A Comparative Analysis Of The Effectiveness Of Three Solvency Management Models

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Abstract

The introduction of the Altman's Z-score model in 1983 and much recently the Enyi's Relative Solvency Ratio model in 2005 has divergently provided financial analysts with alternative methods of analyzing corporate solvency which hitherto was exclusively done using the traditional historical record based ratio analysis, with particular reference to the current ratio. To test the relevance and effectiveness of the three models, real life performance data were extracted from the annual reports of 7 quoted companies, analyzed using the three models and the results compared to show the strengths and weaknesses of each. The result revealed that the current ratio and the Z-score models suffer from many limitations including imprecision while the Relative Solvency Ratio combines the capability of an effective indicator with the precision required of a true predictor.

Keywords: Solvency, Liquidity, Ratio Analysis, Bankruptcy, Performance, Relative Solvency, Working Capital, Current Ratio, Current Assets, Balance Sheet

1. Introduction

It is a proven fact over and throughout the entire history of business entrepreneurship that the overall success and continued sustenance of a business enterprise depends largely on the solvency status of the business. With business dimension and diversification spreading and spanning over several frontiers in goods, services, size, culture, currency, clientele and geographical locations, it is important that an effective method of taking a bird's eye view of the extent and strength of the activity livewire of the enterprise be found and implemented. The management function saddled with the responsibility of finding and implementing such a method is the working capital management. Working capital management is the regulation, adjustment and control of the balance of current assets and current liabilities of a firm such that maturing obligations are met, and the fixed assets are properly serviced (Osisioma, 1997). In the words of Harris (2006), the concept of working capital management is developed to ensure that the organization is able to fund the difference between short-term assets and short-term liabilities. However, Enyi (2006) opines that there is more to working capital

management than just meeting short-term transactional objectives because business solvency revolves primarily around the working capital base of the organization. Liquidity is the main concept and purpose of any working capital management strategy. Working capital management forms the day-to-day business of a firm and occupies a crucial position in financial management (Chakraborty, 2006:210).

Solvency is another word for liquidity and in the words of Bardia (2006), it is the lifeline of a business organization upon which its sustained growth depends. Solvency is the state or ability of a firm to stay financially afloat (that is, the state of being liquid) meeting every financial obligation as they fall due without hindrance and the need to borrow further. Insolvency is the other side of it. In other words, an organization, which is capable of maintaining the status of a "going concern", may be considered solvent. The ultimate outcome of continued insolvency or illiquidity is bankruptcy and this has been the case of greater number of liquidations worldwide.

Sellers, MacParland & Hoffner (2002) in analysing the decisions of Canadian courts on insolvency tried to distinguish between corporate insolvency, liquidity and balance sheet insolvency defined insolvency thus:

Insolvency occurs when

- *a corporation is unable to meet its obligation as they generally come due;*
- *a corporation has ceased meeting obligations as they generally come due;*
- *the property of the corporation at a fair value is not sufficient to enable payment of all obligations due and accruing due.*

To interpret this, the first type of insolvency, they referred to as *corporate insolvency*, the second, they tagged *Liquidity insolvency* and the last they called *Balance sheet insolvency*. Doetsch & Hammer (2002) identified another type of insolvency which they called *Cross Border Insolvency*. Cross Border Insolvency according to them exists where transnational firms are unable to generate sufficient revenue to satisfy their debt obligations. Their financial distress then creates a situation where assets and claimants are scattered across more than one country.

2. Problem of Study

Organizational solvency must be managed in the most efficient manner as to guaranty the systematic growth and continued existence of that organization. To manage a firm's liquidity it is important to employ tools that are proactive rather than reactive in their general approach towards the detection and remediation of the potential problem. The most beneficial tool to any firm should be the one that would give an "advance" warning of an impending catastrophe rather than the symptoms of it, as symptoms only manifest when a patient is already under attack. In this paper, we are going to look at the three most significant liquidity management models with a view to assessing the relevance, effectiveness and limitations of each model and making recommendations as appropriate.

3. Methodology

This study employed the empirical analyses of the annual reports and financial summaries of 7 quoted companies to test the indicative and predictive effectiveness of three solvency management models namely - the normal current ratio analysis, the Altman's Z-score model, and the Enyi's Relative Solvency Ratio (RSR) model, with incisive review of their supporting literature.

4. Supporting Literature

4.1 Liquidity Management and Organizational Efficiency/Effectiveness

The measurement of organizational efficiency underscores in real terms the viability and feasibility expectancy of any organization. How effective an organization becomes is a matter of how competent the overall management is. Efficiency is a function of effectiveness but the two are jointly used to appraise the consequential outcome of the operational activities of an organization which in turn determines the feasibility expectancy of that organization. Efficiency is less precise and definite than effectiveness in that it denotes the relationship existing between inputs and resultant outputs (Anyigbo 2004). In a comparative analysis of corporate efficiency, Kax and Kahn (1987) in Anyigbo (2004) states that more efficient organizations produce more outputs, for the same amount of given inputs; and, therefore, performs financially better. The *going concern* ability of an organization is greatly anchored on the continued solvency of that organization. Solvency in turn is determined by the continued viability of the firm; and viability of any organizations is (most certainly) a function of the organizational efficiency.

4.2 Solvency Management

4.2.1 *Working Capital Management*

It is one thing to come afloat but it is entirely a different ball game to remain or stay afloat. The real management of organizational solvency is vested in the efficient manipulation of the components that makeup the organization's working capital base. To begin with, "*working capital* is a margin or buffer for meeting obligations within the ordinary operating cycle of the business" AARB NO. 43 in Osisioma (1997). In other words, working capital represents the circulating capital of an organization and it may comprise.

- Stocks of trading goods, raw materials, work-in-process and stationeries.
- Debtors and other receivables
- Bank balances and cash
- Marketable securities and other short term claims on third parties.

The definition of working capital is however, incomplete without the other side of it; *the current liabilities* –which include short term claims by third parties on the business. In the true sense of it, working capital is the net difference between the organization's current assets and the current liabilities. For there to be efficiency in working capital management, Osisioma (1997) pointed out that there must exist two elements in the working capital quality namely:.

(a) Necessary Components; and

(b) Desirable Quantities.

He insists that good working capital management must ensure an acceptable relationship between the different components of a firm's working capital so as to make for an efficient mix, which will guarantee capital adequacy as well as make available to the management the desirable quantities of each component of the working capital.

The question here is what constitute the necessary components of a firm's working capital and how much of such necessary components can be regarded as adequate or desirable? The answer to the first part of the question is not farfetched; the necessary components of an organization's working capital will typically follow the trend in the organization's type of business or industry. The common components of working capital for most organizations include cash, debtors, receivables, inventories, marketable securities and redeemable futures. The question as to the adequacy of each component is a matter of conjecture based on more stringent measure tailored in accordance with the need, size and scope of the operations of the firm.

Insolvency and other unsavoury financial problems occur as a result of the inability of the management to identify this need, size and scope and the corresponding quantity of each component of working capital necessary for them. The management of working capital which is saddled with answering this question is, however, the function of financial management. Financial management refers to a decision making process in the prudent utilization of capital resources of a business enterprise *(Okeke, 2000)*. Financial management can also be defined as the management of business capital resources *(Adegeye and Dittoh, 1982 in Ezeagba (2000))*. In other words, financial management can equally be said to cover the core subject of management since it is also seen that the main objective of management is equally anchored on the prudent utilization of capital resources in the achievement of an organizational goal. The distinguishing factor however, remains that financial management requires specialization and expertise and may be concerned with mainly advises on the prudent allocation and/or re-allocation of the resources of the organization as converted into financial format. Financial management provides the basis for business planning, investment, diversification and cash flow statements *(Okeke, 2000)*. Thus, it can rightly be said that the objective of financial management in any organization revolves around prudent management / utilization of the capital resources of that organization towards the achievement of its primary goals in business. To achieve this objective, the firm needs to attain high efficiency in its financial management because the major reason for poor performance is usually weak and ineffective financial management.

The first step towards attaining efficiency in financial management is by keeping accurate financial records and accounts. It is from the analysis of these records that information concerning financial operations and projections can be obtained. This information now forms the

basis of informed decisions on the allocation/re-allocation of the organizational capital resources. The major tools of analysis for financial records are ratios.

Ratios are figures obtained by comparing actual outcome with an expected outcome usually expressed in decimal fractions, percentages and sometimes real numbers. Ratios are useful for comparative analysis of facts and for feedback. Without adequate/accurate feedback, there will be no control or corrective decision making, hence, plans and objectives may become difficult, if not impossible, to attain. The common ratios usually employed in the management of organizational solvency include:

(i) Current Ratio

(ii) Quick /Acid Test Ratio

(iii) Debt /Equity Ratio

(iv) Debt /Total Assets Ratio

(v) Capital Adequacy Ratio

(vi) Liquidity Index

In our empirical analysis we shall be interested only in the use of the current ratio for the following reasons:

i) It is the most widely used and data for its computation can be readily obtained;

ii) Detailed data needed for the computation of quick and other ratios are not published along with other financial data in published annual reports and financial summaries;

iii) It is less ambiguous and universally accepted.

4.2.2 ***Current Ratio***

The current Ratio also known as the working capital ratio measures the totality of all current assets against current liabilities. The current Ratio is a crude measurement of the organizational

solvency, as it affects current liabilities' creditors only. In the opinion of Jafar & Sur (2006:239), it is a basic measure of liquidity. The higher the ratio the more will be the capability of the company to meet its current obligations out of its short-term resources and accordingly, the greater is the margin of safety to short-term creditors. The normal acceptable current ratio is 2:1. This is based on the logic that in the worse situation, even in the event of 50% shrinkage in the value of current assets, the firm will be in a position to pay off its current obligations (Bardia, 2006:225)

4.2.3 *Altman's Bankruptcy Prediction Model*

The first attempt to, perhaps, suggest a more effective way of diagnosing corporate insolvency was made in the works of Altman (1983) in which he used the discriminate analysis technique to calculate bankruptcy ratio. This ratio which uses the Z value to represent overall index of corporate fiscal health, is used mostly by stockholders to determine if the company is a good investment. The formula for the ratio is

$$Z = 1.2X_1 + 1.4X_2 + 3.3\ X_3 + 0.6X_4 + 1.0X_5$$

Where

X_1 = Working capital divided by total assets

X_2 = Retained earnings divided by total assets

X_3 = Earnings before interest and taxes divided by total assets

X_4 = Market value of equity divided by the book value of total of total debt.

X_5 = Sales divided by total assets.

The range of the Z-value for most corporations is between -4 and +8.

According to Altman (1983), financially strong corporations have Z values above 2.99, while those in serious trouble have Z value below 1.81. Those in the middle are question

marks that could go either way. The closer the firm gets to bankruptcy/insolvency, the more accurate the Z value is as a predictor.

A critical look at the components of the Altman's Z value formula and the interpretations reveal that, though the Z-value ratio is a milestone in the prediction of corporate insolvency, it suffers in precision and is likely to mislead the user unless, and of course, the corporation under analysis has already reached the problem spot. Also, more confusing is the range of acceptable values, users would perhaps, have preferred Z-value set in fractions or percentages as these are more or less universal and better understood than the number range used. Though, Altman rightly included working capital, retained earnings and earnings before interest and taxes in his analysis as these are the main, if not the only, determinants of corporate solvency, the inclusion of such items as market value of share and total sales serves little or no purpose in the determination of the corporate solvency. This is because you can make billions of Naira of sales and yet record losses; and as posited earlier, it is profits that fuel continued cash flow, losses only dwindle them. In the same vein, the market value of a company's share is external and has nothing to contribute to either profitability or cash flow. Hence, the inclusion of these two in the analysis only goes further to distort the consequent Z-value outcome.

Business solvency revolves primarily around the working capital base of the organization; the fixed assets are only called upon at the critical but more agonizing stage of dismemberment when the death throes have already set in. The objective of any predictive function is to fore warn about a situation so that it can be avoided or taken advantage of. When this is lacking in a tool, then the tool becomes ineffective. Nevertheless, Altman's work is still a very useful reference point in the analysis and study of business insolvency.

4.2.4 *Enyi's Relative Solvency Ratio (Solvency Prediction) Model*

The quest for a more reliable solvency indication and predictive tool lead to the development of the operational break-even point (OBEP) and the relative solvency ratio RSR by Enyi Patrick Enyi as part of a PhD thesis work in the year 2005.

Operational Break-Even Point (OBEP)

One of the cardinal tools introduced with the development of *Enyi's Relative Solvency Ratio model* is the operational break-even point (OBEP). The operational breakeven point can be defined as "*the point or stage of activity where cumulative contribution margin on recovered production outputs equal the total cumulative production costs and losses of the learning periods*" (Enyi, 2005). In other words, it is the point where the firm has made enough profits to cover all attributable costs. At this point, production, marketing, technical, labour and managerial inputs have become normal and are efficiently combined.

The OBEP is measured in number of production/activity cycles. These cycles may be in days, weeks or months but the general and most common assumption as used in this study is in weeks.

There is no doubt that the successful set up and survival of any business will depend partly on the entrepreneurial skill of the owners or managers and to a greater extent on the availability of adequate capital. Where the capital is inadequate, the ultimate result will be early liquidation unless there is a saving grace. Reason being that in the early stages of a business, there will exist some initial *learning* problems which diminish with time as they are detected and solved. The point of activity where these problems disappear completely is the firm's stabilization point or operational perfection point. This stabilization point is not the same as the operational break-even point. The stabilization point is usually reached first and earlier than the

operational break-even point. Though a low level of capital may get to the stabilization point but to get to the operational break-even point and beyond will depend on the availability of adequate capital as well as the application of a robust mark-up ratio policy. If the initial capital invested is inadequate, the learning problems will deplete it to a point where it will become so weak and unable to keep the business going when stabilization is attained. The formula for the measurement is:

OBEP = (1+m) / 2m

Where,

m = mark-up ratio

OBEP = Operational Break-Even Point

Mark-up Ratio (MUR)

The mark-up ratio is important in the measurement of operational break-even point. The mark-up ratio, here indicates remotely the competence and ability of the management of a firm in the recovery of costs and consequently in the maximization of profit. A firm's long-term survival depends on its ability to sell its products at prices that will cover costs as well as provide a profit margin that will ensure a reasonable rate of return to its investors (*Glautier & Underdown, 1997).* Also Morse & Zimmerman (1997) posited that the pricing decision is one of the most important aspects of a manager's job because if the price of a firm's products or services is set too high, no one will buy the product, and insolvency condition sets in. Likewise, if the price is set too low, the firm will generate sales but will not be able to cover all costs and this can also lead to the firm's failure.

The mark-up ratio (MUR) is measured by dividing the profit before tax (PBT) with the total operating cost (TOC). Total operating cost is measured by deducting the profit before tax from the total sales (TS).

MUR = PBT / TOC

PBT = TS – TOC

TOC = TS – PBT

Working Capital Required (WCR) At Operational Break-even Point.

Arriving at the firms' operational break-even point is one part of the story. The other part lies in estimating the volume of working capital adequate to sustain the operational break-even. It is the opinion of this study that working capital measured using the operational break-even point is a superior measurement of capital adequacy, because it is a working capital estimate relative to the competence and size of the organization's operations. Besides, it is only possible to predict solvency status using this type of working capital estimate. The formula is:

WCR = (TOC / 52) * OBEP

Where,

TOC = Total Operating Cost = TS - PBT

TS = Total Sales

PBT = Profit Before Tax

Here, the 52 represents the number of weeks in a year; assuming that all firms stock up for at least one week's operation. However, 300 and 12 may be used to represent days and months but our study shows that weekly usage is more appropriate and gives more accurate result.

Relative Solvency Ratio (RSR)

The relative solvency ratio measures the liquidity of a business in terms of the availability of adequate working capital against the cumulative demands of continuous production and trading inputs especially when losses associated with incompetence are expected. Relative Solvency Ratio is so called because it compares the available working capital with the required working capital. It is measured as follows:

RSR = Available Working Capital / WCR

Where,

WCR = Working Capital Required at OBEP

The relative solvency ratio can help the organization to determine when external sources of financing working capital are needed and when they are no longer desirable. Recent analysis has also shown that the relative solvency ratio can be effectively applied in the measurement of bank liquidity for effective bank and financial services administration. Most importantly, the relative solvency ratio can be used to predict the likelihood of insolvency and the possible stage that insolvency is expected to occur. The likelihood of insolvency is measured as:

COI = 1 – RSR

Where,

COI = Chance of Insolvency

This is a probabilistic measurement which is expressed in decimal fraction between 0 and 1. Any value below zero indicates a highly solvent company. Values between zero and 1 indicate the degree of insolvency of the firm. Value of 1 (which is unlikely) indicates a bankrupt company while value of zero indicates a healthy company.

The possible stage of insolvency can be measured as follows:

$$POI = OBEP * RSR$$

Where,

RSR = Relative Solvency Ratio

OBEP = Operational Break-Even Point

The result of this measurement is expressed in number of production (activity operations) cycles. It simply tells us the extent (the number of cycles) to which the present stock of working capital can go (be used in production by the firm) before it is completely exhausted assuming no other fund comes by way of revenue or loan during the period.

5. Worked Analysis from Selected Companies

Table 1 shows the analyses of the solvency positions of the 7 quoted firms using the three models and the attendant results for each firm:

TABLE 1: COMPARATIVE ANALYSES OF SOLVENCY MODELS

ID	ITEM	CADBURY(2005)	PZ-C (2007)	FMN (2007)	UAC (2006)	FBN (2007)	CAP (2007)	VONO (2003)
A	TURNOVER	29454949	577900	105668669	28403237	79299000	1986247	353872
B	TOTAL ASSETS	17800232	540800	41845588	19890002	762881000	946920	270500
C	CURRENT ASSETS	24100447	318500	40905458	12356366	746031000	1665802	256000
D	CURRENT LIABILITIES	14264010	120000	34296296	7793795	663429000	938230	197500
E	WORKING CAPITAL	9835537	198500	6609162	4562571	82602000	727572	58500
F	RETAINED EARNINGS	1401333	48500	7473927	3203589	16371000	102748	7854
G	E B I T	4944949	69000	11994898	3893668	22097000	456400	16132
H	PROFIT BEFORE TAX	3853094	68300	9791772	3058344	22097000	456400	16132
I	NO OF SHARES ISSUED	1000840	8600	1553066	1284624	10494000	210000	36266
J	MARKET VALUE PER UNIT	43.60	28.09	88.00	50.00	45.80	52.65	8.00
K	BOOK VALUE OF DEBTS	5000000	61400	13141632	611984	22101000	101942	2500
L	MKT VALUE OF SHARES	43636624	241574	136669808	64231200	480625200	11056500	290128
	ENYI'S MODEL							
M	OPERATING COST (A-H)	25601855	509600	95876897	25344893	57202000	1529847	337740
N	MARK-UP RATE (H/M)	0.15	0.13	0.10	0.12	0.39	0.30	0.05
O	PRO-CYCLE COST (M/52)	492343.37	9800.00	1843786.48	487401.79	1100038.46	29420.13	6495.00
P	O-BEP ((1+N)/2N)	3.82	4.23	5.40	4.64	1.79	2.18	10.97
Q	AWCR (O * P)	1881857.63	41459.88	9948682.60	2263281.78	1973841.47	64018.03	71237.25
R	RSR (E/Q)	5.23	4.79	0.66	2.02	41.85	11.37	0.82
S	COI (1-R)	-4.23	-3.79	0.34	-1.02	-40.85	-10.37	0.18
T	POI (R * P)	19.98	20.26	3.58	9.36	75.09	24.73	9.01
	ALTMAN'S MODEL							
U	X1 ((E/B) * 1.2)	0.66	0.44	0.19	0.28	0.13	0.92	0.26
V	X2 ((F/B) * 1.4)	0.11	0.13	0.25	0.23	0.03	0.15	0.04
W	X3 ((G/B) * 3.3)	0.92	0.42	0.95	0.65	0.10	1.59	0.20
X	X4 ((L/K) * 0.6)	5.24	2.36	6.24	62.97	13.05	65.08	69.63
Y	X5 ((A/B) * 1.0)	1.65	1.07	2.53	1.43	0.10	2.10	1.31
Z	Z - Score	8.58	4.42	10.15	65.55	13.41	69.84	71.44
AA	CURRENT RATIO (C/D)	1.69	2.65	1.19	1.59	1.12	1.78	1.30

6. DISCUSSION

We shall start this discussion by looking at the details of calculation of the solvency indicators/predictors for one of the companies (CADBURY). We represent the data as follows:

ENYI'S MODEL
Mark-Up Rate (MUR) 'm' = 0.15
Production Cycle Cost = 492343
Operational Break-Even Point (OBEP) = 3.82 cycles
Working Capital Required at OBEP = 1881857
Relative Solvency Ratio (RSR) = 5.23
Chance of Insolvency = -4.23 = Nil
Possible Point of Insolvency = 19.98 = 20^{th} cycle (Not possible)
Relative Solvency Ratio (RSR) is 4.23 points or 423% above normal ratio.

ALTMAN'S MODEL
X_1 = 0.66
X_2 = 0.11
X_3 = 0.92
X_4 = 5.24
X_5 = 1.65
Altman's Z-Score = $X_1 + X_2 + X_3 + X_4 + X_5$ = 8.58 = Very solvent

CURRENT RATIO = 1.69 (This is below the normal expectation of 2:1)

Analyzing the effects of the above data starting with the Enyi's model, the company achieved a mark-up rate of 0.15 or 15% which is considered low. This is the reason why its operational break-even point is up to 3.82 cycles which can be considered high for a blue chip company like Cadbury. The production cycle cost of N492,343,000 is the relative cost of one weeks operations assuming that a 52 week regime of annual production cycles is adopted. The operational break-even point (OBEP) at 3.82 means that the company should always hold working capital enough to cover 3.82 production cycles (in this case, 3.82 weeks) because that is the period within which the pricing policy of the company as indicated by the mark-up rate is more likely to recoup the cost of operations to enable another round of investment in working capital from earned income without recourse to outsiders credits. The assumption here is that the firm's activity level will remain the same throughout the foreseeable future. Any change in the size or volume must be subjected to a fresh computation to arrive at the new OBEP. The Working Capital Required (WCR) at OBEP of N1,881,778,654 indicates that the company must maintain a working capital volume of at least N1.882 billion at all times to sustain current and projected activities. The

relative solvency ratio (RSR) of 5.226 indicates that the company has 5.226 times of working capital (4.226 times more than it requires). This is true because while the WCR is N1.882 billion, the working capital available to the company at the balance sheet date is N9.835 billion which inadvertently translates to a -4.226 probability of insolvency; meaning that there is no foreseeable significant threat to the company's solvency status. If we are to go further to predict the likely point of insolvency, this would be given as 19.98 or simply put: the company will become insolvent if there is no inflow of income after an equivalence of 19.98 or 20 OBEP operating cycles. This is absolutely unlikely unless the company becomes dormant because 20 OBEP operating cycles for the company is the equivalence of 20 weeks or 5 months operations.

Coming to the Altman's Z-score value of 8.58; the company can be considered VERY HEALTHY but that is all the model can offer. It does not offer other intermediate information leading to the solvency or the insolvency status. The value of the model could have been enhanced has it been designed to determine operational breakeven, the probability of becoming insolvent and predict future solvency status like the Enyi's model.

Perhaps the least effective of the three models is the universally accepted Current Ratio analysis which measures short term solvency in terms of the relative size of the current assets against that of the current liabilities. As a rule of thumb, the acceptable figure (which can be considered normal) is anything from 2:1 and above (Bardia, 2006:225)

A true test case in this analysis is that of the FMN: While the current ratio is reporting a not-so-comfortable figure of 1.19, the Altman's Z model scores the company a whopping 10.15 on the Z scale (that is 2 points above the 8 points maximum). However, reflecting a more realistic value is the Enyi's RSR model which contends that the company's solvency ratio is low as indicated by the 0.66 figure in Table 1 above. In the opinion of the RSR model the current level of working capital available to the company is only 66% of what the company actually requires. Invariably, the company is at the risk of being insolvent and the chance or probability of doing just that is 34%. This position seems to be in line with that of the low current ratio at

1.19; but it is totally at variance with that of the Altman's Z score model. Perhaps, the seeming distortion in the Altman's Z value comes from two cardinal variables used in the computation. These are the X_4 and X_5 variables. The former takes its value from the Market Value of Equity divided by the Book Value of Debts while the latter is a function of Sales divided by Total assets. While the book value of debts may somewhat affect solvency, the market valuation of the company's shares would have no effect on it because that is external. In the same vein, the volume of sales can only influence performance when the product pricing mechanism is efficient; this cannot be the case for a company with only 0.10 mark-up rate. At N88.00 for a N0.50 equity, the market value of FMN's share has significantly raised the Z value by 6.24 or 61.5% while the sales volume contributed 2.53 or 24.9% to give a total combined overvaluation effect of 8.79 or 86.75.

Another case which tends to bring the defects of the current ratio to the fore is that of the FBN. While the RSR and Z models valued FBN's solvency rate at 41.85 and 13.41 (both very high solvency values) respectively, the current ratio valued it at just 1.2:1; which is very low indeed, but that is absolutely incorrect. FBN is a bank and must maintain high liquidity ratio as can be seen from the RSR of 41.85. That is, it has 40.85 times in working capital more than what it requires for its operations; this, of course, is in consonance with the Central Bank of Nigeria's liquidity requirement.

Possible Drawbacks

All the preceding arguments on the models' drawbacks have centered mainly on current ratio and the Altman's Z score model. This is not to say that the relative solvency ratio has no demerit; far from it. One of the drawbacks on the use of the RSR is the number of assumptions one has to make. First, we have to assume that the mark-up rate, production cycle and operational break-even point is constant throughout the critical period and can be measured adequately; secondly, the procedure for measuring these may still be hazy; and thirdly, the RSR presupposes that certain volume of working capital far above immediate requirements be

maintained at all time as a hedge against operational exigencies. While these drawbacks might be easily dismissed or waived, the main bone of contention is that of maintaining excess liquidity with the attendant costs to the organization. However, some organizations for some good reasons imbibed the habit of maintaining high volume of liquid assets. For instance, Jutur (2006:192) stated that Microsoft Corporation maintains a cash balance enough to buy the entire airline industry twice or 23 space shuttles. They do this for some reasons which include:

- To invest in high yielding short term investments;
- To finance their research and development;
- To acquire on going businesses;
- To fight legal battles and hold off legal risks;
- To finance stock repurchases and stock splits (bonus issues);
- To provide against future uncertainties; and
- To shield off tax from dividend payouts.

Other organizations which indulge in the practice of maintaining high volume of working capital equally have their reasoned out strategies for doing so. Maintaining comfortable solvency status might just be one of the reasons.

Conclusion

Traditionally, ratio analysis is the most widely used tool the world over to feel the pulse of a business enterprise in terms of measuring its financial standing. Particularly, the current ratio is used primarily to measure the liquidity or solvency position of a business enterprise. But as noted earlier, the current ratio has a lot of limitations especially as it affects futuristic solvency status predictions, which might probably be the reason why Edward Altman came up with a refined model called the discriminate analysis or Z-score model which has been credited with some predictive qualities. However, the Z-score itself has been found to carry its own

limitations especially as regards accuracy and precision in its predictive abilities. Nevertheless, the good news is that the analyses based on the Enyi's Relative Solvency Ratio model seem to prove that the model has somewhat overcome the limitations noted on the performance of the two solvency models discussed previously. In deed, a true solvency status indicator and predictor may have been found in the Relative Solvency Ratio model.

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