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Soundness of Jordanian Banks - Camel Approach

Thair A. Kaddumi

Finance and Banking Science Department, Applied Science Private University, Jordan, Amman, Jordan, E-mail: thair_lion@asu.edu.jo

Abstract: Banks that form the major component of any financial sector are considered as the back-bone of the country economy, so it's necessary to preserve the financial health of country's banking system, and due to industry globalization its very essential for all companies including banks to be in business (Mat-Nor, at el. 2006). Thus the evaluation of the banking system financial soundness is essential to investigate into the soundness of the economic activities. In this paper we are going to adopt the CAMEL system analysis to evaluate the financial soundness of Jordanian commercial banks. The study sample will consist of all banks listed in Amman Stock Exchange –ASE (15 Banks). The finding indicates that all Jordanian banks performance is within the acceptable norms, despite of the difference in indicator values of CAMEL approach, as the statistical analysis pointed out that there is no significant difference in the performance of Jordanian banks.

Key words: CAMEL, Banking Sector, Indicators, Performance, Ranking.

INTRODUCTION

Banking system plays a major role as an indicator to the economy performance, as it's indispensible for the prosperity of a vibrant and sound economy (Levine & Zervos, 1998). The banking sector is working as the life road of the country's economy, as economy's health is closely related to the financial soundness of the banking sector.

In The 1970s the FDIC, Federal Reserve and the OCC first introduced the CAMEL testing technique in order to evaluate the bank soundness from different aspects – Capital, Assets, Management, Earnings and Liquidity. In 1996 the Federal Reserve and OCC replaced CAMEL with CAMELS were the S stand for sensitivity (bank exposure to market risk). It was introduced to evaluate the financial and operational performance indicators of banks and this due to the significant importance of banks to the economy. CAMEL it's an assessment tool that may help banks management in taking further steps in order to continue its operation and sustainability. Simply speaking from accounting point of view bank's performance refers to its ability to generate sustainable profit (Wild *et al.*, 2009). A sound and profitable banking sector is

essential in order to absorb upsets and financial shocks. Bodla & Verma (2006) Stressed on the main objective of Camel rating model is necessary to enhance competition between banks that will benefit both customers as well as banks themselves.

THEORETICAL FRAME WORK AND LITERATURE PREVIEW

Financial ratios is considered as a Traditional performance measurement approach (Eljelly & Elobeed, 2013), while CAMEL is one of the modern approaches for financial performance measurement (Alani et al., 2013). CAMEL is a financial health and performance measurement tool (Fitch 1990). CAMEL rating system is an evaluation model based on five criterions – Capital Adequacy, Assets Quality, Management Efficiency, Earnings Quality and liquidly adequacy. Each of the five parameters of performance is rated on a scale ranges from 1 to 5, ranging from basically strong banks to basically weak banks. Siva &Natarajan (2011) concluded that CAMEL techniques help conventional banks to evaluate its financial health and warn banks to adopt preventive actions for its sustainability. Bodla&Verma (2006) stressed that the prime objective of CAMEL rating model is to direct banking institutions to catch-up the competitive performance of other banks.

The disorder of the financial markets especially banks during 2007-2008 have revoked the usefulness of a number of paradigms. Andrew G Haldane (2009) in all economical and historical standards the recent financial crisis was the worst in mankind history as despite many large rating agencies have assigned good rating to financial institutions regarding risk level, but still they faced the probability of bankruptcy and some got government intervention, this gave rise to the credibility of large rating agencies(Nicolae & Maria-Daciana. 2014). Thus an early warning tools is eminent as an attempt to reduce risk that may have an adverse effect on banking system (Mens and Zouar, 2010).

Banks play very significant role in the country's economy and economy survival depends mainly on the financial position of the banking system as well as the financial system at large. Banking system is considered as an assisting tool to the government to encourage and simulate the economy of any specific country (Faizulayev, 2011). Many researchers have conducted several studies related to banks performance measurement using CAMEL systemHellman TF, KC Murdock and JE Stiglitz, 2000. Thus the efficiency of any rating system is measured by its ability to predict any potential risks or problems depending on the current financial information. CAMEL rating system is one of the main tools that is adopted by central banks as a warning system and supervisory tool. Also many central banks do not use CAMEL rating system as supervisory tool, for example FED bank uses SEER model, FDIC adopt SCOR model and EU countries uses different systems, as in Germany they use BAKIS model, France SAABA model while Italy uses PATROL model (Trenca I., Bolocan D, 2011, page 96-97). In addition (Ingo, Fender et. al. 2001) focused on the depth of the financial crisis and questioned whether stress testing practices was sufficient before the financial crisis and whether it was adequate to deal with the fast changing circumstances. Dash & Das (2009) have studied the performance of publicsector banks comparing to private foreign banks using CAMELS Model. Their findings pointed outthose Private foreign banks have surpassed over public sector banks. The two major factors of CAMEL Model that contributed to the better performance of the private foreign banks were profitability and Management efficiency. Di Patti & Hardy (2005) have Analyzed the Pakistani bank and detected that foreign banks operating in Pakistan are more profit efficient, then private banks followed by public banks but they are similar in term of average cost efficiency. In another

study by (Burki and Niazi, 2010) they demonstrated also that foreign banks showed excellent cost efficiency than private and public banks.

Nicolae & Maria-Daciana (2014) Concluded that CAMEL rating system is an essential tool to be adopted in evaluating financial stability as well as in identifying early financial and economic shocks within the Romanian commercial banking system, as they pointed out in their study that credit institution listed in Bucharest security exchange market are vulnerable to bad loan quality, high currency risk and increase in insolvent debtors. Suresh &Bardastani (2016) demonstrated that in Bahrain Islamic banking system are more efficient and more profitable and better performance comparing to traditional retail banks, the study showed a significant deviation in the intra and inter performance of the traditional and Islamic banks under investigation. Kwan & Eisenbeis (1997) spotted that assets quality can be used as risk indicator for banking sector and that financial capitalization affects financial institutions operation.

A study by (Srinivasan & Saminathan, 2016; Kaur 2010) on Indian banks showed that public sector banks have been ranked on top comparing to private sector banks and foreign banks. Aftab at.el. (2015) in a study applied in Pakistan to test the difference in the performance of banks when they were in private ownership and when they were nationalized. The major findings of the study indicated that banks with private ownership their profitability is directly related to management and assets quality and negatively related to liquidity and capital adequacy, while when nationalized liquidity and assets quality became irrelevant, while the impact of management and capital adequacy remained unchanged. The same conclusion was indicated by (Sathy, 2005) on Indian banking industry.

BANKING SECTOR IN JORDAN

Banking sector is considered as one of the fastest growing sectors in Jordan especially in term of loans, deposit and profit. It is also one of the most mature and robust sectors in Jordan with a history dated back to 1948 when Arab Bank shifted its head quarter from Jerusalem to Amman / Jordan. The Jordanian financial system is playing a major role in financing various economic activities. According to the Jordanian Central Bank bulletin 2015 the banking sector contributes about 18.82% of GDP, moreover it's one of the biggest employer and possess the largest market capitalization in ASE (Table 1).

Table 1
Market Capitalization of the Jordanian Banking Sector (2011 – 2015) (JD)

Year	2015	2014	2013	2012	2011	
Market Capitalization	17,810,098,367	17,841,714,835	18,043,150,289	18,965,578,047	8,517,769,888	

Source: Jordanian Central Bank Bulletin (2011 – 2015).

The Jordanian banking system is unique in its nature - it is divided into two categories; the traditional banking system (commercial banks) and Islamic banking system. The Jordanian banking system consists of 25 banks, of which 15 publicly listed banks (2 Islamic banks and 13 Commercial banks). In 2015 the number of listed companies in Amman Stock Exchange – ASE reached 228 of which banks were only 15 listed banks. Nevertheless of this fact but banks 'total assets constitute the major portion of all listed companies total assets, as it constitutes 78.03% on averagewhich signifies the importance of the banking sector to the economy as whole (Table 2).

Table 2
Banks' total Assets to Market Total Assets (2005 – 2015): (JD)

Year	Market Total Assets	Banks Total Assets	% of Banks to Market
2015	71,277,846,985	54,600,231,585	76.60%
2014	69,480,721,716	52,938,354,453	76.19%
2013	66,030,668,483	49,754,654,527	75.35%
2012	62,917,566,442	47,354,552,114	75.26%
2011	62,204,511,756	50,516,447,117	81.21%
2010	60,220,037,434	48,477,966,019	80.50%
2009	58,809,225,282	46,142,487,538	78.46%
2008	55,829,782,640	43,358,577,615	77.66%
2007	50,793,248,214	40,044,429,384	78.84%
2006	44,133,150,470	34,819,032,775	78.90%
2005	38,663,804,940	30,681,845,191	79.36%
Average	58,214,596,760	45,335,325,302	78.03%

Source: Amman Stock Exchange Data-Base Library (2005 – 2015)

All listed banks in Amman Stock Exchange – Jordan are selected for the purpose of the study, as table –3 shows listed banks assets size and its rank based on assets size.

Table 3
Banks' total Assets and its rank as on 31.12.2015):(JD)

Bank Name	Banks Total Assets	Rank Based on Total Assets
Jordan Islamic Bank	3,798,991,435	3
Jordan Kuwaiti Bank	2,844,731,503	4
Jordan Commercial Bank	1,487,563,166	11
Housing Bank for Trade and Finance	7,922,698,728	2
Arab Jordan Investment Bank	1,793,206,868	10
Jordan Dubai Islamic Bank	780,151,083	15
Arab Banking Corporation / Jordan	1,029,034,055	13
Capital Bank of Jordan	1,986,231,309	9
SOCIETE GENERALE BANKQUE- JORDANIE	1,210,141,450	12
Cairo Amman Bank	2,532,062,104	5
Bank of Jordan	2,206,221,873	8
Jordan Ahli Bank	2,494,628,998	6
Bank Al Itihad	2,389,129,640	7
Arab Bank	25,859,162,000	1
Invest Bank	845,419,891	14

Source: Amman Stock Exchange Data-Base Library 2015.

METHODOLOGY

CAMEL model is a quantitative and subjective method to test the financial strength of banks as it indicates that standing position of banks amongst its relative competitors in the same sector. One-way ANOVA will be employed to determine whether there are any significant differences between means of CAMEL indicators of banks under investigation. The study is based on the following Hypothesis:

H_o: There is no statistical significant difference between bank's performance according to CAMEL approach.

All listed banks in ASE are selected for realizing the purpose of this study. It will be as a benchmark for investors to take their investment decision based on solid financial indicators, also banks 'management will recognize as where their bank stand comparing to its competitors. The study will cover a period of 5 year (2011-2015). All required financial information was collected from related banks annual financial reports.

STATISTICAL APPROACH AND RESULTS

1. Statistical Approach

In order to evaluate the performance of the Jordanian banksusing CAMEL approach, and its sustainability ability, ratios values of the five indicators: Capital Adequacy (Capital tier1 + tier2 / Weighted Assets), Assets Quality (Total Assets / Total Liabilities), Management Efficiency (Total Assets / Total Deposit), Earnings Level and quality (Net profit / Equity) and liquidly adequacy (Quick Ratio) were calculated for the period 2013-2015 (Appendix 1).

The Ranking was performed on the basis of the ratios' average for the period 2013-2015, as follow:

Table 4
Banks Ranking Based on CAMEL three years average indicators:

S. No	. Symbol	Capital Adequacy	Assets Quality	Management Quality	Earnings Quality	Liquidity Ratio	
1	ARAB	11	7	6	13	7	
2	THBK	5	9	8	4	1	
3	JOIB	4	1	9	10	4	
4	BOJX	9	3	15	5	5	
5	JOKB	8	11	7	2	8	
6	CABK	12	5	13	3	12	
7	AHLI	14	2	11	7	6	
8	EXFB	7	10	5	14	3	
9	UBSI	13	13	3	12	13	
10	AJIB	6	8	12	8	15	
11	ABCO	3	6	10	6	2	
12	JDIB	1	15	2	15	10	
13	SGBJ	2	12	1	1	14	
14	INVB	10	14	4	9	9	
15	JCBK	15	4	14	11	11	

The table indicates that JDIB achieves the highest position in Capital Adequacy with a value of 0.4508 (Rank 1), which might be attributed to its Islamic business nature, also its worth mentioning that there is no significant differences between other banks related to Capital Adequacy, while JCBK achieves the lowest position of Capital Adequacy 0.1280 (Rank 15).

While, related to Assets Quality, JOIB enjoys the highest position with a ratio value of 0.9214 (Rank 1) among all Jordanian Banks, while JDIBAssets Quality ratio amounted to 0.4786 (Rank 15).

The highestManagement Quality was in favor of SGBJ which scored 7.8733 (Rank 1) followed JDIB (2.956), while BOJX attained the lowest rank amongst all Jordanian Banks(1.2177).

SGBJranked first in connection with Earnings Quality (0.1698) comparing to other banks, and the lowest performance in this regard was related to JDIB (0. 0088).

FinallyTHBKLiquidity ratio amounted to 0.2639 as the highest percentage comparing to other Jordanian banks, while the lowest Liquidity ratio was obtained by AJIB (0.0602).

2. Results

To test the Hypotheses of the study and to determine if a statistical significant difference exists between banks' CAMELs ratios, the *ONE-WAY ANOVA TESTS* were employed for CAMELs values independently as illustrated in table 5.

Table 5
The ONE-WAY ANOVA Results

Capital Adequacy	Sum of Squares	df	Mean Square	F-Value	
Between Groups	.000	2	.000		
Within Groups	.293	42	.007		
Total	.294	44			
Asset Quality	Sum of Squares	df	Mean Square	F-Value	
Between Groups	.014	2	.007	.485	
Within Groups	.588	42	.014		
Total	.601	44			
Management Quality	Sum of Squares	df	Mean Square	F-Value	
Between Groups	2.523	2	1.262	.375	
Within Groups	141.132	42	3.360		
Total	143.656	44			
Earning Capacity	Sum of Squares	df	Mean Square	F-Value	
Between Groups	.000	2	.000	.042	
Within Groups	.113	42	.003		
Total	.113	44			
Liquidity	Sum of Squares	df	Mean Square	F-Value	
Between Groups	.020	2	.010	2.238	
Within Groups	.191	42	.005		
Total	.212	44			

The above table highlights the F- values of CAMEL ratios (0.023, 0.485, 0.375, 0.042 and 2.238) respectively for (Capital Adequacy, Assets quality, Management quality, Earning Capacity and Liquidity). Relatively, all values are less than the tabulated values (For 2, 42 d.f. at 5% significance level which is 3.2237). Thus the levels of significance illustrated are greater than 5%, this indicates that there is no statistical significant difference between the average values of CAMEL ratios in all Jordanian Banks and accordingly we accept the five null hypotheses. The results imply that there is no significant difference in the performance of Jordanian banks.

CONCLUSIONS

The study indicates that, according to CAMEL approach, the performance evaluation of Jordanian banks has different ranks during 2013-2015. The study also illustrates that-though difference in performance do exist - no significant statistical difference between the CAMEL ratios was reflected. Which depict that the performance of all Jordanian banks indifferent? This may be due to the similar attitude applied by Jordanian banks, and the low level of competition between them, in addition to the applications of strict legislations by Central Bank of Jordan - CBJ towards deposits, loans and types of financial services.

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Appendix 1

Average		0.1372	0.2639	0.1757	0.1702	0.1287	0.1087	0.1494	0.1996	0.1002	0.0602	0.2118	0.1185	0.0891	0.1265	0 1140
atio	2013	0.1415	0.2348	0.1335	0.1821	0.1819	0.1088	0.0915	0.0607	0.1213	0.0518	0.1590	0.0680	0.0779	0.0650	0.0890
Liquidity Ratio	2014	0.1260	0.2936	0.1624	0.1520	0.0870	0.1101	0.1877	0.1680	0980'0	0.0453	0.2336	0.1098	0.1319	0.1770	0.0752
Liqu	2015	0.1442	0.2633	0.2312	0.1765	0.1173	0.1071	0.1690	0.3701	0.0932	0.0836	0.2427	0.1777	0.0574	0.1376	0.1777
Average		0.0637	0.1544	0.0800	0.1014	0.1632	0.1589	0.0908	0.0129	0.0693	0.0884	0.0938	0.0088	0.1698	0.0876	0.0799
ality	2013	0.087	0.1587	0.0781	0.1081	0.1604	0.1443	0.0869	0.0051	0.0712	0.0839	0.0876	0.0158	0.1753	0.0856	0.0281
Earnings Quality	2014	0.0612	0.1533	0.0797	0.1033	0.1694	0.1687	0.0940	0.0236	0.0907	0.0905	0.0914	-0.036	0.1673	0.0846	0.0974
Earni	2015	0.043	0.1511	0.0823	0.0928	0.1597	0.1637	0.0916	0.0101	0.046	0.0907	0.1024	0.0465	0.1667	0.0927	0.1142
Average		1.3527	1.2867	1.1287	1.2177	1.2907	1.2450	1.2557	1.3703	1.4283	1.2510	1.2860	2.9560	7.8733	1.3987	1.2193
ent	2013	1.398	1.29	1.12	1.233	1.291	1.224	1.249	1.339	1.498	1.277	1.302	5.75	10	1.379	1.233
Management Quality	2014	1.334	1.28	1.13	1.22	1.298	1.256	1.246	1.334	1.408	1.251	1.262	1.67	08.9	1.392	1.225
Ma	2615	1.326	129	1.136	1.200	1.183	1.155	1.172	1.438	1.379	1.225	1.194	1.448	682	1.425	120
Average		0.8550	0.8456	0.9214	9868.0	0.8375	0.8918	0.9032	0.8453	0.8234	0.8517	0.8594	0.4786	0.8319	0.8188	9863.0
lity	2013	0.8388	0.8413	0.9219	0.8919	0.8396	0.8986	0.9042	0.8426	0.8064	0.8434	0.8603	0.1739	0.8247	0.8209	0.8919
Asset Quality	1014	08624	08467	09203	19680	08326	08883	09027	08472	08223	08516	08664	05902	08327	08183	19680
Ass	2015	0.8639	0.8489	0.9219	0.9072	0.8403	0.8884	0.9026	0.8461	0.8415	0.8600	0.8515	0.6717	0.8383	0.8171	0.9072
Average		0.1494	0.1897	0.1943	0.1644	0.1668	0.1483	0.1370	0.1701	0.1459	0.1852	0.2178	0.4508	0.3004	0.1545	0.1280
. *	2013	0.1458	0.1913	0.1813	0.1549	0.1602	0.1494	0.119	0.1754	0.1515	0.2158	0.2312	0.4411	0.3349	0.1509	0.1224
Capital Adequacy	2014	0.1522	0.1882	0.2041	0.1639	0.1645	0.1473	0.1374	0.1648	0.1403	0.1546	0.2045	0.4371	0.2982	0.1581	0.1313
A	2015	0.1502	0.1897	0.1976	0.1744	0.1757	0.1483	0.1546	0.1701	0.1459	0.1852	0.2178	0.4743	0.2680	0.1545	0.1303
Symbol		ARAB	THBK	JOIB	BOJX	JOKB	CABK	AHLI	EXFB	UBSI	AJIB	ABCO	JDIB	SGBJ	INVB	JCBK
Bank Name		Arab Bank	Housing Bank For Trade and Finance	Jordan Islamic Bank	Bank of Jordan	Jordan Kuwait Bank	Cairo Amman Bank	Jordan Ahli Bank	Capital Bank of Jordan	Bank Al Etihad	Arab Jordan Investment Bank	Arab Banking Corporation	Jordan Dubai Islamic Bank	Societe General of BanqueJordanie	Investbank	Jordan Commercial Bank
S.	į	1	2	3	4	2	9	7	8	6	10	11	12	13	14	15