

**PERFORMANCE & CREDIT RISK IN
BANKING: A COMPARATIVE
STUDY FOR EGYPT AND LEBANON**

Sam Hakim and Simon Neaime

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Abstract

We investigate the performance and risk in two prominent countries in the MENA region, Egypt and Lebanon, where banks operate under market-oriented economic regimes. The study covers the 1990's, a period that witnessed banking sector reforms towards a more efficient financial system. Noting the differences in the structure of the banking system and the monetary changes in Egypt and Lebanon, we investigate the impact of liquidity, credit, and capital on bank profitability in each country's banking sector. Based on our findings, we draw conclusions on the strength of risk management practices and enforcement of banking regulations.

1. Introduction

Securities markets in the Middle East and North Africa (MENA) region have traditionally been less important in channeling financial funds. A fairly developed commercial banking system has taken the lead in attracting and channeling funds. It has also played a prominent role in debt finance and financial intermediation. A sound banking system with good performance indicators necessitates sound risk management and regulatory frameworks. Assessing the overall performance of banks requires looking at both efficiency measures and risk-taking behavior. However, with the increasing trend towards financial integration in the MENA region risk and banking management practices are still not up to par. In many instances risk is not accounted for, and banks suffer from operational and other inefficiencies.

Considerable attention in the finance literature has been given lately to the concept of bank efficiency and the relationship that exists between economies of scale and scope and the profitability of commercial banks. Benston et al (1982) and Gilligan and Smirlock (1984) were among the first to have tested for economies of scope in US banks. They also tried to test complementarities between different outputs of bank services.

Mester (1996) argues that because bank efficiency models fail to account for risk-taking behavior, their results may be misleading. To overcome this disadvantage, his analysis incorporates the risk profiles of banks by including proxies for asset quality in the profit function. A similar finding is reinforced by Berger (1997).

Empirical evidence in the US (Federal Reserve Bulletin 1999 & 2000) suggests that cost savings does not necessarily justify increasing bank scale through controlling entry or encouraging mergers. The results of a paper carried out by Smirlock and Gilligan (1984) suggest that the mergers of small banks should be encouraged over that of larger banks on the basis that operating costs are kept at a lower level. This holds whether simple accounting ratios are compared pre- and post- merger, holding industry effect constant, or in more sophisticated econometric analysis, using frontier cost functions. More recent evidence is available in Jagtiani (1993) and Kwast (1995).

Against this background, we investigate the performance and risk in two prominent countries in MENA, Egypt and Lebanon, where banks operate under market-oriented economic regimes. The study covers the 1990s, a period which witnessed banking sector reforms towards a more efficient financial system. Noting the differences in the structure of the banking system and the monetary changes in Egypt and Lebanon, the paper investigates the impact of liquidity, credit, and capital on profitability in each country's banking sector. Based on our findings, we draw conclusions on the strength of risk management practices, corporate governance, and enforcement of banking regulations.

2. Egypt's Banks – An update:

The different groups of banks in Egypt derive from six categories: (1) commercial banks, (2) business and investment banks, and (3) specialized banks for real estate, industry, and agriculture. For Lebanon, banks are classified into: (1) commercial banks, (2) investment banks, (3) foreign banks, and (4) specialized banks.

In the case of Egypt, Non-bank financial intermediaries (NBFIs) comprise a mixed bag of institutions, ranging from leasing, factoring, and venture capital companies to various types of contractual savings and institutional investors (pension funds, insurance companies, and mutual funds). The common characteristic of these institutions is that they mobilize savings and facilitate the financing of different activities, but they do not accept deposits from the public. To remain consistent across countries, the paper focuses only on commercial banks in the case of Lebanon and Egypt.

Turning to Egypt's macroeconomic situation, one notices that while the country's foreign exchange reserves fell in 1999, they remained at a comfortable level. Reserves stood at \$17.6 billion in August 1999, down from \$20 billion at the beginning of that year. Nevertheless, this gave Egypt sufficient reserves to cover nearly 12 months worth of imports. The fall in reserves highlighted a lack of flexibility in dealing with market demands at the CBE. As a result, the informal peg against the US dollar - against which the Egyptian pound has been technically over-valued over the decade - has been called into question. As a result, one of the key issues the Egyptian government decided to tackle recently is the value of the pound and the question of a steadfast exchange rate mechanism. More recently, foreign reserves continued their downward trend. In June 2000, the Central Bank's balance of foreign currency reserves stood at US\$15.1bn.

In January 2001, after a series of liquidity problems and run on the US dollar, the Egyptian Pound experienced unwarranted high volatility on the exchange rate. In response to a lingering liquidity crisis, and adverse effects on the foreign exchange market, the government reiterated its belief in the effectiveness of the regulated market forces, and of all rights guaranteed by the Foreign Exchange Law. As a result, the Central Bank took a series of actions, and implemented a number of measures that primarily target restoring stability of the market and sustaining confidence of all market participants. The main measures consist of devaluing the Egyptian Pound to L.E.3.85 per US dollar, allowing banks and foreign exchange dealers to set their buying and selling rates for the US dollar (bank notes and transfers) within a band of ± 1 percent. All other currencies' rates shall be determined according to the cross rates internationally. This measure was followed by a lowering of the discount rate in April 2001 from 11.5

percent to 11 percent. This follows a steady path of continuous reduction of the discount rate which was 12.25 percent 3 years earlier.

Meanwhile, inflation rate continued to decline thus proving the success of the monetary policies adopted by the government which took suitable and effective measures for activating banking operations and making domestic liquidity available in the banking system. In addition, real growth rate continued unabated, currently at 6.5 percent from a trough of 1.9 during the recession in 1991-92. In parallel fashion, as table 1 below reveals, the unemployment rate has pursued a steady decline to a low of 7.4 percent.

Amid this changing environment, Egyptian banks pursued a policy of effective participation in pumping the necessary finance into the various economic sectors while attempting to diversify their activities, to include non-traditional services, in order to be able to apply universal banking. This strategy moved in line with the state's tendency towards bolstering the capital market through increasing its contributions to investment projects on the one hand, and revolving their portfolio in order to achieve the stock market's equilibrium on the other. Moreover, the main Egyptian banks continued their gradual implementation of the state's plan for privatizing the public stake in banks and joint ventures. Many banks also pursued efforts towards applying modern technologies in order to upgrade the quality of their services, and have taken decisive measures towards computerization and increased competition. While the payback from these efforts is still long-term, the immediate impact has not produced the positive effect expected. For example, loan and deposit growth for commercial banks have slowed to 12 percent and 8 percent respectively (see table 2 below). The trend is not particular to commercial banks alone but is pervasive covering also the specialized and investment banks, suggesting the need for a macroeconomic solution.

3. Lebanon's Banks – A Background:

Prior to 1975, the Lebanese banking sector witnessed the introduction of many legislative decrees which enhanced its domestic and international stature. For instance, the Banking Secrecy Law of 1956, the Free Convertibility law of 1952, and the introduction of Joint Accounts in 1961. These attracted Arab funds and made Lebanon the main financial center of the Arab region. Moreover, despite 17 years of civil turmoil, the Lebanese banking sector was able to provide basic banking services without major disruptions. Still, the banking system was exposed to many difficulties and obstacles which hindered its activities. For example, the 1988–1992 depreciation of the Lebanese pound¹, the Dollarization of deposits and the subsequent deterioration of the banks' capital base, the decrease in performance of human capital and expertise, the withdrawal of

foreign banks from the domestic market, and the 1989–1991 crisis of “Problem Banks.” This crisis led to 19 bank mergers and the trend is expected to continue in the future (see table 3 below).

During the period 1992–1998, growth in the banking sector activities exceeded growth in domestic GDP. Total banks deposits amounted to twice the level of GDP (the 1999 estimates put it at \$15 billion). This is a clear reflection of the severe disturbances affecting the country's economic situation. The most serious are (1) the increasing financial activity fed by the government's indebtedness, at high costs (high interest rates), at the expense of less activity in more productive sectors, and (2) better performing banks balance sheets and higher profitability. During the same period, Lebanese banks devoted substantial efforts to enhance their capabilities and operations to regain their prominent role in the region. Efforts were devoted to enlarge their capital base, to increase resources and activities, to create new retail products, to invest in new technologies, to recruit qualified personnel and to train already existing ones. Those efforts were productive and private funds witnessed a 13 folds increase, deposits grew at a rate of 282 percent and loans increased by 302 percent during the 1992-1998 period (see Table 4).

Moreover, Lebanese banks issued Global Depository Receipts (GDR) and Eurobonds on the international capital markets. These issues amounted to USD 1.3 billion in June of 1998. In addition, banks introduced new savings products and financing schemes. These range from Joint Lending Schemes, Personal Loans (housing, car, consumer...), Leasing, to investment packages as well as various Saving schemes. Other specialized financing schemes were also introduced. First, IFC loans amounting to \$270 million of which \$100 million as mortgage loans and the balance to finance productive sectors. Second, the European Investment Bank (EIB) provided euro 30 million to finance the construction of hotels outside the capital (see Table 5).

Also, some banks—in an attempt to develop bilateral trade—provided fiduciary loans under the Inter-Arab Trade program. Third, the government has decided to disburse some of its dues of around LBP 1130 billion to the private sector. This money, it is hoped, will stimulate productivity and create jobs. And, through subsidizing interest rates (5 percent) on industrial loans in Lebanese Pounds the government envisages to encourage investments in these sectors. A Credit Insurance Agency—that would increase the customer base of creditors for small and medium-sized companies—is currently being formulated. The payment system of banks was also enhanced through first the establishment of a clearinghouse for commercial papers (in addition to the clearing of checks in Lebanese Pound and foreign currencies). Second, the Central Bank's support for establishing ATM networks. Third, the establishment of an up-to-date information system that facilitates the collection of government revenues

¹ From 3 LP per dollar in 1988, the Lebanese Pound depreciated to LP 2300 per dollar in 1992.

(collection of Treasury funds as well as telephone, electricity and car maintenance bills - see table 6 below).

Representing 9 percent of the GDP, the banking system continues to hold a considerable position in the economy, financing on average 45 percent of aggregate demand and 50 percent of imports while deposits amount to 90 percent of gross domestic savings. With the recent recession overtaking the economy, the banking industry in Lebanon is actually among the few resilient factors. Banks are conservatively managed with loans representing a mere 35 percent of assets as the industry is strictly controlled by the Central Bank which imposes strict regulatory ratios for risk management and control. For example, FX positions are forbidden, political loans do not exist, credits are strictly monitored and classified, related party transactions are restricted and subject to timely and accurate disclosure. Since 1998, all banks in Lebanon abide by the International Accounting Standards. While such environment allowed major players to expand their market shares, the banking industry has experienced a relative decline since 1999, mainly as a result of a contraction in private and public demand and a shrinking of net interest margins. Amidst this change, the pace of mergers and acquisitions has increased.

4. Empirical Investigation and Methodology

Our data consists of annual observations on 43 Lebanese banks and 62 Egyptian Banks between 1993 and 1999. For Lebanon, the data was obtained from Bilan Banques, which tracks the financial statistics of Lebanese financial services institutions as reported to the Lebanese Bankers Association. In the case of Egypt, the data is provided from the Egyptian Central Bank. Because our data contains information on cross sectional units observed over time, a panel data estimation technique is adopted. This allows us to perform statistical analysis and apply inference techniques in either the time series or the cross-section dimension. The model takes the form:

$$y_{it} = \alpha_i + \beta_{it} x_{it} + u_{it} \quad (1)$$

where $i = 2$ cross sections and periods $t = 1993, \dots, 1999$. Y_{it} is a dependent variable which represents bank profitability measured by the return on equity (ROE), and X_{it} is a vector of 3 independent variables which represent LIQUIDITY, CREDIT, CAPITAL. They have been selected on the basis of their potential relevancy to this model, and because of their importance in depicting a bank's real financial position. Some of the independent variables will vary over time and cross sections, whereas others will only vary across sections. While the error terms are serially correlated for $k > 1$, they are independent of the regressors, ie. $E[u_{i,t+k,k} \otimes X_{i,t}] = 0$. The residual covariance matrix for this set of equations is given by:

$$\Omega = E(uu') = \sigma^2 I_N \otimes I_T \quad (2)$$

The intercept α_i varies across banks to capture the specific effects for each country. White heteroskedasticity-consistent standard errors and covariances are computed. Greene (2000) details the estimation methodology. In what follows we discuss the three explanatory variables of our model.

Liquidity Variable (LV) refers to the possibility that depositors will withdraw deposits from a bank in excess of its ability to obtain those funds except at considerably higher than normal costs. Banks issue liabilities that are redeemable at par. They are: (1) saving accounts, (2) checking accounts, (3) current accounts, (4) fixed deposits, (5) banks and correspondents. Savings accounts are deposits that pay interest, and have maturities of one week or longer. Withdrawals are allowed through only the saving book. Checking accounts are deposits that have no maturity, and withdrawals are done through checks. Current accounts are similar to savings accounts but they are subject to an income tax. Fixed deposits are deposits blocked for a period of time and pay higher interest rates. Banks and correspondents are placement accounts that a bank opens with its correspondent bank. They are of two types: (1) Call Accounts, with a two days notice before withdrawal, and (2) Blocked Accounts with longer maturities.

On the other hand, depositors may have good incentives to withdraw their deposits while sufficient funds remain in the bank, if they feel it is encountering financial difficulties. Moreover, a bank's deteriorating liquidity position is an important indicator of potential bankruptcy, and whether it is solvent or not is another issue. The liquidity variable employed in our model takes into account these factors, and shows a bank liquid assets as a percentage of its issued liabilities, and is defined as the total interest bearing liabilities over the total liquid assets. These consist of cash with banks, plus securities, which are the short term Treasury-Bills. The Liquidity variable is defined by

$$X1 = \frac{(\text{SAVINGS} + \text{CHECKING} + \text{CURRENT} + \text{FIXED DEPOSITS} + \text{BANKS})}{(\text{CASH WITH BANKS} + \text{SECURITIES})} \quad (3)$$

The higher this ratio, the higher will be the liquidity risk, and the less the coverage of its liabilities, other things being equal.

Credit Factor (CF) represents the likelihood that borrowers will not repay their loans as promised. Assessing and pricing credit risk and determining the appropriate amount of collateral is the concern of the bank's management. Loan management is an art and not a science, and failing to apply appropriate loan policies may either be related to lack of expertise and training programs (i.e. poor management), or to fraudulent activities such as the concentration of loans to friends, relatives, or associates.

The way the loan to asset ratio is calculated shows some deficiencies, since credit risk is more a qualitative than quantitative measure. The ratio will consider the quantity rather than the quality of loans, and shows how much the bank has formed provisions to withstand default loans. The credit factor is given by

$$X_2 = \frac{(\text{ADVANCES} + \text{BILLS} + \text{TOTAL CONTRA ACCOUNTS} - \text{PROVISIONS})}{(\text{TOTAL ASSETS})} \quad (4)$$

Advances are loans given by an individual bank to both the private and public sectors. Provisions are liability accounts formed as reserves for potential or actual losses emanating from bad or substandard loans. The contra accounts are financial services that generate income and create credit risk (e.g. letters of credits, and lines of credits). Bills represent discounted securities purchased by banks. When provisions increase, the bank will be in a better position to withstand default on loans, and therefore has a better credit policy.

Capital Adequacy (CA). A bank becomes insolvent, when it has a negative net worth, defined as the difference between the market value of its assets and liabilities (see for example Vito et al, 1977, for a more comprehensive discussion of capital adequacy). Capital serves many functions. First, any new entry to the banking system must pay its price of least capital requirements. Second, capital provides a bank with the required funds to service any new desired asset expansion and growth purposes. In the case of Lebanon, after the devaluation of the domestic currency, which started in 1988, most Lebanese banks became undercapitalized. Ratios of capital adequacy have shown high levels of inadequate capital. Whether they are true indicators of a bank's capital position is questionable. Efforts, however, have been devoted to fix the levels of adequate capitalization to serve its most important functions mainly that of being a cushion of own funds formed to absorb losses incurred by a bank. Capital Adequacy is measured by

$$X_3 = \frac{(\text{PRIOR PROFITS} + \text{RESERVES} + \text{CAPITAL})}{(\text{ASSETS} + \text{CONTRA ACCOUNTS})} \quad (5)$$

Profit carried forward is profit from banking operations, which management intends to reinvest in the bank. Reserves constitute a separate account in which the profit is reinvested. Capital is the initial price of entry that a bank has to pay to enter to the banking system. Other things equal, the higher the ratio (i.e., the equity of a bank), the higher is the ability of a bank to absorb external shocks or unforeseen losses.

5. Empirical Results

For profitability analysis, it is important to look at capital adequacy in two dimensions (across banks and over time) and distinguish explicitly between Egypt and Lebanon. This would allow us to separate the effects particular to each

country. To summarize, because bank capitalization was effected by variables specific to Lebanon, and beyond a bank's own control, we examine their impact on profitability over time and across countries. The other variables (liquidity and credit) will be limited to vary over time. These represent bank-specific variables and should reflect the direct activities a bank is undertaking. Our results are divided between fixed (variability over time), and non-fixed effects (over time and across countries). The results are provided in Table 7.

We begin with the intercept which represents the basic return on bank equity for each country during this time period in the absence of any regressors. The bank specific effects include liquidity, credit, and capital adequacy.

Turning to the analysis of the country specific variables, we notice that the coefficient of the capital adequacy ratio is strong and significant. The sign is negative for both Egypt and Lebanon indicating that higher adequacy has an adverse effect on the Return on Bank Equity. Generally, a higher capital adequacy ratio may lead to a higher total profit in absolute terms but not necessarily a higher (percentage) ROE. In fact, the evidence reveals that a highly capitalized institution represented by a high capital to asset ratio, will have a tougher time producing a lofty return to its shareholders. This is because capital represents a sunk cost. While it serves as a cushion against unforeseen events, it also bears a cost and ultimately holds back the institution from delivering the high percentage returns other under-funded banks may be able to produce. A similar argument is available by Kimball (1998). In terms of absolute levels, the coefficient of the capital adequacy variable is stronger for Lebanon and Egypt. This is expected since Lebanese banks have suffered a larger attrition to their capital base making their profit returns relatively more significant than in Egypt. This is evidenced when we compare directly the ROE in Egypt vs. Lebanon as we do in the table 8 below.

The table also shows a significant slowing in profitability for Lebanese banks, a factor attributed primarily to a regression of Lebanese interest rates which peaked during the 1995-96 when they reached a of 38 percent. At the time, these high rates were a direct result of a classic crowding out effect. Since, Lebanese interest rates have been on a steady decline (currently hovering around 11 percent) forcing Lebanese banks to accept more normal profits.

Turning to the fixed effects, our results suggest that the credit variable is a good predictor for profitability across all banks. The sign of the credit variable is positive and significant suggesting that bank profitability is positive and a direct function of lending activities. A high ratio of loans to assets (net of any provisions for doubtful accounts) indicates additional risk-taking on the part of a bank and therefore would translate into a higher return on equity to the extent that higher calculated risk leads to a higher return. These results apply to banking in general irrespective of country. Finally, turning to the liquidity variable, our

results reveal that it is insignificant across all banks and seems to have no discernable impact on profitability.

In total the model explains about 74 percent of the variability of return on bank equity over time and across countries. These results should be used as a precursor to a more elaborate model which distinguishes between bank categories in each country carefully taking into account the type of activities of each.

6. Conclusion and Policy Implications

In Banking theory, the profit concept assumes that banks are price-takers in input markets and can set output prices. The assumption is reasonable under the oligopolistic market structures of the banking systems in Egypt and Lebanon and the deregulated service-fees structure. The profit concept also assumes that all banks use the same technology. This simplifying assumption may seem to be a strong one since foreign banks are likely to use superior technology compared to local banks.

Following the currency devaluation in the late eighties and early nineties, Lebanese banks suffered a major blow to their capital base. A similar argument applies to bank efficiency because the Lebanese strife forced many banks to delay investment in automation and information technology. As a result, the period prior to 1991 (when the Hariri government took office) is radically different than the period we analyze here and therefore is another justification for ignoring it within this study. In a parallel fashion, the Egyptian economy suffered in 2000 a liquidity crunch which ultimately led to the devaluation of the Egyptian Pound in January 2001. This period is also not included in our analysis. As a result, our analysis should produce a more meaningful comparison between Lebanon and Egypt.

Because strong similarities exist between the two countries' financial services sectors, we introduced a cross section and time series analysis by combining Egyptian and Lebanese Banks in one single data set. The technique allows us to maximize statistical inference when time series are not available over a long period or long frequency (annual data). In conducting panel data estimation, we allow some coefficients to vary only across time, while others are allowed to vary across countries and over time. In order to assess the overall bank performance in each economy, we specify and estimate a fixed effects model allowing only the intercept to vary over time and by country.

Using data for empirical investigation from the financial statements of banks over the 1993-99 period, we specified and estimated a fixed effects model of bank return with varying intercepts and coefficients. Our results show that return on equity in banking is a direct and an increasing function of the bank's lending activities irrespective of Lebanon and Egypt. Regarding country specific effects, we find a strong link between capital adequacy and commercial bank return, with

high capitalization acting as a hindrance to return. The negative impact is attributed to the fact that capital is a sunk cost with large banks realizing high profits in absolute but not in percentage terms. The effect is stronger for Lebanon than for Egypt because Lebanese banks are relatively less capitalized than their Egyptian counterparts, a factor largely due to the severe attrition to capital Lebanese banks have experienced in the wake of the steep currency devaluation. Meanwhile, bank liquidity which represents a risk and solvency indicator seems irrelevant to bank profitability.

Our findings are expected to help policymakers in the MENA region set better performance targets, and enable bank managers to allocate capital more efficiently across their business units. Our results will be useful to identify how commercial banks can better employ their current capital and evaluate their future performance.

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Table 1: Macroeconomic Growth Rates

| | GDP | Unemployment |
|-----------|------------|---------------------|
| 1991/92 | 1.9 | 9.2 |
| 1992/93 | 2.5 | 10.0 |
| 1993/94 | 3.9 | 9.8 |
| 1994/95 | 4.7 | 9.6 |
| 1995/96 | 5.0 | 9.2 |
| 1996/97 | 5.3 | 8.8 |
| 1997/98 | 5.7 | 8.3 |
| 1998/99 | 6.1 | 7.9 |
| 1999/2000 | 6.5 | 7.4 |

Table 2: Growth Rates in Egyptian Banking Activities (%)

| Commercial Banks | | Specialized Banks | | Investment Banks | |
|-------------------------|-----------------|--------------------------|-----------------|-------------------------|-----------------|
| Loans | Deposits | Loans | Deposits | Loans | Deposits |
| -7 | 21 | 1 | 20 | 5 | -8 |
| 23 | 19 | -2 | 19 | 5 | 4 |
| 20 | 7 | 14 | 38 | 10 | 9 |
| 37 | 10 | 24 | 30 | 22 | 34 |
| 22 | 10 | 18 | 30 | 18 | 18 |
| 17 | 15 | 19 | 12 | 24 | 12 |
| 12 | 7 | 20 | 30 | 16 | 14 |
| 18 | 8 | 19 | 24 | 20 | 23 |
| 12 | 8 | 7 | 9 | 11 | 20 |

Source: Central Bank of Egypt

Table 3: Mergers and Acquisitions 1993 - 1999

| Year | Merged Bank | Merging Bank |
|-------------------------------|--|--|
| 1993 | Globe Bank | Societe General |
| 1994 | Capital Trust First Phoenician | Credit Libanais |
| 1995 | Security Bank of Lebanon | BLC |
| 1997 | Geagaa Bank of Lebanon and Pakistan CCMO BLC Tohme | Societe General Inaash Bank Audi Bank Byblos Bank Fransabank |
| 1998 | Nasr Lebano-Africain ADCOM Bank Orient Credit Universal Bank Foreign Trade Transorient Unibank Al Moghtareb Bank LITEX | Audi Bank Audi Bank Audi Bank Fransabank Al-Madina Bank of Beirut |
| 1999 (Under Consideration) | Intercontinental Bank | Orbil |

Notes: BLC Beirut pour le Commerce; CCMO Credit Commercial pour le Moyen Orient; UBL United Bank of Lebanon

Source: Lebanese Banker's Association

Table 4: Main Features of the Banking Sector 1992-1998 (Billions of L.L.)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|--|--------|--------|--------|--------|--------|--------|--------|
| Deposits (L.L) | 3,697 | 4,744 | 7,844 | 8,994 | 13,351 | 13,936 | 15,897 |
| Foreign Deposits (USD Mn) | 4,555 | 6,462 | 7,593 | 9,330 | 11,169 | 16,132 | 20,031 |
| Total Deposits | 12,068 | 15,801 | 20,350 | 23,885 | 30,685 | 38,570 | 46,113 |
| Deposits (L.L)/Total Deposits(%) | 30.60 | 30.0 | 38.50 | 37.70 | 43.50 | 36.10 | 34.50 |
| Loans | 4,804 | 6,217 | 8,169 | 10,695 | 13,290 | 16,022 | 19,300 |
| Loans/Deposits(%) | 39.80 | 39.30 | 40.10 | 44.80 | 43.30 | 41.50 | 41.90 |
| Private Funds | 264 | 444 | 676 | 1,146 | 1,943 | 2,990 | 3,620 |
| Total Assets | 14,634 | 18,809 | 24,285 | 29,055 | 37,183 | 45,633 | 55,031 |
| Growth of the Banking Sector 1992-1998 (Percentage) | | | | | | | |
| | 92/93 | 93/94 | 94/95 | 95/96 | 96/97 | 97/98 | 92/98 |
| Deposits (%) | 28.3 | 65.3 | 14.7 | 48.4 | 4.4 | 14.1 | 330 |
| Foreign Deposits (%) | 41.9 | 17.5 | 22.9 | 19.7 | 44.4 | 24.2 | 340 |
| Total Deposits (%) | 20.8 | 5.9 | 18.7 | 33.8 | 22.6 | 19.5 | 282 |
| Loans (%) | 29.4 | 31.4 | 30.9 | 24.3 | 20.6 | 20.5 | 302 |
| Private Funds (%) | 68.2 | 52.3 | 69.5 | 69.5 | 53.9 | 21.1 | 1273 |
| Total Assets (%) | 28.5 | 29.1 | 19.6 | 28.0 | 22.7 | 20.6 | 276 |

Source: Lebanese Banker's Association

Table 5: Foreign Issuing of Lebanese Banks

| Millions of dollars-As of 30/6/98 | |
|-----------------------------------|------|
| Eurobonds | 210 |
| Certificates of Deposits | 675 |
| Global Depository Receipts | 262 |
| Subordinated Loans | 150 |
| Total | 1297 |
| Euro-Loans: | |
| IFC | 270 |
| EIB | 35 |

Source: BDL

Table 6: Structure of the Banking Sector

| | 1992 | 1998 |
|--------------------------|-------|--------|
| Number of Operating Bank | 73 | 77 |
| Number of Branches | 512 | 685 |
| Representative Offices | 11 | 11 |
| Financial Institutions | 7 | 21 |
| Number of Employees | 14075 | 14922* |
| Number of ATM's | 0 | 205 |

Notes: * 1997

Source: Lebanese Banker's Association

Table 7: Cross Section and Times Series Analysis

| Dependent Variable: Return On Equity | | | |
|---|----------|----------|-------------|
| Time Period: 1993 1999 -- 2 cross sections | | | |
| $y_{it} = \alpha_i + \beta_{it}x_{it} + u_{it}$ | | | |
| Variable | Coeff. | Std. Err | t-Statistic |
| Liquidity | -0.13 | 0.07 | -1.68 |
| Credit | 3.99* | 1.63 | 2.45 |
| Capital Adeq -- EGY | -42.34** | 23.45 | -1.81 |
| Capital Adeq -- LEB | -6.58* | 2.30 | -2.86 |
| Fixed Effects | | | |
| Intercept -- EGY | -0.035 | - | - |
| Intercept -- LEB | -0.733 | - | - |
| Adjusted R-squared | 73% | - | - |
| Durbin-Watson stat | 1.16 | - | - |

Notes: White Heteroskedasticity-Consistent Standard Errors & Covariance; * Significant at 5% ** Significant at 10%

Table 8: Return on Equity Comparison for Commercial Banks

| | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|-------------|-------|------|------|------|------|------|------|
| Egypt (%) | 4.00 | 16.2 | 7.1 | 4.1 | 7.7 | 8.1 | 6.9 |
| Lebanon (%) | 55.36 | 58.1 | 75.0 | 74.4 | 56.4 | 22.6 | 11.1 |

Source: Bilanbanques 1992-1999 & Central Bank of Egypt