CREDIT RISK, MACROECONOMIC AND BANK SPECIFIC FACTORS IN JORDANIAN BANKS

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ABSTRACT

High volume of risks facing banks is one of the most important reasons behind their failure. The exposure of banks to risks measured by risk index could indicate the extent of the vulnerability of banks to adverse performance. This thesis applies risk index to measure risk exposure of 23 Jordanian banks during 1995 to 2008. Findings reveal that the average risk index of banks is 17.5 units in comparison to the mean industry index of 17.9 units. The lower value for risk index for the banks in the sample in comparison to the industry mean reflects the higher risk borne by some of the banks in the sample. Further investigation provides evidence that a bank with a higher risk index level has strong capital and profit relative to the volatility of their returns. Among the banks, Arab Jordan Investment Bank has the highest index of 33.3 units, while Jordan Investment and Finance Bank has the lowest index of 6.8 units. For industry risk index, the highest value for the risk index is 35 units (in 2006), while the lowest of 11 units in 1997. The low risk index showed high risks faced by the Jordanian banks in 1997. This is due to low economic performance where GDP decline from 6.2 percent in 1995 to 2.1 percent and 3.3 percent in 1996 and 1997 respectively. Most banks achieved low net income, which affect negatively their profitability. In addition to measure risk index, this thesis investigates the relationship between risk index and banks size. Results show that there exist significant differences between the mean of risk index between large, medium and small banks. Large banks have a significant mean difference among group of banks. Moreover, a positive and significant relationship was found between risk index and banks' size, which suggest that the larger the banks, the safer they are. This thesis also measures market risk of banks during the test period using single index market model and Dimson's procedure with 2 lag and 1 lead to correct non-synchronous trading effect. The results show that the average market risk (beta) measure of Jordanian listed banks over 1995-2008 is 0.461, which indicates a very low market risk in terms of price volatility. Among the banks, Arab Bank has the highest average beta of 0.766, and Ahli Bank has the lowest market risk of 0.327. An investigation of the trend of average market risk during a study period reveal that the changes in market risk are mainly due to a fluctuation of financial market and movements of the prevailing interest rate. Finally, this thesis investigates the determining variables of credit risk among the sample banks. According to the Capital Assets Pricing theory, risks are attributable by external factors and internal factors. Hence, twelve variables comprising five macroeconomic variables (aggregate economic activity, inflation, money supply, interest rate and market risk), and seven bank specific variables (lag non performing loans, provision of loan losses, loan growth, equity capital ratio, loan concentration in risky sectors, net interest margin and size) are applied as independent variables. The dependent variable is credit risk, which is measured by non performing loans to total loans ratio. Four theories which are financial intermediation theory, agency theory, diversification theory and capital assets theory formed the theoretical framework in this study. OLS regression model was used to investigate the determinants of credit risk in the Jordanian banks. The results show that all the macroeconomic variables together explain 51.9 percent of the variation of credit risk. From the five macroeconomic variables, three were found statistically significant. They are GDP, inflation and market interest rate.

Our study shows that bank specific variables were found to affect credit risk more than the external variables. All bank specific variables explain 73 percent variation of credit risk. This indicates a strong association between bank specific variables and banks credit risk exposure. Five variables which are non performing loan, loan growth, loan concentration in risky sectors and banks size were found as significant determinants of credit risk at the Jordanian banks. On a pool basis, all macroeconomic variables and bank specific variables together explain 72 percent of the banks' credit risk. For the whole model, net interest margin was found significant and negatively related to credit risk. In conclusion, this thesis assesses the risk exposure and for the first time, empirically determines the variables affecting credit risk of the Jordanian banks. As credit risk is the main risk that could lead to bank failure, the results imply that the management of the Jordanian banks should pay great attention to the significant factors, in particular their non performing loans and loan growth. The positive and significant relationship between banks' risk index and their size supports the Basel Accord standards, where the greater the bank risks, the higher should be the size of their capital base in order to ensure that the risks adequately be covered.

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TABLE OF CONTENTS

CHAPTER 3: LITERATURE REVIEW

CHAPTER 4: RESEARCH METHODOLOGY

CHAPTER 5 : RESULTS AND DISCUSSION

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

BACKGROUND OF THE STUDY

1.1 Introduction

Financial intermediaries play a positive role in the development of the economy as a whole. For all countries especially developing countries, banking system is the main component of the financial system. Banks in developing countries are the main source of credit within the domestic markets because a capital market is weak and limited, and it does not have the ability to provide adequate sources of financing for investors (Saci, Giorgioni, and Holden, 2009; and Tang, 2006). The importance of banking system appears through intermediary role between the two sides of the supply and demand of funds. In addition, banking system provides a mechanical system to group public savings and convert them into investments. Financial system also attracts foreign investment, in which foreign investors look for a banking system that is able to meet their needs either by giving loans or providing a foreign relations and good investments climate (Anyiwe, 2003; and Beck and Levine, 2004) .

Since the eighties, a change in the structure of the global economy started as a result of the globalization of the economy and financial liberalization. These conditions impact heavily on banking systems in all countries of the world, causing them to make fundamental changes covering various aspects in order to face the new challenges. Banks are exposed to the challenges of competition from

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