

# ISLAMIC PRICING BENCHMARK

***Principal Researchers:***

1. Prof. Dato' Dr. Mohd Azmi Omar
2. Asst. Prof. Dr. Azman Md Noor
3. Prof. Dr. Ahamed Kameel Mydin Meera

***Co-Researchers:***

1. Asst. Prof Dr. Turkhan Ali Abdul Manap
2. Assoc. Prof Dr. M. Shabri Abdul Majid
3. Asst Prof Dr. Sharifah Raihan Syed Zain
4. Tuan Hj. Md. Ali Sarif

# **ISLAMIC PRICING BENCHMARK**

by

*Principal Researchers:*

- 1. Prof. Dato' Dr. Mohd Azmi Omar*
- 2. Asst. Prof. Dr. Azman Md Noor*
- 3. Prof. Dr. Ahamed Kameel Mydin Meera*

*Co-Researchers:*

- 1. Asst. Prof Dr. Turkhan Ali Abdul Manap*
- 2. Assoc. Prof Dr. M. Shabri Abdul Majid*
- 3. Asst Prof Dr. Sharifah Raihan Syed Zain*
- 4. Tuan Hj. Md. Ali Sarif*

## **SECTION 1: INTRODUCTION TO ISLAMIC PRICING BENCHMARK PROJECT**

In past thirty years, Islamic finance and banking has rapidly established themselves in the global market as an alternative method of investment. The present pace of growth shows a very promising future for Islamic finance. With the current global economic and financial crisis, Islamic financial system has been offered as a solution by its proponents. However Islamic finance has been using conventional finance benchmarks, such as BLR, KLIBOR, COFI, LIBOR, etc, to determine its own cost of funds, and hence its return to financial investments. This is so because Islamic finance, if not being part of an existing conventional finance, has always served as financial intermediary for surplus and deficit units. Islamic banking as the dominant

institution in Islamic Finance industry has gone beyond the function of a financial intermediary whereby it also serves as a wakeel, custodian, partner, entrepreneur, and guarantor. Nonetheless, Islamic Finance is yet to come up with an alternative Islamic Pricing Benchmark (IPB) to determine its cost of capital.

The need for having such an IPB for Islamic finance cannot therefore be over emphasized, since that will make it more comprehensive and independent from conventional benchmarks that rely on interest rates, the very thing that Islamic Finance abhors.

Malaysia, with an equity market that is 86% Shariah-compliant, world's largest issuer of Islamic bonds, and 134 Islamic unit trust funds; and eyeing to become the international Islamic financial hub by year 2010 is taking the lead. Given the prominence of Malaysia in Islamic Finance, it is obvious that Malaysia should take the lead in formulating an Islamic pricing benchmark model for the Islamic finance industry. Pursuant to this International Shariah Research Academy for Islamic Finance (ISRA) has assigned a team of researchers from Institute of Islamic Banking and Finance, International Islamic University Malaysia to undertake this project. Therefore, the project aims to develop an Islamic pricing benchmark model for the Islamic banking industry specifically for Malaysia.

## **METHODOLOGY**

The methodology used for this project is as follows:

- 1) Review of the existing classical and contemporary literature on pricing from Shariah perspective.
- 2) Review of the existing literature on conventional benchmark pricing such as BLR, KLIBOR, OPR, and LIBOR.

## Islamic Pricing Benchmark

- 3) Review of the existing literature on cost of funds in Islamic banking in Malaysia and worldwide.
- 4) Survey of the existing practices of banks in Malaysia in formulating cost of funds. The researchers commenced the project in March 2009 by holding a series of discussions with Maybank treasury staff. The objective of these meetings was to understand how Maybank and Maybank Islamic formulate their cost of funds. Then in April 2009 another meeting arranged by AIBIM was held with treasury staff of eight Islamic banks. The objective of this meeting was to understand how Islamic banks in Malaysia formulate their cost of funds. Another meeting was held to understand the issue better and to brainstorm some proposals with the treasury staff of EONCAP Islamic in May 2009.
- 5) Survey of the existing practice of banks in incorporating risks in pricing. The researchers met with the staff of risk management department of Maybank in December 2009. The objective of the meeting was to understand how Maybank incorporates risks in pricing of bank products, formulation of credit scoring models and other risk related issues.
- 6) Modeling and Simulation - Collection of historical data to test the robustness and practicability of the proposed Islamic pricing model. Based on the simulation results the model can then be proposed as an alternative to the pricing benchmark currently adopted by Islamic banks. This alternative, albeit a new pricing benchmark, can also be proposed for use by other Islamic banks worldwide and thereby serve as a real alternative to the current practice.

Based on the above research objectives and methodology, an agreement between ISRA and the principal researchers was made in June 2009 even though the project had commenced earlier in March 2009. It was also agreed that the project's duration is six months, with November 2009 being the submission date. The deliverables for the project are as follows:

1. Write up on literature review
2. Write up on conventional bank pricing benchmark
3. Write up on the existing computation of cost of funds by Islamic banks
4. Write up on the proposed pricing benchmark model for Islamic banks.

The team made four presentations on the progress of the research to ISRA and AIBIM. The presentation dates were 4<sup>th</sup> August 2009, 16<sup>th</sup> September 2009, 9<sup>th</sup> December 2009 and 4<sup>th</sup> February 2010. At every presentation, there were members from the Islamic banking treasury staff who gave their inputs on the progress of the research and the proposed model.

## **SECTION 2: SHARIAH PERSPECTIVE ON ISLAMIC PRICING BENCHMARK**

### **Introduction**

Acquisition of profit in trading is highly demanded, in Shariah perspective. There are a lot of evidences from Quran and Hadith legalizing trade<sup>1</sup>. We are also commanded to acquire the profits in order to preserve the capital from losses, for example, in the case of zakat payment as well as other expenditures. As mentioned in hadith that narrated by Anas from the Prophet (SAW) (SAW) :

((اتجروا في أموال اليتامى لا تأكلها الصدقة)<sup>2</sup>.

---

<sup>1</sup> Al-Quran, Al-Nisa' : 29

<sup>2</sup> Narrated by At-Tabrani, taken from Al-Haytami, Nur ad-Din Ali ibn Abi Bakar, *Majma' al Zawaid wa Manba'a al-Fawa'id*, Dar Al-Kitab Al-Arabi : Beirut, 1982 ,v3 ,p67.

This hadith shows that the Prophet (SAW) encouraged the trustee of the orphan properties to invest in trading so that the property will not decrease by the zakat payment or other expenditures.

Another example is pertaining to the management of the orphan's property as prescribed by the Holy Qur'an:

((ولا تؤتوا السفهاء أموالكم التي جعل الله لكم قيما وارزقوهم فيها))<sup>3</sup>

“And do not give the weak-minded your property<sup>4</sup>, which Allah has made a means of sustenance for you, but provide for them with it and clothe them and speak to them words of appropriate kindness.”

This verse explained the obligation to invest the properties of orphan children and to use the profits and not the capital or principal for their expenses. This is according to the opinion of Imam Ar-Razi who said that the word (فيها) in the verse refers to the command to utilize some of the properties as rizq or goods. It means utilizing the properties to be rizq through trading activities or by investing it in view of making profits, and the rizq distributed should be from the profits and not from the capital itself.<sup>5</sup>

### Should There Be Any Limit to Profits?

If there is a question whether there should be any limit to profits in Islamic views; the answer is no. There are no limits to profit or profit rates in Islamic views, but the Quranic verses itself has discouraged trading without profits, as Allah said in Quran:

((فما ربحت تجارتهم))<sup>6</sup>. In addition, there are no evidences from the Quran and al-Sunnah

<sup>3</sup> An-Nisa': 5

<sup>4</sup> Although it is actually their property, Allah (*subhanahu wa ta'ala*) refers to it in the collective sense, reminding us that all wealth is provided by Him for the maintenance of the community as well as of individual members.

<sup>5</sup> Al-Razi, Fakhruddin Muhammad ibn Umar, *At-Tafsir Al-Kabir*, Dar al Ihya' at-Turathi Al-Arabi: Beirut, v9 ,p186.

<sup>6</sup> Al-Baqarah :16

that limit profits to one-third, one-fourth, or one-fifth etc.<sup>7</sup> Based on what were mentioned above, it is known that Islam is based on the principle of justice (adalah) in distribution of profits. It does not strictly limit the rate of profits acquired according to the factors of commodity, place and period.

There are evidences from the hadiths that the Prophet (SAW) allowed the profits to be up to 100 percent and some of the companions did earn more than 100 percent. A Hadith was narrated by al-Bukhari and others, that the Prophet (SAW) gave to Urwah one dinar in order to purchase a goat. Then, Urwah has bought two goats by one dinar. Afterwards, he sold one of the goats for one dinar. He came back to the Prophet (SAW) with a goat and one dinar. The Prophet (SAW) then blessed him in his trading.<sup>8</sup>

Another hadith was narrated by Zubair ibn Awwam, one of the companions who have been guaranteed paradise and one of the Prophet (SAW) companions. He bought a piece of forest land from the high level person in Madinah for 170,000 dinar (One hundred and seventy thousand dinar) and then, his son sold it at a price of 1,600,000 dinar (one million and six hundred thousand dinar) which is nine times more than the original price.<sup>9</sup> If one dinar weighs 4.25gram, and one gram of gold equals to RM120 (estimated current value), therefore one dinar equals to RM510. The estimated purchase cost of the land at today's value is RM86.7 million, while the sale price was RM816 million (9.41 times the cost price).

Some contemporary scholars like Syeikh Wahbah al-Zuhayli<sup>10</sup> suggests the net profit margin to be fixed by the authority in order to observe justice in the market and to get blessings. The suggested profit rate should not exceed one third based on hadith "*al-thuluth kathir*" which means "one third is a lot" when Abd al-Rahman ibn 'Auf wanted to make a bequest (wasiyyah).

<sup>7</sup> Dr. Yusuf Qardawi : Article on determining the profits for the traders, published by Majallah Majma' Fiqh al-Islami al-Duwali, Daurah al-Khamisah (5<sup>th</sup> Conference), 1409, Kuwait, 4<sup>th</sup> Edition , v4, p 2789.

<sup>8</sup> Al-Bukhari, Abdullah ibn Ismail, *Sahih al-Bukhari*, Dar al- Jil: Beirut , v2, hadith no 632

<sup>9</sup> Ibid, hadith no 3129.

<sup>10</sup> Sheikh Wahbah al-Zuhayli, p.139, *al-Mua'malat al-Maliyyah al-Mu'asarah*, Beirut: Dar al-Fikr, 2002.

However, in the normal circumstances, from ethical and moral perspectives, the majority of the scholars are of the view that excessive profit making is not encouraged as it will deprive blessings of Allah.

### Juristic Disagreement over Fixing Prices

As a background for the proposed alternative model to benchmark pricing for Islamic banking, it is worth knowing the classical Muslim jurists' opinion on the issue. The most relevant juristic discussion is on fixing a price in financial transactions. This is due to the construction of Islamic Pricing Benchmark which is influenced by Bank Negara's Overnight Policy Rate (OPR). Any changes to OPR will lead to a change in Islamic benchmark rate. Having benchmark will definitely guide the practitioners in determining the profit rate and thereby price especially to work out the minimum and maximum price. This research does not aim to fix the profit margin and price but rather to formulate the alternative pricing benchmark that can be used to estimate the profit margin which can then be used as an alternative to interest rate. To some extent, the juristic opinions on prohibiting and allowing regulatory pricing can be used as a precedent to justify introducing the new benchmark.

Having a benchmark for pricing implicitly has the elements of controlling the prices. It is therefore worth knowing the juristic disagreement on the issue. The classic jurists have extensively discussed about the issue of regulatory pricing. There are two major opinions regarding the pricing in Islam<sup>11</sup>

**First opinion:** It is not permissible to fix the price whether to be lower or higher than the market. In case when the market price is regular, a majority of jurists of Hanafites, Malikites, Shafi'ites and Hanbalites disallow the government to fix the prices of products and services.<sup>12</sup>

---

<sup>11</sup> Dr.Kameel Saqar al-Qaisi, *Ma'ayir ar-Ribhu wa Dawabituhu fi al-Tasri'i al-Islami*, Islamic Affairs & Charitable Activities Department : Government of Dubai,2008,pp86-92.

<sup>12</sup> Ibn Qudamah, Abu Muhamad Abdullah ibn Ahmad, *Al-Mughni* , Dar al Fikr, 1404h(1983), v4,p303.

Imam as-Syaukani holds that it is prohibited to fix the price because of the possible element of tyranny (*zulm*) involved<sup>13</sup>. In this case, everyone has their own rights on the properties and the fixing of prices would be an obstacle to them to manage their life. The Imam has the responsibility to look after the public interests of all Muslims and not just looking after the interests of the buyers in a situation of a lower price in the market or alternatively the interests of the sellers in a situation of higher price in the market.<sup>14</sup> According to Al-Mawardi, it is not permissible to fix the prices of essential foods whether at a high or low price in the market.<sup>15</sup>

The following are the evidences for the opponents of price fixing:

1. The Quranic verse:

((يأيتها الذين آمنوا لا تأكلوا أموالكم بينكم بالباطل إلا أن تكون تجارة عن تراض منكم ))

“O you who believe! Eat not up your property among yourselves unjustly except it be a trade amongst you, by mutual consent”<sup>16</sup>

The above verse explained that the mutual consent (*al-rida*) between the parties involved is the main component in a business transaction. Thus, according to the Hanafites, Malikites, Shafi’ites and Hanbalites, the government’s intervention such as to determine the market price can be considered as an obstacle to the seller.<sup>17</sup> It is because of the violation of the right of mutual consent (*al-rida*) between the seller and the buyer in business transaction. Thus, the government intervention has violated the rights of the seller to determine the price of products and services.

This view was supported by a prophetic tradition which told of how the Prophet (SAW) s.a.w responded to a request made of him to arrest the prevalent rise in prices by fixing the prices in the market.

<sup>13</sup> As-Shaukani, Syeikh Muhammad ibn Ali ibn Muhammad, *Nail Antar Sharh Muntaqi Akhyar*, Dar al- Hadith : Qahirah, v5, p247.

<sup>14</sup> Al-Kufrawi, Dr. Auf Mahmud, *Dirasat fi Takalif Al-Intaj wa Tas’ir fi Islam*, Muasasah Shabab al-Jami’ah : Egypt, 1985, p158.

<sup>15</sup> Al-Mawardi, Ali ibn Muhammad Habib Basri, *al-Abkam al- Sultaniyah wal Wilayat ad- Diniyyah*, Dar al-Fikr : Kaherah, 1983, p256.

<sup>16</sup> Al Nisa : 29.

<sup>17</sup> Al-Kasani, Abu Bakr ibn Mas’ud al Kasani, *Bada’ie’ al Sana’i*, (Beirut : Dar al –Kutub al ‘ilmiyyah, 1986) v5 ,p 129.

2. He said:

عن أنس بن مالك: قال الناس: يا رسول الله، غلا السعر فسعر لنا، فقال رسول صلى الله عليه وسلم: إن الله هو المسعر القابض الباسط الرازق وإنى لأرجو أن ألقى ربي وليس أحد يظالمني بمظلمة في دم ولا مال.

Narrated by Anas ibn Malik:

The people said: Apostle of Allah, prices has shot up, so fix prices for us. Thereupon the Apostle of Allah (PBUH) said: “Verily, Allah S.W.T. determines the climate of economic affluence and gloom. I do not want to take any action to fix the prices because I do not want, later in hereafter, any among you to demand for the return of your property and blood from me because of my tyranny (in fixing the prices).”<sup>18</sup>

In the above hadith, it is clearly stated that the Messenger refuse to intervene in the issue of tas’ir although he was urged by his companions to do so. This opinion also supported by the non-interference practice of the Prophet (SAW) in fixing the market price. The Prophet (SAW) described the act of fixing prices as injustice towards the seller if price fluctuations in the market were due to normal market forces. An increase in price due to increasing demand should be seen as an opportunity for the seller to make more profit from the prevalent market condition. Fixing the price would mean forcing the seller to sell at a fixed price and stopping him from enjoying the bounties provided by Allah S.W.T. Thus, it will not be against Syara’ if market players take advantage of the rise and fall in prices following the forces of supply and demand of the goods offered.<sup>19</sup>

<sup>18</sup> Narrated by Abu Dawud, Sunan Abi Dawud, Kitab al-ijarah, Bab al tas’ir, no 3451, vol2,p 293.

<sup>19</sup> Resolutions of the Securities Commission Shariah Advisory Council,2006, p 89-90.

3. There are several hadiths that show the Prophet (SAW) refused to fix the price in the market:

ما روى عن أبي هريرة عند أحمد وأبي داود قال : جاء رجل فقال : يا رسول الله سعر، فقال : بل أدعو الله. ثم جاء آخر فقال : يا رسول الله سعر، فقال صلى الله عليه وسلم : بل يخفض ويرفع.

Narrated by Abu Hurayrah:

“A man came and said : Apostle of Allah, fix prices. He said: (No), but I shall pray. Again the man came and said: Apostle of Allah, fix prices. He said: It is Allah Who makes the prices low and high. I hope that when I meet Allah, none of you has any claim on me for doing wrong regarding blood and property”.<sup>20</sup>

4. Hadith:

عن علي بن أبي طالب رضي الله عنه قال : قيل : يا رسول الله ، قوم لنا السعر ، قال : ( إن غلاء السعر ورخصه بيد الله، أريد أن ألقى ربي وليس أحد يطلبني بمظلمة ظلمتها إياه).<sup>21</sup>

Narrated by Ali Ibn Abi Talib that people came to Prophet (SAW) and said:“Apostle of Allah, fix prices for us. He said : “Indeed Allah who makes the prices low and high. I hope when I meet Allah, none of you has any claim on me for doing wrong regarding blood and property.”

This hadith, shows, the Prophet (SAW) himself was reluctant to interfere in the fixing of prices in the market after finding that the price was determined by market forces and not by any act of manipulation.

<sup>20</sup> Narrated by Abu Dawud, op.cit, no 3451, vol2,p 293

<sup>21</sup> Al-Haytami, Nur ad-Din Ali ibn Abi Bakar, *Kashf al-astar 'an zayaid al-bazar 'ala kutub al-Sunnah*, Muasassah Risalah : Beirut,v2, 1984.,p85.

**Second Opinion:** Determining the price is allowed to preserve the basis of justice between people and to avoid the element of injustice (*zulm*) to the public interest (*maslahah ammah*). According to the Hanafi<sup>22</sup> and group of Maliki<sup>23</sup> and Shafi'i<sup>24</sup> jurists, the government is allowed to fix the market price when there is a price increases above the normal price in the market.

Ibn Taimiyyah and Ibn Qayyim al-Jawzi added that fixing the price is not permissible for those who are tyrant (*zulm*) but it is permissible for those who are just (*adl*).<sup>25</sup> In other words, if fixing the prices would involve the element of injustice (*zulm*) to people or enforce people by the involuntary price or preventing the permissible actions, then it is considered as haram. Meanwhile, if fixing prices leads to fairness and justice (*adl*) among the people or preventing them from harms, then it becomes lawful.<sup>26</sup>

This is also on the ground that the right of ownership and to benefit from the property is the full right to the owner<sup>27</sup> and it is clarified by hadith :

28. ما رواه أبو هريرة: ((كل المسلم على المسلم حرام، دمه وماله وعرضه)).

Which means: “Every Muslim to another Muslim is haram (illegal to touch) in term of his blood, property and dignity.”

عن جابر بن عبد الله أنه عليه الصلاة والسلام قال في خطبة الوداع: (( إن دماءكم وأموالكم حرام

عليكم كحرمة يومكم هذا، في بلدكم هذا، في شهركم هذا)).

<sup>22</sup> Al-Kasani, op.cit. vol 5, p129.

<sup>23</sup> Ibn Abd Al-Barr, Yusuf ibn Abdullah, *Al-Kafi fi fiqh abl al-Madina*, Matbaat Hassan : Kaherah, 1979, vol 2, p73.

<sup>24</sup> Al-Nawawi, Muhyiddin Yahya ibn Sharaf , *Rawdat al-talibin*, vol 4, (Beirut : al Maktabah al Islami, 1985), p411.

<sup>25</sup> Ibn Qayyim, edited by Muhamad Hamid Al-Fiqhi, *al-Turuqi al-bukmiyyah fi l-siyasah al-Syar'iyyah*, Dar al- Kutub al-Ilmiah, Beirut: Lubnan, vol.1 ,p 244-245.

<sup>26</sup> Al-Kufrawi, Dr. Auf Mahmud, *Dirasat fi takalif al-intaj wa tas'ir fi Islam*.op.cit. p.156.

<sup>27</sup> Al-Husni, Muhammad Abu Huda al Ya'kubi, *Abkam al tas'ir fi al-fiqhi al- Islami*, Darul al- Basha 'ir al-Islamiyyah :Pakistan, 2000,p 121.

<sup>28</sup> Al-Munziri, Abdul Azim ibn Abdul Qawi, *al-Tarhib wa al-tarhib min al hadith al-Syarif*, Dar al-Ihya' al-turath al-Arabi : Beirut:1968, v3 ,p471.

<sup>29</sup> Al-Bukhari , *al-Jami al-Sahib*, op.cit , v2,p215.

Meanings: Jabir ibn Abdullah said that the Prophet (SAW) delivered his last sermon: “Indeed all the soul and properties are prohibited to your all as the prohibition of this day and this country and this month.”

In this issue, there is another view from other jurists. There are jurists such as Said bin Musayyib, Rabi’ah bin Abd al Rahman and Yahya bin Sa’id al Ansari who view that it is permissible for the government to intervene in the market by fixing the price of products and services irrespective of whether the prevailing price is high or low.<sup>30</sup> Their argument is that the tas’ir will protect the public interest *al-maslahah al-‘ammah* of all the consumers.

To conclude, the rise of prices that happened during the time of Prophet (SAW) was not due to the speculation of traders, but rather a natural phenomenon.<sup>31</sup> The Prophet (SAW) feared to be unfair to the traders by fixing or determining the market prices.

It is suggested that in general, the authority should not interfere in the matter of pricing and it should be left to the power of demand and supply, but when the market is not stable and open to speculation, and oppression, then it is allowable for the authorities to intervene.

### **Justifications for Introducing New Benchmark Pricing Model for Islamic Banks**

There has been a lot of criticisms against Islamic banking and finance for depending on the conventional benchmark. Many contemporary Muslim scholars have been calling to initiate an independent benchmark pricing for Islamic banks.

Fiqh Academy under OIC in its 8<sup>th</sup> Conference on Currencies Issues, in Jeddah 18-19 Shawwal, 10-11 April 1993 unanimously passed resolutions among others resolution

---

<sup>30</sup> Majid Abu Rakhiyyah, *Hukm al-tas’ir fi al-Islam*, (Amman : Maktabat al-Aqsa, 1983) pp12-18.

<sup>31</sup> Ali Ahmad Al-Salus, *Fiqh al-bay’ wa al-istisnaq wa al-tatbiq al-Mu’asir*, ( Egypt : Muasassat al-Rayyan, 2004).pp82-83.

no. 7 urges to promptly create a new benchmark which is acceptable from Shariah perspective as an alternative to interest based rates to determine the profit margins.<sup>32</sup>

The call is also clearly stated in AAOFI standard no 27 on indices, clause 7, development of Islamic index shall be guided with parameters among others by adhering to Shariah precept in addition to the technical control relating to the component of the index and its application. Besides, there should be a Shariah supervisory board for the index to ensure the observation of the Shariah precept in the components and applications of the index and to conduct periodical review and reporting relating thereto.

The fundamental reason for introducing new benchmark as an alternative to interest based borrowing and lending benchmark is the prohibition of *riba* itself. Sheikh Muhammad Taqi Usmani advocates that Islamic banks and financial institutions should get rid of this practice as soon as possible. He argues that using interest rate as benchmark for halal business is not desirable, and secondly it does not advance the basic philosophy of Islamic economy thereby making no impact on the system of distribution.<sup>33</sup>

The following are some other justifications from Shariah perspective:

### **1. Regulatory Pricing and its Validity from Maqasid of Shariah Perspectives.**

As benchmark pricing is used as guide and indicator for pricing, to some extent, it also contains the element of controlling the pricing in the market. Having a benchmark for pricing is in line with the objectives of Shariah to establish justice and fairness in financial transactions. Having a benchmark also will realize other objectives of Shariah in financial transactions as suggested by Ibn Ashur<sup>34</sup> among others transparency (*wuduh*), preservation and fair circulation of wealth (*rawaj*) in the

<sup>32</sup> Majallah Fiqh Academy, IRTI, IDB OIC, Jeddah 18-19 Shawwal, 10-11 April 1993 Conference on Currencies Issues, 8<sup>th</sup> Conference, vol.3, p. 780.

<sup>33</sup> Sheikh Muhammad Taqi Uthmani, An introduction to Islamic Finance, p.120.

<sup>34</sup> Al-Mesawi, Mohamed El-Tahir, Ibn Ashur Treatise on Maqasid al-Shariah, The International Institute of Islamic Thought, Malaysia, 2006, p.279.

hands of as many people possible. Establishing a benchmark may help the regulator to ensure that fraud and manipulation do not occur in the market hence creating a healthy market in line with the principle outlined in the Syariah.

The view of non-interference of market price is also not acceptable according to the logical argument in which every person has their own right on their properties and the intervention of market by determining the price will violate their businesses. Generally, the government is responsible to look after the public interest (*maslahah*) of all level of society whether the buyer or the seller.<sup>35</sup> That means the ruler (Imam) has to protect the *maslahah* of the ummah in general and not determine the price in market because it will violate the right of the seller.

It is submitted that in light of maqasid, the government can fix the price because of reasonable justifications based on the principle of al-siyasah al-shari'yyah. In this vein, as asserted by Sheikh al-Islam Ibn Taymiyyah, that under certain circumstances, the government should intervene to determine the market price to avoid monopoly and speculation of traders in the market, or if the market payers were too greedy to maximize the profits whereas the masses were in dire need of the goods. In this case it is allowable for the authority to intervene provided that the goods or services are the basic needs of the people and the hike of the price is not a result of scarcity of the supply or the increase of people. It is an important mechanism to allow the markets to operate fairly where prices, wages and profits are determined by forces of demand and supply. It also an effective way to ensure that there is no coercion, no deception, speculation, and destruction of supplies which lead to unbearable rise of prices.<sup>36</sup>

The two conditions mentioned by Ibn Taymiyyah; (i) that the goods or services are the basic needs of the people and (ii) the hike of the price is not a result of scarcity of the supply or the increase of people, are also relevant for the Islamic banking products and service where people in this modern life cannot avoid.

<sup>35</sup> As-Shaukani, Nail al-Autar, sharh muntaqa al-akhyar, op.cit. v5, p: 220.

<sup>36</sup> Ibn Taimiyyah, *al-Hisbah fi al-Islam*, (d.728H) *al-Hisbah fil Islam*, Dar Al- kutub Ilmiyyah, v.1, 1992,(1412), p.22-23.

Having a benchmark for pricing is also supported by the fact that Islam honors the ownership of individual property and his freedom to utilize it as well as not violate the right of others. If the utilization of the rights of property may harm to others then, it is a must for the ruler to intervene to preserve public interest and to keep balance in the market price in line with the principle of Shariah to avoid the damage in order to keep the public interest.<sup>37</sup> This is prescribed by legal maxim: “Harm should neither be inflicted nor reciprocated”<sup>38</sup> “when there is a conflict between private interest and public interest, the public interest is preponderant”<sup>39</sup> and the worse adversity should be removed by the lighter one”<sup>40</sup>.

## 2. The Notion of Market Prices

In Islamic jurisprudence, “market price” a common term which is extensively used to determine a fair price in many circumstances especially as a means of settlement to solve disputes either by arbitration or courts.

For example, in a Hadith:

عن ابن عمر رضي الله عنه قال قال رسول الله صلى الله عليه وسلم : "من اعتق شركا له في عبد فكان له مال يبلغ ثمن العبد قوم عليه قيمة عدل، فأعطى شركائه حصصهم وعتق عليه العبد وإلا فقد عتق منه ما عتق".<sup>41</sup>

“Narrated Ibn Umar (peace upon him) : Allah’s Messenger (peace be upon him) said :

“ If anyone emancipates his share in a slave and has enough money to pay the full

<sup>37</sup> Ibn Nujaim, Syekh Zainul Abidin ibn Ibrahim, *Al-Asbab wa al-naẓair ‘ala mazhab Abi Hanifah*, Dar al- Kutub Ilmiah-Beirut, 1985m (1405h),v1, p176.

<sup>38</sup> Ibn Hanbal, *Musnad Ahmad Ibn Hanbal*, Dar al- Sadir lil Tiba’ah , v1,p 313, Al-Bayhaqi, Abi Bakar Ahmad bin Hussain bin Ali, *Al-Sunan al-kubra*, Dar Al- Kutub Al-Ilmiyyah,v6, 1999 ,p69.

<sup>39</sup> Mejelle, Being an English Translation of Majallah Al-Ahkam Al-Adliya and A Complete Code of Islamic Law, Trans. C.R. Tyser, B.A.L, The Other Press, Kuala Lumpur, Malaysia 2003, p27, Ibn Nujaim, *Al-Asbab wa Naẓair ala Mazhab Abi Hanifah*, *op.cit.* v1,p109.

<sup>40</sup> Mejelle Al-Ahkam Al-Adliya, *op.cit.*, p 27.

<sup>41</sup> The hadith is narrated by al-Bukhari and Muslim, see Ibn Hajr al-Asqalani, *Bulugh al-maram*, Saudi Arabia: Dar al-Salam Publication, 1996, pp 503-504.

price for him, a fair price the slave should be fixed, his partners given their shares , and the slave be thus emancipated otherwise he is emancipated only to the extent of the first man's share”.

In line with this hadith, Ibn Taimiyyah said: “This is what told by Prophet (SAW) (pbuh) to form all items with the fair price which is the market price (*misl*)” .<sup>42</sup>

The majority of jurists hold that it is not allowable to sell a commodity at an unknown price. Ibn Taymiyyah however allows tagging the price according to the market price. He argues that this will lead to mutual consent. This is the practice of Muslims, where the baker sells bread, the butcher sells meat and the grocer sell foodstuff without mentioning price, and they conclude the transactions by the price which they got accustomed with as the purchaser will definitely agree on a price the same commodity is sold to other customers. This is the customs of those who do not like to bargain the price, but accept the same price charged on others.<sup>43</sup>

In line with this opinion, the AAOIFI parameters on investment sukuk allow purchase undertaking from the issuer to buy it back with the market price upon maturity:

“In the case of negotiable sukuk, it is permissible for the issuer to undertake, through the prospectus of issue, to purchase at market value after the completion of the process of issue, any certificate that may be offered to him however, it is not permissible for the issuer to undertake to purchase the sukuk at their nominal value.”

AAOIFI standard 5/2/2

In line with this concept there is legal maxim “custom is arbitrary”. One may suggest that in pricing context, customary practice is the market price.

Scholars have prescribed several requirements and conditions that have to be fulfilled in a customary practice in order to consider it as valid.<sup>44</sup> Among other the urf must represent common and recurrent phenomena. Custom in order to be authoritative must

<sup>42</sup> Ibn Taimiyyah, Ahmad ibn Abd Halim, (d.728H) *al-Hisbah fil Islam*, Dar al- kutub Ilmiyyah, v.1, 1992,(1412), p42.

<sup>43</sup> Ibn Tamiyyah, *Nazarīyyat al-aqd*, pg.165, taken from *Fiqh al-Muamalat al-Maliyyah* by Dr. Rafiq Yunus al-Misry, Damsyik :Darul Qalam, 2005, v1, p 181.

<sup>44</sup> Laldin, Mohamad Akram, *Introduction to Shari'ah and Islamic Jurisprudence*, Kuala Lumpur: Malaysia, 2006 ,pp120-122.

also be dominant in the sense that is it observed in all or most of the cases to which it can apply. If it is observed in some cases but not in others, it is not authoritative. Similarly, if there are two different customary practices on the same matter, the one which is dominant, is to be upheld. The custom must be in existence and prevalent at the time the transaction is concluded. In this context, the indexes and factors used for computing the indicative pricing rate is based on previous performance and by taking into account the expected return for current and future profits. The historical performance alone is not sufficient.

The other condition requires that the 'urf must not contravene the clear stipulation of an agreement. A custom can only be applied if there is no contractual agreement made in a particular transaction. This is because a custom is only an equivalent of an implied condition. It will not be valid if it is contrary to an explicit condition. This implies that the benchmark is not binding and decisive in determining prices. It is only a guide. The real price is the agreeable price at the point of concluding a transaction.

Al-urf must not contravene with the Quran or Sunnah (nass). This implies that the indexes, variables samples are free from non halal elements.

### **3. Qiyas with Premature Payment of Zakat Based on *al-Khars* (Evaluation)**

Based on authentic hadith, the Prophet (SAW) used to send companions to collect zakat prior to harvest time by estimating the future yield. The evaluation is done by expert on how much will be the net produce so that the owner may advance their zakat payments even before the harvest.

Among those hadiths, the one which is narrated by Attab bin Asid that Allah Messenger SAW ordered to estimate zakat on vines as that of palm trees, then the zakat is to be paid in raisins as the zakat on palm trees is paid in dried dates.<sup>45</sup>

---

<sup>45</sup> See Ibn Hajr al-Asqalani, *Bulugh al-Maram*, hadith no 498, pg.214

In the case of zakat payment, it is actually an obligation which can be performed based on constructive evaluation and not on the actual tangible produce computation after harvest, yet it is acceptable. In the case of having benchmark which is based on particular means of assessment is much more acceptable as it is non binding in nature. It is used only as an indicator to determine a price.

#### **4. Having a Benchmark Based on the Principle of *Sadd al-Dhar'iah*<sup>46</sup>**

*Sadd al-zari'ah* as a principle of deriving a hukm, means to prohibit some permissible actions in order to prevent non-permissible actions. The concept implies blocking the means to an expected end which is likely to materialize if the means towards it is not obstructed. Blocking the means must necessarily be understood to imply blocking the means to evil.<sup>47</sup> In this case, by letting people freely decide the market price in their dealing is considered permissible, but it will make the people live in difficulty and hardships if there is no mechanism to fix the market price.<sup>48</sup> For Islamic banking context, establishing a benchmark for pricing can resolve such uncertainty and at the same time the regulator may fight against monopoly and unjustified high pricing.

#### **5. Revocability of a Contract Because of *Ghubn* (Loss Because of Deceptions or Ignorance of Price)<sup>49</sup>**

Benchmark pricing is in line with Shariah principles and objectives in transactions to avoid unfair transactions such as the ignorance in pricing and with the presence of the elements of fraud which is called as *ghubn* where, to some extents the party which suffers loss is given prerogative to revoke the contract.

*Al-ghubn* literally means short (*al-naqs*) and deception. Technically it means the sale of a commodity with either less or excess price from the common price in the market,

<sup>46</sup> Ibn Qudamah, *Al-Mughni*, v4, op.cit, p 281.

<sup>47</sup> Kamali, Mohammad Hashim, *Principles of Islamic Jurisprudence*, 2<sup>nd</sup> Revised Edition, Ilmiah Publishers : Kuala Lumpur, 2000 ,p310.

<sup>48</sup> Ibn Taimyiah, *al-Hisbah fil Islam*, op.cit.v1, p42.

<sup>49</sup> Al-Misri, Rafiq Yunus, *Fiqh al-Muamalat al-Maliyyah*, Damsyik :Darul Qalam, 2005, v1, p150.

where people either the buyer or the seller will suffer losses with that price.<sup>50</sup> *Al-ghubn* can be divided into two categories i.e. *ghubn yasir* (light) and *ghubn fahish* (heavy).

If the price is known for people for things such as bread, meat, apple or banana, then it is not considered as *ghubn yasir*. In determining *ghubn yasir*, most of the jurists hold that it refers to anything that is commonly practiced according to the ‘urf.

As to *ghubn fahish*, the Ottoman Mejlle which is according to the Hanafites prescribes the financial ratio of *ghubn fahish* as follows:

Commercial : 5% from the value price

Animal : 10% from the value price

Land Property: 20% from the value price.<sup>51</sup>

Malikites viewed those sales with the higher price that usually will lead to the losses. Some of them said it is about 1/3 of the value, while some of others said it is about more than 1/3<sup>52</sup>. Shafi‘ites regard *ghubn fahish* as situations where it cannot be accepted by market practice (urf). The Hanbalites also refer to *urf* (market practice) as a benchmark to determine the *ghubn fahish*, some of them said: 1/3 of value and some would go for one sixth.<sup>53</sup>

The jurists unanimously agree that *ghubn yasir* does not affect the validity of the contract. Slight deception is unavoidable and it does not affect the validity of a contract. As such the party who is deceived is not entitled to cancel the contract. However, the Hanafites have argued that the existence of slight deception in contracts made by bankrupt person or by a person who suffers from mortal illness invalidates

<sup>50</sup> See Al-Nawawi, Abi Zakariyya Muhyiddin ibn Sharaf, *Tahzib asma' wa al-lughat*, Beirut: Dar al-Kutub al-Ilmiyyah, n.d. pg. 57, Dr. Nazih Hammad, *Mu'jam al-mustalabat al-iqtisadiyyah fi lughat al-fuqaha*, International Islamic Publishing House, 1995.p g.258, Dr. Muhammad Rawas al-Qa'ahji, *Mu'jam Lughat al-Fuqaha*, Beirut: Dar al-Nafa'is, pg 329.

<sup>51</sup> The Mejlle, article 165. See the Mejlle, Being an English Translation of Majallah al-Ahkam al-Adliya and A Complete Code of Islamic Law, Trans. C.R. Tyser, B.A.I., The Other Press, Kuala Lumpur, Malaysia 2003.

<sup>52</sup> Ad-Dusuki, Muhammad ibn Ahmad, *Hasbiat Al-Dasuqi ala Sharh Kabir*, v 3,p 140, Al-Khattab Al-Ru'aini, Muhammad ibn Muhammad Al-Maghribi, *Mawahib Al-Jalil Sharh Mukhtasar Khalil*, v 6,p 399.

<sup>53</sup> Ibn Qudamah, *al-Mughni*, op.cit, v4, p79, Al-Mardawi al-Damshiqi, Ala'udin Abu Hassan Ali ibn Sulaiman, *al-Insaf fi Ma'rifatul Ar-Rajih minal al-Khilaf ala Mazhab al-Imam Ahmad ibn Hanbal*, Dar al- Ihya' at-Turathi al-Arabi : Beirut, 1419, v4,p 284.

the contract. They are also of the opinion that the existence of slight deception invalidates any sales contract where a guardian (*wasi*) sells to his close relatives the property of his ward for a lower price.<sup>54</sup>

As to *ghubn fahish*, in all other cases according to the Hanafis, *ghubn* (loss) alone does not entitle the cheated party to cancel the contract. However, if *ghubn* is accompanied by the wrong description of the sold item (*taghrir*) or fraud, then the purchaser has the option to cancel the contract. They however made exceptions with regard to properties owned by *bait-al-mal*, *waqf* properties and properties owned by minors, lunatics and prodigals where the mere existence of *ghubn* will invalidate a contract.<sup>55</sup>

According to the Hanbalites the existence of *ghubn* whether accompanied by fraud (*taghrir*) or not affects the validity of the contract. The purchaser according to them has the option to cancel the contract in case of *talaqqi al-rukban*, *al-najsh* or where he is ignorant of the actual price and relied on the honesty of the seller.<sup>56</sup> *Al-Najsh* refers to an increase in price by a third party who is not actually buying, but wants to encourage others to offer a higher price. *Talaqqi al-rukban* refers to a situation where a purchaser stops a seller who is on his way to the market and purchases his commodity. These are examples of deceptions that are specifically prohibited by the Prophet (SAW) (pbuh). According to the Shafi'ites, a person cheated, should have known the actual price, or should have asked those with the relevant knowledge and expertise. The Shafi'ites attribute this to the fault of the party cheated. The Shafi'tes, therefore do not give the parties the option to rescind the contract.<sup>57</sup>

Understanding the concept of *ghubn* is relevant here because by having a declared benchmark for pricing we can avoid uncertainties and possible deceptions. The percentages and ratios of tolerable losses as prescribed by the scholars can be used as a parameter to determine the threshold of profit margin.

<sup>54</sup> Zubayli, Wahbah, *Al-Fiqh Islami wa Adillatuhu*, v4, 3<sup>rd</sup> Ed, Dar Al-Fikr : Damshik, 1989. pp.221-222.

<sup>55</sup> Ibid, pp.222-223.

<sup>56</sup> Ibid, p.223.

<sup>57</sup> Zubayli, Wahbah, *Al-Fiqh Islami wa Adillatuhu*, v4, op.cit. p.224.

### **Proposed Shariah Parameters for an Islamic Pricing Benchmark**

- 1- Benchmark is not meant to fix a price, but rather an indicator and a guide to pricing.
- 2- Unlike borrowing and lending in conventional practice, Islamic banking activities are more comprehensive including being a trader, partner and wakeel. As such, the pricing benchmark should not be based solely on financial intermediary functions.
- 3- The pricing benchmark must be disclosed and displayed to all contracting parties. However, the factors to be taken into consideration for the pricing benchmark such as the cost of the fund, expected risks, etc can be taken into account but not necessarily to be disclosed and displayed.
- 4- For financing activities, the benchmarks may vary according to the real sectors and products concern.
- 5- Risk impairment (potential loss) may be included in the upfront computation of pricing benchmark, but it cannot be imposed on the customer after the event of default.
- 6- Time value of money can be used as a guide for pricing of deferred sale, but cannot be used to calculate for late payment charges.
- 7- The computed pricing benchmarks should be from the permissible activities, valid contracts that fulfill all the conditions and tenets of Islamic principles.
- 8- The factors for computing pricing benchmark should be free from non-halal activities, interest rates, non-real economic activities such as indices of financial derivatives products.
- 9- Inflation index can be used as an indicator to trace price movements.

- 10- The profit margin for the pricing benchmark should be free from elements of *ghabn fahish* (heavy deception) corruption and fraud.<sup>58</sup>
- 11- The pricing benchmark should be free from the activities of hoarding, speculation of price hiking and monopolization of consumer products (احتكار).
- 12- Development and trend of the real economic conditions need to be taken into consideration in determining and predicting the benchmark that can forecast the future situations of the market and discover the patterns of changes that the market may undergo. Therefore, using indices for guidance in operations that relate to real transactions is permissible in Shariah.
- 13- The indices must be accurate, objective and transparent.<sup>59</sup>

### SECTION 3: LITERATURE REVIEW ON PRICING OF BANK FINANCING/LOAN

#### Introduction

This section reviews existing studies on pricing bank financing/loan to customers. The methods of pricing financing/loan and types of profit/interests used in pricing bank financing/loan are also highlighted. In the last section, studies on Islamic pricing benchmark are presented.

---

<sup>58</sup> Qurrah Daghi, Ali Mohheidin, *Bubuth fu Fiqh al-Bunnak al-Islamiyyah : Dirasab Fiqhiyyah wa Iqtisadiyyah*, Dar Al-Bashair Al-Islamiyyah : Beirut, 2009. p16.

<sup>59</sup> Accuracy refers to proper specification of the components of the index, sources of its data input, time of obtaining the data, method of calculating the weights, and basis of rounding off the numbers. Objectivity entails presentation of the detailed circulations of the index to leave no room for difference of opinion with regard to determination of the value of the index on a specified date or at specified place. Transparency entails pre-specification of the time, place and method of announcing readings of the index so that the process does not involve *Jahala* (ignorance or uncertainty). (AAOIFI, Indices 3/2, p 496)

During the last three hundred years the Western World has evolved the current system of finance whose cornerstone is the rate of interest. Huge amounts of debt are being traded in national and international financial markets every working hour, exceeding the gross domestic products of many countries. Since then, lending at a rate of interest has become a household practice all over the world. Developing countries, having played little role in establishing the current financial system, have either adopted this practice or inherited it from their former colonialist masters. Until the middle of the twentieth century, it seemed to everyone that no wrong could be found with the system. That is when economics has matured as a scientific discipline that commanded both intellectual as well as political influence. Economists, staying within the boundaries of “positive analysis” that purports avoidance of moral judgment, considered the rate of interest as a price: it is the relative price of present money to future money. You could rarely find an economist who would call for a zero price for anything, as prices serve as important tools in resource allocation.

Based on empirical research, a number of theories, concepts and models have been evolved over the past five decades, aiming to compute the respective cost of each source of capital, such as equity and redeemable bonds (Shubber and Alzafiri, 2008). Over the 1950 to 1970s, five concepts of finance theory emerged on this area, viz: (1) early gearing (leverage) models; (2) the model of Modigliani and Miller (MM); (3) capital asset pricing model (CAPM); and (4) arbitrage price theory (APT). The first model argued for a certain amount of debt in the capital structure up to an optimum level, which reduces the average cost of capital to minimum, while the second advanced the concept of isolating capital structure from cost of capital, due to the process of arbitrage practiced by investors, and assuming perfect conditions, including the absence of dealing costs, personal and corporate taxes.

CAPM, on the other hand, hypothesized a linear relationship between cost of equity capital and degree of systematic risk, assuming that investment portfolios were diversified and unsystematic risk had been eliminated. The APT was then developed to offer solution to the shortcomings of CAPM. APT regarded asset returns as a function of certain key variables, which vary from stock to stock. Under APT, no

assumption of efficient diversification was made, while the key independent variables needed to be selected in each case, so as to construct the regression equation (Ross, 1976; Fama, 1978).

Likewise, further models were developed, putting forward the notions of the weighted average cost of capital (WACC) and marginal weighted cost of capital. The latter was a refinement of the former, whereby treasury/finance directors could compute the cost of acquiring new capital from either a single or multiple sources.

Over the past 20 years, western financiers have developed a truly vast array of alternatives to the standard fixed-rate mortgage (FRM). Examples of the more recent, and, to some extent, more dangerous instruments follow. A borrower can now take out an “interest only” loan where he makes payments only for interest due, none to pay down the loan principal. This helps the borrower take a bigger loan than he otherwise could, with the idea being that he will eventually have more income and be able to make larger payments.

Anthony and Liliana (2000), in their study on the determinants of bank net interest margin (NIMs) in six selected European countries and the US during the period 1988-1995 found that the regulatory components in the form of interest rate restrictions on deposits, reserve requirements and capital to asset ratio have significant impact on banks NIMs. The empirical results suggest an important policy trade-off between assuring bank solvency-high capital-to-asset ratios- and lowering the cost of financial services to costumers- low NIMs.

An increase in interest rates has two effects on the expected return to the bank (Stiglitz and Weiss, 1981). The usual direct effect is that as interest rates raise, the expected return to the bank increases accordingly, other things being equal. Yet, there is a so-called adverse selection effect that works in the opposite direction. Stiglitz and Weiss (1981) show that if a lender raises interest rates, the pool of applicants increasingly contains high-return, high-risk projects. This is because those borrowers who are willing to pay high interest rates usually have high-return, high-risk projects.

In short, there is no single measure that can be used to gauge cost of fund index (COFI) in the true sense (Financial Stability Review, 2006). However, it should be proxied by different indicators such as interest rate margins and banking spreads, indicating a gap between the representative lending and deposit rates of the banking sector. The most widely used indicators of COFI are: (i) the net interest margin (NIM) – the gap between interest earned and interest paid, normalized by average earning assets or total assets; and (ii) interest rate spread – the gap between (simply) lending and deposits rates. Both definitions are subject to limitations. For instance, NIM suffers from a number of problems such as: (i) it does not include any fee and commission, which can change the effective margin; (ii) it conceals important information related to marginal spreads due to the inclusion of either all earning assets or total assets; and (iii) it presents a distorted picture of COFI if banks are capitalized by issuing government bonds, which usually offer low returns.

On the other hand, interest rate spread based on the gap between (average) lending and deposit rates is also unable to quantify COFI accurately. In practice, banks do not charge a single rate to all borrowers nor do they offer a uniform rate to all depositors. Banks' lending and deposit rates vary over time and across customers. The study, therefore, uses the (weighted) average lending and deposits rates. However these average rates conceal important information regarding variations in lending and deposits rates across different sectors of the economy and across economic agents.

### **Existing Pricing Loan/Financing Techniques**

Basically, a loan is an arrangement in which a lender gives money or property to a borrower and the borrower agrees to return the property or repay the money, usually along with interest, at some future point in time. Usually, there is a predetermined time for repaying a loan, and generally the lender has to bear the risk that the borrower may not repay the loan. An interest rate is the cost of borrowing money. There are two ways banks can charge for loan: (i) interest rate: an annual percentage

rate (APR) to the borrower; and (ii) fees: specified amounts for loan transaction. In loan pricing, at least, there are two factors need to be considered: cost of doing business and demand and supply for loan. The key drivers of cost in a financial institution are:

- a) Cost of funds: the money gives/used out for loan by financial institutions comes from the savings and deposits of their customers who will expect something in return for making their money available. The loan rate charged will be influenced by the interest rate paid on saving; logically high interest rates to the depositor implies a higher interest rate charged on the loan and vice versa. Cost of fund other than saving: some of the money financial institution use to finance their loan come from sources other than members deposits, the cost of these funds will influence the loan pricing. The more they pay to use other funds the more the change for making it available as loan.
- b) Administrative cost: these are the cost associate with making the loan as well as maintaining it. Administrative costs are factored into the loan price.
- c) Default: By design, not all loans will be repaid by the borrowers. The financial institution must somehow recover the cost of these losses. The practice requires that these loan losers be factored into the loan price.
- d) Capital requirement: certain earning is the pricing source of capital. Financial institutions need money for expansion. The capital needs for business growth are factored into the loan price.

Four methods have been commonly used to pricing loans, namely:

- 1. Cost Based: this is methods of determining loan price. The lender determines what it cost to provide loans to borrowers and then prices the loans to recover these costs. This is done by identifying all the costs relating to lending such as cost of fund, administrative costs, cost of defaults and capital requirement.

## Islamic Pricing Benchmark

Some other costs are also given additional consideration. These include: direct costs, indirect costs, fixed costs and variable costs.

2. Competition based cost pricing: in setting loan charge, banks researches to know what their major competitors in the industry charge for loans and then prices its own loans accordingly. This may be same as competitors' charge or be chosen to undercut the competition by pricing the loan slightly below what others charge.
3. Value Based cost pricing: in this method, the financial institution researches on the consumers perceived value of the loans and then charge its own loan accordingly. Though this look as appropriate method of pricing because it is sensitive to customers, it is less common than the pricing based on cost or competition because of complexity in determine the perceived value of the customers.
4. Pricing based on product and services relationship: this pricing method sees financial services as a relationship rather than business transaction under this method, product and services are price as a package instead of pricing it one at a time. This is borne out of the belief that customers will like pricing as a package rather than just one or two products.

Meanwhile, there are three most common pricing techniques used, include:

1. Tiering otherwise known as price discrimination is the practice of charging different prices for different sizes of loans. Under this technique, the higher the loan amount, the lower the interest rate charges on it. This technique is more favourable to customers who need to borrow large amount of money.
2. Fractional pricing: this is the practice of using non whole numbers for pricing. The aim is to create an impression of getting lower charge in the customers.
3. Skimming: this is a situation whereby a financial institution identifies some of its best customers and then offers them a financial product package.

Skimming is applicable in a market segment that is insensitive to price. It is frequently used with differentiation pricing strategy, and enables the lender to target a high-end market segment to offer them a unique product at a high cost (World council of credit unions, 2008).

Several different methods of pricing business loans have appeared over the years including cost-plus loan pricing, price leadership loan pricing, below-prime loan pricing, and customer profitability analysis. Many business loans today are priced directly of money market interest rates, with narrow profit margins reflecting intense competition for the best business customers. Some of the profit/interest rates used in the market is as follows: (1) Overnight Policy Rate (OPR); (2) London Interbank Offered Rate (LIBOR); (3) Kuala Lumpur Interbank Offered Rate (KLIBOR); (4) Cost of fund (COF); and (5) Base Financing/Lending Rate (BFR/BLR).

#### *1. Overnight Policy Rate (OPR)*

Overnight Policy Rate is an overnight interest rate set by Bank Negara Malaysia (BNM) used for monetary policy direction. It is the target rate for the day-to-day liquidity operations of the BNM (AsianBondsonLine, 2009). This is the only official rate set by BNM in form of monetary policy to mop up liquidity in the market. It is fixed by BNM at the Monetary Policy Committee meeting usually held eight times in a year. There is no formula for setting OPR and it serves as reference point for all other financial bench mark, directly or indirectly. OPR serves the purpose of indicating the monetary policy stance and target rate for the day to day liquidity operation of BNM. Change in OPR is announced in the Monetary Policy Statement (MPS) of on BNM which is released to coincide with Malaysian quarterly GDP performance. In situation where there is a change in the monetary policy before Malaysian quarterly GDP performance, an additional MPS is issued (BNM press release, 23/4/04).

Before 1991, the deposit and lending rate are under the administrative control of BNM. However, a policy given each banks the free hands to determine their interest rate was made in February, 1991. In this policy, BNM had developed a standardized formula for calculating BLR based on individual banks cost of funds. This policy give banks margin above BLR, capped at 4 percentage points. Another change in interest regime came into light in November, 1995. This is the developed market based BLR framework incorporating standardized formula for computation of maximum BLR for industries. This maximum BLR is computed based on weighted average of 3 month interbank rate together with administrative margin of 2.5 percentage points. However, the 4 percent capped margin remains as the maximum above BLR. By September 1998, BNM substituted interbank rate with BNM intervention rate. Administrative margin was then reduced to 2.25 percentages points; and maximum margin above BLR lowered to 2.5 percentages points. This rate was used to compute the ceiling BLR since it is the market rate at which BNM borrow banking institution when market is short of liquidity. Finally, in April 2004, BNM started implementing the new interest rates framework. In this framework, the overnight policy rate (OPR) replaced the three-month intervention rate. The OPR was set at the prevailing inter-banking overnight rate of 2.7% and allowed to fluctuate within a narrow range of plus or minus 25 basis points. Banking institutions are then allowed to fix their cost structure and business strategies (Said and Ismail, 2007).

### *2. London Interbank Offered Rate (LIBOR)*

The London Inter-bank offered Rate (LIBOR) is a day by day quotation rate centered on the interest rates at which banks lend unsecured loans from other banks in the London wholesale money market. LIBOR is defined as “the rate at which individual contributor panel bank could borrow funds, were it to do so by asking for and then accepting inter-bank offers in reasonable market size, just prior to 11:00 London time” (Wikipedia).

Prior to 1984, increasing active trade were observed among number of Banks using various instrument that is quite new in the market such as interest rate swaps, foreign

currency options and forward rate agreements. To forestall inhibition in future growth, a measure of uniformity was introduced by the bankers. In 1984, the British Bankers Association (BBA) in collaboration with the Bank of England found different working groups which ultimately end in the production of the BBA standard for interest – swap rates. This standard includes the fixing of BBA interest rates that led to BBA LIBOR. Starting from 2 September 1985 the BBAIRS terms developed into standard market price. By 1 January 1986, BBA LIBOR fixing commenced officially. As at 2008, member banks has 223 members and 37 associated professional with representative coming from more than sixty nations.

LIBOR is computed by Reuters and published by BBA around 11:45am every day for 10 currencies. The contributor banks on each currency panel ranges between eight and sixteen and the reported interest is the inter-quartile mean of the inter-bank deposit rates offered by the designated contributor banks<sup>60</sup>.

### *3. Kuala Lumpur Interbank Offered Rate (KLIBOR)*

KLIBOR is the interest rate charged (or received) on short-term funds placed in the interbank money market. It is an offer rate at which contributors in the interbank money market are willing to lend funds to other authorized institutions for various tenors such as one, two, three, six, nine and twelve months. KLIBOR is objectively determined through the process of borrowing and lending among a large number of market participants. KLIBOR are generally higher than the Malaysia Treasury Bill rates. The reason is that KLIBOR in itself is not free from risk. Possibilities exist that the indebted bank may default its payment. Whereas Treasury bill is risk-free, in evaluating derivative contracts, financial institutions consider the KLIBOR as the “risk-free rate”. This is the reason why financial institutions always put and borrow money in KLIBOR market to meet their short term financial obligation in this market. Hence they consider KLIBOR as opportunity cost of capital (Sahabudeen, 2006).

---

<sup>60</sup> Coyle (2001), p13.

## Islamic Pricing Benchmark

Market participants comprising of commercial and merchant banks, discount houses, finance companies and CAGAMAS bid for funds or offer to lend from or to each other in the inter-bank market through money brokers and / or at times directly. As the rate is arrived at objectively, the KLIBOR is used by some banks as a benchmark for pricing loans to corporate bodies as well for the pricing of other money market instruments.

It is calculated by taking the average of the twelve Malaysian banks offer rates submitted to Bank Negara before 11 am in the day. This is updated by Reuters, which removes the extreme cases before taking the average as the KLIBOR for the day. The banks take note of LIBOR and OPR before setting KLIBOR which is supposed to be the benchmark for Malaysian banks activities. KLIBOR is used as benchmark for financial institutions, investors and security houses derived from conventional banks inter-bank loan transaction for floating loan, derivatives transaction and future market; and there is no particular formula for calculating it. KLIBOR does not depend directly on OPR, but banks take OPR into consideration in the values submit for KLIBOR. Therefore, KLIBOR may not reflect the real situation in the market and late in updating sometimes can lead to arbitraging. Sometimes when there is no volatility, no expectation in the market or movement in the OPR, the KLIBOR is left unchanged. Each bank use BLR for their customer while KLIBOR is used for short term revolving credit for the corporation.

#### 4. *Cost of Fund (COF).*

Interest cost paid by a financial institution for the use of money. Brokerage firms' cost of funds is comprised of the total interest expense to carry an inventory of stocks and bonds. In the banking and savings and loan industry, the cost of funds is the amount of interest the bank must pay on money market accounts, passbooks, Certificate of Deposits (CDs), and other liabilities. Many adjustable rate mortgage loans are tied to a cost-of-funds index, which rises and falls in line with the banks' interest expenses. Cost of funds is the cost of acquiring the fund (i.e. borrowing from the market) plus additional costs incurred such as provision for Statutory Reserve Requirement (SRR)

and liquid assets (LR) that we have to provide for. However, credit risk is not priced into COF.

The following are the methods used by local banks to calculate COF:

**Method 1:**

COF = Cost of Acquiring funds + cost of statutory reserve + cost of liquid assets  
(return on

liquid assets)

Formula:

$$\text{COF} = \frac{\text{KLIBOR} - (\text{LA} \times \text{Return on LA})}{1 - (\text{SRR} + \text{LA})} \quad (3.1)$$

Where COF is Cost of Fund,

LA is Liquid Asset requirement, and

SRR is Statutory Reserve requirement

**Method 2:**

Formula:

$$\text{COF} = \frac{(r - p_1 y_1 - p_2 y_2)}{1 - p_1 - p_2} \quad (3.2)$$

Where:  $p_1$  is Statutory Reserve Requirement;

$p_2$  is Minimum Liquidity Requirement;

$r$  is Weighted cost of funds;

$y_1$  is yield on SRR;

$y_2$  is weighted yield on liquid asset; and

$l$  is loan size.

**Method 3:**

Rose (2003) introduced the following formulas:

*a. Historical Average Cost:*

This method focuses on mix of funds the institutions has raised in the past and look predominantly at interest rate the market has forced the borrowing institution to payon each fund source. Multiplying interest rates paid by the amount of each source used in the past generate weighted-average historical cost of funds.

Formula:

$$\begin{aligned}
 &= \frac{\text{total interest expense}}{\text{total sources of funds}} \\
 &= \frac{\sum \text{nominal deposit} \times \text{interest rate}}{\text{total sources of funds}} \quad (3.3)
 \end{aligned}$$

*b. Historical Average Cost Plus Noninterest Cost*

When commercial banks include the noninterest costs- such as wages, salaries and overhead expenses to produce and sell its deposit and to tap the money market for borrowed fund, the formula cost becomes:

$$= \frac{(\text{interest expense} + \text{noninterest expense})}{\text{total sources of funds}}$$

$$= \frac{((\sum \text{nominal deposit} \times \text{interest rate}) + \text{noninterest expense})}{\text{total sources of funds}} \quad (3.4)$$

c. *Historical Average Cost Plus Noninterest Cost Plus Equity Funds*

Because stockholders also provide a significant share of banking institution's funds and owners' (equity) also have cost, the opportunity cost of equity capital is also included in the formula above to get Historical Average Cost plus Noninterest Cost plus Equity Funds.

Formula:

$$\begin{aligned} & \text{Minimum required} \quad \text{Weighted minimum} \quad \text{Weighted minimum} \\ & \text{Rate of return on} = \text{return to cover} \quad + \text{return required on} \\ & \text{Debt and equity} \quad \text{debt capital loss} \quad \text{equity capital} \end{aligned}$$

Minimum return

$$= \text{to cover debt} \quad \times \quad \underline{\text{Debt capital}}$$

Capital loss \quad \quad \quad Total income-earning assets

Before-tax minimum

$$+ \text{required return on} \quad \times \quad \underline{\text{owners' (equity) capital}}$$

owners' (equity) \quad \quad \quad Total income-earning assets

(3.5)

capital

*d. Marginal Funds Cost*

Incremental cost or differential cost of each additional dollar borrowed. It is the cost of funding one more loan, assuming that the cost of funds remains unchanged. Under conventional cost accounting theory, the marginal cost of acquiring new funds decreases as scale economies are achieved. Conversely, the marginal cost of funds varies inversely to the capital base of financial intermediaries because the larger banks, which as a rule have larger loan portfolios, can tap into the capital markets and money markets with greater ease than smaller ones.

Cost of funding a loan request is given as follows –

$$= \frac{\text{Total interest and noninterest fund raising costs of making a loan (\$)}}{\text{Amount to be borrowed}} \quad (3.6)$$

*e. Pooled Funds Cost*

Cost of funds formula based on division of the balance sheet into different categories, matching specific interest earning assets with interest sensitive liabilities. For example, the pooling of all interest sensitive assets with maturities of one year or less, and matching these loans against all one-year interest sensitive deposits. An accounting credit is given to the liabilities for the earnings on the asset pool, and the assets are charged a cost reflecting the average cost of the deposit liabilities. This costing formula usually is adjusted for Legal Reserves that banks keep as a portion of their total deposits, regulatory capital-to-asset requirements, fee income collected from checking account customers, and float-uncollected checks

Bank's marginal cost of raising new funds to support the loan is given as follows

$$= \frac{\text{Total funding costs}}{\text{Total new funds raised to make new loan}} \quad (3.7)$$

Since the method does not take into account the reserve requirements, thus an alternative method is to use the minimum return needed on the bank's new earning assets to cover its marginal funds cost. This is calculated as follows:

$$= \frac{\text{Total interest and noninterest cost of new funds (\$)}}{\text{Total new earnings assets to be acquired}} \quad (3.8)$$

##### 5. *Base Lending/Financing Rate (BLR/BFR)*

Malaysia and some other countries refer to prime rate as base lending rate. Prime rate is the interest banks charge their net worth customers. Base lending rate is the lowest interest rate compute by financial institutions using a formula that take note of the institutions cost of fund and administrative charges. The BLR is most of the time equal among the main banks. Banks adjust BLR at almost the same period, though not regularly. This is always done to coincide or in relation with adjustment in the overnight policy rate (OPR), which is decided by Bank Negara Malaysia at its Monetary Policy Meeting.

Prior to 23 October 1978, BNM used the minimum lending rate for bank loan called prime rate (for bank customers) and the preferential rate (for federal and state governments). However, as part of BNM deregulation exercise, effective from 1 February 1991, BLR was freed from BNM's administrative control. Banking institutions were allowed to fix their own BLR to reflect cost of fund, including statutory reserve and liquidity and administrative cost and a predetermined profit margin.

## Islamic Pricing Benchmark

With effect from 1 September 1998, the BLR framework was revised to allow a faster transmission of changes in monetary policy on interest rate level. The calculation of BLR was based on 3-month intervention rate instead of the KLIBOR, and the administrative margins for financial institutions allowed in BLR reduced from 2.5% to 2.25%. The formula for calculating BLR is described below.

Base Lending/Financing Rate (BLR/BFR) is a minimum profit/interest rate calculated by financial institutions based on a formula that takes into account the institution's cost of funds and other administrative costs. The BFR/BLR is almost always the same amongst major banks. Adjustments to the BFR/BLR are made by banks at the almost same time; although, the BLR does not adjust on any regular basis. Usually adjusted at the time in correlation to the adjustments of the Overnight Policy Rate (OPR) which is determined by Bank Negara Malaysia (BNM) during Monetary Policy Meeting. Banks in some countries use the name "Prime Rate" or "Prime Lending Rate" to refer to their Base Lending Rate. BFR is used to price products including mortgage financing, personal financing, credit card and overdraft facility.

BFR is calculated as follows:

Commercial Banks:

$$\text{Computed BLR} = \frac{[\text{Intervention rate} \times 0.8] + 2.25}{(1 - \text{SRR})} \quad (3.9)$$

Finance Companies:

$$\text{Computed BLR} = \frac{[\text{Intervention rate}] + 2.25}{(1 - \text{SRR})} \quad (3.10)$$

The additional factor of 0.8% in commercial banks computation is because the commercial banks give current account facility, which is interest-free, while finance companies do not offer current account facility (Kin Fai, 1999).

Some products are priced to include all costs i.e. statutory reserve and overhead costs. These products include mortgage financing, personal financing, credit cards and overdraft facility. The formula for calculating BFR is as follows:

$$\text{BFR} = \frac{[\text{Average deposit cost} \times \% \text{ of non-zero cost o deposit}] + \text{overhead cost}}{(1 - \text{SRR})} \quad (3.11)$$

### Studies on an Islamic Pricing Benchmark

The early classic Islamic jurisprudence books that discussed on pricing in Islam are: *Nihayat al-ratibah fi tolabb al-hisbah*<sup>61</sup>, *Adab al-hisbah*<sup>62</sup>, *Ma'alim al-qurbah fi ahkam al-hisbah*,<sup>63</sup> *al-Hisbah fi Islam*<sup>64</sup> and the book of *al-Turuq al-hukmiyyah fi al-siyasah al-syariyyah*.<sup>65</sup> The earliest book that focuses the issue of pricing in particular was *Ahkam al-suk*<sup>66</sup>, followed by the book of *al-Taysir fi ahkam al-tas'ir*<sup>67</sup>.

Among the contemporary works in Arabic on pricing mechanism and permissibility from Shariah perspective as well as government intervention in pricing are *Ahkam al Tas'ir fi al-Fiqhi al-Islami* written by Muhammad Abu al Huda al Ya'kubi al Husni,<sup>68</sup> *Al-Ru'ya al-Islamiyyah li tas'ir al-sila' wa al-khadamat* written by Dr. Muhammad bin Ahmad bin Salih al-Salih.<sup>69</sup> *Jara'im al-tas'ir al-jabari* written by Mahmud Muhammad Abdul al-Zaini;<sup>70</sup> *Dirasat fi takalif al-intaj wa tas'ir fi Islam* written by Dr. Auf Mahmud al-Kufrawi<sup>71</sup> where the focus was on the cost and revenue and the calculation of cost and profit rate from Shariah perspective.

<sup>61</sup> Written by, Abd al-Rahman ibn Nasir who lived during the reign of Solahuddin al-Ayyubi and died 589.

<sup>62</sup> Written by al-Malqi, Abdullah al-Saqti Muhammad ibn Ahmad, a public auditor of Andalusia, died by the beginning of 11<sup>th</sup> century.

<sup>63</sup> Written by al-Qurashi, Muhamad ibn Ahmad al-Shafi'i, 729H.

<sup>64</sup> Written by Sheikh al-Islam Ibn Taimiyyah.

<sup>65</sup> Written by Ibn Qayyim al-Jawzi.

<sup>66</sup> Malikiite jurist, Yahya ibn Umar al-Kanani, 213-289h.

<sup>67</sup> Malikiite jurist, Ahmad ibn Said al-Majlidi, 1094h.

<sup>68</sup> Al-Husni, Muhammad Abu Huda al Ya'kubi, *Ahkam al Tas'ir fi al-Fiqhi al-Islami*, Darul al-Basha'ir al-Islamiyyah :Pakistan, 2000.

<sup>69</sup> al-Salih, Dr. Muhammad bin Ahmad bin Salih, *al-Ru'ya al-Islamiyyah li tas'ir al-sila'a wa al-khadamat*, Jami'ah al-Imam Muhammad bin Sau'di al-Islamiyyah: Riyadh, 2001.

<sup>70</sup> Al-Zaini, Mahmud Muhammad Abdul, *Jara'im al-tash'ir al-jabari*, Darul al-Jami'ah al-Jadidah : Egypt, 2004.

<sup>71</sup> Al-Kufrawi, Dr. Auf Mahmud, *Dirasat fi takalif al-Intaj wa Tas'ir fi al-Islam*, Eqypt : Mu'asasah Shabab al-Jami'ah, 1985.

Among the contemporary works in English on pricing benchmark from Shariah perspective include *An Introduction to Islamic Finance* (Muhammad Taqi Usmani<sup>72</sup>), *Pricing of Murabahah and Ijarah Product in Malaysia*<sup>73</sup> (Muhd Ramadhan Fitri, MA thesis, Department of Fiqh and Usul al-Fiqh, International Islamic University Malaysia), *Book of Indexation of Financial Assets an Islamic Evaluation* (S.M Hasanuz Zaman<sup>74</sup>). The other contemporary relevant research is *Cost of Capital and Investment in a Non-Interest Economy*, by Abbas Mirakhor.<sup>75</sup>

Generally, studies on Islamic pricing as well as Islamic cost of capital are still relatively scarce. Selim (2008) establishes an Islamic finance approach to the capital asset pricing model (CAPM), based primarily on the principle of the abolition of usury, principle of justice in Al-Hisba and the principle of universal complementarity. He examined the theoretical application of the Islamic financing method based on direct musharakah to the conventional CAPM. He found musharakah financing to yield lower beta-risk of investments than that compared to the market.

Shubber and Alzafiri (2008) concerned on the computing cost of capital for Islamic banks which differs from the case of conventional counterpart. They found that, for Islamic banks, it became clear that deposit accounts were not a liability, as these fell within the definition of profit-and-loss sharing instruments. In fact, a high-positive correlation coefficient was apparent between an Islamic bank's market value and the size of its deposits. Also, the market value of Islamic banks was clearly independent of its cost of capital. This implies that risk associated with deposit-taking needs to be looked at differently in the case of Islamic banking institutions. Also, return provided to shareholders came out higher than for depositors. On the other hand, Mohd. Yusof

<sup>72</sup> Usmani, Muhammad Taqi, *An Introduction To Islamic Finance*, Quranic Studies Publishers: Pakistan 2007.

<sup>73</sup> Muhd Ramadhan Fitri, *Pricing of Murabahah and Ijarah Product in Malaysia*, IIUM, 2007, Master Thesis. According to the author, in the dual-banking environment in Malaysia, Islamic banking institutions have to offer a competitive price for their products if they wish to complete with conventional banks. Conventional banking uses the base lending rate (BLR) as a benchmark for fixing the prices of their products. Usury is the main component of the BLR. The study attempts to examine the pricing mechanism used by Islamic banking in determining the price of their Murabahah and Ijarah products. These two products are the most common contracts offered by Islamic banking and finance in Malaysia. In addition, both products are akin to conventional products, as both are debt financing products. This study assesses two important areas which include the principles of Islamic transactional law and the pricing mechanisms utilized by banking institutions. In addition to that, this study also compares the mechanisms applied by both conventional and Islamic banking for determining the prices of their respective products. It is submitted that to some extent the use of BLR as a benchmark in pricing similar to conventional banks is allowable according to many contemporary scholars.

<sup>74</sup> S.M Hasanuz Zaman, *Indexation of Financial Assets an Islamic Evaluation*, The International Institute of Islamic Thought : Pakistan, 1981.

<sup>75</sup> Cost of Capital and Investment in a Non-Interest Economy, by Prof. Abbas Mirakhor *Islamic Economic Studies*.Vol. 4, No. 1, December 1996.

et al. (2009) attempts to not only adopt a predictive approach to model retail property rental values to benchmark against the conventional interest rates (KLIBOR, LIBOR, and EURIBOR) but also proposes the use of the equilibrium property rental values as alternative to the current conventional interest rates.

Omran et al. (2007), in their study on alternative to the fixed rate mortgage instruments for Egypt submitted that mortgage instruments such as adjustable rate mortgages, affordability enhancing mortgages, alternative mortgage instruments (AMIs) for inflationary environments, and income generators could be introduced in Egypt where people are not financially sophisticated as found in the west.

Fitri (2007) attempted to examine the pricing mechanism used by Islamic banking in determining the price of the two most common contracts, i.e., *Murabahah* and *Ijarah* products offered by Islamic financial institutions in Malaysia. According to him, in the dual-banking environment in Malaysia, Islamic banking institutions have to offer a competitive price for their products if they wish to compete with conventional banks. Conventional banking uses the base lending rate (BLR) as a benchmark for fixing the prices of their products. It is submitted that to some extent the use of BLR as a benchmark in pricing similar to conventional banks is allowable according to some contemporary scholars. The study also stresses the need for having a new pricing benchmark for Islamic banking and finance.

In his study on cost of capital and investment in a non-interest economy Mirakhor (1996) proposed that cost of capital can be measured without resort to a fixed and predetermined interest rate. The benchmark could be created based on Tobin  $q$  model. He opined that in the absence of a fixed and predetermined rate of interest, equity financing becomes the only source of financial capital, and as such, the economy's financial system becomes equity-based and hence, the equity market would provide a measure of the cost of capital.

Meanwhile, Usmani (2001) proposed that a benchmark can be achieved by creating a common pool which invests in asset-backed instruments like *musharakah*, *ijarah*, etc. If majority assets are in tangible form, its units can be sold and purchased on the basis

of their net asset value determined on a periodical basis. These units may be negotiable and maybe used for overnight financing. The banks having surplus liquidity can purchase these units and when they need liquidity, they can sell them. This arrangement may create inter-bank market and the value of the units may serve as an indicator for determining the profit.

According to Sheikh Taqi Uthmani and AAOIFI standard 27/5/3, it is permissible to use interest-based borrowing and lending such as KLIBOR (Kuala Lumpur Interbank Offered Rate) or LIBOR (London Interbank Offered Rate) as a benchmark for pricing of Islamic banking products and services. Uthmani (2007) observes that many Islamic financial institutions determine their profit rate on the basis of the current interest rate, mostly based on LIBOR as the indicator. If the LIBOR is 5% they determine their mark up on Murabahah equal to LIBOR or some fixed percentage above it. This practice is often criticized on the basis that profit rate is based on interest rate and should be prohibited as interest itself. Interestingly, according to him by merely using the interest rate as a benchmark for determining profit of Murabahah does not render the transaction as invalid, haram, or prohibited because the deal itself does not contain interest. The rate of interest has been used only as an indicator or as a benchmark. He also gave an analogy to support his stand on this matter. For him, this is similar to a situation where there are two traders, one who trades in liquor which is totally prohibited in Shariah and another who trades in lawful products in Islam such as soft drinks. In this condition the latter wants his business to earn as much profit as the former earns through his trading in liquor. Thus, he resolves that by charging his customers the same rate of profit as liquor trader charges. In this vein, no one can say that the profit charged by latter in halal business is haram since he used it only as a benchmark. The writer also discussed the issue of calculation of cost in Murabahah transaction. According the writer, the transaction of Murabahah contemplates the concept of cost- plus in which it can be affected only where the seller can ascertain the exact cost he has incurred in acquiring the commodity he wants to sell. Thus, in this light if the exact cost cannot be ascertained, murabahah is not possible.<sup>76</sup>

---

<sup>76</sup> Usmani, Muhammad Taqi, *An Introduction To Islamic Finance*, pp 118-119 .

In 2001, Bank Negara Malaysia has introduced the framework of the rate of return to standardize the methodology on the calculation of distributable profits and the derivation of the rates of return to the depositors. The objectives of the framework are to: (i) set the minimum standard in calculating the rates of return; (2) provide the same playing level and term of reference for the Islamic banking institutions (IBIs) in deriving the rates of return; and (iii) provide BNM with an effective yardstick to assess the level of efficiency of the Islamic banking institutions. The framework comprises two main components i.e., the calculation table and the distribution table. The calculation table prescribes the income and expense items that need to be reported and sets out the standard calculation in deriving the net distributable income. The distribution table sets out the distribution of the net distributable income posted from the calculation table among demand, savings and general investment deposits according to their structures, maturities and the pre-agreed profit sharing ratios between the bank and the depositors.

In their study, Haque and Mirakhor (1998) examined various conceptual issues underpinning the introduction of a national participation paper as an instrument of government finance and discussed methods of calculating a corresponding rate of return. They also discussed several approaches, ranging from simple ratios to more complicated broad market indices. They recommended filtering out from the private sector rate of return derived for this purpose expectations of future earnings, which is an important element of stock market prices; speculative elements that may at times grip the private sector; and seasonal variation. Additionally, to derive the rate of return on government paper, it is necessary to remove an estimate of risk premium that may relate to private defaults.

Ebrahim and Khan (2002) proposed a model for a default-free convertible facility to finance infrastructure projects in emerging Muslim countries. The mortgage is designed as a combination of an Islamic credit facility (allowing the collateralization of debt by the assets of the firm and inclusion of real warrants to mitigate the agency cost of debt. They employed numerical simulation to endogenously solve for the rate of return, tenure and fractional ownership to be conveyed to financier upon

conversion of the facility without resorting to any interest based (*ribawi*) index. Finally, they conducted sensitivity analysis to study the impact of exogenous variables and to reconcile with the existing mainstream finance literature.

### **Previously Suggested Models for Establishing an Islamic Benchmark**

There have been a number of suggestions to establish an alternative benchmark among others:

#### **1- Rate of Profit Mechanism Model. This was proposed by Dr Abd Hamid Al-Ghazali.<sup>77</sup>**

According to him, this can be achieved by analyzing the rate of profits in the money market. It is more rational way and promoting to the justice for all and fit to the economical nature”.

But, this model has been criticized as by Dr. Hussain Hassan Shahatah<sup>78</sup>: “ There will be a problem to define the concept of profit and its scopes : whether the expected profit from each project or from group of projects that involved in specified activity or group of projects that involve in various activities, then the idea generally was accepted from the perspective of economy but need to be deployed and studied more details on this subject and analysis on the properties as well as accounting.

#### **2- Rate of Dividend of Islamic Banks Deposits and Investment Accounts Model.**

This is a suggestion by Dr. Muhamad Abdul Halim Umar.<sup>79</sup> According to him a benchmark can be created from the dividends distributed by Islamic banks to the depositors. It will remove the uncertainty and doubt by replacing the interest rate with

<sup>77</sup> Abd Hamid al-Ghazali, *al-Arbab wa al-Fawa'id al-Masrafiyyah Baina Tablilu al-Iqtisodi wa Hukm al-Syar'ie*, Islamic Development Bank, 1414 H, p22, Quoted from Shehata, Ijad Muashshir, pp215-216.

<sup>78</sup> Ibid, pp216.

<sup>79</sup> Muhamad Abdul Halim Umar, Muhamad Fathi Shahatah, Centre of Book Published Kuliyyah of Commercial, University of al-Azhar, 2000M, p123, Quoted from Shehata, Ijad Muashshir, pp216-217.

a rate of profit by providing mathematical index as compared to conventional counterpart”.

However, this proposal can be challenged by the fact that it is tantamount to changing the name of the interest rate to the profit rate but the essential elements have not changed at all. Thus, replacing the interest rate with the profit rate will change nothing. It would also lead to a worse situation because people will assume that this type of cosmetic changes such as changing the name only is a typical way used by Islamic banks to cheat people.

### **3. The Creation of an Inter-Islamic-Bank Market Based on Islamic Principles.**

This is suggested by Sheikh Muhammad Taqi Usmani. According to him the purpose can be achieved by creating a common pool which invests in asset-backed instruments like musharakah, ijarah, etc. If the majority of the assets pool is in tangible form, like leased property or equipment and shares in business concerns etc, its units can be sold and purchased on the basis of their net asset value determined on periodical basis. These units may be negotiable and may be used for overnight financing as well. Banks having surplus liquidity can purchase these units and when they need liquidity, they can sell them. This arrangement may create inter-bank market and the value of the units may serve as an indicator for determining the profit in murabahah and leasing also.”<sup>80</sup>

### **4. Tobin’s q Theory**

This is proposed by Prof. Abbas Mirakhor. He proposes a method by which the cost of capital can be measured without resort to a fixed and predetermined interest rate. The suggested procedure is simple and is based on the well-known Tobin’s q and can be used in the private as well as in the public sector to obtain a benchmark in reference to which investment decisions can be made.

---

<sup>80</sup> Sheikh Muhammad Taqi Uthmani, *An introduction to Islamic Finance*, p.120

According to Tobin's q theory, the supply price of capital can be defined as "the rate of return that the community of wealth-owners require in order to absorb the existing capital stock (valued at current prices), no more no less, into their portfolios and balance sheets". The incentive for companies to invest will depend on prospective profitability relative to the cost of capital. The rate of return is the ratio of profits to physical capital employed valued at replacement cost, while the corresponding cost of capital is the ratio of the same profit figure to the financial valuation of companies. Thus, relative profitability is simply the ratio of the financial valuation to the replacement cost of capital. This ratio can be seen as measuring the divergence between the demand and supply prices of capital goods. On this basis, investment should be expected to occur when the demand price, as reflected in financial valuations, exceeds the supply price, as measured by the replacement cost of physical capital. As such, it is possible to calculate cost of capital as a benchmark against which expected rates of return to projects can be measured in an economy where debt instruments do not exist and projects have to be equity financed, only by utilizing Tobin's q. The paper has presented the simplest model of q to derive a measure of cost of capital.

### **5. A Benchmark that fits both Islamic and Conventional Banks**

This model is proposed by Dr. Aznan Hasan<sup>81</sup>. According to him, in Malaysia, there are various ways in order to determine the interest rate based on different sectors such as KLIBOR, Interbank Money Market, BLR, BFR and Overnight Policy Rate (OPR).<sup>82</sup> It is possible to use the rate of OPR in line with Shariah principles which suits both Islamic banks as well as in conventional banks.

It is usually determined by BNM in order to strengthen the monetary policy as well as to control the supply and demand and fair circulation of fund in the money market. Then, based on that rate, the banks will determine their own respective interest rates

---

<sup>81</sup> Dr. Aznan Hassan, "Al-Siyasah al-Naqdiyyah fi Dau' al-Siyasah al-Shar'iyyah (*Monetary Policy in the Light of Islamic Law*)", presentation paper at International Shariah Scholars Forum 2009 at Hotel Niko on 19 November 2009,

<sup>82</sup> Translation by Wording : Overnight Policy Rate

that will be used to price all loans and financings. Indeed, all the pricing rate that has been mentioned before is affected directly by OPR which was determined by BNM.

The challenge faced by Islamic banks is how to avoid using profit rate that is based on interest rate which is further based on OPR as determined by BNM. The proposal is to create two types of rate, one for Islamic banks and another for conventional banks. It seems that this is easier to be implemented but after having a detailed analysis he opines that it will be impossible to execute as it will be open to arbitrage activities since there are two different pricing indexes. The arbitrage will leave negative impact to Islamic banks since Islamic banks are smaller in number compared to the conventional banks.

If the monetary authority accepts to review and determine the price based on OPR that is free from interest elements, then what are the elements that are needed in order to create a new rate for OPR? Islamic finance is based on real economy, but the existing OPR at present is based on some elements that are against Shariah. He proposes an indepth study in order to understand the market realities that can help to determine the OPR; a rate that is based on real demand and supply in the market. Subsequently banks can determine their own profit rates based on the newly formulated OPR.

It is also proposed that other rates such as CPI or Business Price Index or mixed of the two be used as a basis to determine profit rate charged by Islamic banks. Possibly this new benchmark rate can be used for Islamic and conventional banks.

In summary, there are a few studies on Islamic pricing benchmark but they are in early stages. This study extends past studies and offers a model for Islamic pricing benchmark as an alternative to the current interest-based pricing models. The proposed model incorporates the Shariah parameters mentioned in section 2. With this, it is hoped that the Islamic banking and finance will become more comprehensive in its Shariah compliance and thereby bring more credibility to the Islamic financial system in general.

## SECTION 4: ISLAMIC PRICING BENCHMARK: A PROPOSAL

### Introduction

In the present Islamic banking and finance, interest rate is currently used as the benchmark for Islamic finance. Profits rates charged in Islamic finance basically track the market interest rate. This is basically accepted in Islamic finance circles for interest rate is merely regarded as a benchmark.

But nonetheless, this phenomenon is a manifestation of the ‘law of one price’ that is brought about by arbitraging activities between both the Islamic and conventional finance. Since both Islamic and conventional finance operate in an interest-based fractional reserve fiat banking system, they are inter-linked with similar market environment. Hence, their cost of capital, etc tends to converge. Since Islamic banking functions are more varied with most of its financing are asset-based and asset-backed, its cost of capital should be determined not solely by the interest rate but rather based on returns obtained from the real economy. Nevertheless due to convergence Islamic finance is unable to ‘free’ itself from using interest rates as its benchmark, the very thing it abhors.

As described in section 2 under Justification for Introducing New Benchmark Pricing Model for Islamic Banks, there is an urgent need to create a new benchmark as an alternative to interest-based rate. As stated earlier, the fundamental reason for introducing new benchmark as an alternative to interest based borrowing and lending benchmark is the prohibition of riba itself. Sheikh Muhammad Taqi Usmani advocates that Islamic banks and financial institutions should get rid of this practice as soon as possible. He argues that using interest rate as benchmark for halal business is not desirable, and secondly it does not advance the basic philosophy of Islamic economy thereby making no impact on the system of distribution.<sup>83</sup>

---

<sup>83</sup> Sheikh Muhammad Taqi Uthmani, *An introduction to Islamic Finance*, p.120.

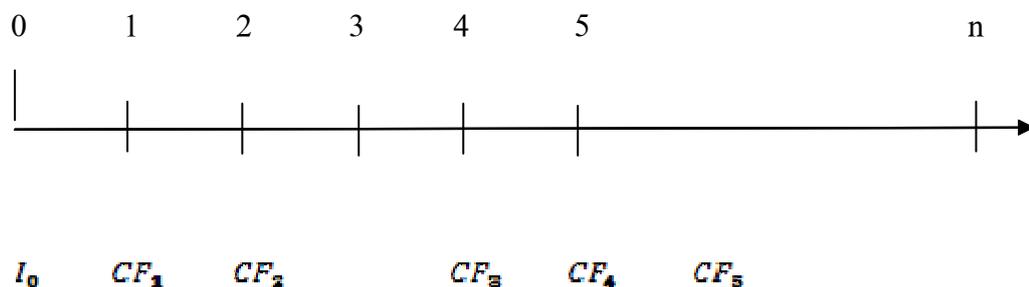
In order to understand and come-up with an Islamic benchmark, we need to understand the macro-picture of how interest rates are determined in the market.

### Theories of Interest Rates

Basically the market demands financing for two purposes, i.e. consumption and investment purposes. Consumption, for example, for the purchase of a home or a car; investment, for example, business financing.

For whatever purposes the funding is given, the financier would want at least he is rewarded with the opportunity cost of the funds.

The diagram below shows a typical investment opportunity faced by an investor



The project needs an initial investment of  $I_0$  followed by the estimated future cashflows. With these cash flows, the investor can estimate the internal rate of return IRR which is the average rate of return per period. Whether the IRR is acceptable for the project to be viable, how the  $I_0$  was financed is important.

Usually the  $I_0$  is financed by a combination of debt (bank borrowing, issue of bonds etc), preferred shares, internal equity (retained earnings) and external equity (issue of new shares). Each one of these sources of capital has its own cost, the cheapest being debt financing and the most expensive being external equity; and a weighted average of them give the weighted average of cost of capital (WACC). If the IRR is greater

than the WACC, then the rate of return exceeds the cost and thus the project is viable. Hence the WACC is also used as the discounting rate to determine the net present value (NPV) of the project.

Since interest rate, particularly on government treasury bills and bonds, is taken as riskless, the average IRR in the economy got to be larger than the riskless rate. This is because the business world out there is rather risky. The existence of interest rates eliminates all risky investments that give return lower than the interest rate itself.

The logic goes therefore that the highest interest rate that could be charged for lending activities is the IRR,  $i \leq IRR$

### Determination of Interest Rates in the Market

In the previous section, we have reviewed how the KLIBOR rates, cost of funds for the bank, the Islamic profit rate etc. are indeed fundamentally determined by the BNM's overnight policy rate (OPR). The OPR is the most important rate that influences or determines other rates in the market.

The BNM uses variables like the GDP etc, does not have a 'magic' formula to determine the OPR. It also uses domestic sentiments and international situations to come up with an OPR that is basically more subjectively derived. Hence one can say that interest rates are exogenously determined.

Accordingly, interest rates are not determined by the real economy, i.e. the productivity or the profitability of the project being financed. This is also obvious when one observes the way interest is charged in the economy. The same interest rate is charged for financing a corner lot home or an intermediate lot, even though a corner lot is expected to give a higher usufruct. But a higher interest charge is imposed based on the perceived riskiness of the cash flows. If the project (or investor) is perceived to be risky, then the market would charge a higher rate.

In short in the conventional finance, the interest rate charged is based on a base rate, exogenously determined (here it is the OPR) and a mark-up charged on the perceived riskiness of the funding. Assessing the riskiness of funding is what basically rating agencies do.

Islamic financing are all real, ie., linked to assets and therefore they are anchored to the real-economy. Accordingly the profitability of projects and the opportunity costs of funding are all endogenously determined with the economy. Even true Islamic sukuk are not riskless since they are also tied to real assets.

Hence the decision to provide funding is determined by both profitability and riskiness of the project or venture. Hence an Islamic benchmark or cost of financing got to be based on these two variables, profitability and riskiness.

But profitability and riskiness can vary from industry to industry and from business to business with an industry. Hence the Islamic financing should be able to distinguish the amount of market risk and unique risk in an investment apart from determining the profitability. The benchmark should be based on the market risk while the plus-plus determined by the amount of perceived unique risk involved.

### **Estimating the Islamic Pricing Benchmark**

As discussed earlier, the Islamic pricing benchmark should link to assets and therefore it is anchored to the real economy. Accordingly, Islamic financing rate or the cost of capital from the bank's angle should at least reflect the minimum level of required return for any projects undertaken, taking all relevant factors into consideration, especially the degree of inherent risk.

These levels of return (or costs) tend to vary over time, however, due to differences in the nature and make-up of businesses, changes in interest rates, stock market sentiments, investors' perceived degree of time-preference, and other macroeconomics

settings. Thus Islamic financing should take both systematic and firm-specific factors into consideration. Therefore, we propose that the Islamic pricing benchmark that will be used as the bank's cost of capital should be based on the market risk plus the perceived unique risk involved.

Based on the above reason initially we postulate to use the Capital Asset Pricing Model (CAPM) to estimate the pricing benchmark so as to establish a direct link between market risk of projects or businesses and their required rate of returns.

### *Capital Asset Pricing Model (CAPM)*

The Islamic benchmark is, therefore, based on the real economy and is endogenously determined within the economy. Hence the model most suited here akin to the Capital Asset Pricing Model (CAPM) that links the market risk of a project or business to its required rate of return. The required return is indeed the cost of equity and if the IRR falls above the required rate then the project is viable and contributes a positive NPV for the investor.

The conventional CAPM model is given by:

$$E(r_i) = r_f + \beta_i(r_m - r_f)$$

(4.1)

Where  $E(r_i)$  is the required rate of return

$\beta_i$  is the measure for market risk of the project, measured by  $\frac{Cov(i, m)}{Var(m)}$

$r_f$  is the risk-free interest rate

$r_m$  is the market return, measured by the return to the market index

In true Islamic finance, the  $r_f$  should not exist. But the fact that Islamic banks are generally operating in a dual system, interest rate is bound to be an opportunity cost, directly or indirectly through arbitrage. More appropriately, the  $r_f$  can be measured by Islamic Treasury Bill rates or by rates offered by relatively safe sukuk like government *sukuk al-ijarah*.

The total riskiness of a business or project contains both the market risk and its unique risks [Equation (4.2)]. Market risk is borne by all elements in the economy, and therefore is not diversifiable. The unique risk is uniquely attributed to the project or business and can be diversified away through appropriate portfolio management.

$$\text{Total Risk} = \text{Market Risk} + \text{Unique Risk} \quad (4.2)$$

In conventional finance, the base rate is kind of set to match the real market rate while some additional basis points are added to compensate for the additional unique risks perceived [Equation (4.3)]. The higher the perceived risk, the higher the interest charged.

$$\text{Interest} = \text{BLR} + \text{Plus-plus} \quad (4.3)$$

Charged

The same argument also goes for the Islamic benchmark, with the difference that the benchmark is endogenously determined [Equation (4.4)].

$$\text{Profit Rate} = \text{Islamic+ Benchmark} + \text{Plus-plus} \quad (4.4)$$

The profit rate is, of course, a guide to determine the rate that should be obtained, i.e. the required rate of return, for the level of risk taken. In true Islamic finance, the rate should not be predetermined and insisted upon upfront.

### *Methodology*

To capture the market risk embedded in investments we first assume investments can be grouped into sectors as classified by Bursa Malaysia: Consumer Products, Industrial Products, Trading/Services, Plantation, Finance and Property,

Next we obtain the respective daily sector index values for the period from 1993 to 2008 including those of the Kuala Lumpur Composite Index (KLCI) as a proxy for the market. Using the index values, we then compute the daily returns to the respective sectors and the KLCI. Thereafter, we compute the beta,  $\beta$ , the measure for market risk and the average rate of return  $\bar{R}_i$  for each of the sectors concerned. That for the KLCI gives the average market rate of return, i.e.  $r_m$ .

The  $\beta$  from each sector is then plugged into the CAPM formula to obtain the required rate of return for that sector, and we come up with a table as below.

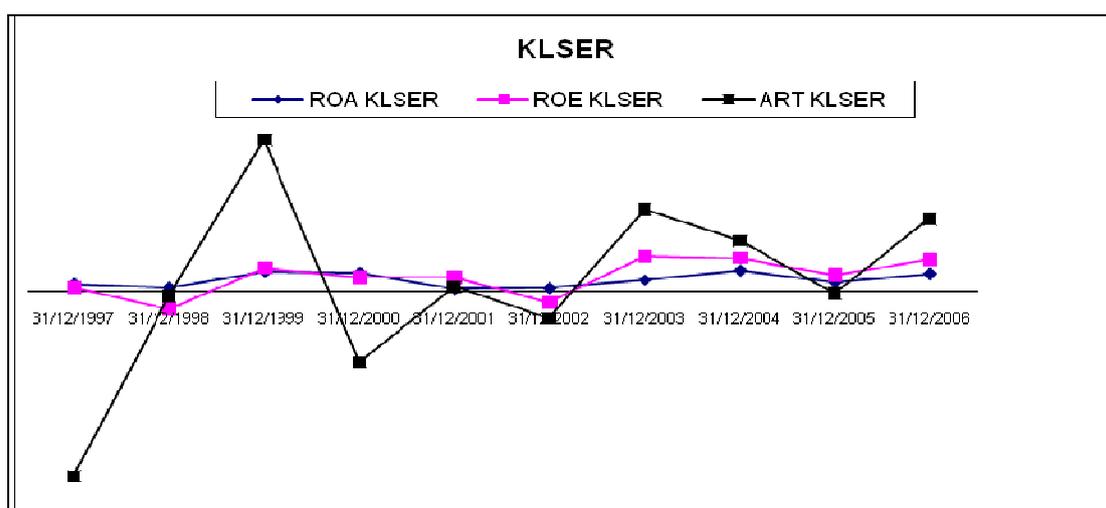
We use the respective index value for the sectors as classified by Bursa Malaysia while the Kuala Lumpur Composite index (KLCI) is used as a proxy for the market itself. Using regression analysis, we obtained the beta,  $\beta$  the measure for market risk and average rate of return for each sector concerned. Then we plugged the estimated  $\beta$  and the average rate of return of each sector into the CAPM formula to obtain the required rate of return for each sector. To make it easy to read and comparable, we converted all the (daily and monthly returns) into annual average returns and plotted the CAPM-based expected returns with the actual Annual Average Return on Equity

(ROE), Annual Average Return on Asset (ROA) and Annual Average Operating Profit Margin (OPM) of all companies.

### *Results from the CAPM Model*

Figure 1 through Figure 8 show the relationship between the calculated expected return and ROE, ROA and OPM for each sector. It is seen that the calculated expected return based on CAPM model are very volatile, ranging from negative forty-five percent (-45%) to positive thirty-five percent (35%) and are not similar in pattern with the actual ROA and ROE.

The CAPM model was employed to keep the whole benchmark estimation as simple as possible. Indeed it is a simple way to calculate the expected rate of return and yet able to take both systematic and specific risk of firms into consideration. However, the results obtained show that expected returns based on simple CAPM model are of little practical use. This may be due to the high speculative nature of the stock market such that it does not fully reflect the true business situation.



**Figure 1: Return for Service Sector**

## Islamic Pricing Benchmark

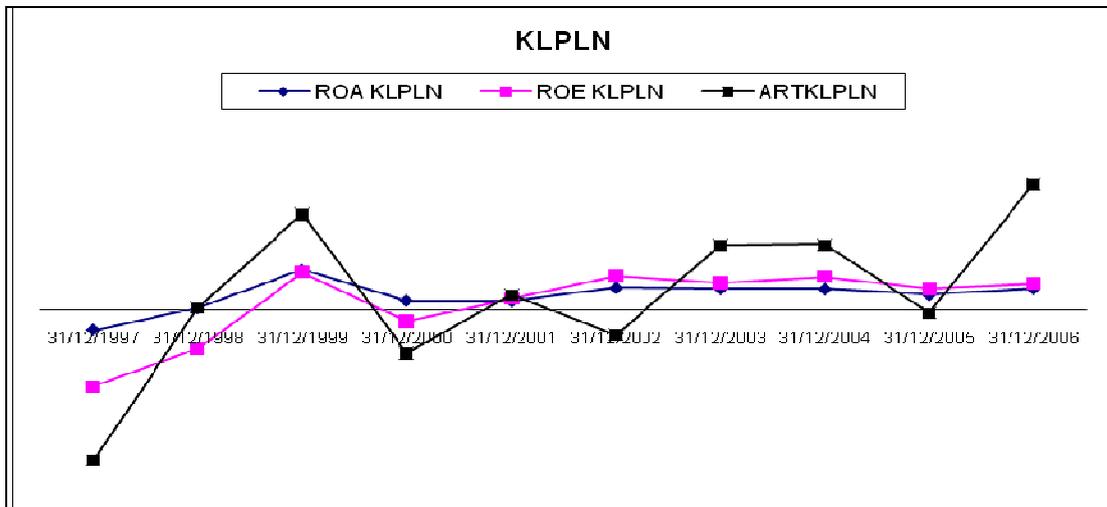


Figure 2: Returns for Plantation Sector

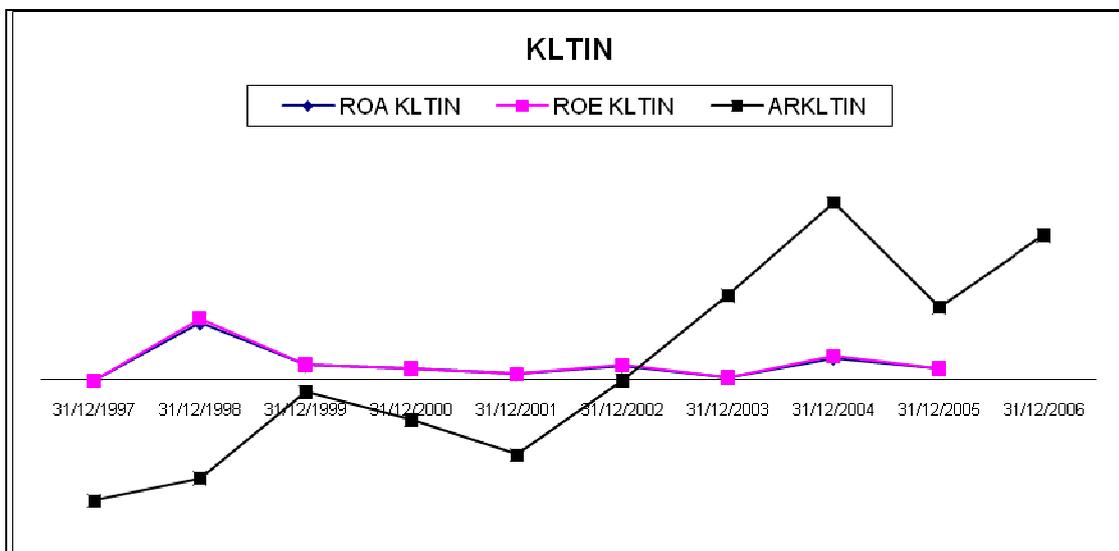


Figure 3: Returns for Tin Sector

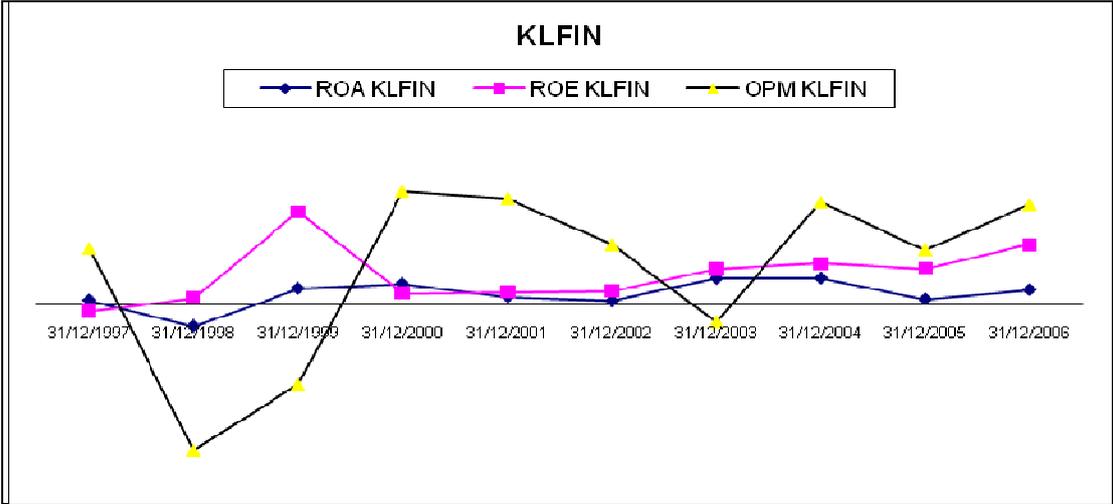


Figure 4: Returns for Financial Sector

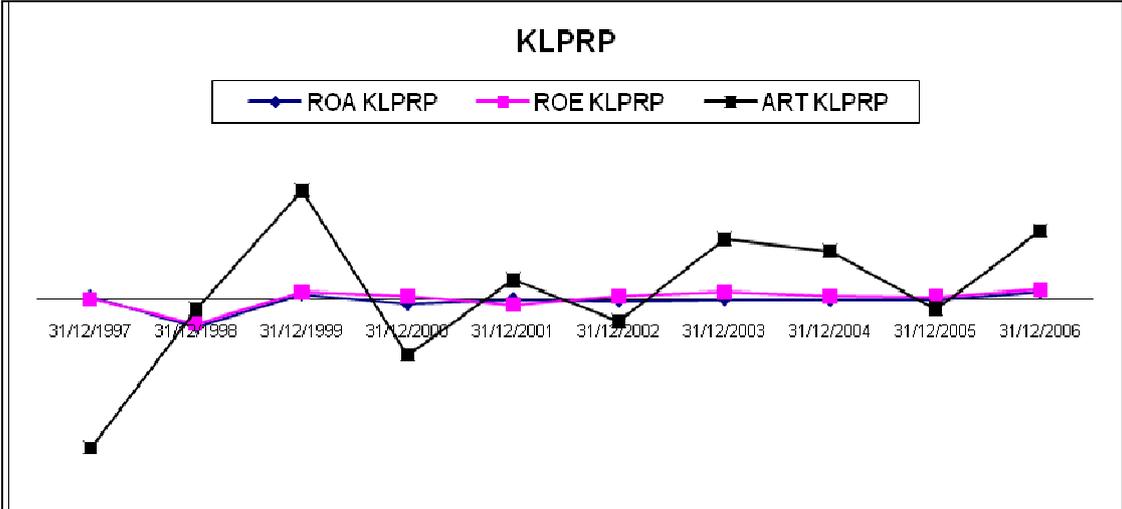


Figure 5: Returns of the Property Sector

## Islamic Pricing Benchmark

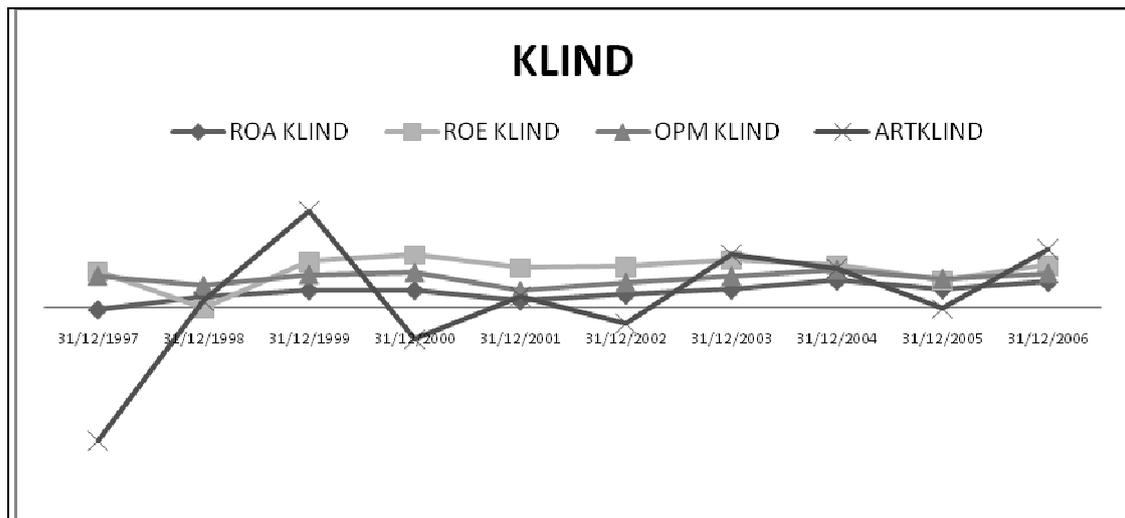


Figure 6: Returns of the Industry Sector

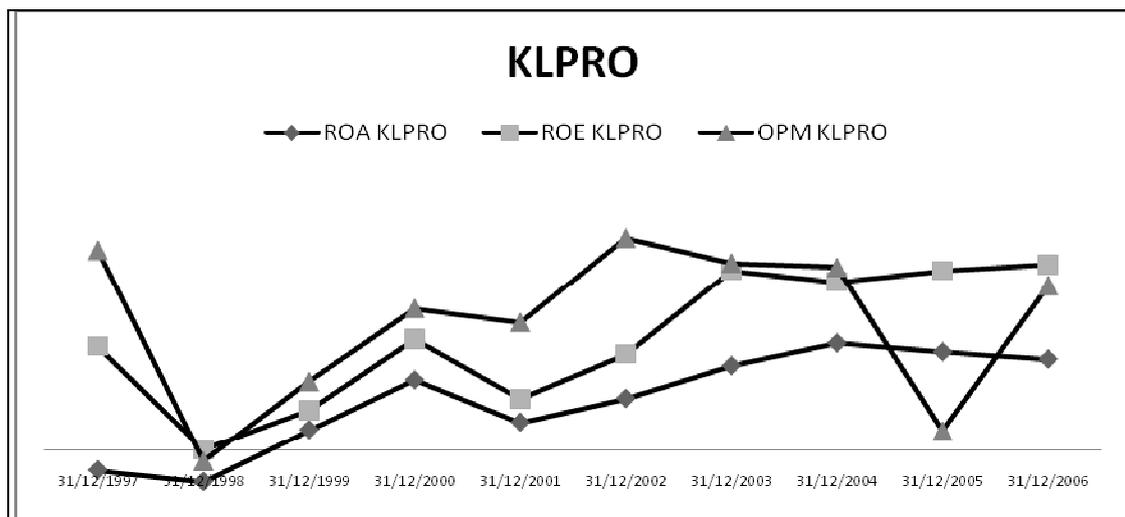


Figure 7: Returns of the Industrial Production Sector

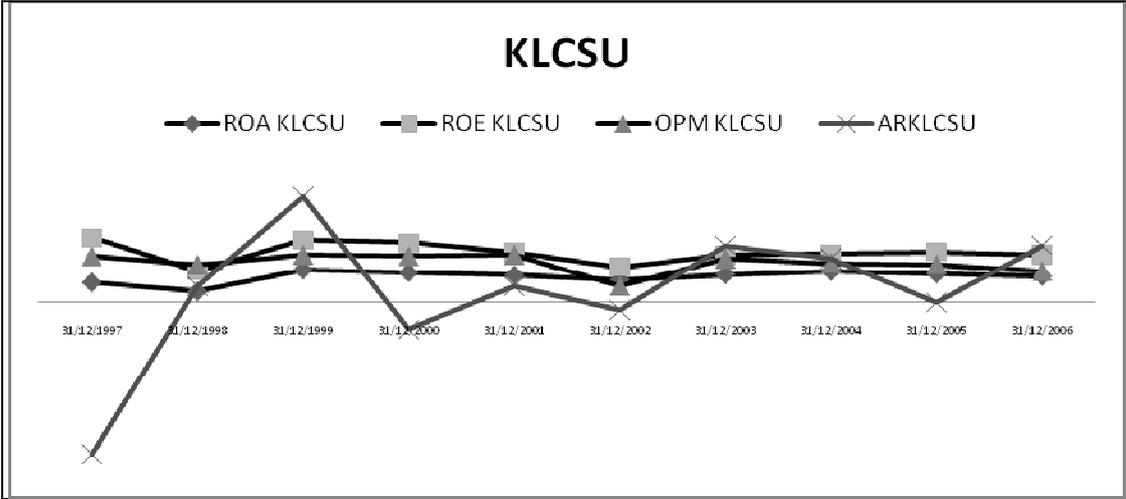


Figure 8: Returns of the Consumer Service Sector

***The Arbitrage Pricing Theory (APT) Model***

Given the unstable and impractical results of the CAPM exercise, we next turn to the Arbitrage Asset Pricing model (APT). APT model is actually an extension to the CAPM model. The CAPM is a single factor model, that is, it specifies risk as a function of only one factor, the beta coefficient. The risk and return relationship is indeed more complex, therefore we naturally we turn to the APT model. APT is designed to overcome some of the weaknesses of the CAPM model. In particular, APT assumes a ‘factor model’ of asset returns. The required return is determined by a number of factors.

Suppose that asset returns are driven by a few (K) common factors and idiosyncratic factor:

$$\tilde{r}_{it} = \bar{r}_i + b_{i1}\tilde{f}_{1t} + b_{i2}\tilde{f}_{2t} + \dots + b_{iK}\tilde{f}_{Kt} + \tilde{u}_{it} \quad (4.5)$$

Where:

$\bar{r}_i$  is the expected return on asset  $i$

$\tilde{f}_{1t} \dots \tilde{f}_{Kt}$  are news on common factors driving all asset returns:  $\tilde{f}_k = \tilde{F}_k + E(\tilde{F}_k)$

$b_{ik}$  gives the sensitiveness of the return on asset  $i$  with respect to news on the  $k^{th}$  factor. It is also called the factor loading.

$\tilde{u}_t$  is the idiosyncratic component in asset  $i$ 's return that is unrelated to other asset returns.

Once the loading factors are estimated, then for an arbitrary asset, its expected return depends only on its factor exposure:

$$\bar{r}_i \cong r_F + b_{i1}(\bar{r}_{f1} - r_F) + \dots + b_{iK}(\bar{r}_{fK} - r_F) \quad (4.6)$$

The primary advantage of APT is that it allows several economic factors to influence the asset returns. The factors could perhaps be inflation, industry production, the spread between low and long term bond, the term structure of interest rates, changes in oil prices, exchange rates, and general market returns and so on. The APT theory itself does not tell what factors nor does it even indicate how many factors should be included in the model, all of which is an empirical exercise.

Following Chen, Roll and Ross (1986), Jacobs and Levy (1989), Gertler and Gilchrist (1994), and Tan, Loh and Zainudin (2006), this study considered four factors namely industrial production growth to capture the overall economic growth, money supply (M2) changes to capture the monetary liquidity condition, the Ringgit exchange rate to reflect the relative global competitiveness, and the Kuala Lumpur Composite Index return to reflect the overall market performance.

The model and the variables used incorporate the Shariah parameters as outlined in Section 2, for example, the pricing benchmark takes into account the real sectors and products. It also takes into account Shariah parameter which requires the benchmark should be free from non-halal activities, interest rates, non-real economic activities such as indices of financial derivatives products; and potential loss is also incorporated in the computation of pricing benchmark.

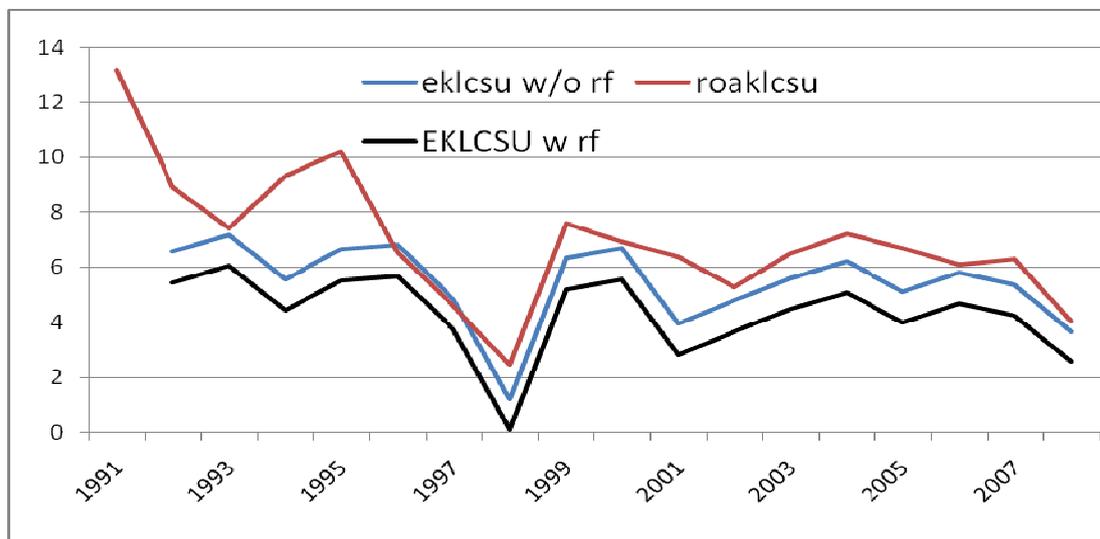
### APT Model Results

In this section, we estimated the expected return for different sectors using the APT model.

In the first step, all the factor loadings are estimated using equation (5) with historical data. After obtaining the factor loadings, we estimate the expected returns for the different sectors using equation (6). However, we used two different ways to estimate the expected returns. In the first one the risk-free rate is used in the estimation while in the second model the risk-free rate is excluded for the purpose of comparison.

## Islamic Pricing Benchmark

To have a better comparison, the estimated expected returns of different sectors (with and without the risk free rate) are plotted with the actual Return on Asset (ROA) of the corresponding sector. Figure 9 to Figure 16 clearly show that the estimated returns are synchronized with actual returns very closely. The APT model, therefore, performs better than the CAPM model. Table 1 shows the estimated beta of the four factors for each respective sector whilst Table 2 reports the ROA for each sector from 1991 to 2008.



**Figure 9: Returns of the Consumer Service Sector**

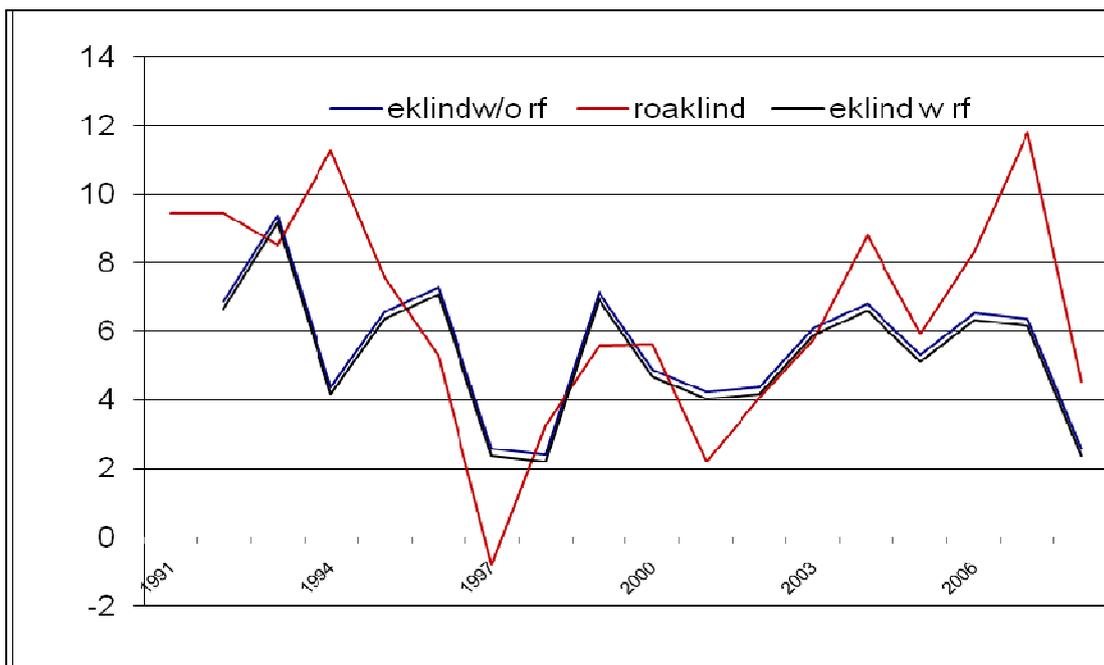


Figure 10: Returns of the Industry Sector

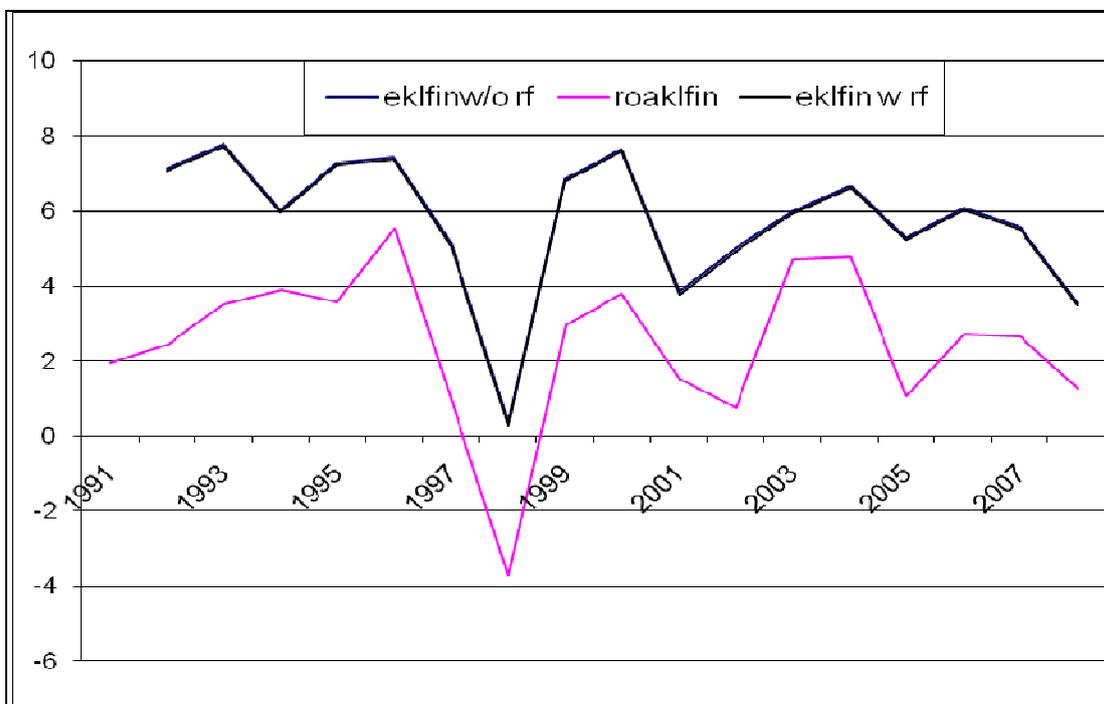


Figure 11: Returns of the Financial Sector

Islamic Pricing Benchmark

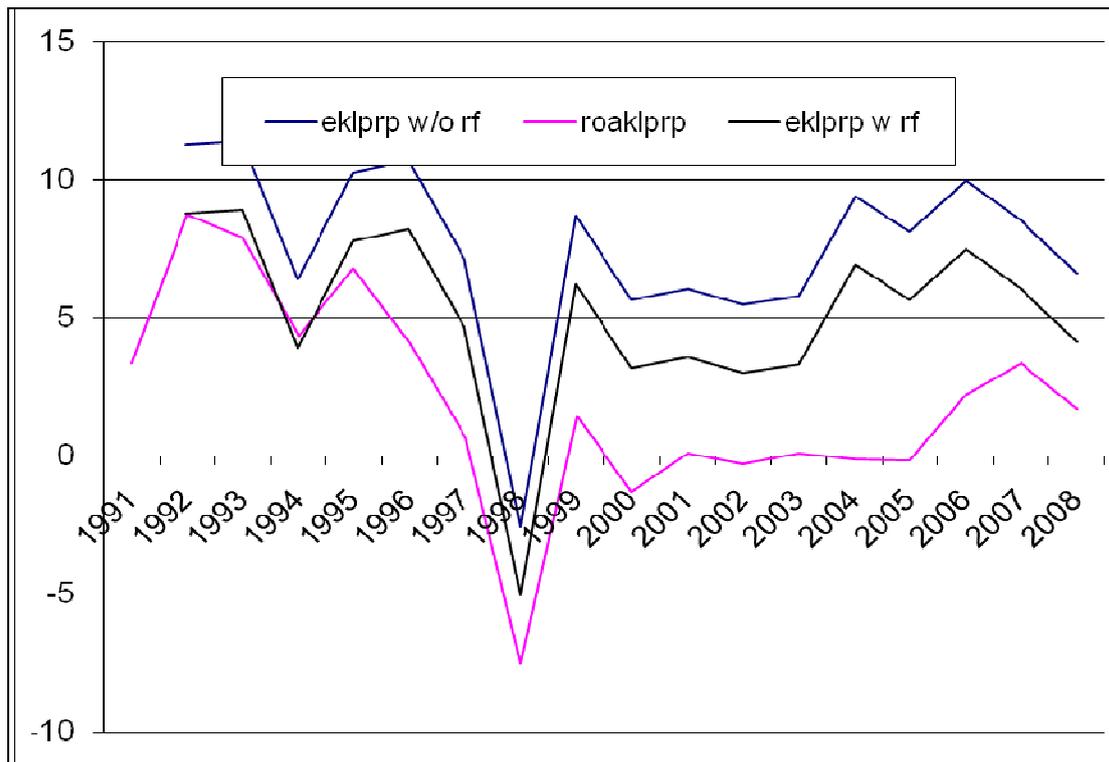


Figure12: Returns of the Property Sector

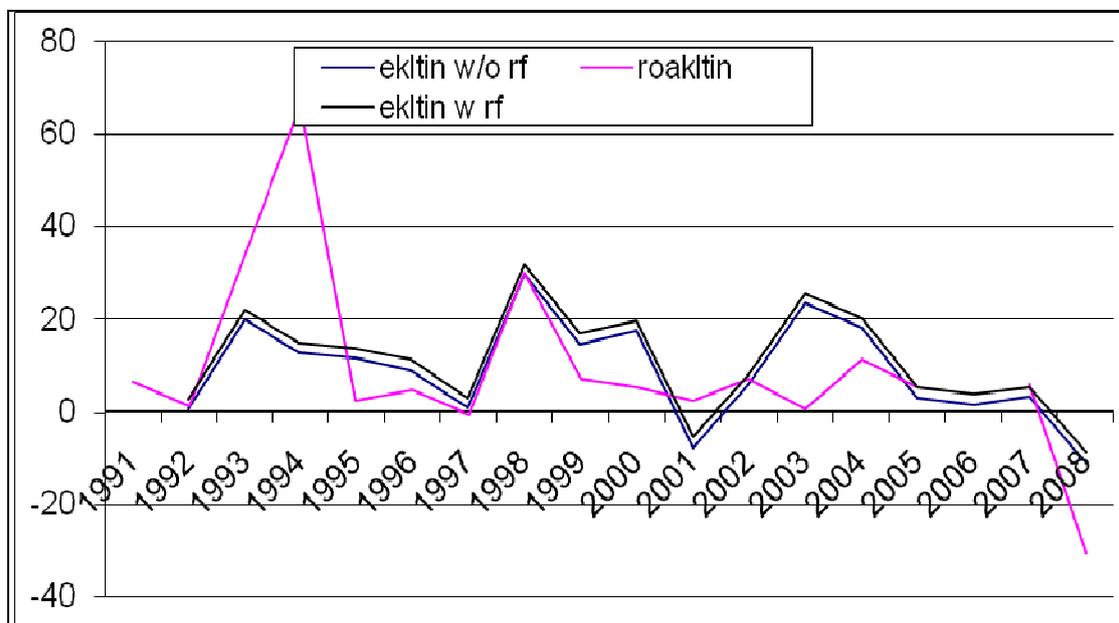


Figure 13: Returns of the Tin Sector

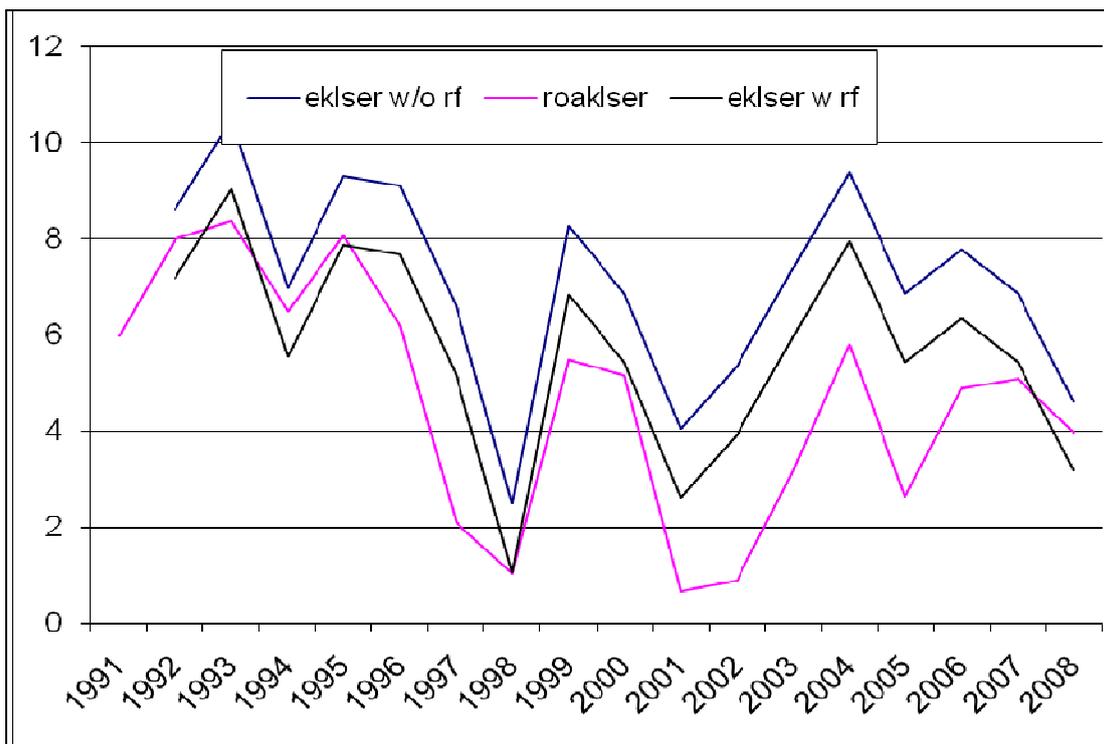


Figure 14: Returns of the Service Sector

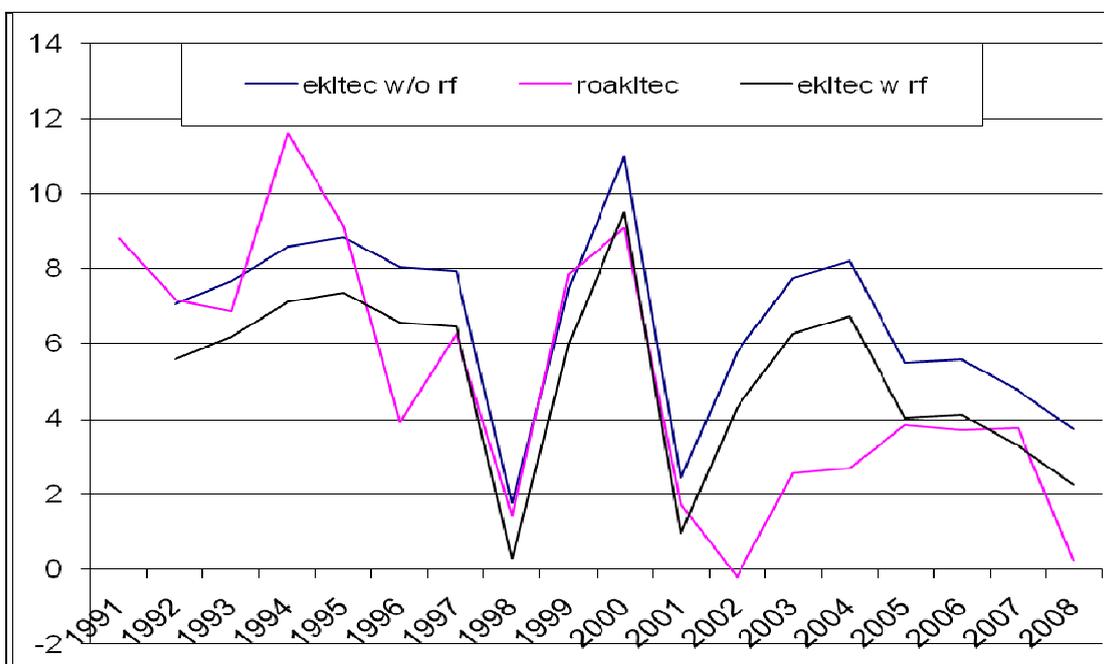


Figure 15: Returns of the Technology Sector

Islamic Pricing Benchmark

Table 1: The Betas for Each Factor for the Respective Industries

	<b>KLCSU</b>	<b>KLFIN</b>	<b>KLIND</b>	<b>KLPLN</b>	<b>KLPRO</b>	<b>KLPRP</b>	<b>KLSE</b>	<b>KLTEC</b>	<b>KLTI</b>
<b>Constant</b>	5.16623	0.7254	4.78989	3.4883	1.56619	-1.7039	1.4651	2.2145	4.0764
<b>RETKLC</b>	1.55423	1.7722	4.73226	7.331	2.91649	2.22378	2.81348	0.21224	18.746
<b>RETM2</b>	3.2999	2.9807	7.28152	14.752	9.76538	27.8812	16.1356	-0.6347	-32.95
<b>RETIPI</b>	15.459	21.057	7.39631	7.0699	15.1181	1.48542	14.3999	40.5774	116.89
<b>RETXR</b>	7.37369	9.1912	4.70446	11.924	8.41402	30.1728	2.71693	-3.5974	-155.98

TABLE 2: ROA FOR EACH SECTOR FROM 1991 TO 2008 (PERCENTAGE)

Year	KLCS U	KLFI N	KLIN D	KLPL N	KLPR O	KLPR P	KLSE R	KLTE C	KLTI N
<b>1991</b>	13.15	1.93	9.45	6.13	7.96	3.36	5.97	8.83	6.38
<b>1992</b>	8.91	2.42	9.45	8.65	7.03	8.77	7.98	7.20	1.28
<b>1993</b>	7.42	3.51	8.55	14.78	7.21	7.94	8.36	6.89	34.09
<b>1994</b>	9.32	3.86	11.29	12.73	10.18	4.38	6.49	11.62	66.14
<b>1995</b>	10.20	3.56	7.61	10.05	6.18	6.82	8.06	9.16	2.32
<b>1996</b>	6.54	5.52	5.29	9.33	5.48	4.09	6.20	3.94	4.78

<b>1997</b>	4.57	0.86	-0.78	-4.74	-0.92	0.67	2.10	6.29	-0.75
<b>1998</b>	2.43	-3.74	3.27	0.29	-1.44	-7.52	1.06	1.44	30.18
<b>1999</b>	7.58	2.94	5.62	9.18	0.93	1.47	5.48	7.87	7.23
<b>2000</b>	6.92	3.76	5.63	2.06	3.20	-1.31	5.15	9.12	5.32
<b>2001</b>	6.34	1.51	2.23	1.93	1.28	0.09	0.68	1.75	2.41
<b>2002</b>	5.28	0.73	4.09	4.98	2.36	-0.29	0.91	-0.19	7.11
<b>2003</b>	6.48	4.70	5.79	4.80	3.84	0.09	3.16	2.57	0.68
<b>2004</b>	7.21	4.76	8.80	4.72	4.88	-0.13	5.80	2.70	11.23
<b>2005</b>	6.66	1.05	5.94	3.38	4.47	-0.15	2.64	3.85	5.41
<b>2006</b>	6.06	2.70	8.33	4.80	4.15	2.24	4.88	3.73	na
<b>2007</b>	6.26	2.65	11.82	7.14	5.14	3.36	5.08	3.76	5.81
<b>2008</b>	3.99	1.25	4.57	7.91	1.59	1.70	3.98	0.25	-30.46

### *Firm-Specific Risk in Determining the Benchmark Rate*

In the previous section we discussed the results obtained from the Arbitrage Pricing model (APT), which were found to be in line with the actual returns of the respective sectors. The next issue that arises is how to incorporate the firm-specific risk into the benchmark pricing.

Different customer has different risk profiles, therefore different financing rate should apply to them. The higher the firm-specific risk, the higher should be the financing

rate. One of the ways to quantify the unique risk characteristics is to estimate the probability of default of the customer. The principle is that the higher the likelihood of default, the higher the financing rate. Once we know the probability of default of the particular customer, we can determine how much the financing rate should be.

Therefore, the knowledge of the probability of default of a particular customer is important in the process of pricing an Islamic product. Basically, the estimation of the probability of default may be carried out in the following steps:

1. Data collection from historical profile
2. Single and multifactor modeling using logistic function
3. Identify the most important factors that have good predictability of default
4. Model calibration
5. Establish the Distribution of the Default Score
6. Single factor logistic regression to find out the probability of default of a particular customer

Once the probability of default is estimated, one could calculate the expected default loss from the particular customer using the following formula:

$$\text{Expected default loss} = \text{Probability default} \times \text{Amount of financing approved}$$

To approve any financing application, the fundamental principle is that the net present value of future cash inflows must be at least equal to or greater than zero. Otherwise the application should be rejected.

As we know from Equation (4.6), the expected real return from different industries sector, and giving the above principle, the required financing rate should be:

$$\text{Required return} = \text{expected return} + \text{expected default loss} \quad (4.7)$$

Mathematically, the above statement can be re-written as:

$$\hat{r} = \bar{r} + \bar{r} \times pd \quad (4.8)$$

Where:

$\hat{r}$  = the required financing profit rate

$\bar{r}$  = the expected rate of return of a particular industry

$pd$  = the probability of default rate of a particular customer

### ***Simulation Exercise***

To have better understanding of the practicability of the Equation 4.8, i.e. to estimate the final pricing rate, we performed a Monte Carlo simulation exercise based on Equation 8 with the assumption that the distribution of returns is taken from the actual distribution of historical returns across sectors. Furthermore, we assume the probability of default follows a normal distribution with mean of 10% and a standard deviation of 20%. With 10,000 replications we observed the following:

**Table 3**

**Descriptive Statistics for Simulated Final Pricing Rate**

Mean	5.50%
Median	5.30%
Maximum	12.20%
Minimum	1.10%
Std Dev	2.20%

---

The simulated pricing rate is in line with actual observation. However, due to specific difference across sectors, we also performed Monte Carlo simulation for different sector incorporating the specific distribution of different sector respectively. The actual returns and simulated pricing rates for different sectors are shown in Table 4 and Table 5 respectively.

**Table 4: Actual Returns from Respective Sectors**

	KLCS U	KLFI N	KLIN D	KLPL N	KLPR O	KLP RP	KLSE R	KLTE C	KLTI N
Mean	4.32	5.68	5.35	6.22	6.17	5.13	5.68	5.14	11.14
Median	4.50	5.95	5.93	6.71	6.36	5.68	5.56	6.01	11.11
Maximum	6.06	7.71	9.20	12.38	9.25	8.94	9.03	9.52	31.83
Minimum	0.10	0.30	2.24	0.60	0.96	-5.01	1.06	0.30	-8.78
Std Dev	1.48	1.87	1.92	3.13	2.02	3.31	2.09	2.41	10.91

**Islamic Pricing Benchmark**

**Table 5: Simulated Pricing Rate (Percentage)**

	KLCS U	KLFI N	KLIN D	KLPL N	KLPR O	KLP RP	KLSE R	KLTE C	KLTI N
Mean	4.55	5.99	5.64	6.54	6.47	5.38	5.95	4.35	11.82
Median	4.50	5.93	5.62	6.52	6.42	5.34	5.91	4.33	11.74
Maximum	10.12	13.93	14.16	22.69	18.99	18.07	15.21	16.19	60.36
Minimum	-0.63	-2.58	-1.91	-6.80	-1.71	-9.46	-2.47	-5.34	-
Std. Dev	1.44	2.07	2.10	3.38	2.23	3.31	2.25	2.57	11.66

Table 5 shows that the simulated results are comparable to the actual results of different sectors shown in Table 4.

We also calculated the pricing rate based on the EBIT data for every firm in the sector and averaged it to become the sector pricing rate. The results are shown in Table 6 below. Another simulation was done to estimate the pricing rate based on EBIT, the results of which are shown in Table 7.

**Table 6: Actual Pricing Rate Based on EBIT (Percentage)**

	KLCSU	KLFIN	KLIND	KLPLN	KLPRO	KLPRP	KLSEK	KLTEC	KLTIK
Mean	10.12	2.33	8.07	5.58	6.40	3.53	-6.10	8.18	2.52
Median	9.14	3.72	8.61	5.53	5.98	3.21	6.91	8.74	4.65
Maximum	16.24	8.63	10.47	9.83	9.72	7.31	65.67	16.84	12.27
Minimum	5.41	-10.38	5.51	1.72	2.98	-2.67	-271.58	0.56	-29.11
Std. Dev	2.84	5.64	1.56	2.12	1.91	2.15	67.91	4.47	8.77

**Table 7: Simulated Pricing Rate Based EBIT (Percentage)**

	KLCS U	KLFI N	KLIN D	KLPL N	KLPR O	KLPR P	KLSE R	KLTE C	KLTI N
Mean	10.61	2.43	9.15	6.08	6.71	3.71	-6.33	8.50	2.87
Median	10.48	2.43	9.06	6.03	6.65	3.67	-7.38	8.46	2.80
Maximum	25.14	26.02	17.13	15.69	16.30	13.34	283.55	28.10	14.93
Minimum	-0.28	-22.08	2.50	-1.94	-1.10	-3.99	-270.15	-13.02	-7.59
Std. Dev	3.13	6.01	1.87	2.28	2.12	2.28	70.97	4.97	5.45

## Islamic Pricing Benchmark

In order to have a further insight on the predictability of the APT model, we did another simulation based on our APT model in which we take the factor loadings taken from Table 1. Since the macroeconomic variables in the model do not follow normal distribution, we use Bootstrapping Method with 10,000 draws, the results of which are shown in Table 8 below:

**Table 8: Simulated Distribution of Pricing Rates based on the APT Model**

	KLCSU	KLFIN	KLIND	KLPLN	KLPRO	KLPRP	KLSEK	KLTEC	KLTIK
Mean	6.60	2.47	6.35	5.99	3.88	1.90	4.57	4.85	9.23
Median	6.63	2.49	6.37	6.02	3.89	1.94	4.58	4.86	9.23
Maximum	7.52	3.75	7.87	8.16	5.03	3.67	5.96	7.04	21.55
Minimum	5.39	1.12	4.88	3.54	2.64	-0.80	3.21	2.60	-1.83
Std. Dev	0.31	0.40	0.42	0.71	0.38	0.72	0.45	0.67	3.63
P-Value	0.4975	0.5095	0.4875	0.4735	0.4615	0.4975	0.4865	0.5425	0.4615

Note: The P-value is used to test the null hypothesis that the simulated pricing rates are equal to the actual returns.

It is clear from the above Table 8 that indeed the APT model could replicate the actual observations and the p-values show the simulated results shown in Table 8 are not significantly different from actual observation as in Table 4. Hence, the pricing rate for each sector based on the APT model is, therefore, suggested as a viable Islamic pricing benchmark rate that emanates from the real economy itself.

## SECTION 5: CONCLUSION

The study undertook the objective of finding a viable Islamic pricing benchmark in lieu of the market interest rates that are currently being used as the benchmark in Islamic finance.

From onset, the study recognized that Islamic finance pricing benchmark should be based on the risk profiles of the real economic ventures. Therefore it must be tied to the real economy and based on productivity and profitability of assets, i.e. it must be endogenously determined, unlike market interest rates that are exogenously determined, not related to usufruct of assets.

Hence the study set forth, recognizing that different sectors face different circumstances and different risk profiles. The estimate of expected returns based on such risk profiles would form the base benchmark cost of capital for the respective sectors, while risks unique to a firm or venture would constitute the additional costs imposed on it.

The study recognized four macroeconomic variables, i.e. industry production growth to capture the overall economic growth, the money supply changes (M2) to capture the monetary liquidity, the Ringgit exchange rate to reflect the relative global competitiveness, and the Kuala Lumpur Composite Index returns to reflect the overall market condition, in the APT model, as having good returns predictability for all the sectors. The returns thereby determined is suggested here as a viable Islamic pricing benchmark rate.

Accordingly, the study suggests that a financier starts by gathering the forecasted values for the above four macroeconomic variables and computes the expected return using the APT model with the respective factor loading for the sector concerned. This value is the benchmark pricing rate for that particular sector.

## Islamic Pricing Benchmark

Thereafter using firm-specific variables the financier estimates the probability of default by that particular customer. The probability of default incorporates the additional rate required for taking on firm-specific risks.

Such proposed pricing benchmark model can be used by other Islamic financial institutions worldwide. Nonetheless, the respective factor loadings need to be estimated and incorporated in the model in order to obtain the pricing benchmark. Subsequently probability of default which incorporates firm-specific risk be estimated and added to the benchmark rate.

With such Islamic pricing benchmark it is hoped that Islamic finance of today can be freed from using conventional benchmarks, such as BLR, KLIBOR, COFI or LIBOR. Islamic finance then can be independent from conventional finance and be truly an alternative to conventional finance capable of addressing and mitigating the global economic and financial crisis.

Due to data unavailability, the study recognizes some limitations, particularly it does not formulate specific benchmarks for respective Islamic financial products and contracts.

## BIBLIOGRAPHY

Abd Hamid al-Ghazali, (1414). Al-Arbah wal-Fawa'id al-Masrafiyyah Baina Tahlilu Al-Iqtisodi wa Hukm al-Syar'ie, Islamic Development Bank.

Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) (2004). Shari'a Standards.

Al Gharnati, Abu Qasim Muhamad Ahmad ibn Jazi Al-Kalbi, (1988). Al-Qawanin al-Fiqhi, Libya: Dar al- Arabiah Lil Kitab

Al-Asqalani, Ibn Hajr, (1996). Bulugh al-Maram Attainment of the Objective according to Evidences of the Ordinances, (1<sup>st</sup> ed.), Riyadh, Saudi Arabia: Dar as-Salam.

Al-Baji, Abu Walid Sulaiman ibn Khalaf, Al-Muntaqi Sharh al-Muwatta, Dar al-Kitab al-Arabi.

Al-Bayhaqi, Abi Bakar Ahmad bin Hussain bin Ali, (1999). As- Sunan al-Kubra , Dar Al- Kutub Al-Ilmiyyah.

Al-Bukhari, Abdullah ibn Ismail, (.....). Sahih al-Bukhar, Dar al- Jil: Beirut, n.d.

Al-Dasuki, Muhammad ibn Ahmad, (.....). Hashiat Al-Dasuqi ala Sharh Kabir.

Al-Duraini, Muhamad Fathi, (.....). Buhuth muqaranah fi al-fiqh al-Islami wa usuluhu.

Al-Furra' al-Hanbali , Qadhi Abu Yu'la Muhammad ibn Hussain (1403-1983), Al-Ahkam Al-Sultaniyyah, Beirut: Dar al- Kutub al-Ilmiyah.

Al-Hali, Hassan ibn Yusuf ibn Mutahhir (1900) Tazkirah al-Fuqaha', Mudiriah Ma'arif Karbala.

- Al-Hanbali, Syeikh Mansour ibn Idris (1394H), *Kashf al-qina an matn al-iqna'*,  
Mekah: Matbaat Al-Hukumah.
- Al-Haytami, Nur ad-Din Ali ibn Abi Bakar (1984), *Kasf al-Astar an Zawaid al-Bazar  
ala Kutub al-Sunnah*, Beirut: Muasassah Risalah.
- Al-Haytami, Nur ad-Din Ali ibn Abi Bakar (1982), *Majma' al Zawaid wa Manba'a  
al-Fawaid*, Beirut: Dar Al-Kitab Al-Arabi.
- Al-Husaini, Muhammad Abu Huda Al-Ya'kub i (2000), *Ahkam al -Tas'ir fi Al-Fiqhi  
Al- Islami*, Darul al- Basha'ir Al-Islamiyyah :Pakistan.
- Al-Islami al-Duwali, (1409). *Daurah al-Khamisah* (4<sup>th</sup> ed.), Kuwait: 5<sup>th</sup> Conference.
- Al-Kasani, Abu Bakr ibn Mas'ud, (1986). *Bada'i' al-sana'i'*, (5), Beirut:Dar al-Kutub  
al 'ilmiyyah.
- Al-Khattab Al-Ru'aini, Muhammad ibn Muhammad Al-Maghribi, (.....).  
*Mawahib Al-Jalil Sharh Mukhtasar Khalil*.
- Al-Kufrawi, Dr. Auf Mahmud (1985), *Dirasat fi takalif al-intaj wa tas'ir fi Islam*,  
Egypt: Muasasah Shabab al-Jami'ah.
- Al-Mardawi al-Damshiqi, Ala'udin Abu Hassan Ali ibn Sulaiman (1419), *al-Insaf fi  
Ma'rifatul al-rajih min al-khilaf 'ala mazhab al-Imam Ahmad ibn Hanbal*,  
Beirut: Dar al- Ihya' at-Turathi al-Arabi.
- Al-Marghinani, Abu Hassan Ali ibn Abu Bakar ibn Abdul Jalil, (1980), *al-Hidayah  
sharh bidayat al-mubtadi'*, (4), Mesir: Babi - Al-Halbi.
- Al-Mawardi, Ali ibn Muhammad Habib Basri, (1983). *al-Ahkam al-sultaniyyah wa  
al- wilayah al- diniyyah*, Kaherah: Dar al-Fikr.

- Al-Mesawi, Mohamed El-Tahir, Ibn Ashur Treatise on Maqasid al-Shariah, The International Institute of Islamic Thought, Malaysia, (2006) in Ibn Hammam, Muhammad Ibn Abdul Wahid (1900), Sharh fath al-Qadir, Beirut: Dar al-Fikr.
- Al-Misri, Rafiq Yunus, (2005). Fiqh al-muamalat al-maliyyah, Damsyik :Darul Qalam.
- Al-Munziri, Abdul Azim ibn Abdul Qawi, (1968), al-Tarhib wal-Tarhib minal Hadith as-Syarif, Beirut: Dar Ihya' al-turath al-Arabi.
- Al-Nawawi, Muhyiddin Yahya ibn Sharaf, (.....). Tahzib asma' wa al-lughat, Beirut: Dar al-Kutub al-Ilmiyyah.
- Al-Nawawi, Muhyiddin Yahya ibn Sharaf, (1985). Rawdat al-talibin, (4), Beirut: al Maktabah al Islami.
- Al-Qa'ahji, Muhammad Rawas, (1988). Mu'jam lughat al-Fuqaha, Beirut: Dar Al-Nafa'is.
- Al-Qaisi, Kameel Saqar, (2008). Ma'ayir al-rihb wa dawabituhu fi al-tashri' al-Islami, Islamic Affairs & Charitable Activities Department, Government of Dubai.
- Al-Razi, Fakhrudin Muhammad Ibn Umar (.....), Al-Tafsir al-kabir, Beirut: Dar al Ihya' at-Turathi Al-Arabi.
- Al-Salih, Muhammad bin Ahmad, (2001). al-Ru'ya al-Islamiyyah li tas'ir al-sila' wa al-khadamat, Jami'ah Al-Imam Muhammad bin Sau'di Al- Islamiyyah.
- Al-Salus, Ali Ahmad, (2004). Fiqh al-Bay' wa al-Istinsaq wa al-Tatbiq al-Muasir, Egypt : Muasassat al-Rayyan.
- Al-Sanhuri, Abdul Razzaq (.....). Masodir al-haq fi al-Fiqh al-Islami, Beirut : Darul Ihya' Al-Turathi Al-Arabi.

- Al-Sayuti, (1909m/1378h), Al-Asbah wa al-naza'ir fi Mazhab al-Shafiites, Egypt: Matbaat Al-Babi Al-Halbi.
- Al-Shaukani, Syeikh Muhammad ibn Ali ibn Muhammad, (.....), Nail al-Autar sharh muntaqa al- akhbar, Cairo: Dar al- Hadith.
- Al-Tabrani, Abi Qasim Sulayman ibn Ahmad, (.....), Haqqaqahu wa-Kharraj ahadithuhu Hamdi 'abd al-Majid al-Salafi, al-Mu'jam al-Kabir, (2), Dar al-Ihya al-Turath al-Islami.
- Al-Umrani Al-Syafiie Al-Yamani, Syeikh Abu Hussain Yahya ibn Abi Khair ibn Salim, (.....). Al- Bayan, Beirut: Dar al Manhaj.
- Al-Zaini, Mahmud Muhammad Abdul, (2004). Jara'im al-tas'ir al-jabari, Egypt: Dar al- Jami'ah al-Jadidah.
- Anthony, S. & Liliana, S. (2000). The determinants of bank interest rate margins: an international study. Journal of International Money and Finance, (19), pp. 813–832.
- AsianbondsonLine. (2009). Glosary of OPR. ([http://asianbondsonline.adb.org/knowledge\\_center/glossary/default\\_glossary.php?Term=overnight+policy+rate+\(OPR\)](http://asianbondsonline.adb.org/knowledge_center/glossary/default_glossary.php?Term=overnight+policy+rate+(OPR)))
- Aznan Hassan, (2009), “Monetary Policy in the Light of Islamic Law”, presentation paper at International Shariah Scholars Forum 2009 at Hotel Niko on 19 November 2009.
- Chen, Nai-Fu, Roll, Richard and Ross, Stephen A. (1986). Economic forces and the stock market, Journal of Business, 59(3), 386-403.
- Coyle, Brian (2001). Money markets, UK: Financial world publishing.

Ebrahim, M.S., and Khan, T. (2002). On the pricing of an Islamic convertible mortgage for infrastructure project financing. *International Journal of Theoretical and Applied Finance*, 5(7), pp. 701-728.

Equity Financial Group. (2006). 'COFI cost of Fund Index'. Retrieved from <http://www.financingadream.com>.

Fama, E.F. (1978), The effects of a firm's investment and financing decisions, *American Economic Review*, (68), pp. 272-84.

Financial Stability Review (2006). Germany: European Central Bank.

Fitri, M.R. (2007). Pricing of Murabahah and Ijarah Product in Malaysia, Master Thesis, Department of Fiqh and Usul al-Fiqh, IIUM.

Gertler Mark and Gilchrist, Simon (1994). "Monetary Policy, Business Cycles and the Behavior of Small Manufacturing Firms", *Quarterly Journal of Economics*, 109, 310-338.

Hammad, Nazih, (1995). *Mu'jam al-mustalahat al-iqtisadiyyah fi lughat al-fuqaha*, International Islamic Publishing House.

Hammad, Nazih, (2001), *Qadaya fiqhiyyah mua'sirah fi al-mal wa al-iqtisad*, (1<sup>st</sup> ed.), Damshiq: Dar al-Kalam.

Haque, N.U. and Mirakhor, A. (1998). The design of instruments for government finance in an Islamic economy, IMF Working Paper 98/54. Washington, DC: IMF. Retrieved September 30, 2009, <http://www.imf.org/external/pubs>.

Hussain Hassan Shahatah, (1978), *Understanding of Capital in Islamic Perspective*, *Al-Majallatul Ilmiah li Tijarati al-Azhar*, (1), December.

Ibn Abd Al-Barr, Yusuf ibn Abdullah, (1979) *Al-Kafi fi fiqh ahl al-Madinah*, (2), Kaherah: Matbaat Hassan.

Ibn Abidin, Muhammad Amin al-Shahir, (1979), Hasyiat radd al-muhtar ‘ala al-durr al-mukhtar sharh tanwir al-absar fi fiqh mazhab al-Imam abi Hanifah, Kaherah: Dar al Fikr.

Ibn Hazam, Abu Muhammad Ali ibn Ahmad ibn Sa’id (.....) , Al-Muhalla, Dar al Fikr.

Ibn Nujaim, Syeikh Zainul Abidin ibn Ibrahim, (1985), Al-Asbah wa al-nazair ‘ala mazhab Abi Hanifah, Beirut: Dar al- Kutub Ilmiah.

Ibn Qayyim, edited by Muhamad Hamid Al-Fiqhi, (.....), al-Turuqi Al-Hukmiyyah fi Siyasah Syar’iyyah, Beirut, Lubnan: Dar al- Kutub al-Ilmiah.

Ibn Qudamah, Abu Muhamad Abdullah ibn Ahmad, (1983), Al-Mughni, Dar al Fikr.

Ibn Taimiyyah, Ahmad ibn Abd Halim, (1992/1412), al-Hisbah fil Islam au wazifah al-hukumah al-Islamiyyah (1), (728h), Dar Al- Kutub Ilmiah.

Imam Ahmad ibn Yahya ibn Murtadha,(840h), al-Bahr al-Zakhar al-Jami’ li mazahib ulama’ al-amsor, Beirut: Muassasat Al-Risalah.

Jacobs, Bruce I. and Levy, Kenneth N. (1989). Forecasting the Size Effect, Financial Analysts Journal, May/Jun.

Kamali, Mohammad Hashim, (2000), Principles of Islamic Jurisprudence, (2 ed.), Kuala Lumpur: Ilmiah Publishers.

Kin Fai, W. (1999). Introduction to Monetary Economics and the Malaysian Financial System. Banking and Financial Services Certificate study manual CF01, pp. 15-8. Malaysia: Institute Bank-Bank Malaysia.

Laldin, Mohamad Akram, (2006) Introduction to Shariah and Islamic Jurisprudence, Kuala Lumpur: Malaysia.

Majallah Majma', (1994). al-Fiqh al-Islami, Daurah al-Saminah (8<sup>th</sup> Conference), (8).

Majid Abu Rakhiyyah, (1983). Hukm al-tas'ir fi al-Islam, Amman: Maktabat al-Aqsa.

Malik, Anas, (1993). al-Muwatta, (2nd ed.), (2), Maghribi: Dar al-Afaaq al-Jadidah.

Mejelle, (2003). Being an English Translation of Majallah Al-Ahkam Al-Adliya and A Complete Code of Islamic Law, Trans. C.R. Tyser, B.A.L, Kuala Lumpur: The Other Press.

Mirakhor, A. (1996). Cost of capital and investment in a non interest Economy. Islamic Economic Studies, 4(1), pp. 35-46.

Mohd Yusof, R., Abd. Majid, M.S., Kassim, S.H., and Hamid, Z. (2009). Modelling an alternative benchmarking for home financing: a comparative analysis between Malaysia and the United Kingdom. Unpublished Manuscript, IIUM.

Muhd Ramadhan Fitri, (2007). Pricing of Murabahah and Ijarah Product in Malaysia, IIUM, Master Thesis.

Qurrah Daghi, Ali Muhyiddin, (2009). Buhuth fi fiqh al-bunuk al-Islamiyyah: Dirasat fiqhiyyah wa iqtisadiyyah, Beirut: Dar Al-Bashair Al-Islamiyyah.

Securities Commission, (2006). Resolutions of Securities Commission Shariah Advisory Council, (2<sup>nd</sup> ed.).

Rose, P.S. (2003). Money and Capital Markets: Financial Institutions And Instruments in a Global Marketplace, USA: Irwin/McGraw-Hill.

Ross, Steven, (1976). An arbitrage theory of capital asset pricing. Journal of Economic Theory (13), pp. 341-360.

Said, F. F. and Ismail, A., (2007). How does the changes in monetary policy affect lending behaviour of Islamic banking in Malaysia. Journal Ekonomi Pembangunan. 12(3), pp 163-177

- Selim, T.H. (2008). An Islamic capital asset pricing model. *Humanomics*, 24(2), pp. 122-129.
- Shehatah, Hussain, (1423H), *Nahwa muassir Islami li al-Muamalat al-Maliyyah al-Ajilah*, Research on the Barakah Conference.
- Shubber, K. A. (2008). Cost of capital of Islamic banking institutions: An empirical study of a special case. *International Journal of Islamic and Middle Eastern Finance and Management* 1(1), pp. 10-19.
- Siklos, Pierre (2001). Money, Banking, and Financial Institutions: Canada in the Global Environment, pp. 50-51.
- Stiglitz J. & Weiss, A. (1981). Credit rationing in markets with imperfect information. *American Economic Review*, 71(3), pp. 393-410.
- Tan Bee Cheng, Loh Wei Ling and Zainudin Arsad (2006), “Dynamics between Stock Price, Oil Price and Macroeconomic Activities: A VAR and Impulse Response Approach”, proceedings of the 2nd IMT-GT Regional Conference on Mathematics, Statistics and Applications, University of Science Malaysia.
- Usmani, Muhammad Taqi, (2007). *An Introduction To Islamic Finance*, Pakistan: Quranic Studies Publishers.
- Usmani, Muhammad Taqi, (1998). *Buhuth fi qadaya fihiyyah mua’asirah*, (1<sup>st</sup> ed.), Damshiq: Dar al-Kalam.
- Zaydan, Abdul Karim, (1987/1407H), *Al-Wajiz fi usul al-Fiqh*, Beirut: Mua’sasah ar-Risalah.
- Zuhayli, Wahbah (1989), *Al-Fiqh Islami wa adillatuhu*, (3<sup>rd</sup> ed.), (4), Damshiq: Dar Al-Fikr.



[www.isra.my](http://www.isra.my)

**ISRA** الأkademya العالمyة للبحوث الشرعyة  
International Shari'ah Research Academy for Islamic Finance

International Shari'ah Research Academy for Islamic Finance  
ISRA @INCEIF (718736-K)  
2<sup>nd</sup> Floor Annexe Block,  
Menara Tun Razak,  
Jalan Raja Laut,  
50350 Kuala Lumpur,  
Malaysia

Tel : +603 2781 4000  
Fax : +603 2692 4092  
Email : [info@isra.my](mailto:info@isra.my)