CONFERENCE PROCEEDINGS

THE FOURTH ANNUAL CONFERENCE OF ISLAMIC ECONOMICS & ISLAMIC FINANCE

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The Fourth Annual Conference of Islamic Economics & Islamic Finance was held in Toronto University: Chestnut Conference Centre on November 1st, 2018. The conference was organized by ECO-ENA: Economics & ECO-Engineering Associate, Inc. ®, Canada

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Rodney Wilson; Professor, Durham University, **UK**
& International Centre for Education in Islamic Finance, **Malaysia**
Research: "Risk management by Islamic banks”

Jamshid Karimov, School of Economics and Finance, Massey University, **New Zealand**
Research: “Shari'ah Compliance Requirements and the Cost of Equity Capital”

Aminu Sikiru Olanrewaju, School of Management, Universiti Sains Malaysia, **Malaysia**
Research: “Expanding the Waqf Horizon Through Fintech: The Industry 4.0 Wave”

Benjamin Geva, Professor, Osgoode Hall Law School, York University, **Canada**
Research: “Pledged Land’s Harvested Produce under the Talmud’Ivan”

Zahra Amirhosseini, Department of Management, Shahr-e-Qods Branch, Islamic Azad University, Tehran, **Iran**
Research: “Effect of Financing on Liquidity Risk of the Bank in Iran”

Mansour Khalili Araghi , Faculty of Economics; University of Tehran, **Iran**
Research: "The Role of Islamic Financial Instruments in the Iranian Economy; a Theoretical and Experimental Approach”

Coulibaly Massita, Institute National Polytechnique Felix Houphouet Boigny, **Cote d'lvoire**
Research: “THE DETERMINANTS OF ISLAMIC FINANCE IN WEST AFRICA: THE CASE OF COTE D’IVOIRE”

Raja Daouah, University of Cadi Ayyad, **Morocco &** University of Basel, **Switzerland**
Research: “How do Small and Medium Enterprises react to the introduction of Islamic Finance in Morocco?”

Ninik Sri Rahayu, Department of Oriental Studies, Faculty of Arts and Humanities, University of Cologne, **Germany**
Research: “The Dynamic Approach of Baitul Maal Wat Tamwil (BMT) in Empowering Women: Evidence from Indonesia”

Zakir Hossain Shalim , Department of Dawah and Islamic Studies, Islamic Arabic University, **Bangladesh**

Research: Islamic life insurance (Family Takaful) in Practice: A Study of Syarikat Takaful Malaysia Keluarga Berhad (STMKB)"

Ghada Gomaa A. Mohamed, Faculty of Commerce, Alexandria University, Egypt & ECO-ENA: Economics & ECO-Engineering Associate, Inc., Canada
Research: "The Economic Management in the Cradle of Islam: Book Review"
"The Apostle Leadership and the Economic Administration of the First Islamic State: The Philosophy behind the Administration of the First Islamic State in the History"

Mugarura Tusiime, Financial Management, School of Accounting, Dongbei University of Finance and Economics, **China**
Research: "Are Islamic stocks subject to oil price risk exposure? The Case of U.S firms"

Nirmala Moktan Gurung & Ranjit Pakhrin, Pancha Buddha Sub-Remittance Company, **Nepal**
Research: "Linkages between Real Sector and Financial Sector in Nepal: A Vector Error Correction Model"

Conference Attendees (Discussants):

- Anh Quan Nguyen, Thailand
- Varol Senel, Turkey
- Rita Parvin, Canada

Others: *(Registered but couldn't attend on time)*:
- Abulizi Abudureheman, *KSA*
- Amer Omer, *Sudan*
- Ola Eltigani, *Sudan*
- Elmoiz Ismail Mahmoud Ismail, *Sudan*
- Osama Mohamed Abdalla Elhassan, *Sudan*
- Mohammed Hassan Mohamed Youssif, *Sudan*
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- Nakato Haawa, *Uganda*
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Selected Manuscripts

The Annual Conference of Islamic Economics & Islamic Finance: ISSN: 2292-0560: Library & Archive Canada
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The Dynamic Approach of *Baitul Maal Wat Tamwil* (BMT) in Empowering Women : Evidence from Indonesia

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Abstract:

This paper intends to explore the dynamic approach of Baitul Maal wat Tamwil (BMT) in empowering its clients. Albeit the BMT is not intentionally designed for women, however, the higher population of the customers are women in the micro sector. Thus, this study seeks to understand the women's empowerment model in BMT with a particular focus on the socio-economic dimension.

By employing the qualitative method, this study selected four BMTs in Yogyakarta Special Province which represent the uniqueness of Islamic microfinance institutions in the region. The data was gathered during the fieldwork in December 2017. The data collection employs several approaches: 1) Interviews key persons including BMT managers, staff officers, and clients. 2) Reviews documents and archival of the BMT which entails BMTs annual report, leaflets and website. 3) Field observations related to the BMTs engagement in empowering their members.

This study reveals that the socio-economic intermediary process in BMTs goes through several levels depending on the socio-economic of the clients. The lower-middle income clients receive commercial financial service from the baitul tamwil (business-oriented division). Meanwhile, the impoverished group get different financial treatment, in term of qard al hassan (benevolent loans) from the baitul maal (philanthropy division). Besides, BMTs employ two strategies in empowering the clients: individual and collective approach. To conclude, the BMTs in Indonesia have developed a dynamic model in empowering women.

Keywords : Women's empowerment, Individual empowerment, collective empowerment

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A. Introduction

Baitul Maal wat Tamwil (BMT), the version of Islamic Microfinance in Indonesia started to emerge in the early 1990s. The BMT development is the result of Islamic economic movement pioneered by Intellectual Muslims in the late 1980s. The goal of the action was to Islamize the entire economic system, including in the financial and banking sector. In 1991, the Islamic economic movement managed to establish Bank Muamalat Indonesia (BMI), the first Islamic bank in the country (Choiruzzad, 2012). The mission of BMI is to reach low-income groups who had no access to formal banking, particularly to small and medium enterprises (Antonio, 2008). However, to guarantee profit generation, the BMI could not offer sufficient funds to microenterprises. Some of the principal advocates of the bank, then turned their attention to set up an Islamic micro financing institution known as *Baitul Maal wat Tamwil* as an instrument for poverty alleviation (Sakai, 2008)

By 1992, Islamic NGO activists in Jakarta developed *Bina Insan Kamil* as the first BMT in Indonesia. ICMI and *Dompet Dhuafa* are two institutions that substantially contribute to the BMT development. For example, in 1994, ICMI sponsored the establishment of 85 BMTs in Aceh and Lampung provinces. At the same year, *Dompet Dhuafa* launched the program to establish “1001 BMTs and Islamic Rural Banks” (Choiruzzad, 2012). Since then, the BMTs proliferated in many other regions. While in 1990-1995 the number of BMT was around 300 units, in 2016 it reached 5.500 units (Rijawanti, 2014). The significant proportion of the BMT institutions established in Java, central Java and the Yogyakarta provinces (Nazirwan, 2015).

A large number of BMTs operate near the traditional market. This place is favorable for BMTs as the market is a center for economic activity, particularly for micro and small enterprises. In Indonesia, a traditional market is entirely identical with women’s entity as the majority of the traders are women. The conventional market is an informal sector which is more accessible to women since it does not require specific qualification like education, skill, and knowledge. Thus, the higher percentage of BMT’s beneficiaries are women.

However, BMT is not specifically designed for women as it is practiced in a conventional microfinance. In the conventional one, women become the critical element of the programs due to gender ideology. The affirmative action for women is based on the assumption of inequality issues between man and women in accessing productive and financial resources. Hence, empowering women through microfinance is a critical point for gender equality and poverty alleviation. Contrastingly, the idea of Islamic microfinance is to promoting the concept of "family empowerment" by exhorting men and women to play their respective roles in seeking the economic and social well-being of all members of the family (Obaidullah and Khan, 2008). Thus, the phenomenon of BMT in Indonesia is contradicting with the initial mission of Islamic microfinance. This paper aims to explore the dynamic approach of women’s empowerment in BMT, with a particular focus on the socio-economic dimension.

B. Literature Review and Previous Studies

Baitul Maal wat Tamwil

BMT is an Islamic microfinance which combines Islamic commercial finance in its *baitul tamwil* and social finance in its *baitul maal* (Ascaraya, 2017). As the *baitul tamwil* (treasury), BMT provides financial intermediation by managing funding and saving. In this term, the BMT acts as a cooperative by using profit-loss sharing mechanism. Meanwhile, as *baitul maal* (house of wealth), the BMT plays the role of collecting and distributing funds from *zakah*[2], *infaq*[3], *sadaqah*[4], and *wakaf*[5]. Through this social function, BMT provides interest-free financing (qardhul hasan) to the deserving poor (Wulandari and Kassim, 2015). In other words, the *baitul maal*, conducts socio-religious activities by collecting charitable donations from the community to support poverty alleviation programs and enhance the religiosity devotion of Muslims.

As an Islamic microfinance Institution, the operational system of BMT fundamentally differs from the conventional one (Table1).

Table 1 : Differences and Similarities of Conventional and Islamic Microfinance

Category	Conventional Microfinance	Islamic Microfinance
Category of the poor	One category	Two levels : The poorest and Moderately poor
Basis of financing	Debt-based and interest based approach	Profit and Loss Sharing (PLS) approach, free of interest (riba) and uncertainty (ghahar)
Target of empowerment	The poor and women	The poorest and family
Source of fund	External fund, saving of clients	External fund, saving of clients, Islamic charity fund
Dealing with default	Group/center pressure and threats	Group/center/spouse guarantee and Islamic ethics
Social Development Program	Secular	Religious (Behavior, ethics, and social)

Source : Rijawanti (2014)

Table 1 highlights the comparison between the Islamic microfinance and its counterpart. For example, in term of the category of the poor, the conventional microfinance has only one group target. Meanwhile, the Islamic microfinance divides the poor into two levels (the economically active poor and the chronic poor which will receive different financial treatment). Moreover, the conventional microfinance is mostly targeting women and adopts gender ideology. By contrast, the Islamic microfinance focuses on family empowerment based on Islamic principles. Instead of using interest rates as a form of revenue, the borrowers and the sellers in Islamic microfinance jointly share risks and profits in a project.

Microfinance and Women's empowerment

'Empowerment' is a term widely used today by many different people, including activists, feminists, and policymakers. However, the term still lacks a clear definition (Hennink et al., 2012). The term has been connected to self-direction, agency, liberation, autonomy, self-

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[2] Zakah : compulsory almsgiving (generally equal to 2.5 per cent) that paid once a year on saving, gold, commodity production or monthly based on regular income (salary)

[3] Infaq : spend wealth for a certain purpose as guided by Islam

[4] Shadaqah : worshipping Allah by giving money without that being made obligatory in shari'ah

[5] Wakaf : an Islamic endowment of property to be held in trust and used for a charitable or religious purpose

determination, life of dignity in accordance with one's values, capacity to fight for one's rights, independence, own decision making, being free, awakening, self-strength, capability participation, control, own choice, self-confidence and mobilization (Ibrahim and Alkire, 2007; Narayan, 2002 ; Narayan, 2005). Other scholars define empowerment as ‘increasing both the capacity of individuals or groups to make purposeful choices and their capacity to transform those choices into desired actions and outcomes' (Petesch et al., 2005) ; "the increasing of spiritual, political, social, educational, gender, or economic strength of individuals and communities to deliver an authority or permission (Floyd, 2005) ; the expansion of people's ability to make strategic life choices in a context where this ability was previously denied to them (Kabeer,1999).

Microfinance has been long acknowledged as one of the most essential tools to empower women. The over-represented of women among the poor and the unequal access to financial services (credit, savings, insurance, and pensions) between men and women are the primary reason for addressing women. Thus, promoting women’s empowerment through microfinance is crucial for both poverty alleviation and gender equality. Accessing women to credit will enhance their economic independence. Women’s economically independent leads higher bargaining power in households and communities, and subsequently results in higher prestige, self-esteem, mobility, networks, self-confidence, knowledge and later help them getting out from poverty. These assumptions mainly come from previous empirical findings in Asia (See: Cheston, S, and Khun, 2002; Roxin et al., 2010; Sarumathi and Mohan, 2011; Ahmed et al., 2011; Kato and Cratzer, 2013).

Previous Studies

The earlier scholars have been investigating the issue of women’s empowerment through BMT. Ulfi and Salina (2015); Yaumidin et al. (2015) identify that BMT improves various socio-economic aspects of the participants such as higher income and expenditure, and more involvements in community activities, decision making, and children’s education. The engagement in BMT also contributes to enhancing the self-worth of women and their ability to attain economic independence as beneficiaries Sakai (2010). Moreover, Sri Rahayu and Kusumaningrum (2015) indicate that women have more control on savings and income they manage from business than women who are not members of the BMTs.

The previous studies suggest that there is a link between BMT and women’s empowerment. Nonetheless, little work has examined the model of women’s empowerment in BMT.

C. Method

Field observation, Focus Group Discussion (FGD) and semi-structured interviews were employed to collect empirical data in this qualitative study. This research has interviewed 12 key persons consisted of managers and staffs of BMTs, the clients of BMT as well as some experts and practitioners from university and association. The participant of FGD is 11 managers of BMT in the province. This study also analyzed BMTs’s documents consisted of BMT historical records, annual reports, and other relevant documents.

The field work was undertaken from October to December 2017 in Yogyakarta Special Province (DIY), Indonesia. The study chooses four BMTs namely BMT Bina Insanul Fikri (BIF), BMT Al-Ikhwan, BMT KUBE Sejahtera (BKS) 19 and Koperasi Syariah GEMI (Islamic

Cooperative of GEMI). The four BMTs are selected in the sense that they represent the unique characteristics of BMT in the province. Each BMT has a different affiliation; BIF and Al-Ikhwan represent BMT that have an association with Islamic mass organizations, BKS 19 affiliates with local government, and GEMI has an alliance with some international donors. The similarity among the BMTs is the significant proportion of women's clients which ranged from 75%-99%.

D. Discussion

The socio-economic intermediary

The socio-economic intermediary process in BMTs goes through several levels depending on the socio-economic of the clients. In general, the lower-middle income clients receive commercial financial service. The source of loans comes from *baitul tamwil* under the contract *murabahah*[6]*, musyarakah*[7] and *mudharabah*[8]. The impoverished group, which needs immediate necessities like food, medicine, skills training and employment, will get *shadakah.* Meanwhile, the economically active poor-those who have sufficient employment and income to meet basic nutrition, housing and health will get different financial treatment, in term of *qard al hassan* (benevolent loans). The source of funds for this social mission comes from baitul maal.

Qord al-hasan is a kind of gratuitous loans given to the needy people for a fixed period without requiring the payment of interest or profit, but microfinance institution is allowed to charge a service fee (Hossain, 2002). This scheme is typically fit for the people who need small start-up capital without having business experience. Thus, the borrowers have not a possibility to receive commercial loans. Three BMTs in this study, especially GEMI, BIF and Al-Ikhwan provide *qard al-hassan* scheme as a strategy to alleviate poverty. In BIF for instance, the beneficiaries are a group of women living in a slum area who previously never have access to loans from any financial institution.

By extending credit for those who especially do not have access to commercial microfinance lending either due to lack of collateral or lack of affordability owing to high cost of funding, it shows the attempt of BMTs to enhance financial and social inclusion. Further, it implies that the economic empowerment process in BMTs follows the economic level of clients. Related to the financial service and classification of the poor, Robinson (2001) develops a schematic diagram of a poverty alleviation toolbox which emphasizes on its financial component as shown in figure 2 :

[6] *Murabahah* is a sales contract between a bank and its customers, mostly for trade financing. The bank purchases goods ordered by the customer; the customer pays the original price plus a profit margin agreed upon by the two parties. Repayment by installments within a specified period.

[7] *Musyarakah* is equity participation, investment and management from all partners; profits are shared according to a pre-agreed ratio, losses according to equity contributions

[8] *Mudharabah* is A profit-sharing partnership to which one contributes the capital and the other the entrepreneurship; or the bank provides the capital, the customer manages the project. Profit is shared according to a pre-agreed ratio

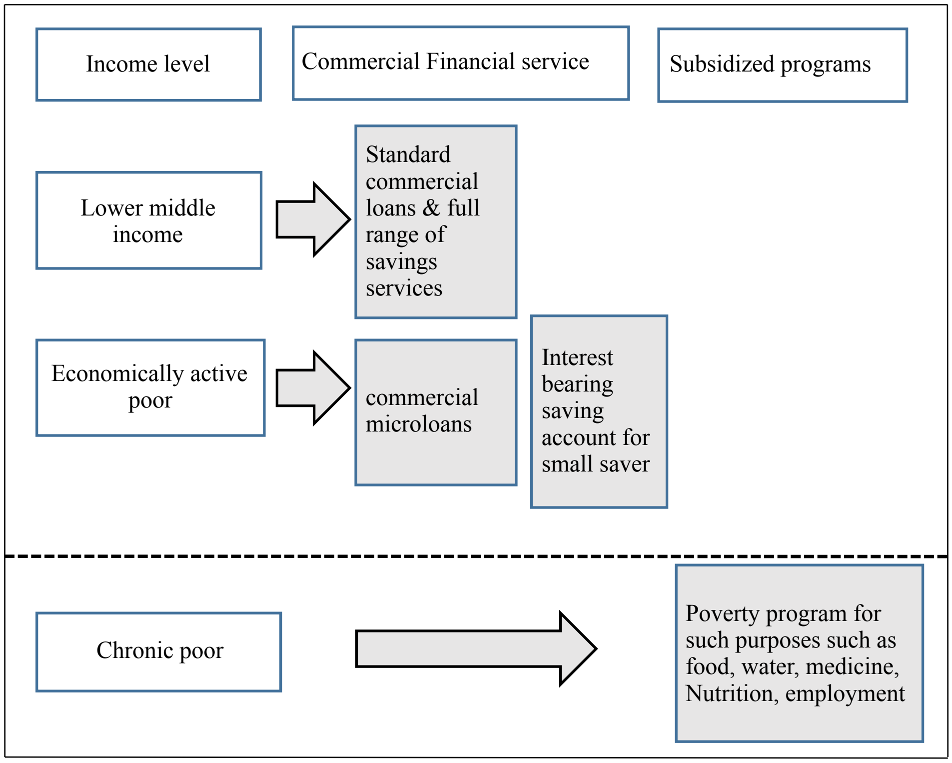

Figure 2 : Financial Service in The Poverty Alleviation Toolbox
Source : Robinson, 2001

The first column in the figure describes three income levels: lower-middle income, the economically active poor, and the chronic poor. The second column indicates the financial services that are typically suitable for the different income levels. Commercial microcredit is appropriate both for lower-middle-income households and the economically active poor, including some below the official poverty line. Both economically active poor and lower-middle-income households tend to have some savings and where possible, to emphasize nutrition, health, housing, and children's education. Besides, those segments are understood as a group with entrepreneurial ability and have the capability to satisfy their necessities. From the Islamic economic perspective, the poor in those categories should obtain *tijari* (commercial financing). Through *tijari*, the poor will receive supervision and training related to the loans utilization (Antonio and Nugraha, 2010). The third column is nonfinancial poverty alleviation tools that are appropriate for those below the poverty line and essential for the extremely poor. The poor in this category cannot immediately obtain *tijari*, but in the form of *tabarru*' (donation) that is funded by *zakat, infaq, shadakah and wakaf.*

In performing the socio-economic intermediary function, BMTs employ two strategies. The first method is individual empowerment by arranging an intensive meeting at the business site of the clients. This type is mainly intended for women traders in the traditional market. The second category is collective empowerment. In this category, BMT creates a group of women based on the proximity of the resident. Each group organizes a meeting based on regular schedule under the supervision of BMT officer

1. Individual Approach

Bringing women together in groups will be more empowering than individual lending. However, Mayoux (2002) argues that the personal approach will be suitable if targeting women are already working in the informal sector. Mayoux further explains that individual economic empowerment lies in the assumptions; 1) saving and loans enable women to set up new economic activities or expand existing ones to increase the income they earn. 2) Saving and loans and the increased revenue, would allow women to improve their asset like livestock, land, and houses. 3) Women can control an increase in income and assets. Hence, the improvement in revenue and possessions will contribute to other dimensions of empowerment. The rise of income and asset can directly enhance the well-being of women and children. Also, it will strengthen women's ability to negotiate a change in gender relation within the household and a broader community.

The lending system for women's clients in the three BMTs (BIF, AL-Ikhwan and BKS 19) are mainly based on personal delivery. Majority of BMTs in the province also practice similar strategy (FGD with 11 BMT managers, December 13, 2017). The mechanism of channeling funds goes through Official Visit Service (OVS) system. Yudana Okty, one of the branch managers of BIF explains that OVS is an effort of Islamic financial institution to develop the tradition of *silaturahim* taught by the Prophet Muhammad. By doing *silaturahim*, she believes it will prolong life and open fortune. Besides, *silaturahim* allows officers to freely explain about the concept of Islamic finance as well as systems and operational procedures directly to the community who may be still less understand about it (personal communication, December 23, 2017).

Likewise, Sobari, manager of KBS 19 views that the strategy of OVS is very effective means to establish closeness with customers which in turns maintain customer's loyalty and trust to BMT. The BMT officers spend their day by riding a motorcycle from one place to another place to arrange and complete saving and deposit transactions, loan disbursements and installment collection the clients. While doing a financial transaction, the BMT officer also monitors the daily performance of their businesses. On the other hand, from the consumer's side, this service is highly satisfactory, as they can perform the financial transactions on their own premises. It is recognized by a client of Al-Ikhwan, Ibu[9] D, a petty trader in Sleman region :

> "Every day, during working hour, BMT Al-Ikhwan officer comes to my market stall to collect the installments. Since he comes every day, I am also motivated to save more money. If I need more cash, I can easily withdraw from the officer. It saves time because I do not need to go to BMT office" (Ibu D, personal communication, December 18, 2017)

Besides, Okty describes that the OVS is a strategy to hold the niche market against competition from the commercial banks. She acknowledges that the conditions of the current market are sluggish due to several factors. First, many commercial banks are launching microcredit with lower interest rates for micro-entrepreneurs which further erodes the BMT market share. Second, the sales turnover of traders in marketplace declined because of the massive development of modern shopping centers and mini market such as Indomaret and

[9] Ibu is a call for married woman or fairly mature female in formal situation and often followed by the person's first name. Married women are usually called by the husband's first name

Alfamaret in Yogyakarta. Hence, the OVS system is a tool to keep the customer trustiness through a personal approach (Okty, personal communication, December 23, 2017).

During conducting OVS session, the marketing officer not only provides service to the existing customers but also attracts new customers. In most cases, the new clients are mostly a recommendation from other customers who have already joined and get the benefit from BMT. For the existing customers, the process of financing disbursements is relatively quick ranging from one to seven days and usually based on trust and performance. Conversely, for the new ones, the process takes several stages which involve: loan application, borrower evaluation, loan analysis, approval and underwriting, and collection and monitoring.

2. Collective Empowerment

The other model of economic empowerment in BMT is collective empowerment. BMT BIF and Al-Ikhwan regularly empower the member through monthly *arisan*[10] while GEMI has the more intensive meeting with the member through the weekly meeting (Rembug Minggon).

1) Arisan

BMT members are generally engaged in community activities which supported by BMT such as a group of *arisan* and *majelis taklim*[11] These two activities are very much a part of the community and work life in Indonesia and Yogyakarta in particular. Indonesian households have a strong tradition of participating in *arisan*. It is estimated the number of *arisan* groups in Indonesia to be millions (Martowijoyo, 2017). In a rural area, *arisan* becomes more and more crucial as a strictly economic institution due to the intense need for cash resource (Geertz, 1962). The most likely participant is a married woman, of middle age, who has earned at least primary education, is not below the poverty threshold, and living in a rural area (Besson 1995; Dagnelie and Lemay-Boucher 2011; Handa and Kirton 1999; Weinberger and Jutting 2001: A. Lasagni & E. Lollo, 2011). For BMTs, these groups are important funding of sources. While the *arisan* saving group operates, a BMT acts as an institution of safe deposit for the funds. Many group of *arisans* mixes with *majelis taklim* that called as religious *arisan.*

Women are more likely to participate in *arisan* because they are less collateral-due to the tradition which seldom grants a property right to women- hence are less able to borrow from banks (Varadharajan, 2004). By joining *arisan*, women can deal with a wide variety of needs, including household savings and financing of economic activities (Anderson and Baland 2002; Hospes 1995). Furthermore, Besley, Coate, and Loury (1993) also demonstrate that *arisan* is more efficient than autarchic saving and improve the individual welfare of those excluded by formal credit markets.

However, the motive of joining any *arisan* is not solely for financial reasons. As I observed, there are other dimensions that the members hold which are more critical than the economic aspect. The practice of *arisan* shows how each member cooperates and helps each other as a part of solidarity. For instance, they work together for the preparation and share things for the event. In addition, members use *arisan* as a forum to exchange information, develop a

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[10] Arisan is model of Rotating Saving and Credit Association or ROSCA. According to Van-den-Brink and Jean-paul (1997), *arisan* is an association of men and women who meet at regular intervals and distribute a lump sum of money to one of its members

[11] is religious learning forums, preaching gatherings, public meetings for Islamic and/or Qur'anic studies, private gatherings for religious teaching. In principle, *majelis taklim* is opened for both man and women. Nonetheless, in its development, there has been a tendency for labeling *majelis taklim* to be applied mainly (or even exclusively in some Indonesian locales) to groups of women

network and maintain *silaturahim* which in turn strengthening social capital. This finding is mainly consistent as stated by Geertz (1962) that "... the primary attraction of the *arisan* is not the money you receive, but the creation of *rukun* (communal harmony) which occurs, the example of *gotong royong* (mutual assistance) which is demonstrated". Similarly, Anggraeni (2009) argues that *arisan* strengthens security, financial and social need of the members. Furthermore, Cahyandari (2014) also explains that *arisan* provides a means to represent the specific identity that mutually shared by the member.

Arisan made up of a group of people who live in the same neighborhood or are members of the same club, social organization, political party or school association. While traditional *arisan* in Indonesian villages is most often formed according to geographic and residential proximity, in urban areas "ideological factors, the bases of the clubs, play a more important role" (Geertz, 1962). In most cases, a woman joins in several groups of *arisan.*

The group of *arisan* usually meets together on a regular basis such as every week, every few weeks, or once per month and shares food and drink in a social atmosphere. The gathering is hosted by a different member of the group each time, usually a person who wins the *arisan* on the previous meeting. Each of *arisan* has an organization consisted of leader and treasurer who organize and manage the money. Each individual contributes for some fixed amount of money. At the end of the session, the leader will announce the winner by drawing the names (lottery). This process continues until every member of the group receives the lottery. Most of *arisans* in Indonesia are ongoing that do not end with just one rotation but continue with more or less the same set of individuals.

In the *arisans*, members also collect voluntary social funds. The funds are administered by the treasurer for social activities such as for donations when one of the members is sick. Additionally, the *arisan* facilitates the members to save money, the amount of savings varies on one's financial ability. The saving money collected from the members will be kept and accumulated in a pooled savings for a specific time, then redistribute to the members. The standard period is one year so that the member can demand for paying education, a religious ceremony or social activities (Bouman, 1995). Any *arisan* that has a link with BMT will save the pooled savings in BMT through the officer who comes to the event.

For BMTs, the *arisan* is not only substantial source of deposits but also a medium to establish a personal relationship with the BMT members and attract the new members. *Arisan* becomes a useful tool for financial intermediary by arranging saving and deposit transactions, loan disbursements and installment collection. In many BMTs, for instance, BMT BIF and BMT Al-Ikhwan, they integrate *arisan* with *majelis taklim*. Thus, it is called as *arisan majelis taklim* (religious arisan). For the BMT clients, this forum is more motivating since they will gain more benefit not only in term of financial matter but also in religious dimension. Related to this, one of the BIF members said :

> "Initially, it was an only forum for *majelis taklim* created by BIF for its members. Then we propose to add *arisan* to motivate the members to attend *majelis taklim*. It is exciting since I get two benefits at once. For me, *arisan* is a matter of economic life, but *majelis taklim* is a matter of hereafter" (Ibu S, personal communication, November 28, 2017)

Furthermore, BMT utilizes the forum to monitor the business development of the members. The casual discussion with the members helps BMT to identify the problems they face and then offer the solution. As I observed, the relationship between BMT and its member goes beyond professional partnership, but rather a personal relation. The members do not only consult their business performance but also about family, children, and education. Ridwan, the BIF manager asserts that the comparative advantage of BMT compares to other financial institutions lie on its ability to develop personal closeness with the customers (Ridwan, personal communication, December 23, 2017).

2) Rembug Minggon (Weekly Meeting)

Another model of collective economic empowerment appears in GEMI which replicates the Grameen bank's system. GEMI organizes the members into small groups. The groups are consisted of three to ten persons and led by a chairperson. The formation of groups is based on the proximity of residence (village). Thus, between members had known each other beforehand. The role of the group is to become a "social filter" in the recruitment of new member, media "binding" between members in the micro-finance group with joint liability system (YP2SU, 2011). In addition, this groups also serve “social collateral” to replace physical collateral. The groups conduct a weekly meeting known as *rembug minggon*, a Javanese term which means weekly discussion. Each *rembug minggon* is typically composed of five to eight groups and led by an elected center chairperson and secretary. These elected officeholders are not given any remuneration for organizing the group and *rembug minggon* activities.

As the absent of the formal guarantee, GEMI relies on a rigorous process of socialization. The new members of GEMI would, for instance, have to go through a program of “gathering compulsory training.” This initiation program serves to acculturate the recruit into the GEMI philosophy. At this point, members are required to commit themselves as the members of GEMI ”. One of the GEMI staff officers states that the discipline of the members becomes a critical aspect of this program. For example, if one member is unable to attend the training, other members will be automatically disqualified from joining GEMI (Jayenk, personal communication, November 30, 2017). Furthermore, the training also introduces the member to the concepts of Islamic finance such as sharing profit and risk and the idea of joint liability lending.

After the training, the new members make a group formation and selects a leader who will represent the group in every meeting of *rembug minggon*. Loans will be issued to individual group members if they conform to the discipline of GEMI. Initially, only two of the group members are eligible for credits. Only when the first two borrowers begin to repay the installment over a period of six weeks, then the other members of the group become eligible for a loan. The initial loans for the new members are IDR 2 million which must be repaid in equal weekly installments over 25 weeks. If any member defaults, the whole group becomes ineligible to receive additional loans from GEMI. Hence, although credit is given to an individual member, the group is ultimately responsible for repaying loans, as well as for maintaining financial and social discipline. The fact that one group member’s ability to borrow depended on the others repaying, it provides an effective, and informationally efficient, enforcement mechanism, based on the advantages of peer monitoring (Haldar and Stiglitz, 2016). Moreover, Shatragom (2012) suggests that if the group is well coordinated and can overcome a free-riding incentive, joint liability schemes can improve social welfare as the members are acting as each other’s guarantors. For the microfinance institution, joint liability is useful in reducing transaction costs as well as the rate of defaults.

The heads of *rembug mingon* and group chairpersons jointly monitor loan utilization of the member on a daily basis. The group leaders are also responsible for collecting repayments and handing them over to the staff officer in the weekly meeting. Similarly, the borrowers also accountable to monitor each other to see who can pay and who cannot pay. Monitoring can take on several forms, such as observing repayment of the loan, visiting another's business to verify that it is in operation, showing receipts to demonstrate that inventory was purchased with the loan proceeds. The borrowers are generally already familiar with the activities in which they want to invest. Consequently, GEMI does not have to provide any training concerning the choice of business.

The unique feature of *rembug minggon* is the transparency transaction that is openly conducted at the meetings. Most transactions, including loan proposal, repayment, and compulsory saving are fairly discussed in the presence of the members of the groups. This approach reduces the problem of moral hazard and adverse selection and therefore minimize the risk of voluntary default. Further, all transactions are well documented and open for scrutiny to the stakeholders. However, all other decisions like margin, Profit and Loss Sharing (PLS), repayment installments, the sanction of loans follow specific rules or guidelines. For example, if there is any member who does not attend the meeting of *rembug minggon* for three times the maximum amount of the loan for the next period will be reduced.

The regular meeting of *rembug minggon* facilitates women to exchange information and experience mutual learning among the members on various issues, such as business, social, and religious. Also, this forum helps to create leadership among the members and encourages them to express an opinion. On the other hand, the forum allows GEMI to identify problems faced by the members as well as to mitigate ex-ante moral hazard by inducing borrowers to monitor each other choice of projects.

E. Conclusion

Through the socio-economic empowerment, BMTs distribute Islamic loan scheme to the women clients. There are two approaches that BMTs applied for the socio-economic empowerment: individual and collective empowerment. Personal empowerment (OVS) is the most popular strategy for BMTs. This scheme arranges an intensive meeting for the client business place. Meanwhile, the collective empowerment is generally facilitated through the creation of a group of women based on the proximity of resident.

Reference

Ahmed, F., Siwar, Chamhuri NA and Begum, RA.2011. "Impact of Microcredit on Poverty Alleviation Among Rural Women: A Case Study of Panchagarh District in Bangladesh", *African Journal of Business Management* Vol. 5/16, pp. 7111-7119

Anderson, Siwan, and Jean-Marie Baland, 2002. "The Economics of Roscas and Intrahousehold Resource Allocation." *Quarterly Journal of Economics,*No. 117, pp.963-95.

Antonio, M.Syafii.2008. "Islamic Microfinance Initiatives to Enhance Small and Medium-Sized Enterprises", In Greg Fealy & Sally White (Eds.), *Expressing Islam: Religious life and Politics in Indonesia,* pp. 251−266. Singapore: ISEAS Publishing.

Antonio, Syafii and Nugraha, Hilman F, 2012. “Peran Intermidiasi Sosial Perbankan Syariah : Inisiasi Pelayanan Bagi Masyarakat Miskin”, *Jurnal Keuangan dan Perbankan*, Vol.12/2. Pp. 238-252

Anggraeni, Lukytawati, 2009. “Factors Influencing Participation and Credit Constrains of A Financial Help Group in A Remote Rural Area : The Case of ROSCA and ASCRA in Kemang Village West Java”. *Journal of Applied Sciences*, No. 9/11, pp : 2067-2077

Ascaraya.2018. “Baitul Maal Wat Tamwil (BMT) : An Integrated Islamic Social and Commercial Financial Institution in Indonesia”, *Isra-Thomson Reuters IRTI Islamic Commercial Law Report*, p.104-107

Bauman, F.J.A,1995. “Rotating and Accumulation Savings and Credit Associations : A Development Perspective”. *World Dev*.No.23.pp.371-384

Besley, Timothy, and Alec R. Levenson. 1996. "The Role Of Informal Finance In Household Capital Accumulation: Evidence from Taiwan." *Economic Journal* 106:39-59.

Besson, Jean 1995. "Women’s Use of ROSCAs in the Caribbean: Reassessing the Literature." Pp. 263-88 in *Money-Go-Rounds: The Importance of Rotating Savings and Credit Associations for Women*, edited by Shirley Ardener and Sandra Burman: Berg Publishers.

Cahyandari, Agnes Gita, 2014. *Representing Identity Through Arisan: A Case Study on Three Groups in Yogyakarta*, accessed on 17th May through https://ugm.academia.edu/GitaCahyandari

Dagnelie, Olivier, and Philippe Lemay-Boucher. 2011. "Rosca Participation in Benin: A Commitment Issue." *Oxford Bulletin of Economics and Statistics*.

Choiruzzad, Shofwan AB. 2012. “The Central Bank in the Development of Islamic Economy Project in Indonesia: Role, Motivations and Moderating Effect”, *Ritsumeikan International Research*, Vol.25/2.pp. 87-109

Cheston, Susi and Lisa Khun.2002. *Empowering Women Through Microfinance*, UNIFEM, accessed on July 30 2017 from <http://www.genfinance.info>

Floyd, R. 2005. *Empowerment*. New York: Roger W. Floyd.

Geertz, C., 1962. “The Rotating Credit Association: A `Middle Rung’ in Development” *Economic Development and Cultural change*, No.10, pp.241-263.

Hennink, M., Kiiti, N., Pillinger, M and Jayakaran, R.2012. “Defining Empowerment: Perspectives from International Development Organisation”, *Development in Practice*, Vol.22/2, pp. 202–215.

Handa, Sudhanshu, and Claremont Kirton. 1999. "The Economics of Rotating Savings and Credit Associations: Evidence from the Jamaican 'Partner.'" *Journal of Development Economics* 60, pp. 173-194.

Haldar, Antara & Stiglitz, Joseph E,2016. “Group Lending, Joint Liability, and Social Capital: Insights From the Indian Microfinance Crisis”, *Politics & Society* , Vol. 44/4, pp. 460-496

Hossain, M.D. (2002). “Al-Qard Al-Hasan: A Practical Approach”, accessed on May 28th 2018, through http://www.witness-pioneer.org

Hospes, Otto. 1995. "Women’s Differential Use of ROSCAs in Indonesia." Pp. 127-148 in *Money-go-rounds: the Importance of Rotating Savings and Credit Associations for Women*, edited by Shirley Ardener and Sandra Burman: Oxford, Washington: Berg.

Ibrahim, S and Alkire, E.2007. *Agency and Empowerment: A Proposal for Internationally Comparable Indicators*. Oxford Development Studies, accessed February 09 2017 from <http://peaceworkspartners.org/>

Mayoux, Linda, 2002."Women's Empowerment and Participation in Microfinance : Evidence, Issues and Way Forward", *Micro-finance and Women's Empowerment in India*, pp.1-43

Martowijoyo,S.2007. "Indonesia Microfinance at The Crossroad : Caught Between Populer and Populist Policy". *The Essays on Regulation and Supervision*, No.23 The Microfinance Regulation Research Center

Narayan, D. 2002. *Empowerment and Poverty Reduction: A Sourcebook*. Washington, DC: World Bank, accessed on 19 February 2017 from < http://siteresources.worldbank.org/>

Narayan, D.2005. "Conceptual Framework and Methodological Challenges". In D. Narayan (Ed.), *Measuring Empowerment: Cross-Disciplinary Perspectives* (pp. 3–38). Washington, DC: The Word Bank, accessed on February 19 2017 from < https://openknowledge.worldbank.org/

Nazirwan, Muhamad.2015."The Dynamic Role and Performance of *Baitul Maal Wat Tamwil":Dissertation,*Victoria University, Australia, accessed on May 11th 2017, from <http://vuir.vu.edu.au/26242/>

Obaidullah,Mohammed and Khan,Tariqullah.2008."*Islamic Microfinance Development : Challenges and Initiatives*", Islamic Development Bank, accessed on October 10th 2016 from <http://new.mbri.ac.ir

Petesch, P., Smulovitz, C and Walton, M.2005. "Evaluating Empowerment: A Framework and Cases from Latin America". In D. Narayan (Ed.), *Measuring Empowerment: Cross-Disciplinary Perspectives* (pp. 39–67). Washington, DC: The Word Bank, accessed on February 19 2017 from < https://openknowledge.worldbank.org/

Kabeer, Naila.1999. "Resources, Agency, Achievements; Reflections on The Measurement of Women's Empowerment". *Development and Change*, Vol.30, pp. 435−464.

Kato and Kratzer.2013. **"**Empowering Women Through Microfinance: Evidence from Tanzania*", ACRN Journal of Entrepreneurship Perspectives*, Vol. 2, Issue 1, p. 31-59, Feb. 2013, ISSN 2224-9729

Lasagni & E. Lollo, 2011 "Participation in Rotating Savings and Credit Associations in Indonesia: New Empirical Evidence on Social Capital," Economics Department Working Papers 2011-EP05, Department of Economics, Parma University

Riwajanti, Nur Endah.2014. "Exploring the Role of Islamic Microfinance Institution in Poverty Alleviation through Micro Enterprises Development, A Case Study of Islamic Financial Cooperative (BMT) in Indonesia"*, Kyoto Bulletin of Islamic Area Studies*, Vol.7, March. pp 49-66

Roxin,Helge et al.2010. *Economic Empowerment of Women Through Microcredit* : Study Case of the *Microfinance Investment and Technical Assistance Facility (MITA)*, Humboldt University, Berlin, accessed on August 9 2017 from < https://edoc.hu-berlin.de/>

Robinson, Marguerite S, 2001. The Microfinance Revolution : Sustainable Finance for The Poor, World Bank, Washington, D.C, accessed on June 01th, 2017 through http://documents.worldbank.org/

Sarumathi & Mohan.2011. "Role Of Micro Finance In Women's Empowerment (An Empirical Study in Pondicherry Region Rural SHG's)", *Journal of Management and Science,* Vol. 1/1, pp.2249-1260

Sakai, Minako.2008. “Community Development through Islamic Microfinance: Serving the Financial Needs of the Poor in Viable Way”, in G. Fealy & S. White (eds.), *Expressing Islam: Religious Life and Politics in Indonesia.* Singapore: ISEAS Publishing

Sakai, Minako.2010. "Growing Together in Partnership: Women's Views of the Business Pratices of an Islamic Savings and Credit Cooperative (Baitul Maal wat Tamwil) in Central Java, Indonesia”, *Women Studies International Forum,* 33,pp. 412-421

Sri Rahayu, Ninik and Kusumaningrum, Sita D.2015. “Contribution of BMT in Empowering Women, Study in Sleman Region, Yogyakarta Special Province*, Asean Journal of Innovation and Entrepreneurship* Vol.4/33, pp.162-180.

Shatragom, Sujiphong, 2012. *Is Joint Liability Lending More Efficient than Individual Lending?: A Theoretical and Experimental Analysis*, Dissertation, accessed on 27th May, 2017 through https://digital.library.adelaide.edu.au/

Ulfi, Izzani and Salina Kassim.2016. *Empowering Women through Islamic Microfinance: Experience of Baitul mal wat Tamwil Beringharjo, Indonesia, accessed on July 16 2016 from <http://researchgate.net>*

Varadharajan, Sownya 2004. “Explaining participation in RoSCAs: Evidence from Indonesia”. Cornell University (mimeo). Accessed on May 16, 2018 through ” http://people.cornell.edu/

Weinberger, Katinka, and Johannes P. Jutting. 2001. "Women's Participation in Local Organizations: Conditions and Constraints." *World Development* 29, pp. 1391-405.

Wulandari and Kassim, 2015. “Issues and Challenges in Financing The Poor: Case of Baitul Maal Wa Tamwil in Indonesia”, *International Journal of Bank Marketing*, Vol. 34 / 2, pp. 216-234

Yaumidin, U.K, Yuniarti,P, Sohodo,D and Hidayin,A.2015. “*Financial Inclusion for Women : Impact Evaluation on Islamic Microfinance for Women’s”, Economic Research Centre*

YP2SU.2011.*Berdayakan Usaha Mikro Kaum Ibu Dengan Kredit Mikro Kelompok*, accessed on February 28th 2017 through www.ppsdm.id

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Canada Research: "Pledged Land's Harvested Produce under the Talmud"

∗ Introduction: Security and quasi security devices

1. Under the Talmud debtor's ***land*** is subject to creditor's lien where the debt is evidenced by a deed—a loan written document [signed by the witnesses – not the borrower]. Lien is effective against purchasers and subsequent creditors. Until default land subject to such lien is in the possession of the borrower.

2. Designation of asset remaining in the debtor's possession for debt payment – HYPOTHEC – on its own does not confer on creditor right vis-à-vis competing creditors and buyers - – rather – possession must be transferred to the creditor – so to create a pledge – in the custody of the pledgee-creditor.

3. **The [possessory] pledge**

∗ Pledge of a chattel—the lender/pledgee as a custodian

Taken as a source of payment in case of default

What are the responsibility of a custodian – a person who holds in his possession a chattel belonging to another?

Talmudic law has four categories[12] of custodians of **chattels** with a varied degree of responsibility for loss, including by theft.[13] Briefly stated,

1. An unpaid custodian is liable for loss only in connection with his negligence, that is, loss or theft caused by his fault.

2. A paid custodian is responsible for any loss unless it occurred in circumstances beyond his control (namely, by *force majeure*).

3. A borrower of a chattel for use who is not obliged to pay for the use is responsible for any loss, including when caused by *force majeure*; he is however not responsible for loss caused by normal use of the chattel.[14]

4. A renter, forming the fourth category, is likely to be responsible as a paid custodian.

The position of a craftsman as well as of a pledge holder, each as a paid custodian, is provided for in the Talmud, *Bava Metzia* at 80B (Mishna), and is further elaborated on and debated in the ensuing Gemara, particularly at 81B-82B. As a paid custodian the pledge holder is liable for loss or theft even where it was not caused by his fault (unless loss occurred in circumstances beyond his control). Accordingly, upon the loss of the pledge chattel, the lender loses his right to recover the amount lent (assuming it is of the same value as that of the pledged chattel).

As a paid custodian a pledgee may neither sell nor use the chattel. If he uses the chattel gratuitously - even under an agreement with the/pledgor/ borrower he is taking interest which is prohibited. However, a lender who needs the pledged chattel for his own use, may, under an agreement with the pledgor, may use the chattel for rent, to be deducted or offset from the amount lent. As well, a lender to a poor pledgor, may be obligated to rent the chattel and account to the pledgee for the rent in the form of a corresponding reduction of the amount owed on the

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[12] By comparison, English common law purported to borrow from Roman law a six-category classification. See judgment of Lord Holt C.J. in *Coggs v. Bernard* (1703), 2 Ld. Raym. 909, 92 E.R. 107.

[13] For these categories and the scope of each one's responsibility, see Talmud, *Bava Metzia* at 93A, 94B; and Rashi, D"H "Makné lei kfeila" in Talmud, *Bava Metzia* at 34A. For a succinct summary, see the compilation of Halakhic Concepts in A. Steinsaltz, *The Talmud-The Steinsaltz Edition - A Reference Guide* (New York: Random House, 1989) at 262-63. The biblical authority for these categories and their respective responsibilities is Exodus 22:6-14, fully discussed in Talmud, *Bava Metzia* at 94B-96A.

[14] For the borrower's liability for loss caused by normal use, see Talmud, *Bava Metzia* at 96B-97A. The borrower is also not liable for loss or damage if at the time of the borrowing the owner of the chattel was working for him. See Talmud, *Bava Metzia* at 94A, interpreting Exodus 22:14.

loan. It is disputed whether pledgee-lender who uses the chattel in such circumstances is considered a paid or unpaid custodian. As indicated, if he is an unpaid custodian upon the accidental loss of the chattel he is not liable so as to be able to collect the amount owed.

Debtor may redeem the pledge and take it back by paying ANYTIME.

⁎ **Pledged [Possessory Security] in Land**

(Talmud, BM, 67a - 68a)

First issue: is lender in possession entitled to work the field and harvest?

Regardless:

Second issue: ***Lender took possession – worked the land and harvested –***

•May he take the produce without any accounting to the borrower?

•Is harvested produce to be applied towards the debt owed on the loan? or

•Is taking the produce prohibited ribit (unlawful interest taking)?

In that regard, there is a distinction between a place in which:

[1] the custom does not allow the borrower to redeem the land prior to the end of the term (that is, due date for repayment), and

[2] the custom permits it:[15]

•In a place where ***custom does NOT allow the borrower to redeem the land*** **[no customary pre-due date redemption]** ***before due date*** the lender enjoys a sort of a secure tenancy – as if he is the owner during term of the loan. He may enjoy its produce *w/o applying any reduction to the debt.* This is true even where the right of the lender to harvest the land was not discussed prior to taking possession by him. ***In effect the transaction is not treated as a loan – but rather as a sale with an obligation to buy back – so once the lender enters the field he is considered owner – and as such he is entitled to the produce.***

However, where there IS customary pre-due date redemption right:

When it is NOT agreed that lender is entitled to harvest-- the produce as ribit [*but was it agreed that lender would work the land and harvest?****]—and lender took possession – worked the land and harvested*** -- is the harvest produce part the of the debt payment on the loan, and if not how to avoid violating the prohibition against taking interest?

[15] However- in a place where there is a customary pre-due date redemption right the lender may enter the land on stating an oral condition under which the right will not be exercised. Conversely, in a place where the customary pre-due date redemption right does not exist it is disputed whether to be valid a condition to the contrary requires an act of acquisition.

•Practical solution to address the issue in advance:

•No problem in case of a '***Surean Pledge'*** – A clause in the loan deed stating that 'at the end of ***these years*** this land shall leave the lender's possession without any payment of money'. No specific yearly reduction is mentioned – it looks like sale for a period (for the total produce). *Quare*, how this works where the borrower chooses to exercise his pre-date customary redemption right. Does the Surean pledge constitute an effective waiver on such a right?

•As well no problem where lender and borrower agree to let the produce account as payment – such an agreement is valid.

OTHERWISE [w/o Surean pledge [or accounting agreement] –

In a place where there is customary pre-due date redemption

According to one sage (Rava son of Rav Yosef) – the lender is required to apply the produce towards the debt – even ***[with no fixed reduction agreement]*** if this was not agreed in advance. [but if he harvested and took more – surplus/ excess is not forfeited]

Conversely, according to another sage (Rav Ashi), the lender may not do so without such a ***fixed reduction agreement***. Rather, in enjoying the produce, he is in violation of the interest taking prohibition. However, because this is not a pre-determined interest (that is – this is 'merely' a 'dust of interest' situation), he is not required to return this illicit benefit.

The first sage- Rava- however adds that the **enjoyment of the produce is prohibited by the lender UNLESS a *fixed reduction agreement*** is made in advance

[In effect there seems to be an agreement on this point so that the dispute between Rava and Rav Ashi is only for the case where in the absence of such [reduction] agreement the lender nevertheless went ahead and enjoyed the produce]

[In fact lender in possession benefits greatly by this arrangement because the actual value of the yearly crop is usually higher than the reduction. This gain [over what would have been an agreed upon yearly reduction] is however not considered 'interest' – since lender purchases each year 's crop from the borrower in advance – the purchase price being the reduction. Lender thus enjoys his own produce. As well, the lender may however stands to lose in case of adverse conditions – ruining the crop – the reduced sale price can be attributed to the lender's acceptance of the risk]

There are those who say that any arrangement in which the lender takes the produce without an accompanying agreed upon fixed reduction of the debt is positively forbidden.

As well – according to Rav Huna – Rabbinical scholars who are upheld for high ethical standards – should not enjoy the produce ***even with a fixed periodic reduction of the debt***

Other than under the Surean Pledge and actual accounting: under what circumstances a highly ethical person (e.g. Rabbinical Scholar) *[or anyone – according to those who say that any arrangement in which the lender takes the produce without an accompanying agreed upon fixed reduction of the debt is positively forbidden*] will be allowed to enjoy the produce? – OR BETTER – how should he profit from the arrangement?

--→ Where it is an arrangement **'***with a limitation of benefits'* – an arrangement whereby the lender's enjoyment of the produce is limited to a specific number of years.

But what it is exactly such an arrangement '*with a limitation of benefits'*? There are two options:

1. The lender says: 'Until (e.g.) five years I shall eat the produce **w/o reduction**. [This can work also in a place where the custom allows the borrower to redeem the land before due date since it is only up to the borrower to 'release' the lender by prepaying] From then on I will account for the full value of the produce [effectively saying that 'it is all yours, Borrower']. This is a variation on a share-cropping arrangement.

2. For those who do not accept any arrangement of ***'w/o reduction'*** – lender says: 'Until five years I will eat the produce **with a reduction** of the debt [at an agreed in advance rate] – from then on – I will account to you – Borrower – of all the produce.'

But there is disagreement on the validity of such an arrangement. RAVINA approves it and Rav ACHA rejects it.

[Whoever approves #1 (RAVINA) – will approve #2; whoever rejects #2 (ACHA) – must be taken to reject #1 as well]

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Effect of Financing on Liquidity Risk of the Bank in Iran

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Abstract: Banks need to control and reduce risks to continue their activity. To do this, identifying the factors affecting various risks will be very helpful. One of the most important risks associated with banking activity is liquidity risk. Considering that banks mainly finance their resources from deposits, so identifying the effective factors on liquidity risk is of particular importance. For this purpose, the aim of this study is to determine the effect of finance structure on the liquidity risk of the banks listed on Tehran stock exchange (banks financing in Iran is Islamic). In this research, the financial information of the banks accepted in Tehran Stock Exchange during the period of 2006-2017 has been investigated. To do this research, multivariate linear regression test has been used using panel data. The analysis results show that the financing structure has a significant effect on the liquidity risk of banks in Iran. The results indicate that demands deposit, saving deposit and term deposit have significant effect on the banks' liquidity risk.

***Keywords*:** Financing Structure, Islamic Financing, Demand Deposit, Saving Deposit, Term Deposit, Liquidity Risk.

1. Introduction

Nowadays, using modern and efficient tools is assumed as very important for financing to economic enterprises. Whereas, majority of modern financing tools are procured and spread through financial markets thus they play important role in circulation of economic activities so that their proper development and performance may exert noticeable effects to developing financial markets and economic growth.

In many countries, method of financing needed for economic activities may vary depending on level of focus of applicants for investment in capital market or banks and with respect to importance of financial markets and their role and function in economy, several financial systems have emerged of financial structures "Market Base and Bank Base financial structures". On the other hand, Islamic financing is a relatively new phenomenon in financial and banking systems and advantages of Islamic financing versus conventional financing have led to ever-increasing spreading and importance of Islamic financing in Islamic states. Islamic financial system tries to identify, analyze and present some methods thereby also to replace them with other conventional and prevalent tools in modern world financial system with the necessary efficiency at the same time. According to principles of Islamic Sharia, receiving money interest is not allowed. But it doesn't mean that there is no profit for investment and other economic activities in this industry. It is asked from contract parties to be partners and shared in both profit and loss for investment in this industry.

An example of Islamic financing is visible in Islamic Development Bank (IDB). This bank has been established to accelerate economic and social development in member states of Islamic nations based on principles of Islamic Sharia. Tasks and performance of this bank include partnership in investment in enterprises and grating facilities for implementation of productive projects and activities as well as presentation of financial aids for social and economic development in member states. There are 21 less-developed nations among 51 member states in IDB bank, and these countries are preferred to receive the loan. Overall, it should be mentioned that many studies have been conducted on growth and development of Islamic financing during recent years. The quantity of financial institutes and banks that present Islamic financial services is going to increase and with respect to effects of Islamic financing in economic and social development, a bright and prospective outlook is forecast for this bank.

In some countries similar to Iran as an Islamic nation in which there is bank-based financial structure, banks are assumed as the foremost fund- circulation agents and by designing types of banking deposits e.g. current Qarzolhassaneh (sight deposit), Qarzolhassaneh saving deposit, and time investment deposits, they collect surplus cash flows from natural persons and legal entities and put it at disposal of economic actors as banking facilities and thereby they finance for execution of economic projects and plans. Sometimes, banks may encounter to financing problems and they have to resort to other financial markets for preparation of financial sources and employ other financial tools along with banking deposits. If a bank lacks adequate liquidity it is exposed to problems in timely payment of the given debts e.g. deposits as well as in providing funds for granting facilities and the created insolvency is called liquidity risk. Unexpected withdrawals or lack of recovery of banking deposits by minor and major depositors may cause the bank to be compelled to unexpected financing to withdrawal of deposits. Therefore, implementation of effective liquidity management in bank seems to be necessary thereby the bank is able to meet the requests for withdrawal from accounts of customers and also to satisfy loan requests well. Various elements should act by interaction with each other for liquidity management. Some factors including suitable organizational structure, presence of low-cost and diversified tools and liquidity risk measurement and surveying system form elements of effective liquidity management. It should be generally implied that liquidity risk is one of the most prevalent types of risk to which banks are exposed and it necessitates for implementation of proper liquidity management in order to prevent from wasting investment opportunities, and use surplus liquidity values for investment and grant new facilities to acquire higher return and prepare for tackling with critical and deficit conditions. It is necessary for proper liquidity management to identify suitable tools and efficient factors of this task rightly. Financing techniques of banks are one of the foremost effective factors in liquidity in banks. Therefore, in order analyze effect of financing techniques in Iranian banks on liquidity risk the current research tends to give answers to this question: How much does financing affect liquidity risk by depositing in banks?

2. Literature Review and Background

Today, money and banking are considered as the foremost economic subjects in the world. Importance of study on money and bank in economy may be clarified in two points. Money and banking are deemed as important with respect to their proximity to variation in money volume, inflation, unemployment and economic developments. Growth in banking industry is one of the major elements in financial system as well as the paramount factors in national economic growth. Although the main activity of banks is done based on financial brokerage, excessive development of financing and non-observance of credit status may expose the banks to various risks. Accordingly, paying attention to financing structure is crucially important. The banks are exposed to different risks so that managing these risks has played important role in profitability of banks. Lack of managing such risks will be finally led to bankruptcy. Generally, the risk may be assumed as probability for non-realization of expected results and risk management can be considered as the concept of planning and organizing and controlling of activities and sources to minimize effect of uncertain and unknown events to maintain financial balance and operational potential of institutes.

Various classifications have been proposed in previous literature. Based on classification of BAL Committee, risk in bank includes credit risk, market risk and operational risk. According to attitude of Sinkey (1992), banking risk and managing it may be focused on three risks i.e. credit risk, interest rate and liquidity. In a study done by Greuning et al. (1999) in the World Bank, they presented another classification of risk. While this classification has been specifically presented about risk assessment in the banks, it can be also applicable for other commercial institutes and organization in terms of subject and content. Greuning refers to risks in banks including four classes of financial risk, operational risk, commercial risk and risk of events. Various factor may influence in risks including financing structure affects the liquidity risk in the bank. Financing is the management art and knowledge for cash fund. The financing aims to investment profitability, reduced risk and meeting of economic and social requirements of the given enterprise. Financing of favorable sources is one of the concerns for economic enterprises in the world. Any activity needs to financial sources. Risk ability for disability of a bank to fulfill accruals in due date is called liquidity risk. This risk is mainly related to structure of assets and banking liabilities.

Financing structure is considered as an important and influential factors in liquidity risk in Islamic states in which there Islamic banking system. Today, we witness that Islamic financing system is going to grow and develop at dramatic speed in the world and not only Islamic states emphasize in necessity for adaption of Islamic tools in the financial market but also this trend is entirely visible in the other countries in the world. The capital markets and interest-free financial products are assumed as the integrated part in Islamic financial system. In this regard, Muslim thinkers could design types of financial tools by observance of religious disciplines and regulations and proportional to real requirement of Islamic communities (Mousavian, 2007).

Islamic financial system is composed of Islamic banking, Islamic insurance and Islamic capital market that has been converted into an important and basic unit in the world financial markets by its development and it has been highly addressed as an efficient and practical alternative financial model versus classic financial system (Lashgari & Arjomandi, 2012). Division of risk and partnership in profit and loss is one of the distinct and positive characteristics of Islamic financing. Based on this method, investor is shared in both profit and loss of capital and partnership and any type of profit is divided among customer and bank. In other words, capital financers are assumed as investors and entrepreneur and investor can be shared in profit if they are shared in loss as well. Unlike traditional financing in which one loan-giver and one loan-taker are basically found in granting their facilities, bank or Islamic financial institute is assumed on the one hand as partner to depositor and as a partner for economic employer, on the other hand. Moreover, depositors in the banks and Islamic financial institutes can be compared with shareholders of joint stock companies in which they are shared in profit and loss caused by corporate activities. In fact, depositors participate in financial investments and activities in bank by depositing and they are shared with bank in profit and loss of such investments.

The research from previous studies provides some basic theory on the factors which effect on liquidity risk. Burksaitiene and Draugele (2018) investigated how any kind of impact to company's capital structure influence to the liquidity risks? The research presented involves quantitative analysis of companies in Baltic countries, 400 observations. This makes possible to decide if used data is relevant and useful for the research. After those different types of leverage analysis is performed to determine capital structure impact on liquidity.

Abdul-Rahman and et al (2017) investigates whether Financial structure affects bank liquidity risk. Using the Malaysian banking data sets, they compare the Financial structure liquidity risk relationships between the Islamic and conventional banking institutions. FSs are measured by real estate financing, financing concentration, short-term FS stability, and finally medium-term FS stability. Meanwhile, for liquidity risk measures, they adopt the BASEL III approach such as liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) in quantifying short- and long-term liquidity risk, respectively. The results illustrate that increasing number of real estate financing and short-term FS stability of the Islamic banks may increase both their short- and long-term liquidity risks. On the other hand, even though real estate financing does not affect liquidity risks of the conventional banks, increasing short-term FS stability and financing specialization may increase their long-term liquidity risk.

Alzoubi (2017) analyzes the determinants of liquidity risk in Islamic banks by using a comprehensive model that incorporates several variables that impact the liquidity of Islamic banks. The results show a negative correlation between liquidity risk and cash ratio, as the cash balance can be used to meet any demands for liquidity from the bank's customers. There is negative correlation between liquidity risk and securities held by the bank, since banks which need liquidity can sell these assets to meet any liquidity shortages they face. Bank size also has a negative relationship with liquidity risk, as larger banks tend to have more stability and customers feel safer dealing with large banks.

Sabri (2013), provides an overview of the authentic principles of the Shari'ah and the main guidelines of Islamic finance with relation to liquidity risk. In addition, attention is focused on the undertaking of specific techniques and policies as well as the initiation special types of supervision to provide high-quality services so as to satisfy the spiritual and objectives of Islamic finance and subsequently to develop a better understanding of liquidity risk management.

Ahmad and et al (2011) seek to investigate the firm's level determinants of liquidly risk of listed Islamic banks of Pakistan. For this purpose, liquidity risk is used as dependent variable while size, tangibility of assets, leverage, profitability and age are employed as independent variables. The results indicate that leverage, tangibility and age are important determinants to define the liquidity risk of Islamic banks of Pakistan while liquidity risk has statistically insignificant relationship with profitability and size of Islamic banks of Pakistan. Anderson and Carverhill (2007) conducted a study on the liquidity and capital structure. Particularly, findings Revealed that higher levels of LT debt will result in more reduction in the optimal use of ST debt and higher levels of liquid asset holding. Moreover, the firm value is no sensitive to the level of LT debt. The explanation is that by adapting appropriate liquidity, the company is able to cover various contracting requirements in such a way as to keep approximately the same value of the company for a different range of LT debt levels.

3. Research Methodology

The aim of the present study is in functional term and Methods of collecting and analyzing information are Descriptive and a correlation type because it also describes the relationship between the variables. Simultaneous relationships between variables can be tested and explained using correlation and regression analysis. Statistics population of this research is the Iranian banks which is accepted in Tehran stock Exchange during 2011 to 2017 who is 15 banks.
In order to compile theoretical basis and research background Internet and Library resources have been used including: books and papers and the compilation are done. For gathering data, we used Tehran stock exchange website. For data analyzing and hypothesis test we done regression analysis through Eviews software.

4. Research Hypotethies

As it implied, banks are assumed as the foremost agents for fund circulation in Iran and their financing is done in various forms including types of deposits, taking loan from banks, publishing partnership notes, other liabilities, accumulated capital and profit etc. but in financing structures all of them are seen as three types of banking deposits including demand deposit (current account), time or saving deposit and term investment deposits. Therefore, these three types of financing methods enter as influential independent variables on liquidity risk in the current research. With respect to aforesaid items, three following hypotheses are tested in this study.
H1: The Demand deposit has significant effect on banks' liquidity risk.

H2: The Saving deposit has significant effect on banks' liquidity risk.
H3: The Term deposit has significant effect on banks' liquidity risk.

5. Research Variable Definition

In this section we identify and define research dependent and independent variables as follows:

5.1 Demand deposit (Current account)

The current or demand deposit denotes a deposit for which the bank is accrued to pay it back to the owner as requested by depositor. The main feature of demand deposit is that it does not necessitate for direct reference of deposit-holder but s/he can transfer the given fund to the third party by drawing a cheque and for this reason this type of deposit is assumed as items of money volume in the society (Mousavian, 2002).
Demand deposits are usually temporary and they are often used for facilitation in domestic or foreign commercial exchanges. The banks pay no interest for this type of deposit therefore they are considered as the cheapest financial sources. For this reason, banks try to absorb this type of deposits further in Iran by giving services of current accounts for free and through expansion of banking branches.

5.2 Time or Saving Deposit (Qarzolhassaneh saving account)

Saving account is one of the prevalent deposits in banking systems. The feature of this deposit is that the natural persons and sometimes legal entities reimburse additional funds rather than their current costs into such an account for indefinite time and receive booklet against it and they can receive the given funds upon request by planning. These deposits may not be transferred to third party and only owner of deposit can receive this fund and for this reason they include lower liquidity level than demand deposit and they are not assumed as money volume. The nature of such a deposit is based on loan and in traditional banks interest is paid for these deposits. Payment of interest is forbidden in Usury-free Banking System but some gifts are designated for owners of these deposit to encourage them. These gifts are paid without prior accrual and contract and as non-fixed types (in cash and kind) and they are distributed among account-holders by lot. Whereas owners of this type of deposits intend to help the bank to grant Qarzolhassaneh (charity) loans and to be shared in spiritual reward as a holy action rather than storing funds therefore it is duly to call these accounts as Qarzolhassaneh deposit (for charity).

5.3.*Term Deposit (Investment Deposit Accounts)*

There are many investors who may not be interested and or utilize their funds for various reasons. Hence, they may refer to the institutes to pay interest to them in addition to keeping their original capital. Traditional banks absorb the aforesaid funds as fixed deposits and pay their owners proportional to depositing period in addition to repayment of their original funds. Term deposits are stored in booklets and they are opened with at least ten thousand Rials for the first time and this fund should be kept before the bank for three months. The account holder can withdraw from his/ her funds by presentation of this booklet at any time- by observance of the first three months as well as by considering this interest belongs to the least balance of account at any month- and or add some funds to this account again. These types of deposits will be extended after the first three months, one month after another and automatically according to the initial agreement and they are not necessary to be extended by referring to the bank for the second time. The long-term investment deposits are received by the banks as deposit note with at least fifty thousand Rials and for one-, two-, three- and five-year periods. After maturating extension of deposits for further periods the interests will be computed according to a function of three-month careers.

Therefore, term deposit is a fixed or term deposit for the funds paid by legal entities or institutes to the bank in order to acquire revenue and in fact this deposit is a contract concluded among the bank and customer based on which the customer deposits certain fund in cash to the bank for the definite period of time and the bank is accrued to pay back the original and interest of deposit to the customer at certain due date. Whereas legal nature of this type of deposit is deemed as loan by interest and as clear examples of usury therefore Usury-free Banking Act was changed fundamentally. As it mentioned in Articles 3-6 of Usury-free Banking Act, the banks receive funds of term deposits as legal form of contract (by proxy) from their owners and use then, as advocates of depositors, in payment of loans for banking activities such as partnership, contract of reward, hire-purchase, installments contracts, cultivation contract, irrigation agreement, direct investment, future. The banks may accrue for or insure the original term deposit fund and divide the benefits resulting from the given operation according to agreement and proportional to the period and deposit fund by observance of portion of bank's sources after deduction of costs and attorney ship commission among the deposit-holders. Although the rate of interest is not initially known in these accounts, it is ensured that the profit of sources will belong to these funds because of extensive practice and variety of transactions. Thus, the bank can pay interest to them on the account before the full auditing. Term investment deposits include two forms: short-term and long-term. Term deposits are in turn divided into short-term deposits (one-year) and mid-term deposits (two or three year) and long-term (five-year) and interest rate vary in each of them. Although if this term is longer, more annual interest is paid to the given deposit. The interest rate payable to saving and term deposits is one of importance efficiency parameters in commercial banks. Growth of banking deposits is the second criterion for assessment of return for banks. The active operation of banks in attraction of further small and big deposits and short-term and long-term deposits from the people may play important role in economic development of communities and it is expected that a banking system to be constantly exposed to positive and noticeable growth in attraction of deposits. In addition to interest rate of deposits that can play main role that causes the people to welcome to depositing in banks, other factors may highly affect attraction of deposits from customers e.g. compliance of banking operation with publicly accepted values and beliefs, trust and confidence in operation of banks, fast activity of banks in doing assigned tasks and duly behavior with customers (Mousavian, 2002).

5.4 Liquidity Risk

It is a financial risk that a company or bank may be unable to meet short term financial demands. This usually occurs due to the inability to convert a security or hard asset to cash without a loss of capital and/or income in the process. Liquidity risk generally arises when a business or individual with immediate cash needs, holds a valuable asset that it cannot trade or sell at market value due to a lack of buyers, or due to an inefficient market where it is difficult to bring buyers and sellers together.

In this research similar to the study conducted by Ardekani (2015), our alternate for liquidity risk variables is standard deviation of the bellow formula:

$$LQ_{it} = 1 - \left(\frac{Cash_{it} + Security_{it} - DDeposit_{it} - ShortDeposit_{it} - ShortLoan_{it}}{TotalAssets_{it}}\right)$$

6. Research Model

The model developed in this study is a modification of the previous studies. It comprises of both bank liquidity risk and finance structure along with our control variable, which are collectively presented in the following equation:

Where:

Dependent variable: LQi.t = liquidity risk

Independent variables:

DD = Demand deposit (log demand deposit),

SD = Saving deposit (log saving deposit),

TD = Time deposit (log time deposit),

Control variables:

CAR=Capital adequacy ratio (log capital adequacy ratio)

ROA=Return on Asset (profit after tax divided to total asset)

Lev=Financial leverage (total liability/ total asset)

Size=Bank size (log total asset)

7. Research Finding and Hypothesis Test

Descriptive analysis was conducted to examine the statistical characteristics of each variable to be used as the dependent, independent variables in the model. The descriptive analysis shows the mean, median, standard deviation, skewness, kurtosis and Jaque-Bera value. Mean value refers to the average value of the variables for the entire sample and standard deviation or variation refers to the distribution of the scattered data from the mean value.

Table 1: Descriptive Analysis

Variables	Mean	median	standard deviation	skewness	kurtosis	Jaque-Bera
LQ	1.561	1.621	0.024	12.547	154.312	324157*
DD	4.521	4.231	0.084	1.645	4.512	105*
SD	6.412	6.107	0.051	1.427	4.152	84*
TD	5.954	5.234	0.109	4.012	24.454	4823*
SIZE	9.564	9.894	0.008	0.028	2.324	17.351*
CAR	2.854	2.234	0.145	-1.541	5.347	628*
ROE	0.013	0.011	0.016	0.241	7.485	185.21*
Lev	0.062	0.071	0.021	11.213	124.785	20147*

Before conducting panel regression estimations, we run a correlation analysis to ensure our data are free from severe multicollinearity issue. Table 2 shows the correlation matrix between the dependent variables (LQ Risk) and other independent variables for the sample. In general, the coefficient correlations for all variables are less than 0.5, conjecturing that multicollinearity problem is not severe for our data sets.

Table 2: Correlation matrix

	LQ	DD	SD	TD	SIZE	CAR	ROA
LQ	1.000						
DD	0.248	1.000					
SD	0.025	0.089	1.000				
TD	0.041	0.154	0.451	1.000			
SIZE	-0.124	0.005	-0.412	0.458	1.000		
CAR	0.231	-0.048	0.389	0.427	-0.471	1.000	
ROA	-0.224	-0.089	0.247	-0.478	-0.481	0.235	1.000

The diagnostics test statistics in table 3 show no evidence of misspecification, no serial correlation, no multicollinearity and no heteroscedasticity.

Table 3: Diagnostics test

Ramsey		Durbin-Watson	Breusch-Pagan	
Prob.	F	D	Prob.	F
0.0624	1.205	1.68	0.003	3.384

To determine the kind of estimation method in panel data, first we done Hausman Test (Test Random Vs Fixed effects) and Chow Test (Test None Vs Fixed effects). The significant levels reported for the Chow and Hausman test statistic are 5%.

Table 4: Hausman Test and Chow Test

Test	Statistic	Test Statistic	d.f	Prob
Test cross-section fixed effects- Chow test	F	3.365	14.82	0.003
Correlated Random Effects - Hausman Test	Chi-Sq.	19.028	6	0.000

As the results in table 4 shows the prob for F-test is less than 0.05, so we are able to reject the null hypothesis. According Hausman test the fixed effects model prefer to random effect model. Therefore, final estimation method in this research is fixed effect. The results of our estimation are shown in table 5.

Table 5: Regression analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.622	1.842	0.547	0.546
DD	-0.809	0.328	-3.154	0.000
ST	-0.125	0.478	-2.415	0.003
TD	-0.641	1.512	-3.542	0.000
CAR	-0.105	0.164	-0.541	0.418
ROA	0.072	0.341	2.372	0.024
LEV	0.128	1.951	0.748	0.617
SIZE	0.371	0.295	1.874	0.074
R-squared	0.715	F-statistic	3.652	
Adj R squared	0.682	Prob(F-statistic)	0.001	

The regression results for the fixed effects model reveals as the prob. (0.000) for demand deposit is less than 5% level of significance, therefore the effect of demand deposit on liquidity risk is significant. This means that as a demand deposit goes up liquidity risk of the banks decrease. The results, also show the prob. (0.003) for saving deposit is less than 5% level of significance, therefore the effect of saving deposit on liquidity risk is significant. Moreover, the effect of term deposit on liquidity risk is significant as its prob (0.000) is less than significant level.

We also note that Capital adequacy ratio, financial leverage and bank size have not a significant effect on banks' liquidity risk as all their prob is bigger than 0.05.

F calculated (3.652) is greater than the F critical and its' prob (0.001) is less than significant level, this shows that the overall model is significant. Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in table 5, the value of adjusted R squared is 0.682 an indication that there was variation of 68.2% on banks liquidity risk due to changes in demand deposit, saving deposit and term deposit at 95% confidence interval. This shows that 68.2% changes in banks' liquidity risk could be accounted for by the independent variables.

8. Conclusion and Discussion

Surely, financing or potential for rising of funds and timely fulfillment of accruals upon their due date is the requisite for survival of banks. Therefore, optimal financing and providing the needed liquidity is one of the foremost activities done by the bank. Appropriate management of liquidity may prevent from probable occurrence of serious problems for the bank and reduce liquidity risk in the bank. In fact, given shortage of liquidity in a bank may be followed by extensive systemic consequences, importance of liquidity for any bank is beyond any other related subject. Thus, analysis of liquidity not only requires bank director to assess constantly bank's liquidity status, but also compel him/ her to determine how to provide for cash requirements under different scenarios including under adverse conditions and how to reduce liquidity risk by properly financing. Therefore, we examined effect of financing on liquidity risk in Iranian banks in the current study. Given Iran is an Islamic country and its banking system is also of Islamic banking type, it employs different financing techniques rather than other countries at international level. In this regard, we explored effect of three financing techniques through current deposit, Qarzolhassaneh saving deposits and term deposits on liquidity risk. The findings indicated that these three financing methods significantly affected liquidity risk so that the potential for liquidity risk could be reduced by increase in each of these deposits. In other words, by attraction of deposits from investor, bank will be able to repay fund to the customer whenever the customer refers to the bank and asks for receiving his/her fund. On the other hand, by increase in these deposits, bank can grant the facilities to the investors who need to these funds. Finally, with respect to the results derived from this study, we suggest to the bank directors to tend to absorb deposits possibly from those investors who could not invest their cash funds. It is noteworthy in Iran; various bank competes with each other by payment of different interest rates to individual deposits in this regard.

References:

Abdul-Rahman A, Suleiman A. A., Haim Mohd Said N L, (2017), "Does financing structure affects bank liquidity risk?" *Pacific-Basin Finance Journal*, In Press Available online, 1-143

Ahmed, N., Ahmed, Z. and Naqvi, I.H. (2011). "Liquidity Risk and Islamic Bank: Evidence from Pakistan". *Interdisciplinary Journal of Research in Business*,1 (9):99- 102.

Anderson, R. W., & Carverhill, A. P. (2007). "Liquidity and capital structure". Centre for Economic Policy Research Working Paper No. 6044

Alzoubi, T. (2017). "Determinants of liquidity risk in Islamic banks", *Banks and Bank Systems*, 12 (3):141-148.

Burksaitiene, D. and Draugele, L. (2018). "Capital Structure Impact on Liquidity Management. International Journal of Economics", *Business and Management Research*. 2(01). 110-129.

Greuning, H., Bratanovic, S.B. (1999). "Analyzing Banking Risk: A Framework for assessing corporate governance and financial risk management, Washington, D.C, World Bank publication.

Lashgari, M. & Arjomandi, B. (2012). "Investigation financial structure in Islamic Banking, emphasis on Sokok". *Journal of economist and Islamic banking*, 1(1). (in Persian)

Mousavian, A. (2007). Islamic Banking, Money and Banking Institution, Vol. 3. (in persian)

Sabri, M. (2013). "Liquidity Risk Management in Islamic Banks: A Survey", *Afro Eurasian Studies*, 1 (2). 215-230

Sinkey, J.C. (1992). "Commercial bank Financial Management", Macmillan Publishing Company: New York.

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LES DÉTERMINANTS DE LA FINANCE ISLAMIQUE EN AFRIQUE DE L'OUEST : LE CAS DE LA COTE D'IVOIRE

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ABSTRACT

La finance islamique a connu un essor important au cours de ces dernières décennies aussi bien dans les pays musulmans que dans les pays non musulmans. Cependant, cette innovation financière, qui repose sur les principes de l'islam, réputée humaniste et moins volatile, peine à se développer en Afrique notamment en Afrique de l'Ouest bien que celle-ci soit la seconde zone musulmane de l'Afrique.

L'objectif de cette étude est de mettre en évidence les facteurs qui conduisent à l'adoption de la finance islamique en Côte d'Ivoire. Elle doit permettre de mieux comprendre le comportement des demandeurs des services de la finance islamique afin de proposer des stratégies de développement de ce secteur en Côte d'Ivoire.

Pour ce faire, nous nous appuyons sur la théorie de diffusion des nouveaux produits ou des innovations et la théorie de l'adoption des innovations, telles que développées par Rogers, pour analyser les facteurs déterminant l'adoption des produits de la finance islamique. Notre analyse essentiellement empirique repose sur un modèle de choix d'adopter ou de ne pas adopter les produits de la finance islamique en considérant la variable expliquée comme un choix de nature dichotomique. Nous réalisons notre étude par le biais d'un modèle Logistique.

Nos analyses statistiques et économétriques sont effectuées à partir de données d'enquêtes réalisées auprès de 300 individus principalement dans la zone d'Abidjan, de Bouaké et dans une moindre mesure de Yamoussoukro.

Les résultats montrent que la religion, l'attitude non conservatrice par rapport aux produits existants, l'influence des leaders, des amis et la famille et les enseignements religieux sont importants dans la prise de décision.

Mots clés : finances islamiques, déterminants de l'adoption d'une innovation, Côte d'Ivoire, régression logistique multimodale.

INTRODUCTION

La finance islamique a connu un essor important au cours de la dernière décennie. Selon Reuter 2013, on compte en effet plus de 1 000 institutions de finance islamique dont les actifs combinés dépassent 1 300 milliards de dollars (Mayada El-Zoghbi et Kaylene Alvarez 2015).

Par ailleurs, les pays développés non musulmans ont porté un intérêt de plus en plus croissant à la finance islamique. Il s'agit entre autres de la Grande Bretagne, la France, le Luxembourg, Hong Kong, l'Allemagne, l'Afrique du Sud et la Russie où a été créée la première banque islamique en 2016 (Zamir, Word Bank 2016).

Concomitamment à l'évolution de la finance islamique, il y a eu plusieurs études sur le sujet dont la plupart présentent les fondements et la pratique de ce type de financements (Mohammad Nejatullah Siddiqi 2006, Diaby 2015, Soumaré 2009, Muhammad Wajid Raza 2012) et les comparaisons entre les banques islamiques et les banques conventionnelles de manières générales (Soumaré 2009, Abu Hanifa Md. Noman 2015, Asad Khan 2015, Afifa Ferhi 2015, Manar Mahmood Al-Gazzar 2014, Mamael Hadriche 2015). On compte quelques analyses sur les techniques de financement (Cherif 2008, Mayada El-Zoghbi et Kaylene Alvarez 2015, Hany et All 2016).

La présence de la finance islamique est relativement faible en Afrique. Elle pourrait demain connaître une nouvelle expansion, à travers des activités de banques d'investissement, et le développement accéléré de la micro finance, (**Fall ould Bah 2010)**. En effet, l'espace UEMOA est un exemple d'intégration économique remarquable, représentant cependant moins de 0,01 pour cent du marché de la finance islamique malgré une demande importante, **Koffigan E. Adigbli (2018)**.

Très peu d'études ont été réalisées sur le sujet en Afrique de l'ouest. Le numéro d'août 2011, du magazine Finance Islamique qualifie l'Afrique de géant dormant, ce qui augure des développements futurs de ce secteur pour lequel, le continent deviendrait le paradis (Shafui 2013).
Ce travail de recherche a pour objectif d'examiner les facteurs qui déterminent l'adoption et donc le développement de la finance islamique en Côte d'Ivoire. Il s'agit d'analyser (1) les caractéristiques (facteurs internes) des demandeurs de services de micro finance; (2) les facteurs externes qui pourraient influencer la demande des produits de finance islamique. Après une analyse statistique (n modèle Logit a été utilisé avec des variables socio-psychologiques et des variables de l'environnement des adopteurs. Ce travail pose donc les hypothèses que :

- H1 - Les caractéristiques des consommateurs telles que leurs situations socio économiques : sexe (H11), éducation (H12), religion (H13), et attitudes par rapport aux innovations (H14), peuvent influencer l'adoption des produits financiers islamique;
- H2 - L'environnement dans lequel vivent les utilisateurs potentiels à savoir l'influence des leaders d'opinion (H21), des parents et amis (H22), des enseignements religieux

(H23), et les actions des institutions de micro finance (H24), peut aussi influencer le comportement des utilisateurs.

En mettant en évidence les facteurs qui peuvent influencer les potentiels adopteurs de la finance islamique dans le pays, cette étude pourrait aider à mettre en œuvre une stratégie de promotion et contribuer à améliorer le taux d'adoption.

Cette étude est structurée de la manière suivante. La section suivante présente l'état des lieux en Afrique en général et en Côte d'Ivoire en particulier. Elle est suivie par l'état de la littérature. Le modèle d'analyse est ensuite présenté après une analyse statistique des données. Les résultats des estimations sont enfin présentés et discutés avant de conclure l'étude.

LE CADRE D'ANALYSE

La finance islamique en Afrique de l'Ouest : Etat des lieux

L'Afrique de l'Ouest notamment les pays de la zone de l'UEMOA avec des populations majoritairement musulmanes sont pour la plupart des membres fondateurs de la Banque islamique de développement (BID) dont le mode de financement est la finance islamique.
Les financements islamiques dans cette zone ont été principalement dans le secteur public. Plusieurs projets ont été financés dans ce cadre, dans les pays de l'UMOA (Niger, Nigéria, Sénégal, Guinée). En 2016, le cumul des approbations consenties par la BID (Banque islamique de développement) s'élève à 10 milliards de dollars US.

Parmi ces pays, le Sénégal est le pionnier de la finance islamique. Il a lancé le premier Sukuk ou obligations islamiques dans l'espace UEMOA en mobilisant 100 milliards de FCfa en 2014 et 150 milliards en 2016 (soit 228 millions d'euros). La Côte d'Ivoire a quand à elle émit son premier sukuk à la fin de 2015 par la mobilisation de 228,67 millions d'euros soit 150 milliards de FCFA (Jeune Afrique, 25 janvier 2016). Le second a été émis du 1er au 31 aout 2016 pour un montant de 150 milliards de FCFA après le Togo et le Sénégal. Il a été suivi par le Mali qui lance en février 2018 son 1er Sukuk.

Par ailleurs, un partenariat a été signé entre la Banque centrale de l'Afrique de l'Ouest (BCEAO) et la BID pour la mise en place d'un cadre de réglementation et régulation qui favoriserait le développement de la finance islamique en Afrique de l'Ouest. Ce partenariat est renforcé par des actions telle que la création de académie de finance islamique par le CESAG et une filiale de la BID.

Selon Shafui (2013), avec 300 millions d'habitants majoritairement musulmans, la finance islamique peine à se développer pleinement en Afrique de l'ouest. La sous région est la seconde zone musulmane de l'Afrique après les pays du Maghreb. Son étude note que les pays tels que le Nigéria, le Sénégal, la Guinée, la Côte d'Ivoire et le Ghana ont commencé à s'ouvrir à ce type de financement. Il n'y a aucune grande institution bancaire internationalement connue, même si le Nigeria vient d'ouvrir une banque islamique. Cependant, l'auteur note quelques initiatives réussies au Nigeria, au Sénégal et en Guinée. Finalement, l'auteur arrive à la conclusion qu'il existe un certains nombre d'obstacles internes au développement de la finance islamique dans ces pays.

La Côte d'Ivoire, le Mali et le Ghana présentent des contrastes assez intéressants. En effet au Mali, avec une population de plus de 90% musulmane, on note peu d'initiatives d'implantation de la finance islamique, alors qu'au Ghana, il n'y a que 20% de musulmane et la micro finance islamique est entrain de se développer. Le cas de la Côte d'Ivoire est assez proche de celui du Ghana ou se développe également la micro finance islamique. La différence est qu'avec 42% de musulmans (recensement de la population de 2014), l'islam est la religion dominante en Côte d'Ivoire contrairement au Ghana.

On peut globalement retenir que la finance islamique reste encore une opportunité de financement sous exploitée en Afrique de l'ouest notamment par les opérateurs économiques. L'adoption de ses produits répond à des contraintes liées à des préférences, à des caractéristiques et à l'environnement des utilisateurs potentiels.

Le cas particulier de la Côte d'Ivoire

En dehors des sukuks, la finance islamique est entrain de s'installer dans le pays par l'implantation d'une micro finance, Raouda finance créée en 2009. Elle compte aujourd'hui quatre agences à Abidjan dans les communes de Cocody, Adjamé, Koumasi et Abobo et très récemment (2018) une à Bouaké à l'intérieur du pays.

En fin 2016, les activités de la micro finance sont résumés dans le tableau suivant.

Tableau 1 : Activités par agence en 2016

	Comptes ordinaires	**Dépôts à terme (DAT)**	**Comptes à régime spécial**
Cocody	275	39	85
Adjamé	115	5	11
Abobo	160	8	35
Koumassi	165	9	5
Encours total des dépôts	231 058 000	24 377 000	65 675 000

Source : *Rapport d'activité 2016*

Tableau 2 : Activités par genre

	Hommes	**Femmes**	**Personnes morales**	**total**
Nombre de membres	49%	29%	22%	321 109 868
Nombre de crédit	68%	23%	9%	163
Montant des crédits	60 133 896	44 295 000		67 630 760

Source : *Rapport d'activité 2016*

Tableau 3 : Répartition des crédits par type de financement 2016

Types de financement	**En pourcentage**
Salam	30
Mourabaha	24
Istisma	2
Quadr Hassan	43
Moucharaka	1
Moudaraba	1
Total	100

Source : *Rapport d'activité de la commission de crédit 2016*

L'entreprise cherche est entrain de développer ses activités aussi bien à Abidjan qu'à l'intérieur du pays. La croissance des adhérents n'est pas à la hauteur de ses attentes d'où l'intérêt pour elle de comprendre les déterminants de l'adoption de ses produits par les populations du pays.

REVUE DE LA LITTÉRATURE

La finance islamique apparait comme une nouveauté dans le secteur de la finance. Elle explore des pratiques nouvelles et propose des produits nouveaux.
L'avenir des banques islamiques dépend non seulement de leurs capacités d'innover et d'investir dans de nouveaux produits selon la demande du marché mais aussi dans certains cas de satisfaire la foi des parties prenantes (Syed et All 2012).

Ainsi, ces institutions ont développé des produits prenant en compte les principes des lois islamiques. Ces produits constituent des innovations dans le secteur de la finance. Le défi actuel est de faire adopter ses produits dans des cadres de vie qui ne sont pas (ou très peu) régis par des lois islamiques.

Les fondements théoriques de cette étude seront donc la théorie de l'adoption de nouveaux produits et la théorie de la diffusion de l'innovation de Rogers (2003)[16].

La théorie d'adoption des nouveaux produits pour analyser le côté demande. SAHIN (2006) présente le processus de décision d'adoption (ou de rejet) d'une innovation de Rogers (2003) comme étant «un processus de recherche d'information et de traitement de l'information activé, lorsqu'une personne est motivée à réduire l'incertitude quant aux avantages et aux inconvénients d'une innovation ». Pour Rogers (2003), le processus de décision en matière d'innovation comprend cinq étapes: (1) la connaissance, (2) persuasion, (3) décision, (4) mise en œuvre, et (5) confirmation. Ces étapes se suivent généralement dans une manière ordonnée dans le temps. L'adoption est liée à certaines caractéristiques des consommateurs que Sheila (2014) définit comme les forces internes Ces forces internes sont liées à l'influence psychologique, aux influences socioculturelles et aux critères de préférence des clients dans le choix des nouveaux produits. Il s'agit donc des facteurs qui poussent les clients potentiels à acheter les nouveaux produits ou services. En effet, selon Haque (2010), les hommes ont une attitude plus favorable envers les banques islamiques que celle des femmes.

Et la théorie de diffusion des nouveaux produits ou des innovations pour analyser le côté offre. Selon la définition de la diffusion donnée par Rogers (1983), il s'agit d'un processus par lequel (1) une innovation (2) est communiquée par certains canaux (3) au fil du temps (4) parmi les membres d'un système social.

Les forces externes sont les facteurs d'attraction existant dans l'environnement externe et environnant qui attirent ou persuadent les clients potentiels à adopter les nouveaux produits. Certains des facteurs d'attraction sont la façon dont les agents expliquent les produits, la publicité, la disponibilité de l'information et la communauté (Roger, 1983, 2003).

Wai (2012) soutient que le comportement du consommateur face aux produits de la finance islamique au Maroc est déterminé par des facteurs endogènes (les variables démographiques telles que l'âge, le sexe, la localité, le secteur d'activité et le type d'activité, auxquelles il ajoute la religiosité, la connaissance des produits de la finance islamique) et les facteurs exogènes tels que le prix du produit, l'image de la banque et le coût de substitution.

Selon Hasnan Baber, Chinar Zaruova (2018), plusieurs auteurs ont en effet demontré que la religion est un facteur determinant dans l'adoption des produits de la finances islamiques (Ahmed and Haron (2002), Suddin,Tangakinjal, and Hanudin (2009), Fauziah, Ramayah, et Dzuljastri (2008) ainsi que Mariam, Kortam, Ehab and Noha (2015).

Selon Abourrig et Rachidi (2013), ces facteurs exogènes sont repris en Malaysie par Asyraf et Nurdianawati (2007) et Doraisamy et*al.* (2011). Asyraf et Nurdianawati (2007) retiennent que les variables qui déterminent le comportement du consommateur malaysien sont la qualité de services rendus, l'image et la réputation islamique de la banque ainsi que les prix des produits et

[16] Cité par Sheila 2014

la commodité. Doraisamy et *al.* (2011) trouvent que les facteurs les plus pertinents sont la profitabilité et la qualité des services fournis.

Pour Wahyuni (2012) en Indonésie, l'attitude envers les produits financiers islamiques et les influences sociales impactent positivement l'adoption de ces produits (Abourig et All 2013).

ANALYSE DES DÉTERMINANTS DE L'ADOPTION DE LA FINANCE ISLAMIQUE

Dans cette partie nous analysons l'impact des caractéristiques et l'environnement des individus enquêtés sur l'adoption de la finance islamique.

Les données

Les données utilisées notamment pour l'étude seront des données primaires provenant d'une enquête réalisée sur un échantillon de 300 ménages qui sont en partie membres de la micro finance et en partie non membres.

Basé sur la théorie de l'adoption de nouveaux produits, quinze (15) questions sont créées pour capturer les facteurs internes. Elles concernent le statut social des enquêtés et leur attitude vis-à-vis des innovations.

Sur la base de la théorie de diffusion de nouveaux produits, seize (16) questions sont préparées pour représenter les facteurs externes ou les facteurs d'attraction des clients potentiels par les institutions de finances islamiques. Parmi ces questions, cinq (5) portent sur les caractéristiques des produits et trois (3) sur l'impact de la société (amis, collègues, parents et leaders religieux). Enfin huit (8) questions mettent en évidence, l'impact des actions de promotion sur l'incitation à adopter les produits de la finance islamique.

Le District d'Abidjan est retenu comme la principale zone d'étude en raison de son importance sur le plan économique. En outre Abidjan représente un grand pôle de consommation. Sa population est estimée à plus de sept millions d'habitants. Elle est constituée d'une population cosmopolite. Cet avantage permet d'apprécier le comportement de consommation des populations non seulement ivoiriennes et mais aussi sous-régionales.

Une autre zone sera aussi étudiée le département de Bouaké en raison de l'implantation d'une agence de la micro finance Raouda dans la région. Yamoussoukro a aussi retenu notre attention dans la mesure où, la ville est la prochaine zone d'implantation de Raouda Finance.

Les données secondaires sont collectées auprès des institutions financières islamiques.

La collecte des données a été réalisée par une enquête. A cet effet, 300 questionnaires ont été administrés aux participants à Abidjan, Bouaké et Yamoussoukro. Après dépouillement, nous avons exploité 252 questionnaires ayant été correctement renseignés. Les données recueillies ont été analysées en deux étapes.

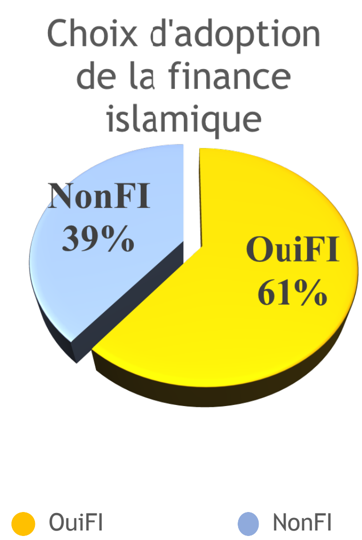
A l'aide des outils statistiques, nous avons effectué une analyse factorielle en correspondances multiples étant donnée la nature catégorielle des variables d'intérêt (Pagès, 2004). L'analyse factorielle intègre les statistiques descriptives sur les variables actives.

La deuxième étape est relative à l'analyse économétrique qui a prévalu à l'évaluation des déterminants de l'adoption de la finance islamique en Côte d'Ivoire. Nous avons procédé à cette analyse par l'estimation d'un modèle de régression logistique par la méthode des maximums de vraisemblance. Les résultats sont présentés dans les prochaines sections.

Analyses descriptives

Les enquêtes ont été menées dans les villes d'Abidjan (63 %), de Yamoussoukro (7 %) et de Bouaké (30 %). L'échantillon retenu pour l'analyse compte 163 hommes et 89 femmes, soit respectivement 65 % et 35 % des répondants. Ainsi, la majorité des répondants sont des hommes, vu le caractère conservateur de la région, malgré les efforts déployés pour avoir un échantillon équilibré. Quant à leurs âges, 37,69 % sont âgés entre 15 et 29 ans alors que 26,98 % sont âgés entre de 30 à 44 ans. Le niveau d'étude secondaire est le plus dominant (38,1 %) parmi les participants, ceux qui ont un niveau supérieur représentent 26,56 % et le reste a au plus un niveau d'étude primaire. En outre, les statistiques liées à l'activité professionnelle des participants montrent que la majorité exerce en indépendant dans le secteur informel (51 %). 26 % sont des travailleurs du secteur privé et 12 % sont des fonctionnaires de la fonction publique. Seulement 8 % exercent une fonction libérale formelle. Par ailleurs, l'échantillon est composé de 40 % de musulmans, 34 % de protestants, 21 % de catholiques et 5 % des autres confessions religieuses, ceci est en quelque sorte similaire à la structure de la population nationale.

<u>Graphique</u> 1 : ***Choix d'adoption de la finance islamique***



<u>Source</u> : Nos calculs à partir des données d'enquête

Le graphique ci-dessus indique que 61 % contre 39 % de l'échantillon sont disposés à adopter les produits de la finance islamique. Ceci permet de confirmer que les participants à cette étude sont des potentiels clients des produits de la finance islamique.

Analyse des correspondances multiples

L’analyse réalisée à ce stade de l’analyse a pour but de mettre en évidence les regroupements de modalités entre les différentes variables déterminantes dans l’adoption des produits de la finance islamique par les personnes enquêtées.

Tableau 1 : ***Valeurs propres des axes factoriels***

	Valeur propre	Pourcentage	Pourcentage cumulé
1	0.2262	13.02 %	13.02 %
2	0.1576	9.07 %	22.10 %
3	0.1099	6.33 %	28.42 %
4	0.0918	5.28 %	33.71 %
5	0.0822	4.73 %	38.44 %
6	0.0819	4.72 %	43.16 %
7	0.0749	4.31 %	47.47 %
8	0.0686	3.95 %	51.42 %
9	0.0635	3.66 %	55.08 %
10	0.0620	3.57 %	58.64 %

1. Source : Nos calculs à partir des données d’enquête

La règle du coude conduit à retenir les trois (3) premiers axes factoriels. Ces axes représentent 28 % de l’inertie du nuage de points. Ce sont ces axes qui retiendront notre attention dans l’interprétation des résultats de l’analyse des correspondances multiples.

Premier plan factoriel : Ce plan factoriel explique 22,09 % de l’inertie du nuage de points.

L’analyse du premier plan factoriel c’est-à-dire celui constitué du premier et du second axe factoriel montre que la fidélité à une marque (Fact_in3), le caractère conservateur (Fact_in4), la connaissance de l’existence des banques islamique (Fact_ex1) et l’opinion des leaders (Fact_soc1) sont les variables qui contribuent fortement à la création de l’axe 1. Ces quatre variables expliquent environ 40 % de l’inertie sur l’axe 1 (voir annexe).

Quant au second axe, sa création est essentiellement due aux variables : choix d’adoption de la finance islamique (10,4 %), valeur religieuse (9,6 %), connaissance des produits de la finance islamiques (8,6%) et la souplesse des produits de la FI (9,2 %).

Second plan factoriel : Ce plan factoriel est composé de l'axe 1 et de l'axe 3. Il explique 19,35 % de l'inertie du nuage des points. La caractéristique du premier axe est identique à celle précédemment décrite dans le premier plan factoriel.

En ce qui concerne le troisième axe, il est principalement créé grâce à la contribution de deux variables que sont la commune (32,4 %) et le niveau d'instruction (17,6 %).

Il convient de préciser que pour chacune des variables avec des fortes contributions globales ci-dessus décrites, il ne s'agit pas de l'ensemble, mais plutôt de certaines modalités spécifiques de ces variables.

Les projections des deux plans factoriels sont présentées en annexe:

Analyse économétrique : Présentation du modèle

Dans cette sous-section, nous présentons le modèle utilisé pour déceler les facteurs déterminant le choix de la finance islamique en Côte d'Ivoire. Pour cela nous utilisons une modélisation logistique binaire eu égard la nature de notre variable d'intérêt. La variable expliquée dans le cadre de cette étude est la propension à adopter les produits de la finance islamique en Côte d'Ivoire. Cette variable est opérationnalisée comme suit :

Soit Y l'adoption d'un produit de finance islamique.

$$Y = \begin{cases} 1 \text{ si l'individu a utilisé au moins 1 produit de la FI et} \\ 0 \text{ sinon} \end{cases}$$

La nature binaire de notre variable d'intérêt et la facilité de l'estimation et de l'interprétation des coefficients du modèle logit binaire nous conduisent à le choisir dans le cadre de cette étude.

Les variables liées aux caractéristiques des individus et à leur environnement social étant de nature polytomique, seront introduites dans le modèle avec une modalité retirée de l'estimation et servant de référence pour les autres modalités de la variable.

La modélisation logit binaire étant utilisée pour les variables de type qualitatif binaire, elle ne permet pas de mesurer directement l'impact des variables observées sur l'adoption des produits de la finance islamique, mais elle sert à évaluer la probabilité d'adopter la finance islamique si la variable d'intérêt est satisfaite. Les coefficients obtenus ne montrent alors que le sens d'influence des différentes variables (ou des modalités de celles-ci) sur cette probabilité. Les coefficients marginaux montrent alors quant à eux l'influence spécifique de chaque variable ou de chaque modalité sur la probabilité de faire des pratiques sociales externes.

Les facteurs déterminants l'adoption des produits de finances islamiques en considérant un modèle de choix d'adopter ou de ne pas adopter ces produits. Ce modèle est celui utilisé par Noumba (2008) pour étudier les comportements des ménages camerounais dans les choix d'abandonner ou non l'école en considérant la variable expliquée comme un choix de nature dichotomique. Ce modèle suppose que la décision obéit à la logique de maximisation d'une fonction d'utilité de l'individu ou du ménage.

Soit Y l'adoption d'un produit de finance islamique. Y = 1 si l'individu a utilisé ou est intéressé à utiliser au moins 1 produit de la FI et 0 sinon.

Pour un individu *i*, la probabilité d'adopter est donnée par la formule qui suit.

$$Pi = \mathrm{E}\,(Y = 1 / Xi) = \frac{1}{1 + e^{-\beta Xi}} = \frac{e^{\beta Xi}}{1 + e^{\beta Xi}} \qquad (1)$$

Avec,

Pi désignant la probabilité d'adopter pour l'individu *i*,
X, la matrice des variables explicatives de l'adoption chez l'individu *i*,
β, un paramètre non observable.

La probabilité de ne pas adopter sera représentée par :

$$1 - Pi = \frac{1}{1 + e^{\beta Xi}} \qquad (2)$$

L'adoption suit alors une distribution de Bernoulli, qui donne le rapport suivant :

$$\frac{Pi}{1 - Pi} = e^{\beta Xi} \qquad (3)$$

Ce rapport représente la probabilité pour un individu de d'adopter sur celle de ne pas le faire.

Le logarithme népérien de ce rapport donne l'équation suivante dans laquelle *L* désigne le logit,

$$\mathrm{L_i} = \mathrm{L_n}\left(\frac{Pi}{1 - Pi}\right) = \beta \mathrm{X}_i \qquad (4)$$

Le modèle est donc un modèle de logit qui sera spécifié comme suit :

$$L_i = L_n \left(\frac{Pi}{1 - Pi} \right) = \beta X_i + \mu_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \ldots + \beta m X_{im} + \mu_i \quad (5)$$

Où X représente l'ensemble des variables explicatives introduites dans le modèle et *m* le nombre de variables indépendantes qui seront classées selon qu'elles soient des facteurs internes (qui sont des caractéristiques individuelles encore appelés push factor) et des facteurs externes ou pull factor individus qui sont liés aux actions des institutions de finance islamique.

Spécification du modèle à estimer :

Les variables de recherche

Nous retenons comme variable dépendante l'adoption des produits de la finance islamique. Pendant que les variables indépendantes seront divisées en deux catégories conformément à l'étude de Sheila (2014):

- **Les facteurs internes** : le sexe, l'âge, le niveau de revenu, l'attitude conservatrice envers les innovations, le type d'activité, le niveau d'instruction, la connaissance des produits islamiques, la religion, la taille du ménage, la fidélité à une marque
- **Les facteurs externes** : la connaissance des produits de micro finance, l'influence des leaders d'opinion et les enseignements religieux (valeurs religieuses), des amis et collègues ainsi que la famille (valeurs ethniques), L'existence de banques islamiques, la commune d'habitation

Un test Chi 2 a été réalisé pour saisir les liaisons linéaires entre l'adoption de la finance et les différentes variables. Les résultats sont présentés dans le tableau suivant :

Tableau 4: *Test du Chi2 d'indépendance entre l'adoption, les caractéristiques et l'environnement social des adopteurs*

Source : L'auteur

Variables	**Valeur du Khi 2**	**Degré de liberté**	**Signification (P value)**
1 – Commune	2,750	2	,253
2 - Opinion des leaders	56,325	**1**	,000
3 -Niveau d'étude	11,907	**4**	**.018**
4 - Sexe	7,889	**1**	**.005**
5 - Âge	6,436	**3**	.092
6 - Type d'activité	3,349	**3**	**.341**
7 - Niveau de revenu	7,314	**6**	.293
8 - Religion	75,847	**3**	.000
9 - Bancarisation du ménage	5,951	5	**.311**
10 - Attitude conservatrice	53,137	**1**	**.000**
11 - Taille du ménage	8,103	**4**	**.103**
12 - Valeur ethnique (Parents et amis)	16,819	**1**	,000
13 - Valeur religieuse	132,093	**1**	,000
14 – fidélité à une marque	11,8101	**1**	.001
15 – connaissance des produits de FI	,924	**1**	.336
16 – Existence d'une banque islamique	3,449	**1**	.063
17 – la souplesse des produits de la FI	2.774	**1**	.354

Les données du tableau indiquent que dix des variables retenues semblent être linéairement associées à l'adoption de la finance islamique. Ces variables vont être utilisées pour la régression économétrique. Ainsi, l'équation qu'on estime est spécifiée de la façon suivante :

$$Li = \beta_0 + \beta_1 \textit{Sexe} + \beta_2 \textit{Niveau d'étude} + \beta_3 \textit{Age} + \beta_4 \textit{Religion} + \beta_5 \textit{Attitude conservatrice} + \beta_6 \textit{Leaders d'opinion} + \beta_7 \textit{Valeur ethnique} + \beta_8 \textit{Valeur religieuse} + \beta_9 \textit{l'existence d'une banque islamique} + \beta_{10} \textit{la fidélité à une marque}$$

L'attitude conservatrice exprime le fait que les consommateurs soient conservateurs par rapport aux produits de la finance conventionnelle déjà connus de tous. Les leaders d'opinion sont les chefs d'association (culturelles, professionnelles, religieuses, ou autres formes de regroupements). Les valeurs ethniques sont associées aux influences des familles et amis. Enfin les valeurs religieuses sont les enseignements religieux.

Cette équation est estimée par maximum de vraisemblance, en supposant que les résidus de la régression suivent une loi logistique.

RÉSULTATS DE L'ESTIMATION DU MODÈLE LOGIT

Dans ce tableau nous présentons les résultats liés à l'estimation du modèle logit et les interprétations qui en découlent

Tableau 5 : ***Coefficients de l'estimation***

Variables	Modalités	Coefficients	Z	P-value	Intervalle de confiance à 95%	
Adoption de la finance islamique (AFI)	Variable expliquée					
Sexe	Masculin	Référence				
	Féminin	**.3416237**	0.59	**0.554**	-.7886525	1.4719
Niveau d'étude	Primaire	Référence				
	Secondaire	**-.0990562**	-0.13	**0.899**	-1.631082	1.43297
	Supérieur	**-.2273312**	-0.27	**0.789**	-1.893686	1.439024
	Aucun niveau	**.9912447**	0.99	**0.321**	-.9672466	2.949736
Age	De 15 à 29 ans	Référence				
	De 30 à 45 ans	**-.2199442**	-0.27	**0.790**	-1.83604	1.396152
	De 45 à 60 ans	**1.055706**	0.790	**0.126**	-.2960492	2.407461
	Plus de 60 ans	**-.2679248**	1.53	**0.921**	-5.562827	5.026978
Religion	Musulmane	Référence				
	Catholique	**-2.8943**	-3.51	**0.000*****	-4.510874	-1.277727
	Protestante	**-1.031619**	-1.42	**0.157**	-2.459998	.3967592
	Autres	**-4.048535**	-2.80	**0.005****	-6.886172	-1.210898
Fidélité à une marque	Oui	Référence				
	Non	**-.1725873**	-0,31	**0.760**	-1.278958	.9337838
Attitude conservatrice	Oui	Référence				
	Non	**1.248216**	2.21	**0.027****	.1406964	2.355736
Connaissance de l'existence des BI	Oui	Référence				
	Non	**-.0651873**	0.180	**0.923**	-1.392082	1.261708
Opinion des leaders	Oui	Référence				
	Non	**-1.414152**	-2.39	**0.017****	-2.575653	-.2526504
Valeur ethnique (Parents et amis)	Oui	Référence				
	Non	**-2.29381**	-3.70	**0.000*****	-3.509627	-1.077992
Valeur religieuse	Oui	Référence				
	Non	**-3.455242**	-5.78	**0.000*****	-4.626768	-2.283716
Constante		**4.021547**	3.44	**0.001*****	1.73237	6.310723
Nombre d'observations= 252 ; LR chi2(14) = 211,00 ; Prob > chi2 =0,000 ; Pseudo R2=0.6265						
Test de Hosmer Lemeshow (pvalue) = 0,6967						

(**) Significativité au seuil de 5% ; (***) Significativité au seuil de 1%

Source : Nos calculs à partir des données d'enquête

- **Significativité globale et résultats des tests de validation du modèle**

Les résultats de l'estimation montrent que le modèle est globalement significatif au seuil de 5%. En effet, la p-value associée à la statistique du test de ratio de vraisemblance (LR Test) est inférieure à 0,05. Cela signifie qu'au moins une variable explicative de l'adoption des produits de la finance islamique est significative au seuil de 5%.

Le test de validation du modèle amène à conclure à un bon calibrage du modèle. En effet, la p-value associée à la statistique du test de Hosmer-Lemeshow (avec 8 groupes) est 0,6967 supérieure à 0,05. Ainsi, l'hypothèse nulle de bon calibrage du modèle n'est pas rejetée. Le pseudo R2 du modèle est de 0,6265. Les résultats du modèle sont donc valides et peuvent être interprétés.

- **Interprétations des résultats du modèle**

Les résultats du modèle montrent que les caractéristiques liées à l'individu qui ont une influence sur la probabilité d'adopter les produits de la finance islamique sont sa religion et son attitude conservatrice vis-à-vis des nouveaux produits financiers. Les signes négatifs des modalités de la religion montrent que cette variable diminue la probabilité d'adoption de la finance islamique. C'est-à-dire le fait d'être d'une confession religieuse autre que musulmane, affecte de façon négative l'adoption des produits de la finance *hallal*. En revanche, une attitude non conservatrice par rapport aux produits de la finance conventionnelle impacte positivement la probabilité d'adopter la finance islamique.

Pour ce qui est des variables liées à l'environnement social (la société) de l'individu, on constate que l'absence de considération pour ces valeurs (opinion des leaders, valeur ethnique, valeur religieuse) impacte négativement la probabilité d'adopter la finance islamique. En d'autres termes, le niveau d'association de l'individu à son environnement social le prédispose à l'adoption des produits de la finance islamique.

Résultats des effets marginaux

*Tableau 6 : **effets marginaux***

Variables	Modalités	Coefficients	Z	P-value	Intervalle de confiance à 95%	
Choix de la finance islamique	Variable expliquée					
Sexe	Masculin	Référence				
	Féminin	**.021906**	0.59	0.554	-.050673	.0944851
Niveau d'étude	Primaire					
	Secondaire	**-.0062293**	-0.13	0.899	-.1025679	.0901094
	Supérieur	**-.014296**	-0.27	0.790	-.1194389	.0908468
	Aucun niveau	**.0631991**	1.02	0.308	-.0582044	.1846026
Age	De 15 à 29 ans	Référence				
	De 30 à 45 ans	**-.0141433**	-0.27	0.789	-.1178278	.0895412
	De 45 à 60 ans	**.0682385**	1.56	0.120	-.0176915	.1541686
	Plus de 60 ans	**-.0172376**	-0.10	0.921	-.3589587	.3244835
Religion	Musulmane	Référence				
	Catholique	**-.2420984**	-3.19	0.001***	-.3909988	-.093198
	Protestante	**-.0794101**	-1.39	0.164	-.1911277	.0323076
	Autres	**-.3598487**	-2.40	0.016**	-.6534483	-.0662492
Fidélité à une marque	Oui	Référence				
	Non	-.0127058	-0.31	0.760	-0.0941498	.0687382
Attitude conservatrice	Oui	Référence				
	Non	**.0800398**	2.30	0.021**	.0119366	.148143
Connaissance de l'existence des BI	Oui	Référence				
	Non	**-.0047991**	-0.10	0.923	-.1024657	.0928676
Opinion des leaders	Oui	Référence				
	Non	**-.0906801**	-2.46	0.014**	-.1628073	-.0185529
Valeur ethnique (Parents et amis)	Oui	Référence				
	Non	**-.1470867**	-4.06	0.000***	-.2180878	-.0760856
Valeur religieuse	Oui	Référence				
	Non	**-.2215616**	-8.56	0.000***	-.2723102	-.170813

(**) Significativité au seuil de 5% ; (***) Significativité au seuil de 1%

Source : Nos calculs à partir des données d'enquête

Les effets marginaux de ces différentes variables confirment les résultats précédant tant au niveau des caractéristiques des individus que celles relatives à son l'environnement social. Ils donnent une précision sur la variation de la probabilité d'adopter les produits de la finance islamique. Par exemple, être de religion catholique diminue la probabilité d'adoption de la FI de 24 %, tandis que le fait d'être d'une confection religieuse autre que musulmane, catholique et protestante (animiste et y compris) diminue considérablement (36 %) la chance d'un individu à l'adoption des produits de la FI. Cependant, la confection protestante n'affecte pas significativement la probabilité d'adoption de la FI. Par ailleurs, le fait d'avoir une attitude non conservatrice de la finance conventionnelle augmente de 8 % la probabilité qu'un individu adopte les produits de la finance islamique.

CONCLUSION

Cette étude a tenté de mettre en évidence les déterminants de l'adoption de la finance islamique en Côte d'Ivoire. Considérant que les produits de la finance islamique sont des innovations, elle a utilisé la théorie de l'adoption des innovations et la théorie de la diffusion de l'innovation comme fondements théoriques de Rogers 2003. Rogers soutient qu'il existe des forces internes et des facteurs externes qui déterminent le choix d'adopter ou non d'une innovation.

Parmi les facteurs internes qui ont été significatifs, on peut citer la religion et l'attitude non conservatrice des consommateurs vis-à-vis des produits conventionnels de finance. Ce qui veut dire que la population (notamment celle de la communauté musulmane représentant 42 % de la population du pays) est favorable à l'introduction de ce type de ce produit. Une plus large diffusion avec les membres peut favoriser l'augmentation du taux d'adoption.

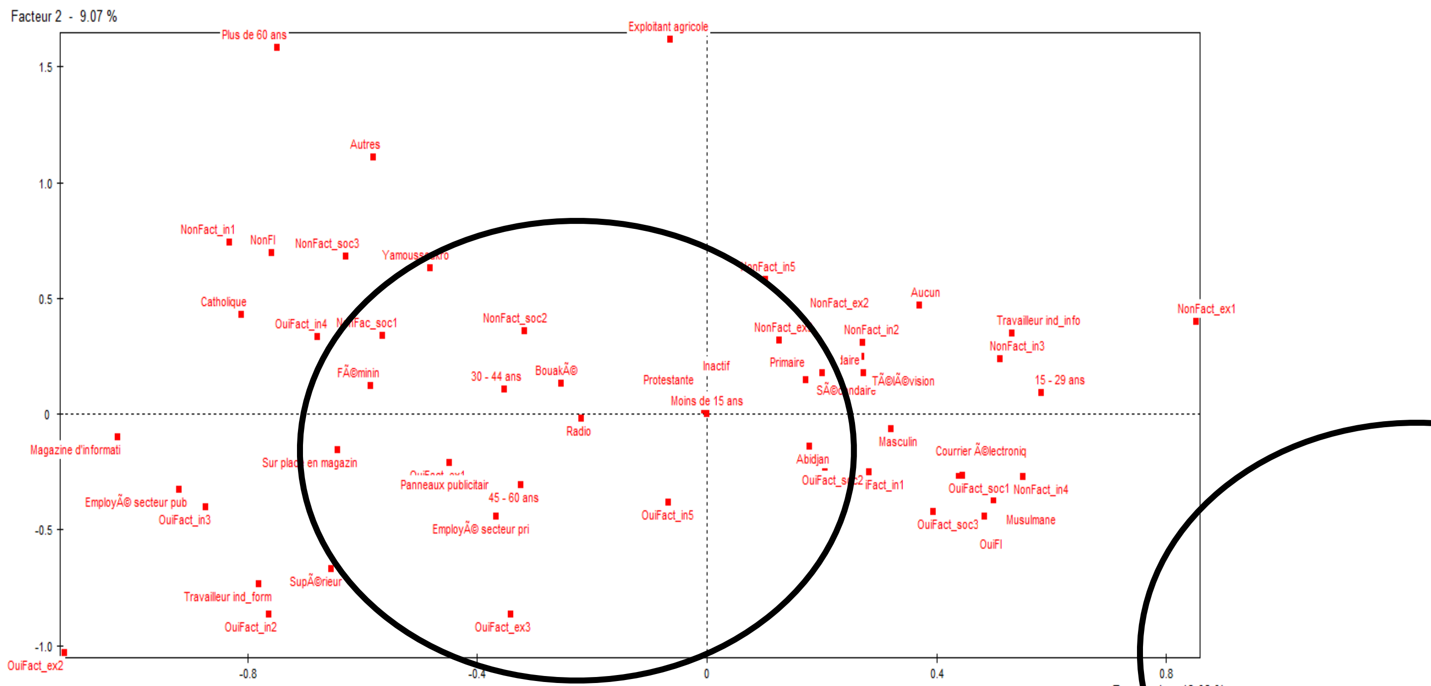
En effet, la religion reste une composante déterminante de la décision d'adopter ou non les produits de la finance islamique. Même si les adeptes des autres religions ne semblent intéressés par la finance islamique, il reste que les ivoiriens sont sensibles à l'intervention des leaders d'opinion et des familles et amis, comme le confirment les coefficients des facteurs externes (forces externes).

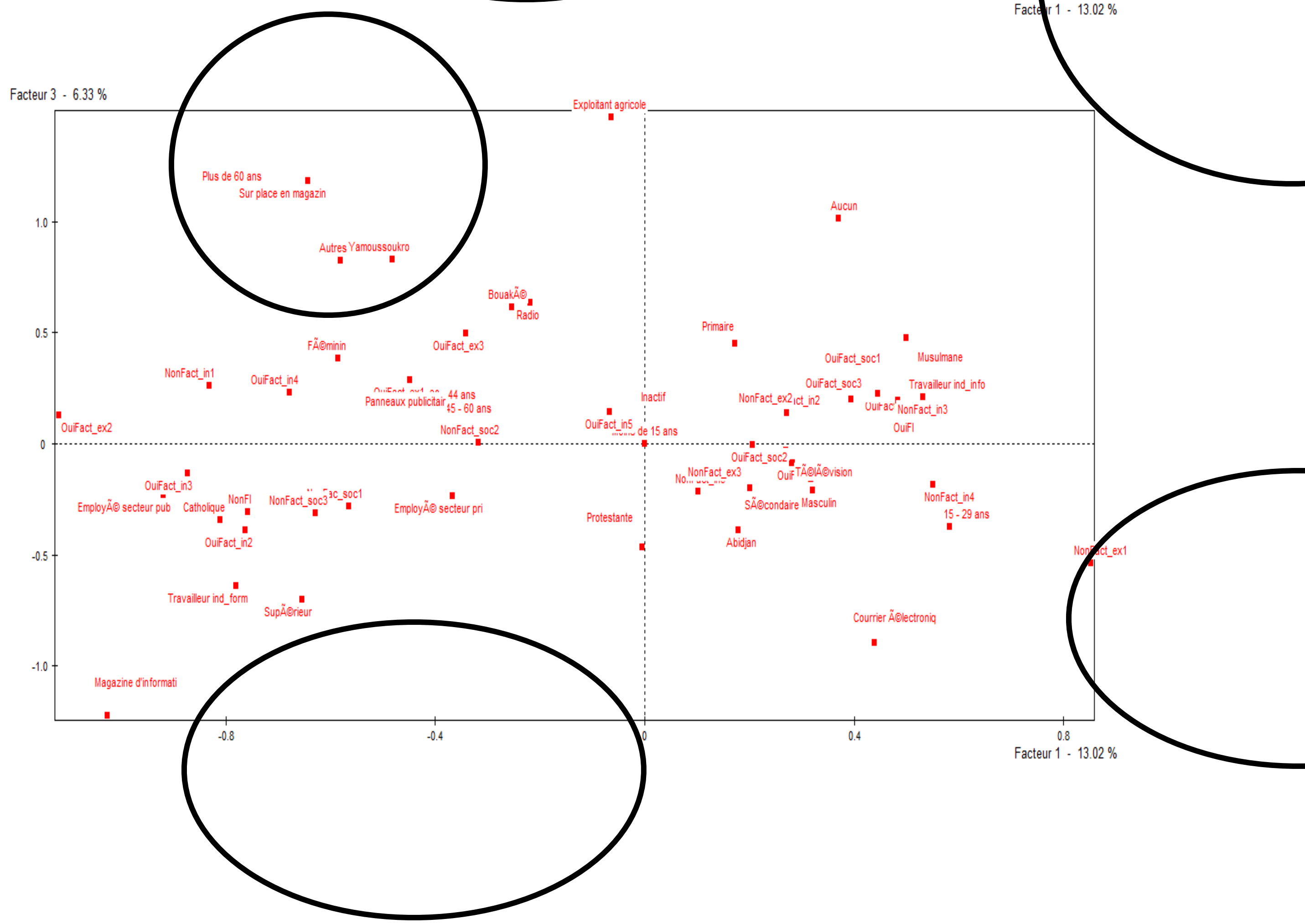
En effet, les forces externes qui pourraient influencer les consommateurs potentiels sont les enseignements religieux, les leaders d'opinions ainsi que la communauté (amis, collègues et famille). En outre, l'analyse factorielle a démontré que la connaissance des produits est une variable composante 8.6% du second axe factoriel.

Au regard de ces résultats, il serait intéressant pour l'institution de finance islamique d'utiliser le canal des imams, des associations de tous types (associations professionnelles, ethniques, religieuses) pour faire la promotion de ses produits. Leur connaissance des produits peut les inciter à recommander à leurs membres.

Cette étude qui est une analyse préliminaire des facteurs d'adoption peut être approfondie par le classement des consommateurs potentiels en groupes spécifiques pour permettre d'élaborer des stratégies adaptées à chacune des classes.

ANNEXE : L'analyse des correspondances multiples





RÉFÉRENCES BIBLIOGRAPHIQUES

Abu Hanifa Md. Noman1, Sajeda Pervin2, Nazneen Jahan Chowdhury3, Md. Amzad Hossain3 & Hasanul Banna4 (2015) "Comparative Performance Analysis between Conventional and Islamic Banks in Bangladesh- An Application of Binary Logistic Regression" Asian Social Science; Vol. 11, No. 21; 2015

Abdelmonaïm ABOURRIG et Lahoussine RACHIDI (2013) « vers un modèle de prédiction des facteurs d'acceptation des produits financiers islamiques au Maroc » Conference paper, octobre 2013. https://www.researchgate.net/publication/273063217

Afifa Ferhi*, Ridha Chkoundali (2015) "Credit Risk and Efficiency: Comparative Study between Islamic and Conventional Banks during the Current Crises" *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport, 2015, Vol. 3, No. 1, 47-56*

Asad Khan and Abdul Qadir Shah (2015) "A Comparative Analysis of Regulatory and Supervisory Islamic Banking: Evidence from Pakistan, Malaysia, Bahrain, and the UK" *The Lahore Journal of Business* 4 : 1 (Autumn 2015): pp. 37–60

Baudelaire Mieu (2016) *«* Côte d'Ivoire : l'émission d'un deuxième sukuk bouclée avec du retard **»** 03 octobre 2016, 18h38, Jeune Afrique économie et finances, Abidjan

Diaby Alhassane (2015) « Introduction à la finance islamique. Fondements et modes de fonctionnement », Editions AFAQ, Abidjan

Estelle Brack (2010) "Islamic banking and finance in France" MPRA Paper No. 23481, June 2010

Hasnan Baber, Chinar Zaruova (2018) "Religion and Banking : A Study of Islamic Finance in India" International JournalS of Industrial Distribution & Business 9-6 (2018) 7-13

Hasnan Baber, Chinar Zaruova (2018) « Religion and Banking : A Study of Islamic Finance in India» International JournalS of Industrial Distribution & Business 9-6 (2018) 7-13

Issouf Soumaré (2009) « La pratique de la finance islamique » *Assurances et gestion des risques, vol. 77(1-2), avril-juillet 2009, 59-78*

Issidor Noumba (2008), « Un profil de l'abandon scolaire au Cameroun », *Revue d'économie du développement* 2008/1 (Vol. 16), p. 37-62. DOI 10.3917/ed.221.0037

Koffigan E. Adigbli (2018) « La finance islamique s'intéresse davantage à l'espace UEMOA », ECONOMIE, 6 juin 2018

Manar Mahmood Al-Gazzar (2014) « The Financial Performance of Islamic vs. Conventional Banks: An Empirical Study on The GCC & MENA Region"

Faculty of Business, Economics and Political Science, Bachelor's Dissertation/ Senior Year Project, Module Title: Research Methods 3.

Mayala El-Z et Kaylene Alvarez (2015) « Comprendre les coûts et la viabilité des produits de microfinance conformes à la charia »

Mohamed Ali Chatti (2010) « analyse comparative entre la finance islamique et le capital-risque **»** *Etudes en économie islamique,* Vol.4, No.1, Janvier 2010

Mohamed Fall Ould Bah (2010) « LES RÉSEAUX DE LA FINANCE ISLAMIQUE EN AFRIQUE » Institut français des relations internationales (IFRI) | « Politique étrangère » 2010/4 Hiver | pages 805 à 817

Mohammad Nejatullah Siddiqi (2006) « **Islamic banking and finance in theory and practice: a survey of state of the art"** *Islamic Economic Studies*, Vol. 13, No. 2, February 2006

Pagès J., (2004), Analyse factorielle de données mixtes, *Revue de statistique appliquée*, tome 52, n°4, p. 93-111

Sahin Ismail (2006) « Detailed review of Rogers' diffusion of innovations theory And educational technology-related studies based on rogers' Theory » The Turkish Online Journal of Educational Technology – TOJET April 2006 ISSN: 1303-6521 volume 5 Issue 2 Article 3

Shafiu Ibrahim Abdullahi (2013) "Islamic banking in west african sub-region: A survey" *Arabian Journal of Business and Management Review (OMAN Chapter) Vol. 2, No.7, Feb. 2013***,** *Daily Trust, Abuja Nigeria*

Syed Ahmed Salman1 & Sheila Nu Nu Htaym (2014) "Potential Push-Pull Factors to Introduce Takaful (Islamic Insurance) as a New Product in India: Preliminary Overview". The Second Annual Conference of Islamic Economics & Islamic Finance. ISSN: 2292-0560 ISBN: 978-0-9869581- 1-3© ECO-ENA: Economics & ECO-Engineering Associate, Inc., Canada

Syed Farhan Shah, Muhammad Wajid Raza, Malik Rizwan Khurshid (2012) "Islamic banking controversies and challenges" interdisciplinary journal of contemporary research in business, february 2012, vol 3, no 10

Souheila Kaabachi (2015) « Comportement du consommateur face à l'introduction des banques islamiques : une meta-analyse des perception, des attitudes et des critères de choix des individus » Cahier de la Finance Islamique , n8, 2015

Rogers Everet M. (1983) "Diffusion of Innovations" The Free Press, New York. Third Edition

Wai Aaminou (2012) « Comportement du consommateur envers les banques islamiques » ICompétence IFC 2012, Directeur Associé de Spectrum.

Zamir Iqbal (2016) “Islamic Finance” World Bank – IMF – Federal Reserve System Seminar for Senior Bank Supervisors from Emerging Economies Washington DC USA October 17-21, 2016

RECHERCHES SUR INTERNET

http://www.jeuneafrique.com/254607/societe/recensement-portrait-de-cote-divoire-infographies

https://afrique.latribune.fr/finances/bourse/2018-02-13/finance-islamique-le-mali-emet-son-premier-sukuk-de-150-milliards-de-fcfa-sur-le-marche-regional-768221.html

https://www.senxibar.com/La-Finance-islamique-de-l-Afrique-de-l-Ouest-Une-niche-sous-exploitee-et-peu-visible_a36038.html. le 04/06/2016

EENI Business School & HA University (École d'Affaires EENI & Université HA). Islam en Afrique de l'Ouest, Sénégal, Nigeria http://fr.reingex.com/Islam-Afrique-Ouest.shtml

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ARE ISLAMIC STOCKS SUBJECT TO OIL PRICE RISK EXPOSURE?

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ABSTRACT

Using monthly data on a sample of Islamic stocks listed on the New York Stock Exchanges and NASDAQ over the period January 1990 to December 2017, we examine using Fama-French-Carhart's (FFC) four factor asset pricing model amplified with Brent oil price factor whether oil price risk is a significant determinant of stock returns. The results from the cross-sectional regression analysis indicate that the extent of the exposure is significantly positive using a full sample period. Moreover, results from size and momentum factors are highly significant whereas book-to-market has no significant impact on Islamic stock returns. We also document whether oil price risk exposures vary considerably over time. Particularly, we report robustness tests for the financial crisis of 2007–2008 and the January calendar anomaly. Our results support the concept for diversification in equity investment and are thus important for investors, analysts and policy makers.

Keywords: Islamic stocks, Oil price risk exposure, Financial crisis, January effect.

JEL classification: G11, G12, G14, G17

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1. INTRODUCTION

Over the last two decades, there has been a lesser amount of literature on whether commodity prices can be regarded as risk factors to stock returns and whether this risk can efficiently be eliminated through portfolio diversification. Of all the commodities, oil has uniquely been identified to be an important aspect towards the development of a country's economy but also have an enormous impact on the movements in the world's equity markets both in developed and developing countries. One stance of literature suggests that the price of oil has a big impact on the business costs and hence corporate earnings and projected growth rates and certainly these effects can eventually impact the stock market activity whilst affecting investor decisions at any given time (Jones, Leiby, & Paik, 2004; Sadorsky, 1999, 2008). Oil prices are also identified as possessing a significant impact on the country's macroeconomic identifiers. For instance the GDP growth rates (Jiménez-Rodríguez* & Sánchez, 2005; Park & Ratti, 2008), Exchange rates and inflation (Cologni & Manera, 2008; LeBlanc & Chinn, 2004), unemployment (Carruth, Hooker, & Oswald, 1998), interest rates (Akram, 2009; Cologni & Manera, 2008) and consequently this affects the risk premiums in stock markets. The magnitude of the risk premium is however still a debatable issue in energy and asset pricing literature. Some studies indicate that oil price shocks positively affect stock prices(Shaeri, Adaoglu, & Katircioglu, 2016) while other studies indicate that there is a negative effect (Mohanty, Nandha, Habis, & Juhabi, 2014) on stock prices and moreover the response of stock prices to oil price shocks varies over time. (Bouri, 2015; Kang, Ratti, & Yoon, 2015b; Kilian, 2010; Narayan & Gupta, 2015; Tsai, 2015)

It should be noted that previous literature has however, concentrated on the effect of oil price risk at mainly both stock market level and industrial level. Little attention has been given to firm level analysis putting into consideration the various firm characteristics like size, book-to-market ratio and more recently whether the stocks follow an Islamic or conventional form of financing. It is also important to note that the effect of oil price on a stock market greatly depends on oil price risk at firm level. Therefore, the focus of this study is aimed at providing empirical evidence on how oil price risk exposure affects Islamic stock returns at firm level using a sample of stocks listed in the United states (U.S) stocks markets for a period between January 1990 and December 2017. We are motivated to complement studies such as (Demirer, Jategaonkar, & Khalifa, 2015; Elyasiani, Mansur, & Odusami, 2011; Sadorsky, 2001; Tsai, 2015) that have done cross-sectional examination on the effect of oil prices on stocks returns at firm level. We focus attention on the U.S because primarily; According to the BP statistical review [17]the global oil consumption growth averaged 1.8% (1.7 million barrels per day) based on a 10-year average of 1.2% for the third consecutive year. About 500,000 barrels per day were consumed in China and 190,000 barrels per day in the US making it the second world's top consumer of oil in the world. Moreover Fig.1 shows that in 2017, about 14.1% (13,057 thousand barrels per day) of the world's total oil production (92,649) was in the US. Compared to Russia (11,257), Saudi Arabia (11,951), Canada (4831), Norway (1969), Iran (4982) and china (3846).

[17] BP. *Statistical Review of World Energy*. London: BP plc, 2018.

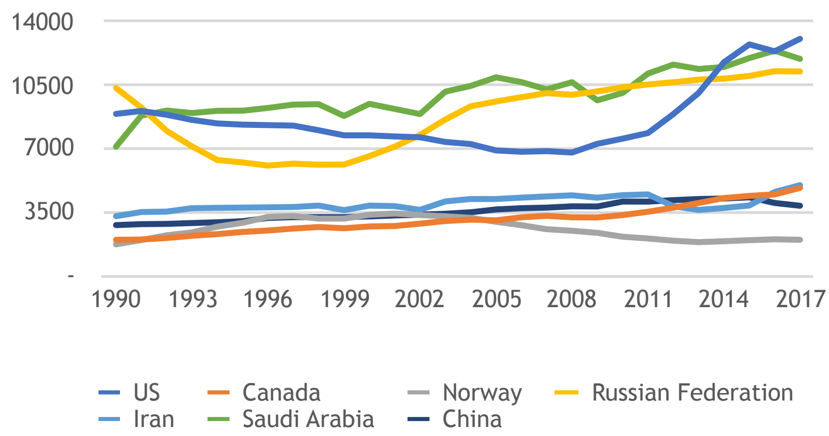

Figure 1. Oil production in thousand barrels per day

Fig. 2 shows that over the last two decades, the U.S has been the world's top oil consumer followed by China. As of 2017, the US consumed 20.2% of the world's total oil consumed in thousand barrels per day[18] compared to china's 13.0% of the 98,186 thousand barrels consumed daily all over the world. The U.S Energy information administration indicates that most of the oil that is refined into petroleum products is largely used in the transportation sector and also heating buildings and producing electricity. Moreover, the US consumes more energy from petroleum than any other source of energy[19] (US-EIA, 2016).

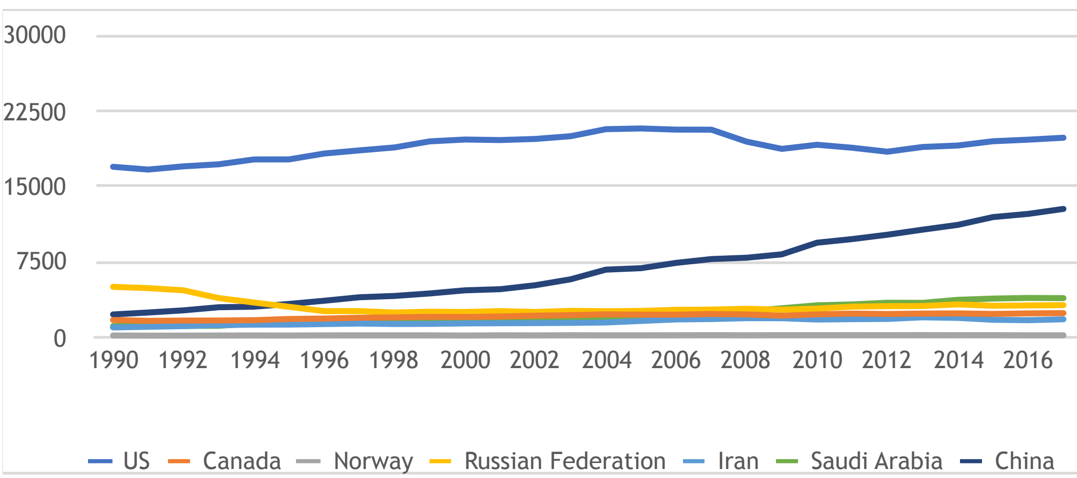

*Figure 2.*Daily oil consumption in thousand barrels per day

Besides being the world's largest oil consumer, The U.S is home to the world's most developed and largest stock exchanges by market capitalization (e.g. NYSE, NYSE American and NASDAQ) with listings by both domestic and international companies. Furthermore, the crude oil prices have also has been fluctuating over the last two decades. Specifically, prices between January 2007 and 2008 rose

[18] See statistics https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/downloads.html

[19] https://www.eia.gov/energyexplained/index.php?page=oil_use

from $54.51 to $133.37 per barrel before collapsing declining to $39.09 towards the aftermath of the global financial crisis in February 2009. This volatility in oil prices coincidently affected earnings performance of corporations and as such had an effect in movements observed in the stock markets. For instance, the wall street journal[20] reports that the correlation between crude oil prices and the S&P daily returns was 0.97%, levels that had not been observed for the last 26 years. This could be signal of a possible relationship between oil prices and stock returns. The magnitude of the relationship is however variant based on a number of factors like firm characteristics, type of sector or industry, market liberalization and regulations and the nature of the listed stocks (conventional or Islamic).

The U.S equity markets are comprised of individual stocks from various sectors of the economy and industries and these stocks are tracked by various indexes. Take for instance, the Oil and gas industry that is very sensitive to oil price volatility. Often, when oil prices increase, the profits of the Oil and Gas stocks consequently perform well. Likewise, when oil prices decline, the stock prices also fall. For instance, in 2006, Exxon Mobil[21] is reported to have recorded profits worth $10.7 billion dollars in its four quarter earnings that were attributed to strong oil and natural gas prices. These profits eventually drove the Exxon share price to rise by about 27% from $1.30 per share to $1.71. This is however not always the case with other sectors of the economy that have generate earnings from other products.

Furthermore, with increased attention to ethical investment in the world, there has been stock indexes that have been developed to track the performance of stocks traded on the principles of shariah investment guidelines. For instance, the Dow Jones Islamic Market World Index (DJIM) was launched in 1999 in Bahrain to help investors track investments in equities based on compliance with the Muslim Sharia law. Apparently the DJIM tracks the performance of firms on more than 50 Islamic indexes which are categorised based on market capitalization, industry and region. Specifically, the DJIM first eliminates companies that deal in products such as Alcohol, pork related pork-related products, conventional financial services (e.g. banks and insurance companies), entertainment (e.g. hotels, casinos, gambling etc.), tobacco, and weapons and Defense. Secondly, financial ratios are used to eliminate firms that exceed a threshold of 33% of their debt and interest income levels. A detailed explanation of the screening methodology is described in Appendix 1.

[20] Retrieved from https://www.wsj.com/articles/oil-stocks-dance-the-bear-market-tango-1453722783

[21] Retrieved from http://www.nbcnews.com/id/11098458/ns/business-us_business/t/exxon-mobil-posts-record-profit-billion/#.W2_E--gzaHs

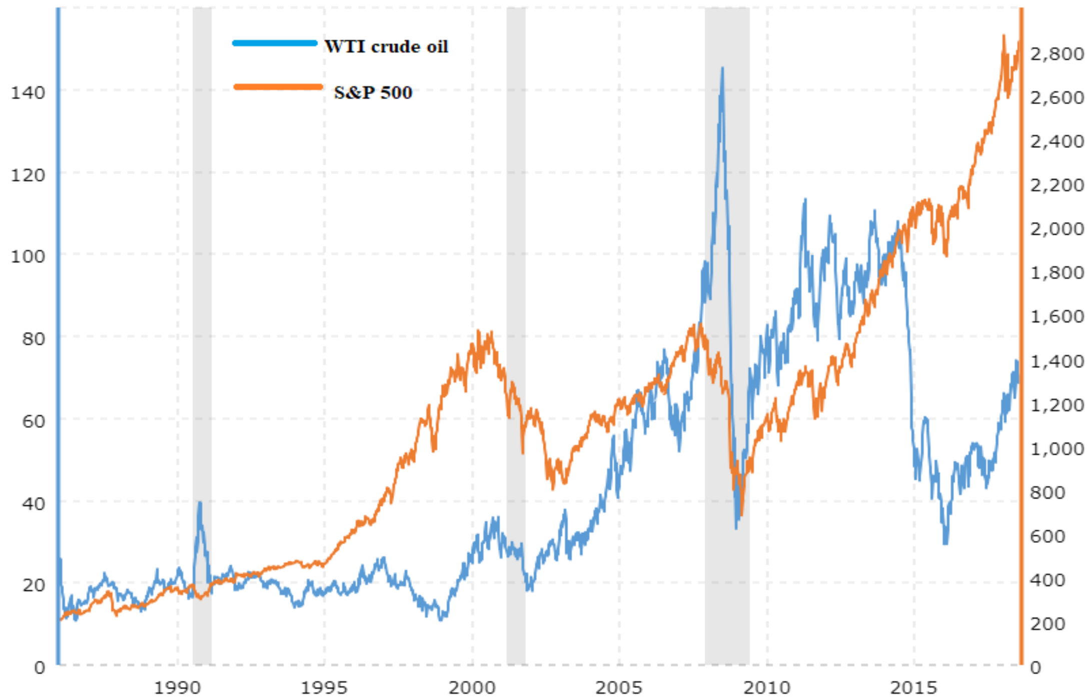

*Figure 3.*Interactive chart between WTI Crude oil price and the S&P 500

Despite increased investment in Islamic stocks, there has been few empirical studies examining the performance of Islamic stocks as compared to conventional counterparts. Moreover, the few available ones provide mixed findings. This study therefore, contributes to Islamic finance literature in the following ways. Firstly, we examine the effect of oil price risk exposure on listed firms on the world's largest developed market that are categorised or follow the Sharia investment principles (business activity screening and financial ratio screening). Prior studies have mainly focussed on how oil prices impact stock returns using conventional data (Kang, Ratti, & Yoon, 2015a; Lambertides, Savva, & Tsouknidis, 2017; Narayan & Sharma, 2011). The sensitivity of Islamic stocks and conventional stocks to risk factors is quite different (Abdullah, Hassan, & Mohamad, 2007; Hayat & Kraeussl, 2011; Hussein & Omran, 2005; Tsai, 2015) moreover it is important for investors to distinguish between investing in various stocks based on a number of factors like size, industry, region and more recently ethical related factors while seeking diversification opportunities. Secondly, we augment a Fama-French-Carhart model with oil price factor and thus contributing to previous asset pricing studies on the effect of oil price exposure. Thirdly, rather than using only stocks on the Dow Jones Islamic Market Index, we expand our study to add stocks that pass the two screening criteria under the shariah based screening methodology. Moreover, we focus on the period between 1990 and 2017 that is characterised by numerous market reforms, financial crises and oil price shocks. We also contribute to existing literature that tests whether the return predictability is possible on a timeseries of Islamic stocks. Previous studies have not taken into consideration the varying aspects of Islamic finance as compared to conventional finance hence ignoring the potential diversification and financial stability that might accrue from Islamic finance investment. Furthermore, the last two decades have witnessed a rapid growth in the Islamic finance industry. Balcılar, Demirer, and Hammoudeh (2015)report that the global emerging sukuk market was valued at approximately US$ 130 billion and therefore it is imperative to focus this study on the effects of oil prices and Islamic stocks listed on the US stock markets. Specifically, we address the following questions:

1. Are Islamic stock returns affected by the oil price shocks in the US markets?
2. Does the Global financial crisis have an effect on the relationship between Oil price and Islamic stock returns?
3. Is the relationship between Islamic stock returns and Oil price risk affected by the January effect?

The findings in this study show that there exists a statistically significant relationship between oil prices and stocks returns. Similar to (Carhart, 1997; Fama & French, 1996; Kosowski, Timmermann, Wermers, & White, 2006), we evaluate the portfolio performance of Islamic stocks and also carry out a cross-sectional analysis using a (Fama & MacBeth, 1973) regression. Under the portfolio analysis, we find no statistically significant oil price effect on portfolio returns. One the other hand, we find that oil prices are able to explain the individual stock returns based on individual stock analysis. We conduct two robustness tests to emphasize the prior findings. First, we examine the relationship between oil price risk and stock returns before, during and after the financial crisis. We then later examine whether the relationship is affected by a calendar anomaly, specifically the January effect. The rest of this paper is structured as follows: Section 2 provides empirical literature on the relationship between oil prices and stock returns. Section 3 describes the data and methodology used, section 4 presents empirical results and discussions and section 5 concludes.

2. LITERATURE REVIEW

The inconclusive debate about the effect of commodity prices on macroeconomic variables and financial markets has resulted into mixed and enormous empirical literature in both developed and emerging markets. There is however, little attention on the relationship between oil price shocks and equity markets. Even though crude oil prices are regarded as an important aspect while examining the volatility of stock prices, there is no consensus about the relationship between oil prices and stocks returns. Some studies reveal that there is no significant effect of oil prices on stocks returns whereas others find a statistically significant positive or negative effect. Using equity returns for stocks listed on the US over a sample period from 1958-1984, (Chen, Roll, & Ross, 1986) test whether macroeconomic variables are risks that can be rewarded in the equity market. Even though they find that inflation, interest rates risks are significantly priced, oil price risk is not separately rewarded in the stock market.

Hammoudeh and Li (2005) examine whether the relationship between the five markets in the oil-rich GCC and the NYMEX oil futures prices can determine stock market returns. Using daily data between February 1994 to December 2001, their findings show that the Saudi Arabia stock market has a bi-directional causal or mutual predictive relationship with oil price growth. On the other hand, they reveal that the stock returns of the smaller oil exporters, Kuwait and Oman, have no causal relationships with oil price changes. These findings are shocking considering that these economies greatly depend on oil exports, one would thus expect to find a significant relationship. However, it could also be true since their stocks markets are small and the economies are not that big as US. In another cross-sectional analysis on the Gulf Arab stock markets, (Demirer et al., 2015) use firm level monthly data from March 2004-March 2013 and indicate that stocks that are more sensitive to oil price fluctuations yield significantly higher returns implying that oil price risk exposure can be a return predictor in the Gulf Arab markets. The market, and size risk factors are however not documented in the GCC stock markets.

At industry level, Gogineni (2010) confirm a high oil price risk exposure on stock returns of industries that depend heavily on oil. Moreover. A few stocks of non-oil intensive groups were also found to also be sensitive. They attribute this to both cost-side dependence and demand-side dependence on oil. Similarly, (Moya-Martínez, Ferrer-Lapeña, & Escribano-Sotos, 2014) investigate the oil price sensitivity of Spanish industries between 1993-2010 and find that oil price exposure varies considerably across industries. Particularly, oil price shocks did not have a significant effect on a large set of industries, including Consumer Goods, Technology and Telecommunications, Real Estate, and Utilities. On the contrary, Energy, Construction, Basic Resources, Food and Beverages, and Banking emerged as the industries with greater exposure to oil price. They also note that the changes in oil price risk exposure could have been generated by effects from the Asian and Russian financial crises of 1998, the oil price bubble of 2003 and also the global financial crisis.Nandha and Faff (2008), using 35 global industry indices from April 1983 to September 2005 reveal that there is a negative oil price risk exposure on equity returns for all sectors except the mining, oil and gas industries.

At firm level, Tsai (2015) examines the oil price risk exposure of US stocks before, during and after the financial crisis. Using daily data from January 1990 to December 2012, he establishes that during and after the crisis, oil-intensive industries are more positively affected by the oil price shocks than less oil-sensitive industries. Moreover, big size firms were found to be significantly affected by oil prices shocks before the crisis period while mid-sized firms were positively affected by oil shocks post the financial crisis period. Sadorsky (2001) uses a multifactor model to examine the relationship between (market, oil price, term premium and exchange rates risk factors) and expected returns of Canadian oil and gas stock returns. Their findings show that increased market or oil price factors result into increased return of stocks prices whereas an increase in exchange rates leads to a decrease in stock price returns. They also suggest that the oil and gas industry exhibit a cyclical nature and that the uncertainty that surrounds this could be dealt with by hedging against oil price, interest rate and exchange rate risk.

Using weekly data between 2000-2009, Milly and Sultan (2012) compare the performance between investing in Islamic stocks and conventional stocks. They reveal that Islamic stock portfolios generated a higher sharper ratio and based on this they contend that investing in Islamic stocks may be safer during economic and financial distress periods. Correspondingly, Hayat and Kraeussl (2011) analyses the risk and return characteristics of a sample of 145 Islamic equity funds (IEFS) over the period 2000 to 2009 and find that IEFs are underperformers compared to Islamic as well as the conventional equity benchmarks. Moreover, this underperformance was pronounced more during the global financial crisis. They argue that Muslim investors could boost their portfolio performance by investing in Islamic index tracking funds or Islamic exchange-traded funds rather than to invest in Islamic equity funds. Hussein and Omran (2005) also show that the Islamic index provided investors with statistically significant positive abnormal returns after adjustment for risk during the period 1996-2003 but underperformed during the bear market subperiod as compared to the bear market period, they also reveal that the technology sector firms were the main reason behind the Islamic indexes' positive abnormal returns. Based on this empirical background, we are motivated to further study the performance of Islamic stocks using the world's largest and developed stock markets in the US.

3. DATA AND METHODOLOGY

3.1 Data

Monthly data on price, shares outstanding and returns for all individual firms was obtained from Center for Research in Security Prices (CRSP) for the period from January 1990 through December 2017[22]. Accounting data (Total Account receivables, Cash and short-term investments and Total debt) for individual firms is obtained from COMPUSTAT database. We only include stocks that are listed on the US stock markets (NYSE, NASDAQ, AMEX) and meet the Shariah requirements for acceptable products, business activities, debt levels, and interest income and expenses. The screening methodology is subject to input from an independent Shariah supervisory board. Moreover, these stocks ought to have at least one year's data. Consequently, we have sample of 2,615 firms on average per month with approximately 480 monthly return observations based on sharia-compliant measures. We obtain the Fama-French factors and momentum factor from the Kenneth French's data library (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html). We use the monthly Crude Oil Prices expressed in USD/barrel from the West Texas Intermediate (WTI)[23] to compute the oil returns. The WTI crude oil price is a famous benchmark for crude oil prices in both academic and investment work. All the stock returns are in U.S. dollars and the U.S Treasury bill rate is used to represent the risk-free rate.

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[22] It should be noted that the Dow Jones Islamic stock index commenced in 1999

[23] https://fred.stlouisfed.org/series/MCOILWTICO

Table 1
Definition of Variables for Model (3)

Variable	Symbol	Definition
Return	$R_{i,t}$	Islamic stock return for firm *i* in month *t*
Oil return	OIL	The monthly return on oil price thus $\boldsymbol{\beta_{oil}}$ denotes the oil price risk exposure.
Firm size	SIZE	The log value of a given firm's monthly market capitalization in USD
Book-to-Market ratio	BM	The firm's book-to-market ratio lagged 6 months, BM month *t-6*
Momentum	MOM	Is the stock's 11-month past return lagged one-month i.e. return of month *t-12* to month *t-2*
Closing price	PRICE	The stock's monthly closing price
Interest rate	INTRATE	The one-month US treasury bill rate

3.2 Methodology

Following previous empirical studies using asset pricing models in the empirical finance literature such as (Fama & French, 1993, 1996);(Carhart, 1997); (Jegadeesh & Titman, 1993); we augment the four factor model by Fama-French-Carhart (FFC) with an Oil price risk (OIL). The three factor and four factor models are often used to evaluate the performance of portfolios formed on various frim factors like Size, Book-to-market ratio. Contrary to the Capital Asset pricing model that uses the risk-free rate (RF) and the excess market return (RM-RF), the (Fama & French, 1993, 1996) three factor model introduces as a size (SMB) and book-to-market (HML) factors to explain variation in stock returns, the FFC model introduces the momentum factor[24] (MOM) to establish that persistence is another risk factor that explain individual or portfolio stock returns.

3.1 Estimating oil price risk exposure

Using daily data, we compute the monthly oil price risk loadings in the following model:

$$R_{i,t} - R_f = \alpha + \beta_{i,m}\,(RM\text{-}Rf)_t + \beta_{smb,i,m}\,SMB_t + \beta_{HML,i,m}\,HML_t + \beta_{MOM,i,m}\,MOM_t + \beta_{OIL,i,m}\,OIL_t + \varepsilon_{i,t} \quad (1)$$

where day *t* refers to the 22 trading days for a given Islamic stock each month m and thus stocks that have daily data less than 22 days are eliminated out of the sample. *RM-Rf* is the value weighted market return, SMB (the difference in return between a small cap portfolio and a large cap portfolio at time), HML (the difference in return between a portfolio of high book-to-market stocks and one of low book-

[24] Jegadeesh and Titman (1993) and Carhart (1997)

to-market stocks at time) , MOM (the difference in return between a portfolio of past 12 months winners and a portfolio of past 12 month losers at time) are the factors augmented from the Fama-French and Carhart (1997) model and OIL is the daily return on WTI oil price computed as the logarithmic difference of the daily oil price. Therefore, $\beta_{OIL,\, i,\, m}$ is the risk factor loading computed monthly using daily data for Islamic stocks for every month from January 1990 to December 2017. The $\beta_{i,m}$, β_{smb}, β_{HML}, β_{MOM} are the other risk factor loadings as document by Fama and French (1993) and later Carhart (1997).

3.2 Portfolio analysis and Fama-Macbeth regressions

We then investigate the relationship between OIL and monthly stock returns using two approaches, we first perform portfolio-level analysis and later for robustness of our findings[25], we estimate the firm-level Fama-Macbeth cross-sectional regressions. At the beginning of every month, three portfolios are formed based on the oil price risk loading ($\beta_{OIL,\, i,\, m}$) estimated in Eqn. (1) and eventually we have three portfolios namely; High OIL (Islamic stocks that are most sensitive to oil price changes), Medium OIL and Low OIL (lowest loadings and hence Islamic stocks that are least sensitive to oil price changes. For each given portfolio we compute the equal-and value-weighted average raw returns for the current month, reforming every month. We also estimate each portfolio's alpha (*abnormal returns*) from the Carhart (1997) model (Eq.2) estimated using the full sample of monthly or equal-weighted returns for each portfolio as reported in table 3. We then compare the differences of raw returns and alphas between the high and low Oil risk portfolios.

$$R_{p,\, m} - R_f = \alpha + \beta_{i,m}\, (RM\text{-}Rf)_{m} + \beta_{smb,i,m}\, SMB_{m} + \beta_{HML,i,m}\, HML_{m} + \beta_{MOM,i,m}\, MOM_{m} + \beta_{OIL,i,m}\, OIL_{m} + \varepsilon_{i,m} \quad (2)$$

Where $R_{p,\, m}$ is the actual return of the portfolio formed by sorting terciles using the oil loadings obtained in model (1) in month m. α is the measure of Jensen's alpha which typically is a measure of out or under performance relative to the market and other risk factors proxies. The alpha measures the average monthly abnormal return, given in the eqn (2). *RM-Rf* is the return on the market and R_f is the risk-free rate (US one-month treasury bill rate).

Firm-level Fama-Macbeth regressions

Considering that portfolio analysis loses some information through aggregation, we also examine the relationship between stock returns and oil price by conducting firm-level-Macbeth regressions and consequently control for various variables that have been documented to affect stock returns. The following model is thus nested:

$$R_{i,m} = \beta_{0,\, m} + \beta_{\mathrm{oil},\, m}\, \mathrm{OIL}_{i,m} + \beta_{2,\, m}\, \mathrm{SIZE}_{i,m} + \beta_{3,}\, \mathrm{BM}_{i,m} + \beta_{1,\, m}\, \mathrm{MOM}_{i,m} + \beta_{1,\, m}\, \mathrm{PRICE}_{i,m} + \beta_{1,\, m}\, \mathrm{INTRATE}_{i,m} \quad (3)$$

Where $R_{i,\, m}$ is the realized stock return in month m for firm *i*. OIL is the oil price return from which we estimate that oil price risk exposure denoted by $\beta_{\mathrm{oil},\, m}$. Size is the log of a firm Islamic market capitalization at the end of month t. BM is the firm's book-to-market ratio six months prior, i.e., at the end of month, *m-6*. Following, MOM at for month *m* is the defined as the stock's 11-month past return lagged one month, i.e., return
from month *m-12* to month *m-2*. PRICE is the stock's closing price at the end of month *m* and INTRATE is the US 1-month treasury bill rate.

Table 2
Full sample descriptive statistics

Panel A: Summary statistics of the five risk factors.

Variable	Obs.	Mean	Std. Dev.	Min	Max
RM-RF	480	0.9224	4.2232	-17.2300	8.9500
SMB	480	-0.1760	3.4899	-17.2800	14.0300
HML	480	0.0118	2.9159	-10.1000	7.9400
MOM	480	1.1068	4.2009	-11.5400	16.5900
OIL	480	0.0028	0.0937	-0.3320	0.3922

Panel B: correlation matrix for the five factors

	RM_RF	SMB	HML	MOM	OIL
RM-RF	1.0000				
SMB	0.1636	1.0000			
HML	-0.1348	-0.2534	1.0000		
MOM	-0.1229	0.1863	-0.3361	1.0000	
OIL	0.0215	-0.0974	0.1547	-0.0542	1.0000

Panel C: Firm-level Fama-Macbeth variables summary statistics

Variable	Mean	Std. Dev.	Min	Max
R_t	0.0123	0.1713	-0.9527	13.4951
OIL	0.0028	0.0846	-0.3320	0.3922
SIZE	12.5800	2.0674	4.8086	20.5981
BM	0.0013	0.0094	-4.3997	0.4940
MOM	0.0136	0.1632	-0.9143	13.4951
PRICE	21.1651	41.2623	-628.0000	4197.9500
INTRATE	0.2439	0.1902	0.0000	0.6900

Panel D: Firm-level Fama-Macbeth variables correlation analysis

	R_t	OIL	SIZE	BM	MOM	PRICE	INTRATE
R_t	1.0000						
OIL	0.0417	1.0000					
SIZE	0.0302	0.0052	1.0000				
BM	0.0065	0.0034	-0.0406	1.0000			
MOM	0.0036	-0.0035	0.0300	-0.0044	1.0000		
PRICE	0.0297	-0.0018	0.3950	-0.0183	0.0214	1.0000	
INTRATE	-0.0025	0.0288	-0.2183	0.0325	0.0095	-0.0798	1.0000

4. EMPIRICAL RESULTS

Table 2 reports descriptive statistics on all the variables used in this study. Firstly, the average equity premium (RM-RF) for the period 1990-2017 is 0.92% per month. The average SMB returns are close to zero (-0.17%) whereas we find value premiums of 0.01% and strong momentum returns per month at 1.11%. There is low correlation between the risk factors, an indication that there is no multicollinearity in the risk factors and certainly an assuring presence of unbiased results henceforth. In panel C; the summary statistics of the variables used in the Fama-Macbeth cross-sectional regression indicate that on average Islamic stock returns have positive returns of 0.01% per month with standard deviation of approximately 0.17 % hence indicating that expected trading profits of 0.12% per month before transaction costs are incurred. Moreover, we notice that there exists a positive linear correlation between monthly Islamic stock returns and oil price (0.04).

Portfolio analysis

Table 3 reports the findings from the relationship between oil price and monthly portfolio returns using stock listed on the NYSE, AMEX and NADAQ for a sample period of 1990 – 2017. Panel A of table 3 shows the results of Equally weighted portfolios whereas Panel B of table 3 shows the Value weighted portfolios both formed on Oil risk factor loading (***$\beta_{OIL,i,m}$***) obtained in eqn. (1). The results show the average monthly raw returns of each stock portfolio, the average abnormal returns (Jensen's alpha) with respect to Carhart 4 factor model augmented with monthly return on oil price (Oil factor) as well the portfolios average size and book-to-market ratio.

[INSERT TABLE 3 AND 6 HERE]

The size difference (USD 58,391.1) of High-Low portfolios indicates that there are more large sized stocks than small sized stocks for the full sample period. Moreover, results indicate that for both the equal and value weighted portfolios, the portfolio raw returns decrease monotonically from High to Low. Stocks that are less sensitive to oil price risk (Low OILRISK) have higher statistically significant average monthly raw returns of 0.014% and 0.022% for Equal and Value weighted portfolios respectively compared to portfolios that have a high risk to oil price exposure with average monthly returns of 0.019% and 0.014% respectively.

We find that the risk-adjusted measure or the abnormal returns (denoted by Jensen alpha) indicates a negative and statistically significant returns for all portfolios regardless of weighting. Moreover, the alpha spread between the High and low portfolios is approximately (-0.24 %) for both Equally weighted and Value weighted oil risk portfolios. Therefore, any trading strategy based on buying high and selling low oil price risk portfolio stocks is expected to produce a risk adjusted trading loss of -0.24% per month before transactional costs. The results indicate that even though there is negative oil price risk exposure ($\beta_{OIL,i,m}$) on Islamic stock returns, it is rather insignificant across all the six portfolios. This negative oil price risk exposure is consistent with empirical findings such as (Sadorsky, 2008).

Firm-level Fama-Macbeth analysis

The results from portfolio analysis[26] indicate that there is no statistically significant oil price risk exposure for all the equal and weighted portfolio returns. Notably the portfolio analysis has reported deficiencies in asset pricing studies such as (elimination of a lot of information on firms through aggregation and inability to control for dependent bivariate sorts). More so Lo and MacKinlay (1990) suggest that relationship between portfolio excess returns based on portfolio sorts of firm characteristics tends to be exaggerated and therefore data for individual securities should be used. We thus conduct extra robustness tests by running a firm-level Fama-Macbeth regression to further examine the relationship between oil price and stock returns.

[INSERT TABLE 3 HERE]

Table 4 reports the relationship between oil price and stock returns using the firm level Fama-Macbeth for the full sample period from January 1990 to December 2017. We display univariate, bivariate and multivariate firm-level cross-sectional regression results of the Islamic stock returns of

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[26] We also conducted portfolio analysis on the 3 sub sample periods i.e. pre-crisis period (1990:01-2007:12), crisis period (2008:01-2009:06) and post crisis-period 2009:07 – 2017:12) and similarly, we find no statistically significant relationship between oil risk price effect and Islamic stock returns. The results are available from the authors upon request.

month *m* with predictor variables of oil price and other control variables such as monthly market capitalization (size), book-to-market ratio, momentum, stock price and interest rate. Using a full sample period, we find that the univariate results in panel A of table 4 show a statistically significant positive relationship between oil price and Islamic stock returns. Moreover, when we control for other variables in panel B, we still can observe a statically significant positive effect of oil price on stock returns and certainly all the control variables are able to explain the positive oil price effect on Islamic stock return in both bivariate and multivariate cross-sectional regression analysis. The results also indicate that oil price, size, book-to-market ratio, momentum, stock prices can significantly explain returns on Islamic stocks listed on the U.S. markets. Besides, we find a statistically significant positive size effect which indicates that large sized Islamic stocks outperform small sized Islamic stocks), a positive book-to-market effect similar to (Chan, Hamao, & Lakonishok, 1991; Daniel, Titman, & Wei, 2001). We also reveal momentum returns effect similar to Narayan and Phan (2017) we find that past winners outperform losers using U.S Islamic stocks and as such exhibit momentum profits of approximately 0.005% per month for US stocks. The positive price effect indicates that high priced Islamic stocks tend to have lower expected returns. Similar to Huang, Mollick, and Nguyen (2016), we also find that there is a statistically negative effect of interest rate on Islamic stock returns. Previous findings have also shown that as interest rate increase, borrowing costs also increase and consequently this lowers the stock returns.

Effects of the 2007-2009 recessions.

Following (Mollick & Assefa, 2013; Tsai, 2015), we estimate a sub period analysis based on the financial crisis of 2008/2009. Considering that we found a statistically significant positive relationship between oil prices and stock returns for the full sample period, it is important that we examine whether the effect of oil price shocks on stock returns during a financial crisis is still existent. It should be remembered that the financial crisis had a negative impact in the oil and gas sector worldwide which resulted into a steep reduction in the oil and gas prices and ultimately a decline in stock returns.

[INSERT TABLE 5 AND 6 HERE]

Table 5 reports univariate, bivariate and multivariate results for the period before the 2008/2009 global financial crisis. Surprisingly, the pre-crisis period shows that there is a statistically significant negative effect of oil prices on the stock returns whether we control for other factors individually or in a multivariate setting. However, during the crisis period as reported in Table 6, we still find a statistically positive effect of oil price on stocks returns which prevails even after the crisis period as reported in (Table 7). Our findings are similar to Tsai (2015) and Kilian and Park (2009) who find that increases in oil prices before the crisis period negatively affects the U.S stock returns. Moreover, during the crisis period and the aftermath of the recessions when the demand for oil was high, the stocks positively responded to oil price changes.

Is there a calendar effect on the relationship between oil price risk and stock returns?

In this section, we investigate whether the oil price exposure still exists when January returns are eliminated. The findings in Table 6 shows that the statistically significant positive effect of oil price on stocks returns is not affected by calendar effects specifically, there is a statistically significant positive relationship between oil price shocks and Islamic stocks returns. We also reveal that the positive momentum effect is predominant in January monthly returns.

5. CONCLUDING REMARKS

In this study, we examine the oil risk exposure on returns of 2615 Islamic stocks listed on the U. S stock exchanges between January 1990 to December 2017.We undertake two empirical examinations using the data set. The analysis involves using a portfolio analysis of stocks sorted on their level of oils risk exposure and also a Fama-Macbeth cross-sectional regression analysis using individual stocks. Our analysis unravels new insights on the return predictability or Islamic stock returns as well the oil price exposure of these returns. First, we find that on average, low risk portfolios exhibit higher raw returns that higher risk portfolios regardless of whether they are equally weighted or value weighted. Secondly, of the five risk factors used in this study (RM-RF, SMB, HML, MOM, OIL), only the coefficients of SMB and MOM are able to statistically explain risk adjusted returns. Moreover, we find no statistically significant effect of oil price risk on Islamic stock returns under portfolio analysis. While examining using individual stocks, we find that before the crisis period, there is a statistically significant negative effect of oil prices on the stock returns whether we control for other firm factors individually or in a multivariate setting. Whereas during the crisis and after the crisis period, we find a positive relationship between Islamic stocks and oil prices. Overall, this study shows that Islamic stocks respond to changes in oil prices during both normal periods and recession periods. Moreover, this oil price risk exposure is not affected when we eliminate January months from this analysis. We suggest that an extended research on equities in emerging markets would be interesting and would be beneficial to existing literature in Islamic financing investment.

Table 3

Risk-Return relationship of portfolios sorted by Oil price risk exposure. (Full sample period)

Raw returns						Risk-adjusted returns						
						Jensen's alpha	RM-RF	SMB	HML	MOM	OIL	Adj. R^2
	Mean	Std.deviation	Size	B/M	Std.error	α	$\beta_{i,m}$	$\beta_{smb,i,m}$	$\beta_{HML,i,m}$	$\beta_{MOM,i,m}$	$\beta_{OIL,i,m}$	
Panel A: Equal-Weighted												
High OIL	0.012	0.0655	2,266,577.20	0.0014	0.0196	-0.2342	0.0080	0.0192	-0.0019	-0.0102	-0.1843	0.1418
t-statistic	(2.00)					(-11.96)	(1.80)	(3.51)	(-0.28)	(-2.17)	(-0.94)	
Medium OIL	0.0071	0.045	4,749,049.50	0.0011	0.0198	-0.2384	0.0055	0.0156	-0.0004	-0.0091	-0.2575	0.0889
t-statistic	(1.72)					(-12.06)	(1.22)	(2.82)	(-0.06)	(-1.92)	(-1.30)	
Low OIL	0.0138	0.063	2,208,186.10	0.0012	0.0197	-0.2319	0.0075	0.0194	-0.0016	-0.0099	-0.2786	0.1434
t-statistic	(2.40)					(-11.76)	(1.68)	(3.51)	(-0.22)	(-2.09)	(-1.41)	
High-Low	-0.0018	0.0205	58,391.10	0.0001	0.0196	-0.2415	-0.0028	0.0102	-0.0034	-0.0084	-0.1677	0.0163
t-statistic	(-0.99)					(-12.3)	(-0.63)	(1.85)	(-0.49)	(-1.79)	(-0.85)	
Panel B: Value-Weighted												
High OIL	0.0198	0.0518	2,266,577.20	0.0014	0.0193	-0.229	0.006	0.0132	-0.0025	-0.0085	-0.2178	0.0746
t-statistic	(4.17)					(-11.84)	(1.36)	(2.43)	(-0.36)	(-1.83)	(-1.13)	
Medium OIL	0.0198	0.0388	4,749,049.50	0.0011	0.0197	-0.2259	0.0037	0.0104	-0.0051	-0.0081	-0.2636	0.0461
t-statistic	(5.59)					(-11.45)	(0.82)	(1.88)	(-0.73)	(-1.72)	(-1.33)	
Low OIL	0.0216	0.0595	2,208,186.10	0.0012	0.0198	-0.2277	0.0077	0.0146	-0.0037	-0.0092	-0.2679	0.1049
t-statistic	(3.96)					(-11.52)	(1.71)	(2.65)	(-0.53)	(-1.94)	(-1.36)	
High-Low	-0.0018	0.0386	58,391.10	0.0001	0.0197	-0.2421	-0.005	0.0092	-0.0013	-0.0076	-0.2188	0.014
t-statistic	(-0.50)					(-12.29)	(-1.11)	(1.67)	(-0.18)	(-1.61)	(-1.11)	

We compute each portfolio's equal- and value-weighted raw returns for the current month. We also estimate each portfolio's Jensen alpha (α coefficient) from the Carhart-factor model (Eq. 1) estimated using the full sample of monthly equally or monthly weighted returns for each portfolio. High-Low is the difference in monthly returns and differences in alpha between high and low oil risk portfolios *T-statistics* are reported in a parenthesis. The risk-adjusted returns provide a guide on a trading strategy that considers exposure to risk factors (RM-RF, SMB, HML, MOM, OIL) as described in Eqn. (1). We conduct the analysis for the full sample period (1990:01–2017:12)

Table 4

Panel A: Univariate Fama-Macbeth regressions (Full sample period: 1990:01 – 2017:12)

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
0.0122***	0.0447***					
(-76.23)	(-23.75)					
-0.0337***		0.0034***				
(-33.24)		(-46.48)				
0.0131***			0.0682***			
(-81.64)			(-4.05)			
0.0137***				0.0050***		
(-82.34)				(-4.89)		
0.0092***					0.0001***	
(-51.06)					(-38.47)	
0.0157***						-0.0142***
(-60.79)						(-16.95)

Panel B: Bivariate and multivariate Fama-Macbeth regressions results

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
-0.0336***	0.0555***	0.00368***				
(-33.23)	(-28.49)	(-46.32)				
0.0130***	0.0392***		0.0674***			
(-80.87)	(-20.94)		(-4.00)			
0.0135***	0.0822***			0.0051***		
(-81.15)	(-40.79)			(-5.02)		
0.00901***	0.0449***				0.0002***	
(-50.32)	(-23.84)				(-38.53)	
0.0158***	0.0461***					-0.0151***
(-61.1)	(-24.49)					(-17.96)
-0.0099***	0.0795***	0.00172***	0.141***	0.0027*	0.0001***	0.0023*
(-8.32)	(39.02)	(18.98)	(7.09)	(2.47)	(18.32)	(2.41)

We perform a firm-level Fama-Macbeth regression of the expected individual Islamic stock returns with monthly control variables over the full sample period, from 1990:01 to 2017:12. The time-series averages of the slope coefficients and their associated t-statistics are reported in parentheses. All variables are described in table 1. [* $p<0.05$ ** $p<0.01$ *** $p<0.001$] denote statistical significance at 10%, 5% and 1% levels.

Table 5

Panel A: Univariate Fama-Macbeth regressions (Pre-crisis period: 1990:01 to 2007:12)

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
0.0141***	-0.0802***					
(70.25)	(-31.26)					
-0.0401***		0.0045***				
(-30.63)		(42.08)				
0.0146***			-0.0140			
(72.42)			(-0.79)			
0.0156***				-0.0014		
(74.00)				(-1.16)		
0.0060***					0.0004***	
(24.79)					(53.60)	
0.0270***						-0.0392***
(51.37)						(-27.65)
Panel B: Bivariate and Multivariate regressions						
-0.0407***	-0.0749***	0.0045***				
(-31.08)	(-27.65)	(42.90)				
0.0152***	-0.0885***		-0.0152			
(75.11)	(-34.49)		(-0.86)			
0.0158***	-0.0419***			-0.0017		
(74.93)	(-14.49)			(-1.37)		
0.0065***	-0.0816***				0.0004***	
(26.66)	(-31.85)				(53.94)	
0.0280***	-0.0823***					-0.0405***
(53.14)	(-32.08)					(-28.57)
0.0111***	-0.0529***	0.0005***	0.0095	-0.0075***	0.0003***	-0.0210***
(6.71)	(-17.77)	(3.87)	(0.46)	(-5.62)	(32.26)	(-12.74)

We perform a firm-level Fama-Macbeth regression of the expected individual Islamic stock returns with monthly control variables over the pre-crisis period, from 1990:01 to 2007:12. The time-series averages of the slope coefficients and their associated t-statistics are reported in parentheses. All variables are described in table 1. [* p<0.05 ** p<0.01 *** p<0.001] denote statistical significance at 10%, 5% and 1% levels.

Table 6

Panel A: Univariate Fama-Macbeth regressions (Crisis period 2008:01 to 2009:06)

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
-0.0113***	0.3021***					
(-13.31)	(54.54)					
-0.0958***		0.0063***				
(-16.98)		(14.53)				
-0.0203***			5.8179***			
(-21.66)			(17.70)			
-0.0136***				0.0375***		
(-15.17)				(5.32)		
-0.0192***					0.0002***	
(-19.47)					(8.66)	
0.0110***						-0.2286***
(8.35)						(-26.11)
Panel B: Bivariate and Multivariate results						
-0.0788***	0.3003***	0.0053***				
(-14.25)	(53.07)	(12.39)				
-0.0160***	0.2879***		5.1419***			
(-17.38)	(51.86)		(15.98)			
-0.0099***	0.3007***			0.0234***		
(-11.29)	(52.62)			(3.39)		
-0.0146***	0.3008***				0.0002***	
(-15.12)	(54.31)				(7.16)	
0.0267***	0.3416***					-0.3281***
(20.39)	(61.25)					(-37.85)
-0.0533***	0.3179***	0.0056***	5.0858***	0.0513***	0.0001***	-0.3149***
(-8.66)	(54.49)	(11.58)	(14.80)	(7.20)	(4.53)	(-34.09)

We perform a firm-level Fama-Macbeth regression of the expected individual Islamic stock returns with monthly control variables during the crisis period, from 2008:01 to 2009:06. The time-series averages of the slope coefficients and their associated t-statistics are reported in parentheses. All variables are described in table 1. [* $p<0.05$ ** $p<0.01$ *** $p<0.001$] denote statistical significance at 10%, 5% and 1% levels.

Table 7

Panel A: Univariate Fama-Macbeth regressions (Post-crisis period 2009:07 to 2017:12)

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
0.0151***	0.1384***					
(-59.73)	(-43.96)					
-0.0192***		0.0025***				
(-11.35)		(-20.4)				
0.0119***			3.6172***			
(-43.4)			(-31.78)			
0.0151***				0.0141***		
(-58.42)				(-8.34)		
0.0135***					0.0000***	
(-48.07)					(-11.16)	
0.0140***						0.0732***
(-48.7)						(-5.39)
Panel B: Bivariate and Multivariate results						
-0.0195***	0.1399***	0.0026***				
(-11.55)	(-43.98)	(-20.86)				
0.0123***	0.1331***		3.5156***			
(-45.14)	(-43.03)		(-30.98)			
0.0154***	0.1376***			0.0139***		
(-59.85)	(-42.98)			(-8.24)		
0.0138***	0.1386***				0.0000***	
(-49.43)	(-44.03)				(-11.45)	
0.0152***	0.1385***					-0.0054
(-52.67)	(-43.62)					(-0.40)
-0.0201***	0.1336***	0.0023***	4.8874***	0.0168***	0.0000***	-0.0204
(-11.27)	(-42.03)	(-17.26)	(-38.2)	(-9.77)	(-4.9)	(-1.52)

We perform a firm-level Fama-Macbeth regression of the expected individual Islamic stock returns with monthly control variables over the post-crisis period, from 2009:07 to 2017:12. The time-series averages of the slope coefficients and their associated t-statistics are reported in parentheses. All variables are described in table 1. [* p<0.05 ** p<0.01 *** p<0.001] denote statistical significance at 10%, 5% and 1% levels.

Table 6

Panel A: **Univariate, bivariate and Multivariate Fama Macbeth regressions (**Non-January months)

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
0.0107***	0.0339***					
(-65.57)	(-17.60)					
-0.0517***		0.0050***				
(-49.66)		(-61.50)				
0.0121***			0.0405*			
(-73.08)			(-2.40)			
0.0124***				-0.0038***		
(-72.7)				(-3.62)		
0.00718***					0.0002***	
(-39.03)					(-43.76)	
0.0174***						-0.0269***
(-65.29)						(-31.20)
-0.0515***	0.0430***	0.0050***				
(-49.48)	-21.55	-61.22				
0.0120***	0.0287***		0.0402*			
-72.55	-14.93		-2.39			
0.0122***	0.0711***			-0.0037***		
-71.73	-34.47			(-3.47)		
0.0071***	0.0336***				0.0002***	
-38.57	-17.47				-43.71	
0.0174***	0.0363***					-0.0276***
-65.54	-18.86					(-31.93)
-0.0199***	0.0681***	0.0027***	0.1180***	-0.0067***	0.0001***	-0.0097***
(-16.17)	-32.5	-28.49	-5.93	(-6.02)	-17.08	(-9.82)

We perform a firm-level Fama-Macbeth regression of the expected individual Islamic stock returns with monthly control variables over the full sample period, from 1990:01 to 2017:12eliminating January monthly returns. The time-series averages of the slope coefficients and their associated t-statistics are reported in parentheses. All variables are described in table 1. [* p<0.05 ** p<0.01 *** p<0.001] denote statistical significance at 10%, 5% and 1% levels.

Panel B: January months

Intercept	OIL	SIZE	BM	MOM	PRICE	INTRATE
0.0122***	0.0447***					
(76.23)	(23.75)					
-0.0337***		0.0037***				
(-33.24)		(46.48)				
0.0131***			0.0682***			
(81.64)			(4.05)			
0.0137***				0.0050***		
(82.34)				(4.89)		
0.0091***					0.0001***	
(51.06)					(38.47)	
0.0157***						-0.0142***
(60.79)						(-16.95)
-0.0336***	0.0555***	0.0037***				
(-33.23)	(28.49)	(46.32)				
0.0130***	0.0392***		0.0674***			
(80.87)	(20.94)		(4.00)			
0.0135***	0.0822***			0.0051***		
(81.15)	(40.79)			(5.02)		
0.0090***	0.0449***				0.0001***	
(50.32)	(23.84)				(38.53)	
0.0158***	0.0461***					-0.0151***
(61.10)	(24.49)					(-17.96)
-0.0099***	0.0795***	0.0017***	0.1406***	0.0027*	0.0001***	0.0023*
(-8.32)	(39.02)	(18.98)	(7.09)	(2.47)	(18.32)	(2.41)

We perform a firm-level Fama-Macbeth regression of the expected individual Islamic stock returns with monthly control variables using only January monthly returns, from 1990:01 to 2017:12. The time-series averages of the slope coefficients and their associated t-statistics are reported in parentheses. All variables are described in table 1. [* p<0.05 ** p<0.01 *** p<0.001] denote statistical significance at 10%, 5% and 1% levels.

REFERENCES

Abdullah, F., Hassan, T., & Mohamad, S. (2007). Investigation of performance of Malaysian Islamic unit trust funds: Comparison with conventional unit trust funds. *Managerial Finance, 33*(2), 142-153.

Akram, Q. F. (2009). Commodity prices, interest rates and the dollar. *Energy economics, 31*(6), 838-851.

Balcılar, M., Demirer, R., & Hammoudeh, S. (2015). Global risk exposures and industry diversification with Shariah-compliant equity sectors. *Pacific-Basin Finance Journal, 35*, 499-520.

Bouri, E. (2015). Oil volatility shocks and the stock markets of oil-importing MENA economies: A tale from the financial crisis. *Energy economics, 51*, 590-598.

Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of finance, 52*(1), 57-82.

Carruth, A. A., Hooker, M. A., & Oswald, A. J. (1998). Unemployment equilibria and input prices: Theory and evidence from the United States. *Review of economics and Statistics, 80*(4), 621-628.

Chan, L. K., Hamao, Y., & Lakonishok, J. (1991). Fundamentals and stock returns in Japan. *The Journal of finance, 46*(5), 1739-1764.

Chen, N.-F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. *Journal of business*, 383-403.

Cologni, A., & Manera, M. (2008). Oil prices, inflation and interest rates in a structural cointegrated VAR model for the G-7 countries. *Energy economics, 30*(3), 856-888.

Daniel, K., Titman, S., & Wei, K. J. (2001). Explaining the cross−section of stock returns in Japan: Factors or characteristics? *The Journal of finance, 56*(2), 743-766.

Demirer, R., Jategaonkar, S. P., & Khalifa, A. A. (2015). Oil price risk exposure and the cross-section of stock returns: The case of net exporting countries. *Energy economics, 49*, 132-140.

Elyasiani, E., Mansur, I., & Odusami, B. (2011). Oil price shocks and industry stock returns. *Energy economics, 33*(5), 966-974.

Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of financial economics, 33*(1), 3-56.

Fama, E. F., & French, K. R. (1996). Multifactor explanations of asset pricing anomalies. *The Journal of finance, 51*(1), 55-84.

Fama, E. F., & MacBeth, J. D. (1973). Risk, return, and equilibrium: Empirical tests. *Journal of political economy, 81*(3), 607-636.

Gogineni, S. (2010). Oil and the stock market: An industry level analysis. *Financial Review, 45*(4), 995-1010.

Hammoudeh, S., & Li, H. (2005). Oil sensitivity and systematic risk in oil-sensitive stock indices. *Journal of Economics and Business, 57*(1), 1-21.

Hayat, R., & Kraeussl, R. (2011). Risk and return characteristics of Islamic equity funds. *Emerging Markets Review, 12*(2), 189-203.

Huang, W., Mollick, A. V., & Nguyen, K. H. (2016). US stock markets and the role of real interest rates. *The Quarterly Review of Economics and Finance, 59*, 231-242.

Hussein, K., & Omran, M. (2005). Ethical investment revisited: evidence from Dow Jones Islamic indexes. *The Journal of Investing, 14*(3), 105-126.

Jegadeesh, N., & Titman, S. (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *The Journal of finance, 48*(1), 65-91.

Jiménez-Rodríguez*, R., & Sánchez, M. (2005). Oil price shocks and real GDP growth: empirical evidence for some OECD countries. *Applied economics, 37*(2), 201-228.

Jones, D. W., Leiby, P. N., & Paik, I. K. (2004). Oil price shocks and the macroeconomy: what has been learned since 1996. *The Energy Journal*, 1-32.
Kang, W., Ratti, R. A., & Yoon, K. H. (2015a). The impact of oil price shocks on the stock market return and volatility relationship. *Journal of International Financial Markets, Institutions and Money, 34*, 41-54.
Kang, W., Ratti, R. A., & Yoon, K. H. (2015b). Time-varying effect of oil market shocks on the stock market. *Journal of Banking & Finance, 61*, S150-S163.
Kilian, L. (2010). Oil price volatility: Origins and effects: WTO Staff Working Paper.
Kilian, L., & Park, C. (2009). The impact of oil price shocks on the US stock market. *International Economic Review, 50*(4), 1267-1287.
Kosowski, R., Timmermann, A., Wermers, R., & White, H. (2006). Can mutual fund “stars” really pick stocks? New evidence from a bootstrap analysis. *The Journal of finance, 61*(6), 2551-2595.
Lambertides, N., Savva, C. S., & Tsouknidis, D. A. (2017). The effects of oil price shocks on US stock order flow imbalances and stock returns. *Journal of International Money and Finance, 74*, 137-146.
LeBlanc, M., & Chinn, M. (2004). Do high oil prices presage inflation? The evidence from G-5 countries.
Lo, A. W., & MacKinlay, A. C. (1990). Data-snooping biases in tests of financial asset pricing models. *The Review of Financial Studies, 3*(3), 431-467.
Milly, M., & Sultan, J. (2012). Portfolio diversification during financial crisis: Analysis of faith based investment strategies. *building bridges across the financial communities: The global financial crisis, social responsibility, and faith-based finance. Harvard Law School, Islamic finance project*, 334-352.
Mohanty, S., Nandha, M., Habis, E., & Juhabi, E. (2014). Oil price risk exposure: The case of the US travel and leisure industry. *Energy economics, 41*, 117-124.
Mollick, A. V., & Assefa, T. A. (2013). US stock returns and oil prices: The tale from daily data and the 2008–2009 financial crisis. *Energy economics, 36*, 1-18.
Moya-Martínez, P., Ferrer-Lapeña, R., & Escribano-Sotos, F. (2014). Oil price risk in the Spanish stock market: An industry perspective. *Economic Modelling, 37*, 280-290.
Nandha, M., & Faff, R. (2008). Does oil move equity prices? A global view. *Energy economics, 30*(3), 986-997.
Narayan, P. K., & Gupta, R. (2015). Has oil price predicted stock returns for over a century? *Energy economics, 48*, 18-23.
Narayan, P. K., & Phan, D. H. B. (2017). Momentum strategies for Islamic stocks. *Pacific-Basin Finance Journal, 42*, 96-112.
Narayan, P. K., & Sharma, S. S. (2011). New evidence on oil price and firm returns. *Journal of Banking & Finance, 35*(12), 3253-3262.
Park, J., & Ratti, R. A. (2008). Oil price shocks and stock markets in the US and 13 European countries. *Energy economics, 30*(5), 2587-2608.
Sadorsky, P. (1999). Oil price shocks and stock market activity. *Energy economics, 21*(5), 449-469.
Sadorsky, P. (2001). Risk factors in stock returns of Canadian oil and gas companies. *Energy economics, 23*(1), 17-28.
Sadorsky, P. (2008). Assessing the impact of oil prices on firms of different sizes: Its tough being in the middle. *Energy Policy, 36*(10), 3854-3861.

Shaeri, K., Adaoglu, C., & Katircioglu, S. T. (2016). Oil price risk exposure: A comparison of financial and non-financial subsectors. *Energy, 109*, 712-723.
Tsai, C.-L. (2015). How do US stock returns respond differently to oil price shocks pre-crisis, within the financial crisis, and post-crisis? *Energy economics, 50*, 47-62.

APPENDIX 1

a. Business screening methodology:

APPENDIX 2: NON-COMPLIANT GICS CODES

The following GICS codes are not compliant with Islamic Index Methodology and thus are eliminated:

Sub-Industries

- 20101010 – Aerospace & Defense
- 25301010 – Casinos & Gaming
- 25301020 – Hotels, Resorts & Cruise Lines
- 25301040 – Restaurants
- 25401020 – Broadcasting
- 25401025 – Cable & Satellite
- 25401030 – Movies & Entertainment
- 30201010 – Brewers
- 30201020 – Distillers & Vintners
- 30203010 – Tobacco

All Sub-Industries of the following Industry Groups:

- 4010 – Banks
- 4020 – Diversified Financials
- 4030 – Insurance

b. Financial screening methodology.

After a stock passes the financial screening methodology, it is then screened on financial basis and consequently, none of these financial ratios should exceed the threshold reported in the table below.

Financial ratio	Threshold
Total Debt divided by 24-month average market capitalization	33.33%
Cash and short-term investments divided by 24-month average market capitalization	33.33%
Accounts receivables divided by 24-month average market capitalization	33.33%

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The Apostle Leadership and the Economic Administration of the First Islamic State

The Philosophy behind the Economic Management of the First Islamic State in the History

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Abstract:

This manuscript narrates the way of economically managing the first state of Muslims by the prophet of Islam; Muhammad (Peace be Upon Him) right after the migration. In this regard this manuscript illuminates the role of the prophet as a leader not just as a prophet. In order to introduce to the economic management of the first Islamic state; the manuscript describes the demographic characteristics of the state right before the migration. This manuscript in its narration depends on factual events happened during the period of the study. This manuscript's main value falls into its simple narration of a kind of a state administration system that was based on a philosophical type of religions as an acknowledgement of its existence in the history so to help in linking between present relevant phenomena and their roots in the past.

Keywords: *Islamic Philosophy, Islamic Administration, First Islamic State, First Islamic Nation, the Apostle Leadership, the State Religion, the Religious Economic System, State Administration Based Philosophy, History of Islam, Economic philosophy, History of Economic Thought.*

Introduction

This manuscript addresses the economic management of the first called the Islamic “Ommah" - the Islamic nation - that has been founded by prophet Muhammad; the prophet of Islam (PUH); and his followers right after the migration from the city of “Makka" to the city of “Al-Madina". In order to address different dimensions of the economic management of the first Islamic nation led by the prophet of Islam the manuscript draws the scenario of the city of “Al-Madina" which is the location of the first Islamic “Ommah" in the history of Islam and it sums up the demographic characteristics of this city in the cradle of Islam and right after the establishment of the first nation of Muslims. This manuscript draws as well the personal characteristics of the prophet as a leader of a nation not just as a prophet. The manuscript uses in its exposition a modern conceptual framework of the economic management to ease the language to the general readers. The manuscript introduces the concept of the Economic Management of the state from its four-dimensions; the financial or the pure economic dimension, the social / political dimension, the environmental dimension and the legislative dimension. The manuscript deliberately discards the military dimension of the management of the first Muslim nation because of the so-contradicting views of different narratives regarding this specific dimension of the management of the first Muslim state or nation. This manuscript as well was ended by a table of glossary of vocabularies in its appendix to explain some Arabic words that have been commonly used during the period of study with their correct Arabic pronunciation.

According to the demographic description of “Al-Madina"; the city of the first Muslim nation; the Jews were an influential portion of the population at the time of the migration from “Makkah”; the born city of the prophet to the city of “Al-Madina"; the city that welcomed the prophet and his followers by its leaders and by its people. Accordingly; mentioning to the relationship between the prophet; the leader of the first Muslim nation and the Jews; the considerable portion of the population of “Al-Madina"; the city of the first Muslim nation was necessary in order to describe the scenario right before and after the migration. Yet the main purpose of this manuscript is to feature the personal characteristics of the prophet of Islam as a leader of a nation not just as a prophet and hence is to describe his economic management from different dimensions that based on his religious philosophy.

This manuscript in its narration depends on Arabic and English references that deal with this specific period of time. Because each type of references discusses this period of time from different perspectives, the narratives in those references differ to serve the agenda of each author and the purpose from writing his/ her manuscript. The purpose of this manuscript is not to review the disputations in those narratives or to review this type of literatures but rather to present an unbiased description of the economic management of this nation by naturalizing any political or religious ideologies in the discussion. In this regard; the manuscript has used only specific references that deal with this topic from clear historical facts and discards all religious and political interpretations of those historical facts from the authors’ views. On the other hand; this manuscript differs from other relevant manuscripts in that it does not care about mentioning to those many names that managed the first Islamic state with the prophet but rather to describe the mechanism of the management itself from a macro-perspective in order to introduce a clear foundation of a type of economic system that relies on a religious philosophy that might be added historically to other types of philosophical schools of thoughts of Economic systems.

This manuscript follows a factual narrative approach in its narration of the historical facts in the study that have been collected from specific recognized references and relevant scientific dissertations. Yet; in the case of controversial arguments or factual disputations; this manuscript goes with the most reasonable ones in terms of the surrounding factual events.

This manuscript is structured to serve its purpose as follows: Section 2 introduces the scenario of the story of the migration and sums the demographic features of the scene right after the migration. Section 3 explains the economic influence of the Jewish tribes in “Al-Madina" and their perception to the impact of the new religion on their economic power. Section 4 explains the economic management of the prophet as a leader and finally a summary, a conclusion and a few implications follow in section 5.

Section 2: The Migration, Yathrib, and the First Nation of Islam

The geographical region in question in this manuscript is the “Arabian Peninsula” which is described by El-Gharawy (1417) that it is situated in the South - West of Asia, with an area of three million square kilometres and has been initially divided to 3- main sections: 1. The northern and the western section that is called “Al-Hejaz”. 2. The eastern and the central section that is called the Arabian dessert. 3. The southern section that is called “Al-Yaman”.

We aim in this manuscript to address the section of “Al-Hejaz” with only an emphasis on the city of “Al-Madina" and more accurately during the period of the migration from the city of “Makka"; where the religion of Islam was born and where the followers to the prophet were inhumanly tortured by the leaders of “Makka" of those opponents to the new religion; Islam; to the city of “Yathrib”; which is the city of “Al-Madina" now in Saudi Arabia; that was considered the safe and the secured host city for the followers of the prophet at the time of the migration. This period was highlighted in the history in 622 AD. This section sums the demography of “Al-Madina" at the time of the migration as a threshold to the first “Ommah"; the first nation of Islam; after it describes the process of the migration.

1. 1 The Migration: Causes and Mechanism:

The main cause of the migration from the city of “Makka" to the city of “Yathrib”; “Al-Madina"; was the inhuman torture of the poor and the weak portion of the followers of the prophet by their masters where the slavery regime was the dominant regime of this region. The prophet asked his followers to emigrate to “Al-Madina" where they could find a safe heaven for them to practice their religion and to emphasize on founding the first Islamic nation; “Al-Ommah”; in a friendly atmosphere.

The migration happened in the beginning of the second year of the birth of Islam. The followers who emigrated to “Al-Madina” were called “Al-Mahageroon” or “Al-Mohagereen” that means the emigrants in the new host city; “Al-Madina". A huge portion of Al-Madina’s population generously welcomed the emigrants and shared with them their endowments voluntarily and they believed in the prophet and his divine message. This portion of the supporters was called by the emigrants “Al-Ansar” which means the supporters. Accordingly; they were added to the number of the population of the first Muslim nation right after the migration and hence the number of Muslims and believers were increased by the number of the first supporters; “Al-Ansar”; from the city of “Al-Madina" at that time. The prophet then used the concept of the “brotherhood” instead of the concept of the emigrants and the supporters to consider each emigrant from “Makka" a brother of each supporter from “Al-Madina".

The migration happened on different stages. The majority of the first emigrants from the city of “Makka" to the city of “Al-Madina" were the poor and the weak in addition to a few of the prophet’s family members and a few of those from strong families in “Makka” who converted to Islam. They were fled by the support of a few allies of the prophet in the city of “Makka". The prophet and his close friend; Abu-Bakr Al-Sedeek; emigrated second after they left behind a few Muslims who could not flee under the siege of those people in “Makka" who declined the prophet’s divine message and fought him and his followers by all means. Those people who sieged those weak portion of the believers were described in “Quraa’n"; the holy book of Muslims; as “Al-Kofaar”; which means in the classic Arabic language the people who carry that covered hearts against the light of the truth. A few other Muslims from strong families in “Makka" could stay inside “Makka” to help the other poor and the weak Muslims who could not flee, to be a defensive line for Islam inside “Makka” and to help in increasing the number of the believers inside the city of “Makka” through “Al-Da’awa”; that means the preaching to the religion of Islam in a good way.

2.2. The structure of the majority of the population in “Al-Madina" at the time of the migration:

At the time of the migration; the structure of the population in “Al-Madina" mainly constituted from the Arabs and the Jews. The most prominent and the strongest Arab tribes were known as the tribe of “Al-Aws" and the tribe of “Al-Khazrag” whereas the most prominent and the strongest Jewish tribes were the tribe of “Bany Qaynoqaa’”, the tribe of “Bany Al-Nadeer", and the tribe of “Bany Qorayztha”.

There is a huge contradicting views in the relevant literature regarding the number of the Jews and the number of the Arabs in “Al-Madina" at the cradle of Islam yet; there is relative consensus that the Arabs were politically ruling “Al-Madina" at the time of the migration. On the other hand, there is no dissension regarding the influence of the economic power of the Jews on “Al-Madina" at the time of the advent of Islam.

2.3. The relation between the prophet and the Jewish tribes at the time of the migration:

Upon the arrival of the prophet with his followers; “Al-Mohgeroon”; the emigrants; the majority of the Arabs of “Al-Madina" fully supported him. Accordingly; they were called “Al-Ansar” as mentioned before; the supporters. The Jewish tribes welcomed the new religion at that time as well and followed the rest of “Al-Madina”’s populations in fully supporting the prophet, his people and his new divine message. Furthermore; they found him a support to them in the region because of the common origin of both religions. Hence; the entire host city; its leaders and its people were gathered in an agreement to submit the power to the prophet so to become the leader of “Al-Madina”, to organize the lives of the emigrants and to manage the wealth of Al-Madina’s entire nation so the final say to be to him in believing in that his message is from the heaven.

2.4. The political leadership of the prophet and the charter of Al-Madina “Watheqat Al-Madina”:

The political leadership of the prophet was crystallized in “Watheqat Al-Madina" that means the charter of “Al-Madina” or the constitution of “Al-Madina" that was set by the prophet and his advisers from both “Al-Mohagereen” and “Al-Ansar” that revoked the pre-migration charter and became the only charter of the city of “Al-Madina". In this charter; the prophet set the law and the regulations of “Al-Madina" that the entire population of “Al-Madina" in addition to the believers of “Makka" must follow as a command of the new nation’s leader. The charter was even started by stating that “This is a book from Mohamed; the prophet”. The charter first determined the people of the first nation of Islam, the location of the first nation of Islam that was called the “state of Islam” which was “Al-Madina" at that time, and the regulations that must be followed and the penalties and the ways of punishments of violating any of the setting rules by the prophet. The charter determined as well the authority of the state of ownership and emphasized on the state’s sovereignty and its borders and the way of protecting them. The charter realized the Jewish tribes in “Al-Madina" and their existence within the new Muslim nation. The charter also emphasized on eliminating the sectarianism and the violences among the tribes that depended on all types of ethnic differences. The charter also determined the enemy of the nation whom were called “Al-Kofaar” of those people in “Makka" who declined the new religion and tortured its followers in the beginning of Islam. the charter determined as well the wealth of the nation and the way of protecting it. The charter as well determined the defensive lines of the nation and the main allies to the nation. The charter obviously determined the consequences of dealing and interacting with the enemy of the nation specially during the states of wars. The charter emphasized as well on that the prosecution to individuals’ crimes must be done by the central authority of the nation not by any tribe or by any individual. The charter determined as well the concept of the neighbours and the way of dealing with the neighbours whether on the individual or on the state levels.

The charter was set by the prophet on two stages. The first stage was set right after the migration while the second one included other variables that were arisen after the first war against “Al-Kofaar”. Other codes of the charter were revoked and were changed by the prophet depending on accumulated events over the years of the migration. The charter was written to deal with all walks of life and to be comprehensive to found the bases and to build the pillars of the new state or the new “Ommah".

Although it seems that everything was written in the constitution of “Al-Ommah” but there is a huge controversy regarding different codes in the charter in the relevant literatures specially when it comes to the Jewish tribes and their relations to the Muslims and if they were included into the Muslim first “Ommah" or just considered a second nation and hence a realization of two existing nations on the same state. Yet; there is consensus that the charter well formed the relationship of all people in the state at the time of the war whether if they were Muslims or non-muslims they must be unified at the time of the war to defend the nation, its people, its land, and its wealth or they were considered enemies.

The charter emphasized obviously on that the religion of “Al-Ommah” is the religion of Islam with respecting the freedom of the non-Muslims to practice their religions within the boundaries of Islam as a heaven religion and the law of the state is the law of God and the prophet’s teachings.

The charter as well emphasized on different economic aspects to manage the wealth of the nation and its allocation in addition to the investment in the education and in the agribusiness that will be explained in section 4 of this manuscript.

Section 3: The Economic power of the Jewish main Tribes in “Yathrib”, the competition of the Arabs of “Al-Madina" and the deterioration of the relationships:

Al-Madina was a well established place at the time of the migration and it was relatively modernized because of the multicultural background of its people; the majority of the Arabs who originated from Yemen and the majority of the Jews who emigrated from the Levant; because of the Roman persecution; to “Al-Madina" to settle and brought with them different cultures and different skills to the region. In addition to the ideological influence of the developed foreign powers on the city of “Al-Madina"; the Byzantine and the Persian powers. The economic system was well set by the people of “Al-Madina" but the economic distortions, the brokerages, the usury and the monopolistic actions were dominating the main markets of “Al-Madina" as described in different resources. Despite the fact that both the Arabs and the Jews in “Al-Madina" participated with each other in all economic sectors; mainly; the trade sector, the agricultural sector and the industrial sector but there is a type of relative consensus in the relevant literature that the Jewish tribes overpassed the Arab tribes in their skills and sophistications in managing those economic sectors in “Al-Madina". This was the factual scenario at the time of the migration. The biggest trade market in “Al-Madina" was belonging to the Jews in addition to an established monetary system before the migration of the prophet and his followers.

The main Jewish tribes in “Al-Madina” for instance had comparative advantages in producing the wine from the dates and the barley in addition to planting the legumes. Although both the Arabs and the Jews of “Al-Madina" were famous in the cultivation of the palm trees but the relevant literature claimed also that the Jews overpassed the Arabs in this field as well. In addition; the people of “Al-Madina" overall were good at the textile industry, the knitting, the tanning, the manufacture of the agricultural tools and the fishing tools in addition to making the coper pots and the pottery vessels and all such simple manufactures in addition to the handcrafts but the Jews overpassed in their skills the Arabs in the manufacture of the weapon equipment and the manufacture and the design of the jewelries in addition to the mining, the mineral extractions and the constructions.

The commercial and the industrial superiority of the Jews in “Al-Madina" made from them a competitive economic power in the region before the prophet’s migration to “Al-Madina".

In the beginning of the migration the relationship between the indigenous Arabs in “Al-Madina" and the new emigrants with the Jews was a good relationship but over time and with the increase of the political/ ideological/ economic power of the new Muslim nation and because of their different way of managing the state and in implementing a new economic system and because of the spillover of the new culture in the city, the relationship between the Muslims and the Jews got dramatically deteriorated. The deterioration of the relationship between the Jews and the Muslims in “Al-Madina" was highly correlated with the consolidation of the Msulims’ economic power in the competitive markets that was established by the prophet and the emigrants after the migration. A few of the Jews of the main Jewish tribes in “Al-Madina" had to ally with the enemies of the new Muslim nation from “Makka" to re-consolidate their power in “Al-Madina" and hence they violated the code of the nation’s security of the charter of “Al-Madina" set by the prophet and hence the dramatic events followed and because the political and the military powers of the new Arabs in the new “Ommah" was greatly enhanced over the years after the migration so they were the winners of the game of the power in “Al-Madian" in all cases.

Here at this point of the history; the relevant literature was greatly deviated in their narratives of those traumatic events that happened after the violation of the charter of “Al-Madina" by the Jewish tribes. The ideological and the political interpretations of many of those references were set to serve a hidden agenda of each author to prove his/ her point of view. The arguments were greatly contradicting each other and the analysis in many of those references whether the Arabic or the English references were not that unbiased in their narrations. What was only obvious from reading all those arguments and narrations is that two economic and ideological powers could not exist in one place; one of them would collect all its powers to expel the other one from the playground. That was the summary of the ideological / economic scene after the migration.

Section 4: The Economic Management of Prophet Muhammad (PUH):

In the beginning of the migration to “Al-Madina" the economic system was already well established by the people of “Al-Madina". The monetary dependence on the Persians and the Byzantine was illuminated in minting the main currencies of the region; in “Makka" and “Al-Madina"; the “dirham” and the “dinar” consecutively. Also; the political and the ideological polarization of the two international political powers was in effect before and at the advent of Islam. The prophet as the leader of the new state did not change the currencies of the transactions and as well did not discriminate between the Muslims and the Non-Muslims in the labor market. It however respected the specialization and gave the work to the most skilled worker whether he/ she is Muslim or Non-Muslim in the new state of Islam in aiming to maximizing the social welfare of the new Muslim state and to ideally using the wealth of the new Muslim nation of all its resources. This was obvious in the prophet’s teachings when he was linking his economic policies to the welfare of the society.

The Economic management of the prophet was gone through different balanced dimensions; he gave the priorities after the construction and the stabilization to reclaiming poor lands and to the agricultural sector in parallel with educating the new generations how basically to read and to write. He gave this work to Muslims and to non-Muslims to educate the new generations of the new Muslim state. Then the priorities in the industrialization was gone to the manufacture of the weapons in order to protect the nation and in order to have self-sufficiency in the defence and in all walks of life.

This section divides the economic management of the new Muslim state by the prophet to four-main dimensions: the financial/ the pure economic dimension, the social/ political dimension, the environmental dimension and the legislative dimension.

4.1. The financial and the pure economic dimension:

By addressing the components of the budget of the new Muslim state led by the prophet of Islam in the first years of the migration one can logically deduce the main aspects of the pure economic management of the state. The financial resources of the budget was basically collected in the beginning voluntarily from the rich Muslims and then it became one of the pillars of Islam to collect the alms with percentages set by the rules of Islam. This became as a duty on each person whether he/ she is poor or rich according to fair shares as a proportional to the individual income and wealth. The alms was divided to “Zakat” and “Sadaqat”; the first was a must on each Muslim to pay to the state but the second was voluntarily to be paid. The new system encouraged people to pay more alms as a part of the spiritual incentives of the religion. The alms had to be centrally collected to go through different aspects set by the new religion. The second main important source of revenues of the new Muslim state’s budget at that time was the rewards of the wars against “Al-Koofar” of “Makka" and their allies. The rewards of the wars included not only financial rewards but also human captives. The third revenues of the budget of the new state came from the trade whether internally or externally. The trade with all people whether inside or outside the Muslim state was permitted regardless of the faith or the background of the trade partner. The wealth of the new Muslim nation was dramatically accumulated over the years of the migration.

On the other hand; the state leader; the prophet focused in its management with his people on five main economic sectors in the state; the construction sector, the trade sector, the agricultural sector, the industrial sector and the services sector. He even managed to balance the economy by organizing the monetary system of the Muslim state.

The first market in “Al-Madina" was founded right after the migration and then another bigger well established market was founded by the prophet and his people later on. Ethical commercial codes were set by the prophet in order to organize the commercial transactions in the market. The concept of the fair price and the organization of the monetary instruments were clearly set by the prophet whether regarding the transactions by the weight or the transactions by the number of the currencies that depended on the value of the gold in the currency in transaction. The prophet refused to intervene in the determination of the prices of the commodities but rather left it to the power of the market to be determined. He refused the monopoly by all means and valued the values of the perfect competition in the market including even the homogeneity of the appearance of the shapes of the vendors inside the market. He forbad the usury and endorsed the spot transactions. A clear ethical commercial charter was set by the prophet according to the new religious’ teachings. The concept of “Halal”; permitted by Islam and “Haram”; forbade by Islam were added to the dictionary of the nation after the advent of Islam. The market with its Islamic ethical codes could attract the market share from the other existing markets in “Al-Madina" and hence the wealth of the Muslim merchants and hence the wealth of the muslim state was dramatically accumulated.

On the other side of the economic management of the new Muslim state, the prophet gave huge incentives to reclaiming agricultural lands and to the drilling of the water wells. This economic aspect will be left to be explained with the environmental dimension of the state.

On the other hand and because of the continuous state of wars of the new nation to fully establish the new Muslim state and to protect its borders from the aggression of the enemies the prophet gave the priorities of the industrialization to the manufacture of the weapons and urged the new Muslims to learn and to gain experiences from the experts of the non-Muslim manufacturers in this domain. Furthermore; he imported ideas of new heavy weapons from international powers that were new to the region at that time so to be manufactured within the new Muslim state.

The prophet urged the emigrants as well to learn from the people of “Al-Madina" all known types of the agriculture and the related agribusiness.

The prophet did not discard as well the services sector and the public services of the state to its people since he fully ensured the effected people by the state of the wars and provided the needed medical supplies. In addition he formulated a complete judicial system in addition to the establishment of a system of documentations. He as well built an educational system to the new generation of the Muslim state. His way of formulating a type of a modern state could give that impression by the reader that the region was not a retarded region at the time of the cradle of Islam but it was a relatively open developed society regardless the values it carries. The prophet was the son of this region and his sophisticated way of managing the new state could be coming from accumulated experiences in many aspects of life before his prophethood that if addressed so it may close the gap in the relevant literature regarding the prophet’s life before he becomes a prophet.

Finally; the prophet did not discard the luxurious manufacture; such as the manufacture of the Jewelries that was learned by many Jews in “Al-Madina". In addition to the mining, the mineral extractions and the use of the gold and the silver in the medical industries. The prophet imported even the experiences of the Persians in this regard.

The development of the construction sector preceded all those economic sectors in aiming for the stability. The construction sector was gone from being a basic aspect in life to becoming a real investment in the new Muslim state. the prophet gave the opportunities of work in this sector to whom had the higher skill in building.

4.2. The Social/ Political Dimension:

With a great emphasis on the religion of Islam to be the religion of the new “Ommah"; the prophet managed all aspects of the state from his mosque; the “Masgid" that was the “Masgid" of the prophet and the “Masgid of Al-Ommah” at the same time. He as well used the houses of his family members and close friends to be places to store the nation’s wealth of all types of wealth in the first years of the migration and then he stablished a system of wealth storages and then appointed trusted people to manage those official places under the central leadership of the prophet. He as well set a system of allocating the wealth and a system of salaries payments. The prophet was by all means the political leader of the new Muslim nation in both the state of war and the state of peace. He was the one to give the orders and the commands of all aspects of the state depending on the heaven orders by God as the prophet the leader so all policies were related to the religion. He then established a council of advisers for the state to benefit from their experiences each in his/ her domain.

The social aspects of the region was complicated at this time. The region was suffering from many social gaps where the slavery system was the dominant system of the region. The prophet set a new social system to diminish the slavery system over time and to contain the poor and the weak in the new nation. He used the nation’s wealth in freeing the Muslim slaves from the hands of their non-muslim masters. Yet; one cannot claim that the slavery system was completely ended by Islam at that time because it was the dominant system of the entire peninsula in addition to other many countries worldwide at this time. Even Muslims themselves captivated many of their enemies during the wars and used them as slaves but the prophet set different rules to free those slaves so to consider them a part of the Muslim nation over the time and depending on setting rules set according to the Islamic teachings at that time.

The gender gap was a great issue in “Al-Madina" as well. Different relevant literature argued that the culture of the Arabs and the culture of Jews were mixed together to form a new shape of the relationship between the men and the women. However; the Islamic teaching by the prophet set clear rules to distinguish between the role of each in the society and to illuminate the relationship between men and women within the boundaries of the new religion in the region. The relevant literature mentioned in a part of it to the main role of women during the state of peace and the state of war in the new “Ommah" but it was clear that during the wars all individuals of the new “Ommah" were involving to protect the nation including the women.

The new state from the other side gave big attention to the distribution of income and wealth so to try to reduce the income gap amongst the people of the new nation.

Also; the prophet set clear rules to eliminate all types of discrimination amongst the people of his nation regarding the skin colours, the ethnic background, the social classes and so on.

3. 3. The environmental dimension:

The main environmental emphasis on the macro-level managed by the prophet was the continuous incentives of reclaiming the agricultural lands and organizing the irrigation system. Even; it was clear by the prophet that whoever could reclaim a poor land that had no owner the land becomes his. He clearly determined the relationship between the workers in the agricultural lands and the owners of the agricultural lands to establish a clear concept of the private ownership and to establish a clear payment system. He as well distinguished between renting a land and its crops and owning the land and its crops and set the ethical codes of selling and buying the crops. He endorsed the help of the non-muslim - well - skilled farmers to gain from their experiences in farming the agricultural lands as well. Under his management the industrial sector was devoted to help in growing the agricultural sector by providing the needed tools and equipment in reclaiming and farming the land. The wealth of animals was as well given big attention by the state.

Preserving the natural resources and the ideal utilization of them was even set clearly in the constitution of the new state. The new state led by the prophet did not discard as well cleaning and greening the environment. The concept of “Al-Nathafa” or the “cleaning” was considered a pillar of the Muslim faith and it was clearly mentioned in the prophet’s teachings to his people.

The way of burying the dead in the teaching of the prophet was mainly to protect the environment from transmitting the bacteria. Even it was clear in the prophet’s teaching the way of protecting against transmitting viruses, avoiding illnesses and spreading the epidemic.

The medical manufacture was grown after the migration and over the years. Getting the foreign experiences by experts in this domain was encouraged by the prophet in this regard.

4.4. The legislative dimension:

As has been mentioned in chapter 2 of this book; the prophet first set the first “Ommah charter” and then the second “Ommah charter” over the years after the migration. In this charter the constitution of “Al-Ommah” was established by the prophet and according to his divine message to form one “Ommah" of Muslims and believers. He then established a judicial and a justice system in order to implement all codes of the charter efficiently. He stated clearly that the law of God is the law of the “Ommah". He as well unified the prosecution system by the state and removed the powers of the tribes regarding implementing the law by themselves. He distinguished between the state of the peace and the state of the war in terms of the tolerance when it comes to the prosecution system. Different codes of “Al-Madina’s charter”; “Watheqat Al-Madina" was changed or revoked over the years depending on the accumulated variables to the new state.

The prosecution system that was set by the prophet and his advisers did not deviate that much from the previous prosecution system of “Al-Madina" specially when it comes to the individuals’ crimes. However; the justice system was dramatically improved by the prophet’s teachings in a sense that all people are equal before the law; the Muslims and the non-muslims, the poor and the rich, the weak and the strong.

The four dimensions of the economic management of the new Muslim state then formed all dimensions of the modern concept of the sustainable development since the dynamism and the mechanism of the accumulation of the nation's wealth was clear in the developed economic system of the prophet as a leader.

Summary, Conclusion and Implications:

This manuscript meant to address the economic management of the first Muslim state in the history led by the prophet in order to add to the literature a new type of philosophical economic systems from a historical perspective. It does not aim to endorse or undermine any type of religious views or philosophical ideologies. In this regard this manuscript has followed a factual narrative approach in its narration of specific historical facts and rarely tried to involve personal judgements regarding a few of those events. In order to introduce to the economic system implemented by the prophet of Islam (PUH) to run the first Muslim state in the history; a demographic description of the scene was added to the narration. The manuscript had to describe as well the economic scenario before leading the place by the prophet.

The manuscript was ended up with a factual result that the city of "Al-Madina" had its own established economic and political system with great distortions in the markets before the migration but after the migration the economic system that was implemented by the prophet was a way more efficient and more organized and its adopted philosophy of the openness and the perfect competition was a way clearer. In addition; it was clear from the narration of the economic management of the state with all its dimensions and with its dynamic characteristics that the concept of the sustainable development was well known during this period of the history even if it was given different names.

The manuscript was however limited in introducing different examples of each policy implemented by the prophet during his economic/ political management of the state but this was meant in order for the book to emphasize on the mechanism of the state management from its macro-perspectives without complicating the narration. On the other hand; the manuscript has deliberately discarded the military management of the first Muslim state led by the prophet because of the complicated narratives in this regard and because of the subjective contradicting views regarding the analysis of this dimension of the state narrated by the authors of many references.

Finally; this manuscript can give a clear interpretation to the analysts nowadays regarding the political Islamic movements in the world and why the Islamist need to recall the history by adopting the same concept of the Muslim "Ommah" and where this concept came from. However; it seems as well to the reader that the scenario and the time were completely different. A few contemporary literature has described the prophet that he is the man of his time but others can view him the man of all times. With those contradicting views; the only fact was that those events were happened in the past and were recorded by the history.

References

AR-RaheeQ Al-Makhtum - The Sealed Nectar (1996). Biography of the Noble Prophet (PUH), Safi - Ur- Rahman al - Mubarakpuri, Islamic University Al-Madina Al-Munawwara. Sau di Arabia, UK, USA, Pakistan. Maktaba Dar - US – Salam.

Historical Atlas of Islam. http://referenceworks.brillonline.com/browse/historical-atlas-of-islam

Islamic History, Part 5: Muhammad's death (622 - 632). Retrieved from

https://attwiw.com/2013/05/15/islamic-history-part-5-muhammad-in-medina-the-taking-of-mecca-and-muhammads-death/

Karen Armstrong (2007). MUHAMMAD: A Prophet for our Time. Harper Collins Publishers.

Rev. S. M. Zwemer, F. R. G. S. Arabia: The Cradle of Islam: Studies in the Geography, People and Politics of the Peninsula with an Account of Islam and Mission-Work. New York, Chicago, Toronto: Publishers of Evangelical Literature.

Robert G. Hoylad (2001). Arabia and the Arabs From the Bronze Age to the Coming of Islam. London and New York: Rutledge: Taylor & Friends. https://courses.edx.org/asset-v1:NotreDameX+TH120.2x+3T2015+type@asset+block/ODL_TH1202x_M02_HoylandChapter9.pdf

The Historical Atlas of the Mediterranean: Atlas of Human Revolution. http://explorethemed.com/

The birth of Islam. Heilbronn Timeline of Art History. https://www.metmuseum.org/toah/hd/isla/hd_isla.htm

William Ochesenworld. Hijaz. Oxford Bibliographies. DOI: 10.1093/obo/9780195390155-0085

دكتور حافظ أحمد عجاج الكرمي (2007)، الإدارة في عصر الرسول صلى الله عليه وسلم: دراسة تاريخية للنظم الإدارية في الدولة الإسلامية الأولى، المعهد العالمي للفكر الإسلامي، دار السلام للطباعة والنشر والتوزيع والترجمة.

Dr. Haffez Al-Karmy (2007). The Management in the Era of the Prophet (PUH): A Historical Study of the Managerial Regimes in the First Islamic State. The International Institute of the Islamic Thought, Dar Al-Salaam for printing, Publication, Distribution and Translation.

خالدة عبد اللطيف حسن ياسين (2009)، موقف الرسول صلي الله عليه وسلم من يهود الحجاز (دراسة تاريخية منهجية): رسالة ماجستير جامعة النجاح الوطنية: كلية الدراسات العليا، فلسطين.

Khaleda Yassen (2009). The Position of the Prophet (PUH) from the Jews of Al-Hejaz (A Methodological Historical Study): A Master Thesis. Al- Nagah Al-Wattanya University, Faculty of Postgraduate Studies, Palestine.

الدكتور سعد المرصفي (1992)، موقف اليهود من الرسالة والرسول صلى الله عليه وسلم، مكتبة المزار الإسلامية، الكويت.

Doctor Saad Al-marsafy (1992). The Position of the Jews from the Message and the Prophet(PUH). Al-Mazar Al-Eslameya Library, Kuwait.

رياض مصطفى أحمد شاهين (يونيو 2004)، النشاط الاقتصادي لليهود بالحجاز في الجاهلية وفي عصر الرسول صلي الله عليه وسلم، مجلة الجامعة الإسلامية (سلسلة الدراسات الإنسانية)، المجلد الثاني عشر – العدد الثاني، ص.ص. 21 – 58.

Reyad Shaheen (June 2004). The Economic Activities of the Jews of Al-Hejaz in Al-Jaheleya and in the Era of the Prophet (PUH). Journal of the Islamic University (The Series of the Human Studies), 12 (2), 21 – 58.

Other accumulated source

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