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**CLASSIFYING
THE LEBANESE COMMERCIAL BANKS
INTO CLUSTERS ACCORDING TO THEIR
FINANCIAL RATIOS**

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**BY
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ABSTRACT

While the banking sector in Lebanon survived many turbulent eras, it has been seriously and unexpectedly shaken in the past few years; This research identifies and analyses the variables explaining solvency which are at the root of bankruptcy.

Its purpose, then is, to analyse, design, and implement a system of Capital Adequacy that will strengthen the stability of this sector and establish a consistent framework of analyses of banks' data. To reach this purpose, the researcher uses cross-sectional data to answer two major questions:

- 1- What are the major characteristics of the selected group of the Lebanese Commercial Banks?
- 2- What are the direct and indirect effects of the causal variables leading to solvency?

Finally, the utility of this research, lies, in its applicability in three different areas: **methodology**, with its multivariate ratio analyses and its design of a recursive system, **analyses**, with its simplified graphical representation and last the novel conclusion. These mentioned areas will ultimately have three potential users: Policy makers in the commercial banks who can use it as a guideline for their banks' management, Banks Control Commission to whom this study presents an outline for further research in the statistics department of BDL, and of course the academic circles that may study an empirical situation rather than a rigid basic research.

CHAPTER I

INTRODUCTION

General Background

Any analysis of the Banking Sector in Lebanon will inevitably consider the period of the Lebanese civil war and its immediate aftermath, when more bank failures occurred within two years than throughout the whole life of the banking sector.¹ However, such analysis will remain anachronical if it fails to consider the potential effects of the reconstruction and development that is currently the "talk of the town". More so, since the planned "Grand" projects require huge investments (more than twice the Lebanese GNP), proposed to be carried out by the public and private sectors, using grants, public loans, private loans, foreign investment, reinvestment of the "escaped" capital, and other methods of financing. Such a gigantic effort requires an efficient and effective banking sector to facilitate and control the flow of such a large amount of multicurrency liquidity.

¹ In fact, throughout its life of more than 14 decades starting 1848, only one bank, namely Intra bank, failed in 1966.

From its earliest days, the Lebanese commercial banking sector has developed synchronically with the Lebanese economy. During World War II, as a result of the decreased supply due to the destruction of production resources in Europe and difficulties in transportation in one hand, and an evergrowing demand by foreign armies due to the war effort on the other hand, a severe shortage situation was arisen. This shortage situation boosted the industrial and economic sectors in Lebanon, which remained at the time away from the war operations. The economic and industrial infrastructure developed during and after World War II was further improved by the political stability, unique in the region, that Lebanon enjoyed. The last boom resulted from the closing of the Suez Channel in 1967 and the consequent conversion of the traditional trade route to the Middle East from Suez to Beirut. Those events, in addition to the cultural and educational background of the Lebanese labor force, led to the growth of the triangular trade and the inflow of foreign capital to Lebanon.

The above mentioned growth, which lasted more than 3 decades, was paralleled by an unparalleled growth in the banking sector of Lebanon. This growth was abruptly severed by the civil war in Lebanon in 1975 and the ensuing destruction of the political stability, economic structures and physical and demographic infrastructures. After several years of war, during which the economic and financial reserves were depleted, the eventual collapse of the different economic sectors gradually started in the mid 1980's, with the banking sector still solvent due to sporadic gains in difference in exchange (DIE) and extremely cautious and conservative policies by most banks.

The causes of the banks' failure in Lebanon can be categorized into two levels. At the **Macro** Level, the causes lay in the external environment including the political, legal, economic and financial aspects.²

The managerial determinants comprise the **Micro** level, which unlike the macro environment, is fully under the control of the management. It is in this context that bankruptcy prediction models are activated, in order to scrutinize managerial activity and help in setting a strategic plan of the banks to ensure their continuity. Furthermore, it is in this aspect that the underlying causes of commercial bank failures in Lebanon relate to the causes of bank failures abroad³.

As it will be discussed later, bankruptcy prediction models rely primarily on quantitative analyses, which have gained widespread use and credibility over the past decades. With the works of prominent researchers in the field (Smith 1935, Fischer 1936, Merwin 1942, Hickman 1958, Foulde 1961, Walter 1963, Beaver

² Most researchers are affected by the general popular belief, which ascribes to the macro factors the main, if not the only, causes of the bank failures in Lebanon.

³ For a discussion of the underlying causes of common bank failures in the 1980's, see a recent article by Lynn D. Selalles & James B. Thompson, Federal Reserve Bank of Cleveland, September 1993)

1966, Altman 1968, Moyer 1977, Ismael 1980, Naemy 1990, Salman 1992) and the improvements and proliferation of computer hardware and software systems, financial models can be readily built up to support decision systems, using various methods such as ratio analysis, statistical analysis, determinant analysis, multivariate analysis, (with the related graphic representation), to name a few.

Ratio analysis is the most useful analytical review technique in banking because :

- 1) it is concise.
- 2) it facilitates comparisons.
- 3) it is widespread in use, and
- 4) it is frequently relied on by bank management.

Examining financial relationships helps us identify problem areas. Ratio analysis is used by bank credit departments to analyze financial statements submitted by business firms seeking credit, and by bank investment departments to analyze data on securities. Bank regulatory agencies also make extensive use of ratio analysis.

In using ratios, financial analysts constantly search for some standard of comparison against which to judge whether the relationships that they have found are favorable or unfavorable. Two such standards are :

- 1) the past performance of the company, and
- 2) the performance of other companies in the same industry (industry averages).

Ratio analysis intends to find an answer to the question of what ratios will emphasize trends in production or administration, measure functional activity, point to and measure reactions of one sphere of activity on another, assist in the observation of efficiency and waste, reveal strength or weakness, utilization or idleness, impose more checks, stimulate research and assist in scientific disclosure.

Evidently, the sequence of the financial ratios depends on the criteria used. "Ratios of primary figures should precede and prepare the ground for ratios of complex figures, which in turn will lead to composite ratios"⁴. However, in this study, the opposite sequence is usually followed in view of the greater importance of ultimate ratios. Thus, the first object is to submit master ratios giving summarized information as conveniently as possible. Additional ratios then give the desirable amount of detailed information under each heading.

⁴ Bradbury B. Parkinson, Accounting Ratio in Theory and Practice (London: Gee and Company Limited, 1951, pp. 16.

Need for the Study

The banking sector in Lebanon is an old survivor. Over its life span of more than 140 years⁵, it has witnessed, coped with, and survived the Ottoman rule in its final turbulent era, World War I, the French mandate, World War II, Independance, Arab-Israeli wars of 1967 and 1973, and the Lebanese civil war. Throughout all these turbulent times, the banking sector had only one casualty - Intra Bank, 1966 - this is a solid illustration of the traditional soundness of the banking system and its ability to adapt to abrupt and unforeseen changes in the macro environment.

Then, in the past few years, in an unparalled and unexpected way, seven banks closed their operations in a period of three years. This means that about 10% of the banking institutions failed in the last 2% of its life time.

This new situation has led to a newly perceived need to find out reasons of such bankruptcies, and few attempts have been made during the past few years to analyze bank failures in Lebanon. These attempts try to apply American and European bankruptcy prediction models to the Lebanese environmental system. Irrespective of the propriety of such an application, the eventual objective has been reactionary i.e., what measures to be taken to **avoid** bankruptcy determination and prediction.

⁵ The first bank in Lebanon was established in 1948: Youssef El-Lati & Fils.

This research study responds to a different need: one more fundamental to bankruptcy because it is at the root of bankruptcy. The present research aims at identifying and analysing the **variables explaining solvency**.

Hence, this study basically responds to a different need and consequently uses a different approach: to enhance health and not merely to avoid sickness, or to proact rather than to react. This approach requires a new management philosophy where managerial decision are made on the basis of expectations rather than fear.

Purpose of the Study

The purpose of this research study is the analysis, design, and implementation of a system of **Capital Adequacy** of banks, with two objectives:

- 1- To strengthen the stability of the Lebanese banking sector
- 2- To establish a consistent framework of analyses of bank's data.

From the outset, it is easy to apprehend that the capital adequacy ratio has (or should have) **some** correlation with the other categories of financial ratios for banks. This research study intends to examine **this** correlation, using multivariate ratio analyses and designing a recursive system by the application of currently available computer software (SPSS, Windows, Excel, etc.).

While the data used in this analyses is composed of the financial statements (balance sheet and statement of operations) of 69 Lebanese commercial banks during the year of 1992, the overall framework of analyses relates to the 1988 Basel Commission, whose resolutions are applicable starting the beginning of 1993. In this respect, the readjustment of the Lebanese commercial banks with the objective of achieving a realignment of its financial ratios to satisfy the Basel commission requirments is a necessary step for the eventual corporation between the Lebanese commercial banking sector and the International banking system⁶.

Research Questions

This research attempts to answer the following questions:

1- What are the major characteristics of the selected group of the Lebanese commercial banks ?

2- What are the direct and indirect effects of the causal variables leading to solvency?

⁶ Refer to Appendix 1, PP

Limitation of the Study

While every research that relies on empirical information and analysis real data derived from the real world is necessarily bound to have certain limitation, due to the existing imperfection (whether perceived or not) in the environment of the study, this research is confronted with **specific** limitations that are classified as:

- a- Currency
- b- Structure of the Financial Statement
- c- Control of bank operations
- d- Auditing firms and audited financial statements

The following paragraphs describe these specific limitations, as well as, their causes, nature, and effects on this study:

a- Currency

Due to several decisions of the financial authorities in Lebanon and numerous circulars of Banque Du Liban (BDL) concerning this issue, all Financial Statements of all banks in Lebanon are set **only** in the Lebanese Currency without any differentiation between domestic and foreign denominated balances. While such a practice would not hinder the level of accuracy in most other countries

where domestic denominated balances are dominant, it leads to serious misconceptions and missinterpretation in case of Lebanon, specially because **most** balances in the Lebanese banks are denominated in **foreign** currencies. This is an obvious and direct result of the dollarization of the Lebanese market that began in the mid eighties and is still in effect, despite the stability in the foreign currency market over the past two years.

This limitation may be alleviated by a change in the Lebanese legislation **requiring** (not merely allowing) the use of domestic and foreign denominated balances **as they reflect the real situation**. Although such a requirement exists for the reports submitted to BDL, the published data is always in the Lebanese Currency and the BDL files including multicurrency denomination are considered classified and hence inaccessible.

b- Structure of the Financial Statements

The financial ratios used for analysis in this research were constructed by the way of the construction of the financial statements themselves. This structure of the financial statements tailored on a model prepared by the Bankdata (see Appendix III, page 80) lacks the level of details necessary for the derivation of certain ratios important in ratio analysis. The practical inaccessibility of internal financial papers and the necessity to rely only on published financial statements that lack intermediate balances and specific classification of balances, and only show total amounts is a specific limitation which effects are present in ratio analysis.

c- Control of Bank Operations:

Even from the day of its conception and establishment, BDL held a low profile on controlling the banking operation in Lebanon, following a "laissez-faire" monetary policy. In the past, this factor, among others, led to the Intra scandal in 1966. As a result, several controls were legislated with ammendments on the **Code of Money and Credit** by the government through the ministry of finance and BDL enforcing specific controls over banking operations in Lebanon. The mechanizm of this control was delegated to Banks' Control Commission (BCC).

When the Lebanese war reached its climax in 1982, most public institutions became paralyzed. This paralysis continued throughout the economically and financially turbulent eighties. The result was a low level of control (both in quality and in quantity) over the banking sector, in the general absence of automatic stabilizers and automatic control mechanisms.

d- Auditing firms and audited statements

One of the characteristics of the pre-war banking sector was the presence of foreign banks (American, French, British, Italian, Dutch, Swiss, as well as Arab). These banks were potential competitors to the Lebanese Commercial banks, hence automatically imposing a higher quality of bank services in Lebanon.

In addition to these banks, **all** the major international auditing firms had offices (therefore clients) in Lebanon. Of the so called Big Eight (now Big Six), only one - namely Touche Ross, Saba & Co. (now operating under Deloitte & Touche)- remained in Lebanon throughout the years of civil war. It continued to provide its auditing services within a very difficult environment which affected its qualified personnel. As a result, during the eighties and the early nineties, the auditing firms existing in Lebanon operated well below international standards. This fact caused a serious damage to the credibility of audited financial statements. This situation fortunately has started to change by the return of many of the international renowned auditing firms of Lebanon starting 1993. Therefore, it is expected that the audit of financial statements starting this current year (1994) will gradually improve to meet international standards during the next few years. However, since the data used in this research is dated **before** the return of these firms, the fair representation of the financial conditions of the banks in their own financial statements lacks credibility.

The limitations described above, although real, can only **partly** undetermine the credibility of this (or any) study of this (or any) topic in Lebanon. The existence of such limitations does not render research impossible; they render it more difficult and more costly. As a result, higher level of meticulous analysis is required to conduct adequate research and to improve the level of scientific knowledge.

Appendix I

BDL circular # 1114 concerning Capital Adequacy and Measurements

The BDL Circular no. 1114 which governs the Capital Adequacy for banks in Lebanon was tailored according to Basle requirements. Herebelow is a briefing of the fundamental objectives for the governing of the Capital Adequacy and the sections of capital measurement and risk weighting assessment:

Fundamental Objectives for the Governing of the Capital Adequacy

There are two fundamental objectives for the governing of the Capital Adequacy of banks as regulated by the Basle Committee on Banking regulations and Supervisory Practices:

1- To strengthen the soundness and stability of the International Banking System.

2- To establish a framework that should have a degree of consistency in its application to banks in different countries with a view to diminishing an existing source of competitive inequality among International banks.

The analysis of the Capital Adequacy for banks and financial institutions focus on the various financial instruments subject to be disaggregated between financial instruments with balance sheet and off balance sheet risks.

Capital Measurement

The equity instruments eligible for inclusion in the capital base consist of the following:

- 1- Core capital (Tier I)
- 2- Supplementary capital (Tier II)

According to the enclosed circular, the core capital is composed of the following:

- a- Capital
- b- Premiums and additional paid up capital
- c- Reserves
- d- Retained earning (accumulated losses)
- e- Contributions to capital from shareholders (subordinated loan with special terms).

The supplementary capital is composed of the following:

- a- Subordinated loans according to BDL Circular No. 834 (not to exceed 50% of the Core capital).
- b- 60% of the favorable exchange difference that results from the revaluation of the exchange position set up to hedge increase of capital and free reserves according to BDL Circular No. 566.
- c- Translation equity adjustment relating to capital contribution in foreign branches.
- d- Revaluation reserve of properties.

The supplementary capital should be included in the capital elements to the extent of a maximum 100% of the Tier I elements:

Core Capital

+

Lesser of supplementary capital or 100% of Core capital

=

Capital elements eligible for inclusion in the capital base.

Risk Weighting Assessment

Financial Assets

Risk Weighting Assessment

Bank notes, BDL and fold and silver	0%
Cash at banks	20%
Cash with related banks (net of due to related banks)	50%
Treasury Bills	0%
Advances against bank guarantee	20%
Advances against related banks guarantee	50%
Advances against cash Co. and multicurrency account	0%
Sovereign loans	20%
Advances against mortgage providing that the loan is below 50% of the value of the mortgaged property	75%
Other advances	100%

Financial instruments with off balance sheet risks

Documentary letters of credit (guaranteed by merchandise)	50%
Documentary letters of credit (not guaranteed)	100%
Standby letters of credit (net of cash margin)	100%
Acceptances (net of cash margin)	100%
Bid bonds and performance bonds	50%
Forward contracts over one year	8%
Forward contracts less one year	4%
Interest rate swap	2%

Risk Weighting Assessment

The capital adequacy ratio computed as below should be at least 8%:

Eligible capital elements / Risk Weighting assessment

Banks were given a grace period until February 15, 1995 to reach the above leverage level⁷. The original version of this Appendix (in arabic) is provided in Appendix II (see page 79).

⁷ This is an intercompany handout prepared for the staff of Deloitte & Touche office in Beirut by Joseph K. El-Fadol, CPA, Partner in charge (CEO) of the Beirut Deloitte Touche Toumatsu International office and is reproduced in this study by special permission)

CHAPTER II

REVIEW OF LITERATURE

Irrespective of their size, many firms often go into financial trouble at one time or the other. However, how does a firm know if it is successful or in trouble? Is success measurable? Is it obvious through observation, or is there quantitative techniques that may be used? The purpose of this chapter is to provide a historical background to the analysis of bank's financial position.

The origins of financial analysis to determine the credit-worthiness of particular merchants and merchant houses go back as far as the late middle ages in the Italian cities of Venice and Genoa, where "modern" financial statements using double entry accounting systems on accrual basis were used since the fourteenth century. Although most of these analysis were **qualitative** in nature, they provided at the time a useful tool for decision making about whether and under what terms should the loans be granted to the merchants.

Such qualitative type of information provided by credit agencies were later used in the mid nineteenth century in the U.S.A. For instance, the forerunner of well known Dun & Bradstreet, Inc. was organized in 1849 in Cincinnati, Ohio, in order to provide independent credit investigations.¹

The twentieth century witnessed the development of **quantitative** tools of measuring company performance (Fredrick Taylor, Henry Gantt, Georges Dantzig, Marshall wood, etc.) These techniques began to be used more and more for analysis of past performance, current status, and for predictions of the future (forecasting). Based on data of vast number of business failures occurring during the great depression, studies² concerned with business failures in the 1930's concluded that failing firms exhibit significantly different ratios measurement than continuing entities.³

Later, other studies were concerned with ratios of large corporations experiencing difficulties in meeting their fixed indebtness obligations.⁴ More recent studies involved the analysis of financial ratios in a bankruptcy prediction context⁵.

¹ Foulko, R.A., Practical Financial Statement Analysis, 5th ed., (New York: Mc Graw-Hill, 1961).

² Smith, R.F. and A.H. Winakor, Changes in the Financial Structure of Unsuccessful Corporations, (University of Illinois: Bureau of Business Research, 1935).

³ Merwin, C., Financing Small Corporations (New York: Bureau of Economic Research, 1942).

⁴ Hickman, W.B., Corporate Bond Quality and Investor Experience (Princeton, N.J.: Princeton University Press, 1958).

⁵ Beaver, W.H., "Financial Ratios as Predictors of Failure," Empirical Research in Accounting, Selected Studies, 1966 (Institute of Professional Accounting, January, 1967), pp. 71-111. Also see M. Tamari, "Financial Ratios as a Means of Forecasting Bankruptcy," Management International Review, Vol. 4 (1966), pp. 15-21.

These studies compared individually a list of financial ratios of failed firms on one hand, and of a matched sample of non-failed firms on the other. They also concluded that ratio analysis could be useful in the prediction of failure based on observed evidence for five years prior to failure. In the studies mentioned above, ratios measuring **profitability**, **liquidity** and **solvency**, remain the most significant indicators. While the same ratios were analysed in most of these studies, their order of importance is not unique since different studies used different priority levels and different measures of effectiveness.⁶ One of the studies mentioned above - by William Beaver - has made a significant contribution prediction of corporate failure using financial ratio analysis. Using a paired sample analysis, with size and industry type used as basis for pairing, Beaver found overwhelming evidence of differences in ratios of failed and non-failed firms. To test the predictive power of ratios, Beaver used a dichotomous classification technique and found the cash flow to total debt ratio to be the best predictor of failure five years preceding failure. The evidence indicates that the non-liquid asset measures predict failure better than the liquid asset measures, even in the years immediately preceding failure. Also, the study revealed that failed firms tend to have lower, rather than higher, inventory balances.⁷

⁶ Altman, E.I., "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy", Journals of Finance, (September, 1968), pp. 589-609.

⁷ Beaver, W.H., "Financial Ratios as Predictors of Failure," The Accounting Review, Vol. 14, (January, 1968), pp. 113-121.

A significant improvement on Beaver's univariate method of analysis was introduced by Edward Altman, whose multivariate approach has profoundly affected all subsequent researches. Altman's approach allows for the simultaneous consideration of several variables in the prediction of failure, namely the Multiple Discriminant Analysis (MDA).

Although not as popular as regression analysis, MDA has been utilized in the variety disciplines since its first publication in the 1930's.⁸ While initially MDA was used mainly in the biological and behavioral sciences,⁹ afterwards, this method has been applied successfully to financial problems such as consumer credit evaluation and investment classification.¹⁰ Recent applications on the use of MDA in a financial context include evaluating the credit worthiness of used car loan applicants,¹¹ evaluation of installment loans,¹² and analysis of Earnings Price Ratios.¹³

⁸ Fischer, R.A., "The Use of Multiple Measurements in Taxonomic Problems," Annals of Eugenics, # 7 (September, 1936), pp. 179-188.

⁹ Cochran, W.G., "On the Performance of the Linear Discriminant Function," Technometrics, vol.6 (May, 1964), pp. 179-190.

¹⁰ Smith, K. V., Classification of Investment Securities Using MDA, Institute Paper # 101 (Purdue University, Institute for Research in the Behavioral, Economic, and Management Sciences, 1965).

¹¹ Durand, D.D., Risk Elements in Consumer Installment Financing, Studies in Consumer Installment Financing (New York: National Bureau of Economic Research, 1941), pp. 105-142.

¹² Ibid.

¹³ Walter, J.E., "A Discriminant Function for Earnings Price Ratios of Large Industrial Corporations," Review of Economics and Statistics, Vol. 50 (September, 1963), pp. 797-806.

Altman considered the following questions:

- 1- Which ratios are the most important in detecting bankruptcy potential ?
- 2- What weight should be attached to those selected ratios ?
- 3- How should the weights be objectively established ?

After careful consideration on the nature of the problem and of the purpose of the paper, Altman chose multiple discriminant analysis (MDA) as the appropriate statistical technique. Altman's research revealed that the following discriminant function turned in the best performance:

$$Z = 0.012 X_1 + 0.014 X_2 + 0.033 X_3 + 0.006 X_4 + 0.999 X_5$$

Where:

X_1 = Working capital to total assets

X_2 = Retained earnings to total assets

X_3 = Earnings before interest and taxes to total assets

X_4 = Market value of equity to book value of total debt

X_5 = Sales to total asset

Altman claimed that this model was able to predict accurately the bankruptcy up to two years prior to actual failure where the accuracy decreases after the second year. The results of Altman, however, were later challenged by other researchers. R.C. Moyer, for instance, discovered that the model was not suitable under conditions different from those used by Altman.¹⁴ Using paired sample analysis and step wise linear MDA on twenty three pairs of large manufacturing, retailing, and railroads firms, Moyer found that a model with the first three parameters in Altman's model had explanatory power superior to Altman's.¹⁵ Moyer's results were confirmed by Williams and Picconi using an original sample and a holdout sample.

Altman worked on the improvement of his model. With a new data base adjusted to take into account the latest financial reporting standards, Altman used MDA once again with both linear and quadratic structures. The study resulted in new variables explaining corporate failure.

These are:

1- X_1 = Return on Assets. Earnings before interest and taxes to total assets.

¹⁴ R.C. Moyer, "Forecasting Financial Failure: Reexamination", Financial Management (Spring, 1977), 113-156.

¹⁵ Ibid.

- 2- X2 = Stability of earnings. Measured by the "normalized measure of the standard error of estimate around a ten-year trend in X1".
- 3- X3 = Debt service. Earnings before interest and taxes to total interest payments.
- 4- X4 = Cumulative profitability. Retained earnings to total assets.
- 5- X5 = Liquidity. (Current assets to current liabilities).
- 6- X6 = Capitalization. Equity to total capital.
- 7- X7 = Size measured by the firm's total assets.

Altman's latest model (1977) predicted better than his earlier model. The newer Zeta model is far more accurate in bankruptcy classification in years 2 - 5 with the initial year's accuracy about equal. The older model showed slightly more accurate non-bankruptcy classification in the two years when direct comparison is possible. The classification accuracy of bankrupt firms five years before failure was 69.8 percent using the Zeta analysis and 36 percent using the 1968 model.¹⁶

Altman's model, as well as, all the previous work in the field failed to address the question of ratio stability, at least not substantially. Consciousness, about the stability of the ratios grew steadily in the decade after Altman's original research. Empirical studies were conducted to determine the stability of financial patterns in addition to developing empirically - based classification of financial ratios.¹⁷ Pinches et al classified financial ratios into 7 categories:

¹⁶ Ismael G. Dambolena and Sarkis J. Khoury, "Ratio Stability and Corporate Failure", Journal of Finance 35, (September, 1980), 1017-1027.

¹⁷ Pinches, G. E., Mingo K.A., and Caruthers J.K., "The Stability of Financial Patterns in Industrial Organizations", Journal of Finance, (June, 1973), pp. 389-395.

Return on Investment:

Total Income / Sales
Cash Flow / Total Assets
Cash Flow / Net Worth
Total Income / Total Assets
Net Income / Total Assets
Net Income / Net worth
EBIT / Total Assets
EBIT / Sales
Cash Flow / Total Capital
Total Income / Total Capital

Capital Intensiveness:

Cash Flow / Sales

Total Income / Sales
Net Income / Sales
Current Liabilities / Net Plant
Working Capital / Total Assets
Current Assets / Total Assets
Quick Assets / Total Assets

Current Assets / Sales
Net Worth / Sales
Sales / Total Assets
Cost of Goods Sold / Inventory
EBIT / Sales
Sales / Net Plant
Sales / Total Capital

Inventory Intensity:

Working Capital / Total Assets
Current Assets / Total Assets
Current Assets / Sales
Inventory / Sales
Sales / Working Capital
Cost of Goods Sold / Inventory

Financial Leverage:

Debt / Plant
Debt / Total Capital
Total Liabilities / Net Worth
Total Assets / Net Worth
Debt / Total Assets
Total Liabilities / Total Assets

Receivables Intensity:

Receivables / Inventory
Inventory / Current Assets
Inventory / Working Capital
Receivables / Sales
Quick Assets / Sales

Short-term Liquidity:

Current Liabilities / Net Worth
Current Assets / Current Liabilities
Inventory / Working Capital
Quick Assets / Current Liabilities
Current Assets / Total Assets

Cash Position:

Cash / Total Assets
Cash / Current Liabilities
Cash / Sales
Quick Assets / Fund Expenditures
Cash / Fund Expenditures

The approach and framework set by Pinches et al were improved later on by Dambolena and Khoury, who presented in their study another model on corporate failure that uses financial ratios and discriminant analysis as its core. The essential attribute of their model is its use of the stability of all financial ratios overtime, as well as the level of these ratios, as explanatory variables in the derivation of a discriminant function. Their research¹⁸ indicated a substantial degree of instability measured by:

- 1- The standard deviation of the financial ratios over the past few years,
- 2- Their standard error of estimate, and
- 3- Their coefficient of variation, in the ratios of firms that went bankrupt when compared with those that did not.

This instability showed a significant increase overtime as the corporation approached failure.

The inclusion of the stability of ratios in the analysis improved considerably the ability of the discriminant function to predict failure¹⁹. Their model classified firms into failed and non-failed groups with 78 percent accuracy five years prior to failure.

¹⁸ Ismael G. Dambolena and Sarkis J. Khoury, "Ratio Stability and Corporate Failure", Journal of Finance 35, (September, 1980), 1019.

¹⁹ Ibid.

The strength of this analysis lies not only in the superior predictive power of the model, but in the improvement in the conceptual framework of models for predicting corporate bankruptcy. The standard deviation of ratios overtime appears to be the strongest measure of ratio stability which is the essence and the promise of the analysis.

Until 1980's, most researchers studied from 50 to 65 financial ratios in their work. Two researchers in the 80's, Chen and Shemerda, intended to find a representative subset of ratios that would convey similar information concerning performance, with an acceptable level of error margin. Based on their study of 26 published researches that used up to 65 ratios, they concluded that a sample of 21 ratios is sufficient to arrive at a close approximation,²⁰ and they classified these 21 ratio into one of the 7 categories as follows:

²⁰ K. H. Chen and T.A. Shlmerda, 51-60.

Return on Investment:

Return on Equity

Return on Assets

Operating Assets / Total Assets

Operating Profits / Sales

Capital Intensiveness:

Current Assets / Total Assets

Sales / Total Assets

Sales / Worth

Inventory Intensiveness:

Sales / Working Capital

Current Assets / Sales

Sales / Inventory

Financial Leverage:

Debt Ratio

Debt / Worth

Net Worth / Total Assets

Long Term Debts / Total Assets

Receivables Intensiveness:

Receivables / Inventory

Sales / Receivables

Short-Term Liquidity:

Current Ratio

Quick Ratio

Cash Position:

Cash / Sales

Cash / Total Assets

Cash / Current Assets

The implementation of ideas presented in the researches described above, in Lebanon and in other countries, has already started. In a pioneering study by Nadim Tohme²¹ 45 banks from the Gulf Cooperation Council (GCC) were

²¹ Tohme, N. A., A Multivariate Analysis of the GCC Commercial Banks, (Beirut, 1990), 1-84.

scrutinized using multivariate ratio analysis. Tohme's research illustrated major factors underlying these ratios²², exposed existing differences and using cluster analyses, classified them into 4 separate groups²³ by using the multiple determinate function. The resulting three functions identified were:

²² The major factors underlying the financial ratios in the banking industry for the Gulf area could be summarized as follows:

1. Capital intensiveness
2. Risk attitude
3. Profitability
4. Off-balance sheet activity

²³ The cluster analysis identified four different groups with the following characteristics:

Group one:

- a. Middle to high capital intensiveness
- b. High risk attitude (low liquidity and high investments)
- c. High profitability
- d. Middle to high off-balance sheet activity.

Group two:

- a. Low to middle capital intensiveness
- b. Middle to high risk attitude
- c. Low profitability
- d. Low off-balance sheet activity

Group three:

- a. Low capital intensiveness
- b. Low risk attitude
- c. Low to middle profitability
- d. High off-balance sheet activity

Group four:

- a. High capital intensiveness
- b. Low to middle risk attitude
- c. Middle to high profitability
- d. Low to middle off-balance sheet activity

The first function represents the off-balance sheet activity.

The second function represents capital intensiveness.

The third function is made up of risk attitude and profitability.

Another interesting application of ratio analysis in Lebanon is the research of Simon Naemy (1990). Naemy used a multivariate statistical model to identify certain financial ratios on the data of Lebanese banks from the period of 1983 to 1988.²⁴ Five ratios were chosen as predictors of bank failures. These ratios are:

$$\text{Liquidity risk} = X1 = \frac{(\text{Savings} + \text{Checking} + \text{Current} + \text{Fixed Deposits} + \text{Banks})}{(\text{Cash with Banks} + \text{Securities})}$$

$$\text{Credit risks} = X2 = \frac{(\text{Advances} + \text{Bills} + \text{Total Contra Accounts} - \text{Provisions})}{\text{Total Assets}}$$

$$\text{Capital risk} = X3 = \frac{(\text{Total Assets} + \text{Total Contra Accounts})}{(\text{Profit carried forward} + \text{Reserves} + \text{Capital})}$$

$$\text{Efficiency} = X4 = \frac{\text{General Expenses}}{\text{Total Assets}}$$

$$\text{Profitability} = X5 = \frac{\text{Interest and Commission} + \text{Income from Securities} - \text{Interest on Deposits} + \text{Interest on Debenture Loans}}{\text{Total Assets}}$$

²⁴ Naemy, Simon, Bank Failures: Causes and Preventions, (Beirut, 1990).

A cut off point was established, and it is the point that separates the two categories of banks. This cut off point is set at the Z score of 1.2. It was then decided that all banks having a Z score above 1.2 would be considered as problem banks while others with Z score below 1.2 are the healthy banks. Although the procedure used was not totally error-proof, the success of the study lies in the fact that the results came out to be statistically significant.

The early 1990's witnessed an unprecedented sequence of bank failures in Lebanon. In a macro-environment of political unrest, economic crisis and depositors' panic, the foundations of many Lebanese commercial banks were shaken. In this background, a study was prepared by Samir Sleiman Salman,²⁵ using multivariate ratio analysis to determine the strength or weaknesses of the Lebanese Commercial Banks. The present study is a continuation of the work started in the Salman's study.

²⁵ Salman, Samir, A Multivariate Analysis Using Financial Ratios For The Lebanese Commercial Banks In 1990, (Beirut, 1992).

CHAPTER III

PROCEDURES AND METHODOLOGY

The various analysis procedures and methodological issues used in the research design are discussed in this chapter. It describes the sample population, the dependant variables, the measurement instruments, and the analysis of the descriptive data.

Sample Population

The following list constitutes the sample population of this research. It is made up of all Lebanese commercial banks whose financial statements were published in the bankdata (1992 edition). These banks are listed below in alphabetical order.

- ABN AMRO Bank N. V.
 - Adcom Bank Sal.
 - Al-Mawarid Bank Sal.
 - Al-Moughtareb Bank Sal.
 - Allied Business Bank Sal.
 - American Express Bank Ltd.
 - Arab African International Bank
 - Arab Bank Plc.
 - Banca di Roma
 - Bank Al-Madina Sal.
 - Bank of Beirut and the Arab Countries Sal.
 - Bank of Beirut Sal.
 - Bank of Kuwait and the Arab World Sal.
 - Bank of Lebanon and Kuwait Sal.
 - Bank Saderat Iran
-
- Banque Audi Sal.
 - Banque Beyrouth pour le Commerce Sal.
 - Banque de Credit National Sal.
 - Banque de Financement Sal.
 - Banque de l'Essor Economique Libanais Sal.
 - Banque de l'Habitat Sal.

- Banque du l'Industrie et du Travail Sal.
 - Banque de la Bekaa Sal.
 - Banque de la Mediterennee Sal.
 - Banque du Liban et d'Outre-Mer Sal.
 - Banque J. Geagea Sal.
 - Banque Joseph Lati et Fils Sal.
 - Banque Libanaise pour le Commerce Sal.
 - Banque Libano-Francaise Sal.
 - Banque Misr Liban Sal.
 - Banque National de Paris "Intercontinentale"
 - Banque Pharaon et Chiha Sal.
 - Banque Saradar Sal.
 - Beirut Riyad Bank Sal.
 - Byblos Bank Sal.
 - Commercial Facilities Bank Sal.
 - Credit Bancaire Sal.
 - Credit Commercial du Moyen-Orient Sal.
-
- Credit Libanaise Sal.
 - Federal Bank of Lebanon Sal.
 - First Phoenician Bank Sal.
 - Fransabank Sal.

- Future Bank Sal.
 - Habib Bank Limited
 - Infibank
 - Intercontinental Bank of Lebanon Sal.
 - Jammal Trust Bank Sal.
 - Jordan National Bank
 - Lebanese Swiss Bank Sal.
 - Lebanon and Gulf Bank Sal.
 - Litex Bank Sal.
 - Metropolitan Bank Sal.
 - Near East Commercial Bank Sal.
 - North Africa Commercial Bank Sal.
 - Orient Credit Bank Sal.
 - Rifbank Sal.
 - Saudi Lebanese Bank Sal.
 - Saudi National Commercial Bank
 - Societe Bancaire du Liban Sal.
-
- Societe General Libano-Europeenne de Banque Sal.
 - Societe Nouvelle de la Banque de Syrie et du Liban Sal.
 - The British Bank of the Middle East
 - The National Bank for Industrial and Touristic Development Sal.
 - The Syrian Lebanese Commercial Bank Sal.
 - Transorient Bank Sal.
 - Unibank Sal.
 - United Bank of Saudia and Lebanon Sal.
 - Universal Bank Sal.
 - Wedge Bank Middle East Sal.

The financial statements of all banks mentioned above are made up of a Balance Sheet and Off-balance Sheet and Statement of Operations. Only two banks which did not submit their financial statements and specialized banks are excluded from this study. These banks are:

Two banks are:

- Banque du Credit Populaire Sal.
- Rafidain Bank

Specialized Banks are:

- Banque de Financement Sal.
- Banque de l'Habitat Sal.
- Investment and Finance Bank
- The National Bank of Industrial and Touristic Developement Sal.

The Selected Variables and their Measurements

Bankdata Financial Series yearly publishes "Bilan Banques" which constitutes the secondary data in the banking sector¹. The financial ratios computed in this study are deducted from this secondary data, and they are divided into seven categories:

¹ Freddie C. Baz, Bilan Banques: Financial Statements Analyzed, (Beirut: Bankdata Financial Services, S.A.R.L., 1992).

Liquidity Ratios: is a commonly used short-term liquidity measure that is of prime importance to creditors. It measures a bank's ability to meet liabilities and obligations. Liquidity is a protection against the risk that losses may develop if banks are forced to liquidate creditworthy assets in an adverse market². These measurements are:

- 1. Liquid Assets (inclusive of treasury bills) divided by Deposits**
- 2. Liquid Assets (exclusive of treasury bills) divided by Deposits**
- 3. Liquid Assets less committed funds divided by Deposits less pledged funds**

² DRT international, Analytical Procedures: A Guide to Applying the DRT International Audit Approach, (U.S.A.: Deloitte Ross Tomatsu International, 1993).

Liquid Assets are:

Liquid Assets : Cash and central bank + Lebanese Treasury Bills + marketable securities + banks and financial institutions + head office and branches, parent company and foreign sister financial institutions and subsidiaries

Less

Liquid Liabilities: Central Bank + banks and financial institutions + head office and branches, parent company and foreign sister financial institutions and subsidiaries.

Capital Adequacy Ratios: This ratio indirectly measures the effect of leverage on systematic and total risk. An increase in the ratio signifies a smaller financial risk³. The measurements used in this study are:

4. Equity divided by Total Liability

5. Equity divided by Weighted risk adjusted assets⁴

6. Equity divided by Loans + financial instruments with off-balance sheet risk

7. Equity divided by Fixed Assets

³ Mansur, Hammed Zangeneh and Mark S. Zitz, "The association between banks' performance ratios and market-determined measures of risk" *Applied Economics* 25 (November, 1993), 1505.

⁴ For calculation of weighted risk adjusted assets refer to Appendix I, pp.16

Equity includes share capital, reserves and premiums, balance carried forward, net income (loss) for the year, and subordinated borrowings and debenture loans.

Asset Quality Ratios: Since the ex ante level of loan portfolio risk is difficult to assess, the allowance for loan loss reserve reflects management's estimate of exposure to credit risk. While other things remaining constant, a higher loss provision reflects a higher degree of expected loss in the loan portfolio⁵. Therefore, the ratio of Provision for Doubtful Debts to total loans is used in this study.

8. Provision for Doubtful Debts divided by Total Loans

Earning Ratios: This ratio is a measure of a bank's accrual income for the reporting period which reflects the effects of all managerial decisions and market events on the bank's profits. The sign of the coefficient cannot be postulated a priori. If the net income of a bank increases because of aggressive risk taking by the management by undertaking high-return-high-risk investments, it will have a positive effect on both systematic and total risk indices. However, if the net income increases because of added market shares and acquisition of better quality assets, the net income to total assets ratio is expected to be inversely related to both measures of risk⁶. The measurements used in this study are:

⁵ Mansur, Hammed Zangeneh and Mark S. Zitz, "The association between banks' performance ratios and market-determined measures of risk" *Applied Economics* 25 (November, 1993), 1505.

⁶ Ibid.

9. Net Income divided by Total Assets

10. Net Income divided by Equity

11. Net Income divided by Earning Assets

12. Net Income divided by Paid Capital

13. Operating Income less Operating Expenses divided by Total Assets

14. Net Interest Income divided by Cost of Funds

Earning assets include Lebanese Treasury bills, banks and financial institutions, head office and branches, parent company and foreign sister financial institutions and subsidiaries, commercial bills discounted, loans to customers, bank acceptances, marketable securities, and miscellaneous debtor account.

Credit Risk Ratios: This ratio measures both liquidity risk and the credit risk for a bank. A high ratio implies a small holding of cash and other liquid assets. Since loans are usually not callable, a high loan to deposit ratio could point to

potential source of liquidity difficulty for a bank. Therefore, other things remaining constant, an increase in loans will increase the bank's credit risk⁷. The measurements used in this study are:

**15. Advances + bills + all balance sheet risk minus Provisions
to credit losses divided by Total assets**

16. Loans divided by Deposits

17. Loans + Investments divided by Deposits

Efficiency Ratios: The most important efficiency ratios are:

18. General Expenses divided by Assets

19. Salaries and related charges divided by Expenses

⁷ Ibid.

Operating Ratios: The most important operating ratios are:

20. Loans divided Equity

21. Loan loss Provision (Debit) divided by Net Interest Income

22. Working Capital (Inclusive treasury bills) divided by Current Assets

23. Working Capital (exclusive treasury bills) divided by Current Assets

Working Capital = [Equity - (Investments + Fixed Assets)]

Conceptual Framework for Analysing the Data

To answer the first research question about the major characteristics of the selected sample, the researcher is going to use the percentage and frequency technique and the graphical representation of data.

To answer the second research question about direct and indirect efforts leading to solvency or adequacy in the Lebanese commercial bank, the researcher used the multivariate causal analyses known as path analyses (Recursive System) via the link of advanced Statistical Package for Social Science (SPSS) with Excel 5 for Windows.

One cannot talk about cause and effect eventhough it is possible to test if theory is consistent with reality by thinking casually.

Chapter IV

Findings of the Study

In this chapter, the researcher presents the findings of chapter one's research questions:

- 1- What are the major characteristics of the selected group of the Lebanese Commercial Banks?
- 2- What are the direct and indirect effects of the causal variables leading to solvancy?

These findings are the result of the use of **cross sectional data** and are presented in two major sections. In the first section, the researcher describes the major characteristics of the selected group of the Lebanese commercial Banks; in the second section, the researcher decomposes the relation of the variable leading to **Capital Adequacy**.

Major characteristics of the selected group of the Lebanese Commercial Banks

The researcher's aim is to classify the Lebanese commercial banks according to their financial ratios. A briefing about these ratios, that are the basis for this study, is essential.

As it was already made clear in Chapter III, the banking sector's financial ratios are divided into seven categories. The researcher found it adequate to exclude the Liquidity category because logically speaking, it is redundant to test the relation between solvency and liquidity since solvency is based on liquidity. Also, the Asset Quality category was excluded since it does not have significant relation and path coefficient measuring the direct and indirect effect between other variables.

On the other hand, based on the convention of Basle that took place in July 1988, which was followed by circular 1114 issued by the Lebanese Governor of the Central Bank in August 1992 to determine capital adequacy, the researcher chose the solvency ratio which is :

Equity divided by Weighted Risk Adjusted Assets

There are two fundamental objectives for the governing of the capital adequacy of banks as regulated by the Basle committee on banking regulations and supervisory practices:

- 1- To strengthen the soundness and stability of the International Banking System.
- 2- To establish a framework that should have a degree of consistency in its application to banks in different countries with a view to dismissing an existing source of competitive inequality among International banks.

Furthermore, using the researcher's opinion in "The association between banks' performance ratios and market-determined measures of risk" article¹, the researcher found the following ratios suitable to use in this study:

From the **Earning Ratios**:

Net Income divided by Equity

From the **Operating ratios**:

Loan Loss Provision (Debit) divided by Net Interest Income

From the **Credit Risk Ratios**:

Advances + bills + all balance sheet risk minus

Provisions to credit Losses divided by Total Assets

¹ Mansur, Hammed Zangoneh and Mark S. Zitz, "The association between bank's performance ratios and market-determined measures of risks" Applied Economics 25 (November, 1993), 1505.

And finally, from the **Efficiency Ratios**:

General Expenses divided by Assets

According to the criteria used in evaluating the financial ratios of the commercial banks, the various banks of the study were classified as **poor**, **average** or **good** as shown in table 1.

First of all, based on Banque du Liban circular number 1114 regarding capital adequacy, the researcher determined solvency ratio as the **first criteria**. The measure of capital adequacy shows how much of risky assets are financed through capital or equity which indirectly measures the effect of **leverage** on systematic and total risk. The rate recommended definitely depends on what the risky assets include, however, an average rate ranging from 0.06 to 0.09 is considered acceptable. The first result of this ratio describes (as shown see in chart 5), 44 percent of the banks as good, 36 percent as average and 20 percent as poor.

Second, the researcher used the earning ratio as another criteria. This ratio shows how much net profit has been produced from the total assets invested. The higher this ratio is, the higher the profitability and hence the better the policy of investment is. Gross profits to equity ratio is probably a more interesting approach;

however, it was replaced by the net income to assets because the data of gross profits was not available. For this criteria a range of 0.00 to 0.90 implies poor performance, a range of 0.91 to 0.15 shows that banks have done well, and above 0.15 proves good performance. In fact, chart one shows this earning ratio classification as: 31 percent good banks, 40 percent average, and 29 percent poor.

Third, and as an operating ratio, the researcher found out loan loss provision to net interest income. This is the best single measure of the impact of loan loss upon earnings. the norm of this ratio is between 4 percent and 8 percent of operating income, though in high-loss banks the ratio can, of course, climb dramatically. It should be kept in mind, however, that banks with a low net interest margin have a diminished income cushion against which to shield a given amount of loss provision. It also must be aware of potential misinterpretation due to the "rubber yardstick" problem. The findings of this ratio determined the banks studies as 33 percent good, 45 percent average, 22 percent as poor and this is shown in chart 2.

Fourth, credit risk ratio was determined to measure both liquidity risk and credit risk for a bank. A high ratio implies a small holding of cash and other liquid assets. Since loans are usually not callable, a high loan to deposit ratio could point to potential source of liquidity difficulty for a bank. A maximum percentage of 0.55 is acceptable according to banking control commission. A low ratio of 0.19 to 0.38

of banks assets invested in net loans, bills, and contra accounts indicates a low exposure by banks to a loan portfolio; it does not say anything about the degree of riskiness of this portfolio. In other words, this ratio does not explore the banks attitude towards risk which in the final analyses depends on the type of loans and their individual riskiness. In chart 3, it is shown that the pie classifies the banks as 50 percent good, 33 percent as average, 17 percent as poor.

At last, general expenses to total assets studied efficiency. This ratio is important to determine whether the bank is conducting its operations within frontiers. The lower this ratio the better it is for the bank. An average range from 0.002 to 0.004 is acceptable. Chart 4 actually places the various banks as 51 percent good, 43 percent average and 7 percent poor.

**Decomposing the relation between
the variable leading to Capital Adequacy**

r = simple correlation between 2 variables

p = Path coefficient between paranthesis () measuring the direct effect between 2 variables.

Mathematical formulas needed to solve the recursive system:

$$Z_1 = R_1$$

$$Z_2 = P_{21} Z_1 + R_2$$

$$Z_3 = P_{31} Z_1 + R_3$$

$$Z_4 = P_{41} Z_1 + P_{42} Z_2 + P_{43} Z_3 + R_4$$

$$Z_5 = P_{51} Z_1 + P_{52} Z_2 + P_{53} Z_3 + P_{54} Z_4 + R_5$$

$$R_{51} = P_{51} + P_{52} P_{21} + P_{53} P_{31} + P_{54} (P_{41} + P_{42} P_{21} + P_{43} P_{31})$$

$$R_{52} = P_{51} P_{12} + P_{52} + P_{53} P_{31} + P_{54} (P_{41} P_{21} + P_{42} + P_{43} P_{31} P_{21})$$

$$R_{53} = P_{51} P_{31} + P_{52} (P_{31} P_{21}) + P_{53} + P_{54} (P_{41} P_{31} + P_{42} P_{31} P_{21} + P_{43})$$

$$R_{54} = P_{51} P_{14} + P_{52} P_{24} + P_{53} (P_{41} P_{31} + P_{42} P_{31} P_{21} + P_{43}) + P_{54}$$

As shown in above, the finding for the recursive system formulated in Chapter III.

The four independent variables explained 36.6% of the variation and solvency. Efficiency is the most important variable in determining Solvency while earning is the second most important one. On the other hand, Operating is the least important. The F is significant at the zero level for the full model.

Considering the direct and indirect effect it is concluded that:

The simple correlation between earning ratio and adequacy ratio is -0.27 and the direct effect is equal to -0.35, in both cases is negative. This negative relation and direct effect is due to the fact that the equity denominator in the earning ratio is numerator in Adequacy ratio which normally leads to a negative relationship. Moreover, the weighted risk adjusted assets which is a denominator in adequacy ratio is almost composed of advances that considered the basic asset in the banks. These advances, which are the source of revenue to bank will absolutely increase the net income that is used as the numerator in earning ratio. Hence, earning ratio and adequacy ratio moves in opposite directions.

The relation between earning ratio and efficiency ratio is 0.08, and the direct effect is equal to 0.06 which is less by 0.01 due to the effect of other variables. This positive relation that is consistent with theory is based on the direct effect of both the numerator and denominator in each ratio and with each other. For instance, the assets will directly affect the expenses, since an increase in advances will automatically lead to an increase in operations which, in turn, leads to an increase in expenses. Furthermore, assets provide revenue (as mentioned in the preceeding paragraph) it directly affects the retained earning which is part of equity. It is concluded that theory is consistent with reality for earning ratio and efficiency ratio have a positive relation.

The relation between Earning and Credit risk is -0.118 , and the direct effect is also to -0.118 . It was noted that the negative relation between credit risk ratio and earning ratio is against the general "rule of thumb" expectation, but due to the recession that Lebanon faced during the civil war which shrank the turnover of the debtor businesses (especially real estate), and due to the fact that almost most banks were involved in real estate advances, the debtor accounts moved slowly. On the other hand, the credit department in banks started to classify these accounts as "special mention" or "substandard" or "doubtful accounts". Such classification of accounts leads the bank to start providing for loan losses which creates an increase in expenses and, in turn, decrease in earnings. However, this matter also applies to an inverse relation between credit risk ratio and adequacy ratio, where the relation equal to -0.27 and the direct effect is equal to -0.37 which is more by -0.1 due to the effect of other variables.

As shown in the recursive system, the negative relation between earning and operating is -0.117 and the direct effect is equal to -0.117 . Such negative relation and direct effect is due to the use of net income as numerator in earning ratio and denominator in operating ratio. Furthermore, the numerator in operating ratio "loan loss provision (debit)" which is inversely related to net income, and since, net income leads to retained earning, which is part of equity. However, it is concluded that Loan loss provision (debit) has inverse effect with equity. Hence, the numerator has direct effect with the denominator. It is expected to have negative relation between these two variables.

Credit risk ratio and efficiency ratio move in the same direction, hence, the relation is positive. Both have almost the same numerator and denominator which is composed respectively of expenses and assets.

The usual relation between efficiency ratio and adequacy ratio should theoretically be positive. However, according to the research data, analysis and computation, the result is a negative relation. This contradictory result can be justified in the forthcoming explanation.

As shown in the recursive system, the negative relation between efficiency ratio and adequacy ratio is -0.25, the direct effect is -0.44, and the difference is due to the effect of other variables.

Moreover, the major component of total assets and weighted risk adjusted assets is advances. As advances increase, naturally, assets will increase. However, this increase has become a problem when Lebanon faced a recession in real estate sector (as discussed above), resulted to classify the debtor accounts. As an implication, expenses have arisen drastically, pushing net income down, In turn, equity was increasing in a very small rate with respect to assets and expenses. Hence, expenses to total assets ratio was moving up too high, while equity to risky assets ratio was moving in the opposite direction. All this leads the researcher to the conclusion that efficiency and adequacy have negative relation.

The negative relation between operating ratio and adequacy ratio is -0.23 and the direct effect is -0.31, which is less than by -0.07 due to the effect of other variables. This negative relation which contradicts theoretical expectation can be justified in the forcoming explanation.

Moreover, what differs between effeciency ratio to adequacy ratio and between operating ratio to adequacy ratio is the fact of net interest revenue. This item reflects the revenue coming from advances. However, when advances became classified account, net interest revenue becomes an unrealized interest income which is not included in the calculation of the income statement. This and also another factor that drives equity down. According to this analysis, equity to assets is decreasing, loan loss provision (debit) to net interest revenue is increasing, the relation moved to be negative.

The relation between operating ratio and effeciency ratio is 0.27 and direct effect is 0.23 which differs by 0.04 due to the effect of other variables. This expected and theoretical relation can be proved since both variables have almost the same numerators. Furthermore, net income that is used as denomenator in operating ratio has direct effect to the equity (as explained in the previous paragraphs) that is used also as denomenator in the efficiency ratio.

Table 1

Rank	X1	X2	X3	X4	X5
Good	31%	33%	50%	51%	44%
Average	40%	45%	33%	43%	36%
Poor	29%	22%	17%	7%	20%
Total	100%	100%	100%	100%	100%

X1 = Earning Ratio

X2 = Operating Ratio

X3 = Credit Risk Ratio

X4 = Efficiency Ratio

X5 = Capital Adequacy Ratio

Chart 1: Earning Ratio

Chart 2: Operating Ratio

Chart 3: Credit Risk Ratio

Chart 4: Efficiency Ratio

Chart 5 : Capital Adequacy Ratio

Chapter V

Summary and Conclusion

Summary of the Answer to the Research Question

The researcher conducted a piece of research to explain the variation and the solvency of the Lebanese Commercial Banks. The need of this study is to emerge from the fact that in August 1992 the governor of the central bank issued circular 1114 that was tailored according to Basle requirements which took place in July 1988 for the governing of the capital adequacy for banks and the sections of the capital measurement and risk weighting assessment.

The researcher computed 23 ratios for 69 commercial banks in Lebanon and found by the use of the advanced multivariate statistical analysis and the transformation of data that four ratios are the significant ratios that lead to variation in the solvency for the Lebanese Commercial Banks. As a starting point, it became imperative to study if the reality of each ratio is consistent with theoretical expectation. Moreover, the researcher utilized the frequency and percentage analyses in describing the major characteristics of the Lebanese Commercial Banks. Based on this technique, the researcher was able to answer the first research question by classifying the Lebanese Commercial Banks into clusters according to their financial ratios as good, average, and poor.

Considering Capital adequacy, it was found that the majority 44% of the Lebanese Commercial Banks were good, 36% were average, and the remaining were poor. Moving to the second criteria, earning ratio, the largest portion 40% was described as average, 31% as good and the rest as poor. Next, in determining the operating ratio, the findings were 45% average, 33% good and only 22% of the banks were poor. In measuring the credit risk ratio, it was shown that half of these banks were classified as good, 33% as average, and the last 17% as poor. Finally, while studying efficiency, the various banks were placed as 51% good, 43% average and the smallest percentage 7% poor.

Determining the relative importance of financial ratio leads to variation in solvency and in decomposing the simple relation between these ratios in direct and indirect effect on solvency.

The researcher found that simple relation between credit risk ratio and earning ratio contradict theoretical expectation. It was reasoned the banks involved in real estate advances explained such phenomena which was the consequences of civil war that had lasted for the last seventeen years. As shown in chapter four, the direct effect between efficiency and adequacy is the strongest while the least strongest direct effect was found between operating and adequacy.

The direct effect between operating ratio and adequacy ratio, credit risk ratio and adequacy ratio, and earning ratio and credit risk ratio contradict theory because of the recession that Lebanon suffered from the past years and shrank the turnover of the debtor businesses that leads the movement of their accounts to be slow. However, such slow moving accounts are considered to be classified. Furthermore, such classification of accounts provides provision for credit losses and, in turn, provides more expenses that lead to less earnings. Hence, the relation between above variables leads to be negative.

In addition, the relation between operating ratio and efficiency ratio turned out positive due to the direct effect of loan loss provision(debit) to expenses which are the numerators in both variables. Moreover, since total assets also directly affect net interest income, (as explained in chapter IV) they are also denominators in both variables.

Moving to the negative relation between earning and operating is due to the use of net income numerator in earning ratio as denominator in operating ratio and the use of loan loss provision (debit) as numerator in operating ratio which has direct effect on equity that is used as denominator in earning ratio. Hence, it is expected to have negative relation.

Since the simple relation and the direct effect between earning ratio and adequacy ratio appeared in the study as negative numbers, the researcher concluded that earning and adequacy moved in opposite directions due to the equity denominator in earning ratio that is numerator in adequacy ratio; moreover, the weighted risk adjusted assets which is used as denominator in adequacy ratio is almost composed of advances which are the source of revenue to banks and that is used as the numerator in the earning ratio.

On the other hand, both the relation and the direct effect between earning ratio and efficiency ratio gave positive numbers which is consistent with theory. This positive relation is based on the direct effect of both the numerator and denominator in each ratio and with each other. As for efficiency and credit risk, the relation is positive. However, they move in the same direction, since both have almost the same numerators and denominators which are composed respectively of expenses and assets.

Also, the relation and direct effect between earning ratio and operating ratio is normally expected to be positive. However, it turned out negative since according to the analysis, net income as a numerator in earning ratio is a denominator in operating ratio. Moreover, the loan loss provision (debit) used as numerator in operating ratio, is inversely related to equity, that is used as denominator in earning ratio.

However, the relation and direct effect between efficiency ratio and adequacy ratio led to negative numbers; this of course, contradicts theory. The researcher justified such phenomena since the major component of assets or weighted risk adjusted assets is advances. As advances increase, in turn, assets increase. As explained before, the recession in real estate sector, results the debtor accounts to be classified. As an implication, expenses have arisen drastically, pushing net income down, in turn equity was increasing in a very small rate with respect to assets and expenses. Hence, efficiency ratio was moving up while adequacy ratio was moving down.

Implementation

The fundamental utility of all applied research lies in its degree of applicability in real situations. This research study which is basically an empirical study of actual data derived from the Lebanese commercial banking sector relating to a specific time period, has the obvious and expected relationship between its findings and their applicability.

Three different areas of this research can be implemented by three classes of potential users. The areas are:

- 1- Methodology
- 2- Analyses
- 3- Conclusion

1- The methodology used in this study is uniquely distinctive because of its scope in compensating multivariate ratio analyses and culminating in the design of a recursive system of five basic ratios. Although the first section of this methodology namely the multivariate ratio analysis has already been previously used as a method of analysis in the early nineties by Beirut University College

graduate students designing a recursive system of interrelated ratios, it has not been attempted before to the best knowledge of the best research. Although the ultimate utility of this recursive system will be determined by the potential users of this research study, the attempt and the resulting conclusions, therefore, are worth further elaboration in the future.

2- The multivariate ratio analysis carried out in this research is evidently a necessary step for determining the capital adequacy ratio of the banks and its relationship to the other generally used ratios, and their ultimate relationship to bank failures. Needless to say the use of a computer for data processing and computer output of graphical representation greatly facilitates and simplifies the task of the researcher. Anyway it is inconceivable that any user will in the future can do without the help of special computer software to be used as a tool to aid the analyses.

The novelty in the mode of analyses in this research was the introduction of a recursive system relating to earning ratio, operating ratio, credit risk ratio, efficiency ratio and capital adequacy ratio. While this attempt is new and tested only on a small scale over a period of only one year, it may adequately serve as a guideline for further applied research in the same area in the future, and only then the soundness of this methodology can be empirically tested.

3- The most critical area of implementation is the conclusions of this study because they are not amenable to generalizations. As mentioned before, this study has carried out used financial ratios of almost all the Lebanese commercial banks **only** during the year 1992. Furthermore, this specific area has proceeded by a unique situation of seventeen years of civil war in Lebanon. It is probably likely that although these conclusions relate adequately to the date and period underconsideration, they may not be used as a guideline for future analysis without the proper use of the methodology and the modes of analyses used.

All the above three areas - methodology, analyses, and conclusion - can be used by three classes of potential users:

- 1- Policy makers in the commercial banks
- 2- Banks committee and commission
- 3- The academic circle

1- The immediate users of the results of the study are obviously the central management of the commercial banks in Lebanon. The correlation between the different ratios derived from the financial statement of these banks and between a descriptive ranking of these banks into three categories of good, average and poor (see table 1 page 59) is surely a guideline for the banks management.

Taking one ratio - efficiency ratio - as an example one sees that it varies between 7 percent for poor banks and 51 percent for the good banks. These figures can be interpreted in the light of several bank failures that occurred during the period immediately preceding this research. The derivation of these averages - **Industry Average** - and their recursive analyses can be used by the banks' policy makers as **Indices of performance** to plan and control their operations in such a way to adjust between their efficiency, capital adequacy and credit risk ratio on one hand, and their operating and earning ratios in the other hand. Failure to do so may result in insolvency or bankruptcy in the long run with or without the effect of external environmental factors. One probable outcome could be the merging of several smaller banks into larger banking units and the improvement in the human resources of the banks.

2- While the banks' management is a micro user of this research, the banks control and commission (BCC) is a macro user. This research does not contend that the present research study can be an absolute guideline for BCC; rather, it is the opinion of these researchers that this study is nearly an outline for further study to be conducted by the statistics department of BDL under supervision and control of BCC to derive a dynamic mathematical model to be used as a guideline for evaluation and control of the banking operations in Lebanon. Moreover, further applications of a sound research following a similar path can be in legislation governing banking practices, such as restrictions in the capital adequacy ratio and credit risk ratio.

3- Gone are the times when academicians were involved in only purely "academic" researches. Most academic researches nowadays are designed to analyse empirical situations and to solve everyday problems faced by society. This shift from "pure" to "applied" research has been and still is the main stream of recent and current academic thoughts. It is the opinion of the researcher that in the future this trend will continue. Hence, it is highly expected and desirable that faculty and students of business administration and related fields be in the future involved in similar research activities. To those students goes my envy, since they will experience the thrill and the satisfaction of having done something new, and have not done it well.

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مصرف لبنان

شارع مصرف لبنان - بيروت - الجمهورية اللبنانية

تعميم للمصارف رقم ١١١٤

نودعكم ربطاً بالقرار رقم ٥٠٦٤

تاريخ ١٩٩٢/٨/١٢ المتعلق بنسبة الملاعة

في المصارف اللبنانية .

بيروت في ١٢ آب ١٩٩٢

حاكم مصرف لبنان

ص. ش. ك. د. ر. ح.

ميشال الخوري

نسبة الملاءة في المصارف اللبنانية

ان حاكم مصرف لبنان ،
بناءً على قانون النقد والتسليف ،
ونظراً لضرورة تدعيم ملاءة المصارف اللبنانية من أجل تحسين
القطاع المصرفي وترسيخ الاستقرار في السوق المالية ،
وبما أن السلطات النقدية في الدول الاعضاء في "لجنة بال" قد
توافقت في تموز ١٩٨٨ على نسبة موحدة للملاءة المصرفية لا تقل عن ٨%
سيجري تطبيقها اعتباراً من بداية عام ١٩٩٣ ،
وبما أن ذلك يؤثر على علاقات المصارف فيما بينها ، وبصورة خاصة
مع مصارف الدول الموقعة على اتفاقية بال ،
وبناءً على تقرير اللجنة المكلفة بموجب القرار رقم ٤٧٧٥ تاريخ
٥ شباط ١٩٩٢ تقديم اقتراح بنسبة جديدة للملاءة في المصارف
اللبنانية ،
وبناءً على قرار المجلس المركزي المتخذ بالاستناد الى مداولاته في
جلستيه المنعقدتين بتاريخ ٣ و ٥ آب ١٩٩٢ ،

يقرر ما يأتي :

المادة الاولى : خلافاً لاي نص سابق وخصوصاً التعميم للمصارف رقم ٤٣٥ تاريخ
٢٦ تشرين الاول ١٩٨٣ وتعديلاته ، يقصد "بنسبة الملاءة" في المصارف
اللبنانية نسبة الاموال الخاصة الى الموجودات والبنود خارج الميزانية
المثقلة بأوزان المخاطر وينسب التحويل وفقاً للمادة ٨ من هذا القرار .
تسمى هذه النسبة في المواد التالية "نسبة الملاءة" ويسمى الجزء منها
الذي يضم الاموال الخاصة "البسط" Numérateur ، اما الجزء
الذي يشمل الموجودات وبنود خارج الميزانية المثقلة بالأوزان وينسب
التحويل فيسمى "المقام" Dénominateur .

المادة الثانية : يجب ألا تقل نسبة الملاءة في المصارف اللبنانية ، على قاعدة
الميزانيات الموحدة ، عن ٨% اعتباراً من ١٥ شباط ١٩٩٥ .
ح

الاموال الخاصة

المادة الثالثة : من أجل احتساب نسبة الملاءة تقسم الاموال الخاصة للمصارف اللبنانية الى فئتين : فئة الاموال الخاصة الاساسية وفئة الاموال الخاصة المساندة .

تشمل الاموال الخاصة الاساسية رأس المال المدفوع وعلاوات اصدار الاسهم والاحتياطات القانونية والنظامية والحرّة و "المقدمات النقدية المخصصة للرأسمال" وفقاً للشروط المحددة في المادة الرابعة من هذا القرار .
اما النتائج السابقة المدورة ونتيجة الدورة المالية بعد تخصيص الارباح فتحتسب من ضمن الاموال الخاصة الاساسية اذا كانت ايجابية وتنزل قيمتها منها اذا كانت سلبية .

وتشمل الاموال الخاصة المساندة قروض الدعم وريح التحسين الناتج عن إعادة تخمين الموجودات العقارية وفقاً لاحكام المادة السابعة من هذا القرار ، كما تشمل أيضاً فروقات إعادة تقييم مخصصات الفروع في الخارج و ٦٠٪ من فروقات إعادة تقييم مراكز القطع المكونة مقابل رؤوس الاموال والاحتياطات الحرّة والموافق عليها من مصرف لبنان .
وتضم الأموال الخاصة المساندة أيضاً المؤنّات العامة لمواجهة الاخطار والاعباء المختلفة شرط ألا تكون هذه المؤنّات مخصصة لموجودات محددة أو خسائر محددة أو لانواع معينة من الموجودات والخسائر .

المادة الرابعة : تدرج ضمن الاموال الخاصة الاساسية "المقدمات النقدية المخصصة لرأس المال" والمدفوعة من مساهم أو أكثر تنفيذاً لعقد موقع مع المصرف ، اذا توفرت الشروط التالية :

أولاً : ان يتضمن العقد البنود التالية :
أ () - وجوب ابقاء "المقدمات النقدية المخصصة لرأس المال" طيلة ممارسة المصرف أعماله .

٢

(ب) - ونجوب تسديد الخسائر التي قد تصيب رأس المال وفقاً لاحكام المادة ١٣٤ من قانون النقد والتسليف وذلك عن طريق هذه "المقدمات" في حال عدم اعادة تكوينين رأس المال بأي وسيلة قانونية أخرى .

(ج) - امكانية أو عدم امكانية استعمال هذه "المقدمات" ، وفقاً لرغبة مقدميها ، في حال زيادة رأس المال ، لتحريير قيمة الاسهم المكتتب بها من قبله والتي تعود له قانوناً .

(د) - امكانية أو عدم امكانية دفع فائدة ، تقررها الجمعية العمومية للمساهمين من أرباح حرة توافق عليها لجنة الرقابة على المصارف ، لا يفوق معدلها معدل الفائدة الجارية .

ثانياً : ان توافق جمعية عمومية للمساهمين ، تنعقد وفقاً للنصاب والاكثرية المطلوبين قانوناً لتعديل النظام الاساسي ، على عقد "المقدمات النقدية المخصصة لرأس المال" ، وعلى كل تعديل لاحق له .

ثالثاً : ان يوافق المجلس المركزي لمصرف لبنان على عقد "المقدمات" وعلى كل تعديل له .

المادة الخامسة : تحتسب قروض الدعم من ضمن رأس المال المساند ، وفقاً للمادة الثالثة من هذا القرار ، اذا كانت مستوفية الشروط المنصوص عنها في تصميم مصرف لبنان رقم ٨٣٤ تاريخ ١٩٨٨/٩/٣٠ . تخضع هذه القروض ، عند احتساب نسبة الملاءة ، لاستهلاك سنوي قدره ٢٥% عندما تقل المدة المتبقية لتسديدها عن خمس سنوات .

المادة السادسة : لا يجوز في تكوين البسط ، ولغرض احتساب نسبة الملاءة فقط ، ان تقل الاموال الخاصة الاساسية عن الاموال الخاصة المساندة ولا عن مثلي قروض الدعم ، ولا يجوز ان تزيد المؤونات العامة لمواجهة الخسائر غير المحددة عن ١٠٢٥% من المقام .

المادة السابعة :

يسمح للمصارف اللبنانية خلال فترة تنتهي في ١٥ شباط ١٩٩٥ باعادة تخمين موجوداتها العقارية في لبنان (الاراضي والابنية) ، المملوكة يكامل أسهمها ، ما عدا العقارات المملوكة تطبيقاً للمادة ١٥٤ من قانون النقد والتسليف ، وباستعمال جزء من ربح التحسين الناتج عن هذه العملية لزيادة الاموال الخاصة ، وذلك ضمن الشروط المتلازمة التالية :

أ - أن تكون نسبة الملاءة في المصرف المعني ٨% على الاقل ، أو أن تتم عملية اعادة التخمين بغية الوصول الى هذه النسبة كحد أدنى.

ب - أن يتحقق المجلس المركزي لمصرف لبنان ، على نفقة المصرف المعني ، من صحة عملية اعادة التخمين وفقاً لاقصى درجات التحفظ والواقعية ولا يعتد الا بالنتيجة التي يوافق عليها .

ج - ان تُزاد الاموال الخاصة ، بصورة متكاملة ومتزامنة وفقاً لما يلي :

١ - عن طريق نسبة لا تفوق الخمسين بالمئة من ربح التحسين تضاف الى الاموال الخاصة المساندة .

٢ - وعن طريق زيادة رأس المال نقداً بمبلغ يوازي على الاقل المبلغ الموافق على استعماله في زيادة الاموال الخاصة المساندة بنتيجة عملية اعادة التخمين .

يمكن للمصارف المعنية ان تحسم من الزيادات النقدية المذكورة في الفقرة ٢ هذه ، الزيادات النقدية على رساميلها التي قررتها الجمعيات العمومية غير العادية منذ ١/١/١٩٩٤ وتم تحريرها وفقاً للاسول .

سُ

أوزان المخاطر

المادة الثامنة : تثقل الموجودات في المقام بالاوزان المتناسبة مع مخاطرها . أما بنود خارج الميزانية فتثقل بأوزان الموجودات المشابهة لها بعد ضرب هذه الأوزان بنسب التحويل المناسبة .
يتم تطبيق هذه المادة وفقاً للجدول الوارد في الملحق رقم (١) .

المادة التاسعة : تظهر الموجودات في المقام بعد أن تطرح منها ، إذا وجدت ، المؤونات المكونة مقابلها بموافقة لجنة الرقابة على المصارف .

المرحلة الانتقالية

المادة العاشرة : تعتبر الفترة الفاصلة بين تاريخ صدور هذا القرار وبين ١٥ شباط ١٩٩٥ مرحلة انتقالية .

المادة الحادية : لا يجوز أن تتدنى نسبة الملاءة في كل من المصارف اللبنانية التي لا تتفوق نسبة ملاءتها ٨% عما هي عليه بتاريخ صدور هذا القرار .
عشرة
وفي كل حال ، ومع مراعاة ما ورد في الفقرة (١) من المادة السابعة من هذا القرار ، يجب أن لا تتدنى هذه النسبة خلال الفترة الانتقالية عن المعدلات التالية :

٤% اعتباراً من ١٥/٢/١٩٩٣

٥% اعتباراً من ١٥/٨/١٩٩٣

٦% اعتباراً من ١٥/٢/١٩٩٤

٧% اعتباراً من ١٥/٨/١٩٩٤

المادة الثانية : يمكن عند بدء المرحلة الانتقالية احتساب ٣٠% على الأكثر من عناصر الاموال الخاصة المساندة ضمن الاموال الخاصة الاساسية وتتناقص هذه النسبة تدريجياً لتصبح كحد أقصى كما يلي :

٢

٢٠ % بتاريخ ١٥/٨/١٩٩٣
١٥ % بتاريخ ١٥/٢/١٩٩٤
١٠ % بتاريخ ١٥/٨/١٩٩٤
صفر % بتاريخ ١٥/٢/١٩٩٥

المادة الثالثة : خلافاً للمادة السادسة من هذا القرار ، وخلال المرحلة الانتقالية فقط،
عشرة يمكن أن تتجاوز قروض الدعم نصف الاموال الخاصة الاساسية .

أحكام مختلفة

المادة الرابعة : على فروع المصارف الأجنبية أن تثبت أن مراكزها الأساسية تتقيد بنسبة
عشرة ملاء موازية على الاقل لنسبة الملاء المفروضة بموجب هذا القرار .
اما المصارف الأجنبية التي لا تخضع في بلد مركزها الرئيسي لمثل هذه
النسبة ، فعليها أن تزيد أموالها الخاصة المخصصة لأعمال فروعها في
لبنان بشكل متوافق مع الأحكام المنصوص عليها في هذا القرار .

المادة الخامسة : يُصدر المجلس المركزي لمصرف لبنان ، بناءً على اقتراح لجنة الرقابة
عشرة على المصارف ، تعليمات تفسيرية للمصارف تبين أرقام حسابات بيان
المطلوبات في "وضعية المصارف والمؤسسات المالية" العائدة لكل من
الأموال الخاصة الأساسية والأموال الخاصة المساندة ، كما تبين الوزن
ونسبة التحويل اللذين ينبغي أن يُثقل بهما كل حساب من حسابات بيان
الموجودات وبيان خارج الميزانية .

المادة السادسة : تلغى جميع النصوص المتعلقة بالملاءة في التعميم للمصارف رقم ٤٣٥
عشرة تاريخ ٢٦ تشرين الاول ١٩٨٣ وتعديلاته وتبقى جميع نصوصه وأحكامه
الأخرى سارية المفعول .

المادة السابعة : يبلغ هذا القرار الى من يلزم ويعمل به فور صدوره .
عشرة

بيروت ، في ١٢/٨/١٩٩٢

حاكم مصرف لبنان

ميشال الخوري

أوزان المخاطر للموجودات
وبنود خارج الميزانية

أولاً : الموجودات

أ : يُقصد "بالدول ذات المخاطر المتدنية" أينما وردت أدناه البلدان المدرجة في الملحق رقم ٢ المرفق بهذا القرار وهي الدول التي تعتبرها لجنة بال متدنية المخاطر ، أي الدول الأعضاء في منظمة التعاون والتنمية الاقتصادية O.C.D.E. ، والدول الأخرى التي عقدت اتفاقات اقراضية خاصة مع صندوق النقد الدولي .

ب : تعني عبارة "حكومة وحكومات" الأجهزة المركزية للدولة ، وعبارة "هيئات القطاع العام" في لبنان البلديات والمؤسسات العامة وسائر الهيئات التي تتمتع بالاستقلال المالي والإداري والشخصية المعنوية .
أما "هيئات القطاع العام" في الدول الأخرى فيُعنى بها الهيئات العامة القادرة على التعاقد .

ج : تعني عبارة "القطاع الخاص" الأفراد والمؤسسات الفردية والشركات حتى ولو كانت الحكومات وهيئات القطاع العام في لبنان والخارج مساهماً رئيسياً فيها .

د : ان التسليفات وسائر الالتزامات المضمونة بضمانات مقبولة في التصنيف الوارد أدناه للموجودات ، هي التسليفات والالتزامات الأخرى أو الأجزاء منها التي تساوي قيمة الضمانة أو تقل عنها .

أما الأجزاء التي تزيد عن قيمة الضمانة فتُعتبر وكأنها بلا ضمانة وتُعطى وزن المخاطر المناسب لها على هذا الأساس .

هـ : يُقصد بـ "التسليفات" أرصدة الديون مهما كانت مكوناتها ومصادرها (غائدة ، عمولة) وليس خط الائتمان LIGNE DE CREDIT الممنوح للعميل .

و : من أجل احتساب نسبة الملاءة تتّقل موجودات المصارف بالأوزان التالية :

٢

مفرد % :

- ١ - النقد والذهب وايداعات المصارف في مصرف لبنان .
- ٢ - التسليفات المضمونة بودائع مجمدة اذا كانت هذه التسليفات بنفس عملة الضمانة النقدية .
- ٣ - التسليفات المضمونة بودائع مجمدة بعملة دولة من الدول المتدنية المخاطر اذا كانت الضمانة النقدية بعملة مختلفة عن عملة الدين ولا تقل عن ١٢٠% من قيمته .
- ٤ - الالتزامات المترتبة على الحكومات والمصارف المركزية للدول ذات المخاطر المتدنية أو الالتزامات المكفولة منها .
- ٥ - الالتزامات المترتبة على الحكومات الأخرى وعلى مصارفها المركزية، وكذلك الالتزامات المكفولة منها ، اذا كانت ممولة ومحررة بالعملة المحلية للدولة المعنية بما فيها سندات الخزينة اللبنانية .

٢٠ % :

- ١ - التسليفات المضمونة بودائع مجمدة بعملة دولة من الدول المتدنية المخاطر اذا كانت الضمانة بعملة مختلفة عن عملة الدين وتقل عن ١٢٠% من قيمته .
- ٢ - الالتزامات المترتبة على "هيئات القطاع العام" في لبنان ، أو المكفولة منها اذا كانت ممولة ومحررة بالعملة اللبنانية .
- ٣ - الالتزامات المترتبة على "هيئات القطاع العام" والسلطات المحلية في الدول ذات المخاطر المتدنية أو تلك المكفولة منها .

٤ - الودائع في المصارف المسجلة في الدول ذات المخاطر المتدنية والتزاماتها الأخرى ، وكذلك التسليفات المضمونة بكفالات صادرة عنها .

٥ - الودائع في المصارف المسجلة في الدول الأخرى وسائر التزاماتها ، وكذلك التسليفات المضمونة بكفالات من هذه المصارف ، إذا كانت آجالها لا تزيد عن سنة .

تُستثنى من ذلك الودائع في الفروع والمصارف التابعة والشقيقة للمصرف الأم أو الشقيق إذا كانت آجالها تقل عن سنة .

: ٥٠ %

الودائع في الفروع والمصارف التابعة والشقيقة للمصرف الأم أو الشقيق في الدول المتدنية المخاطر مهما كان أجلها . وكذلك هذه الفئة من الودائع التي تقل آجالها عن سنة إذا كانت الفروع والمصارف المعنية قائمة في الدول الأخرى .

: ٧٥ %

التسليفات للقطاع الخاص المضمونة بعقارات شرط ألا تزيد قيمة التسليفات عن نصف قيمة الضمانة والآ تكون الضمانة أو قيمتها موضع اعتراض من لجنة الرقابة على المصارف .

: ١٠٠ %

الالتزامات غير المثقلة بأوزان أخرى أو غير المذكورة صراحة أعلاه .

٢

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ثانياً : خارج الميزانية

تُثقل بنود خارج الميزانية بأوزان المخاطر العائدة للموجودات المشابهة لها بند ضرب الأوزان المذكورة بنسب التحويل المبينة في الجدول التالي :

<u>البند</u>	<u>نسبة التحويل</u>
١ - الاعتمادات المستندية غير المضمونة بالبضائع	% ١٠٠
٢ - الكفالات والتكفلات (قبولات) ما عدا كفالات الاشتراك بمناقصات وكفالات حسن التنفيذ	% ١٠٠
٣ - الاعتمادات المنسوبة بالبضائع	% ٥٠
٤ - كفالات الاشتراك بمناقصات وكفالات حسن التنفيذ	% ٥٠
٥ - عقود العملات لاجل التي تزيد مدتها عن سنة	% ٨
٦ - عقود العملات لاجل التي لا تزيد مدتها عن سنة	% ٤
٧ - عقود الفائدة لاجل التي تزيد مدتها عن سنة	% ٢
٨ - عقود الفائدة لاجل التي لا تزيد مدتها عن سنة	% ١

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الدول المتدنية المخاطر

الدول الأعضاء في منظمة التعاون والتنمية الاقتصادية (O.C.D.E.):

ألمانيا

أستراليا

النمسا

بلجيكا

كندا

الدانمارك

إسبانيا

الولايات المتحدة الأمريكية

فنلندا

فرنسا

اليونان

أيرلندا

إيسلندا

إيطاليا

اليابان

اللوكسمبورغ

نيوزيلندا

النرويج

هولندا

البرتغال

المملكة المتحدة (بريطانيا)

السويد

سويسرا

تركيا

الدول التي عقدت اتفاقات اقراضية خاصة مع صندوق النقد الدولي :

المملكة العربية السعودية .

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Balance sheet

and contra accounts

at year end

Assets

1. Cash and central bank
2. Lebanese treasury bills
3. Banks and financial institutions
 - Current accounts
 - Loans and time deposits
4. Head office and branches, parent company and foreign sister financial institutions and subsidiaries
 - Current accounts
 - Loans and time deposits
5. Commercial bills discounted
6. Loans to customers
 - Short term loans
 - Medium and long term loans
 - Debtor accounts against creditor accounts
7. Bank acceptances
8. Marketable securities
9. Miscellaneous debtor accounts
10. Regularization accounts
11. Financial fixed assets
12. Non financial fixed assets
13. Revaluation variance

Total assets *

Contra accounts

14. Engagements by signature received
 15. Real securities received
- Total contra accounts**

Liabilities

and shareholders' equity

1. Central bank
2. Banks and financial institutions
- Current accounts
- Time deposits and borrowings
3. Head office and branches, parent company and foreign sister financial institutions and subsidiaries
- Current accounts
- Time deposits and borrowings
4. Deposits from customers
- Sight deposits
- Time deposits
- Sight saving accounts
- Time saving accounts
- Creditor accounts against debtor accounts
5. Engagements by acceptances
6. Miscellaneous creditor accounts
7. Regularization accounts
8. Subordinated borrowings and debenture loans
9. Provisions for risks and expenses
10. Share capital
11. Reserves and premiums
12. Balance carried forward
13. Net income (or loss) for the year
14. Revaluation variance
Total liabilities
and shareholders' equity

Contra accounts

15. Engagements by signature issued
- Guarantees and endorsements
- Discounted bills circulating under our endorsement
- Confirmed documentary credits
- Other engagements
16. Bank's assets given as guarantees
Total contra accounts
Total footings

* After deduction of provisions for doubtful debts

Profit and loss account

at year end

Expenses

-
1. Interest paid
 2. Commissions paid and other financial expenses
 3. Expenses related to foreign exchange transactions
 4. Expenses related to securities held
 5. Expenses related to leasing transactions
 6. Allocation to provision accounts
(including non performing loans)
 7. Allocation to depreciation accounts
 8. Staff expenses
 9. Other general operating expenses
(net of depreciation)
 10. Extraordinary expenses
 11. Income tax
 12. Profit for the year
-

Total expenses

Income

-
1. Interest received
 2. Commissions received
 3. Income related to foreign exchange transactions
 4. Income related to securities held
 5. Income related to leasing transactions
 6. Reintegration of provisions
 7. Other income
 8. Extraordinary income
 9. Loss of the year
-

Total income

Summarized profit and loss account

at year end

Expenses

-
1. Bank operating expenses
 2. Current expenses
 3. Profit for the year
-

Total expenses

Income

-
1. Bank operating income
 2. Miscellaneous income
 3. Loss of the year
-

Total income