

# THE EFFECT OF BANKING DENSITY ON THE SIZE OF ISLAMIC BANKING PRODUCTS IN JORDAN

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**Abstract** - This paper is included a field study that aims to investigate the effect of banking density on the size of Islamic banks in Jordan, while these banks developed their products and made a variation of these products. A 50 sheet statement has been conducted with main three levels represented 6 questions on each level for answering from different participants of workers of these banks and their branches, these questions are related to the main subject of this study. The answers of this sheet questionnaire has been tested through analyses of mean and standard deviation and Eta test, then the correlation matrix and Anova test has posted, lastly hypotheses of this study have been tested to insure of results, results indicate to good relationships between answers of group of participants in questionnaire and questions, null hypotheses are rejected to significant of these hypotheses depends on hypotheses tests and ANOVA analyses, therefore the results let us concluded that there is a good relationship between the bank density and products and the spread of branches

**Key Words:** Islamic banks, Jordan, bank density, Islamic financial products. Questionnaire sheet

## 1. INTRODUCTION

Now a day's there is an increase in the Islamic financial products in general and Islamic banking products in Jordan. More specifically, as well as constitute high levels of their profits, which was confirmed by the performance indicators in the Islamic banks in Jordan. One of the most important client behaviour satisfaction that considers as an indicator of the effects on the bank's reputation and performance of banking products which enhance the Islamic banking performance and maximize the profitability is the Islamic banking density which defined as the spread of Islamic bank branches per squared kilometre (Crimmins & Cruise, 2013).

The Islamic banking products differ according to the short and long term, the details of contracts and the client needs, thus the financial product that is affected by the banking density is Lease ending in ownership which known as "Ejarah wa Eqatina", in this product the contract is applied to real estates, machinery, and others real objects. These are purchased, then rented for a certain period in a way that enables the lessee to own them at the end of the

lease period according to the rules of Sharia' arrangements in this regard. (Usmani, Introduction to Islamic Finance, 1998). The other Islamic financial product is "Murabaha Sale", it is an Islamic contract for a sale where the buyer and seller agree on the profit or price for the items being sold. In Islamic banking, it has become a term for financing where the bank buys some goods at the request of a client and marks up the price of that good for resale to the customer in exchange for allowing the buyer to defer payment. (Irfan, Harris, 2015)

### 1.1. Topic of Research:

"What is the correlation degree between the Jordanian Islamic bank density and the size of Islamic Banking Products in Jordan? In this paper, the important determinants and theories will be analysed in a theoretical framework. The relevant hypotheses will be created from the framework developed. A brief explication of data analysis, as well as the processed data will be presented in the Data and Methodology, the data will be discussed in the results and the answer to the research question, as well as other notable findings, will be discussed in the conclusion. Lastly, research limitations will be tested, as well as the suggestions and recommendations for further research.

### 1.2 The objectives of the study:

- To determine which Islamic financial products are impacted more than others to take into account and to concentrate on more others to develop the procedures of Islamic banks working.
- To detect whether there is a connection between Islamic banking density and Islamic financial products.

### 3.1. Problem of the study:

Banks compete to attract more new customers and market to their banking products, while the banking sector is suffering from the inflation of its banking density index in Jordan. which affects on the quality of services and the decrease of the efficiency of the branches to meet the needs of customers as soon as possible, and the most common Islamic financial products are Ijarah wa Iqtinathat is an Islamic financial product that let an asset

or property which ends with acquisition, and have Murabaha sale which is an Islamic financing structure in which the seller provides the cost and the profit margin or cost-plus financing of a commodity.

#### 4.1. Hypothesis

This assumption leads to the formulation of the following hypotheses:

H1: The geographical density in the Islamic banks spread has a negative correlation with the size of financial Islamic products in Jordan.

Sub H1: The geographical density in the Islamic banks spread has a negative correlation with the diversification of Islamic banking products and the hedge industry.

H2: The population density in the Islamic banks spread has a negative correlation with the size of financial Islamic products in Jordan.

Sub H2: The population density in the Islamic banks spread has a negative correlation with the diversification of Islamic banking products and the hedge industry.

#### LITERATURE REVIEW:

##### 1.2. Related studies

Islamic financial banking products in Jordan have changed during the last three decades due to many causes, so the relevant literatures for this paper are abundant. Some of the relevant studies reviewed below: **(Fataftah, 2006)** this study aims to show the extent to which the financial leasing requirements are available in Arab countries while the environment needed to make this financial system and growth. This study showed that in addition to what is achieved by the financial leasing in some Arab countries, there are still many problems and obstacles facing the system. Some of these problems related to the legal part like special legislation, the study recommended making available the different requirements needed to commence the financial leasing in Tunisia, Jordan, Egypt, Morocco and other Arab countries which can be topped by the legal requirements. **(Obeidat, 2008)** This study deal with the reality of financial leasing in the Jordanian Islamic bank and prospects for the development from the clients and employee point of view. The study presented images of financial leasing in the Jordanian Islamic banks, characteristics, and benefits for the less, lessor and the Jordanian economy. This study reached for that: the most important one is an applied strategy that the departments of Islamic banks should implement the financial leasing contract. The leasing method currently applied to the Jordanian Islamic banks is considered an irregular competitor for the Murabaha method of procurement, which considered a short-term method. **(Abdul-Al, 2011)** This study aims at discussing and analyzing the

application of financial leasing in the banks of Jordan during the period (2004-2009) with the intent to show the importance of its application, from the perspective of both clients and employee, this study concluded with the following results: The sector of Jordanian Islamic banks is considered a suitable environment for the growth of financial leasing (Ijara), as it enjoys the necessary characteristics. The employees who work in the Jordanian Islamic banks think the financial leasing currently applied competes with the financial leasing applied in the Conventional banks. The experience of the Jordanian banks' sector with this method increased the demand for such a method, supports the main performance indicators, contributes to feeding the total revenues resulting from achieving the feasibility of the projects and activities it finances. The study showed positive effects due to applying financial leasing (Ijara), which shall achieve higher production efficiency for the invested capital. The rise in the percentage of financial leasing to the total security facilitations is accompanied by an increase in the average return of assets of the banks and financing companies working in Amman (about 6.1%), as well as an increase in the number of financing banks and companies is accompanied by an increase in the average return of the assets (about 9.7%). When this study aims to point out the effect of the density and size of Islamic banks, it should have cleared many definitions of the bank's products such as Murabaha, Musharka, and Ijara, these investment products forms are more than the offer. (Ariffan, et al, 2009), they have concluded in their paper about evidence of risk in Islamic banks, their study ascertains the perceptions of Islamic bankers about the nature of risk. they have covered 28 Islamic banks in Arab world. their tool of analysis is the questionnaire sheet. (Cihak, M&M. Hesse, 2008) they researched the size Matters of Islamic bank, they suggested that large banks are less stable than small Islamic banks, also conventional banks.

**(Goel & Engels, 2013)** This study based on the banking efficiency in two European countries, France and Spain, investigated the effect of the bank branches number in various population densities on the efficiency level of banks. It concluded on it having a positive correlation and noted that it can be seen as one of the key drivers of banking efficiency.

This research examined the correlation between the banking density sector and its performance across the European Central Bank member states. The correlations between two demographic penetration measures and two cost ratios indicate that there is a positive correlation between banking density and the performance of the banking sector.

#### Jordanian Islamic Banks Background:

There are three Islamic Banks in Jordan. These banking are: Jordan Islamic Bank, International Arab Islamic Bank,

SafwaIslamic Bank. Also, one foreign Islamic bank "Alrajhi". Islamic Banking is working according to the rules and legislation of Islam. Islamic Banking is spread in the Muslim world as a form of banking which prohibits the payment of interest "Riba". The prohibition "three" of Riba is fixed in the Islam legislation "Share"...

The interest-free banking or Islamic Banking first was an idea, this idea is an a result of refusing to accept and to challenge the existence of western interest-based banks in Muslim countries, the principal reason behind this refusing is mainly the disapproval of Riba, and also anything else that the Sharia deems unlawful "Haram" as financing a company that makes money out of alcohol, gambling, and other Harmful activity, because of their moral and ethical unacceptability (Abdul Gafoor, 1995).

Islamic banks acquire their main sources of funding from clients out of three different kinds of accounts: savings deposit accounts, current deposit accounts, and investment deposit accounts (Bessadet and Karema, 2009).

## 2.2 Islamic Banks in Jordan:

Islamic international Arab bank is a Jordanian bank that exercises its banking operations by the provisions of Islamic law in Jordanian, Arab and Islamic countries.

The Islamic International Arab Bank commenced its banking operations by Islamic Sharia rules on the 12<sup>th</sup> day of Shawal 1418 AH, (9 February 1998).

The Bank was established as a public shareholding company by the Companies' ACT of 1989; IIAB was registered in the Public Shareholding Companies' Register under No, 327 on March 30, 1997. The Bank offers its banking, financing and investment services through its (43) branches which spread in Jordan.

Jordan Islamic bank: also known as "JIB" The first Islamic bank in Jordan which established in 1978, as a public shareholding limited company to carry out all kinds of banking, financing, and investment business operations in compliance with the Islamic jurisprudence' and in accordance with the provisions of Jordan Islamic Bank's Special Law., which was superseded by one chapter on Islamic banks in the Banks' Law which was in effect as of 2nd August, 2000. The Bank's capital reached JD(180) million. The Bank offers its banking, financing and investment services through its (75) branches and (29) cash offices in the different locations in the country, The number of the clients' accounts performing in the Bank reached about (927) thousand accounts.

## 3.2. Islamic financial banks products:

### 1.3.2. Ejarah wa Eqtina(lease and ownership):

- a) A lease is a legal contractual arrangement calling for the lessee to pay the lessor or the owner for use of an asset. Properties, apartments, and vehicles are the most common assets that are leased in general. This legal contract is enforceable by all parties under the contract law of the applicable jurisdiction. (Stickney and Weil 2007). Lease and Rent: While lease, as mentioned before, is a legal contract to rent an asset rent is considered as a periodic payment made to the owner of a property for the use of said property, as determined by a rental agreement.
- b) Ejarah: Is a term of Islamic Fiqh that provides something or services and goods on rent temporarily for a wage. Lease and ownership or rent that ends by acquisition: It is an Islamic financial product that lets an asset or property which ends with ownership "acquisition". It is also known as al Ejarah Munttahi biltamleek which is a contract that transfer of ownership occurs as soon as the lessee pays the purchase price of the asset or anytime during the leasing period. ( el-Gamal, Mahmoud A., 2006)
- c) Lease and ownership conditions:
  1. The lease and the transfer of ownership of the asset or the property should be recorded in separate documents.
  2. The agreement to transfer of ownership should not be a pre-condition to the signing of the leasing contract.
  3. The "promise" to transfer the ownership should be unilateral and should be binding only on the lessor. (Visser, Hans, 2009)

### 2.3.2. Murabaha Sale:

The term Murabaha derived from the Arabic word root 'Ribh' which means profit under the Islamic Fiqh. Murabaha term is a sales contract where the buyer and seller agree on the markup "Ribh" for an item being sold. Murabaha sale: Is an Islamic financing structure in which the seller provides the cost and the profit margin or cost-plus financing of a commodity.

## 4.2. Efficiency of Islamic Banks:

- The efficiency of financial institutions has mainly evidence with information as the provider of government policies for example as (Berger&Hamprey,1997), when it comes to deregulation of the market or during mergers and acquisitions activities under the scope of antitrust policies (Alaya&khatab,). It all assesses option for improving management performance analysis and

comparing the efficiency of banks. Many authors and researchers used cluster analysis to measure the efficiency of banks scores, cluster analysis is one of the possibilities available to exploit the information contained in multi-dimensional used grouped subjects, the group cluster based on their similarities differences. With express produce clustering by Euclidean distance, many researchers have been used single linkage (nearest neighbour) as:

$$D_{ab} = \sqrt{\sum (Y_t - X_t)^2}$$

We have tried to analyze the efficient Threshold value of Eigen values, the results of the selected variables, used method of principal component, factors in analyses have zero means, and unit variance, the Eigen value which derived from model for 2018 of Islamic banks in Jordan.

**Table 1: Eigen values and cumulative frequency of Jordanian Islamic banks, 2018**

Eigenvalue	% of the Total	Cumulative frequency %
12.9463	78.0976	57.4381
3.7584	28.3342	72.3592

**Source:** calculated by author, based on the Jordanian banks Association. used SAS software.

**Table 2: descriptive statistics of analyzed indicators in 2018 of Islamic banks in Jordan**

Variables(factors)	Arithmetic average in million J.D	Median in millions J.D	Standard deviation	Coefficient of variation in %
1-Non interest income	389	174	82.4	72.31
2-Operating cost	112	54	42	78.62
3-Loans and advanced to banks and customers	3968	2177	2378	81.53
4- liabilities to banks &customers	4689	2174	2342	64.23

**Source:** Calculated by the author based on the annual report of the Jordanian banks Association used SAS software.

**SECTION THREE: DATA AND METHODOLOGY**

The data collection of different types and level of managers and assistant managers of Islamic banks in Jordan which are listed in local commercial banks, Islamic bank, and their branches which spread in all governorates of Jordan, The questionnaire sheet is stated in three levels with not more than six questions in each, but third level is 5 questions related to the main ob of these objectives and main subject of the paper. The methodology of the paper concern with distributed of the questionnaire sheet and answers, the questionnaire group are 50 participants', the researcher gives attention to concluded all Levels of education and occupied positions in banks. then the analyses take in account the degree of creditability of the answers, the mean and standard deviation is calculated and ETA coefficients for each question then the effect and rank of effect to insure of the impact of questions, the ANOVA test is done ,and lastly the test of hypotheses is cleared to have the correct results. The answers of the questionnaire are measured by strongly agree, agree, natural, strongly disagree, disagree, by Lieckert The methodology of this paper lies in whether there is a correlation between Islamic financial banking products and the geographic and demographic banking densities in Jordan. By this method, the possibility of the Islamic banking sector experiencing will be investigated. To investigate possible correlations, hypotheses variables were required to be counted from the data obtained. By using the Indicators of the geographical density of Islamic bank branches that spread in Jordan and year were calculated.

. Intuitively, the total amount of bank branches can be obtained by the following calculation:

Equation 1: Total amount of Islamic bank branches in year = number of Islamic bank branches per 100,000 inhabitants in a year\* total population in year/ 100,000 (Mustafa, 2006).(1)

Naturally, these variables are taken from the specific entry's corresponding country.

Consequently, the geographical density of Islamic bank branches can be calculated by using Equation 1 and dividing by the corresponding surface area in square kilometres: Geographical Islamic bank density in year= total amount of Islamic bank branches in year/ surface area in square kilometres in a year. (Macasaet, 2011). A database was created with all the variables obtained from the variables that were matched according to each entry's year and bank. The new variables were computed by entering the formulas stated above. Using this system, all the new calculations were automatically matched to the correct year, Islamic bank and hence.

Making it possible to calculate all the necessary correlations Measurement method. The SPSS software

utilized to analyze the data and SAS to insure of efficiency of banks.

**SECTION FOUR: EMPIRICAL RESULTS**

Thus 50 sheets are used in analyses, the demographic factors indicates to 70% Of male and 30% of female , most of the sample are youth with 55% 40 years ago, the educational levels are mostly BA, BCS degrees, higher diploma with 75%, also service years as experience 40% of the above 11 years, managers, assistant managers are 30% of participants.

**Table 3: Distribution of Sample due to Demographic Status**

		Frequency	Percentage ratio
<b>Gender</b>	Male	70%	35
	Female	30%	15
<b>Total</b>		<b>100%</b>	<b>50</b>
<b>Age</b>	20-30	20%	10
	31-40	35%	17
	41-50	20%10	10
	51 Over	25%	13
<b>Total</b>		<b>100%</b>	<b>50</b>
<b>Education Levels</b>	Bachelor	45%	
	Higher diploma	30%	
	Master degree	15%	
	Ph.D.	10%	
<b>Total</b>		<b>100%</b>	
<b>Service</b>	5 year	25%	
	6-10 years	35%	
	11-1 years	30%	
	16 more	10%	
<b>Total</b>		<b>100%</b>	
<b>Position</b>	Manager	25%	
	Vice Manager	15%	

	Head of Dept.	10%	
	Management Employed	15%	
	Technical Service	20%	
	Assistant Manager	15%	
	<b>Total</b>	<b>100%</b>	

In table (4) organizational structure phrases 1, 2 and 4 are moderate, when 3,5 are highly hypotheses significant, were Eta is supported the effect ranked, and all phrases are high effects. Table (5) Technology phrases 1,2,4 phrases are moderates effects, were 3, and 5 are within high effects, Eta is significant .in table (6)work nature phrases 1,2,5 are moderate effects, were 3and 4 phrases are within high effect, Eta test is significant, were null hypotheses rejected.The same results of table (7) communication phrases.In table (6) phrases 1,2, and 3 are a moderate effect, but 4and 5 are high effect and the null hypotheses rejected.

**Table 4: Geographic Banking Density of Islamic banks in Jordan**

No phrase.	Mean	St/dev	Rank of effect	Effect level	Eta
1	3.9722	0.9786	2		0.754
2	3.9150	0.9254	4	Moderate	0.784
3	3.9016	0.9682	3	Moderate	0.823
4	3.8167	0.7466	5	High	0.854
5	3.7265	0.6935	6	High	0.917
6	3.8019	0.9816	1	Moderate	0.796
ALL	3.9541	0.8598	All	High	

The second axis is represented in table (5) represents the answer participants of the questionnaire.The second axis: Population density; phrases are highly effected and, are moderate performances, Eta supported these results.

**Table 5: The second axis: Population density**

No phrase.	Mean	St/dev	Rank of effect	Effect level	Eta
1	2.8722	0.9871	6	moderate	0.721

2	2.6410	0.7863	3	moderate	0.738
3	1.6516	0.8432	4	moderate	0.892
4	2.7137	0.7521	2	High	0.854
5	1.4245	0.5495	1	High	0.928
6	1.8236	0.8916	5	moderate	0.731
ALL	2.6531	0.8598	All	High	

**Table 6: The third axis: The diversification of Islamic banking products and the hedge industry**

No phrase.	Mean	St/dev	Rank of effect	Effect level	Eta
1	1.654	0.8564	5	Moderate	0.568
2	2.548	0.7652	4	Moderate	0.7432.
3	1.893	1.0123	3	Moderate	0.865
4	2.845	0.9326	2	High	0.824
5	1.176	0.8743	1	High	0.951
All	3.008	1.5229	All	High	

**Table 7: ANOVAs analyses for the questionnaire answer**

Source of variance	Sum of squares	Degrees of freedom	F - Statistic	Decision
Between groups		3	12.747	
Within groups	5.126	125	24.532	
Total		128		Reject null hypotheses

**Test of hypotheses:**

The first hypotheses test indicates  $R^2 = 0.612$ , T-test 16.52 and significant, reject null hypotheses.

**Table 8: The test of first hypotheses**

Dependent	T.test	R	R <sup>2</sup>	Sig
	16.52		0.612	0.000

As tests of second hypotheses result:  $R^2 = 0.64$  and T-test is 12.75 resulted is significant, therefore null hypotheses are rejected.

**Table 9: Tests of second hypotheses**

Dependent	R <sup>2</sup>	R	T-test	Sig
	0.64		12.75	0.004

The  $R^2$  is 0.497, T-test is 10.83 also it is significant, the null hypotheses are rejected

**Table 10: The results of third hypotheses**

Dependent	R <sup>2</sup>	R	T-test	Sig
	0.718		10.83	0.007

**Table 11: The result of tests of fourth hypotheses**

Dependent	R <sup>2</sup>	R	T-test	Sig
	0.384	0.231195	10.83	0.000

Also, three hypotheses are rejected due to results of significant T-test

**SECTION FIVE: CONCLUDED REMARKS**

The paper organized to prove characteristic of leadership in improving the climate in his establishment, the leader should be in positive characteristic, constantly looking for self-improvement and improvement of organization structure, mainly to achieve the goals, planning and organization, decision making, the vision of creativity, and another distinct characteristic of leadership. In this paper which organized in 5 sections, the goal of the paper gives the leader to seek and bear the responsibility to improve the climate in his company. The questionnaire sheet included three axes, the first axis included 6 categories; but the third axes is 5 questions. The phrases of the questionnaire sheet distributed to 50 participants including male and female, tests indicate that the null hypotheses are rejected, and the alternative hypotheses are accepted it means that there is an effect of each question in each axis's but differ between one to another, which proved that the climate is affected the process.

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