

Determinants of Capital Adequacy in Commercial Banks of Jordan an Empirical Study

Dr. Khaled Abdalla Moh'd Al-Tamimi

Department of Administrative and financial Sciences Irbid University College Al-Balqa'a
Applied University- Jordan

Email: khaled_tamimi@yahoo.com, samerfo_82@yahoo.com

Samer Fakhri Obeidat

Department of Administrative and Financial Sciences, Irbid University College
AL-Balqa'a Applied University- Jordan

Email: samerfo_82@yahoo.com

To Link this Article: <http://dx.doi.org/10.6007/IJAREMS/v2-i4/53> DOI:10.6007/IJAREMS/v2-i4/53

Published Online: July, 2013

Abstract

The study aims to identify the most important factors that determine the Capital Adequacy of Commercial Banks of Jordan in Amman Stock Exchange for the period from 2000 - 2008 using Multiple Linear Regression Analysis and the Correlation Coefficient (Pearson Correlation). The study shows the following: 1- There is a statistically significant positive correlation between the degree of capital adequacy in commercial banks and the following independent factors: liquidity risk, and the rate of return on assets. in another hand, there is an inverse relationship with statistical significance between the degree of capital adequacy of commercial banks and factors independent of the following: the rate of return on equity and interest rate risk. 2 - There is an inverse relationship is not statistically significant between the degree of capital adequacy in commercial banks and factors independent of the following: capital risk, credit risk, and the rate of force-revenue. As shown by the results of the study that the independent variables combined with a relatively high effect on the dependent variable and the changes that occur within, as the percentage of the interpretation of the independent variables of the dependent variable reached approximately 61%.

Keywords: Capital Adequacy, Risky Assets, Liquidity Risks, Return on Assets, Revenue Power Ratio, revenues power, credit risks, interest rate risks.

Introduction

Adequacy is one of the most important topics for both regulatory authorities and banks as it represents the most important element of banks stability and solidarity, in this regard regulatory authorities have worked on introducing different measures of adequacy, the most prominent of which was the capital adequacy approved by Basell committee in (1983), and applied by more than (100) countries, furthermore the application of that standard during the last years resulted in many weaknesses that led the committee to make some

modifications on that standard and, ultimately, suggesting a new standard to measure adequacy under the name (Basel 2).

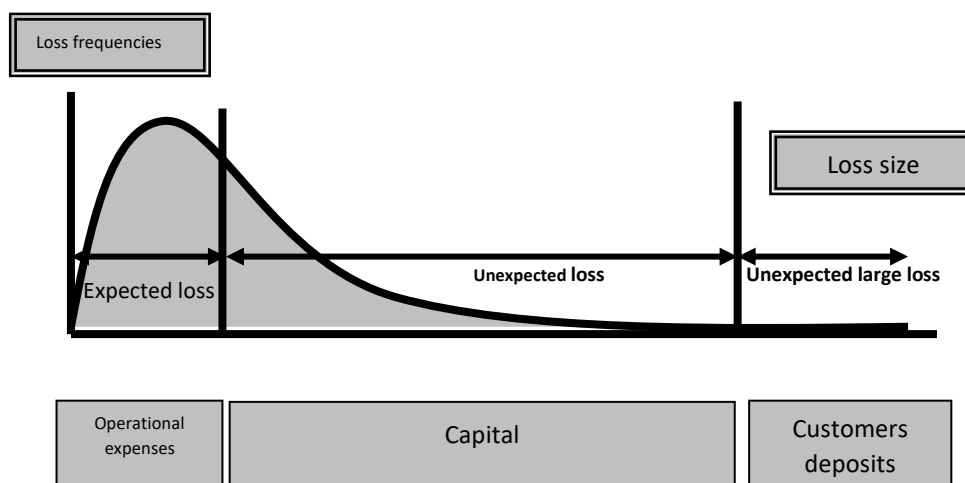
Banks capital plays a very important role in maintaining safety and solidarity of banks and the security of banking systems in general as it represents the buffer gate that prevents any unexpected loss that banks might face, which might reach depositors funds, given that banks operate in a highly uncertain environment that might lead to their exposure to various risks, and losses, that might result from risks facing banks, and can be divided into two major types (considering the ability to predict losses occurrences and their size), Vis a Vis: expected losses: losses that occur frequently to any bank, and their size is often small.

Unexpected losses: losses that occur less frequently but their impact on banks is usually Large.

Figure (1) summarizes the distribution of losses that might face banks and how they can be recovered (Hassan, 2005, P.9).

Figure (1)

Distribution of Losses



From the above figure, it can be seen that when the area under the curve (Large unexpected losses) is smaller, bank adequacy is high, as that area represents the probability of a loss of a size that bank's capital cannot endure, thus there is an inverse relationship between capital size and the area under the curve. Going back to previous time periods, we notice the expansion and variety of banking activities accompanied with an increase in the risk degree, represented by the inability of some banks to satisfy and meet their financial obligations which caused some banks to stop performing their tasks and declaring bankruptcy of some like Petra Bank and the liquidation of Bank of Credit and Commerce International of Jordan Al. (e'timad bank), this was a result of their inability to meet their financial obligations and, as a result, their bankruptcy and liquidation, and examples of unsuccessful banks include Jordan – Syrian Bank, Orient bank (Al Mashreq), and Islamic investment bank. And in an attempt to meet these challenges, Jordanian government has amended the laws governing commercial banks operations and substituting it with law No. 28/2000, in order to organize the operations of commercial banks which required these banks to adopt effective strategies to overcome these challenges and possessing the ability to activate their roles in the development and growth of the Jordanian economy as well as financing their developmental and investment projects (Khrawish et al. 2004. P60).

Public and private sectors, in order to maintain the financial performance of banks as one of the important investment tools for raising the economic adequacy and economic growth rates, are required to study factors affecting the degree of Jordanian banking capital to find out challenges and difficulties in order to treat them and setting the appropriate solutions, in addition to come out with recommendations that might help banks administrations in developing their banking performance in terms of managing bank capital, as well as, managing the following risks: interest rate risk, liquidity risks, credit risks, and capital risks, to achieve high rates regarding Revenues power, Return on equity, and Return on Assets which implies maintaining return on Equity for risky assets, and bank hedging in the face of investment risks which will enhance bank's role in their ability to meet their obligations from one hand, and maintaining depositors and owners fund from the other.

Problem Statement

Research problem can be expressed through the following questions:

1. Is there a relationship between interest rate risks and banking capital adequacy?
2. is there a relationship between liquidity risks and banking capital adequacy?
3. Is there a relationship between credit risks and banking capital adequacy?
4. is there a relationship between capital risks and banking capital adequacy?
5. Is there a relationship between revenues power and banking capital adequacy?
6. Is there a relationship between return on equity and banking capital adequacy?
7. Is there a relationship between return on assets and banking capital adequacy?

Research Significance and Objectives:

Significance of this study stems from being one of the few ones, as to our knowledge at Amman stock Exchange. Also its results might help different parties, either individuals or groups, in maintaining their investments and achieving the highest possible return with the lowest possible risks, this is from one hand, but from the other, significance for depositors lies in assuring them to have their money back along with interests earned on them while for owners it is a way for maximizing owners' equity and profit on these equities, furthermore it provides financial organizations management with success and failure indicators that enable them making cautionary procedures and arrangements necessary for protecting their organization form financial and operational leverage risks, and finally public institution might benefit from this study through taking preventive measures to avoid the occurrence of financial crisis affecting the national economy.

As for the objective of this study, it is represented in identifying factors affecting the degree of Jordanian commercial banks capital adequacy to highlight the role played by these indicators in enhancing the Jordanian Financial and banking system credibility, and what follows like achieving the suitable exchange between banks risk and return and its effect on maximizing Jordanian commercial banks worth.

Research Hypothesis:

This study tests the following null Hypothesis:

1. No statistically significant relationship between interest rate risk and degree of banks capital adequacy.
2. No statistically significant relationship between liquidity risks and banks capital adequacy.
3. No statistically significant relationship between credit risk and banks capital adequacy.
4. No statistically significant relationship between capital risk and banks capital adequacy.

5. No statistically significant relationship between revenues power and banks capital adequacy.
6. No statistically significant relationship between return on equity and banks capital adequacy.
7. No statistically significant relationship between return on assets and banks capital adequacy.

Population and sample:

The study population consisted of all commercial banks operating in Jordan, listed in Amman Stock Exchange, totaling for (15) banks during the study period from (2000- 2008). Some of these banks were excluded because of the non-availability of sufficient data during the study period, therefore the study population, and thus the study sample consisted of (12) commercial banks (as shown in table 1), comprising about (80%) of the study population, meanwhile, the study was limited on banks during the above period for a number of facts among which:

1. Their stocks were not exchanged in Amman stock Exchange in a continuous basis during the study period.
2. Non availability of data required for the study purposes during the study period.
3. This time period is a critical period, during which world financial crisis, which damaged banks with low capital adequacy, that causes their failure in meeting the consequences of that crisis.

Table (1)

Banks included in the study sample according to their year of establishment.

Bank	Year of establishment
Arab Bank	1930
Jordan Ahli Bank	1955
Bank of Jordan	1960
Cairo Amman Bank	1960
Societe general Bank of Jordan	1965
The Housing Bank for Trade and Finance	1973
Jordan Kuwait Bank	1976
Jordan Commercial Bank	1977
Arab Jordan Investment Bank	1978
Union Bank for saving & investment	1978
Jordan Bank for saving & investment	1982
Arab banking corporation Bank	1990

Research Methodology:

study is based on the descriptive analytical Methodology by following two approaches: one is dependent on significant previous studies that addressed the study topic either directly or indirectly in order to cover the theoretical aspect, in addition to using banks annual reports issued by Amman Stock Exchange for the applied part of this study, while the other approach depended on the statistical analysis, which was conducted on data collected on the study sample for the period 2000 – 2008, focusing on the following statistics:

1. Pearson Correlation Coefficient to find out the directions of the expected relationship between independent and dependent variable (Capital adequacy).

2. Multiple linear regression analysis to determine the factors most affecting the degree of capital adequacy, which can be expressed by the following mathematical Model.

$$CA = a + \beta_1 LR + \beta_2 CR + \beta_3 CPR + \beta_4 IR + \beta_5 ROA + \beta_6 ROE + \beta_7 RP + E_t$$

Where CA: Capital Adequacy defined as awareness of and caution from various types of risks, that might face commercial banks in their operational processes which represents the dependent variable that can be expressed by the following equation:

$$\text{Owner's equity risky assets ratio} = \frac{\text{Owner's Equity}}{\text{Risky Assets}}$$

Where risky assets are defined as all assets except liquid assets (Cash in hand and cash deposits at the Central Bank and at other banks and financial institutions), such as credits with and without guarantees besides other financial papers (Long – term investments) (Khraiweh et al, 2004, p. 67), and this ratio explains the relationship between banks capital sources, risks surrounding the bank and any other operations. This ratio can also be used as a tool to measure bank adequacy (its ability to meet its obligations and facing any losses that might occur in the future. In other words, capital adequacy of a bank is a security indicator for depositors funds so as to help in reducing crisis risks that might face the bank, especially bankruptcy costs (Al – Koor, 2010, p. 10).

LR: Liquidity risks represented in those current and potential risks related to a bank profitability and capital which result from bank inability to meet its obligations which incurred including the inability to manage unexpected reductions or changes that might occur on market conditions and affect the ability to liquidate assets rapidly and with the least possible losses in their values; Liquidity risk is compounded when banks cannot forecast the demand on loans or deposits withdrawal accompanied by its inability to reach new sources of money to cover these demands. Liquidity risks can be measured by the following equation:

$$\text{Liquidity Risks} = \frac{\text{Liabilities}}{\text{Total Liabilities}}$$

Where liquid assets are represented by cash at hand and at the central bank in addition to cash at other banks or financial institutions, while total liabilities are represented by all short and long-term liabilities such as demand deposits, time deposits, saving deposits in addition to borrowing processes from banks and financial institutions.

This ratio reflects the ability of bank liquid assets in meeting withdrawal process by customer (depositors); In other words there is an inverse relationship between liquidity risks and the degree of capital adequacy.

CR: Credit risks: these risks originate as a result of the bank giving loans or credits to both individuals and various economic sectors with its inability to get back its rights represented by the loan principal and its interests in the due date or being be capable to pay it back but does not want that, for different reasons, therefore risks are represented in losses that the bank might bear due to customers inability or unwillingness to pay back the loan principal and its interests (Ruzaig & Korthd, 2007, p.3). This kind of risks can be measured by the following equation:

$$CR = \frac{\text{Total Loans} - \text{Bad debts allowances}}{\text{Total Assets}}$$

This ratio measures the bank's ability to employ its cash in financial credits, and existing literature shows the existence of an inverse relationship between credit risks and banking credit. In other words, when credit risks are low, banking credits are high, which, in turn, increases owner equity to risk assets ratio as well as increased security margin in the face of investment risks.

CPR; Capital risks which represent the probability of the bank inability to meet its obligations, and this occurs when there is a negative owners equity and net owners' equity is determined by the difference between assets market value and liability market value, and can be measured as follows:

$$CPR = \frac{\text{Paid Capital}}{\text{Risk weighted Assets}}$$

Paid capital is the invested capital, while risk weighted assets are all assets other than cash accounts in other banks and financial institutions and this ratio measures the extent to which assets value decreases before affecting depositors and owners funds. Capital risk usually occur when banks assets market value drops to a level lower than banks liability market value (AL – Jinabi, 2005, p. 273) Furthermore, banking and finance literature shows a close relationship between capital risks and capital adequacy as expressed by owner's equity to risk weighted assets ratio. In other words the increase of capital risks requires an in turn of capital adequacy to meet investment risks, therefore, which intern requires the bank to increase owners' equity to meet capital risk, there is an inverse relationship between capital risks and capital adequacy.

Interest Rate Risk (IR); they are risks resulting from interest rate fluctuations and might have a negative effect on bank's capital and revenues as banks face these risks as part of being a financial intermediaries (brokers), meaning that interest rates risks might involve a big threat to its profits and capital, which requires a good interest rate management from the part of the bank, through maintaining acceptable levels of interest rates. Furthermore interest rate risks have multiple aspects, the most important of which different maturation dates against fixed interest rate, pricing against variable interest rate for bank assets and liabilities its financial centers, apart form its balance sheet (Abdelkareem & Salah, 2007, p 11). Interest rate risk can be measured through the following equation.

$$IR = \frac{\text{Interest rate sensitive assets}}{\text{rate sensitive liabilities}}$$

Where interest rate sensitive assets represent financial credits while liabilities represent customers*, other banks and financial institutions deposits at the bank as well as borrowed money by part of the bank, meanwhile, existing literature showed an inverse relationship between interest rate risk and capital adequacy.

ROE: Return on equity ratio and expresses the return realized by owners in return of investing their funds in the bank, and it is one of the most important profitability ratios because owners and according to this ratio, decide to continue their investment in the bank or transferring their investments to other activities that yield suitable return. This model is being used since the 1970s in the united states by David Cohl, as a tool to assess the bank performance, through providing various forms that enable the analyst to evaluate bank's profits source and size for selected risks in including credit risks, liquidity risks, interest rate risks, capital risks and operational risks (Quraishi, 2004, P. 90), and this ratio can be measured by the following equation:

$$\text{ROE} = \frac{\text{Net profit after Tax}}{\text{Total owners' Equity}}$$

It expresses the extent to which the bank was successful and efficient in investing its funds, as the increase in the bank profit will maximize bank shares value at (ASE) which will affect bank financial security, also existing literature shows a direct relationship between return on equity and capital adequacy (Molyneux and Thornton, 1992).

ROA: Return on Assets which represent all assets owned by the bank and their ability in generating profits during a specific time period, in other words it explains the degree to which the bank succeeds in investing its assets and its efficiency in directing them towards profitable investment opportunities and can be measured as follows:

$$\text{ROA} = \frac{\text{Net Profit after Tax}}{\text{Total owners' Equity}}$$

This ratio measures the management efficiency in using the available resources and its ability in realizing revenues from funds or resources available from various financing resources, therefore it reflects the effect of the bank financial and operation activities, meanwhile, this ratio was employed as a measure of banks performance in several previous studies of, which polios and Samuel (2000) study, and a direct relationship, between return on assets ratio and Capital adequacy, was documented.

RP: Revenue power ratio, and is based on the relationship between operations profits and assets contributing to its realization, in measuring profitability, Revenue power is defined as the ability of certain investment to generate a revenue in turn of its use, or it is the institution's ability to generate profits for the use of its assets in its basic activity, put in other terms, it is the ratio of operations profits to institution assets (Abu- Zeiter, 2006, p 76). Furthermore, this ratio is better than profits as a measure for judging the institution efficiency, since profit is an absolute number that does not indicate the realized investments, while revenue power finds out this relationship, which in turn facilitates comparison with revenues from other time periods and institutions, in addition to identifying that institutions Performance will take, it is also a measure of the institution's operational performance efficiency, therefore, when it is computed, we should be confined on the assets actually participating in the institution's typical operation along with profits generated from the

operation of these assets before tax, and other expenditures and revues (Abu Zeiter, 206, p. 77), and can be measured as follows:

$$\text{Revenue Power Ratio} = \frac{\text{Total Revenues}}{\text{Total Assets}}$$

Where total revenues include credit interests, net commissions, profits of financial assets and tools, and other operational revenues, in addition, literature indicates a positive relationship between Revenue power ratio and capital adequacy.

Significant Previous Studies:

Several studies have examined factors influencing capital adequacy in general, and at Amman stock Exchange in particular, and the authors have referred to various Arabic and foreign studies on this topic, to enhance the theoretical background, and models used, in addition to previous studies results. This section includes a listing of both Arabic and foreign studies with a brief description of each.

1. **Bevan (2000)** conducted a study that addressed commercial bank leverage (debtedness) and its determinant factors in Britai, Hungary and Burglary; where they expressed the dependent variable as Leverage, while bank size, risky Assets, long term debts, short term debts and retained earnings, as independent ones. The study indicated an inverse relationship between debtedness (Leverage) and each of risky assets, long – term debts, and short – term debts, it also revealed the importance of increasing commercial banks capital to safeguard or protect depositors funds against the exposure to leverage risks.

2. **Makhamreh Study (2000)** which sought to identifying factors affecting Jordanian banks performance for the period (1989 – 1966), in which four measures of financings performance of banks were used as dependent variables, including organizational factors such as bank size and technological level, addition to leadership factors such as borrowings to owners' equity ratio; as well as environmental factors including (GDP) and finally managerial or administrative factors including those related to bank's employees and decision makers. As for independent variables they included dividends per share, ROA ratio, and stocks market value. The study revealed that dividend per share and its market value are of the best measures used in determining performance of Jordanian commercial banks, along with organizational and leadership. Variables.

3. **Al Mekhlafi Study (2004)** aimed at investigating the influence of banks capital adequacy indicators on each of financial risk indicators and bank revenues along with their implications for the bank value, Nine banking capital adequacy indicators were employed, vis-a-vis capital to deposits ratio, capital to total Assets ratio, capital to debts ratio, capital to risky assets ratio, free capital to risky assets ratio, free capital to working assets ratio, capital to investment ratio capital to incidental liabilities ratio and capital to weighted risk assets ratio, in addition and capital to weighted risky assets ratio addition, three banking risk indicators including, credit risk, interest rate risk, and liquidity risk, As for banking return indicators, for banks ability to generate revenues, nine indicators were used and as follows Net interest margin, net income Margin, Assets turnover rate, ROA ratio, financial Leverage multiplier, ROE ratio, Return on deposits ratio, Return on available funds ratio, and Available resources revenue power. The study showed the acceptance of the study hypothesis which states that both banking risk indicators and returns are affected by bank capital adequacy and that this

will be reflected in the bank value, The study also revealed the need for taking necessary internal actions and measures to ensure compliance with Basel 2 decisions regarding banking capital adequacy, and finally selecting the time scheduling that is suitable for execution.

4. **Al – Maleeji (2002)** conducted a study aimed at developing an accounting model for judging the Egyptian commercial banks and to establish a standard that includes various element needed to assess capital adequacy, which reflects most of the risks facing commercial banks in general and credit, inflation liquidity and market risks in particular. The study reheated that capital adequacy established according to Basel banking decisions 1988 and Egyptian central bank decisions 1991, are not effective, as well as the new framework for capital adequacy (Basel, 1999), in maintaining commercial banks capital and assuring the safety of their financial positions along with their inability to reflect various risks facing commercial banks operating in Egypt and do not include all elements necessary for the assessment of capital adequacy.

5. **The study by khraiwsh et al (2004)** aimed at identifying factors affecting banks security degree at Jordanian commercial banks for the period (1992 – 2002), Using multiple regression analysis, the study revealed the existence of a positive significant relationship between the degree of bank security and each of Return on equity, and return on investment, but a negative significant relationship between the degree of banking security and each of liquidity risk, capital risks, and credit risk.

6. **Abdel- Kareem and Abu Salah (2007)** conducted a study which sought identifying operational risks in general and the mechanism by which needed capital, to meet these risks according to Basel decisions, can be calculated, as well as examining and determining operational risks, size and scope, facing banks operating in Palestine, it sought also to identify Palestinian commercial banks proficiency in dealing with these risks according to best practices for controlling and managing these risks. The study revealed a low banks commitment to best basic practices in managing operational risks where most banks lack the basic requirements to go side by side with these practices, which will have negative effects on their readiness to comply with new Basel commission derisions.

7. **Al – Zoubi et al, (2008)** conducted a study aiming at investigating banks behavior towards changes in capital requirements imposed by regulatory bodies among Jordanian banks for the period (1990 – 2003). Using three statistical methods including fixed effects, Random effects and Centralized Least Square, the study revealed a positive relationship between Legislation, constraints frames and banks capitals levels needing support (restructuring), in accordance with banks risk levels, the study also revealed that, and as a result of capital bank are approaching the minimum levels of capital requirements this in turn was an important motive to increase capital base in accordance with banks risks levels.

8. **Berrospide et al. (2008)** study which sought to find out the effects of companies finance policy on their performance and value, focusing on the macroeconomics environment, using fixed effects statistical analysis methods, the study revealed a direct relationship between book and market values of the company, and security decisions with operational profits margin, Brazilian currency derived contracts, capital expenditures, Monetary budgets, but no statistically significant relationship between company size, sales growth rate with security banking decisions.

9. **Barakat (2009)** conducted a study which aimed at checking the extent to witch (Basel 2) standards requirement are applied by commercial banks operating in Jordan. Data was collected through a questionnaire administered to more than (40) bank employees in Jordan. The study revealed that all banks operating in Jordan applied basils standards, as well

as the existence of great differences in applying Basel 2 standards among local and foreign banks.

Statistical Analysis and results discussion

Table (2) Shows the results of statistical analysis of the study data related to capital banks adequacy for the period (2000 – 2008) using (SPSS) statistical package, where β = Regression coefficient; SE = standard errors, "t" and "F" are the calculated values, sig = significance; PC = Pearson correlation coefficient; and (D-W) = Dairban – Watson Test.

Table (2)

Regression Results On Capital Adequacy For Commercial Banks Operating In Jordan

CA	β	SE	PC	T	Sig *
LR	.4000	.0920	.2900	4.457	.0000
CR	-0.159	.1280	-0.178	-1.085	.2810
CPR	-0.080	.0310	-0.229	-1.122	.2650
IR	.2710	.0690	-0.056	2.067	.0410
ROE	-0.396	.0790	-0.082	-5.154	.0000
ROA	.8020	.5690	.5200	10.667	.0000
RP	-0.099	.1140	-0.139	-1.583	.1170
F	22.378	.000			
D-W	1.699				

**R Square = 0.61

* significant at 0.05

The above table shows the following:

The first hypothesis which states: No statistically significant relationship exists between interest rate risks and banking capital adequacy.

Statistical analysis shows the existence of an adverse significant relationship between interest rate risk and Commercial banks capital adequacy at ($\alpha = 0.05$) level, where t value was (-0.056); (2.067 and $\alpha = 0.041$, but pc = 0.056 in other words when interest rates are high banks capital adequacy was low, and this is consistent with banking status, because fluctuation (Changes) of interest rates might have a negative effect on banks capital and revenues, meanwhile it is worthy noting that (as to the researcher knowledge) this is the first study which examines the effect of this variable on capital adequacy.

The second hypothesis: which states that no statistically significant relationship exists between liquidity risks and banking capital adequacy.

Data analysis shows the existence of a direct relationship between liquidity risk and commercial banks capital adequacy at ($\alpha = 0.05$), where (t) value was (4.457) and ($\alpha = 0.000$), but PC was (0.290). this result contradicts the results of Khravash et al. (2004) study, and that of Berrospide et. al study (2008).

The third hypothesis which states: No statistically significant relationship exists between credit risk and banks capital adequacy.

Data analysis revealed the existence of an inverse non significant relationship between credit risk and banks capital adequacy at ($\alpha \leq 0.05$) level where (t) was (-1.085) and ($\alpha = 0.281$) but Pearson correlation coefficient was (-0.178), meaning that the higher credit risk, the lower capital adequacy. This finding is consistent with banking status; and is also consistent with Marshall & Prescott (200) and Sabah (2008) studies.

The fourth hypothesis which states: No statistically significant relationship exists between capital risks and banks capital adequacy.

Data analysis revealed the existence of an inverse but non significant relationship between capital risks and capital adequacy at (α 0.265), while Pearson correlation coefficient was (-0.229), meaning that the higher the capital risks, the lower the banks capital adequacy. And this finding is consistent with banking and finance literature such as khraiwish et all (2004) and Berospide et al (2000) studies.

Fifth hypothesis which states: No statistically significant relation ship exists between revenue power and bank's capital adequacy.

Data analysis revealed an inverse and non statistically significant relationship between revenue power and banks capital adequacy at (α 0.05) level, where "t" value was (-1.583) and ($\alpha=0.117$), but person correlation coefficient was (-0.139) and this finding was not consistent with findings of several banking and finance previous studies such Al Mekhlafi 2004 Study, and this finding might be attributed to the low operational performance of the assets involved in bank usual operations which might cause the decrease of the revenue power to have a negative effect on capital adequacy.

Sixth hypothesis which states: No Statistically significant relationship exists between ROE and banking capital adequacy.

Data analysis revealed the existence of an inverse and statistically significant relationship between ROE and capital adequacy at (α 0.05) level, where "t" value was (-5) and ($\alpha = 0.000$), but person correlation coefficient was (-0.082). this finding wan inconsistent with the findings of several previous studies such as khraiwesh et al (2004) study, and this finding can be attributed to the low retune on equity at the studied sample during the study period, but also this return on equity for some banks like Al – ahli, Amman Cairo commercial bank and Sosete bank, for some years was negative which ultimately, caused this result.

Seventh hypothesis which states: No statistically significant relationship between ROA and capital adequacy, exists.

Data analysis showed the existence of a strong direct and statistically significant relationship between ROA and capital adequacy among the study sample, where "t" value was (10.667) and ($\alpha = 0.000$), but Pearson correlation coefficient was (0.520), and this finding is consistent with finding of other previous studies as Mekhlafi (2004) and Makhamrerh (2000) study.

Conclusions and recommendations:

The purpose of this study was finding out the most important factors affecting commercial banks, operating in Jordan, Capital adequacy for the period (2000 – 2008) using Multiple linear Regression Analysis along with Pearson correlation coefficient, and revealed the following:

1. The existence of a significant relationship between capital adequacy and each of the following independent variables: Liquidity Risks, Interest rate risks, RoE and RiA.
2. Non existence of a significant relationship between capital adequacy and the following independent valuables: Capital Risk, Credit Risks and Revenue power.
3. The existence of a positive correlation and a direct significant relationship between capital adequacy and each of the following independent variables liquidity Risks, RiA, as well as the existence of negative correlation and a negative significant relationship between capital adequacy and each of the following independent variables RoE, and Interest Rate Risk.

4. The existence of a negative non-significant correlation between capital adequacy and the following independent variables: capital risks, credit risks and revenue power.

Results also revealed that the relationship between liquidity risks, interest rate risks, RoE, RiA and capital adequacy is not consistent with the study hypothesis, whereas the finding related to the relationship with capital risks, credit risk, Revenue power was consistent with this study hypothesis.

Overall, results revealed that independent variables combined have a relatively high influence on the dependent variable and changes occurring in it, where those variables explained about (61%) of the total variance.

Finally, we can argue that findings of our study reflect the actual status of commercial banks under study, also they suggest the urgent need and high importance of conducting more research to include other variables not included in this study as financial leverage multiplier, and return on deposits ratio, as well as working on measuring capital to deposits ratio or capital to debts ratio along with variables of the current study. Furthermore, studying the effect of return on equity, and revenue power with more detail to benefit from them as elements helping in maximizing commercial banks security level, and lastly, final report of financial statements and data should include rules and basis on which capital adequacy measurement is based, which will lead to raising banking and finance awareness that will enhance banks competitive positions with regional and international banks.

References

- Abddel Kareem, Naser, and Abu Salah, Mustafa (2007) Operational Risks according to Basell I Requirements: A study of Its nature and methods of its management in Banks operating in Palestine, paper presented at the fifth scientific Annual Conference, Philadelphia University, Jordan.
- Abu Zeiter, Basel (2006) Factors Affecting commercial banks profitability in Palestine (1997 – 2004) unpublished master thesis, Islamic university / Gaza.
- Al – Jenabi, Hail (2005) Management of commercial banks and banking activities, first edition, Al – Masar publications, Al Mafraq - Jordan.
- Al – Koure, Izzidin (2010). Structure – description, Performance and competition in Jordanian banking Industry. Working paper www.pdfmachine.comr?cl.
- Al malleeji, Hisham (2002) "Development of accounting measurement for Judging capital adequacy in commercial banks, An empirical study, commerce college scientific Journal, Issue 26, pp. 329 – 412.
- Al- Mikhlafi, Abdel Aziz (2004). Analysis of banking capital adequacy According to international standards, A case study of Yemeni Commercial banks, unpublished PHD, National information center, Yemin WWW.Yemin – nic.info.
- Al-Zubi, K. Al-Abadi, M & Afaneh, H.(2008), Jordan Journal of Business Administration, Volume 4, No. 1, <http://dar.ju.edu.jo/DAR/JJBA/index.htm>
- Amanan stock Exchange, Manual of publicly held companies, for the period (2000 – 2008) anon, Jordan
- Barakat, A.(July – December 2009), BANKS BASEL II NORMS REQUIREMENT REGARDING INTERNAL CONTROL FIELD STUDY ON JORDAN BANKS, Delhi Business Review, Vol. 10, No. 2, Pp35-48.

- Benston G, Irvine P, Rosenfeld J, & Sinkey Jr. J (October 2000), Bank Capital Structure, Regulatory Capital, and Securities Innovations, Working Paper Series, FEDERAL RESERVE BANK of ATLANTA, Pp1-38.
- Bevun, A. and Danbolt, J., (2000), Capital Structure and Determinants, Working Paper Prepared, Under the ACE Financial Flows in Transition and Market Economics: Bulgaria, Hungaria and UK, pp. 1-47.
- Jose M. B, Amiyatosh. P, & Uday. R (2008), Corporate Hedging, Investment and Value, Working Paper, <http://www.federalreserve.gov/pubs/feds/2008/Pp1-43>.
- Hasan Al – sheikh (2005) Measuring Islamic Banks adequacy in light of the new standard of capital Adequacy, paper presented at the Third international conference for Islamic Economy, OM al Gora University Mecca, Saudi Arabia.
- Khraiwesh, Husni, Al – Zobi, Khaled; and Al – Abbadi, M. (2004). Factors Affecting Banking security, A Fidd study, Journal of king Abdel Aziz University, Economics and Management, Vol. 18, Issue, 2. pp. (59-77).
- Quraishi, Mohammad (2004): Assessment of Banking Institutions: A case study of a Group of Algerian Banks for the period (1994 – 2000), Al – Baheth Journal Issue 3, pp (89 – 95).
- Ruzaiq, Kamal & Kortel Fareed (2007) Managing Investments Credits risks in Algerian Commercial Banks, Paper presented at the Fifth scientific annual Conference, Philadelphia university, Jordan.
- Sabah, Misbah (2008), Factors Affecting commercial Banks security level in Palestine, Unpublished master thesis, Islamic university at Gaza.

Acknowledgement

I am grateful for all those who helped me while conducting this study, from the beginning to the end of the study directly or indirectly.

Corresponding Author

I am Dr. Khaled Abdalla Moh'd AL-Tamimi , assistant professor in economics, I have been teaching at Albalqa Applied University –Irbid College University –Department of Administrative and Financial Sciences-Jordan , ,E-mail- khaled_tamimi@yahoo.com .