " value added accounting in Germany and France" presented at annual congress of the European Accounting Association ,Birmingham, UK ,may Pp.10-12.

[3]. American Accounting Association, committee on Accounting and Auditing Measurement, 1989-90, Accounting Horizons (Sept 1991), Pp. 81-105.

[4]. American Accounting Association Committee on Accounting and Auditing Measurement: The Magic in value added: Merits of derived accounting Indicator numbers (1991)
[5]. Boyce, Gordon(1998) Public discourse and decision making: An exploration of possibilities for financial, social and environmental accounting.
[6]. Deegan, C. and A. Hallaman(1991), "The Voluntary Presentation of value Added Statements in Australia: A political Cost Perspective," Accounting and Finance(May 1991), Pp.1-29.
[7]. Hild D., Zur wertschopfung einer warenproduzierenden, Aktien-Gesellschaft,Die wirtscbaftsprufung(Heft 17,1970), Pp.476-480.
[8]. Gray, Rob(1992) Accounting and environmentalism: An exploration of the challenge of gently accounting for accountability, transparency and sustainability. Accounting, Organizations and Society 17(5): 399-425.
[9]. Greider, William(1997) One world, ready or not: The manic logic of global capitalism. New York: Simon & Schuster.
[10]. Morgan, Gareth(1988) Accounting as reality construction: Towards a new epistemology for accounting practice. Accounting, Organizations and Society 13(5): 477-485.
[11]. Michael F. Morley(1979) The valued added statement in Britain, The Accounting Review volume number 3, Pp. 618-629.
[12]. Mee, Gray., and Sidney J. Gray,(1998), "The Value Added Statement: An Innovation for the US Companies," Accounting Horizons (June 1998), Pp.73-81.
[13]. Riahi-Belkaoui,Ahmed and Ellen Pavlik (1994) "The effect of ownership structure on value added performance," Managerial Finance(20,9,1994), Pp.16-22.
[14]. Serge Evraet (1998) "Usefulness of value added reporting: A review and synthesis of the literature "Managerial finance, volume 24 Number 11, Pp.1-15.
[15]. Van Staden.C.J (1998), the usefulness of the value added statement in South Africa" managerial Finance – Volume 24 Number 11 Pp.44-58.
[16]. Staden (2003) The relevance of theories of political economy to the understanding of financial reporting in South Africa The case of Value Added Statements. Accounting forum 27(2) June Pp 224-245.
[17]. Arangies.G,etal (2008) "Management dynamics Vol 17 No 1 Pp-31-43.