Evaluating Profitability and Efficiency of Bank Performance in Palestine.

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ABSTRACT

Nowadays, the role of banks in economics is undeniable. All the financial activities are depending on them because they help to develop the economy quickly, so the profitability measurements of the banking system should be investigated.

The goal of this study is to find the profitability measurements for 7 commercial Palestinian banks and the researcher will do that on an analysis of bank for the period 2005-2011. The Palestinian banks profitability will be done by evaluating two main parts of ratios; the first one is the bank specific ratios which are capital adequacy ratio, liquidity ratio, management efficiency ratio, and the last one is the asset quality ratio. In addition, the second part is macroeconomic determinants (inflation and interest rate).

In this research, panel data is used to evaluate the relationship between the variables. The study followed the previous studies such as the case of Turkey (Alper and Anbar, 2011) that investigated the profitability to measure the bank –specific performance for 10 commercial banks for the period of 2002-2010 and they came out that there is a positive relationship between the interest rate and profitability and this result agrees with the statistical analysis for of this study's case.

The study concluded that the macroeconomic factors have more impact to the profitability of the banks in Palestine when compared to the bank specific determinants that exist because of the special structure of each bank, so for that the researcher concluded the study by suggesting some solutions to the problems faced in this study.

Keywords: Palestine, panel data, bank profitability, macroeconomics factor, bank specific determinants.

ÖZ

Günümüzde bankaların ekonomideki rolü inkar edilemez.Onlar finansal faaliyetlerin kalbidir ve ekonomik kalkınma hızını artırmak için yardımcı olurlar. Böylece bankacılık sisteminin karlılığı belirleyicileri değerlendirilmelidir.Bu tezin amacı,7 ticari Filistin bankalarının karlılık belirleyicilerini bulmak için 2005-2011 dönemi için bir banka analizi yapmaktır. Filistin bankaları karlılık makroekonomik belirleyicileri olarak sermaye oranı, aktif kalitesi oranı, yönetim verimliliği oranı, banka-özel ve enflasyon ve faiz oranı gibi likidite oranını uygulayarak tarafından incelenir.

Bu araştırmada, panel değerlendirilme tarihi ilişkisi kullanılmıştır.Çalışma sonucu değerlerinin makroekonomik belirleyicileri tarafından belirlendigi ve karlılık oranın filistin bankalarında farklı oldugu anlaşıldı çünkü her bankanın özel bir kar oranı belirleyicisi vardır ve Filistin bankalarının makroekonomik etkilerinden farklı oldugu anlaşılıyor.

Biz bu çalışmada karşılaşılan sorunlara bazı çözümler önerdik.

Anahtar Kelimeler: Filistin, panel tarihi, banka karlılığı, makroekonomi faktörü, banka spesifik belirleyicileri.

Dedicated to my family

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LIST OF ABBREVIATIONS

PMA:	Palestine Monetary Authority
ESCWA:	Economic and Social Commission for Western Asia
PA:	Palestine Authority
PALTRADE:	Palestine Trade Center
JOD:	Jordanian Dinar
NIS:	New Israel Shekel
GDP:	Gross Domestic Product
ROA:	Return on asset
ROE:	Return on equity
CAR:	Capital adequacy ratio
EFF:	Management efficiency ratio
ASQ:	Asset quality ratio
LQR:	Liquidity ratio
INF:	Inflation
IR:	Interest rate
E-VIEWS:	Econometric views
r^2:	Coefficient of Determination
P-value:	Probability Value
T-start:	Test Statistic Value

Chapter 1

INTRODUCTION OF RESEARCH

1.1 The Background of the Research

Nowadays, the role of banks in economics is undeniable. All the financial activities are depending on them because they help the economy to develop quickly. Banks are the financial institutions that stand alongside with other investment banks and institutions that get profits from the investment of money. As financial intermediaries, banks are standing between borrowers who demand the capital and depositors who supply the capital.

In the last 20 years in Palestine, the banking system has begun to grow and form as a real financial institution. Therefore, the goal of this research is to evaluate the profitability and proficiency performance in Palestinian banks.

Nowadays, Palestine banking system is on the stand of improvement. So, it is essential to control and improve this banking sector. For this reason, it is decided to consider this research.

In 1967, West Bank was occupied by Israel and before that there were 11 commercial banks in Palestine (3 in Gaza and 8 in West Bank) with 30 branches of which 26 in the West Bank and only 4 in Gaza. At that time their credit facilities represented 71.4 % of their deposits (ESCWA 1987).

The Israeli authorities used the military orders to close all bank branches by occupying the land (West Bank and Gaza) in 1967. They frozed their assets and confiscated the cash in their vaults and transfer them to the Central Bank of Israel. After a few years, they issued the military orders by allowing the Israeli Banks to open branches in the West Bank and Gaza. Only 4 banks opened with 22 branches distributed in the main cities of the occupied area: Bank Leumi 13 branches, Bank Discont, 6 branches; Bank Hapoalim, 2 branches; and Barcklays Bank, 1 branch (ESCWA 1987).

They remained alone until 1981, when the Israeli High Court of Justice allowed the Bank of Palestine to reopen its closed branches in Gaza. Israeli banks were unable to attract the Palestinian deposits, so they were lacking funds, which made them dependent on government money collected from the taxes imposed on the Palestinians. Their roles were limited on money transfer and on paying checks to Palestinians who received their salaries in Israeli Shekel. Israeli banks were unable to provide a financial intermediary function, as very few customers agreed to deposit their money with them, and their loan portfolio was less than 8% of their assets. Most of their facilities were overdraft granted to merchants who had business with Israeli partners. Banks also were facilitating the trade of Palestinian merchants who needed to open letters of credit or letters of guarantees to import from Israel. Despite this, these facilities were profitable to those banks, as they were charging three times the fees banks charge in neighboring countries; but due to the lack of business very few could make profits and sometimes losses caused many of them to close their branches. In 1987, due to the Intifada, all of these banks were closed (ESCWA 1987).

There were no banks in Palestine until 1994, except one branch of Cairo-Amman Bank, which was reopened in 1986 in addition to the Bank of Palestine in Gaza. After the Oslo agreement in 1993, the Wadi Araba Agreement between Jordan and Israel and the Paris Accord in 1994, Israeli authorities allowed Jordanian banks to reopen their branches closed in 1967. They also allowed the Palestinians to establish the Palestine Monetary Authority in 1995 to overview banks and to give licenses to the newly established banks (PMA 2012).

Since 1995, the PMA has issued several laws and regulations. The most important are the Banking Law, the PMA law and the Money Changers Law. Recently the PMA drafted a Central Bank Law which is awaiting a Presidential decree. The new law is expected to transform the PMA into a fully-fledged central bank which will have the authority to issue the national currency whenever the required conditions are met (PMA 2012).

Currently three currencies are circulated in Palestine: Israeli shekel, US dollar, and Jordanian dinar. Since its establishment, the PMA has issued several licenses to new banks and allowed the banks to open new branches, which made the number of banks to increase from 2 in 1994 to 17 by the end of 2012, with over 226 branches and offices. The following table shows the distribution of the banks between local and foreign, and the number of branches in 2012.

Table 1.1: Banks and Branches in Palestine as of end 2012

Banks and Branches	Number of Banks	Number of Branches
Local Banks	7	118
Foreign Banks:	10	108
• Jordanian	8	101
• Egyptian	1	6
• British	1	1
Total	17	226

Source: Palestine Monetary Authority, Annual Report 2012.

1.2 The Goal of the Thesis

The goal of this thesis is to evaluate the profitability measurements for 7 commercial Palestinian banks and it will do that on an analysis of the banks for the period 2005-2011. The Palestinian banks profitability will be done by evaluating the two main parts of ratios, the first one is the bank specific ratios which are capital adequacy ratio, asset quality ratio, management efficiency ratio, and liquidity ratio, and the second is the macroeconomic determinants (inflation and interest rate).

The bank profitability will be measured by the dependent variables like return on assets (ROA) and return on equity (ROE). Additionally, according to the last researches it is essential to check the effects of the squeezes on Palestine banking sector as well and here in the study there are numerous amount of previous researches that have also been resulted in the same scope like the study of Dietrich and Wanzenried (2009), which investigated the profitability of 453 commercial banks in Swiss during period of time from 1999 to 2006. Ramllal (2009) investigated the profitability measurements of Taiwanese banks by depending on industry specific, bank specific and macroeconomic measurements during a period from 2002 to 2007.

1.3 The Study Findings

The study is done for 7 commercial banks in Palestine based on their asset size covering a period from 2005 until 2011.The study evaluates how the banks specific factors and the macroeconomic factors (interest rate and inflation rate) affect the financial performance in Palestinian banks. Panel data is be used to examine if there is any statistical significant effect or not in regard to the independent variables and bank profitability ratios, such as return on assets, asset quality, return on equity, capital adequacy ratio, liquidity, and management efficiency.

1.4 The Framework of the Research

The research is organized as the following: Part 1 is about the introduction of the research, Part 2 focuses on the economy and some banking factors in Palestine, Part 3 focuses on literature review depending on the previous studies, Part 4 discusses the methodology and research data, Part 5 brings out the empirical results and discussions of the research and finally Part 6 focuses on the conclusion and recommendations.

Chapter 2

THE ECONOMY AND BANKING FACTORS IN PALESTINE

2.1 Introduction

Generally, Palestine is a country that has a poor economy as a result of inattention because it was streaked over the time by Israel. In addition to that, the Palestinian economic growth has been slowly because of the functional war that has existed with Israel. Palestine has few resources and there is no industry. So, putting the country onto a strong footing is going to be a major challenge. Nowadays, the country is almost depending on foreign aid to keep her economy going on. Therefore, this tension that has existed over the last years does not seem to bring a good future.

Actually, the economy of Palestine refers to the economy of the Palestinian territories that includes East Jerusalem, Gaza Strip and West Bank.

However, Palestine economy starts to have economic infrastructure. According to the last few years, the Palestinian industry has grown which has corporate in the economy improvement in Palestine.

Agriculture is the major sector to the findings of the Palestinian economy in addition to some small manufactures in the Palestinian economy. West Bank is the highest

standard economic area in Palestine when compared to East Jerusalem and Gaza Strip (Central Bank of Palestine, 2013).

As it is discussed in Chapter 1, the Palestinian economy has depended on the Israeli procedures for years. Also Palestine has other dynamic markets like Jordan and the major exports of Palestine are sent to Israel and Jordan.

PALTRADE or the Palestine Trade Center always aimed to improve the trade of Palestine and encourage a dynamic business and develop the dealings of trade through the competence construction (Central Bank of Palestine, 2013).

Palestine is depending on three currencies which are Israeli shekel, Jordanian dinar and US dollar (NIS, JOD and USD).

Any economy in the world is depending on the macroeconomic factors .Therefore, this part will present the factors regarding to the case of Palestine.

2.2 The Macroeconomic Variables:

The macroeconomic variables in this part are exchange rate, gross domestic product (GDP), deposit interest rate and inflation rate.

2.2.1 The Exchange Rates

Official exchange rate refers to the exchange rate calculated in the legally sanctioned exchange market. This rate can be measured by dividing the local currency units above the foreign currency. The value for exchange rate in Palestine was 3.903 as of 2012 (CIA World Factbook, 2013).

The table below presents the exchange rate between the Palestinian (NIS) and US Dollar for the period 2007-2012.

Table 2.1: The Exchange Rate between Palestinian (NIS) and US Dollar (2007-2012)

Years	2007	2008	2009	2010	2011	2012
Exchange Rate	4.11	3.588	3.932	3.73	3.578	3.903

Source: CIA World Factbook, Exchange rates of Palestine, 2013

2.2.2 The GDP of Palestine Economy

Through the period 1968-1980, The GDP (Gross Domestic Product) of Palestine economy rose up by 7% but after that period it slowed down. During the 1994 Paris Economic Protocol in Gaza Strip and West Bank the economic situations deteriorated. Through the period 1992-1996, the GDP declined by 36.1% due to the population growth and falling incomes, as well as the corruption in the ruling of Palestine Authority. However, in late 1999 when Israel permitted safe passage between the Gaza Strip and West Bank, the economic activity improved. In 2006, GDP of Palestine declined but in the years 2007 and 2008 the Palestinian Territories witnessed a real increase in this ratio (CIA World Factbook, 2013).

Table 2.2: GDP (composition between sectors) of Palestine Economy (2012)

Sector	2012
Agriculture	4.2 %
Industry	17.9 %
Services	77.9 %

Source: CIA World Factbook, GDP of Palestine economy, 2013

According to the tables that listed below it can be said that the growth percentage of the GDP has a big decrease in 2011 by 5.7% when compared to 2009, when decreased by 6.8%.

Table 2.3: GDP-purchasing power parity- of Palestine Economy (2008-2011)

Year	2008	2009	2010	2011
GDP (in billion $)	7.026	7.106	7.589	8.022

Source: CIA World Factbook, GDP-purchasing power of Palestine, 2013

Table 2.4: GDP- Real Growth Rate of Palestine Economy (2008-2011)

Year	2008	2009	2010	2011
GDP ($)	7%	7%	6.8%	5.7%

Source: CIA World Factbook, GDP-real growth rate of Palestine, 2013

2.2.3 The Inflation

Inflation is calculated by the consumer price index that reflects the annual percentage change in the cost over the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. Generally, the Laspeyres formula is used (International Monetary Fund, 2013).

The prices in Palestine are changing from time to time. Therefore, the inflation rate in Palestine has a prominent place in the business and economy. The statistical report of this study that related to the inflation in Palestine can prove these percentages of inflation. In the table that is provided below it can be seen that the inflation rate was reported as 3.88 percent in 2006, and then it decreased in 2007 by 1.83 % but it went back to increase by 9.89% in 2008. This change in the inflation rate was because of the Israel war on Gaza Strip in 2008 (International Monetary Fund, 2013).

Table 2.5: The Inflation Rate in Palestine (2005-2011)

Year	2005	2006	2007	2008	2009	2010	2011
Value	3.47	3.88	1.83	9.89	2.75	2.9	2.8

Source: Central bank of Palestine, inflation rate of Palestine, 2013.

2.2.4 The Interest rate

Any economy can be influenced by this factor. In this case Palestine does not have real rate of government, so the interest rate will be evaluated according to the deposit interest rate that plays the main role special in the Palestine banking sector. In the table below, the fluctuation in this factor can be seen (Central Bank of Palestine, 2013).

The table below shows that the value for the deposit interest rate in Palestine was 0.53 in 2011. Generally, during the last 10 years this factor has reached a maximum value in 2007 of 3.02 and a minimum value in 2010 of 0.29.

Table 2.6: Deposit Interest Rate in Palestine (2003-2011)

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Value	0.74	1.12	2.24	2.97	3.02	0.81	0.40	0.29	0.53

Source: Central bank of Palestine, deposit interest rate of Palestine, 2013.

2.3 The Economy of Palestine

2.3.1 The Agriculture Sector in Palestine

Agriculture is one of the leading sectors in Palestine economy (Central Bank of Palestine, 2013). This sector helps a large number of Palestinians to get the possibility of employment. However, the agriculture in Palestine is divided into the rain fed that forms the primary cultivated area of the total cultivated Palestinian land and the irrigated cultivation. Also, it is still the provider of the major necessities to the Palestinian people. The main fruit trees in Palestine are olive, grapevines, figs, citrus, and almonds. Grapevine is the second main fruit crops product in the West Bank of Palestine. The type of Palestinian agriculture is yearly and it contains fruits

and vegetables. Therefore, in Palestine there are more than 30 different vegetable crops are planted (Central Bank of Palestine, 2013).

2.3.2 The Industrial Production in Palestine

Industrial production in Palestine is reported by the Central Bureau of Statistics in Palestine. The industry in Palestine evaluates the outputs of the business in the industrial cycle of the economy such as mining, utilities, and manufacturing. From 2012 until 2013, it was averaged 7.2 % and after that it reached high of 18.3 % in August 2013 even its record was -6.9 % in March of 2012 (Central Bank of Palestine, 2013).

2.4 The Banking and Financial System

2.4.1 The Financial System

After the signing of Oslo Accord in 1993 and Paris Protocol in 1994, the formal Palestinian financial sector emerged. Paris Protocol gave Palestinians the authority to manage and control the monetary and financial affairs to develop the anticipated economic growth (World Bank group, 2013).

However, the Palestinian environment is difficult, but they have administered to anticipate the financial sector consist of the expected sub-sectors such as banks, housing finance, insurance companies, payments system, securities market companies, microfinance institutions and financial leasing companies.

The Palestinian Authority (PA) has established two main institutions to supervise and manage all the operations of the financial sector: the first one is the Palestinian Monetary Authority for the banking sector as well as micro finance institutions, payment system and money changers, and the second is the Capital Market Authority

for the non-banking system, pension funds, insurance companies, financial leasing, and mortgage finance companies.

The establishment of this financial sector and those subsectors is unpredictable because the Palestinian monetary power remains limited since there is no national currency until now in Palestine. (World Bank group, 2013)

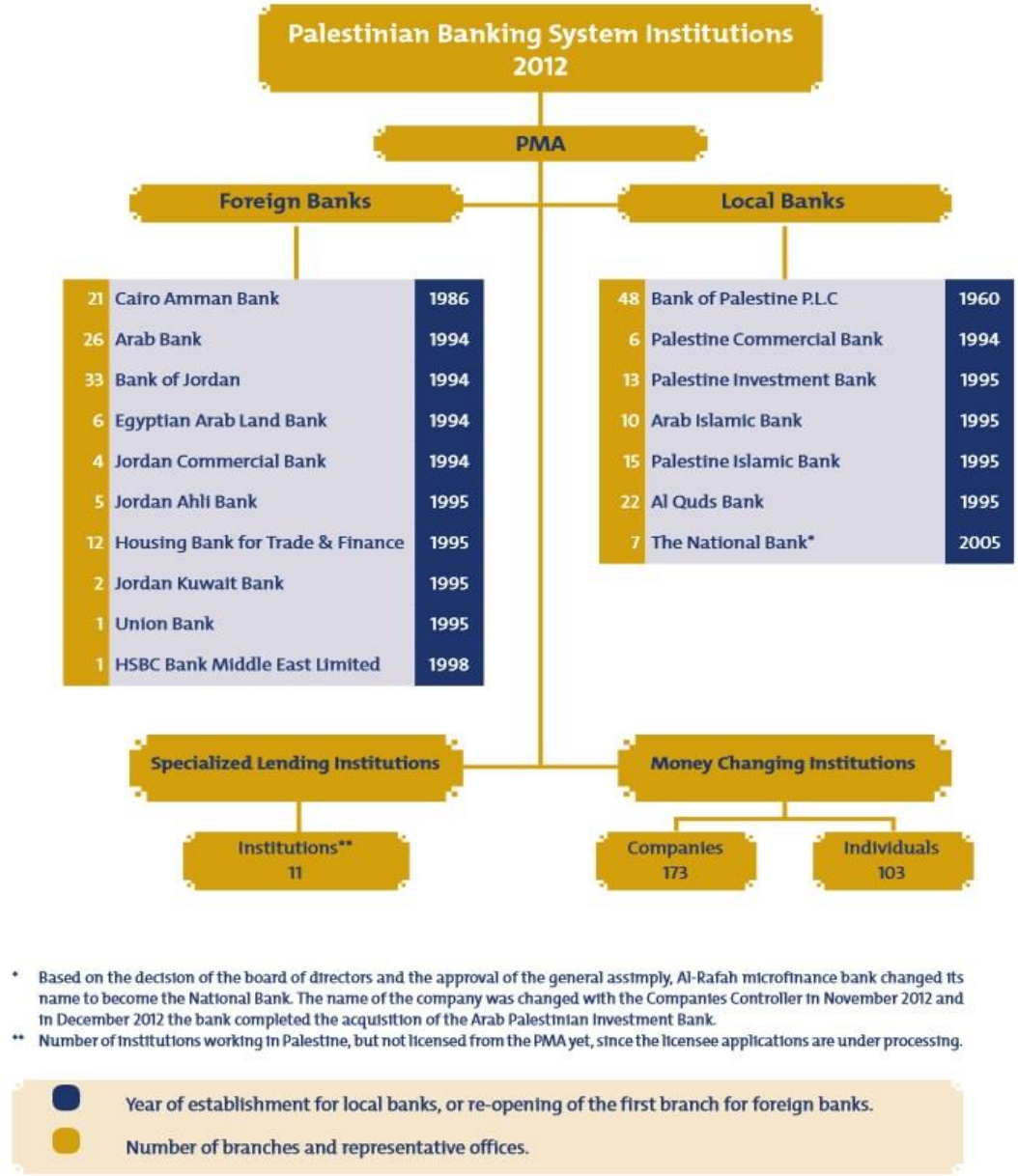
2.4.1 The Banking of Palestine

The Palestinian banking system dominates the financial sector. The vulnerable banking system stilled its dependence on the system banks of Jordan and also the Israeli point of view.

Palestinian banks have a limited economical role because of the political instability and the depressed economic activity and these banks also reflects various structural crises like the shortage of suitable collateral and the uncertainty of the output in debt collection.

Palestine Monetary Authority takes into considerations many steps to improve the stability of the banking system. PMA worked and still working to develop the capital requirements, payments system, credit bureau and the rules on secured credit in the banking system of Palestine.

At the figure below (2-7), the Palestinian banking system institutions as designed by Palestine Monetary Authority in 2012 can be seen.



Source: Palestine Monetary Authority, 2012 Annual Report.

2.5 The Foreign Trade in Palestine

2.5.1 Exports

The Palestinian economy has lack resources, so their exports are too little. In 2012, the export of goods was US$ 575.5 Million and it increased by 11 percent when

compared to 2009. The main commodities and goods exported are stone, olives, fruit, vegetables and limestone (Palestinian Central Bureau of Statistics, 2012).

2.5.2 Imports

The Palestinian economy demands in huge size on the imports because they wanted to cover the deficit in the resources and problems that Israeli occupation faces them. In 2010, the import of goods was US$ 3,958.5 Million and it increased by 9.9 percent when compared to 2009. The main commodities and goods imported are food, consumer goods, and chemicals (Palestinian Central Bureau of Statistics, 2012).

2.6 The Tourism in Palestine

Tourism in Palestine faced too many political crises and wars. After the 1967 Arab-Israeli war, the tourist industry in Palestine collapsed. But after the Oslo Accords signed in 1994, it has recovered. After that it went back again to decline by 90 percent in the Second Intifada (2000-2006). In 2010, 4.6 million people visited Palestine including 2.2 million from abroad (Palestinian Central Bureau of Statistics, 2012).

Tourism in Palestine focuses on the historical and public sites in Jerusalem, Bethlehem, Jericho, and Gaza. In 2007 there were over 300,000 guests at Palestinian hotels, and half of them in Jerusalem.

Over the last 15 years, the value of the international tourism was fluctuated between $667 million in 2010 and $37 million in 2001 (Palestinian Central Bureau of Statistics, 2012).

2.7 The Government Budget in Palestine

The government budget of any country is a document plan that measures the public revenues and expenditure in any country. Through 2011, the revenues of Palestine was 2.1$ billion but the expenditure was around 3.2$ billion. In summary, the Palestinian government had a deficit by 16.6% of gross domestic product in this period (The World Factbook, 2013).

Chapter 3

THE LITERATURE REVIEW

Nowadays banks are playing a significant role in contribution to the growth of the economy. Various studies are found which focus on bank profitability either internal or external factors. Various researches employed various characteristics and the external variables of bank level data across countries. This research follows the previous research steps in evaluating the bank profitability in different studies that focused on different singled countries. These are as follow: Smadi (2010), Albertazzi and Gambacorta (2008), Alper and Anbar (2011), Anwar and Herwanay (2006), Aysan and Ceyhan (2007), Bader and Malawi (2007), Davydenko (2011), Dietrich and Wanzenried (2009), Lee and Hsieh (2012) and Ramllal (2009).

Different researchers have focused on the asset and liability management in the banking system (Tektas, and Gunay, 2005) explaining the asset and liability management in financial problems. Tektas and Gunay found that if any bank working on maximizing its profit and controlling the various risks that they face by decreasing them, so the bank's asset-liability management will be an efficient. Also their research showed how if the market perceptions changing, so it can create some crisis.

Multiple regression analysis and correlations (Tarawaneh, 2006) are used to investigate the financial performance of commercial banks of Oman. Medhat used

dependent variables like return on asset and interest income and other independent variables like asset management, bank size, and the operational efficiency. The findings showed that a positive strong correlation is founded between the operational efficiency and financial performance and also there is a moderate correlation between the bank size and ROA in his ANVOVA analysis.

Smadi (2010) evaluated how the bank specific and macroeconomic measurements in 23 Jordanian banks over the period (1995-2008) are interrelated. He found that the strong capital and profit should be indicated by higher risk index level of the banking system. Smadi showed also that during a high risk in 1997 and also the low economic performance, there will be low risk index of the sample.

Albertazzi and Gambacorta (2008) used the independent variables in their analysis such as the operating cost, non-interest income, net interest income, and provisions and profit before tax and dependent variable as banking profitability. They found that the independent variables affected the bank profitability to become decreased during the period 1990-2001.

Alper and Anbar (2011) evaluated the profitability to measure the bank–specific performance of 10 commercial banks through a time from 2002 to 2010 for the case of Turkey.

They found that the non interest income and the size of the bank have a positive influence on the profitability of the banks. It means any bank having the largest size, will have the highest profitability. He also found that the bank's profitability is affected negatively by the size of the credit portfolio. In other words, higher interest

rate has a direct influence on increasing the profitability and this result agrees with the statistical analysis for this syudy's case.

In the case of Indonesia, Anwar and Herwanay (2006) focused on Private Non-foreign Exchange banks and Provincial Government's banks during the period of 1993 to 2000. They used ROA and ROE as dependent variables to evaluate the profitability and they found that there is positive impact on the profitability from the CRTA and LIQ.

A study on bank performance in the Turkish banking sector is also been achieved by Aysan and Ceyhan (2007). They suggested that medium sized banks are more efficient than larger size banks .And they found a significant positive relationship between loan ratio and the performance had existed. Also return on equity does not have statistical significant relationship with any of the efficiency factors.

In the case of Jordan banks, Bader and Malawi (2007) investigated the influence of real interest rate in the Jordanian economy by depending on the co-integration analysis. They planned to explore the influence of the real interest rate on the investment in the country during 1990-2005. Bader and Malawi found out that there is a negative significant relationship between the real interest rate and the level of investment.

Davydenko (2011) investigated the bank profitability by implementing the internal and external variables during a period of 2005-2009 in Ukrainian banking system. They found that the Ukrainian banking system suffered on the loans quality and will not able to reconstruct the flow of money by depending on the increasing flow of

deposits. Also there is a negative effect on profitability from liquidity, credit risk, inflation, and foreign ownership. Also, he found in his study that there is a positive effect of capital, bank size, concentration rate, and exchange rate depreciation.

Dietrich and Wanzenried (2009) investigated the determinants like industry-specific, bank-specific and macroeconomic factors for 453 Swiss commercial Banks during the period 1999-2006. They found that there are significant differences in profitability between the industry-specific and macroeconomic factors that have significant positive effect on profitability and the Swiss Commercial Banks.

Lee and Hsieh (2012) investigated the bank specific and macroeconomic factors and how they affect the profitability of 42 countries during the period (1994 to 2008). They suggested that there was a positive relationship between the risk of profit and the capital of the bank. Also Lee and Hsieh concluded that they should develop the Asian countries banking system by supporting the investing banks by the financial efficiency.

In the case of Taiwan, Ramllal (2009) evaluated the profitability factors by depending on industry-specific and macroeconomics factors during the period (2002-2007). The researcher found that the bank capital has positive relationship with the profitability. And the reason behind that is having more capital and the banks can easily extend loans to customers.

Chapter 4

METHODOLOGY AND RESEARCH DATA

4.1 Data

This chapter presents the macroeconomic factors and methodology of Palestine banking sector until period 2005-2011. The data for 7 commercial banks in Palestine were collected according to the size of banks and the availability of the data to measure the macroeconomic factors that affect the profitability of the Palestine banks over the period of 2005-2011. E-views program will be used to make an analysis that offers a solution for econometrics analysis, simulation and forecasting and all ratios that included in the analysis were calculated by Microsoft excel.

4.2 The Variables

The variables consist of two categories as dependent variables which are Return on Asset (ROA) and Return on Equity (ROE) and the independent variables consisting of two groups as bank-specific Capital Adequacy (CA), Asset Quality (ASQ), Management Quality (EFF) and liquidity (LQ)) and as macroeconomic variables (Inflation rate and Real interest rate).

4.2.1 The Dependent Variables

Return on Asset (ROA):

The ROA is the ratio that used to see the efficiency of any management and her ability to use the total asset to collect more earnings. Return on assets tells what the company can do with what it has. In other words, it tells how much of earnings it can

derive from the total assets. It is a common measure used for comparing the performance of financial institutions (such as banks), because the majority of their assets will be recorded in financial statements at a value that is close to their actual market value. ROA is an indicator of how profitable a bank is before leverage (borrowing), compared with other banks and its competitors, so the return on asset is the total amount of net income over its total assets.

Return on Asset = Net Income/Total Assets.

Return on Equity (ROE)

The ROE is the ratio of quantity of the profit that can be earned for each one dollar invested in the stock of the firm. This factor is the company's net income over its shareholder equity.

A business that has a high return on equity is more likely to be the one that is capable of generating the cash internally. For the most part, the higher a company's return on equity the better it earns when compared to its industry.

Return on Equity = Net Income/Shareholder's Equity.

4.2.2 The Independent Variables:

Capital Adequacy:

Capital Adequacy is the ratio that is used to measure the ability of the financial institution assets to meet its financial obligation. This ratio can be calculated as the company's capital over its total asset.

Capital Adequacy: Capital /Total Asset.

Asset Quality:

Asset quality is the ratio that explains the left side of the balance sheet that is related to the loan performance of the bank. Although, the high loan will generate the high

risks of the bank, so this ratio is useful to measure the assets quality. This ratio can be calculated as the total loans of the company over its total assets.

Asset Quality: Total loans / Total assets.

Management Efficiency Ratios:

Management efficiency ratios are used to measure and show how the banks and financial institutions use their assets and liabilities. Also it's used to measure the receivable turnover, equity's quality and ability of the bank to repay the liability.

This ratio can be calculated as the interest income of the company over its interest expenses.

Management Efficiency: Interest income / Interest expenses.

Liquidity Ratios:

Liquidity ratios are used to measure the ability of the banks liquidity to cover short-term debts. We can calculate this ratio as the liquid asset of the company over its total assets.

Liquidity: Cash / Total assets.

Inflation Rate:

Inflation rate is one of the macroeconomic factors that affect the banking profitability and also it's indicating the change of price. This ratio can be calculated as the following formula:

Formula: $i = P1 - P0 / P0 * 100$

Interest Rate:

Interest rate is one of the macroeconomic factors that show the growth rate of purchasing power derived from an investment. Interest rate is used for to affect the banking profitability. In our case, Palestine does not have real rate of government, so

the interest rate will be evaluated according to the deposit interest rate that is paid by commercial or similar banks for demand.

4.3 The Methodology

In this section, the panel data will be used to evaluate the profitablilty of Palestine banks with the panel data anlysis.

To the test hypothesis, the regression analysis will be investigated to do the unit root test to investigare the data are non-stationary or stationary and also the panel data that determine the cross sectional data and time series data because it will be used to investigate the various years with the various banks. And also the unit root test will be used to evaluate the data is stationary or non-stationary which mean variance, mean, covariance of variables do change or not change with time.

In unit root test the null hypothesis will be the non-stationary and the alternative will be the stationary. In this study, it is found all the variables are stationary.

The panel of the regression equation in the econometric will be used is:

$$\mathbf{Y_{i,t} = \beta 0 + \beta X_{i,t} + \varepsilon t}$$

Where:

$Y_{i,t}$ is the dependent variable of the function

$\beta 0$ is the intercept of model

$X_{i,t}$ repesents the independent variables in the corresponding time (t)

εt represents error term

In this analysis the models are as follow:

Y= f (CARi,t, ASQi,t, EFFi,t, LQRi,t, INFi,t, IRi,t).

$ROA=\beta 0+\beta 1(CARi,t)+\beta 2(ASQi,t)+\beta 3(EFFi,t)+\beta 4(LQRi,t),t+ \beta 5(INFi,t) + \beta 6(IRi,t)+ \varepsilon t$.

$ROE=\beta 0+\beta 1(CARi,t)+\beta 2(ASQi,t)+\beta 3(EFFi,t)+\beta 4(LQRi,t)+ \beta 5(INFi,t)+ B6(IRi,t) + \varepsilon t$.

Chapter 5

RESULTS AND DISCUSSIONS

The regression analysis model will be investigated in this part. The researcher will check if all the variables are stationary or not. Firstly, the panel unit root will be tested to check the variables by considering the Levin, Lei & Chu (LLC) & Im Pesaran Shin (IPS) & Wu (PP) that will show the level of significant α (Alpha) 1%, 5%, and 10%. The alternative hypothesis (H1) cannot be rejected if the series are stationary and the null hypothesis (H0) can be rejected that means the series are stationary.

5.1 The Analysis of Correlation

Correlation analysis evaluates the strength of the linear significant relationship between the dependent variables and independent variables. As it was discussed previously in Chapter 4, there are dependent variables and independent variables. Now the relationship between each independent variable with the dependent variable will be discussed according to the results that obtained from the e-views program.

According to the table below it can be seen that the variables are negatively and positively correlated.

ROA has a positive significant correlation with CAR by 0.127 and that means if the return on asset increase, the capital adequacy will increase. On the other hand, ROE

has a negative significant correlation with CAR by -0.627 and that means when the return on equity increase, the capital adequacy will decrease in the Palestinian banks.

ROA has a positive significant correlation with ASQ by 0.189 and that means if the return on asset increase, the assets quality will increase. On the other hand, ROE has also a positive significant correlation with ASQ by 0.229 and that means when the return on equity increase, the asset quality will increase as a result in the Palestinian banks.

ROA has a negative significant correlation with EFF by -0.349 and that means if the return on asset increase, the management efficiency will decrease. On the other hand, ROE has also a negative significant correlation with EFF by -0.101 and that means when the return on equity increase, the management efficiency will decrease as a result in the Palestinian banks but it will be a lower decrease if the return on asset increases.

Return on asset has a negative significant correlation with LQR by -0.103 and that means if the return on asset increase, the liquidity ratio will decrease. On the other hand, ROE has a positive significant correlation with LQR by 0.017 and that means when the return on equity increase, the liquidity ratio will increase accordingly.

ROA has a negative significant correlation with LQR by -0.103 and that means if the return on asset increase, the liquidity ratio will decrease. On the other hand, ROE has a positive significant correlation with LQR by 0.017 and that means when the return on equity increase, the liquidity ratio will increase accordingly.

For the macroeconomic factors interest rate and inflation rate, it is found that ROA has a positive significant correlation with the interest rate by 0.367 and also a positive significant correlation with the inflation rate by 0.183. However, ROE has a lower positive significant correlation with the interest rate by 0.160 and also a lower positive significant correlation with the inflation rate by 0.129.

Finally, if the correlation between the independent variables is high and more than 50%, so multicollinearity problem will occur. According to the analysis, this problem wasn't found in the independent variables; therefore this part can be concluded as there is no multicollenarity problem between the independent variables of this research.

Table 5.1: Correlation of Dependent and Independent Variables

	LROA	LROE	LCAR	LASQ	LEFF	LLQR	LIR	LINF
LROA	1.000							
LROE	0.692	1.000						
LCAR	0.127	-0.627	1.000					
LASQ	0.189	0.229	-0.110	1.000				
LEFF	-0.349	-0.101	-0.236	-0.243	1.000			
LLQR	-0.103	0.017	-0.134	-0.472	0.339	1.000		
LIR	0.367	0.160	0.175	-0.100	-0.478	-0.244	1.000	
LINF	0.183	0.129	0.019	0.038	-0.146	0.001	-0.111	1.000

5.2 The Autocorrelation

Autocorrelation shows if there is any high correlation between the linear regression formula and the error term. If the correlation between the independent variables is high and Durbin Watson value (d) is lower than 1.50, so there will be autocorrelation problems in the data.

According to the results, it can be observed that the Durbin Watson value (d) was 2.01; higher than 1.50.

The coefficient of determination (r2), R-Squared is the proportion of the total variation in the dependent variable (ROA and ROE) that is explained or accounted for by the variation in the independent variable (CAR, ASQ, EFF, and LQR).

In the analysis, R-Squared is equal to 0.571212 in the simple regression result for LROA and it increased to 0.921331 in the simple regression result for LROE.

It can be said that 57.1 percent of the variation in the ROA accounted for the variation in the independent variable (CAR, ASQ, EFF, and LQR). And 92.1 percent of the variation in the ROE explained, or accounted for by the variation in the independent variable (CAR, ASQ, EFF, and LQR).

In the tables 5.2 and 5.3 the results of simple regression for LROA and LROE can be seen respectively and (L) means the logarithm and the logarithm was used because a better behaved distribution for the independent variables was aimed and also to reduce the effect of outliers.

Table 5.2: Results of Simple Regression for LROA

Variable	Coefficients	STD.ERROR	T- Statistic	Probability
C	-1.387116	0.598005	-2.319573	0.0257
LCAR	0.086919	0.040202	2.162071	0.0368
LASQ	0.028819	0.009927	2.903113	0.0061
LEFF	0.134471	0.087650	1.534174	0.1331
LLQR	0.208811	0.020347	10.26230	0.0000
LIR	0.267850	0.045450	5.893320	0.0000
LINF	0.361662	0.110054	3.286226	0.0022
R-Squared	0.571212			
F-Statistics	8.659012			0.000005
Durbin-Watson	**2.014070**			

Table 5.3: Results of Simple Regression for LROE

Variable	Coefficients	STD.ERROR	T- Statistic	Probability
C	-1.389623	0.598229	-2.322894	0.0255
LCAR	-0.913250	0.040116	-22.76534	0.0000
LASQ	0.028821	0.009926	2.903502	0.0060
LEFF	0.135535	0.087626	1.546743	0.1300
LLQR	0.208978	0.020314	10.28757	0.0000
LIR	0.267656	0.045464	5.887140	0.0000
LINF	0.361460	0.110031	3.285083	0.0022
R-Squared	0.921331			
F-Statistics	76.12488			0.000000
Durbin-Watson	**2.014915**			

5.3 The Model of Simple Regression

According to the study it is found that the data are stationary and that means the average, variance and covariance are moving in the same direction. Therefore, the formula of the simple regression will be tested by using the E-views software in according to find the statistically significant relationship between the variables (dependent and independent).

5.4 The Variables Test

5.4.1 The Hypothesis

The Intercept is estimated value of Y variable where the regression line crosses the Y- axis when X is zero. According to the study the null hypothesis and alternative hypothesis will be suggested to check if the intercept of the formula is statistically significant effect or not on the study.

H0: Estimated Intercept (B_0) is not statistically significant (null hypothesis)

H1: Estimated Intercept (B_0) is statistically significant (Alternative hypothesis)

After the analysis was done and according to the results that were found, the probability value of the intercept (β0) equals 0.0257, by using the P- value approach the null hypothesis was rejected when the level of significant equals to 5% and it means the estimated intercept is statistically significant with 95% level of confidence.

5.4.2 Macroeconomic Measurements

Interest Rate (IR)

In any analysis, if the investor wants to measure the impact on the profitability ratio according to different years he will use the interest rate and according to this study it was found that the probability value of the coefficient IR equals 0.0000. By using the P- value approach the null hypothesis will be rejected when the level of significant equals to 1% and it means the coefficient IR is statistically significant with 99% level of confidence. This result agrees with the statistical result of Alper and Anbar (2011) study for the case of Turkey that was explained previously in Chapter 3.

Inflation Rate (INF)

According to the study, it was found that the probability value of the coefficient INF equals 0.0022. By using the P- value approach the null hypothesis will be rejected when level of significant equals to 1% and it means the coefficient INF is statistically significant with 99% level of confidence

5.4.3 The Bank-Specific Measurements

Asset Quality (ASQ)

Asset quality ratio was used to discuss the balance sheet left side that related to the loan performance of the financial institution. Since t- computed value was greater than t- critical value at alpha = 0.01 level, therefore, H_0 was rejected and H_1 was accepted that the estimated coefficient of ASQ was statistically significant at 99 percent confidence interval. The same conclusion was reached by p-value approach where t-prob value (p=0.0060) was less than alpha =0.01 level.

Liquidity Ratio (LQ)

Liquidity ratio was used to evaluate if the liquidity of the banks are able cover the short-term debts or not. Since t- computed value is greater than t- critical value at alpha = 0.01 level, therefore, H_0 was rejected and H_1 was accepted that the estimated coefficient of LQ is statistically significant at 99 percent confidence interval. The same conclusion was reached by p-value approach where t-prob value (p=0.0000) is less than alpha =0.01 level.

Management Efficiency (EFF)

Management efficiency ratios were used to measure and discuss how the banks and financial institutions use their assets and liabilities. Since t- computed value was less than t- critical value at alpha = 0.10 level, therefore, H_0 could not be rejected and H_1 was rejected that the estimated coefficient of EFF was not statistically significant.

The researcher reached the same conclusion by p-value approach where t-prob value (p=0.1331) was greater than alpha =0.10 level.

Capital Adequacy (CA)

Capital Adequacy was used to check if the assets of the financial institution or the bank are able to cover the financial obligation. Since t- computed value was greater than t- critical value at alpha = 0.05 level, therefore, the researcher rejected H_0 and accepted H_1 that the estimated coefficient of CA is statistically significant at 95 percent confidence interval. We reach the same conclusion by p-value approach where t-prob value (p=0.0368) was less than alpha =0.05 level.

Chapter 6

CONCLUSION AND RECOMMENDATIONS

The economy's system is closely connected to the banking system. In other words, one of the factors behind the growth of the economy is a well-banking system. So it was found that the Palestinian banks determinants of profitability can be done by an analysis of 7 commercial banks for the period 2005-2011.

Palestine banking system is on the stand of improvement. So, it is essentially to control and improve this banking sector. In this regard, the researcher decided to consider this theme.

Following the results that were obtained from the analysis and in the light of the interpretated results, one of the surprising results was that the capital adequacy ratio has a positive impact with the return on asset and that means the profitability should be accompanied with the adequacy of banks capital. On the other hand, there is negative relationship between the capital adequacy and the return on equity. For that the researcher recommends that the Palestinian banks should increase their reserve accounts to increase their capital adequacy ratio for the coming period to enhance the safety of their banking systems and also to affect the return on equity by increasing positively, because banks interested in high return for shareholders and they considered as profit making organizations. So, they will optimize their capital levels to earn a higher return on equity.

Also, the study concluded that there is a positive relationship between the liquidity ratio and the dependent variables (return on assets and return on equity) and that shows that Palestinian banks are able to cover the short term debts from the good liquidity that it has and this also shows that the banking sector will be able to continue as a going concern in the future.

According to the analysis results, it was found that there is also a significant positive relationship between the management efficiency ratio and the dependent variables (return on equity and return on assets) and that means the Palestinian banks managements have been successful in managing their assets and liabilities and this result encourages the Palestinian investors to invest more in the coming years even they know that Palestine banking sector and economy are under development.

In addition, the researcher found out that the Palestinian banking sector is able to evaluate the assets to measure the credit risk that associated with it. It is understood and found that there is a significant positive relationship between the asset quality ratio and the dependent variables (return on asset and return on equity) and the reason behind that is the bank managers are interested in the quality of their loans because loans provide earnings for the bank.

One can understand the positive inflation rate might be good for the Palestinian economy under all circumstances because Palestine depends on three currencies, the Jordanian dinar, US dollar and Israeli shekel (JOD, USD and NIS).

A positive interest rate in this situation means that the nominal interest rate is close to zero and it makes the interest rate to be as high as the rate of deflation.

In short, the research concludes that the macroeconomic factors have more impact to the profitability of banks in Palestine as compared with the bank specific determinants and the reason behind that is the special structure of each bank.

In further work, researchers will try to increase the number of independent variables such as the size of the banks and the researcher will also try to increase the number of years to get more accurate results.

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APPENDICES

Appendix1: Panel Unit Root Tests for Palestinian Banks

Variables		Levels LLC	IPS	M-W
LROE	τ_T	-6.49*	.069	33.68*
	τ_μ	-5.84*	-1.03	33.91*
	τ	-4.19*	-	44.99*
LROA	τ_T	-9.58*	-0.340	38.48*
	τ_μ	-8.25*	-3.01*	44.14*
	τ	-2.15	-	28.28
LCAR	τ_T	-9.59*	-0.547	38.56*
	τ_μ	-5.47*	-1.634**	37.34*
	τ	-0.313	-	9.34
LLQR	τ_T	-6.117*	-0.1434	22.04***
	τ_μ	-3.84*	-1.02	28.68*
	τ	-16.30*	-	20.68
LASQ	τ_T	-8.13*	-0.0894	24.23**
	τ_μ	-1.57***	0.6591	10.66
	τ	-2.369***	-	31.29*
LEFF	τ_T	-5.86*	-0.378	41.10*
	τ_μ	-3.25*	-1.73**	33.17*
	τ	-0.0612	-	12.35
LINF	τ_T	-8.65*	-0.7026	51.88*
	τ_μ	-5.41*	-3.32*	52.78*
	τ	-1.89**	-	26.89**
LIR	τ_T	-15.16*	-2.13**	87.62*
	τ_μ	-14.75*	-6.37*	87.41*
	τ	-14.82*	-	107.4*

Note: ROE represents return on equity; CAR is a capital adequacy; EFF is a management quality; LQR **Notes**: ROE represents the liquidity. τ_T represents the most general model with a drift and trend; τ_μ is the model with a drift and without trend;τ is the most restricted model without a drift and trend. Optimum lag lengths are selected based on Schwartz Criterion. *, **, *** denote rejection of the null hypothesis at the 1%, 5%, 10% levels. Tests for unit roots have been carried out in E-VIEWS 6.0.

Appendix 2: Panel Unit Root Tests for Palestinian Banks

Variables		1st differences LLC	IPS	M-W
LROE	τ_T	-4.39*	0.538	13.59
	τ_μ	-5.91*	-1.204	34.51*
	τ	-6.801*	-	52.66*
LROA	τ_T	-6.39*	0.006	27.53*
	τ_μ	-7.65*	-2.104**	37.26*
	τ	-9.047*	-	76.42*
LCAR	τ_T	-12.24	-1.215	62.61*
	τ_μ	-9.56*	-3.21*	53.51*
	τ	-9.08*	-	74.47*
LLQR	τ_T	-33.012*	-4.71*	48.45*
	τ_μ	-11.55*	-3.37*	42.26*
	τ	-7.97*	-	65.64*
LASQ	τ_T	14.42*	-1.028	47.03*
	τ_μ	-12.06	-3.017*	43.26*
	τ	-7.28*	-	49.61*
LEFF	τ_T	-5.06*	0.368	30.93*
	τ_μ	-4.502*	-1.767	30.90***
	τ	-6.38*	-	66.13*
LINF	τ_T	-8.041*	-0.942	59.58*
	τ_μ	-10.02*	-4.74*	84.08*
	τ	14.59*	-	130.67*
LIR	τ_T	-18.34*	-1.97	87.62*
	τ_μ	-14.75*	-6.37*	83.07*
	τ	-21.22*	-	128.95*

Note: ROE represents return on equity; CAR is a capital adequacy; EFF is a management quality; LQR represents the liquidity. τ_T represents the most general model with a drift and trend; τ_μ is the model with a drift and without trend;τ is the most restricted model without a drift and trend. Optimum lag lengths are selected based on Schwartz Criterion. *, **, *** denote rejection of the null hypothesis at the 1%, 5%, 10% levels. Tests for unit roots have been carried out in E-VIEWS 6.0.

Appendix 3: Simple Regression Results for ROE

Dependent Variable: LROE
Method: Panel EGLS (Period SUR)
Date: 12/10/13 Time: 21:12
Sample: 2005 2011
Periods included: 7
Cross-sections included: 7
Total panel (unbalanced) observations: 46
Linear estimation after one-step weighting matrix
White period standard errors & covariance (no d.f. correction)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.389623	0.598229	-2.322894	0.0255
LCAR	-0.913250	0.040116	-22.76534	0.0000
LASQ	0.028821	0.009926	2.903502	0.0060
LEFF	0.135535	0.087626	1.546743	0.1300
LLQR	0.208978	0.020314	10.28757	0.0000
LIR	0.267656	0.045464	5.887140	0.0000
LINF	0.361460	0.110031	3.285083	0.0022

Weighted Statistics			
R-squared	0.921331	Mean dependent var	-2.181822
Adjusted R-squared	0.909228	S.D. dependent var	5.392973
S.E. of regression	0.831023	Sum squared resid	26.93338
F-statistic	76.12488	Durbin-Watson stat	**2.014915**
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.480311	Mean dependent var	-2.529507
Sum squared resid	17.61176	Durbin-Watson stat	0.970266

Appendix 4: Simple Regression Results for ROA

Dependent Variable: LROA
Method: Panel EGLS (Period SUR)
Date: 12/10/13 Time: 21:10
Sample: 2005 2011
Periods included: 7
Cross-sections included: 7
Total panel (unbalanced) observations: 46
Linear estimation after one-step weighting matrix
White period standard errors & covariance (no d.f. correction)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.387116	0.598005	-2.319573	0.0257
LCAR	0.086919	0.040202	2.162071	0.0368
LASQ	0.028819	0.009927	2.903113	0.0061
LEFF	0.134471	0.087650	1.534174	0.1331
LLQR	0.208811	0.020347	10.26230	0.0000
LIR	0.267850	0.045450	5.893320	0.0000
LINF	0.361662	0.110054	3.286226	0.0022

Weighted Statistics

R-squared	0.571212	Mean dependent var	-3.802245
Adjusted R-squared	0.505245	S.D. dependent var	8.318261
S.E. of regression	0.831325	Sum squared resid	26.95297
F-statistic	8.659012	Durbin-Watson stat	**2.014070**
Prob (F-statistic)	0.000005		

Unweighted Statistics

R-squared	0.157817	Mean dependent var	-4.333463
Sum squared resid	17.58328	Durbin-Watson stat	0.970544