CASH PLANNING AND PROFITABILITY: A STUDY OP SELECTED NIGERIAN FIRMS

BY

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A Dissertation submitted to Post-Graduate School, Ahmadu Bello University, Zaria in partial fulfilment of the requirements for the award of the Degree of Master of Science in Accounting and Finance.

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DECLARATION

I hereby declare that this research work was carried out by me under the supervision of Dr. J.D. Agarwal who was my course lecturer and my primary Supervisor and Mr. A. Silva my co-supervisor. To the best of my knowledge and belief this research work has never been submitted either at Ahmadu Bello University, Zaria, or any other institution for the award of a degree. The sources of all direct quotations have been acknowledged through the use of footnotes. However, any mistake contained in this work is solely my responsibility.

August 1987 VERONICA N. IKEDIOBI (MRS.)

C E R T I F I C A T I O N

This dissertation entitled "Cash Planning and Profitability: A Study of Selected Nigerian Firms" by VERONICA NNEDUGWU IKEDIOBI meets the regulations governing the award of the degree of Master of Science in Accounting and Finance of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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D E D I C A T I O N

This dissertation is dedicated to my parents, Mr. D.O. Anaeto (deceased) and Mrs. T.U. Anaeto; my children, Okwuolisa, Nneka, Ogechi, Uchenna and Nkechi.

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Finally, I claim sole credit for whatever is creative and useful in this dissertation and accept responsibility for any errors and omissions.

V.N. IKEDIORI (MRS.)

A B S T R A C T

A study of the relationship of cash planning to profitability in selected Nigerian firms in Zaria and Funtua towns of Kaduna State was made.

Information was obtained by administering questionnaires and conducting personal interviews. The study showed that most of the companies examined had no cash planning section although they practised some form of cash planning in the sense that they prepare cash budgets during the annual budgeting period. Cash for them consists of petty cash and money in the bank and not marketable securities, inventories and account receivables. Sales are carried out on cash basis to the generality of the public and on credit basis only to big firms. Because of this, there is no actively functioning credit department in these firms. As sales are mostly on cash basis, there is no need for such practices as factorising account receivables, lock-box systems, remote point disbursement system or playing the float as obtains in the developed countries such as United States of America.

The companies indicated that they do not normally have surplus cash and that their money is mostly kept in current accounts with their banks. This earns them no return. However, they indicated that if they have surplus cash they would normally invest it in term deposits of 3 to 6 months maturity period as repurchase agreements (RPs) and certificates of deposits (CDs) are rarely used in Nigeria.

Majority of these selected companies are dependent on foreign raw materials for their production. The procurement of these raw materials depends on the Federal Government having enough foreign exchange for the manufacturing sector. Because of the state of the economy, the Federal Government has been formulating different and sometimes conflicting policies to aid the manufacturing sector to procure raw materials. As a result of this, most of these companies maintained a large cash balance to take advantage of any of the government's policies. This uncertainty in the economic activities of the country was given as a reason why cash planning is not practised, as it should be, in the majority of the firms in the country. The majority of the firms hold cash mostly for transaction purposes.

Despite what obtains in these companies, many of them agreed that cash planning is important to any business organisation and that it affects profitability.

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LIST OF ABBREVIATIONS

A/Cs. Rec.	Accounts Receivable
C.A.	Current Assets
CDs.	Certificates of Deposit
C.L.	Current Liabilities
EMCON.	Electricity Meter Company Nigeria Limited
G.G.	Golden Guinea Brewery Limited
Inv.	Inventories
L.B.N.	Lever Brothers, Nigeria Limited
N.T.C.	Nigerian Tobacco Company Limited
N.T.M.	Nigerian Textile Mills Limited
RPs.	Repurchase Agreements
Sh. Equ.	Shareholders' Equity
T.B.	Treasury Bills.

CHAPTER 1

INTRODUCTION

1.1 Objective of the Study

The primary objective of this study is to examine and study the relationship of cash planning and profitability of selected firms in Nigeria.

The other objectives are -

1 To examine various other issues relating to cash planning practice(s) in Nigerian firms.

2 To examine the extent, if any, to which cash planning contributes to the efficiency and survival of these selected firms in Nigeria.

3 To determine the nature of problems, if any, these selected firms have encountered in trying to adopt cash management approach.

4 To identify bank requirements in making overdraft facilities available to firms.

5 To identify and study the possible sources of finance available and utilised by some of the selected Nigerian firms.

Small and sometimes even large business firms declaring a huge amount of profits have been known to go bankrupt in developed countries such as the Rolls Royce in the United Kingdom and Penn Central Railroad in the United States of America. Profit as measured by the Accountant, is a technical expression that represents the excess of current income over current expenditure.

Such income and expenditure are not necessarily cash inflows and cash outflows but rather they are the results of consistent application from one accounting period to another, of traditional accounting principles or concepts of relevance and conservatism. Hartley (1976) thus observed "that profit is not a fact but an opinion - albeit an opinion reflecting the accumulated expertise of a professionally qualified accountant."

Harley (1976) quoted the observation of William J. Casey, Chairman of the 'The SEC Staff study of the Financial Collapse of the Penn Central Company' from his (William J. Casey) letter of transmittal dated August 3rd, 1972:

> It is essential that the end result of applying accounting principles to be a realistic reflection of the true situation of the company on which a report is prepared. Here, there was no adequate presentation of the fundamental reality that reported income was not of a character to make a significant contribution to the pressing debt maturities and liquidity needs of Penn Central, nor was it of the sort that might reasonably be expected to be evidence of continuing earning power.
>
> The public was left unaware of the absence of cash flow and the magnitude of the cash loss.

If such catastrophe could befall such reputable companies as Penn Central of U.S.A and Rolls Royce of U.K. where shareholders are very demanding, then it could be worse here in Nigeria where the majority of our shareholders are either ignorant or passive. In recent years we have seen many firms, especially small firms, in this country fold up and many of their workers retrenched. One wonders if their going out of business was not due principally to absence of or poor cash planning and

1.2 Importance of Cash

Many managers when asked to state the ultimate objective of the existence of their business would probably suggest that it is to make profit or to stay in business. If a firm is to continue in existence over the long_term, it must generate income sufficiently in excess of its current expenditure to provide for replacement of its assets, improved standards of employment for its employees, adequate return to shareholders and should also have further amount left to provide for the growth of the business in an inflationary environment. These are long-term objectives with reference to profit as outlined above. The short-term objectives of a firm are not necessarily to make profit but to stay in business avoiding bankruptcy. So management must ensure that the firm stays out of bankruptcy in the short-term if it is to live to enjoy the fruits of profit in the long-term.

There is a naive belief that if a firm makes a profit this will automatically be reflected in the cash till. This is not so because according to Hartley (1976) "profitable firms have been known to go bankrupt whereas firms making losses have been known to have a cash till overflow with surplus funds."

The study like this is very important because according to Pandey (1979) cash is the most important current asset for the operations of the business. Cash is the basic input needed to keep the business running on a continuous basis.

Also cash is the ultimate output expected to be realised by selling the goods or services manufactured by the firm. So the firm should maintain optimal cash balance. While cash shortage will disrupt the firm's manufacturing operations, too much cash will simply remain idle, without contributing anything towards the profitability of the firm.

Cash according to Smith (1977) "is a key asset of the business firm. Although it is a very important current asset, it is by no means the largest asset on the balance sheet." In general ratio of cash as a percentage of total assets for all industrial corporations is considerably smaller than either accounts receivable or inventory.

1.3 Plan of the Study

The study will be divided into six chapters including the present one. In the first chapter an attempt has been made to outline the objectives of the study and briefly give the importance of cash and the research methodology and the limitations of the study.

The second chapter discusses the theoretical work done in this area of cash management with special discussion of the Miller-Orr models and the costs incurred for holding excessive cash and for holding less cash. It also discusses the maintenance of minimum cash balance in the current account in the bank.

The second part of this chapter will focus on cash management practices of the developed countries such as U.S.A. It will discuss lockbox systems, regional banking facilities and remote disbursement system among others and will bring out the advantages of cash management in firms.

In Chapter three the various cash ratios of six selected companies will be computed, tabulated and analysed. For each cash ratio the aggregate ratio for all the companies will also be computed. The cash ratios of each company will be compared with the aggregate ratio for all the companies and deduction made as to liquidity and/or profitability of the company. These various cash ratios, about four of them, will be plotted for each company to show that cash/current asset ratio is the least of all the other cash ratios most of the time. Cash flow statements of these six companies will also be prepared and increases/decreases from year to year will be tabulated and analysed. The years under study will be from 1980 to 1984 where applicable.

In chapter four an attempt will be made to compute the six attributes of the questionnaires on a percentile basis and then draw conclusions from such analysis as to the most prevalent cash management practices among these selected firms in Zaria and Funtua towns of Kaduna State. The six attributes to be discussed are:

1 Overview of the companies that responded to the questionnaire. This will highlight the type of each business organisation and the average staff strength in each.

2 Proposal origination for cash planning in the companies.

3 Cash planning definition and cash composition.

4 Terms of sales and purchases and the mode of payment by customers.

5 Investment of surplus cash and how they meet their cash needs when there is a shortfall.

6 Purposes of holding cash and the importance of cash planning and how it affects the liquidity and profitability of the firm.

In chapter five, based on the responses from the returned questionnaire, an attempt will be made to deduce cash management aspects practised by these selected Nigerian firms and, may be, suggest a cash management practice that could be suitable for some of these selected firms.

Chapter six will be the summary and conclusion of the study. An attempt will also be made to suggest some relevant areas and topics for further research.

1.4 Limitations and Methodology of the Study

This study is limited to a sample of some selected companies in Zaria and Funtua towns in Kaduna State. These are the companies to which questionnaire have been administered. Where possible, their balance sheets and other relevant information have been obtained to help compute cash ratios and prepare cash flow statements. Many of the firms were not prepared to part with some of the information appropriate for this study to make it more relevant and useful.

2 The study concentrates on the short span of 5 years, i.e. from 1980 to 1984 where balance sheets for these periods are available. Larger time span would have made it more useful.

3 Cash flow statements have been prepared for six companies whose balance sheets from 1980 to 1984 have been obtained from the Kaduna Stock Exchange.

The statements are therefore subject to all limitations which may be inherent in the official disclosure of financial statements. Their cash ratios and aggregate ratio were computed and graphs of the cash ratios plotted for these companies for the years under consideration. This study could have been for larger sample of companies.

4 Banking operations are beyond the scope of this study as well.

5 Because of the secretive nature of executives working in Nigerian firms in providing relevant information, many of the questions in the questionnaire were kept open ended introducing to some extent such limitations with which analysis of open ended questions suffer from. This has been taken care of to a certain extent by conducting personal interviews.

In the next chapter, discussion will be based on the available literature on the subject of cash planning and management in developed countries.

C H A P T E R II

LITERATURE REVIEW

The objective of this chapter is to critically review the existing literature on the subject of cash planning and management.

This chapter is divided into two sections. The first section deals with the critical analysis of the theoretical aspects of cash management and planning as obtained in the developed countries. It also discusses the models of cash planning techniques and subsequent improvements of the basic model.

The second section concerns with the empirical aspect of cash planning as carried out daily in the financial institutions of the developed countries particularly U.S.A.

Smith (1979) page 67 stated that:

> The importance of effective cash management cannot be ignored in today's economy. Higher costs of borrowing money, higher yields on new and old types of short-term investments, increasing inflation and intensified competition between business firms have all contributed to the importance of cash management. The availability of improved management techniques has led to most firms being able to operate with less cash on the balance sheet throughout the year.

2.1 CASH PLANNING MODELS: A REVIEW

For some time now economists have framed the firm's cash management problem in terms of an inventory model. In these models, the firm is assumed to have a choice of holding cash and/or securities to bridge the gap between receipts and payments. The firm receives interest from holding securities but must pay a transaction cost every time funds are transferred between the firm's cash balance and its securities portfolio.

When a firm holds more money than it needs for meeting its transactions it will incur an opportunity cost which is an interest foregone had this money been invested in an interest yielding asset. If a firm holds less money, it will incur a shortage cost and ordering cost. Shortage cost and ordering cost arise when the firm is then forced by circumstances to borrow from banks. It may have to accept unfavourable conditions from the lending houses/banks. Such unfavourable conditions may be in the form of high interest rates and/or restrictions may be placed on the firms. The expected transaction cost varies inversely with the average cash balance while the cost of holding cash and interest cost varies directly with the average cash balance. The optimal cash balance is determined by minimizing the sum of these costs.

Several models have been used by firms in trying to maintain the optimal cash balance and in so doing minimise the costs of holding too much or too little cash.

Baumol (1952) and Tobin (1956) worked with models where the firm (or individual) was faced with continuous cash outflows and periodic cash inflows. Their fundamental assumptions are that an economic unit is unable to synchronize completely its cash inflows and outflows and that its pattern of cash receipts and disbursements is relatively inflexible. Here they assumed that a firm receives its cash in a lump sum at the beginning of each relevant transaction period and disburses in a steady stream until at the end of the period when the disbursements are equal to receipts.

If a firm holds transactions balance in the form of cash, it incurs an opportunity cost which can be reduced by investing some of the transactions balances at the beginning of the period. When the need arises later to meet its disbursements, it will borrow. "The income from an appropriately sized investment will exceed the cost of borrowing." This aspect of borrowing was introduced to the basic Baumol's model by Edward L. Whalen.

Miller and Orr (1966) extended the inventory theoretical approach by introducing stochastic cash flows. They utilize the (h,z) * policy approach to determine the optimal cash balance. They assumed only two assets which are the firm's cash balances and a portfolio of earning assets of a short-term money market instruments such as certificates of deposit (CD) or treasury bills (T.B.).

They assumed that transfer between these two assets is instantaneous and the cost of such transfers is irrespective of volume or the direction of the transfer. Orr (1970) extended the Miller-Orr model to a three - asset base model of cash, certificates of deposits and repurchase agreements (RPs). The RPs inventory buffers the CD inventory from daily demands for cash. R.Ps mature in 1 day and have a lower interest rate than CDs. Each day that there is a positive RP balance, the firm incurs a purchase and a "run off" transaction cost.

(h,z) * policy is a policy whereby a firm allows deposits to fluctuate randomly between a lower bound or minimum cash balance of DL and upper bound of Du.

A firm will be willing to forego some interest revenue and incur some transaction cost by maintaining a balance of low-yielding but highly liquid securities in order to avoid the cost of prematurely selling high-yield securities. The Miller-Orr approach was also extended in the development of the four - and five - asset models. In these models, the assets are the "long" asset balance, "short" asset balance, cash balance, "short" debt balance and "long" debt balance.

Homonoff and Wiley Mullins Jr. (1975) conducted an empirical testing of the Miller-Orr model on an unnamed firm which had sales of ₱180 million, maintaining a compensating balance of ₱3 million and RP of ₱1 million. They found that this firm, unlike the two asset assumption of basic Miller-Orr assumptions, has 3 assets comprising of cash, RPs and CDs. Their excess cash was invested either in RPs with maturity of 1 day or in 120-day CDs. They found out that the firm was in agreement with Miller-Orr in areas of transfer cost being constant irrespective of the size and direction of the transfer and that the transfer could occur at anytime and instantaneously. The firm recognised the transfer cost to be high when CDs are discounted before their maturity date. Hence, they consider the transfer costs of buying securities and of maturing securities roughly fixed and equal, thus supporting the often criticized assumption of the Miller-Orr model concerning lumpy transfer costs.

Here, some researchers have noted that the costs of buying and selling of securities are not equal. CDs have maturity of 120 days and they are considered to be "long" earning assets. They are safe and cost very little to purchase but are costly when they are to be sold. If there is no secondary market for them, they will be sold back to the issuing bank and will incur a "goodwill" cost. If they have secondary market the seller will pay the specialist a spread of approximately 5 basis point ($\frac{5}{100}$ of 1% of the value of the CD). The spread may be as large as 15 basis points. Also securities may not mature before being sold thus incurring maturation costs. The basic Miller-Orr model assumes that a security either has an infinite maturity date or conveniently comes due on the day the decision model indicates a sale. The managers of this unnamed firm recognised both the predictable elements in cash flows. The unpredictable element in cash flows is inconsistent with Miller-Orr model except the aspect of the predictable model. The ₵1 million invested in R.Ps which acted as a buffer between cash and CDs was because the firm expected an outflow of that magnitude once a month. The choice of such a large figure for the RP manifested the firm's policy of not discounting CDs before the maturity date and belief that RP transfer costs are negligible.

Further development on the basic Miller-Orr model is that the firm may wish to issue debt to cover transaction demand. This may arise if the firm finds that the transaction cost of issuing short-term debt or borrowing on a line of credit is less expensive than discounting a "long". Or it may go into a period in which it has a negative liquid asset balance, or a liquid asset balance that is less than its compensating balance requirements.

It should be noted that the cost of such a debt is higher than if the debt was obtained on the firm's "cash-rich" days.

In their original paper, Miller and Orr (1966) noted that in addition to the transaction balances implied by their model, the firm will hold a minimum cash balance to compensate the bank for services rendered. They assumed that this minimum cash balance is exogenous to the firm. This required minimum balance is negotiated between the parties and depends basically on the amount of banking services - mainly cheque processing and loan accommodation - that the firm actually uses. This required minimum is actually compensating the banks in lieu of service charges - hence it is exogenous and it is a cost to the firm and is fixed for the firm.

Frost (1970) focussed attention on the discretionary holdings of cash over and above the required minimum. By explicitly stating the firm's demand for banking services and the banks supply function, he was able to study the determinants of the firm's minimum cash balance as well as any relationships that might exist between the firm's transaction balances and its minimum cash balance. As with the basic Miller-Orr model, Frost also noted that the net receipts (receipts minus payments) originating from the operations of the firm are stochastic and that they follow a symmetric random walk that is generated by a sequence of independent Bernoulli trials. He noted that the fluctuations in the net receipts would cause the firm's deposit balance to fluctuate by an equal amount in each period if it was assumed that the firm did not adjust its deposit balance by buying or selling securities during that period. If this is not so, the firm will find it

profitable to adjust its deposit balance from time to time. He assumed that the firm following the (h,z) policy in managing its deposit balance will allow it to fluctuate randomly between a lower bound or minimum cash balance of DL and upper bound of Du. Whenever deposits reach one of these boundaries, the firm adjusts its deposit to a level DL + Z by either buying or selling securities. The firm's control variables in this policy are the minimum cash balance DL, the range h = Du - DL and Z. The average level of deposits D is related to these decision variables by the following equation.

$$\bar{D} = D_L + \left(\frac{h + z}{3}\right) \qquad (3)$$

The second term on the right hand side of the equation gives the firm's average transaction balance. In this paper Frost (1970) also assumed that the firm held deposits in only one bank. The yield from maintaining a deposit account with the bank is made up of a transaction yield and a yield from banking services received in return for maintaining deposit balances. The transaction yield is in the form of lower total transaction cost.

The expected total transaction cost each day would be γt if the firm did not allow its deposits to vary. The expected daily total transaction cost for the (h,z) policy described above would be γ times the expected number of adjustments per day. Miller and Orr (1966) have shown that this is equation to $\frac{\gamma\sigma^2}{2(h - z)}$. Therefore, the transaction yield from following the (h,z) policy is

$$Y(T) = \gamma t - \frac{\gamma\sigma^2}{2(h-z)}$$

The yield from banking services is assumed to be

$$Y(s) = aS - bS^2$$

σ^2 = Variance
γ = Transaction cost
S = Average amount of banking services supplied to the firm

where S denotes the average amount of banking services supplied to the firm each day. From the above equation it implies that the firm's marginal yield from banking services decreases linearly as the amount of banking services increases.

The total yield from maintaining a deposit and following an (h,z) policy is

$$Y = a\,S - bS^2 + \frac{\gamma\sigma^2}{Z(h-z)}$$

The cost of maintaining an account is the alternate cost of having funds tied up in the average deposit balance. The appropriate interest cost is the firm's cost of capital since these funds could have been employed at that rate in some other part of the company. Therefore, the cost is

$$C = \rho\,\bar{D}$$

where ρ is the firm's cost of capital. In this same paper, Frost investigated the amount banking services supplied to firms that maintained only the required minimum cash balance with the bank, minimum cash balance and the average cash balance, and on a financial theory that the amount of banking services to supply depends on the mean and variability of the firm's deposit balance.

The amount of banking services extended to a firm that maintained the minimum cash balance is represented thus:

$$S = g\,D_L.$$

ρ = The firm's cost of capital

The version of this model is equivalent to Miller and Orr's transaction demand model since the supply function is independent to h and z. Although for simplicity Miller and Orr (1966) assumed $D_L = 0$, they recognised that in general it has to be greater than zero in order to compensate the bank for services rendered. The optimal adjustment point is still

$$h = 3z$$

Both h and z vary directly with the firm's transaction cost and the variance of the firm's net receipts; and inversely with the firm's cost of capital. Since the firm's adjustment process is independent of the parameters in the firm's marginal yield from banking services and the bank's supply function, it follows that the firm's minimum cash balance and the amount of banking services supplied are independent of the firm's transaction cost and the variance of the firm's net receipt:

$$\underset{(\text{optimum})}{D_L} = \frac{ag - \rho}{2\,bg^2}$$

$$S = \frac{ag - \rho}{2\,bg.}$$

From the above equations both the minimum cash balance and the amount of banking services supplied will increase when a increases or b decreases. Both the minimum cash balances and the amount of banking services supplied vary inversely with the firm's cost of capital, ρ. Frost (1970) noted that because of the opposite direction of the income and the substitution effects, the minimum cash balance might either increase or decrease if the bank's marginal

propensity to supply service, g, increases. The amount of services supplied will definitely increase if g increases.

The equation for the firm that maintains both the minimum cash balance and average cash balance in determination of the amount of banking services supplied is represented thus:

$$S = j \quad \bar{D} + (k-j) \; D_L$$

Using equation 3, we can rewrite this supply function in terms of the firm's control variable:

$$S = KD + j \; \frac{(h + z)}{3}$$

where k is greater than j since the bank can clearly earn a higher return on deposits that do not fluctuate; also j is greater than zero, since the banks can clearly earn a return on its fluctuating deposits. In this model the optimal adjustment point still lies 1/3 of the way between the lower and upper adjustment boundaries as in Miller and Orr's transaction demand model, $h = 3z$. However, the optimal range is no longer independent of the parameters in the banks supply function.

Frost (1970) noted that large corporations deal with several banks which he classified into local and principal banks. The local banks performed the mechanical functions such as issuing payroll cheques, receiving deposits and transferring funds to the principal banks where the majority of the firm's deposits are held. The major service of principal bank is to supply credit to the firm. The relevant transaction cost, y, for deposits at these banks is the cost of transferring funds to and from the principal bank. The cost of transferring funds

between the banks is less than the transaction cost associated with buying and selling securities.

From these analysis in terms of the simple profit maximising consideration, it is obvious that banking services supplied to firms are greater when a firm maintains both the minimum cash balance and an average transaction balance than a firm that continuously adjusts its deposit balances to a minimum cash balance.

Sastry (1970) incorporated "cash-out" costs in his model on transaction demand for cash. The cash-out costs may be tangible or intangible. The tangible cost is the interest cost of credit while the intangible cost may be because of the financial conservation and/or image of the company they want to present to their creditors.

Neave (1970) dealt with the fixed cost component of the transfer cost when these fixed costs are positive.

Proteus, et al, (1972) treated a model where the transaction cost and penalty charges are levied against an account irrespective of the cash balance amount.

Apart from the invenory methods of forecasting cash, other models are used which are more statistical.

The most comprehensive of the linear programming models is the Orgler (1970) model because of the number of constraints it takes into consideration and its ability to forecast using uneven periods.

The inventory and the linear programming models have not been widely accepted. Paul J. Beehler (1978) stated that:

> One of the major impediments to widespread acceptance of mathematical models, such as the Orgler or Miller-Orr, is the degree of sophisticated mathematical knowledge required. Simply stated, if it cannot be understood by those responsible for results, it will not be used. It is difficult - and impractical - to be reliant on something that cannot be understood.

2.2 CASH MANAGEMENT PRACTICES IN UNITED STATES OF AMERICA

When suggesting a system of fast cash flow in the industry, we may have to look at the American system. In the first section of the literature review, we dealt with the critical review of the theoretical work done on cash planning. Cash planning concerns the collection of cash, mobilization of cash, disbursement of cash and establishment of cash balances, investing surpluses and covering cash shortages.

In developed countries, sales are mostly carried out on credit basis and to a smaller extent on cash basis. Cash flows in connection with credit sales serve to introduce the concept of 'float' which is the time lag or delay between

the movement of disbursement of funds on the part of the buyer and the moment of receipt of funds by the seller.

Negative float to a seller is the length of time he must wait in order to be able to use the funds paid by the buyer of his products and services. The value of negative float is a foregone investment opportunity. On the other hand positive float to a buyer is the value of time during which it can continue to use the funds that are destined to be received by the seller. The value of positive float is what the firm can expect to earn on delayed payment.

A firm is affected by both negative and positive float once it extends and receives credit. But each of such firms tries to minimize the negative float and maximize the positive float.

In order to minimize the negative float, firms have intensified their cash collection by attempting to collect cash as quickly as possible and also by introducing cash discount to encourage buyers to pay cash. There is a high implicit cost for not taking cash discounts, hence discounts are an effective way of inducing customers to pay quickly.

Efforts to speed up cash collection have resulted in the use of lock boxes, factoring and receivable and regional banking system.

Smith (1979) defines lockbox as a procedure whereby a firm rents a post office box in a particular city, and entrusts its management to a commercial bank. The bank monitors the lockbox periodically, twenty-four hours per day. As soon as cheques from customers arrive, they are microfilmed, checked for completeness, and deposited in the account of the receiving firm.

The effect of a lockbox so managed is to reverse two important functions; the receipt and deposit of cash payments from credit customers and the accounting for these payments by the seller firm.

Factorising accounts receivable is a procedure whereby a firm sells its accounts receivable at a discount to get cash.

In regional banking, a firm establishes collection accounts at a series of commercial banks strategically located around the country. This causes the geographically dispersed credit customers of the firm to pay bills in their local regions, rather than causing all payments to be sent to a central location in the country.

Gitman, et al, (op cit, 1977) reported that lock-boxes were the most frequently used method of speeding the collection of accounts receivable by the 97 % of Fortune 1000 firms that responded.

According to Business Week of March 13, 1978, many U.S.A. firms have embarked on the concept of "extended-disbursement float" extending the float an extra two or three days or even more. They in effect have been using Federal Reserve money interest free to pay their bills. The company can keep its own cash on deposit at record-high interest rates, invest it in inventory before prices skyrocket or use it to provide compensating balances to cover the cost of banking services and credit times.

The idea of extended-disbursement float enables "customers to take advantage of a structural defect in the Federal Reserve System. In case of one company disbursing about $100 million a year, we used extended disbursement float to add $1 million to their bank balances". "It's really a big game. It's not a white-hat game, but companies can get rich playing it."

The "structural defect" is the Federal Reserves Board policy of granting "good money" for cheques deposited with it for collection in a maximum of two business days after the cheque is first received into the system. "City items" (cheques drawn on banks in the nation's 36 cities that have Federal Reserve banks or branches) are paid on the second business day after they are received. Thus, the supplier has spendable funds within two banking days after he deposited the cheque, while the company that issues the cheque can hold onto its cash until the cheque is presented for payment. Extended-disbursement float plans simply lengthen the time it takes for the cheque to reach the issuer's bank. Once the firm has collected cash, the next step is to make effective use of those funds. According to Smith (1979), cash mobilization consists of an information system for cash plus alternative methods of transferring cash between various points, within the firm. Cash mobilization requires the knowledge of location of expected cash receipts, planned cash disbursements and available cash balances at any time.

The transfer of funds can be accomplished in places like U.S.A. and Canada through the use of a commercial "for hire" system such as the National Data Corporation. Here as funds are deposited at various points around the country, each unit manager makes a toll-free call to the National Data and indicates the number and amount of deposits made that day. This information ia added to the central data file for the twenty-four hour period. At the designated cut-off time each day, the information is consolidated, and the appropriate amounts to be transferred from one account to another is made to avoid a negative balance.

Funds can be transferred through Western Union Bank Wire. Here each subscriber has a teleprinter and point-to-point operation thus allowing funds to be transferred instantenously between two remote locations and also allows payment to be made to a third party.

Federal Reserve Wire System is available to all banks that are members of the system in U.S.A. Here every three minutes, each terminal is scanned by each member bank thus establishing continual contact between member banks.

Transfer of funds can be accomplished through the use of depository transfer cheques. The advantage is that they must clear through the banking system and funds may not be available for one or two -- business days.

In disbursing cash, firms tend to maximize the positive float by using remote point disbursing or by making payment by draft.

After cash has been collected and mobilized, the next step is to invest it.

According to Business Week of March 13, 1978, until about 1960 a company with cash on hand usually did keep it in a bank balance or in Treasury bills. Then came the First Corporate Cash Management Revolution in the early 1960s - born out of the invention of the negotiable certificate of deposit by Citibank. Treasurers learned that by using certificate of deposits and other investments, they could make money from their money, and such companies as General Electric Co. turned cash management into, if not an art, then certainly a craft. Cash can be invested locally in big-bank Certificate of Deposits, regional bank certificate of deposits, Treasury and Federal agency issues, municipal securities, commercial paper, money market funds and so on.

Companies play the cash management game hard because the reward from adding even a few basis points to their annual return on cash can be high. "NCR's $1 million annual gain required an overall jump of only 35 basis points over its pre-1975 strategy". Keeping it in perspective "A one-half of 1% increase in yield on $100 million means $500,000. For a company with as much cash as IBM, a 0.5% increase in yield bring an additional $27 million to the bottom line."

Apart from investing locally, some corporations in U.S.A. have moved "into foreign investments."

For many companies, simply by rounding up cash from far-flung divisions and dormant bank accounts and as well as tightening up on cash controls, have provided a cash boom.

According to Business Week of March 13, 1978, Foremost-Mckesson Inc, San Francisco squeezed an extra $30 million to $35 million out of operations in recent years by tightening up on its internal controls and by setting up a sort of internal electronic funds transfer system.

Computer has played a part in improving controls and speeding up investment decisions. "Today, if some cash comes in after market closing time in New York a corporation can simply 'follow the sun' and invest the funds farther west in Chicago, Los Angeles or Tokyo without losing a day's interest income."

In this chapter an attempt had been made to study the existing literature on cash planning and management. In the theoretical aspect of the review, an attempt was made to highlight the different costs associated with holding excess cash, and also to discuss some models

developed to monitor the quantity of cash held and how and where the excesses could be invested in to improve the profitability and liquidity of the firm. Cash Management practices in the United States of America were also reviewed.

In the next chapter, an attempt will be made to study and analyse the cash ratios, cashflow statements and their differentials of some selected firms based on their balance sheet statements. The firms will be compared with each other and their relative liquidity/ profitability highlighted.

CHAPTER III

CASH PLANNING: RATIO AND CASHFLOW ANALYSIS OF SELECTED NIGERIAN FIRMS

3.1 Cash Ratios of the Selected Nigerian Firms

Financial ratios may be classified according to the different economic aspects of the firm's operations such as:

1 Profitability ratios

2 Short-term solvency ratios

3 Long-term solvency ratios

4 Efficiency (turnover) ratios.

There are three reasons given as to why a firm needs to hold cash. First and certainly most important is for transaction purposes. Here cash is used to acquire various factors of production that are used by the firm in generating its products and services. Cash balances are also needed "in order to provide for the lack of synchronization between cash inflows to the firm and cash outflows from the firm."[1]

Secondly, cash is needed for precautionary purposes. "Precautionary uses of funds have traditionally provided basic protection to a corporation from unplanned business reversals."[2]

The third reason for holding cash is for speculative purposes which means that the firm chooses to maintain additional cash balances in the event that some unforeseen opportunity, not included in the plans of the business develops.

LEV (1974) stated that "Since the late 1800's, ratio analysis has been the major tool used in the interpretation and evaluation of financial statements for investment decision making."

1 Smith, Keith V. Guide to Working Capital Management, McGraw-Hill, New York, 1979

2 Beehler, Paul J. Contemporary Cash Management Principles Practices, Perspectives. John Wiley & Sons, New York 197

Weston and Brigham (1982) stated that there is a fourth motive for holding cash and the motive is for compensating balance requirements. The commercial banking system performs many functions for business firms who pay for these services in part by direct fees and sometimes in part by maintaining compensating balances at the bank. Compensating balances represent the minimum levels that the firm agrees to maintain in its chequing account with the bank. With this assurance, the bank can loan such funds on a longer basis, earning a return. This represents an indirect fee to the bank.

The analysis of this chapter would be carried out keeping in mind these objectives and the objectives of maximising profitability and optimal liquidity. When a firm is holding excess cash, its liquidity position is improved, it is less risky but its profitability is reduced because the firm is holding more cash than required, which could have been invested to yield a higher return for the firm. When a firm is holding less cash, it is less liquid, highly risky but its profitability is increased. This is due to the fact that the excess cash has been invested for a return for the firm.

Cash mismanagement may affect the profitability and liquidity of the firm. More liquidity means less profitability because there is an inverse relationship between them. This is because the funds in the firm are held at a cost. A finance manager needs to balance the two conflicting aspects of liquidity and profitability.

For purposes of this study, we would concentrate on a number of liquidity ratios and ratios of cash to other items of the balance sheet such as:

1 Cash/Inventory ratios

2 Cash/Accounts receivable ratios

3 Cash/Current assets ratios

4 Cash/Current Liabilities ratios

5 Current Assets/Current Liabilities ratios

6 Cash/Shareholders' Equity ratios.

Most of these ratios are unconventional in nature but will help to have a better perspective of cash planning/ forecasting, liquidity and profitability aspects of a firm. Let us briefly discuss each of the above ratios.

3.1.1 CASH/INVENTORY RATIO

This ratio is the proportion of cash to the inventory. Cash is needed to replenish the stock of inventory. If more cash is held in proportion to inventory, it means that apart from the company being liquid, it is holding excess cash which could be invested to earn a higher return for the company. However if less cash is held, it means that the company may not have enough cash to replenish its invetory and may be forced by the circumstances to go to the bank and borrow at a higher interest rate. Or it may be forced to factor its accounts receivable or sell some of its current assets at a lower price. And this does affect the profitability of the firm.

TABLE AGGREGATE RATIO ANALYSIS OF CASH FOR ALL THE COMPANIES

	1980	1981	1982	1983	1984
Cash/Inventory	0.30	0.26	0.77	1.97	1.52
Cash/Account Receivable	0.77	0.61	1.90	2.05	2.06
Cash/Current Assets	0.13	0.19	0.20	0.27	0.29
Cash/Current Liabilities	0.15	0.17	0.23	0.40	0.45
Cash/Shareholder's Equity	0.18	0.13	0.30	0.29	(0.14)
CurrentAsset/Current Liability	1.28	0.82	1.03	1.13	1.25

TABLE 3.1: CASH/INVENTORY RATIO ANALYSIS OF THE COMPANIES AND THEIR AGGREGATE MEAN

	1980	1981	1982	1983	1984	$\bar{x}$	σ^2
Aggregate Ratio	0.30	0.26	0.77	1.97	1.52		
Texaco	1.22	0.89^{L*}	1.42	4.74^{H*}	2.80	2.21	2.02
N.T.M	0.01	0.00^{L}	0.01	0.11	0.24^{H}	0.07	0.01
Golden Guinea	0.22^{L}	0.35	1.30	3.66	4.21^{H}	1.95	2.80
EMCON	-	0.04^{H}	0.03	0.02^{L}	0.04^{H}	0.03	0.00
L.B.N.	0.29	0.25^{L}	1.85	3.08^{H}	1.30	1.35	1.11
N.T.C.	0.07	0.01^{L}	0.02	0.19	0.54^{H}	0.17	0.04

Source: Analysed Balance Sheets of the above Companies

COMPARISON OF TEXACO CASH/INVENTORY RATIOS TO THE AGGREGATE MEAN CASH/INVENTORY RATIOS OF THE COMPANIES

In 1980 the aggregate ratio of cash to inventory for all the firms analysed was 0.30. That meant that for every 100 points of inventory, the companies should have had 30 points of cash. Texaco in 1980 had cash/inventory ratio of 1.22 which is about four times higher than the aggregate mean of 1980. As per Table 3.1 above, Texaco has a much higher cash/inventory ratio than the aggregate mean ratios for all the years under consideration.

L* - Lowest
H* - Highest

The lowest ratio was in 1981 but that was three times higher than the average, while the highest ratio was in 1983 which was about twice higher than the aggregate mean for 1983. This showed that there was too much cash in comparison to inventory, and this excess cash could have been invested to yield a higher return for the company.

NIGERIAN TEXTILE MILLS

It has lower ratios for the years under consideration than the aggregate mean ratios of all the companies for the same period. The lowest ratio was in 1981; while the highest ratio was in 1984 which was about six times lower than the aggregate mean. This meant that it had very little cash. In 1980, 1981 and 1982 it had very minimal or no cash in comparison to the stock. This could be very disastrous because if the supply of stock, or the stock of inventory dwindled, it could not have had money to replenish the stock. It may be forced to borrow at a higher interest rate or face a stockout situation thereby affecting the profitability of the firm.

GOLDEN GUINEA

In 1980 and 1981 the ratios of cash/inventory for Golden Guinea was fluctuating around those of the aggregate mean of the companies for the same period. This observation showed that the cash/inventory ratios for 1980 and 1981 could have been optimum. But from 1982 to 1984, the ratios were much higher than the aggregate mean ratios for the same period. The company might have been very liquid during that period but the

excess cash could have been invested thereby improving the profitability of the company. The highest ratio was in 1984 which was almost 3 times higher than the aggregate ratio of 1984. The lowest ratio was in 1980 which was a little lower than the aggregate ratio for 1980.

EMCON

In 1980, there was no figure in the balance sheet for inventory and hence no ratio for 1980. From 1981 to 1984, the ratios were much lower than the aggregate mean ratios for the years under study. This showed that the company was not liquid. The lowest ratio was in 1983 which was about ninety-nine times lower than the aggregate mean while the highest ratio was in 1981 and 1984 which was about seven times and thirty-eight times respectively lower than their aggregate mean ratios.

LEVER BROTHERS NIG.

In 1980 and 1981, the cash/inventory ratios were almost as those of the aggregate mean ratios of the companies for 1980 and 1981. In 1982 and 1983, the LBN ratios were higher than the aggregate mean ratios of the same period. This meant that the company was very liquid but probably less profitable because of holding the excess cash which could have been invested for a higher return. The highest ratio was in 1983 and this was about twice higher than the aggregate mean ratio. The lowest ratio was in 1981 which was about .01 lower than the aggregate ratio.

NIGERIAN TOBACCO COMPANY

From 1980 to 1984, the ratios were considerably much lower than the aggregate mean ratios of the same period. This showed that the company was not liquid on the average. The highest ratio was in 1984 which was about three times lower than the aggregate mean ratio for 1984. The lowest ratio was in 1981 which was twenty-six times lower than the aggregate mean ratio of 1981.

For the majority of the companies under consideration, the cash/inventory ratio was lowest in 1981 and highest in 1984. Texaco had the highest cash/inventory ratios among the companies being analysed while EMCON had the lowest.

Texaco had the highest $\bar{x}$ of 2.21 which showed that it was most liquid, while EMCON had the lowest $\bar{x}$ of 0.03 showing that it was least liquid. EMCON had the lowest $\bar{x}$ and σ^2. This showed that for cash/inventory ratio when EMCON was compared with the other companies, it was least liquid but improved profitability with high consistency.

3.1.2 CASH/ACCOUNTS RECEIVABLE RATIO

This ratio shows how successful the company is in its debt collection efforts. If the ratio is high, it shows that the company is successful in collecting its debts and as such it has cash to replenish its stock which would be sold on credit thereby increasing its turnover and thereby improving its profitability. A lower ratio is an indication of poor redemption of accounts receivable from its debtors and as such the company may run out of cash to meet its daily financial obligations. This situation can hamper profitability. The firm may be forced to sell its current assets at a lower price for cash, be forced to borrow from banks at a higher interest rate or be made to undertake some restrictions on

TABLE 3.2: CASH/ACCOUNTS RECEIVABLE RATIOS OF VARIOUS COMPANIES AND THE AGGREGATE MEAN RATIO

	1980	1981	1982	1983	1984	$\bar{x}$	σ^2
Aggregate Ratio	0.77	0.61	1.90	2.05	2.06		
Texaco	2.35^{H}	1.39^{L}	2.23	1.96	1.69	1.92	0.12
N.T.M	0.03	0.00^{L}	0.03	0.27	0.62^{H}	0.19	0.06
Golden Guinea	0.33^{L}	1.04	2.37	3.66^{H}	2.81	2.04	1.45
ETCON	0.18	0.29^{H}	0.09	0.03^{L}	0.05	0.13	0.01
L.B.N	1.00	0.90^{L}	6.58^{H}	4.72	4.28	3.50	4.92
N.T.C.	0.70	0.03^{L}	0.11	1.64	2.92^{H}	1.08	1.18

Source: Analysed Balance Sheets of the above Companies

TEXACO

From 1980 to 1982, its ratios were much higher than those of the aggregate ratios for the same period. This showed that the debtors were paying in cash and as such the company was liquid. From 1983 to 1984, its ratios were slightly lower than the aggregate mean ratios of the period. The highest ratio was in 1980 which was about three times higher than the aggregate ratio while the lowest ratio was in 1981 which was still higher than the aggregate ratio by almost two times.

N.T.M.

Throughout the period under study, its ratios were considerably lower than the aggregate mean ratios. This could be an indication of poor debt collection by the company. The company could not be liquid and could have obviously been in financial difficulty leading to its not being able to meet its financial obligations. The highest ratio was in 1984 which was at least thrice lower than the aggregate mean ratio, while the lowest was in 1981.

GOLDEN GUINEA

In 1980, its ratio was much lower than the aggregate ratio. From 1981 to 1984, its ratios were much higher than the aggregate mean ratios. This showed that the company could not have been liquid in 1980, but from 1981 to 1984 it was probably very liquid. The highest ratio was in 1983 which was about two times higher than the aggregate mean ratio. The lowest ratio which in 1980 was almost two times lower than the aggregate ratio.

EMCON

Its ratios were very considerably lower than the aggregate ratios from 1980 to 1984. The highest ratio was in 1981 which was about half of the aggregate ratio. The lowest ratio was in 1983 which was lower than the aggregate ratio by sixty-eight times.

L.B.N.

Its ratios were much higher than the aggregate ratios from 1980 to 1984. Its highest ratio was in 1982 which was over three times higher than the aggregate. The lowest ratio was in 1981 which was about one and half times greater than the aggregate ratio.

N.T.C.

From 1980 to 1983 its ratios were lower than the aggregate ratios but in 1984 its ratio which happened to be its highest ratio for the period was higher than the aggregate ratio by at least one third. The lowest ratio was in 1981 which was about twenty times lower than the aggregate mean.

KASHIM IBRAHIM

For the majority of the companies under study, 1981 appeared to be the year in which they had the lowest ratio while the year with the highest ratio was not very obvious. L.B.N. appeared to have the highest cash/accounts receivable ratios on the average while EMCON had the lowest ratios on the average. L.B.N. had the highest $\bar{x}$ of 3.50, making it the most liquid. EMCON had a $\bar{x}$ of 0.13, the lowest which made it least liquid. L.B.N. had the highest σ^2 of 4.92 which made it appear least profitable. EMCON had the least σ^2 of 0.01 making it appear to be the most profitable. LBN with the highest $\bar{x}$ and σ^2 for the cash/inventory ratios made it highly liquid of the companies while EMCOn with the lowest $\bar{x}$ and σ^2 was least liquid; it showed improved profitability and was more consistent.

3.1.3 CASH/CURRENT LIABILITY RATIO

This ratio shows how solvent the firm is. If the ratio is high, it means that the company would be able to pay for its current or short-term debts without necessarily having to sell some of its current assets to generate cash. If the ratio is low it means that the company is less liquid and in case of any urgent demand from its creditors, it will be forced to sell some of its current assets at a take-away price thereby incurring loses for the firm.

TABLE 3.3: CASH/CURRENT LIABILITIES RATIOS OF VARIOUS COMPANIES AND THE AGGREGATE MEAN RATIO

	1980	1981	1982	1983	1984	$\bar{x}$	σ^2
Aggregate	0.15	0.07	0.23	0.40	0.45		
Texaco	0.20^{H}	0.12^{L}	0.16	0.18	0.17	0.17	0.000
N.T.M.	0.01	0.00^{L}	0.00	0.04	0.17^{H}	0.04	0.00
Golden Guinea	0.05^{L}	0.16	0.65	1.46	1.48^{H}	0.76	0.38
EMCON	0.40^{H}	0.02	0.02	0.00^{L}	0.01	0.09	0.02
L.B.N.	0.15	0.13^{L}	0.51	0.53^{H}	0.50	0.36	0.03
N.T.C.	0.09	0.01^{L}	0.02	0.18	0.37^{H}	0.13	0.02

Source: Analysed Balance Sheets of the above Companies

TEXACO

From 1980 to 1981 its ratios were higher than the aggregate ratios. This showed that had some of the creditors called up their short-term loans, Texaco would have had enough cash to meet their financial obligations because it was liquid. From 1982 to 1984, the ratios were lower than the aggregate ratios which meant that had the creditors called up their short-term loans, Texaco could have found it difficult to meet its financial obligation and that could have led to a default. Its highest ratio was in 1980 which was 0.5 higher than the aggregate ratio while the lowest ratio was in 1981 which was also higher than the aggregate ratio but only by 0.05 .

N.T.M.

Its ratios from 1980 to 1984 were much lower than the aggregate ratios. In 1981 and 1982, the ratios were zero. The company's liquidity for that period was very poor. The lowest ratio was in 1981 and 1982 while the highest ratio was in 1984 but which was about three times lower than the aggregate.

GOLDEN GUINEA

Its ratio in 1980 was lower than that of the aggregate ratio; but from 1981 to 1984 the ratios became higher than the aggregate ratios. The higher ratio was in 1984 which was over three times greater than the aggregate ratio. The lowest ratio was in 1980 which was three times lower than the aggregate.

EMCON

In 1980, its ratio was higher than the aggregate ratio by two and half times and its ratio that year was the highest. From 1981 to 1984, its ratios were lower than those of the aggregate. The lowest ratio was in 1983 when it was zero.

L.B.N.

In 1980, its ratio was equal to the aggregate ratio. From 1981 to 1984 its ratios were slightly higher than the aggregate. The highest ratio was in 1983 while the lowest was in 1981.

N.T.C.

From 1980 to 1984 its ratios were in general considerably lower than the aggregate ratios. Its highest ratio was in 1984 while the lowest was in 1981.

Majority of the companies studied had their lowest ratio in 1981 while only 50% of the companies had their highest ratios in 1984. At a glance it appeared that NTM and EMCON had the lowest ratios in comparison to the other companies while Golden Guinea had the highest ratios.

The probable deduction for EMCON and NTM having low ratios could be attributed to the fact that EMCON was a young company. That of NTM could be attributed to the fact that, it being a textile industry, it could not afford to hold cash as it was being ploughed back to replenish its inventory.

Golden Guineas had the highest $\bar{x}$ making it the most liquid while NTM had the lowest $\bar{x}$ making it the least liquid. Golden Guinea had the highest σ^{-2} which made it least profitable while Texaco and NTM had the lowest σ^{-2} making them appear to be the most profitable. Golden Guinea having the highest σ^{-2} and $\bar{x}$ was the most highly liquid of all the companies under study while NTM appeared to be the most profitable having the least $\bar{x}$ and σ^{-2} and more consistent.

3.1.4 CURRENT ASSETS/CURRENT LIABILITIES RATIO

A ratio of 2:1 is considered adequate for majority of firms. Some firms may have a lower ratio and still be considered very liquid. However in this study, we are analysing the firms which are in different industries but in order to enable us compare one firm with another, the aggregate ratios were calculated. These aggregate ratios were less than 2. This ratio could serve as a control and a guide for the ratio of cash/current liabilities. In that analysis, it was found that the majority of the companies had their lowest ratio in 1981 while 50% of them had their highest in 1984. But in this standard liquidity ratio, it showed that 50% of the companies had their lowest ratio in 1981 while 50% had their highest in 1980. The Cash/Current Liabilities Ratios (Table 3.3) showed that NTM and EMCON had the lowest ratios for the period while Golden Guinea had the highest. This is confirmed by the current asset/current liability ratios. This has shown that cash/current liability ratio yields almost the same liquidity result as the conventional current asset/current liability ratio.

TABLE 3.4: CURRENT ASSETS/CURRENT LIABILITIES RATIOS OF VARIOUS COMPANIES AND THE AGGREGATE MEAN RATIO

	1980	1981	1982	1983	1984	$\bar{x}$	σ^2
Aggregate mean Ratio	1.28	0.82	1.03	1.13	1.25		
Texaco	1.06^{H}	1.04	0.99	0.98	0.96^{L}	1.01	0.00
N.T.M.	1.22^{H}	0.84	0.53	0.52^{L}	1.12	0.85	0.08
Golden Guinea	0.46^{L}	0.78	1.42	2.26	2.35^{H}	1.45	0.58
EMCON	2.62^{H}	0.14^{L}	0.73	0.58	0.56	0.93	0.76
L.B.N.	0.84	0.78^{L}	0.97	1.00	1.07^{H}	0.93	0.01
N.T.C.	1.49	1.33^{L}	1.53^{H}	1.42	1.42	1.44	0.00

Source: Analysed Balance Sheets of the above Companies

TEXACO

In 1980 and from 1982 to 1984 its ratios were lower than the aggregate mean ratios showing that the company was not very liquid. It was only in 1981 that its ratio was higher than the aggregate ratio. So in 1981, Texaco's liquidity position was comparatively satisfactory.

N.T.M.

NTM ratios followed almost the same pattern as those of Texaco. In 1980, its ratio was only 0.06 lower than that of the aggregate ratio. However, from 1982 to 1984 its ratios were much lower than those of the aggregate ratios. In 1981, its ratio was higher than the aggregate by only 0.02.

GOLDEN GUINEA

In 1980, its ratio was much lower than that of the aggregate ratio; in 1981 it was slightly lower while from 1982 to 1984 its ratios were much higher than those of the aggregate ratios. This showed that from 1980 to 1981 the company was less liquid and from 1982 to 1984 it was much more liquid and probably less profitable.

EMCON

In 1980, EMCON's ratio was much higher than that of the aggregate ratio while from 1981 to 1984 its ratios were considerably lower than those of the aggregate ratios. This could have been an indication that EMCON was very liquid in 1980 but probably less profitable that year than from 1981 to 1984 when it was not liquid but perhaps more profitable.

L.B.N.

For the years under consideration, its ratios were lower than those of aggregate ratios. From this analysis it showed that the company was not liquid throughout the period.

N.T.C.

From 1980 to 1984, its ratios were higher than those of the aggregate ratios showing that the company was very liquid but probably less profitable during that period.

Table 3.4 showed that most of the companies had their highest ratios in 1980 while their lowest ratios were in 1981. Golden Guinea had the highest $\bar{x}$ of 1.45 showing that it was most liquid of the companies studied during that period while EMCON and LBN had the lowest in each case 0.93 showing that they were least liquid. EMCON had the highest σ^{-2} of 0.76 which made it the most profitable of the companies under study while Texaco and NTC each had σ^{-2} of zero making them the least profitable.

3.1.5 CASH/SHAREHOLDERS' EQUITY RATIOS

The shareholders' equity is made up of share capital and profits retained. These are converted into resources for the firm. The resources are in fixed and current assets. The current assets are the liquid resources.

Shareholders would not prefer to have a much higher proportion, than adequate, of their resources to be in cash. They would prefer that the bulk of their resources are in productive use to earn them more return. This ratio is considered important maybe at the time of liquidation when the creditors of the company will be paid and then whatever is left will be shared among the owners of the company.

TABLE 3.5: CASH/SHAREHOLDER'S EQUITY RATIOS OF VARIOUS COMPANIES AND THE AGGREGATE MEAN RATIO

	1980	1981	1982	1983	1984	$\bar{x}$	σ^2
Aggregate Ratio	0.18	0.13	0.30	0.29	(0.14)		
Texaco	0.80^{H}	0.50	0.67	0.62	0.39^{L}	0.60	0.02
N.T.M.	0.01^{H}	0.01^{H}	(0.04)	(0.16)	$(2.65)^{L}$	(0.57)	1.09
Golden Guinea	0.02^{L}	0.08	0.40	0.65	0.66^{H}	0.36	0.07
EMCON	0.02	0.04^{H}	0.04^{H}	$(0.05)^{L}$	(0.04)	0.00	0.00
L.B.N.	0.17	0.12^{L}	0.70^{H}	0.60	0.61	0.44	0.06
N.T.C.	0.04	0.00^{L}	0.01	0.08	0.18^{H}	0.06	0.00

Source: Analysed Balance Sheets of the above Companies

TEXACO

From 1980 to 1984, its ratios were much higher than those of the aggregate ratios showing that the company was very liquid. It is obvious that the shareholders would have preferred if less cash was held to improve the profitability of the firm.

N.T.M.

Its ratios from 1980 to 1981 were much lower than those of the aggregate ratios, showing that the company was not liquid. This could have been very unfavourable to the creditors. From 1982 to 1984 the ratios were all in the negative values.

GOLDEN GUINEA

From 1980 to 1981, its ratios were lower than those of the aggregate ratios while from 1982 to 1984 its ratios were higher than those of the aggregate ratios. The creditors would have been favoured from 1982 to 1984 because the company appeared to have been very liquid.

EMCON

From 1980 to 1984 all its ratios were much lower than the aggregate ratios with the values of the ratios from 1983 to 1984 being negative. The company was less liquid.

L.B.N.

In 1980 and 1981, its ratios were fluctuating around the aggregate ratios. But from 1982 to 1984, its ratios were much higher than those of the aggregate ratios. The analysis showed that the company must have maintained the optimum balance between profitability and liquidity in 1980 and 1981 while from 1982 to 1984 it must have sacrificed profitability for liquidity.

N.T.C.

Its ratios from 1980 to 1983 were much lower than those of the aggregate ratios but in 1984 its ratio became much higher than that of the aggregate ratio.

Texaco had the highest $\bar{x}$ while NTM had the lowest $\bar{x}$. This showed that Texaco was most liquid while NTM was least liquid. NTM had the highest σ^{-2} while EMCON and NTC had the lowest σ^{-2}. Since NTM had the lowest $\bar{x}$ and the highest σ^{-2} it was considered to be most profitable but less consistent.

3.1.6 CASH/CURRENT ASSETS RATIO

This is the proportion of cash to the total current assets of the firm. If this ratio is high it means that the company is holding a large amount of cash in proportion to the current assets. This shows that the company is very liquid but may be trading off profitability for liquidity. It has money to meet its financial obligations.

TABLE 3.6: CASH/CURRENT ASSETS RATIOS OF THE VARIOUS COMPANIES AND THE AGGREGATE MEAN RATIO

	1980	1981	1982	1983	1984	$\bar{x}$	σ^{-2}
Aggregate Ratio	0.13	0.09	0.20	0.27	0.29		
Texaco	0.23^{H}	0.13^{L}	0.19	0.23^{H}	0.18	0.19	0.00
N.T.M.	0.01	0.00^{L}	0.01	0.07	0.15^{H}	0.05	0.00
Golden Guinea	0.12^{L}	0.21	0.46	0.65^{H}	0.63	0.41	0.05
EMCON	0.15^{H}	0.03	0.02	0.01^{L}	0.02	0.05	0.00
L.B.N.	0.18	0.16^{L}	0.53^{H}	0.53^{H}	0.47	0.37	0.03
N.T.C.	0.06	0.00^{L}	0.01	0.13	0.26^{H}	0.09	0.01

Source: Analysed Balance Sheets of the above Companies

TEXACO

In 1982 and 1983 its ratios fluctuated around those of the aggregate showing that it might have maintained an optimum balance between liquidity and profitability during that period. In 1980 and 1981 the ratios were higher than those of the aggregate ratios, while in 1984 its ratio was lower than the aggregate ratio. This showed that in 1980 and 1981 the company was very liquid while it was less liquid in the period 1982 to 1984.

N.T.M.

For the period under consideration its ratios were much lower than those of the aggregate ratios showing that it might have been less liquid during that period.

GOLDEN GUINEA

In 1980 its ratio was almost the same as that of the aggregate ratio but from 1981 to 1984 its ratios were much higher than those of the aggregate ratios.

EMCON

In 1980 its ratio was higher than the aggregate ratio by 0.02. But from 1981 to 1984 its ratios were much lower than those of the aggregate ratios.

L.B.N.

From 1981 to 1984 its ratios were much higher than those of the aggregate. In 1980 its ratio was higher than the aggregate ratio by 0.05. So from 1980 to 1984 the company might have been very liquid.

N.T.C.

From 1980 to 1983 its ratios were much lower than those of the aggregate ratios. In 1984 its ratio was lower than the aggregate ratio by 0.03. The company had been less liquid but perhaps its profitability was improved during that period.

From Table 3.6, it is evident that 50% of the companies being analysed had their highest ratio in 1983 while most of them had their lowest ratios in 1981.

Golden Guinea had the highest $\bar{x}$ while NTM and EMCON had the lowest $\bar{x}$. This shows that Golden Guinea was most liquid while NTM and EMCON were least liquid. Golden Guinea also had the highest σ^2 while Texaco, NTM and EMCON had the lowest σ^2. Golden Guinea had the highest $\bar{x}$ and σ^2 so it was highly liquid with less consistency; while EMCON had the lowest $\bar{x}$ and σ^2 showing that it was least liquid with much consistency.

From the analysis of this section it is clearly evident that in 1981 the great majority of these companies had their lowest cash ratios and to some extent their highest cash ratios in 1984.

For cash/inventory ratio, EMCON was least liquid and therefore appeared to be the most profitable and consistent of all the companies analysed.

For cash/accounts receivable, EMCON was least liquid with highest consistency while LBN was the most liquid with the least consistency. EMCON appeared to be the most profitable.

For cash/current liability, NTM was least liquid with the highest consistency while Golden Guinea was highly liquid with least consistency. This makes NTM appear to be the most profitable.

For current asset/current liability, EMCON was least liquid and least consistent.

For the cash/shareholder's equity ratio, NTM was least liquid and least consistent.

For cash/current asset ratio, Golden Guinea was most liquid with least consistency while EMCON was least liquid and highly consistent giving an impression that its profitability was the highest.

For all the cash ratios, cash/current asset is the lowest of all the cash ratios. This is evident from the graphs plotted for the cash ratios.[1]

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1. See graphs 3.1 to 3.12; pp. 95 - 106

The cash/current asset graph for most of the companies were the lowest except for Texaco and EMCON whose lowest graphs were the ones relating to their cash/current liabilities ratio.

TABLE 3.7: CASH FLOW STATEMENT

TEXACO

	1981	1982	1983	1984
	₦'000	₦'000	₦'000	₦'000
Beginning Cash Balances	13,915	11,370	18,928	20,853
Add Sources:				
Increase in Current Liability	23,636	26,018	-	-
Increase in Long Term Loan	-	-	-	-
Increase in Share Capital	-	-	9,071	-
Increase in Retained Earning	5,286	5,339	-	5,973
Decrease in Current Asset	-	-	7,201	19,490
	42,837	42,727	35,200	46,316
Less Uses:				
Increase in Fixed Asset	5,803	9,644	6,941	6,228
Increase in Current Asset	25,723	14,155	-	-
Decrease in Long Term Loans	59	-	-	-
Decrease in Retained Earning	-	-	3,288	-
Decrease in Current Liability	-	-	4,118	24,670
	31,585	23,799	14,347	30,898
Ending Cash Balance	11,252	18,928	20,853	15,418

Source: Analysed Balance Sheets of Texaco

TABLE 3.8: CASH FLOW STATEMENT

NIGERIAN TEXTILE MILLS LTD.

	1980	1981	1982	1983	1984
	₦	₦	₦	₦	₦
Beginning Cash Balance	133,274	76,489	24,829	90,210	799,916
Add Sources:					
Increase in Share Capital	2,000,000	-	-	-	-
Decrease in Fixed Asset	964,952	-	-	731,750	-
Increase in Current Liability	1,623,127	7,123,622	6,729,505	-	-
Increase in 10% First Mortgage Debenture Stock 82/89	2,400,000	3,181,112	-	-	5,795,707
Decrease in Current Asset	-	-	3,574,129	1,617,290	-
Increase in Bills Payable	-	-	1,601,779	-	2,649,390
Decrease in Deferred Modernization Expenses	-	-	-	674,531	674,531
Increase in Deposit for Shares	-	-	-	1,891,682	-
Increase in Term Loan	-	-	-	1,700,000	-
Decrease in Profit and Loss Deficit	-	-	-	-	-
	7,121,353	10,381,223	11,930,242	6,705,463	14,111,951

	1980	1981	1982	1983	1984
	₦	₦	₦	₦	₦
Less Uses:					
Decrease in Revenue Reserve	812,856	-	-	-	-
Increase in Defferred Modernization Expenses	299,871	1,219,550	1,853,234	-	-
Increase in Current Asset	5,387,137	1,730,508	-	-	1,968,555
Increase in Fixed Asset	-	2,821,553	4,103,121	-	150,020
Decrease in Long-Term Loans (Secured)	545,000	-	-	-	-
Decrease in Profit and Loss	-	4,584,783	4,991,750	2,871,815	-
Decrease in Debenture Stock	-	-	891,927	106,003	-
Decrease in Bills Payable	-	-	-	1,436,915	-
Decrease in Current Liability	-	-	-	1,490,814	8,183,471
Decrease in Term Loan	-	-	-	-	1,700,000
	7,044,864	10,356,394	11,840,032	5,905,547	12,002,046
Ending Cash Balance	76,489	24,829	90,210	799,916	2,109,905

Source: Analysed Balance Sheets of Nigerian Textile Mills Ltd.

TABLE 3.9: CASH FLOW STATEMENT Source: Analysed Balance Sheets of Golden Guinea

GOLDEN GUINEA

	1981 ₦'000	1982 ₦'000	1983 ₦'000	1984 ₦'000
Beginning Cash Balance	334	1,189	8,570	22,520
Add Sources:				
Increase in Current Liability	1,062	5,951	2,174	1,514
Increase in Share Capital	181	6	7,875	7,875
Increase in Reserves	1,430	5,838	-	-
Increase in Deferred Taxation	1,737	-	-	-
Increase in Loan Capital	300	-	-	-
Decrease in Fixed Asset	-	1,482	1,109	972
Increase in Bonus Issue	-	-	7,875	-
Increase in Retained Profit	-	-	-	3,373
	5,044	14,466	27,603	36,254
Less Uses:				
Increase in Fixed Asset	1,837	-	-	-
Increase in Current Asset	2,018	5,668	2,137	2,532
Decrease in Deferred Taxation	-	228	216	314
Decrease in Capital Reserve	-	-	687	7,875
Decrease in Retained Profit	-	-	2,043	-
Decrease in Loan Capital	-	-	-	555
	3,855	5,896	5,053	11,276
Ending Cash Balance	1,189	8,570	22,520	24,978

TABLE 3.10: CASH FLOW STATEMENT

ELECTRICITY METER COMPANY NIGERIA LIMITED

Source: Analysed Balance Sheets of EMCON

	1980	1981	1982	1983	1984
	₦	₦	₦	₦	₦
Beginning Cash Balance	1,263,566	103,975	131,581	65,299	47,997
Add: Sources					
Decrease in Deferred Expenditure	-	-	-	-	-
Increase in Share Capital	388,000	-	-	-	-
Increase in Current Liability	-	7,073,174	-	2,312,134	1,522,711
Increase in Bank Loan	-	1,969,033	6,836,661	2,573	-
Decrease in Fixed Asset	-	-	558,018	993,747	916,942
	1,651,566	9,146,182	7,526,260	3,373,753	2,487,650
Less Uses;					
Increase in Fixed Asset	1,080,084	7,251,555	-	-	-
Decrease in Current Liability	70,090	-	3,448,649	-	-
Increase in Current Asset	67,843	300,375	1,904,325	775,596	678,053
Increase in Deferred Expenditure	329,574	496,462	185,263	-	-
Profit and Loss Account	-	966,209	1,922,724	2,550,160	1,712,091
Decrease in Bank Loan	-	-	-	-	918
	1,547,591	9,014,601	7,460,961	3,325,756	2,391,062
Ending Cash Balance	103,975	131,581	65,299	47,997	96,588

TABLE 3.11: CASH FLOW STATEMENT

L. B. N. Source: Analysed Balance Sheets of L.B.N.

	1980	1981	1982	1983	1984
	₦'000	₦'000	₦'000	₦'000	₦'000
Beginning Cash Balance	10,440	10,461	8,432	50,621	45,503
Add Sources:					
Increase in Current Liability	13,168	-	31,798	-	11,480
Decrease in Share Capital	4,250	-	-	-	-
Increase in Current Asset	-	3,406	-	4,964	-
Increase in Fixed Asset	-	-	-	1,130	3,778
Increase in Reserve	-	4,614	4,735	-	-
Increase in Bank Loan	-	7,000	-	-	-
Increase in Debentures	-	-	20,000	-	-
Increase in Profit Retained	-	-	-	3,422	5,712
	27,858	25,481	64,965	60,137	66,473
Less Uses:					
Decrease in Profit Retained	2,698	-	-	-	-
Increase in Fixed Asset	10,381	15,260	12,670	-	-
Increase in Current Asset	4,318	-	1,674	-	14,386
Decrease in Current Liability	-	1,789	-	12,534	-
Decrease in Bank Loan	-	-	-	2,100	2,800
	17,397	17,049	14,344	14,634	17,186
Ending Cash Balance	10,461	8,432	50,621	45,503	49,287

TABLE 3.12: CASH FLOW STATEMENT

N. T. C. Source: Analysed Balance Sheets of N.T.C.

	1980	1981	1982	1983	1984
	₦'000	₦'000	₦'000	₦'000	₦'000
Beginning Balance	4,062	3,229	258	694	7,316
Add Sources:					
Increase in Current Liabilities	5,161	7,747	-	3,808	6,938
Increase in Reserves	-	2,309	1,038	14,158	3,730
Increase in Share Capital	6,250	-	-	-	-
Increase in Bank Loan - (Unsecured)	-	4,000	2,000	-	-
Decrease in Current Asset	-	-	7,921	3,199	-
Decrease in Fixed Asset	776	-	300	-	565
	16,249	17,285	11,517	21,859	18,549
Less Uses/Applications:					
Increase in Fixed Asset	-	9,657	-	13,343	-
Increase in Current Asset	7,887	7,370	-	-	214
Decrease in Bank Loan (Unsecured)	-	-	-	1,200	1,200
Decrease in Current Liabilities	-	-	10,823	-	-
Decrease in Reserve	5,133	-	-	-	-
	13,020	17,027	10,823	14,543	1,414
Bank and Cash Balances as at 30th Sept.	3,229	258	694	7,316	17,135

3.2 Cashflow Analysis of Selected Nigerian Firms

In this section, an attempt has been made to analyse the cash flow statements of the sampled companies given in Table 3.7 to 3.12.[1] Differential analysis has been carried out and the values of year to year changes have been presented in Table 3.13 to 3.18[2]. Separate analyses have been carried out for each of the companies with the prime objective of examining the reasons responsible for the year to year changes and study the size and pattern of such changes.

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[1] See pp. 46 to 52

[2] See pp. 54 to 67

TABLE 3.13:

3.2.1 TEXACO: DIFFERENTIAL ANALYSIS OF CASH FLOW STATEMENT

	1982/83	1983/84
	₦'000	₦'000
Beginning Cash Balance	7,558	1,925
Current Liability	(30,136)	(20,552)
Share Capital	9,071	(9,071)
Retained Earning	(8,627)	9,261
Current Assets	21,356	12,289
Fixed Assets	2,703	713
Ending Cash Balance	1,925	(5,435)

Source: Table 3.7 on page 46.

The balance sheets for 1979 and 1980 could not be obtained for Texaco. The 1980 data was obtained from the balance sheet of 1981 on a comparative basis. There might have been some omission which has led to the ending cash flow for 1981 computed as ₦11,252,000 instead of ₦11,370,000 as reflected in the beginning cash balance for 1982. So for the differential analysis it was possible only to consider 1982/83 and 1983/84.

Beginning and ending cash balances have consistently increased from 1982 to 1984. There was a more significant increase from 1982 to 1983 than from 1983 to 1984. This was shown in the differential analysis.

The company obtained inflow of cash from current liability in 1982 amounting to ₦26,018,000 and made payments on the current liability in 1983 and 1984. The repayment increased from ₦4,118,000 in 1983 to ₦24,670,000 in 1984. This is shown in the differential analysis by the declining negative values of the differential analysis in 1983 and 1984.

In 1982 the increase in the company's retained earning was ₦5,339,000 and ₦5,973,000 in 1984. There was an outflow of cash in 1983 from the retained earning amounting to ₦3,288,000 and hence the positive values for the differential analysis for

In 1982 the company invested ₦14,155,000 in current assets and from 1983 to 1984 there was increase in inflow of cash from the sale of the current asset. The inflows were ₦7,201,000 in 1983 and ₦19,490,000 in 1984.

From the cash flow statement of 1982 to 1983 it can be seen that the company consistently invested in fixed assets. The heaviest investment for fixed asset during this period was ₦9,644,000 in 1983 and from 1983 to 1984 its investment in fixed asset had averaged out to be ₦6,584,000. This decline from ₦9,644,000 to ₦6,584,000 is also evident from the differential analysis when in 1983 it was ₦2,703,000 and dropped to ₦713,000 in 1984.

3.2.2 - TABLE 3.14: NIGERIAN TEXTILE MILLS LIMITED

DIFFERENTIAL ANALYSIS OF CASH FLOW STATEMENT

	1980/81	1981/82	1982/83	1983/84
	₦	₦	₦	₦
Beginning cash Balance	(56,785)	(51,660)	65,381	709,706
Share Capital	(2,000,000)	-	-	-
Fixed Asset	(3,786,505)	(1,281,568)	4,834,871	(881,770)
Current Liability	5,500,495	(394,117)	(8,220,319)	(6,692,657)
10% first Mortgage Debenture Stock 1982/89	781,112	(4,073,039)	785,924	5,901,710
Revenue Reserve	812,856	-	-	-
Deferred Modernization Expenses	(919,679)	(633,684)	2,527,765	0
Current Assets	3,656,629	5,304,637	(1,956,839)	(3,585,845)
Bills Payable	-	1,601,779	(3,038,694)	4,086,305
Long Term Loan (Secured)	(545,000)	-	-	-
Profit & Loss	(4,584,783)	(406,967)	2,119,935	2,871,815
Deposit for Share	-	-	1,891,682	(1,891,682)
Term Loan	-	-	1,700,000	(3,400,000)
Ending Cash Balance	(51,660)	65,381	709,706	1,309,989

Source: Table 3.8 on pages 51 and 52.

From the cash flow statement it can be seen that the cash balances went down to a five digit figure in 1981 from a six digit figure in 1980. This trend continued up to 1983 and then went up in 1984 to a very high six digit figure. This is reflected in the differential analysis.

Share capital was issued in 1980 for ₦2,000,000 and there was no issue for the rest of the years under study.

There was heavy investment in fixed assets in 1981, 1982 and to some extent in 1984 while there was cash inflow from disposition of fixed assets in 1980 and 1983. The cash inflow was relatively much lower than the cash outflow and this is reflected in the differential analysis by it having negative values for 1981, 1982 and 1984 and positive value in 1983.

The company borrowed cash to a great extent in 1980, 1981 and 1982 and made repayments in 1983 and 1984. Also the amount repaid was relatively smaller than the borrowings. The net effect is as shown in the differential analysis.

Capital was raised in 1980, 1981 and 1984 by selling 10% First Mortgage debenture while in 1982, 1983 some of them were redeemed.

There was a negative reserve value of ₦812,956 in 1980 as per cash flow statement. The value became positive in the differential analysis for 1981.

In the cash flow statement the company had paid the deferred modernization expenses in 1980, 1981, 1982 and deferred payment in 1983 and 1984. The payment of the deferred modernization expense increased from ₦299,871 in 1980 to ₦1,953,234 in 1982 while the amounts deferred for 1983 and 1984 were the same i.e. ₦674,531; hence there was a zero differential value in 1984.

There was cash outflow for purchase of current assets in 1980, 1981 and 1984. It had decreased from ₦5,387,137 in 1980 to ₦1,968,555 in 1984. There were cash inflows from sale of current assets in 1982 and 1983. The amount of cash inflow had declined from ₦3,574,129 in 1982 to ₦1,617,290 in 1983. The net effect is shown in the differential analysis.

In 1982 there was cash inflow from bills payable of ₦1,601,779 and in 1984 of ₦2,649,390 while there was a cash outflow of ₦1,436,915 in 1983. This is shown in the differential analysis by the negative value in 1983; and positive values in 1982 and 1984.

Secured long-term loan of ₦545,000 was obtained in 1980 and no other one for the years under consideration. Hence, the negative value for the differential for 1981.

The company sustained losses in 1981, 1982 and 1983. The loss increased from ₦4,584,783 in 1981 to ₦4,991,750 in 1982 and then declined to ₦2,871,815 in 1983. There was no profit or loss in 1980 and 1984.

There was a deposit for share in 1983 for ₦1,891,682 and none for all the other years under consideration. That is why in the differential analysis there was a negative value for 1984.

According to the cash flow statement, there was a term loan obtained in 1983 for ₦1,700,000 and this was repaid in 1984 hence giving a differential negative value of ₦3,400,000.

TABLE 3.15: GOLDEN GUINEA

3.2.3 DIFFERENTIAL ANALYSIS OF THE CASH FLOW STATEMENT

	1981/82	1982/83	1983/84
	₦'000	₦'000	₦'000
Beginning Cash Balance	855	7,381	13,950
Current Liability	4,889	(3,777)	(660)
Share Capital	(175)	7,869	0
Reserve	4,408	(6,525)	(7,188)
Deferred Taxation	(1,965)	12	(98)
Loan Capital	(300)	-	(555)
Retained Profit	-	(2,043)	5,416
Fixed Asset	3,319	(373)	(137)
Current Asset	(3,650)	3,531	(395)
Bonus Issue	-	7,875	(7,875)
Ending Cash Balance	7,381	13,950	2,458

Source: Table 3.9 on pages 49 .

From the analysis of the cash flow statement of Golden Guinea, it can be seen that the cash inflow into the company on account of increase in current liabilities increased in 1982 to ₦5,951,000 from an amount of ₦1,062,000 in 1981. Since 1982 the cash inflow from current liability has been declining. In 1983 it was ₦2,174,000 and ₦1,514,000 in 1984. This is evident from the differential analysis which showed a positive value in 1982 due to the highest inflow of cash from current liability for the period; and negative values for 1983 and 1984. because of the decline in cash inflow in 1983 and 1984.

Share Capital was issued for all the years under study. In 1981 there was a cash inflow of ₦181,000 from the issues and it drastically declined to ₦6,000 in 1982 and increased significantly in 1983 to ₦7,875,000. The same amount was realised in share capital issue in 1984 as in 1983. This is reflected in the differential analysis. The zero value in 1983/84 differential analysis of share capital is due to the fact that there was no change in 1983 and 1984.

In 1981 and 1982 there were cash inflows from the reserve while in 1983 and 1984 there were cash outflows. The reserve increased from ₦1,430,000 in 1981 to ₦5,838,000 in 1982. The reserve utilization had been increased tremendously from ₦687,000 in 1983 to ₦7,875,000 in 1984. This has been shown in the differential analysis.

Taxation was deferred in 1981 resulting in a cash inflow of ₦1,737,000 but from 1982 to 1984 the company had been paying its deferred taxes. In 1982, ₦228,000 was paid; in 1983, ₦216,000; and ₦314,000 in 1984. The differential analysis had shown these changes.

The company had cash inflow due to loan capital in 1981 for ₦300,000 and in 1984 there was cash outflow of ₦555,000. There was no loan capital for the other years under consideration and the company did not repay any part of these loans for the period under consideration hence the pattern of the differential analysis for loan capital.

There was no profit retained in 1981 and 1982. In 1983 ₦2,043,000 of the retained profit from previous years was utilised but in 1984; ₦3,373,000 was retained resulting in a cash inflow for 1984 of ₦3,373,000 from retained profit. Hence in the differential analysis, the 1983 value was negative while that of 1984 was positive.

From the cash flow statement, it is evident that the company invested ₦1,837,000 in fixed assets but from 1982 to 1984 there had been cash inflow from the sale of fixed assets. The cash inflow had been declining from ₦1,482,000 in 1982 to ₦1,109,000 in 1983 and then to ₦972,000 in 1984. Throughout the period under study the company had invested in its current assets. There was no cash inflow from the current assets.

The company had bonus issues in 1983 only for ₦7,875,000 resulting in an inflow of cash to the company in 1983.

The beginning and ending cash balances had been increasing significantly from 1981 to 1984. The jump had been from ₦334,000 in 1981 to ₦22,520,000 in 1984. This among other factors could be due to the inflationary trend of the economy in the country.

3.2.4: TABLE 3.16

EMCON

DIFFERENTIAL ANALYSIS OF THE CASH FLOW STATEMENT

	1980/81	1981/82	1982/83	1983/84
	₦	₦	₦	₦
Beginning Cash Balance	(1,159,591)	27,606	(66,282)	(17,302)
Deferred Expenditure	(166,888)	311,199	185,263	-
Share Capital	(388,000)	-	-	-
Current Liability	7,143,264	(10,521,823)	5,760,783	(789,423)
Bank Loan	1,969,033	4,867,628	(6,834,088)	(3,491)
Fixed Asset	(6,171,471)	7,809,573	435,729	(76,805)
Current Asset	(232,532)	(1,603,950)	1,128,729	97,543
Profit & Loss Account	(966,209)	(956,515)	(627,436)	838,069
Ending Cash Balances	27,606	(66,282)	(17,302)	48,591

Analysis of EMCON has shown that the beginning cash balances had been fluctuating very widely from 1980 to 1984 and on a declining level.

Source: Table 3.10 on page 50.

Deferred expenditure had been fluctuating widely. It had been of negative differential values for 1980/81 and 1981/82 but in 1982/83 it assumed a positive differential value of ₦185,263 and there was no deferred expenditure for 1983 and 1984 and hence no differential value for 1983/84.

Share capital was issued in 1980 and none for the other years under study. Hence there was a negative differential value for 1980/81.

The current liability had been fluctuating significantly for the years under study - the company having been borrowing and paying off.

Bank loan had increased from ₦1.9 million in 1981 to ₦6.8 million in 1982 and subsequently dropped to ₦2,573 in 1983 and to a negative of ₦918. This had resulted in the pattern as shown in the differential analysis.

There had been heavy investment in fixed assets from 1980 to 1981 resulting in greater capacity. From 1982 to 1984 the nominal value of fixed assets declined. It may be observed that many of the fixed assets were sold out during this period. This is shown in its differential analysis. There was also heavy investment in current assets from 1980 to 1984. It increased steadily from 1980 to 1983 and dropped in 1984.

From the cash flow statement, it is evident that there had been heavy losses from 1980 to 1984. The differential analysis confirmed the losses from 1980 to 1983. The positive value of ₦838,069 was due to the fact that the loss in 1984 was much less than the loss in 1983 i.e. -₦1,712,091 - (-₦2,550,160) = ₦838,069.

The ending cash balances from the cash flow statement had been declining from 1981 to 1983 and seemed to pick up in 1984. This pattern was manifested in the differential analysis.

Analysis of EMCON has shown that there is no consistent pattern of cash flows. This may be due to a number of factors both internal to the company as well as external due to economic changes in the country.

TABLE 3.17:

3.2.5 LEVER BROTHERS NIGERIA LIMITED:

DIFFERENTIAL ANALYSIS OF CASH FLOW STATEMENT

	1980/81	1981/82	1982/83	1983/84
	₦'000	₦'000	₦'000	₦'000
Beginning Cash Balance	21	(2,029)	42,189	(5,118)
Current Liability	(14,957)	33,587	(44,332)	24,014
Share Capital	(4,250)	-	-	-
Current Asset	7,724	(5,080)	6,638	(19,350)
Reserve	4,614	121	(4,735)	-
Bank Loan	7,000	(7,000)	(2,100)	(700)
Debenture	-	20,000	(20,000)	-
Profit Retained	2,698	-	3,422	2,290
Fixed Asset	(4,679)	2,590	13,800	2,648
Ending Cash Balance	(2,029)	42,189	(5,118)	3,784

Source: Table 3.11 on page 51.

From the cash flow statement of LBN it is evident that the beginning cash balances had increased slightly from ₦10,400,000 in 1980 to ₦10,461,000 in 1981 dropping to ₦8,432,000 in 1982. Then in 1983 there was a steep increase to ₦50,621,000 and then dropped to ₦45,503,000 in 1984. This is manifested in the differential analysis where we have positive values for 1980/81 and 1982/83, and negative values for 1981/82 and 1983/84.

In 1980 the current liability was ₦13,168,000 but in 1981 it had a negative value of ₦1,789,000 as per cash flow statement. In 1982 it was ₦31,798,000, 1983 it was (₦12,534,000) and then went up to ₦11,480,000 in1984. ₦13,168,000 was borrowed in 1980; and ₦1,789,000 paid off in 1981 giving a differential of (₦14,957,000). Another borrowing of ₦31,798,000 was made in 1982 and ₦12,534,000 paid off in 1983 giving a differential of (₦44,332,000). And in 1984 there was ₦11,480,000 borrowed which gave a differential of ₦24,014,000.

Share capital was issued in 1980 only for ₦4,250,000. After that, there was no more share capital issued; that is what led to a negative differential in 1981.

There had been alternative outflow and inflow of cash from current asset from 1980 to 1984 as shown in the cash flow statement. This is reflected in the differential analysis giving a net alternating positive and negative values.

The reserve had dwindled considerably from 1980 to 1984 when there was no reserve and as such led to a negative differential value for that period.

According to the cash flow statement there was bank loan of ₦7,000,000 in 1981 and repayments of ₦2,100,000 in 1983 and ₦2,800,000 in 1984. Thus in the differential analysis there was a considerable decline in bank loan from 1980 to 1984. Debentures were issued only in 1982 for ₦20,000,000; and none for the other years under consideration. That was why there was a decrease to zero in 1984 from ₦20,000,000 in 1982 in the differential analysis.

From the cash flow statement there was a decrease in profit retained of ₦2,698,000 in 1980. No profit was retained in 1981 and 1982. ₦3,422,000 was retained in 1983 and ₦5,712,000 in 1984. As there was no profit retained in 1981 and 1982 the differential analysis for 1981/82 was zero.

The cash flow statement showed that from 1980 to 1982 the company had been making purchases of fixed asset; while in 1983 and 1984 there was a sale of fixed assets. The net effect is as shown in the differential analysis.

The differential analysis of the ending cash balance is the same as the beginning cash balance. There is also no consistent pattern of cash flows for the years under consideration

TABLE 3.18: NIGERIAN TOBACCO COMPANY

3.2.6 DIFFERENTIAL ANALYSIS OF THE CASH FLOW STATEMENT

	1980/81	1981/82	1982/83	1983/84
	₦'000	₦'000	₦'000	₦'000
Beginning Cash Balance	(833)	(2,971)	436	6,622
Current Liability	2,586	(18,570)	14,631	3,130
Reserve	7,442	(1,271)	13,120	(10,428)
Share Capital	(6,250)	-	-	-
Bank Loan	4,000	(2,000)	(3,200)	0
Current Assets	517	15,291	(4,722)	(3,413)
Fixed Assets	(10,433)	9,957	(13,643)	13,908
Ending Cash Balance	(2,971)	436	6,622	9,819

Source: Table 3.12 on page 52 .

Analysis of NTC has shown that the cash balances as per cash flow statement had been declining from ₦4,062,000 in 1980 to ₦694,000 in 1983 and went up sharply in 1984 to ₦7,316,000 and this is manifested in the differential analysis. The negative differential value of ₦2,971,000 was due to the fact that in 1981 the cash balance of ₦3,229,000 dropped to ₦258,000 in 1982.

As evident from the cash flow statement, the company had borrowed fund in 1980, 1981, 1983 and 1984, while in 1982 it repaid ₦10,823,000. Hence the negative differential value of ₦18,570,000 in 1982.

The company issued share capital of ₦6,250,000 in 1980 and there was no other issue for the other years under study and hence the negative differential value of ₦6,250,000 for 1981.

From the cash flow analysis, there was an increase in bank loan of ₦4,000,000 in 1981 and of ₦2,000,000 in 1982. In 1983 and 1984 a decrease of ₦1,200,00 was observed in each year. There was no bank loan in 1980 and hence the presentation of the differential analysis values.

There were purchases of current assets in 1980, 1981 and 1984 but in 1982 and 1983 there were sales.

There were huge purchases of fixed assets in 1981 and 1983 while there were no cash inflows from sales of fixed asset in 1980, 1982 and 1984; but the amount of cash inflows for these periods were much below the outflow for the purchase of the fixed asset. So the net effect is depicted in the differential analysis.

Analysis of NTC has shown that there was no consistent pattern of cash flows and this may not be unconnected with the economic changes in the country and other factors internal to the organisation.

From this section, it is evident that there is no consistent pattern of cash flows. Also the beginning and ending cash balances have been increasing significantly from 1980 to 1984 and for majority of the companies being studied the beginning cash balances were the greatest for this period. This could be attributed to the inflationary trend in the country.

In this chapter, an attempt had been made to analyse the cash ratios, cashflow statements and their differentials of some selected Nigerian firms whose balance sheets were obtained mostly from the Nigerian Stock Exchange in Kaduna.

From the analysis, it was evident that the majority of these firms had their lowest cash ratios in 1981 and their highest cash ratios in 1984. Among the firms analysed during that period, EMCON appeared to be the least liquid giving an impression that its profitability was the highest. The analyses of the cashflow statements and their differentials showed that there was no consistent pattern of cash flows for these selected firms during the period under study.

3.2.7 PATTERN OF AVAILABLE INFORMATION

This analysis would have been more informative if the ratios calculated were those of the companies in the survey. The companies surveyed were mostly private limited liability companies and they are under no obligation to make public their balance sheets.

Out of the nine companies surveyed, only two of them i.e. N.T.C., and EMCON, made their balance sheets available which were used in calculating the ratios. The private limited liability companies did not make their balance sheets available. N.T.C. and EMCON are public limited liability companies. Most of the companies in Funtua and Zaria fall mostly into the category of private limited liability companies.

In Chapter IV, an attempt will be made to analyse the results of the questionnaire administered on some selected firms in Zaria and Funtua towns of Kaduna State.

CHAPTER IV

CASH MANAGEMENT PRACTICES: SOME EMPIRICAL OBSERVATIONS AND ANALYSES IN SELECTED NIGERIAN FIRMS

4.1 INTRODUCTION

Some of the cash management practices of developed countries notably the United States of America have been analysed in Chapter 2. In these countries, their society and economy have moved more and more into credit as a way of conducting business. As a result, most business firms sell their products and services on credit rather than for cash. The operating cash cycle is really the heart of cash management. A firm cannot start without investment in cash for fixed assets and inventory. These inventories are sold 'on account'. This introduces the concept of float which is the time lag or delay between the moment of disbursement of funds on the part of the buyer and the moment of receipt of funds on the part of the seller. The operating cycle is the time period between when a firm disburses cash to purchase the inventory, the production of the goods and services, sale of the goods and services on account and the ultimate realization of the accounts receivable as cash. Thus cash management attempts to delay payments for goods and services purchased and to accelerate the collection of cash on accounts receivable.

4.2. ANALYSIS OF THE QUESTIONNAIRE

In this chapter an attempt has been made to analyse the results of the questionnaires administered on the 7 responding selected companies in Zaria and Funtua towns of Kaduna State. The analysis of the questionnaire will be on the following six attributes:

(i) Overview of the companies that responded to the questionnaires Here, an attempt would be made to group the companies as to the type of organisation and staff strength.

(ii) Proposal origination for cash planning in the companies. This will highlight the importance attached to cash planning by these selected firms.

(iii) Cash Planning Definition and Cash Composition. This will reveal whether these selected companies regard marketable securities such as repurchase agreements as cash. In the United States of America, repurchase agreements which have maturity of 1 day are regarded as cash.

(iv) Terms of sales and purchases and mode of payment by customer. This is to find out to what extent credit is extended to the public and the preferred means of payment apart from cash payments.

(v) Investment of surplus cash and meeting their cash needs when there is a shortfall. This is done so as to establish whether these selected firms do have cash surpluses and if they do, what are the marketable securities they invest the excess cash in to yield a return. It is also intended to find out the sources of financing their cash needs and to establish the cost of lending to business sector by banks.

(vi) Purposes of holding cash and the importance of cash planning and how it affects the profitability of the firms. It is also intended to establish the motives for their holding cash and whether they believe that cash planning does affect the profitability of the firm.

In order to provide empirical evidence on the cash planning practices among some selected Nigerian firms which could be used to assess the majority of Nigerian firms, questionnaires were administered to nine of them. These were designed to get the perception, evaluative limitations and make further suggestions on the appropriate practices suitable for the Nigerian environment. The respondent in each case was either the Chief Accountant or the General Manager in each of the firms. Questionnaires were distributed to and collected from the respondents by the interviewer. In cases where respondents filled the questionnaires in presence of the interviewer, it was possible to explain some of the questions to the respondents and

4.2(i) OVERVIEW OF THE COMPANIES THAT RESPONDED TO THE QUESTIONNAIRES

As stated earlier, questionnaires were distributed to companies in Zaria and Funtua towns of Kaduna State. Responses were received from 7 i.e. response rate of 77.78%. Out of these companies, five (i.e. 71.43%) of them are in the manufacturing sector, one (i.e. 14.29%) in milling sector and one (i.e. 14.28%) in assembling sector.

Regarding the type of business organisation, five (i.e. 71.43%) are private limited liability companies and two (i.e. 28.57%) are public limited liability companies.

The average size of the companies according to the number of employees is 271 although one company did not disclose its staff strength. The company with the greatest staff strength has, 1,100 employees while the lowest among the ones that quoted their staff strength was 30.

4.2(ii) PROPOSAL ORIGINATION FOR CASH PLANNING IN THE COMPANIES

Three of the companies (i.e. 42.86%) indicated that they have cash planning section in their establishment while four of them (i.e. 57.14%) indicated they do not have cash planning section

Among the three companies that have cash planning section, two of them indicated that their proposal originators were top management.

Of the three companies that have cash planning section, the staff strength of those involved in cash planning fluctuated between 9% and 100% of their finance department's staff strength. The companies that do not have cash planning section formed 57.14% of the companies analysed.

75% of these companies that do not have cash planning section indicated that their proposal originators were top management while 25% of them indicated that it was not applicable to them since they did not have any cash planning section in their companies.

About 71.43% of the companies analysed indicated that proposal submission for cash planning was restricted to during the annual budgeting period; 14.29% said it was not restricted to any period and that it could be submitted at any time, while 14.28% said it was not applicable to them since they do not have cash planning in their companies.

About 42.86% of the companies that responded indicated that the encouragement of proposal origination was through management sponsored productivity/profitability studies. 28.57% indicated it was through formal suggestion scheme. 14.29% indicated it was during periodic budget meetings of heads of departments of the companies and 14.28% said it was because of the scale of financial reward.

The companies that responded used either a specific form or a memorandum for their proposal origination. None of them agreed to make available a copy of either of the documents.

Three (i.e. 42.86%) of the responded companies indicated that the decision whether a proposal origination document should be completed or not, was by their Financial Controller/Director while 14.29% said it was by their Chief Accountant in conjunction with their General Manager. Another company (i.e. 14.28%) said that, because their organisation is small, the whole management makes the decision while the remaining two companies (i.e. 28.57) made no return on this.

4.2 (iii) CASH PLANNING DEFINITION AND CASH COMPOSITION

42.86% of the companies defined cash planning as all attempts made by the firm to manage cash, marketable securities, and inventories to produce benefit to the firm either on a short-term or long-term basis, while 57.14% defined it as all attempts by the firm to manage cash only.

71.43% of the companies indicated that for them cash includes petty cash and money in bank and for 14.29% cash includes petty cash, money in bank and marketable securities. The remaining companies (14.28%) responded that cash includes petty cash, money in bank, marketable securities, inventories and accounts receivable.

4.2 (iv) TERMS OF SALES AND PURCHASES AND MODE OF PAYMENT BY CUSTOMERS

71.43% of the companies make sales on cash and credit basis. 14.28% make sales on cash basis only while 14.29% also make sales on credit basis only.

All the companies make purchases on cash and credit basis. Out of the companies that make sales on credit basis (which is 85.72% of the companies), 50% of them extend credit only to big firms; 33.33% of them extend credit to government agencies while 16.67% extend credit only to accredited distributors. For all the companies, the credit period is for one month, and for 83.33% of them their customers pay within the credit period.

Nearly all the companies (i.e. 85.71%) prefer their customers to make payments by drafts because drafts take less days to clear than cheques. It is also to minimize fraud and to improve efficiency of collection.

Those who prefer cheque said they accept cheques only from big companies, where huge amounts are involved and from customers within their localities.

On the average, it takes local cheques the same day or at most up to 5 days to clear while out of town cheques and drafts take between 10 days and more than 21 days to clear depending on the distance.

Most of the companies i.e. 71.43% of them, do not have any facilities to speed up their cash collection from their customers. Only 28.57% use something similar to regional banking system. These companies have their Head Office$_s$ in another state but for any sale they make, their customers remit direct to them instead of remitting the money to the company's Head Office.

To make payments for their purchases, 85.71% of the companies do not utilise remote point disbursement system. Only 14.29% utilize such a system.

4.2 (v) INVESTMENT OF SURPLUS CASH AND MEETING CASH NEEDS WHEN THERE IS A SHORTFALL

All the companies indicated that they do not normally have surplus cash. However, they indicated that if there is any cash surplus, they normally invest them in term deposits of 3 to 6 months' maturity. During interviews the responses received indicated that marketable securities and certificates of deposits are rarely used in Nigeria.

28.57% of the companies responded that they do not fall short of cash, 42.86% said they fall short of cash only once in 3 months. About 28.57% said that they fall short of cash only once in a year or once in a while.

When they do fall short of cash, 71.43% of the companies said they tend to solve the liquidity problem by short-term borrowing. 28.57% of them said they postpone payments.

To finance their cash needs, majority of the companies borrow from the banks while some in addition to borrowing from the banks raise long-term loan capital. Some finance their needs from internally generated funds.

For most of the companies (i.e. 85.71%), the cost of capital varies between 10% and 15% while for the others, (14.29%) the cost of capital varies from 5% to 10%.

4.2. (vi) PURPOSES OF HOLDING CASH AND THE IMPORTANCE OF CASH PLANNING AND HOW IT AFFECTS PROFITABILITY OF THE FIRM

71.42% of the companies hold cash for transaction purposes while 14.29% hold cash for both transaction and precautionary purposes. The remaining 14.29% made no return on this.

85.71% of the companies agreed that cash planning is important to any organisation and does affect profitability of the firm. 57.14% of the companies responded that cash planning affected the profitability of their companies to some extent; 14.29% (1) to a great extent. 14.29 (1) said that it does not affect the profitability while 14.28% (1) responded that it is not applicable to it since it does not undertake cash planning.

4.3 SUMMARY AND CONCLUSION

The sample size was originally intended to be large but during the process of gathering the samples a number of difficulties were encountered. These difficulties were the lack of cooperation and secretive nature of some of the companies. The cost of the exercise was also getting too high and there was constraint of distance one had to travel achieving very passive response in return.

From the aforementioned analysis it is evident that the majority of the companies analysed were private limited liability companies with average staff strength of 271.

Those of them that have cash planning section (and they are in the minority) indicated that their top managements were the originators of the proposals. The cash planning proposals are submitted during annual budget submission.

Cash, to majority of the firms, includes petty cash and cash at bank. Marketable securities with one day maturity are not yet available in this country.

Sales and purchases are made on both credit and cash basis to and from big firms. But to and from the generality of the public, such sales and purchases are strictly on cash basis. Where credit sales are extended, payments in drafts are usually preferred than cheques.

All the companies under study indicated that they do not normally have surplus cash and that they meet their cash needs by borrowing from banks, raising long-term loans and from internally generated funds. The cost of capital for the majority of these firms ranges from 10% to 15%.

Majority of these companies hold cash for transaction purposes and definitely agree that cash planning is important and does affect the profitability of the firm.

An attempt has been made in this chapter to analyse the results of the administered questionaires.

In the next chapter, discussion will be to deduce the cash management practices in these selected Nigerian firms and to compare the Nigerian firms' practices with those of the developed countries.

CHAPTER V

CASH MANAGEMENT PRACTICES: A COMPARATIVE ANALYSIS

The cash management practices among the Nigerian firms are going to be deduced from the survey results of the questionnaire. As can be seen from the survey results, more than half of the companies did not have cash planning section. This shows that they probably do not attach much importance to cash planning. About 3 of the financial executives interviewed pointed out that there is no need planning for cash because majority of the companies in Nigeria still depend on foreign raw materials to enable them manufacture their products. The procurement of these raw materials depends upon the government having enough foreign exchange for the manufacturing sector. For example, they mentioned that the Federal Government came up with policies such that all port charges were to be paid even before the goods arrived into the country in foreign exchange. So they have to keep cash ready to take advantage of any of the government policies. One of them even said that though they are small, they try to maintain in their current account a cash balance of one million naira just for the sake of ever changing government policies. They do not want to be caught off guard.

5.1 RESPONSIBILITY FOR CASH

In developed countries of the world, such as United States of America, cash is regarded as "a key asset of the organisation."[1] And as such responsibility for cash is usually assigned to a high level staff member within the organisational hierarchy. He is usually the Chief Financial Officer - either the treasurer or the Financial Vice President. In fact, cash management has emerged as a distinct career specialisation.

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1 Smith (1979) pp. 68

According to Smith (1979), there are professional seminars that deal with various techniques of cash management and that there is also a trade association called the Cash Management Institute, devoted to the collection and dissemination of information concerning corporate working capital, and cash management in particular.

In the Nigerian situation (based on the responses of the questionnaire), where there is cash planning the responsibility for cash is also by the Chief Financial Officer. But there is not that much awareness of cash management as is obtained in the developed countries.

5.2 TERMS OF SALES AND PURCHASES

Sales and purchases are mostly on cash basis to the generality of the public. To large firms, sales may be on credit as well. As per the information obtained from the questionnaire the Nigerian firms do not offer cash discount to their customers. Generally they do extend trade discount.

Because sales are mostly on cash basis, firms do not seem to have credit departments. The duties of such departments, among other things, in the developed industrialized countries, are to ensure collection on 'accounts receivable' and to extend more credit facilities to new credit-worthy customers to boost up sales and thereby increase the profitability of the firms and the expansion of the firms as well.

Smith (1979, page 115) had this to say about the rationale for receivables:

> All things being equal, many corporate managers might prefer to do business on a cash basis. But all things are not equal, and competition has led many firms to do part or all of their business on a credit basis. Credit is the ability of a consumer or organisation to obtain goods, services, real assets, and even cash in exchange for a promise to pay later.... Credit should be extended by the firm in so far as it enhances sales and the profitability from those sales .

For credit sales, there has to be a large supply or production of the goods and services to saturate the market, thereby creating competition among the firms. In Nigeria, most companies are not producing at full capacity and in some cases they have folded up. This is due to the fact that a great majority of the firms are import dependent for their raw materials. With the present economic condition, there is scarcity of raw materials because there is no foreign exchange to import these raw materials. So the availability of their goods and services is low and also there is no substitute. The consumers are then at the mercy of these producers of goods and services and that may be inferred as the reason why sales of goods and services in this country are strictly on cash basis. The other handicap to the operation of credit system in Nigeria may be due to the fact that an average Nigerian is viewed in the business circle to be untrustworthy. There is also lack of proper identification of the citizens, communication facilities are slow and sometimes unreliable and our banking services are still in an infantile stage.

From the questionnaire, it was evident that where credits are extended, they were mostly to large firms but when these large firms are to make payments, they are made in drafts which is theoretically equivalent to cash. But our banks treat these drafts as cheques because depending from where the drafts are drawn they take sometimes more than 21 working days to clear. The receiving firm has a negative float and this may also be one of the reasons why Nigeria is chiefly a "cash country."

5.3 COLLECTIONS ON ACCOUNT RECEIVABLE

In the literature review, there are many procedures used in developed countries to speed up the collection of cash on accounts receivables such as the use of lockbox system, factorising accounts receivables and regional banking system. In Nigeria, where we do not have credit facilities, the chief financial officers say that the procedures used in the developed countries are "just theories" in Nigeria.

5.4 DISBURSEMENT ON ACCOUNTS

In making disbursement, most Nigerian firms do not use the remote point disbursement system. This is because these companies's products are barely enough for the locality within which they are situated. So their products are mostly consumed in the same locality. However when their suppliers are in a different geographical area, there is no deliberate attempt to increase their float by using the remote point disbursement system. Rather, where credit is extended, they depend on the banking system's float - the length of days it takes to clear the cheques and have cash in the supplier's account.

From this analysis it can be deduced that where there is no credit system in operation there is no active and sophisticated cash management.

5.5 INVESTMENT OF SURPLUS CASH

In developed countries excess cash is invested in marketable securities, certificates of deposits and repurchase agreements which can be converted into cash on maturity of about one day. In Nigeria repurchase

agreements are not in use and as such there is no inclination for firms to invest in them. But if such commercial papers were available, the firm could invest in them and earn a return and still be able to convert it into cash on a day's notice without incurring any penalty charge. As such, the practice of most Nigerian firms in holding excess cash for precautionary measures would be curtailed. According to Hartley (1976), any "rate of return is better than none, but it is important that this type of investment be both secured and easily liquidated."

5.6 BANKING PRACTICES

The banking practices of developed countries are very sophisticated. This is aided by the fact that there is an efficient communication network. If a supplier wants the cheque to be cashed, he could approach his bank who would then communicate with the drawer's bank to find if there is sufficient fund in the drawer's account, have the cheques cleared and credited to his account. They have computers that speed up the clearing processes. Where the supplier and the customer have accounts in the same bank, and payment is made by the customer, the supplier's account will be credited instantly while the customer's account will, in the same breath, be debited. The accounts of the supplier and customer will be credited and debited respectively that same day if their accounts are with different banks in the same city.

According to Business Week Magazine of March 13, 1978, "banks have set up worldwide international systems that speed up worldwide collections and fund transfers for corporate customers."

As stated earlier in this chapter, the banking system in this country is still in an infantile stage and this may, among many other reasons, be due to very poor communication facilities. There is no efficient telephone system or postal services. Electronic devices such as computers are still relatively new in this country. Majority of the banking processes are still being performed manually and this slows things down resulting in delays in processing cheques and drafts.

In developed countries when companies fall short of liquid cash, they rush to banks or financial houses to factorise their accounts receivables but we do not have such financial houses and our banks do not provide such a service to the business community. Our banks tread very cautiously and find it difficult to grant loans to firms. In the developed countries, banks are eager to help firms out of their financial predicament because they believe that as long as the firm is in operation they will benefit in the long-run. Nigerian banks are not fully awaken to their responsibilities towards seeing that these firms survive. They expect these firms, especially the young ones, to make profits at an early stage. They seem to be unaware that young firms operate at a loss during the initial years.

It takes extremely hard work on the part of management of these young firms to break-even.

Also in developed countries, firms operate compensating balance accounts with the banks. The amount of money in their current account should not fall below a stipulated level. If it falls, the bank charges the firm. So, what some firms do is to operate a savings account in the same bank such that when the balance in the compensating balance account is lower than the stipulated level, money is transferred from the savings account to the compensating balance account to bring it up to an optimum level. There is no penalty for utilizing the money in the savings account without notice because these are ordinary savings and not fixed deposit accounts which should wait till the maturity date. If cash is withdrawn before the maturity date, there is a penalty charge in the case of fixed deposit accounts.

Most Nigerian firms under study do not operate such a system. Most of them stated that they do not hold any excess cash and as such do not have any need to have a savings account. The bulk of their money is in current account which earns them no return on their money kept in the bank.

From the study of these firms, it is evident that cash planning has not caught on as it has been in the developed countries, and this could be due to poor banking facilities, absence of effective financial institutions and poor postal and communication facilities.

Whatever the problem might be, I would suggest that the companies practise some aspect of cash management especially in disbursements. Remote point disbursement system could be utilised to increase positive float.

They should try to relax their credit policies a bit for the time being. This, I believe, would increase their sales and subsequently their cash position and ultimately the profitability of the firm.

5.7 SUMMARY AND CONCLUSION

Based on the discussion of this chapter, it is felt that there is a great deal to be done in the business sector of this country in the area of cash management.

For cash management to be effective, banks must be willing to cooperate by being innovative.

Future research suggestion in this area is the need to establish the extent to which commercial banks are willing to assist firms in providing financial instruments with maturity dates of at least one day to enable firms invest their cash to earn them a return and as well be able to withdraw it to meet their financial obligations as they come due.

Other research areas are (i) investigating the time it takes commercial banks to clear cheques; and (ii) finding out from the firms what their obstacle is in granting credit facilities to the consumers.

In the next chapter, an attempt will be made to summarise the discussion of this dissertation.

C H A P T E R VI

SUMMARY AND CONCLUSION

Cash planning affects the liquidity and profitability of firms. As mentioned earlier in this study, if a firm holds more cash than required, it becomes liquid, less risky but its profitability is reduced. If it holds less cash, it is less liquid, highly risky but with improved profitability. This shows that analysing this issue in this limited context there is an inverse relationship between liquidity and profitability. Firms normally strive to maintain an optimal cash balance in order to balance the two conflicting aspects of liquidity and profitability.

In order to pursue the objectives of this study, the work has been divided into six chapters.

In chapter I, the objectives of this study were stated among which was to examine various issues relating to cash planning/practice(s) in selected Nigerian firms. The chapter attempted also to distinguish between profit and cash flow and the ultimate objective of business existence. Profit was referred to as a statement of opinion of an accountant being guided by accounting principles of relevance and conservatism. The fact that a firm declared a profit did not mean that it had cash in the till. Examples were made of Penn Central Railroad of U.S.A. that declared huge profit only to go bankrupt because it was not able to meet its financial obligations as and when they came due. An attempt was also made to point out that the primary aim of any business over a long-term is to make profit but

the short-term objective of any business should be to stay in business - to avoid bankruptcy. Cash is a very important asset to any business firm and should be managed very well.

In Chapter II, the existing literature on cash planning and management were reviewed, both the theoretical and the practical aspects of it. In the theoretical aspect of cash planning, an attempt was made to review the different costs associated with holding excess cash and the models developed to know what to do when a firm has an excess cash. It was stated that if a firm had excess cash, it should invest it in short-term marketable securities such as the repurchase agreements which have a maturity of one day and/or certificates of deposits with 120 days maturity. These securities will earn a return for the firm. However, when the securities are to be redeemed, the firms incur a transfer cost. Certificates of deposits are safe, cost little to purchase but costly when they are to be sold. If there is no secondary market for them, they will be sold back to the bank that issued them, thereby incurring a "goodwill" cost. However, if there is a secondary market for them, the seller will pay the specialist as much as 15 basis point ($\frac{15}{100}$ of 1% of the value of the CD). If a firm holds less cash it incurs a shortage and ordering costs. If it holds more money without investing it, it incurs an opportunity cost which is an interest foregone.

Baumol and Tobin models were discussed to some extent. Their models dealt with a firm that had continuous outflow of cash and periodic inflow of cash. This cash inflow occurred once at the beginning of each relevant

transaction period, while disbursements occurred in a steady stream throughout the period.

In chapter III, some cash ratios and aggregate cash ratios of some selected companies, most of whose balance sheets which were obtained from the Kaduna Stock Exchange, were computed. Graphs of each cash ratio for all the companies were plotted as well as the graphs of all the cash ratios for each of the companies.[1] Each company's cash ratio was compared with the aggregate mean ratio. It was evident that in 1981 most of the companies had their lowest cash ratios while the majority of them had their highest cash ratios in 1984. EMCON seemed to have been the least liquid with high consistency for the majority of the cash ratios while Golden Guinea appeared to have been the most liquid company for some of the cash ratios where this was apparent.

Chapter IV dealt with the survey results. The companies to which the questionnaires were administered were in Funtua and Zaria towns of Kaduna State. The firms were mostly private limited liability companies. Questionnaires were distributed to 9 companies but only 7 companies responded.

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1 See page 95 to 106

In Chapter V an attempt was made to discuss the cash management practices in use in this country based on the feed back of the questionnaire. It showed that there are no effective cash planning practices in this country. This could be attributed to the "cash basis" mode of transaction in the country. Credit is not extended to the greater majority of the public. Where credit is extended, it is to big firms. Some form of cash management was suggested which may be suitable to the Nigerian environment; and that is the remote point disbursement system. This can be practised while still operating on a "cash basis" system.

As a precaution against the fate of Penn Central Railway crash, Nigerian Stock Exchange should require public limited liability companies listed on the Exchange to submit the cash flow statement of their operations.

Some of the recommended cash management practices of the developed countries may not be immediately applicable in Nigeria because of inefficient communication network and substandard state of our technology. However, it was felt that it would be better to include them at least from a long-term point of view and in a study of this nature one is expected to adopt a forward looking approach.

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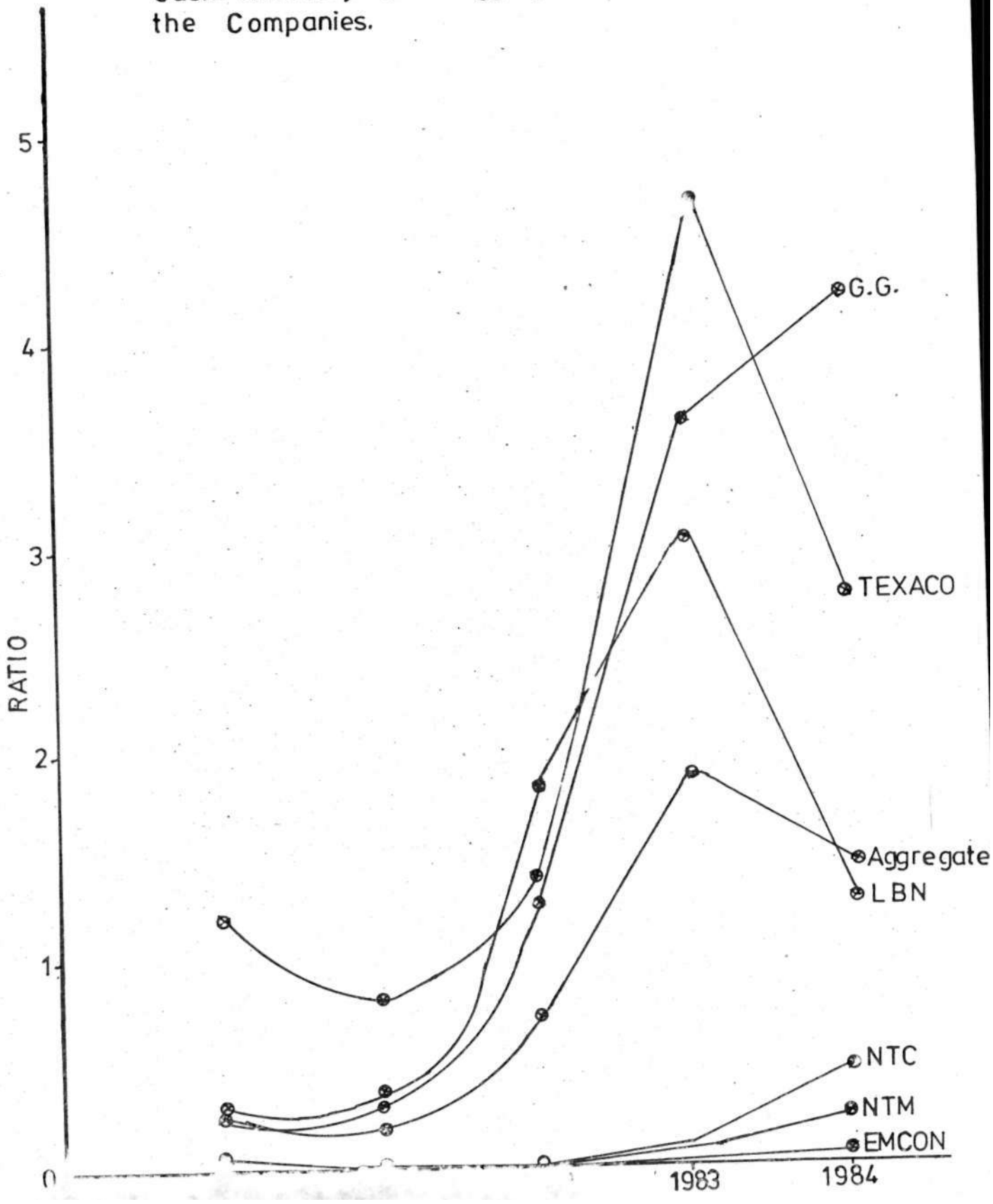
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APPENDIX A

GRAPH 3.1

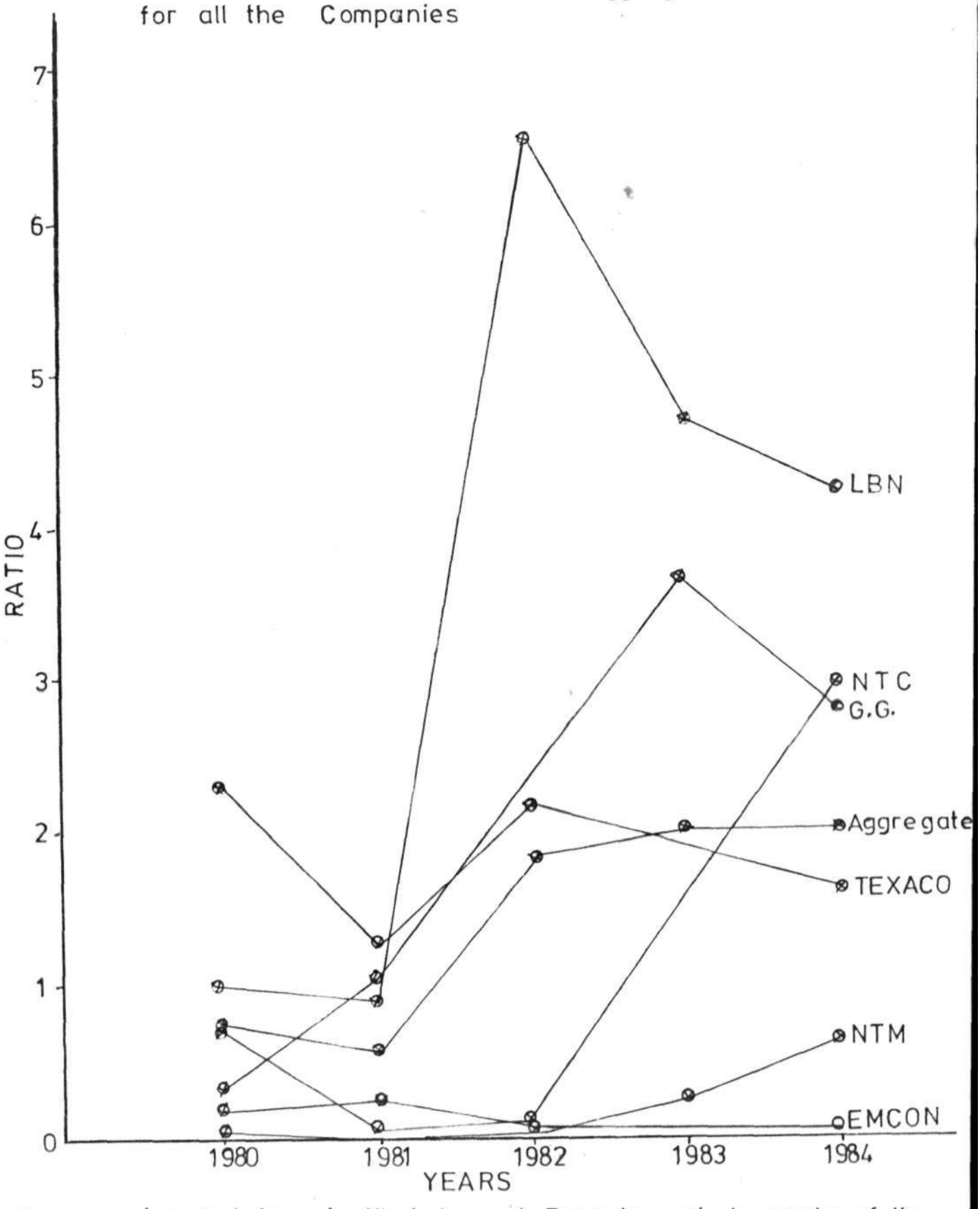
Cash/Inventory and Aggregate Ratios for all the Companies.



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GRAPH 3.2

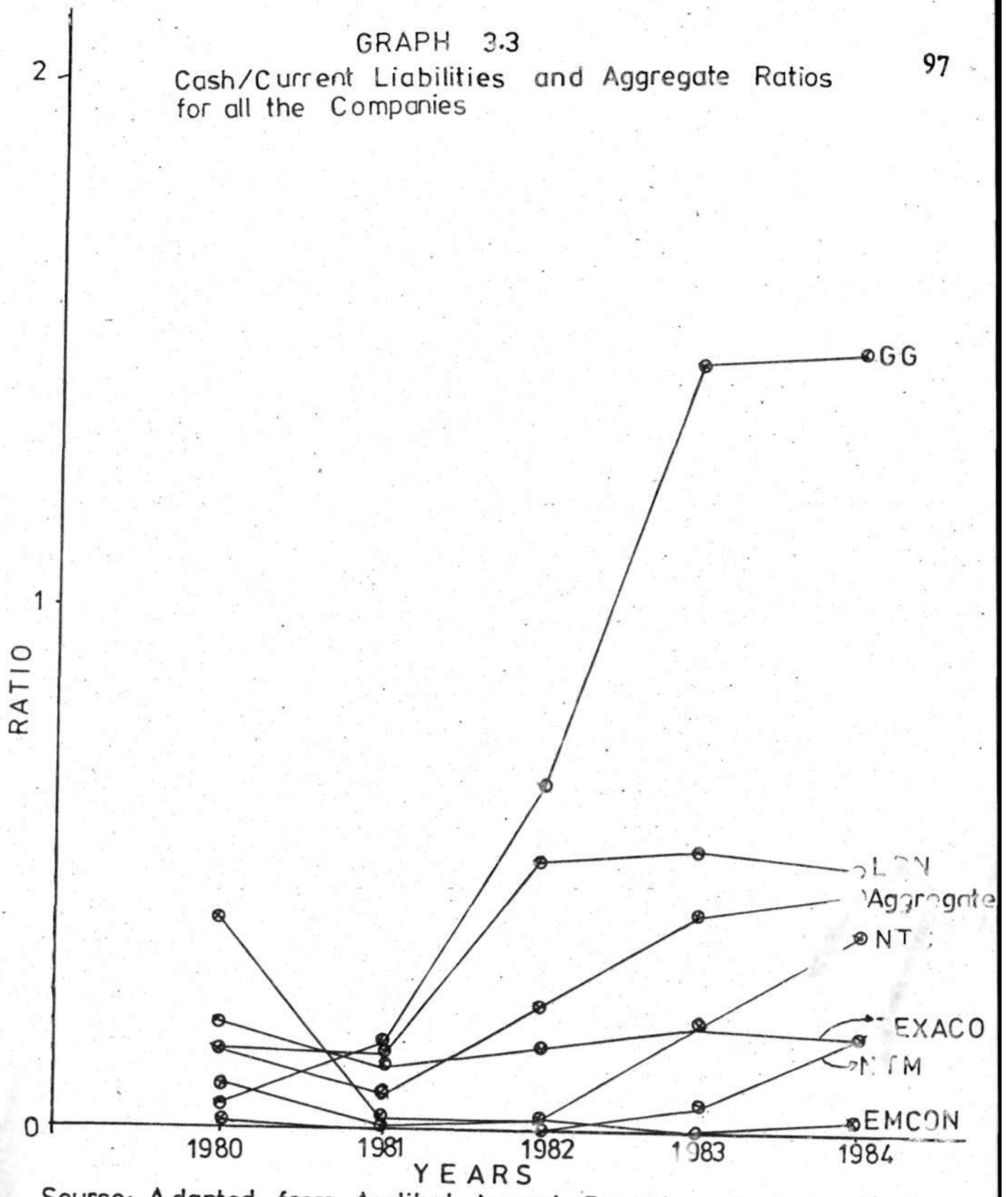
Cash/Account Receivables and Aggregate Ratios for all the Companies



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

GRAPH 3.3

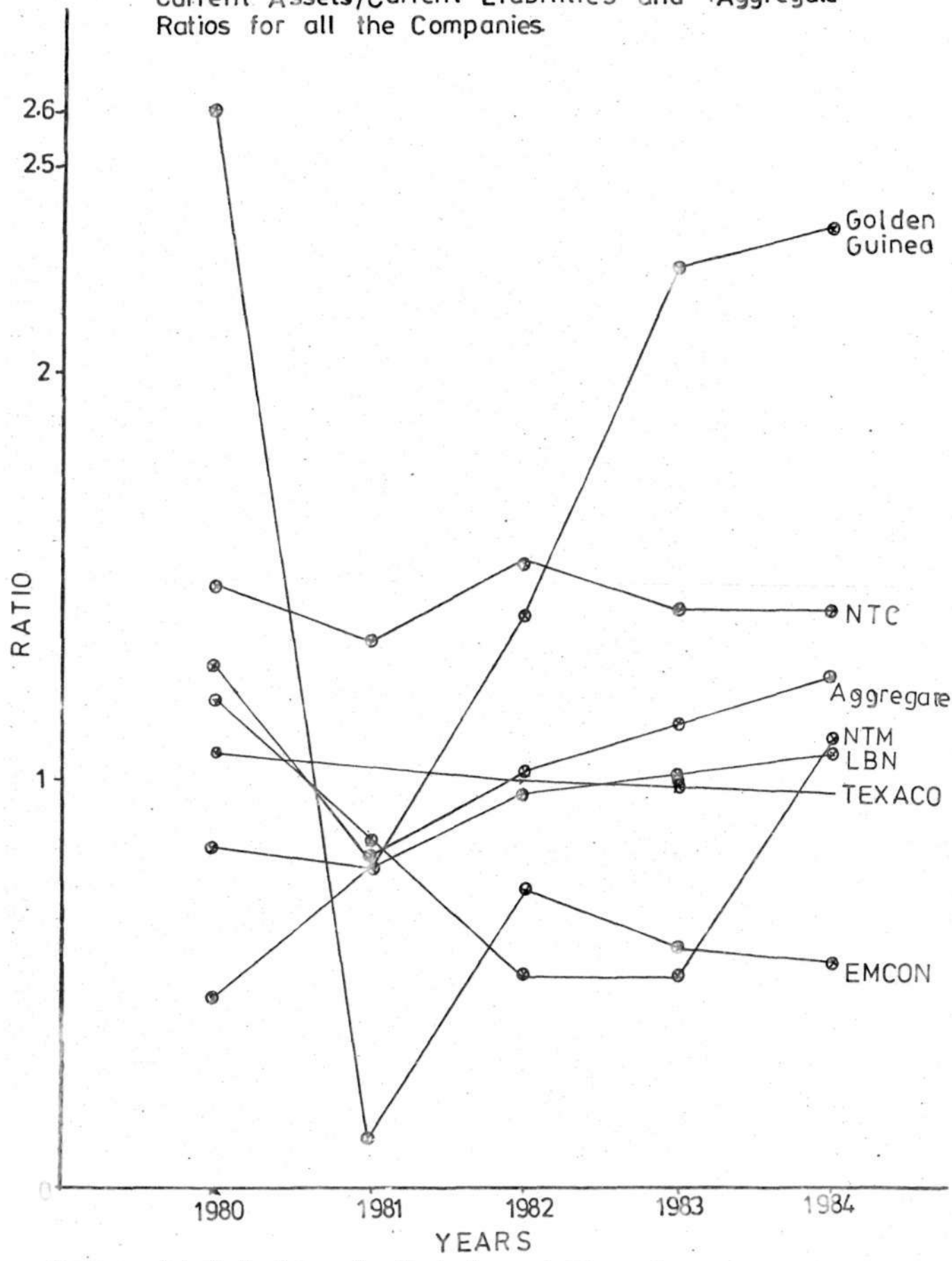
Cash/Current Liabilities and Aggregate Ratios for all the Companies



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

GRAPH 3.4

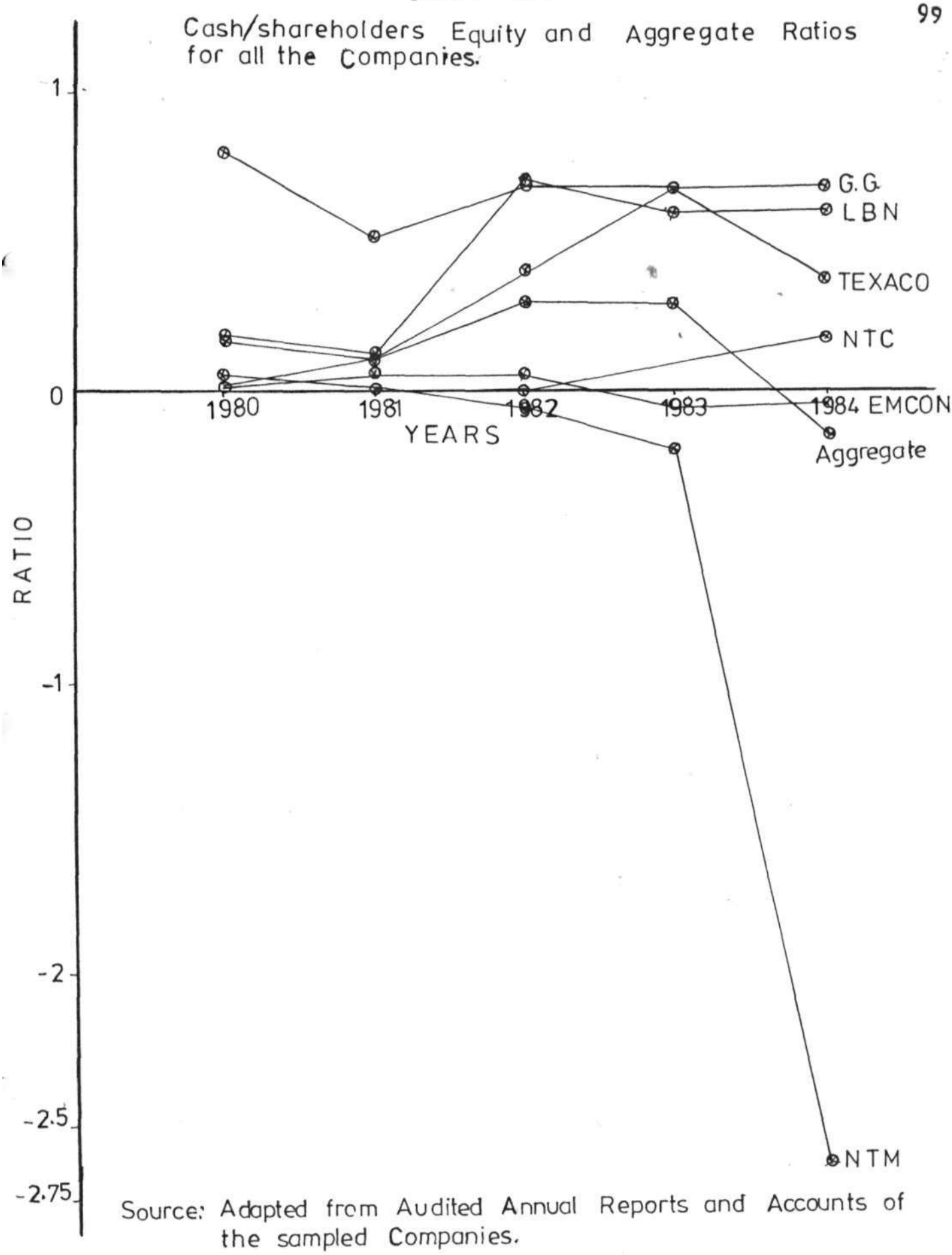
Current Assets/Current Liabilities and Aggregate Ratios for all the Companies



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

GRAPH 3.5

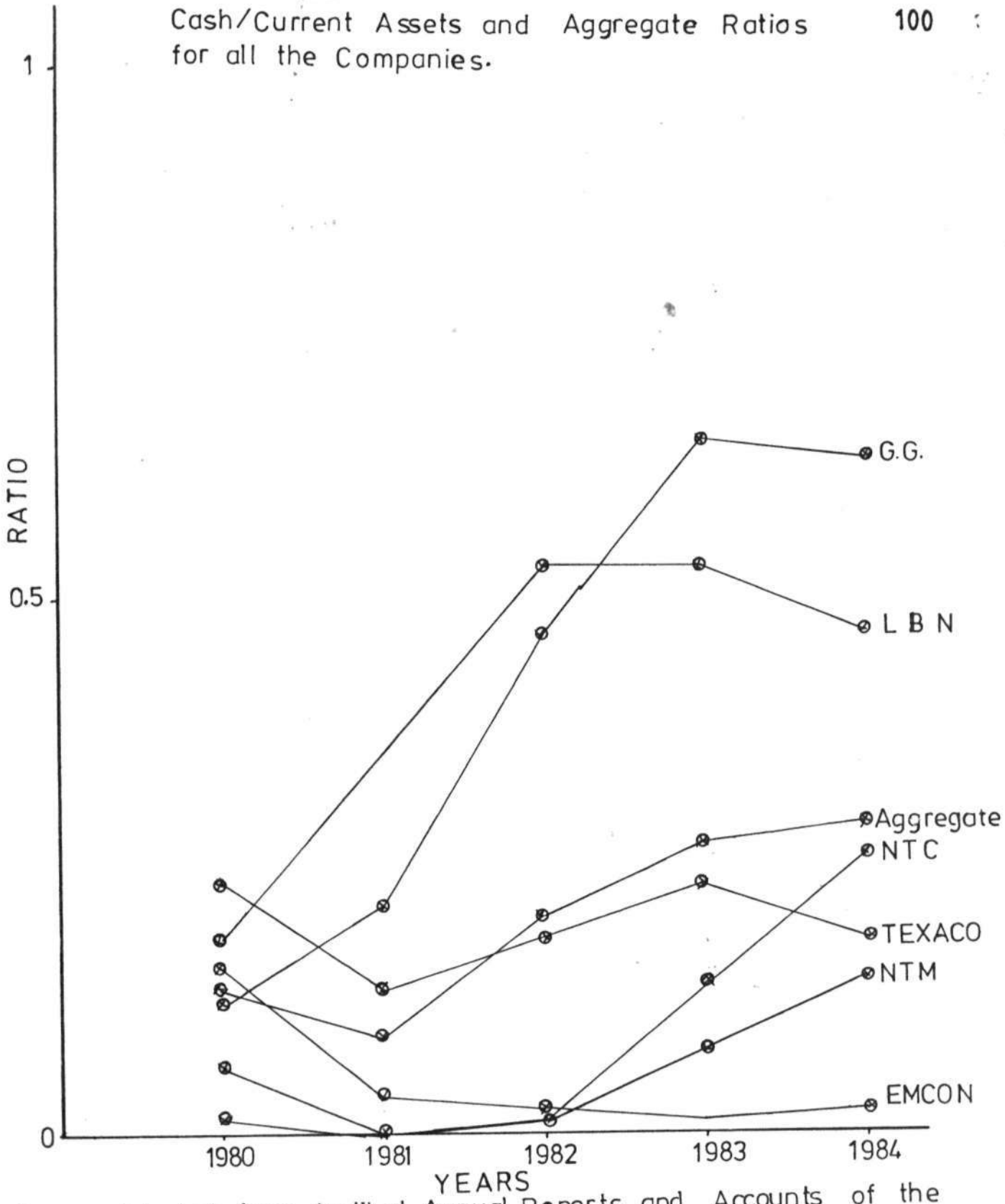
Cash/shareholders Equity and Aggregate Ratios for all the Companies.



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

GRAPH 3.6

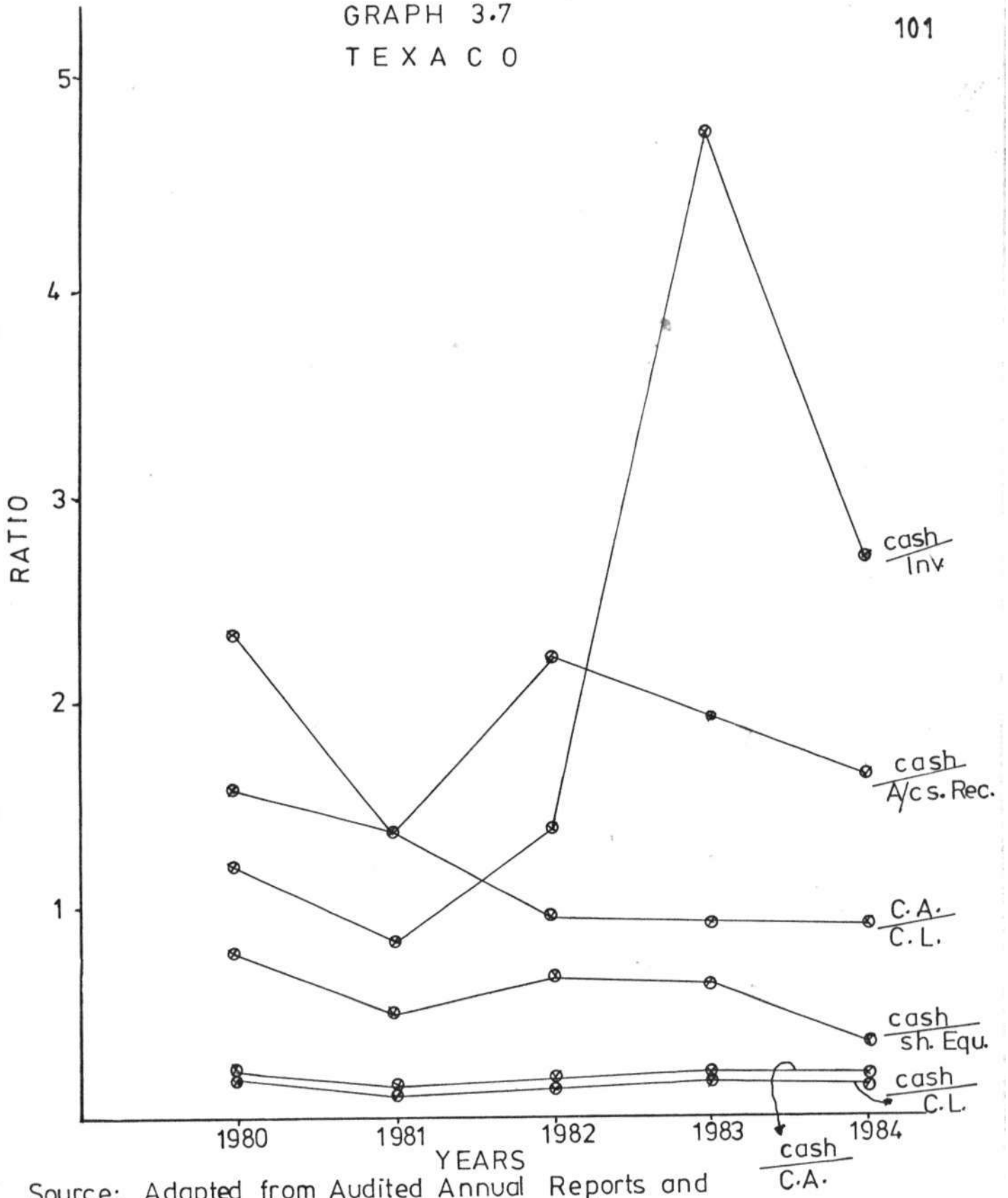
Cash/Current Assets and Aggregate Ratios for all the Companies.



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

GRAPH 3.7

TEXACO

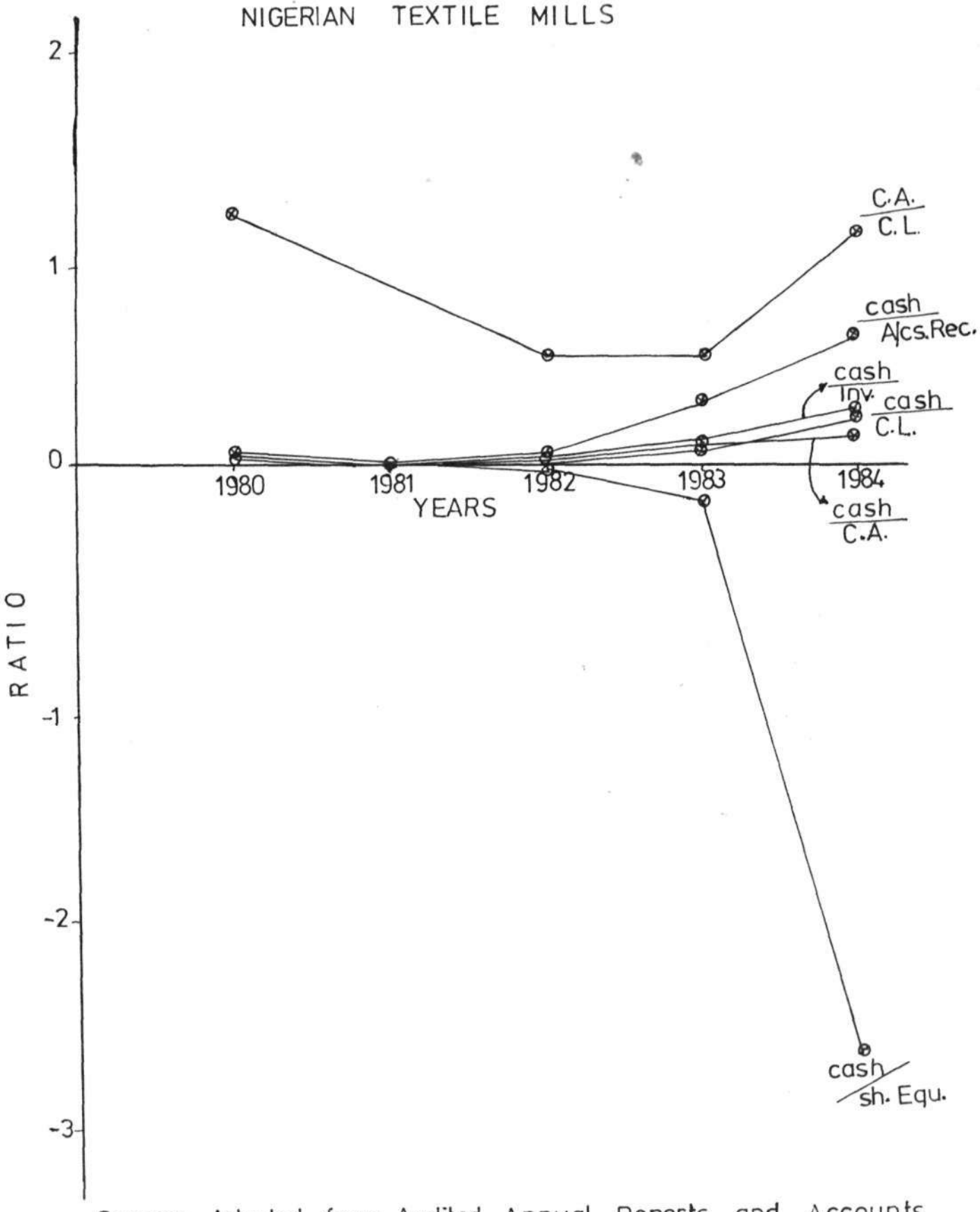


Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

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GRAPH 3.8

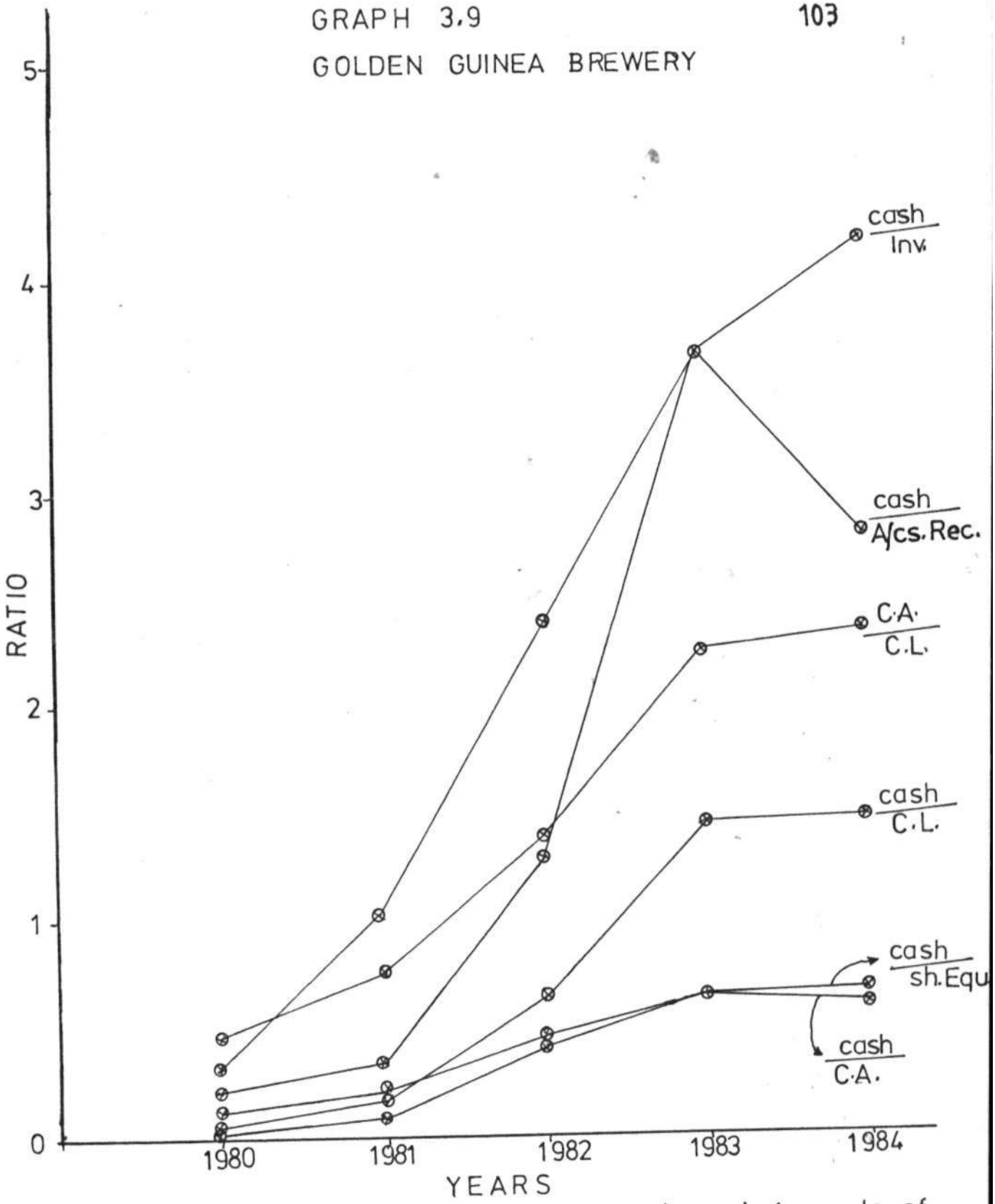
NIGERIAN TEXTILE MILLS



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

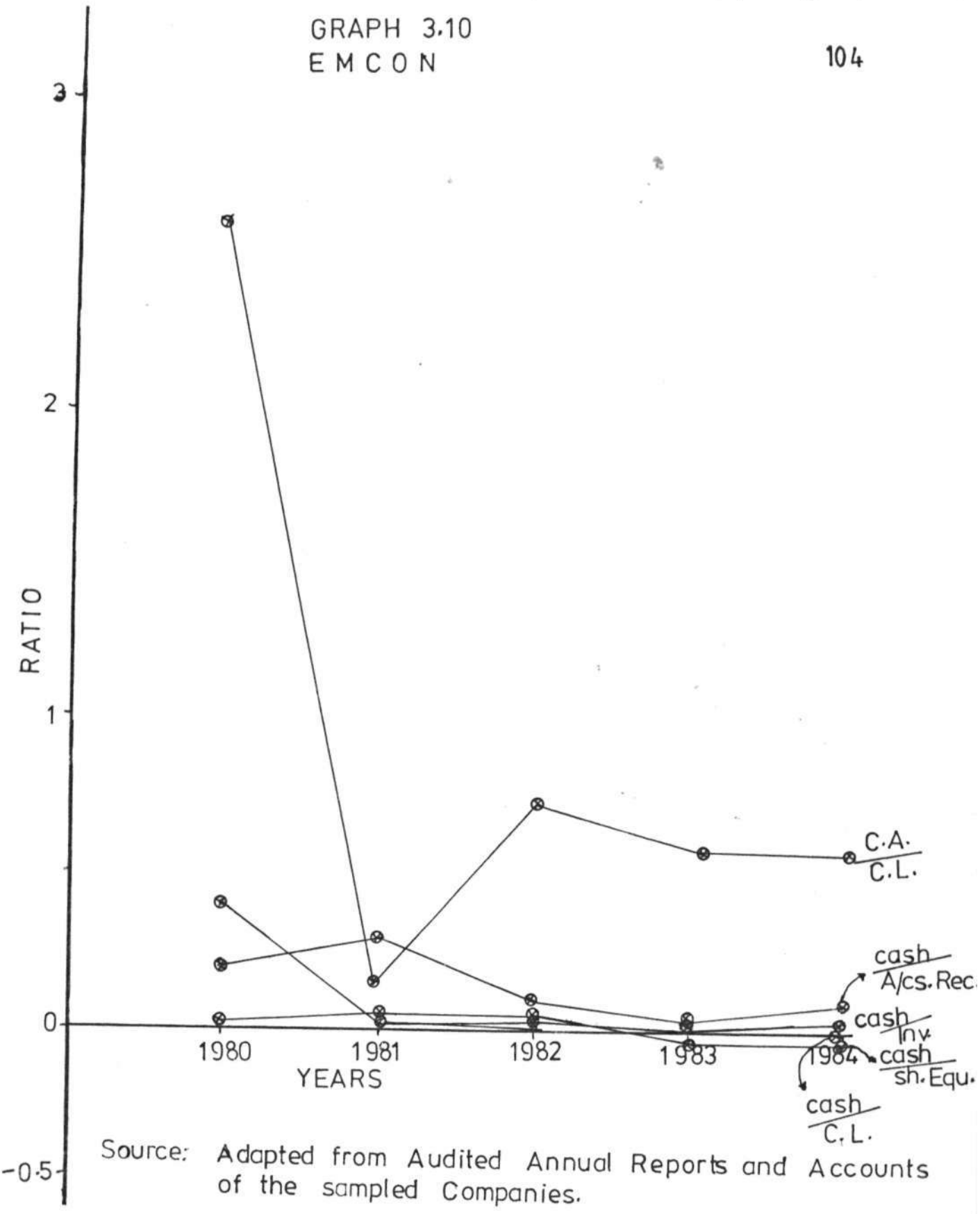
GRAPH 3.9

GOLDEN GUINEA BREWERY



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

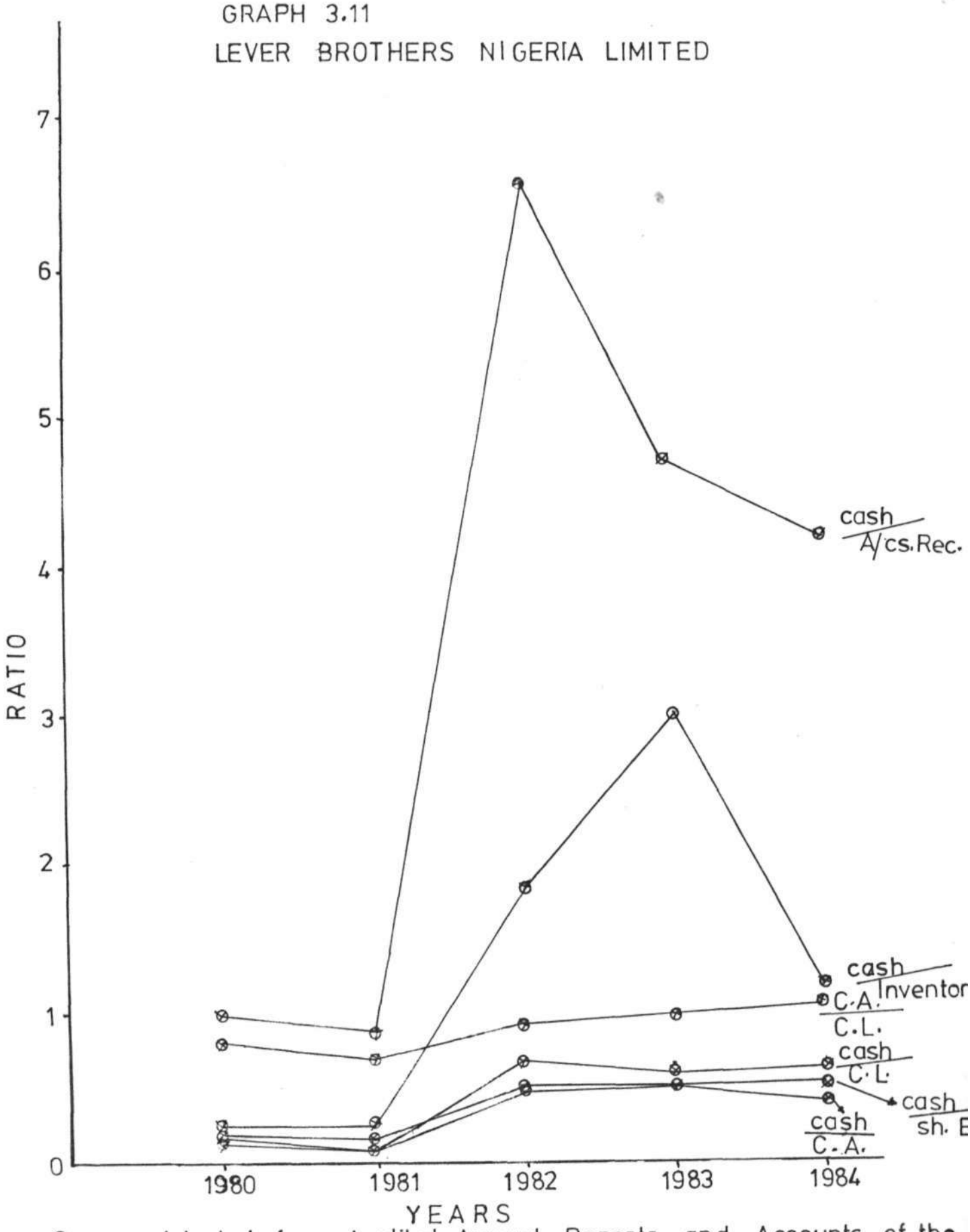
GRAPH 3.10
EMCON



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

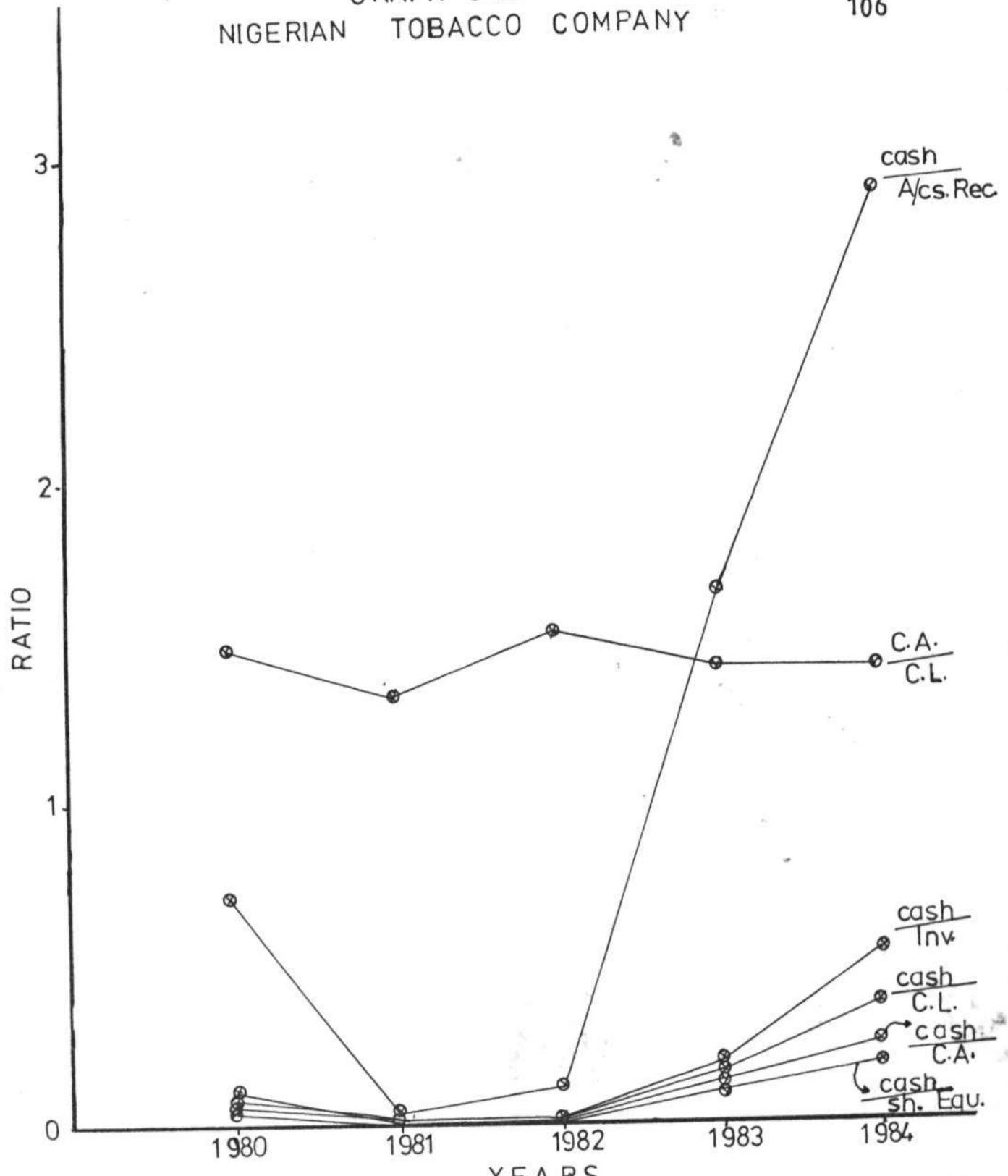
GRAPH 3.11

LEVER BROTHERS NIGERIA LIMITED



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

GRAPH 3.12
NIGERIAN TOBACCO COMPANY



Source: Adapted from Audited Annual Reports and Accounts of the sampled Companies.

APPENDIX B

QUESTIONNAIRE

1 Cash Planning Decisions: How are these made and evaluated?

a) Nature of Business:

b) Name of Firm:

Address:

c) Number of Employees:

d) Product:

e) Production cycle: How long does it take to produce the item?

f) Total Sales:

1985 1984 1983 1982 1981 1980

g) Cash Balances in the Beginning:

1985 1984 1983 1982 1981 1980

At the end:

1985 1984 1983 1982 1981 1980

2 What definition do you use to define Cash Planning?

Note: Circle the most appropriate letter for your response

(a) Cash Planning includes all attempts made by the firm to manage cash to produce benefit to the firm either on a short-term or long-term basis.

(b) Cash Planning includes all attempts made by the firm to manage cash, marketable securities to produce benefit to the firm either on a short-term or long-term basis.

(c) Cash Planning includes all attempts made by firm to manage cash, marketable securities and inventories to produce benefit to the firm either on a short-term or long-term basis.

(d) Any other.

3 Cash includes:

(a) Petty Cash, bank account deposits and current account.

(b) Petty Cash, money in bank, and marketable securities.

(c) Petty Cash, money in bank, marketable securities and inventory.

(d) Petty Cash, money in bank, marketable securities, inventory and accounts receivable.

(e) Any other.

4 Origin:

(a) You have a Cash Planning Section in your firm - Yes / No .

(b) The originators on Cash Planning proposals in your firm are: (circle one 1, 2 3)

(1) Top Management
(2) Middle Management
(3) Others

5 The staff strength in this Cash Planning Section is

(a) Less than 5
(b) Less than 10 but more than 5
(c) More than 10.

6 The ratio of the staff in the Cash Planning Section to the finance department of the firm is --

(a) Less than 25%
(b) Between 25% and 50%
(c) More than 50%

7 How do you encourage proposal origination?

(a) Management sponsored productivity/ profitability studies Yes / No.

(b) Formal suggestion scheme Yes / No.

(c) Scale of Financial reward Yes / No.

(d) Consultancy advice-outside the firm Yes / No

(e) Any other, please specify

.....

.....

8 For proposal origination do you use

(a) a specific form ?

(b) a memorandum?

(c) any other means - please specify

.....

.....

May I be supplied with copies of your forms/ memorandum.

9 The decision whether a proposal origination document should be completed or not is by -

(a) The Financial Controller

(b) The Managing Director

(c) Any other - please specify

.....

.....

10 Submission of proposals is restricted to certain periods of the year Yes / No.

If your answer to the above is Yes, what are these periods? .....

.....

Any other details of your procedure for proposal origination which you would care to report?

.....

.....

11 Sales are made on -

(a) Cash basis only
(b) Credit basis only
(c) Cash and credit bases

12 Purchases are made on -

(a) Cash basis only
(b) Credit basis only
(c) Cash and credit bases

13 Credit is extended to -

(a) All customers
(b) Big firms
(c) Any other, for example Government agencies, smaller firm, general institutions.

14 Credit facilities are for -

(a) One month
(b) Two months
(c) More than 2 months - please specify.

15 Percentage of customers who pay:

(a) Within the credit period .....
(b) Within one month after the credit period .....
(c) Later than one month after the credit period .....

16 Do you grant cash discounts to make customer pay promptly? Yes / No.

17 Cash discount granted are normally utilised by customers Yes / No.

18 What percentage of your customers utilise the cash discount granted e.g. 25% etc.? .....

19 Business concern would prefer cash payment to any other form of payment but for its internal control problems. Many business firms still accept cheques, drafts etc. as forms of payment. Do you prefer your customers to make payments in:

(a) Cheques only Yes / No. If Yes, why? .....
.....

(b) Drafts only Yes / No. If Yes, why? .....
.....

(c) It does not matter whether cheque or draft. Why? .....

20 How long does it take to clear your cheques through the banks?

(a) Less than 2 days
(b) Between 2 days and 5 days
(c) Between 6 days and 10 days
(d) More than 21 days.

21 To speed up cash collection do you utilise?

(a) Lockbox system? A lockbox is a procedure whereby a firm rents a post office box in a particular city and entrusts its management to a commercial bank.

(b) Factorising accounts receivable? Factorising is when a firm sells its accounts receivable to another firm usually at a discount for cash.

(c) Regional banking system? Here a firm establishes collection accounts at a series of commercial banks strategically located around the country. This causes the geographically dispersed credit cutomers of the firm to pay bills in their local region, rather than causing all payments to be sent to a central location in the country.

(a) only
(b) only
(c) only
(d) All of the above
(e) None of the above

22 In disbursing cash do you use?

Remote point disbursement system? Its objective is to lengthen the time required to clear a cheque through the bank. For example a cheque written in Onitsha on a Maiduguri bank may take up to 21 days to be collected thus allowing the issuing company the use of the money for 20 days. Yes / No.

23 Investment of surplus cash. Do you invest your surplus cash in?

(a) Certificates of deposits (CDs)? Yes / No.
(b) Repurchase Agreement (RPs)? Yes / No.
(c) Others - please specify? .....
.....

If your answer to a and b above is Yes, what is your policy guideline in choosing whether the excess cash is to be invested in CDs or and RPs?

.....
.....
.....
.....

24 The cost of capital (i.e. average interest charged for borrowed capital) in your firm is:

(a) Less than 5%
(b) Between 5% and 10%
(c) Between 10% and 15%
(d) Over 15%

25 Your expected earning from investing the excess cash is -

(a) Equal to the firm's cost of capital
(b) Less than the firm's cost of capital
(c) More than the firm's cost of capital

26 How do you finance your cash needs?

(a) Banks
(b) Internally generated funds
(c) Long-term capital: share capital debentures advances from customers, loans from non banking institutions (Insurance company and other financial institutions)
(d) Any other .....

27 How often do you fall short of liquid funds?

(a) Very frequently
(b) Once in 2 weeks
(c) Once in a month
(d) Once in 3 months
(e) Once a year
(f) Never

28 If you face liquidity problem how do you solve it?

(a) Short-term borrowing
(b) Postponing payments
(c) Any other

29 Your average cash balance is for the purposes of

(a) Transactions
(b) Precautions
(c) Speculation
(d) Any other.

30 Do you think cash planning is important for you in your firm? Yes / No.

31 How far does cash planning affect the profitability of your firm?

(a) To some extent
(b) To great extent
(c) It does not affect it.