Pakistan Economic and Social Review
Volume XLI, No. 1&2 (2003), pp. 1-11

RISK ANALYSIS IN CORPORATE MERGER DECISIONS IN DEVELOPING COUNTRIES
The Lipton-Lever Brothers Case in Nigeria

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Abstract. Universally, many business organizations have escaped being submerged in harsh and ever challenging scenarios of their economies when they successfully merged to form stronger commercial and industrial economic units. The primordial and sustained consideration/justification for this strategic option had been financial synergies and allied economies. In so far as these are very necessary, they are far from being sufficient. Other perspectives need to be explored to make the outcome of merger analyses more integrative and iterative. We, in our study, empirically examined the relatively most celebrated corporate merger in Nigeria, the "Lipton-Lever Brothers" amalgamation to underscore the imperativeness of risk minimization in proposed and going merger concerns. Aside the financial bounties, the beauty of that merger further manifested in significantly reduced risk and enhanced corporate health, with $\delta^2 = 1.02$ and $Z = 2.89$. We therefore recommend that these indices be objectively determined and considered, in addition to synergistic returns, when contemplating or evaluating corporate mergers.

I. INTRODUCTION

Many cardinal variables and phenomenal issues exist in business that failure to manage effectively would cause serious corporate damage. While Drucker (1973), Thierauf *et al.* (1977) and Griffin (1990) contended that defective management of men, money, materials and machines (4 Ms) is responsible for general corporate disorganization and sub-optimization; Mintzberg (1973), Kotler (1980), Higgins and Vinze (1993), Fubara (1996), Ottih (1996) and Vinze (1993) attributed .the dwindling fortunes of many commercial and industrial organizations, in developing economies in general

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and Nigeria in particular, to ineffective development and management of corporate strategy, overt and covert power influence/information systems and allied socio-industrial logistics.

Experts who reckon with the total quality management (TQM) school are conscientiously advocating and inculcating in organizational members, the predisposition to do the right things right, the first time, every time (Macdonald, 1995). Aside these generic emphases, the experiences of business in recent times underscore the expediency of paying dispassionate attention to delicate and intricate specifics, such as risk. This is even more imperative when it concerns corporate merger decisions.

Risk, being multi-dimensional and multi-directional, traverses the entire frontiers of the world of business in so many ways. Alonge (1991) argued that risk is an integral part of everyday individual and industrial life. Hirsh (1993) highlighted risk as dysfunctional exposures relating to multinational business. The insurers address risk as possible maladies, tragedies and associated eventualities (Agundu and Karibo, 1995).

However, in times like this, when there are concerted efforts towards attracting and promoting local and foreign investment, understanding and operating with the financial epistemology that considers risk as uncertainty or variability of corporate earnings has become very pertinent and crucial.

For corporate merger decisions in particular, concentrating on financial/managerial synergies as justifications has become obviously peripheral. The possibility of adding or shedding significant "weights of risk" poses a more strategic and pragmatic dimension of merger feasibility. Financially informed investors and their expert proxies would achieve better amalgamations and consolidations with the incorporation of risk in the planning and all through the operating stages. This is our line of thought in this paper. The amalgamation of Lipton Nigeria Limited and Lever Brothers Nigeria Plc is about the most celebrated corporate merger in the Nigerian economy. They are in this work subsequently coded Firm **K** and Firm **L** while the merger is Firm **M**.

II. THEORETICAL/LEGAL PERSPECTIVE

When businesses cannot meaningfully survive and thrive in a given economy, people are denied of the invaluable corporate services and compliments for which the organizations are known. These numerous beneficiary publics include the workforce, shareholders, government, host communities and the society at large. Rather than dying naturally or operating marginally, organizations resort to merging. Many ailing firms in various parts of the world have truly survived by this mechanism. Top fliers have also harnessed the merger option to enhance their dominance of nucleus and wider markets (Onwu, 1994).

In Nigeria, the Companies and Allied Matters Decree (CAMD) of 1990 defined corporate merger as:

> any amalgamation of two undertakings or interests of two or more companies or the companies and one or more corporate bodies.

Giwa (1989) and Onwu (1994) related the economic and operational justifications for mergers to the compelling need to weather worst corporate internalities/externalities, maximize available opportunities, harness economies of scale, manage competition and attain lofty growth and development heights.

In spite of these attractions, the experience of Nigerian firms with respect to mergers is generally tender and sparse. At present, there is appreciable understanding of the conventional legal, financial and socio-psychological considerations in merger decisions but little or no attention has been given, academically prevalent when creating and maintaining corporate unity in diversity. Corporate coalitions end up undermining or amplifying aggregate risk levels. It thus becomes counter-productive when organizations, advertently or inadvertently, go into mergers that *ipso facto* cause aggregate corporate risk level to swell in the short/medium run.

On the other hand, it is further plausible when it is determined from the outset that a proposed amalgamation would drastically reduce risk, as our study sought to exemplify empirically. According to Pandey (1995: p. 492), risk and uncertainty could be used inter-changeably, but not at all times. He then distinguished them, in line with our conceptual conviction, by stating that:

> risk is referred to as a situation where the probability distribution of cash flow of an investment proposal is known. On the other hand, if no information is available to formulate a probability distribution of the cash flows, the situation is known as uncertainty.

Members of the modern investment/portfolio management school, prominent among whom are Markowitz (1952) and Sharpe (1970), demonstrated the application of variance or standard deviation of earnings as an objective/scientific index of risk. Lee and Finnerty (1990), Umoh (1993) and Agundu (1993) provided a more recent and contextual treat. In this paper, the pre- and post-merger risk (variance of earnings) of the corporate entities involved are determined and compared to serve as further contemporary justification or otherwise, of their amalgamation.

The post-merger risk level is technically and functionally related to the corporate health of the firms in their pre- and post-merger states of affairs. This work therefore examined the corporate health of the firms in these perspectives.

III. METHODOLOGY

Being an empirical study, we had to source both primary and secondary data, the bulk of which are financial facts and figures. Visits to the Manufacturers Association of Nigeria (MAN), Central Bank of Nigeria (CBN), Nigerian Stock Exchange (NSE), Nigerian Institute of Management (NIM) and Lever Brothers Nigeria Plc, in Lagos, afforded us the grand opportunity to gather annual reports and statements of accounts, economic reviews/reports and allied publications for various years, containing the requisite primary data for the study.

We also engaged in selective executive questionnaire administration and interviews to further consolidate our primary data base, while secondary data were got from current standard textbooks and journals in Finance/Investment analysis, business policy/strategic management and the general management sciences, most of which are published in the 1990s.

Two pertinent research hypotheses were formulated, as follows:

Hypothesis I

There is a significant difference between the pre-merger risks of the firms and the post-merger risk.

Hypothesis II

The post-merger corporate health of the firms is better than the pre-merger corporate health.

The risk analysis involved tabulations, measure of central tendency and F test parametric/inferential statistical technique. The Multiple Discriminant Analysis (MDA) approach of Altman (1967) is employed in the corporate health analysis, culminating in the determination and comparison of the symbolic Z indices of the firms. Accordingly, the formula is

$$Z = (0.012x_1 + 0.014x_2 + 0.033x_3 + 0.006x_4 + 0.010x_5)\ (100)$$

Where the indicators are non-traditional financial ratios, as follows:

x_1 = Working Capital/Total Assets

x_2 = Retained Earnings/Total Assets

x_3 = Earnings Before Interest and Tax/Total Assets

x_4 = Market Value Shares/Assets (Altman, 1978; Altman, 1983 and Fubara, 1996).

The decision rule is that firms in America and associated economies are adjudged healthy if their Z ranges between 1.8 and 3.0; while in Britain and associated economies, including Nigeria, the Z has to be between 1.5 and 2.0, for a firm to be accorded a clean bill of health. For the risk analysis, the level of significance is 90 percent, that is an alpha (α) measure of 0.10.

Since the merger was actualized in 1984, the comparative risk analysis covers five years before (1979-1983) and five years after (1984-1988). The comparative corporate health analysis has to do with the last year before the merger (1983) and the most current year (of the study) (1997).

IV. DATA ANALYSIS AND EMPIRICAL RESULTS

The analyses proper is preceded and facilitated by the following data-packed tables:

TABLE 1

Pre-Merger Financial Data of Firm **K** (1979-1983) (Nm)

Particulars/Years	1979	1980	1981	1982	1983
Gross Earning (Turnover)	12.66	18.01	21.10	22.75	16.94
Net Earnings (Profit)	1.73	1.63	1.69	2.69	1.67

Source: Annual Reports and Allied Financial Publications of the firms, CBN, NSE and MAN.

TABLE 2

Pre-Merger Financial Data of Firm **L** (1979-1983) (Nm)

Particulars/Years	1979	1980	1981	1982	1983
Gross Earning (Turnover)	132.96	166.52	189.19	208.87	148.28
Net Earnings (Profit)	9.51	7.08	10.56	12.28	9.36

Source: Annual Reports and Allied Financial Publications of the firms, CBN, NSE and MAN.

TABLE 3

Pre-Merger Financial Data of Firm **M** (1984-1988) (Nm)

Particulars/Years	1984	1985	1986	1987	1988
Gross Earning (Turnover)	262.70	266.20	273.36	267.40	269.04
Net Earnings (Profit)	23.70	24.26	24.88	26.01	25.60

Source: Annual Reports and Allied Financial Publications of the firms, CBN, NSE and MAN.

TABLE 4

Pre- and Post-Merger Corporate Health Database of Firms **K**, **L** and **M** (1983 and 1997) (%)

Particulars (Ratios)/ Years	1983 Firm **K**	1983 Firm **L**	1997 Firm **M**
x_1 (WC/TA)	22.07	10.68	9.58
x_2 (RE/TA)	1.81	3.58	6.35
x_3 (EBIT/TA)	12.50	12.53	30.79
x_4 (MVS/BVD)	57.39	41.98	86.29
x_5 (S/TA)	55.56	102.19	114.87

Source: Annual Reports and Allied Financial Publications of the firms, CBN, NSE and MAN with submissions from Questionnaire/Interviews.

TABLE 5

Pre-Merger Net Earnings/Sum of Squares (SS) of Firms **K** and **L** (1979-1983) (Nm)

Year	Firm **K**		Firm **L**		Firm **K** and **L** (Aggregates)	
	Net Earnings (a)	$(a)^2$	Net Earnings (b)	$(b)^2$	Net Earnings (c)	$(c)^2$
1979	1.73	2.99	9.51	90.44	11.24	126.34
1980	1.63	2.66	7.08	50.13	8.71	75.86
1981	1.69	2.86	10.56	111.51	12.25	150.06
1982	2.69	7.24	12.28	150.80	14.97	244.10
1983	1.67	2.79	9.36	87.61	11.03	121.66
Total	9.41	18.54	48.79	490.49	58.20	698.02
Average	1.88		9.76		11.64	

Source: Computations from Tables 1 and 2.

TABLE 6

Post-Merger Net earnings/Sum of Squares (SS)
of Firm **M** (1984-1988) (Nm)

Year	Net Earnings (d)	$(d)^2$
1984	23.70	561.69
1985	24.26	588.55
1986	24.88	619.01
1987	26.01	676.52
1988	25.90	576.52
Total	124.75	670.81
Average	24.95	3116.58

Source: Computations from Tables 1 and 2.

The variance δ^2 measures of the firms are computed using the formula:

$$\delta^2 = \frac{\textit{Corrected sum of squares (SS)}}{n-1}$$

For the Pre-Merger Firms (**K** and **L** aggregates):

$$\delta^2 = \frac{698.02-(58.20)^{2}_{5}}{5-1}$$

$$= \frac{698.02-677.45}{4}$$

$$= \frac{20.57}{4} = \underline{5.14}$$

For the Post-Merger Firm **M**:

$$\delta^2 = \frac{3116.58-3112.51}{5-1}$$

$$= \frac{3116.58-3112.51}{4}$$

$$\delta^2 = \frac{4.07}{4} = \underline{1.02}$$

The F statistic is determined by the formula:

$$F = \frac{\text{Larger Variance}}{\text{Smaller Variance}}$$

$$F = \frac{5.14}{1.02} = \underline{5.04}$$

Based on thee results $F_{cal} = 5.04$ exceeds F_{tab} 0.10 (4, 4) = 4.11, we reject H_0. Therefore, it is empirically established that there is a significant difference between the post-merger risk and the pre-merger risk of the firms.

On the other hand, the corporate health (Z) indices of the pre- and post-merger firms are computed as follows:

$$Z_K = 0.012\,(22.07) + 0.014\,(1.81) + 0.033\,(12.50) + 0.006\,(57.39) + 0.010\,(55.56)$$

$$Z_L = 0.012\,(10.68) + 0.014\,(3.58) + 0.033\,(12.53) + 0.006\,(41.98)$$
$$= 0.13 + 0.05 + 0.14 + 0.25 + 1.02 = 1.86$$

$$Z_M = 0.012\,(9.58) + 0.014\,(6.35) + 0.033\,(30.79) + 0.006\,(86.29) + 0.010\,(114.87)$$
$$= 0.11 + 0.09 + 1.02 + 0.52 + 1.15 = 2.89$$

Based on these results, Z_M exceeds Z_K and Z_L. Therefore, it is empirically established that the post-merger corporate health of the firm is better than the pre-merger corporate health of the firms.

V. SUMMARY OF FINDINGS/CONCLUSION

It is evident from the study that the firms recorded meaningful synergy in their net earnings. Specifically, the pre-merger aggregate net earnings of the firms ranged between N11.24 million in 1979 and N14.97 million in 1982, with a drop to N11.03 million in 1982. With the successful merger of the firms, the net earnings hit N23.7 million in 1984 and increased steadily to an all time high, N25.9 million in 1988.

The variability of earnings (risk) of the pre-merger firms is significantly higher than that of the post-merger firm. The greater predictability of the earnings of the merger is a major attraction particularly to potential investors who depend on past data for investment analysis and selection.

With the very low Z score of "Lipton" it was prone to corporate collapse while "Lever Brothers" was quite healthy before the merger. However, with the merger, the fortunes of the firms (now one corporate entity) were enhanced with the corporate health index exceeding the minimum 2.0. Essentially, the corporate merger has been recording dominantly attractive investment indices, particularly with respect to risk and returns, which necessarily and sufficiently justify the stakeholders decision.

We, therefore, recommend that in addition to strategic and synergistic considerations relating mainly to finance, investors and investment analysts should scientifically investigate the risk minimization prospects of proposed mergers and co-movement of portfolios. The financial synergies and risk economies should be related to the present and future corporate health of the merging firm(s). The industrial and general profile of post-merger "Lever Brothers", for instance, has continued to rise among its contemporaries in the Manufacturing Association of Nigeria (MAN) and the stock market. The Nigerian economy still has many firms that could greatly turn-around their fortunes through effective mergers. We thus commend the merger option in so far as prior analysis indicate significant possibilities of earnings maximization, risk minimization and general corporate health promotion.

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