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ISLAMIC PRICING BENCHMARKING

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An Islamic Pricing Benchmark

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ABSTRACT

The Islamic finance and banking industry has developed tremendously in recent years. The viability of this industry as an alternative method of investment can no longer be denied. As the current global economic and financial crisis laid bare the systemic problems of conventional finance, the Islamic financial system has been offered as a solution by its proponents. However, Islamic finance has been using conventional finance benchmarks, such as KLIBOR, COFI, LIBOR, etc. to determine its own cost of funds, and hence its return on financial investments. This is so because Islamic finance, if not part of the existing conventional finance, has always served as a financial intermediary for surplus and deficit units. Islamic banking, as the dominant institution in the Islamic finance industry, has gone

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beyond the function of a financial intermediary, for it also serves as a wakīl, custodian, partner, entrepreneur, and guarantor. Nonetheless, Islamic finance has 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 be overemphasized; that would make it more comprehensive and independent from the conventional benchmarks that rely on interest rates, the very thing that Islamic finance abhors. Therefore, this project aims to develop an Islamic pricing benchmark model for the Islamic banking industry, more specifically for Malaysia, given its prominence in the Islamic finance industry. The project has reviewed the Sharī'ah perspective on an Islamic pricing benchmark and has also examined the conventional pricing benchmark being used by banks. The paper further discusses the theoretical formulation of an Islamic benchmark. Thereafter, using sectoral industry and macroeconomic data, it tests the viability of the benchmark using simulation.

1. INTRODUCTION TO THE ISLAMIC PRICING BENCHMARK PROJECT

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

1.1 Organization of the Report

The methodology used for this project is as follows:

1. Review of the existing classical and contemporary literature on pricing from a Sharī‘ah perspective.
2. Review of the existing literature on conventional benchmark pricing, such as BLR, KLIBOR, OPR, and LIBOR.
3. Review of the existing literature on the 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 the 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 the 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 the 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, although the project had commenced earlier, in March 2009. It was also agreed that the project's duration would be six months, with November 2009 being the submission date.

The deliverables for the project were identified as follows:

1. A write-up of the literature review
2. A write-up of the conventional bank pricing benchmark
3. A write-up of the existing computation of cost of funds by Islamic banks
4. A write-up of 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 4th August, 2009; 16th September, 2009; 9th December, 2009; and 4th February, 2010. Members of Islamic banking treasury staff were present at every presentation to provide feedback on the progress of the research and the proposed model.

2. THE SHARĪ'AH PERSPECTIVE ON AN ISLAMIC PRICING BENCHMARK

2.1 Introduction

Acquisition of profit from trading is highly valued from a Sharī'ah perspective. There is a great body of evidence from the Qur'an and Sunnah legalizing trade.¹ We are also commanded to acquire profits in order to preserve capital from loss from zakāh payment as well as other expenditures. Anas reported that the Prophet (peace be upon him) said:

« اتجروا في أموال اليتامى لا تأكلها الصدقة »².

1 Al-Quran, al-Nisā': 29.

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

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This *ḥadīth* shows that the Prophet (peace be upon him) encouraged the trustee of an orphan's property to invest it through trade so that the property does not decrease by *zakāh* payments or other expenditures.

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

وَلَا تُؤْتُوا السُّفَهَاءَ أَمْوَالَكُمُ الَّتِي جَعَلَ اللَّهُ لَكُمْ قِيَمًا وَارْزُقُوهُمْ فِيهَا وَاكْسُوهُمْ وَقُولُوا لَهُمْ قَوْلًا مَعْرُوفًا

“And do not give the weak-minded your property,³ 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.”⁴

This verse explains the obligation to invest the property of orphan children and to use the profits and not the capital or principal for their expenses. This is according to the opinion of Imām al-Rāzī, who said that the word (اهي ف) in the verse refers to the command to utilize some of the property as *rizq* (sustenance) through trading activities or by investing it in order to make profits. The sustenance distributed should be from the profits and not from the capital itself.⁵

2.2 Should There Be Any Limit to Profits?

If there is a question as to whether there should be any limit to profits from an Islamic view, the answer is no. There are no limits to profits or profit rates from an Islamic view; moreover, Quranic verses have discouraged trading without profits. Allah spoke disparagingly of certain people in the Qur'an:

فَمَا رِبِحَتْ تَجَرَّتُهُمْ

“Their trade reaped no profit.”⁶

3 Although it is actually their property, Allah (*subḥānahu wa ta'āla*) 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.

4 Al-Quran, al-Nisā': 5

5 Muḥammad ibn 'Umar Fakhr al-Dīn al-Rāzī, *al-Tafsīr al-Kabīr* (Beirut: Dār Iḥyā' al-Turāth al-'Arabī, n.d.), vol. 9, p. 186.

6 Al-Quran, al-Baqarah:16.

In addition, there is no evidence from the Qur'an or the Sunnah that limits profits to one-third, one-fourth, or any other proportion.⁷ Numerous texts indicate that Islam places considerable stress on justice (*'adālah*) in the distribution of profits; whereas it does not strictly limit the rate of profits acquired, which vary according to factors of commodity, place and period.

There is evidence from the Sunnah that the Prophet (peace be upon him) allowed profits of up to 100 percent, and some of the Companions earned more than 100 percent. A ḥadīth narrated by al-Bukhārī and others mentions that the Prophet (peace be upon him) gave 'Urwah one dinar to purchase a goat. Urwah bought two goats with that one dinar. Afterwards he sold one of the goats for one dinar. He came back to the Prophet (peace be upon him) with a goat and one dinar. The Prophet (peace be upon him) then prayed that he be blessed in his trading.⁸

Zubayr ibn 'Awwām, one of the Companions who was given glad tidings of paradise during his lifetime, bought a piece of land from a wealthy person in Madīnah for 170,000 dinars; his son later sold it for 1,600,000 dinars; nine times more than the original price.⁹ If one dinar weighs 4.25 grams, and one gram of gold is equal to RM120 (estimated current value), then one dinar is equivalent to RM510. The estimated purchase cost of the land at today's value would be RM86.7 million, while the sale price was the equivalent of RM816 million (9.41 times the cost price).

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 cause the loss of Allah's blessings.

Some contemporary scholars, like Shaykh Wahbah al-Zuhayli,¹⁰ have suggested that the net profit margin should be fixed by the authority in order to observe justice in the market and to get blessings. They suggested that the profit rate should not exceed one-third, based on the ḥadīth, "*Al-thuluth kathīr*", which means "One-third

7 Dr. Yūsuf al-Qaraḍāwī: Article on determining the profits for the traders, in *Majallat Majma' al-Fiqh al-Islāmī*, 5th Conference, (Kuwait: Majma' al-Fiqh al-Islāmī al-Du'alī, 4th edition, 1409), vol. 4, p. 2789.

8 'Abd Allāh ibn Ismā'īl al-Bukhārī, *Ṣaḥīḥ al-Bukhārī* (Beirut: Dār al- Jīl), vol. 2, ḥadīth no. 632

9 Ibid., ḥadīth no. 3129.

10 Wahbah al-Zuhayli, *al-Mu'āmalāt al-Māliyyah al-Mu'āṣarah*, (Beirut: Dār al-Fikr, 2002), p.139

is a lot,” a comment made by the Prophet (peace be upon him) when Sa‘d ibn Abī Waqqāṣ wanted to make a bequest (*waṣiyyah*).

2.3 Juristic Disagreement over Governmental Fixing of Prices

As a background to 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 the Islamic Pricing Benchmark, which is influenced by Bank Negara’s Overnight Policy Rate (OPR). Any changes to OPR will lead to a change in the Islamic benchmark rate. Having a benchmark will definitely guide the practitioners in determining the profit rate and thus working out the minimum and maximum price. This research does not aim to fix the profit margin or price but rather to formulate an alternative pricing benchmark that can be used to estimate the profit margin, which can then be used as an alternative to the interest rate. To a certain 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 comprises an element of price control. It is, therefore, worth knowing the juristic disagreement on that issue. Regulatory pricing is an issue which classical jurists discussed extensively. There are two major opinions regarding price fixing in Islam.¹¹

First opinion: It is not permissible to fix the price at either lower or higher than the market price. In case the market price is regular, a majority of the jurists of the Ḥanafī, Mālikī, Shāfi‘ī and Ḥanbalī Schools do not allow the government to fix the prices of products and services.¹²

Imām al-Shawkānī holds that it is prohibited to fix the price because of the possible element of tyranny (*zulm*) involved.¹³ Everyone has a right to their own property, and fixing prices would hinder their freedom to dispose of their property. The ruler

11 Kamīl Saqar al-Qaysī, *Ma‘āyir al-ribḥ wa Ḍawābiṭuhu fī al-tashrī‘ al-Islāmī* (Dubai: Islamic Affairs & Charitable Activities Department, Government of Dubai, 2008), pp. 86-92.

12 Abū Muḥammad ‘Abd Allāh ibn Aḥmad Ibn Qudāmah, *al-Mughnī* (Beirut: Dār al Fikr, 1404/1983), vol. 4, p. 303.

13 Muḥammad ibn ‘Alī ibn Muḥammad al-Shawkānī, *Nayl al-Awtār: Sharḥ Muntaqā al-Akḥbār* (Cairo: Dār al-Ḥadīth, n.d.), vol. 5, p. 247.

has the responsibility to look after the public interests of all Muslims, not just to look after the interests of buyers in case a price is set lower than the market price, or alternatively, the interests of sellers in case a price is set higher than the market price.¹⁴ According to al-Māwardī, it is not permissible to fix the prices of essential foods, either at a higher or lower price than the market price.¹⁵

The following is the evidence cited by the opponents of price fixing:

1. The Quranic verse:

يَا أَيُّهَا الَّذِينَ ءَامَنُوا لَا تَأْكُلُوا أَمْوَالَكُمْ بَيْنَكُمْ بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ
مِّنْكُمْ وَلَا تَقْتُلُوا أَنْفُسَكُمْ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا

“O you who believe, do not wrongfully consume one another’s property,
but trade by mutual consent.”¹⁶

The above verse indicates that mutual consent (*riḍā*) between the parties involved is the main criterion for the validity of a business transaction. According to the Ḥanafīs, Mālikīs, Shāfi‘īs and Ḥanbalīs, the government’s intervention in determining the market price quashes the right of mutual consent (*riḍā*) between the seller and the buyer in the business transaction.¹⁷ This action violates the right of the seller to determine an asking price for products and services.

This interpretation is supported by the response of the Prophet (peace be upon him) to a request made of him to freeze prices.

2. Anas ibn Malik narrated:

قَالَ النَّاسُ يَا رَسُولَ اللَّهِ غَلَا السَّعْرُ فَسَعَّرْنَا. فَقَالَ رَسُولُ اللَّهِ -صلى الله عليه وسلم- «
إِنَّ اللَّهَ هُوَ الْمُسَعِّرُ الْقَابِضُ الْبَاسِطُ الرَّازِقُ وَإِنِّي لَأَرْجُو أَنْ أَلْقَى اللَّهَ وَلَيْسَ أَحَدٌ مِّنْكُمْ
يُطَالِبُنِي بِمَظْلَمَةٍ فِي دَمٍ وَلَا مَالٍ».

14 ‘Awf Maḥmūd al-Kufrawī, *Dirāsāt fī Takālīf al-Intāj wa al-Tas‘īr fī al-Islām* (Egypt: Mu’assasat Shabāb al-Jāmi‘ah, 1985), p. 158.

15 ‘Alī ibn Muḥammad Ḥabīb al-Māwardī, *Al-Aḥkām al-Sultāniyyah wa al-Wilāyah al-Dīniyyah* (Cairo: Dār al-Fikr, 1983), p. 256.

16 Al-Qur’an: al Nisā’: 29.

17 Abū Bakr ibn Mas‘ūd al-Kāsānī, *Badā’i‘ al-Ṣanā’i‘* (Beirut: Dār al-Kutub al-‘Ilmiyyah, 1986), vol. 5, p. 129.

The people said, “Messenger of Allah, prices have shot up, so fix prices for us.” Allah’s Messenger (peace be upon him) replied: “Verily, Allah [determines the climate of economic affluence and gloom. I do not want to take any action to fix prices because] I do not want to meet Allah with anyone among you demanding redress for wrong done to them regarding property or blood.”¹⁸

In the above *ḥadīth*, Allah’s Messenger (peace be upon him) clearly refused to intervene to fix prices, although he was urged by his companions to do so. This supports the majority opinion. The Prophet (peace be upon him) described the act of fixing prices as injustice to the seller if price fluctuations in the market were due to normal market forces. An increase in price due to increased demand should be seen as an opportunity for the seller to make more profit from the prevalent market condition. Forcing the seller to sell at a fixed price would stop him from enjoying the bounties provided by Allah S.W.T. Thus, it would not be against the Sharī‘ah for market players to take advantage of the rise and fall in prices following the forces of supply and demand for the goods offered.¹⁹

3. There are a number of other, similar narrations that show the Prophet (peace be upon him) refused to fix prices:

Abu Hurayrah narrated:

« ما روى عن أبي هريرة عند أحمد وأبي داود: أَنَّ رَجُلًا جَاءَ فَقَالَ يَا رَسُولَ اللَّهِ سَعَّرَ. فَقَالَ « بَلْ أَدْعُو ». ثُمَّ جَاءَهُ رَجُلٌ فَقَالَ يَا رَسُولَ اللَّهِ سَعَّرَ ، فَقَالَ « بَلِ اللَّهُ يَخْفِضُ وَيَرْفَعُ ، وَإِنِّي لَأَرْجُو أَنْ أَلْقَى اللَّهَ وَلَيْسَ لِأَحَدٍ عِنْدِي مَظْلَمَةٌ ». »

“A man came and said, “Messenger of Allah, fix prices.” He said, “(No), but I shall pray.” Another man came and said, “Messenger of Allah, fix prices.” He said, “In fact, it is Allah Who makes [prices] low and high. I hope that when I meet Allah none of you will have any claim against me for any injustice.”²⁰

18 Narrated by Abū Dāwūd, *Sunan Abī Dāwūd*, Kitāb al-ijārah, Bāb al-tas‘īr, no. 3451, vol. 2, p. 293.

19 *Resolutions of the Securities Commission Shariah Advisory Council*, 2006, pp. 89-90.

20 Narrated by Abu Dāwūd, op. cit., no. 3451, vol. 2, p. 293.

‘Alī ibn Abī Ṭālib narrated

قيل: يا رسول الله ، قوم لنا السعر ، قال: (إن غلاء السعر ورخصه بيد الله، أريد أن ألقى ربي وليس أحد يطلبني بمظلمة ظلمتها إياه).²¹

People came to the Prophet (peace be upon him) and said, “Messenger of Allah, fix prices for us.” He said, “Indeed, the rise and decline of prices is in Allah’s hand. I want to meet my Lord with none of you having any claim against me for any injustice.”

All these narrations show that the Prophet (peace be upon him) was reluctant to interfere in the fixing of prices after finding that the price was being determined by market forces and not by any act of manipulation.

This view is also supported by *hadīths* which establish that the right to benefit from property is the full right of the owner:²²

Abū Hurayrah narrated that the Prophet (peace be upon him) said

« كُلُّ الْمُسْلِمِ عَلَى الْمُسْلِمِ حَرَامٌ: دَمُهُ وَمَالُهُ وَعَرَضُهُ ».²³

“All of a Muslim is off-limits to another Muslim: his blood, his property and his dignity.”

Jābir ibn ‘Abdullāh related that in the last sermon of the Prophet (peace be upon him) he said:

« إِنَّ دِمَاءَكُمْ وَأَمْوَالَكُمْ حَرَامٌ عَلَيْكُمْ كَحَرَمَةِ يَوْمِكُمْ هَذَا فِي شَهْرِكُمْ هَذَا فِي بَلَدِكُمْ هَذَا ».²⁴

“Indeed your blood and property are prohibited to you all just as the prohibition of this day in this month and in this city.”

21 Nūr al-Dīn ‘Alī ibn Abī Bakar al-Haytamī, *Kashf al-Astār ‘an Zawā’id al-Bazzār ‘alā Kutub al-Sunnah* (Beirut: Mu’assasat al-Risālah, 1984), vol. 2, p. 85.

22 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,p 121.

23 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.

24 Al-Bukhari , *al-Jami al-Sahih*, op.cit , v2,p215.

Second Opinion: Determining the price is allowed in order to preserve the basis of justice between people and to avoid the element of injustice (*ẓulm*) to public interest (*maṣlaḥah ʿāmmah*). According to the Ḥanafīs²⁵ and a group of Mālikī²⁶ and Shāfiʿī²⁷ jurists, the government is allowed to fix the market price when there is a price increase above the normal price in the market.

Ibn Taymiyyah and Ibn Qayyim al-Jawziyyah added that fixing prices is not permissible for those who are tyrannical (*ẓālim*) but it is permissible for those who are just (*ʿadl*).²⁸ In other words, if fixing prices involves injustice (*ẓulm*) to people, it is considered *ḥarām*. On the other hand, if fixing prices leads to fairness and justice (*ʿadl*) among the people or protects them from harm, then it becomes lawful.²⁹

There is another view on this issue from a few jurists. Saʿīd bin Musayyib, Rabīʿah ibn ʿAbd al-Raḥmān and Yaḥyā ibn Saʿīd al-Anṣārī held it 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.³⁰ Their argument is that price fixing by the government will protect the public interest (*maṣlaḥah ʿāmmah*) of all consumers.

To conclude, the rise of prices that happened during the time of the Prophet (peace be upon him) was not due to the speculation of traders, but rather a natural phenomenon.³¹ The Prophet (peace be upon him) feared to be unfair to traders by fixing the market prices.

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

25 Al-Kāsānī, op. cit., vol. 5, p. 129.

26 Yūsuf ibn ʿAbd Allāh ibn Muḥammad Ibn ʿAbd al-Barr, *al-Kāfī fī fiqh ahl al-Madīnah* (Cairo: Maṭbaʿat Ḥasan, 1979), vol. 2, p. 73.

27 Yaḥyā ibn Sharaf al-Nawawī, *Rawḍat al-Ṭālibīn*, vol. 4, (Beirut: al-Maktabah al-Islamiyyah, 1985), p. 411.

28 Ibn al-Qayyim, *Al-Ṭuruq al-Ḥukmiyyah fī al-Siyāsah al-Sharʿiyyah*, edited by Muḥammad Ḥāmid al-Fiqhī (Beirut: Dār al-Kutub al-ʿIlmiyyah), vol.1, p 244-245.

29 Al-Kufrawī, op. cit., p. 156.

30 Mājid Abu Rakhīyyah, *Ḥukm al-tasʿīr fī al-Islam*, (Amman: Maktabat al-Aqṣā, 1983), pp. 12-18.

31 ʿAlī Aḥmad al-Salūs, *Fiqh al-Bayʿ wa al-Istinsāq wa al-Taṭbīq al-Muʿāṣir* (Egypt: Muʿassasat al-Rayyān, 2004), pp. 82-83.

2.4 Justifications for Introducing a New Benchmark Pricing Model for Islamic Banks

Much criticism has been leveled against Islamic banking and finance for depending on the conventional benchmark. Many contemporary Muslim scholars have been calling for initiation of an independent benchmark pricing for Islamic banks.

The Eighth Conference of the Fiqh Academy of the OIC, held in Jeddah 18-19 Shawwal/10-11 April 1993, focused on currency issues. One of the resolutions that they unanimously passed, among others, was Resolution No. 7, which urged prompt creation of a new benchmark acceptable from a Sharī'ah perspective as an alternative to interest-based rates for determining profit margins.³²

The call has also been clearly articulated in AAOFI Standard No. 27 on indices. Clause 7 states that one of the parameters that should guide development of an Islamic index should be adherence to Sharī'ah precepts, in addition to the technical control relating to the components of the index and its application. Besides, there should be a Sharī'ah supervisory board for the index to ensure the observation of Sharī'ah precepts in the components and applications of the index and to conduct periodical review and reporting relating thereto.

The fundamental reason for introducing a new benchmark as an alternative to an interest-based benchmark for borrowing and lending is the prohibition of *ribā*. Shaykh Muḥammad Taqī Usmani advocates that Islamic banks and financial institutions should get rid of the interest-based benchmark as soon as possible. He argues that using an interest rate as a benchmark for a *ḥalāl* business is undesirable and does not advance the basic philosophy of Islamic economy, thereby making no impact on the system of distribution.³³

The following are some other justifications from a Sharī'ah perspective:

32 *Majallat Majma' al-Fiqh al-Islāmī*, Conference on Currencies Issues, 8th Conference, Jeddah 18-19 Shawwal, 10-11 April 1993; vol. 3, p. 780.

33 Muḥammad Taqī Usmani, *An Introduction to Islamic Finance*, p. 120.

2.4.1 Regulatory Pricing and its Validity from the Perspective of Maqāsid al-Sharī'ah

Since a benchmark is used as a guide and indicator for pricing, to some extent it also contains the element of controlling prices in the market. Having a benchmark for pricing is in line with the Sharī'ah objective of establishing justice and fairness in financial transactions. Having a benchmark will also realize other objectives of the Sharī'ah in financial transactions (identified by Ibn 'Āshūr)³⁴ such as transparency (*wuḍūh*), the preservation of wealth and its fair circulation (*rawāj*) in the hands of as many people possible. Establishing a benchmark may help regulators to ensure that fraud and manipulation do not occur in the market, hence creating a healthy market in line with the principles outlined in the Sharī'ah.

Those opposed to interference in the market price argue on the basis of the Sharī'ah's concern for individual property rights. The government is responsible for looking after the public interest (*maṣlaḥah*) of all sections of the society, both buyers and sellers,³⁵ whereas governmental price fixing will violate the rights of sellers.

It is submitted, however, that the government can fix the price because of reasonable justifications rooted in the principles of *siyāsah shar'īyyah*. In this vein, Shaykh al-Islām Ibn Taymiyyah asserted that under certain circumstances the government should intervene to determine the market price to prevent monopoly and trader speculation in the market or if the market players are excessively intent on maximizing profits when the masses are in dire need of certain goods. In this case it is allowable for the authority to intervene, provided that the goods or services are basic needs of the people and the price rise was not a result of natural scarcity of supply or an increase in the number of consumers. It is an important mechanism to correct markets that are distorted by monopolization, unfair advantages and collusion among certain market players.³⁶

The two conditions mentioned by Ibn Taymiyyah: (i) that the goods or services are the basic needs of the people and (ii) that the price hike is not a result of scarcity of

34 Muḥammad al-Ṭāhir Ibn 'Āshūr, *Treatise on Maqāsid al-Sharī'ah*, translated by Dr. Muḥammad El-Ṭāhir El-Mesawi. (Herndon, Va.: International Institute of Islamic Thought, 2006), p. 279.

35 Al-Shawkānī, *Nayl al-Awtār: Sharḥ Muntaqā al-Akḥbār*, op. cit., vol. 5, p. 220.

36 Aḥmad ibn 'Abd al-Ḥalim Ibn Taymiyyah (d.728 AH), *al-Ḥisbah fī al-Islām*, (Dār al-Kutub al-'Ilmiyyah, 1412/1992), vol. 1, pp. 22-23.

supply or population increase, are also relevant for Islamic banking products and services, which people in this modern life cannot avoid.

Having a benchmark for pricing is also supported by the fact that Islam honors the ownership of individual property and the freedom to utilize it without violating the rights of others. If the utilization of property rights may harm 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 Shari‘ah principle that damage should be avoided in order to maintain the public interest.³⁷ This is prescribed by the following legal maxims: “Harm should neither be inflicted nor reciprocated”;³⁸ “When there is a conflict between private interest and public interest, the public interest takes precedence”;³⁹ and “The worse adversity should be removed by the lighter one”.⁴⁰

2.4.2 The Notion of Market Price

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

For example, in a *ḥadīth*:

عن عبد الله بن عمر رضي الله عنهما: أن رسول الله صلى الله عليه و سلم قال: « من أعتق شركا له في عبد فكان له مال يبلغ ثمن العبد قوم العبد قيمة عدل فأعطى شركاءه حصصهم وعتق عليه ، وإلا فقد عتق منه ما عتق ».⁴¹

Ibn ‘Umar (may Allah be pleased with him and his father) narrated that Allah’s Messenger (peace be upon him) said, “If anyone emancipates his share in a slave and has enough money to pay the full price for him, a fair

37 Zayn al-‘Ābidīn ibn Ibrāhīm Ibn Nujaym, *Al-Ashbāh wa al-Nazā’ir ‘alā Madhhab Abī Ḥanīfah* (Beirut: Dār al-Kutub al-‘Ilmiyyah, 1985/1405), vol. 1, p. 176.

38 See the *ḥadīth* cited in Aḥmad ibn Muḥammad Ibn Ḥanbal, *Musnad Aḥmad* (Beirut: Dār al-Ṣādir li al-Ṭibā‘ah, n.d.), vol. 1, p. 313; and Aḥmad ibn al-Ḥusayn ibn ‘Alī al-Bayhaqī, *Al-Sunan al-Kubrā*, (Beirut: Dār al-Kutub al-‘Ilmiyyah, 1999), vol. 6, p. 69.

39 Mejjelle, *Being an English Translation of Majallat al-Aḥkām al-‘Adliyyah and a Complete Code of Islamic Law*, Trans. C.R. Tyser, B.A.L. (Kuala Lumpur: The Other Press, 2003), p. 27; Ibn Nujaym, *al-Ashbāh wa al-Nazā’ir ‘alā Madhhab Abī Ḥanīfah*, op. cit., vol. 1, p. 109.

40 Mejjelle, op.cit., p. 27.

41 The hadith is narrated by al-Bukhari and Muslim; see Ibn Ḥajr al-‘Asqalānī, *Bulūgh al-Marām*, (Saudi Arabia: Dar as-Salam Publication, 1996), pp. 503-504.

An Islamic Pricing Benchmark

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

Commenting on this *ḥadīth*, Ibn Taymiyyah said: “This command of the Prophet (peace be upon him) to assess the entire [slave] by the market price (*mithl*) is the essence of price fixing.”⁴²

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 as it is already the practice of the Muslims. In his day, the baker would sell bread, the butcher would sell meat and the grocer would sell foodstuff without mentioning a price, and they would conclude transactions at the price they had become accustomed to. He argued that the purchaser would definitely agree to a price that is the same for a given commodity as that charged to other customers. This is the custom of those who do not like to haggle over prices but accept the same price charged to others.⁴³

In line with this opinion, the AAOIFI parameters on investment *ṣukūk* allow a purchase undertaking from the issuer to buy the shares back at the market price upon maturity:

“In the case of negotiable *ṣukūk*, 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 the issue, any certificate that may be offered to him; however, it is not permissible for the issuer to undertake to purchase the *ṣukūk* at their nominal value” (AAOIFI Standard 5/2/2).

In line with this concept is the prominent legal maxim, “Custom is an arbitrator”. One may suggest that in a pricing context, customary practice is the market price.

⁴² Ibn Taymiyyah, *al-Ḥisbah fī al-Islām*, vol. 1, p. 42.

⁴³ Ibn Taymiyyah, *Nazarīyyat al-‘Aqd*, p. 165, taken from *Fiqh al-Mu‘āmalāt al-Māliyyah*, by Rafīq Yūnus al-Miṣrī (Damascus: Dār al-Qalam, 2005), vol. 1, p. 181.

Scholars have prescribed several requirements and conditions that have to be fulfilled for a customary practice (*urf*) to be considered valid.⁴⁴ The *urf* must represent common and recurrent phenomena. For custom to be authoritative, it must also be dominant, in the sense that it is 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 dominant one is to be upheld. The custom must also 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.

Another condition requires that the *urf* must not contravene a clear stipulation of an agreement. A custom can only be applied if no contractual agreement has been made in a particular transaction. This is because a custom is only equivalent to 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 price agreeable to both parties at the point of concluding a transaction.

Urf must also not contravene a clear text (*naṣṣ*) of the Qur'an or the Sunnah. This implies that the indexes, variables samples must be free from non-*ḥalāl* elements.

2.4.3 Qiyās with Advance Payment of Zakāh based on Khars (Estimation)

It has been authentically reported that the Prophet (peace be upon him) used to send his companions to collect *zakāh* prior to harvest time by estimating the future yield. The evaluation was done by an expert on how much the net produce was likely to be so that the owners could pay their *zakāh* even before the harvest.

One such *ḥadīth* was narrated by 'Attāb ibn Usayd, that Allah's Messenger (peace be upon him) ordered *zakāh* to be estimated on grapevines as it is estimated on palm trees, then the *zakāh* is to be paid in raisins [as the *zakāh* on palm trees is paid in dried dates].⁴⁵

⁴⁴ Mohamad Akram Laldin, *Introduction to Shariah and Islamic Jurisprudence* (Kuala Lumpur: Malaysia, 2006), pp. 120-122.

⁴⁵ See Ibn Ḥajr al-'Asqalānī, *Bulūgh al-Marām*, *ḥadīth* no. 498, p. 214.

In the case of the *zakāh* payment, permission has been given for an obligation to be performed based upon constructive evaluation in place of the measurement of the actual tangible produce after harvest. The case of having a benchmark based on a particular means of assessment should be much more acceptable as it is nonbinding in nature. It is used only as an indicator to determine a price.

2.4.4 Having a Benchmark Based on the Principle of *Sadd al-Dharī'ah*⁴⁶

Sadd al-dharī'ah is a principle of the Sharī'ah identified by an inductive reading of the texts. It was noticed that the Sharī'ah prohibits some actions that are in themselves lawful in order to prevent other, impermissible actions. The principle was then employed by jurists to block ostensibly permissible acts when they become means to an unlawful end that is likely to materialize if those means are not obstructed. Blocking the means must necessarily be understood to imply blocking the means to evil.⁴⁷ In this case, 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.⁴⁸ In the context of Islamic banking, establishing a benchmark for pricing can resolve such uncertainty, and at the same time regulators may fight against monopoly and unjustified high pricing.

2.4.5 Revocability of a Contract Because of *Ghabn* (Loss Due to Deception or Ignorance of Price)⁴⁹

Benchmark pricing is in line with the Sharī'ah principle that disapproves of unfair transactions due to factors such as ignorance of the prevalent price and the presence of the elements of fraud. Both of these are called *ghabn*. To some extent, the party which suffers loss as a result is given the prerogative to revoke the contract.

Ghabn literally means shortfall (*naqs*) and deception. Technically, it means the sale of a commodity for either a lower or higher price than the common price in the

⁴⁶ Ibn Qudāmah, *al-Mughnī*, vol. 4, p. 281.

⁴⁷ Mohammad Hashim Kamali, *Principles of Islamic Jurisprudence* (Kuala Lumpur: Ilmiah Publishers, 2000), p. 310.

⁴⁸ Ibn Taymiyyah, *al-Hisbah fī al-Islām*, op. cit., vol. 1, p. 42.

⁴⁹ Rafīq Yūnus al-Miṣrī, *Fiqh al-Mu'āmalāt al-Māliyyah* (Damascus: Dār al-Qalam, 2005), vol. 1, p. 150.

market, such that either the buyer or the seller suffers a loss.⁵⁰ *Ghabn* can be divided into two categories: *ghabn yasīr* (slight) and *ghabn fāḥish* (exorbitant).

If the price is known to people for things such as bread, meat, apples or bananas, then it is not considered *ghabn yasīr*. In determining *ghabn yasīr*, most jurists hold that it refers to anything that is commonly practiced according to *‘urf*.

As to *ghabn fāḥish*, the Ottoman Mejjelle, which is based on the views of the Ḥanafī School, prescribes the financial ratio of *ghabn fāḥish* as follows:

Commercial: 5% from the prevalent price

Animal: 10% from the prevalent price

Real estate: 20% from the prevalent price.⁵¹

Some Mālikīs defined *ghabn fāḥish* at about one-third above the actual value, while some others said it is more than one-third.⁵² The Shāfi‘īs regard *ghabn fāḥish* as situations where it cannot be accepted by market practice (*‘urf*). The dominant Ḥanbalī opinion also refers to *‘urf* (market practice) as a benchmark to determine *ghabn fāḥish*, although some of them said one-third of the value, and others chose one-sixth.⁵³

The jurists unanimously agree that *ghabn yasīr* does not affect the validity of the contract, for slight deception is unavoidable. As such, the deceived party is not entitled to cancel the contract. However, the Ḥanafīs have argued that the existence of slight deception in contracts made by bankrupt person or by a person suffering from a terminal illness invalidates the contract. They are also of the opinion that the

50 See Abū Zakariyyā Muḥy al-Dīn ibn Sharaf al-Nawawī, *Tahdhīb al-Asmā’ wa al-Lughāt* (Beirut: Dar al-Kutub al-Ilmiyyah, n.d.) p. 57; Nazīh Ḥammād, *Mu‘jam al-Muṣṭalahāt al-Māliyyah wa al-Iqtisādiyyah fī Lughat al-Fuqahā’* (International Islamic Publishing House, 1995), p. 258; Muḥammad Rawwās Qal‘ahjī, *Mu‘jam Lughat al-Fuqahā’* (Beirut: Dār al-Nafā’is, 1988), p. 329.

51 The Mejjelle, article 165.

52 Muḥammad ibn Aḥmad al-Dusūqī, *Hāshiyat al-Dusūqī ‘alā al-Sharḥ al-Kabīr*, vol. 3, p. 140; Muḥammad ibn Muḥammad ibn ‘Abd al-Raḥmān al-Ḥaṭṭāb al-Ru‘aynī, *Mawāhib al-Jalīl fī Sharḥ Mukhtaṣar Khalīl*, vol. 6, p. 399.

53 Ibn Qudāmāh, *al-Mughnī*, op. cit., vol. 4, p. 79; ‘Alā al-Dīn Abū al-Ḥasan ‘Alī ibn Sulaymān al-Mardāwī al-Damishqī, *al-Inṣāf fī Ma‘rifat al-Rājiḥ min al-Khilāf ‘alā Madhhab al-Imām Aḥmad ibn Ḥanbal*, Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī, 1419), vol. 4, p. 284.

existence of slight deception invalidates any sales contract where a guardian (*waṣī*) sells the property of his ward to his close relatives for a lower price.⁵⁴

As to *ghabn fāḥish*, in all other cases, according to the Ḥanafīs, *ghabn* alone does not entitle the cheated party to cancel the contract. However, if *ghabn* is accompanied by a false description of the sold item (*taghrīr*) or any other form of fraud, then the purchaser has the option to cancel the contract. They, however, made exceptions with regard to properties owned by Bayt al-Māl, *waqf* properties and properties owned by minors, lunatics and prodigals; in those cases the mere existence of *ghabn* will invalidate a contract.⁵⁵

According to the Ḥanbalīs, the existence of *ghabn*, whether accompanied by fraud (*taghrīr*) or not, affects the validity of the contract. The injured party, according to them, has the option to cancel the contract in three cases: *talaqqī al-rukbān*, *al-najsh*, or where the buyer is ignorant of the actual price and has relied on the honesty of the seller.⁵⁶ *Al-najsh* means bidding for an item on sale merely to drive the price up, without any intention of buying the item. *Talaqqī al-rukbān* 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 were specifically prohibited by the Prophet (peace be upon him). However, according to the Shāfi‘īs, a person who has been cheated in these ways should have known the actual price or should have asked those with the relevant knowledge and expertise. The Shāfi‘īs attribute the loss to the shortcoming of the cheated party. The Shāfi‘īs, therefore, do not give the losers in these transactions the option to rescind the contract.⁵⁷

Understanding the concept of *ghabn* is relevant here because having a declared benchmark for pricing can help to 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.

54 Wahbah Zuhayli, *Al-Fiqh Islāmī wa Adillatuhu*, (Damascus: Dār al-Fikr, 3rd ed., 1989), vol. 4, pp. 221-222.

55 Ibid., pp. 222-223.

56 Ibid., p. 223.

57 Ibid., vol. 4, p. 224.

2.5 Proposed Shari'ah Parameters for an Islamic Pricing Benchmark

1. A benchmark is not meant to fix a price, but rather to serve as an indicator and a guide to pricing.
2. Unlike borrowing and lending in conventional practice, Islamic banking activities are more comprehensive. They include being a trader, partner and *wakīl* (agent). 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 without necessarily having to be disclosed and displayed.
4. For financing activities, the benchmarks may vary according to the real sectors and products concerned.
5. Risk impairment (potential loss) may be included in the up-front computation of the pricing benchmark, but it cannot be imposed on the customer after the event of default.
6. The time-value of money can be used as a guide for the pricing of a deferred sale but cannot be used to calculate late payment charges.
7. The computed pricing benchmarks should be from permissible activities with valid contracts that fulfill all the conditions and tenets of Islamic principles.
8. The factors for computing the pricing benchmark should be free from non-*halāl* activities, interest rates, and unreal economic activities such as indices of financial derivative products.
9. The 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 fāḥish* (exorbitant profit-taking), corruption and fraud.⁵⁸

⁵⁸ 'Alī Muḥī al-Dīn al-Qurah-Daghi, *Buḥūth fī Fiqh al-Bunuk al-Islāmiyyah: Dirāsāt Fiqhiyyah wa Iqtisādiyyah* (Beirut: Dār al-Bashā'ir al-Islāmiyyah, 2009), p. 16.

11. The pricing benchmark should be free from the activities of hoarding, speculation on price hiking, and monopolization of consumer products (احتكار).
12. Developments and trends of real economic conditions need to be taken into consideration in determining a 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 Sharī‘ah.
13. The indices must be accurate, objective and transparent.⁵⁹

3. LITERATURE REVIEW ON THE PRICING OF BANK FINANCING/ LOANS

3.1 Introduction

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

During the last three hundred years the Western world has evolved the current system of finance whose cornerstone is the rate of interest. Since then, lending at a rate of interest has become a pervasive practice all over the world. Huge amounts of debt are being traded in national and international financial markets every working hour, exceeding the gross domestic products of many countries. Developing countries, having played little role in establishing the current financial system, have either adopted this practice or inherited it from their former colonial masters. Until the middle of the twentieth century, it seemed to virtually everyone that nothing

⁵⁹ 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 *jahālah* (ignorance or uncertainty). (AAOIFI, Indices 3/2, p. 496).

wrong could be found with the system. That was when economics had 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. One could rarely find an economist who would call for a zero price for anything, as prices serve as important tools in resource allocation. This approach has led to more and more extreme and dangerous instruments, one of the recent examples being an “interest only” loan, for which a borrower initially makes payments only for interest due, none to pay back 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.

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 rise, 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.

Saunders and Schumacher (2000), in their study on the determinants of bank net interest margins (NIM)—the gap between interest earned and interest paid as a percent of interest earning assets - in six selected European countries and the US during the period 1988-1995, found that regulatory components, in the form of interest rate restrictions on deposits, reserve requirements and capital-to-asset ratio, have significant impact on banks’ NIM. 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 customers—low NIM.

Apart from interest-rate spread—the gap between lending and deposit rates—the NIM has been widely used as an indicator for the Cost of Funds Index (COFI). 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, the 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 deposit 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.

3.2 Factors Influencing Borrowing Costs (Interest Rate)

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 a loan: (i) interest rate and (ii) a fee, i.e., a specified amount for a loan transaction. In loan pricing, at least, there are two factors that need to be considered: the cost of doing business, and demand and supply for loans. The key drivers of cost in a financial institution are:

- a. Cost of funds: the money given/used for loans 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 savings; logically, high interest rates to depositors imply a higher interest rate charged on loans, and vice versa. Some of the money financial institutions use to finance their loans comes from sources other than members' deposits; the cost of these funds will influence loan pricing. The more they pay to use other funds, the more they charge to make them available as loans.

- b. Administrative costs: these are the costs associated with making as well as maintaining the loan. Administrative costs are factored into the loan price.
- c. Default: It is a fact of life that not all loans will be repaid by the borrowers. The financial institution must somehow recover the cost of these losses. The practice requires that bad loan losses be factored into the loan price.
- d. Capital requirement: Financial institutions need money for expansion. The capital needs for business growth are also factored into the loan price.

3.3 Existing Loan/Financing Techniques

As previously mentioned, lending and borrowing at interest has become a pervasive practice all over the world. Malaysia is one of the many developing countries that have adopted it. The monetary policy of the government is continually tied to interest rates. The government either increases or decreases the level of the interest rate to stimulate or reduce spending. This action will either expedite or impede the movement of money in public. Generally, such policies are implemented by the central bank, which has authority over banks and financial institutions. Nevertheless, there are many factors that affect interest rates. Inflation and other economic indicators are normally related to one another, and these, in turn, dictate which interest rate to peg. The following interest rates have been used extensively in the Malaysian financial industry for policy stances as well as establishing the rate for financial products and services.

1. Overnight Policy Rate (OPR)

The Overnight Policy Rate is an overnight interest rate set by Bank Negara Malaysia (BNM) in order to direct monetary policy. It is the target rate for the day-to-day liquidity operations of the BNM (AsianBondsonLine, 2009). This, the only official rate set by BNM as monetary policy, is used to mop up liquidity in the market. It is fixed by BNM at the Monetary Policy Committee meeting, usually held eight times a year. There is no formula for setting OPR, although it serves directly or indirectly as the reference point for all other financial benchmarks. OPR serves the purpose of indicating the monetary policy stance and target rate for the day-to-day liquidity operation of BNM. A change in the OPR is announced in the Monetary

Policy Statement (MPS) of BNM, which is released to coincide with Malaysian quarterly GDP performance. In case 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 rates were under the administrative control of BNM. However, a policy giving each bank a free hand to determine its own interest rate was put in place February, 1991. As part of this policy, BNM developed a standardized formula for calculating BLR based on each individual bank's cost of funds. This policy allowed banks a margin above BLR, capped at 4 percentage points. Another change in the interest regime was initiated in November, 1995. This was the developed-market-based BLR framework incorporating a standardized formula for computation of maximum BLR for industries. This maximum BLR was computed based on a weighted average of three months of the interbank rate together with an administrative margin of 2.5 percentage points. However, the 4-percent capped margin remained as the maximum above BLR. By September 1998, BNM substituted the BNM intervention rate for the interbank rate. The administrative margin was then reduced to 2.25 percentage points, and the maximum margin above BLR was lowered to 2.5 percentage points. This rate was used to compute the ceiling BLR since it is the market rate at which BNM loans to banking institutions when the market is short of liquidity. Finally in April 2004, BNM started implementing the new interest-rate 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 Interbank Offered Rate (LIBOR) is a day-by-day quotation rate centered on the interest rates at which banks lend unsecured loans to other banks in the London wholesale money market. LIBOR is defined as “the rate at which an 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” (Coyle, 2001).

Prior to 1984, increasingly active trading was observed among a number of banks using various instruments that were 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 founded different working groups, whose efforts led to the BBA standard for interest rate swaps. This standard included the fixing of BBA interest rates that led to BBA LIBOR. Starting from 2 September 1985, the BBAIRS terms developed into the standard market price. By 1 January 1986, BBA LIBOR fixing officially commenced. As of 2008, there were 223 member banks and 37 associated professionals, with representatives coming from more than sixty nations.

LIBOR is computed by Thompson Reuters on behalf of BBA at around 11:45 am every day for 10 currencies. The contributor banks on each currency panel range 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.⁶⁰

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 is 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 on its payment. Whereas Treasury bills are 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 the KLIBOR market to meet their short-term financial obligations in this market. Hence they consider KLIBOR as the opportunity cost of capital (Sahabudeen, 2006).

Market participants, comprising commercial and merchant banks, discount houses, finance companies and CAGAMAS, bid for funds or offer to lend to or borrow

⁶⁰ Brian Coyle, *Money Markets* (UK: Financial World Publishing, 2001), p. 13.

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from one another 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 a benchmark for financial institutions, investors and security houses. It is derived from conventional banks' inter-bank loan transactions for floating loans, derivative transactions and the futures market; there is no particular formula for calculating it. KLIBOR does not depend directly on OPR, but banks take OPR into consideration in the values submitted for KLIBOR. Therefore, KLIBOR may not reflect the real situation in the market and delays in updating can sometimes lead to arbitraging. Sometimes when there is no volatility, no expectation in the market or movement in the OPR, the KLIBOR is left unchanged.

The financial institutions have either adopted the abovementioned rates for pricing or utilized the rates in their formulation of cost of funds and base lending rates. Implicitly, all pricing rates are directly affected by the OPR. The following formulations of cost of funds and lending rates are used by the local banks for pricing their loans.

1. Cost of Fund (COF).

This is the 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 Deposit (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 the Statutory Reserve Requirement (SRR) and liquid assets (LR) that must be provided 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 assets; and

l is loan size.

Method 3:

Rose (2003) introduced the following formulas:

a. *Historical Average Cost:*

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

Formula:

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

b. *Historical Average Cost Plus Noninterest Cost*

When commercial banks include the noninterest costs, such as wages, salaries and overhead expenses, needed to produce and sell their deposits and to tap the money market for borrowed funds, the formula cost becomes:

$$\begin{aligned}
 &= \frac{(\text{interest expense} + \text{noninterest expense})}{\text{total sources of funds}} \\
 &= \frac{(\sum \text{nominal deposit} \times \text{interest rate}) + \text{noninterest expense}}{\text{total sources of funds}} \qquad (3.4)
 \end{aligned}$$

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

Because stockholders also provide a significant share of a banking institution's funds, and owners' (equity) also has a 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:

Minimum Required Rate of Return on Debt and Equity	=	Weighted Minimum Return to Cover Debt Capital Loss	+	Weighted Minimum Return Required on Equity Capital	(3.5)
	=	Minimum Return to Cover Debt Capital Loss	x	<u>...Debt Capital...</u> Total Income-Earning Assets	
	+	Before-Tax Minimum Required Return on Owners' Equity Capital	x	<u>Owners' Equity Capital</u> Total Income-Earning Assets	

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 scales of economy 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:

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

e. Pooled Funds Cost

This is a 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, pooling 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

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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:

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

Since the method does not take into account the reserve requirements, 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:

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

2. *Base Lending/Financing Rate (BLR/BFR)*

Malaysia and some other countries refer to the interest that banks charge their net-worth customers as the base lending rate. Banks in some other countries use the name "Prime Rate" or "Prime Lending Rate" to refer to their Base Lending Rate. The base lending rate is the lowest interest rate computed by financial institutions, using a formula that takes note of the institution's cost of funds and administrative charges. The BLR is most of the time equal among the main banks. Banks adjust the BLR at almost the same period, though not regularly. This is always done to coincide with 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 loans, called the prime rate (for bank customers) and the preferential rate (for federal and state governments). However, as part of BNM's 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 funds, including statutory reserve and liquidity and administrative costs and a predetermined profit margin.

From 1 September 1998, the BLR framework was revised to allow a faster transmission of changes in monetary policy on the interest rate level. The calculation of BLR was based on a 3-month intervention rate instead of the KLIBOR, and the administrative margin for financial institutions allowed in BLR was 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 among major banks. Adjustments to the BFR/BLR are made by banks at almost the same time, although the BLR is not adjusted on any regular basis. It is usually adjusted in correlation to the adjustments of the Overnight Policy Rate (OPR), which is determined by Bank Negara Malaysia (BNM) during its Monetary Policy Meeting. 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' computations is because the commercial banks give a current account facility, which is interest-free, while finance companies do not offer the 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:

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

3.4 The Permissibility of Using the Interest Rate as the Benchmark for Pricing

The literature just reviewed provides an extensive discussion of the existing pricing based on interest rates. But is it permissible from a Sharī'ah perspective? According to Shaykh Muhammad Taqi Usmani (1998, 2007) and AAOIFI standard 27/5/3 (2004), 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. Usmani (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 markup on *murābaḥah* equal to LIBOR or some fixed percentage above it. This practice is often criticized on the basis that the profit rate is based on the interest rate and should, thus, be as prohibited as interest itself. Interestingly, according to Shaykh Usmani, merely using the interest rate as a benchmark for determining profit of *murābaḥah* does not render the transaction invalid, *ḥarām* 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 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 Sharī'ah, and another who trades in lawful products in Islam such as soft drinks. The latter wants his business to earn as much profit as the former earns through his trading in liquor. Thus, he resolves to charge his customers the same rate of profit as the liquor trader charges. No one can say that the profit charged by the latter in a *ḥalāl* business is *ḥarām* since he used it only as a benchmark. The writer also discussed the issue of calculating the cost in a *murābaḥah* transaction. He states that the transaction of *murābaḥah* is based on the concept of cost-plus, which can be applied only where the seller can ascertain the exact cost he has incurred in acquiring the commodity he wants to sell. In this light, if the exact cost cannot be ascertained, *murābaḥah* is not possible.⁶¹

Although it is permissible to use interest rates as an indicator or as a benchmark, as discussed above, there have been many criticisms of using the interest rate of the conventional system as a benchmark, as was previously mentioned in Section

61 Muḥammad Taqi Usmani, *An Introduction to Islamic Finance*, pp. 118-119.

2. Shaykh Taqi Usmani (2007) himself has advocated that the Islamic financial institutions should liberate themselves from this practice as soon as possible, and he has proposed a model for an Islamic pricing benchmark. A review of the classical and contemporary literature on an Islamic pricing benchmark follows.

3.5 Studies on an Islamic Pricing Benchmark

The early classic Islamic jurisprudence books that discussed pricing in Islam are: *Nihāyat al-Rātibah fī Talab al-Ḥisbah*,⁶² *Adab al-Ḥisbah*,⁶³ *Ma‘ālim al-Qurbah fī Aḥkām al-Ḥisbah*,⁶⁴ *al-Ḥisbah fī al-Islām*,⁶⁵ and the book *al-Ṭuruq al-Ḥukmiyyah fī al-Siyāsah al-Shar‘iyyah*.⁶⁶ The earliest book that focuses on the issue of pricing in particular was *Aḥkām al-Sūq*⁶⁷, followed by the book *al-Taysīr fī Aḥkām al-Tas‘īr*.⁶⁸

Among the contemporary works in Arabic on pricing mechanisms and their permissibility from a Sharī‘ah perspective, as well as government intervention in pricing, are *Aḥkām al-Tas‘īr fī al-Fiqh al-Islāmī*, written by Muḥammad Abū al-Hudā al-Ya‘qūbī al-Ḥusnī;⁶⁹ *al-Ru‘yah al-Islāmiyyah li Tas‘īr al-Sila‘ wa al-Khadamāt*, written by Muḥammad bin Aḥmad bin Ṣāliḥ al-Ṣāliḥ;⁷⁰ *Jarā‘im al-Tas‘īr al-Jabarī*, written by Maḥmūd Muḥammad ‘Abd al-Zaini;⁷¹ *Dirāsāt fī Takālīf al-Intāj wa al-Tas‘īr fī al-Islām*, written by ‘Awf Maḥmūd al-Kufrawī,⁷² where the focus was on cost and revenue and the calculation of cost and profit rate from a Sharī‘ah perspective.

The contemporary works in English on a pricing benchmark from a Sharī‘ah

62 Written by ‘Abd al-Raḥmān ibn Nāṣir, who lived during the reign of Solahuddin al-Ayyubi and died 589 AH.

63 Written by ‘Abd Allāh al-Saqtī Muḥammad ibn Aḥmad al-Malqī, a public auditor of Andalusia who died by the beginning of the 11th century.

64 Written by al-Qurashī, Muḥammad ibn Aḥmad al-Shāfi‘ī, 729 AH.

65 Written by Shaykh al-Islām Ibn Taymiyyah.

66 Written by Ibn Qayyim al-Jawziyyah.

67 A Mālikī jurist, Yaḥyā ibn ‘Umar al-Kanānī, 213-289 AH.

68 A Mālikī jurist, Aḥmad ibn Sa‘īd al-Majlidī, 1094 AH.

69 Muḥammad Abū Hudā al-Ya‘qūbī al-Ḥusnī, *Aḥkām al-Tas‘īr fī al-Fiqh al-Islāmī* (Pakistan: Dār al-Bashā‘ir al-Islāmiyyah, 2000).

70 Muḥammad bin Aḥmad al-Ṣāliḥ, *al-Ru‘yah al-Islāmiyyah li Tas‘īr al-Sila‘ wa al-Khadamāt* (Jāmi‘at al-Imām Muḥammad bin Sa‘ūd al-Islāmiyyah, 2001).

71 Maḥmūd Muḥammad ‘Abd al-Zaynī, *Jarā‘im al-Tas‘īr al-Jabarī* (Egypt: Dār al-Jāmi‘ah al-Jadīdah, 2004).

72 ‘Awf Maḥmūd al-Kufrawī, *Dirāsāt fī Takālīf al-Intāj wa al-Tas‘īr fī al-Islām*, op. cit.

perspective include *An Introduction to Islamic Finance* (Muhammad Taqi Usmani),⁷³ *Pricing of Murābahah and Ijārah Products in Malaysia*⁷⁴ (Muhd Ramadhan Fitri, 2007), *Book of Indexation of Financial Assets: an Islamic Evaluation* (S.M Hasanuz Zaman).⁷⁵ Another relevant contemporary research is *Cost of Capital and Investment in a Non-Interest Economy*, by Abbas Mirakhor.⁷⁶

Generally, studies on Islamic pricing as well as Islamic cost of capital are still relatively scarce. Perhaps, the most significant works in modeling the Islamic Pricing benchmark are as follows:

3.5.1 Rate of Profit Mechanism Model.

This was proposed by ‘Abd al-Ḥamīd al-Ghazālī (1414 AH).⁷⁷ According to him, this can be achieved by analyzing the rate of profits in the money market. He proposes that it is a more rational way that promotes justice for all and fits the nature of economics.

But this model has been criticized. Hussain Hassan Shahatah stated, “There will be a problem in defining the concept of profit and its scope: whether the expected profit will be from each project, or from a group of projects involved in a specified activity, or from a group of projects that involve various activities. The idea is

73 Muhammad Taqi Usmani, *An Introduction to Islamic Finance*, op. cit.

74 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 compete 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 *murābahah* and *ijārah* 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. The author concludes that to some extent the use of BLR as a benchmark in pricing similar to conventional banks is allowable according to many contemporary scholars.

75 S.M Hasanuz Zaman, *Indexation of Financial Assets: an Islamic Evaluation* (Pakistan: The International Institute of Islamic Thought, 1981).

76 Abbas Mirakhor, Cost of capital and investment in a non-interest economy, *Islamic Economic Studies*, vol. 4, no. 1, December 1996.

77 ‘Abd al-Ḥamīd al-Ghazālī, *Al-Arbāḥ wa al-Fawā'id al-Maṣrafiyyah Bayna al-Tahlīl al-Iqtisādī wa Ḥukm al-Sharī'ah* (Jeddah: Islamic Development Bank, 1414 AH), p. 22; quoted by Shahatah, *Ījād Mu'ashshir*, pp. 215-216.

generally acceptable from the perspective of economics but needs to be deployed, studied in more detail and analyzed for its properties as well as [its application to] accounting.”⁷⁸

3.5.2 Rate of Dividend of Islamic Bank Deposits and Investment Accounts Model.

This is a suggestion by Muḥammad ‘Abdul Ḥalīm ‘Umar (2000).⁷⁹ According to him, a benchmark can be created from the dividends distributed by Islamic banks to their depositors. It will remove uncertainty and doubt by replacing the interest rate with a rate of profit. It will provide a mathematical index as compared to its conventional counterpart.

However, this proposal can be challenged by the fact that it is tantamount to changing the name of “interest rate” to “profit rate” without changing the essential elements at all. This replacement of 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 change such as changing the name only is a typical way used by Islamic banks to cheat people.

3.5.3. The Creation of an Inter-Islamic-Banks Market Based on Islamic Principles.

This was suggested by Shaykh Muhammad Taqi Usmani (2007). According to him, the purpose can be achieved by creating a common pool which invests in asset-backed instruments like *mushārahah*, *ijārah*, etc. If the majority of the asset pool is in tangible form, like leased property or equipment, shares in business concerns, etc., its units can be sold and purchased on the basis of their net asset value determined on a periodic 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 an inter-bank market, and the value of the units may serve as an indicator for determining the profit in *murābahah* and leasing also.⁸⁰

⁷⁸ Ibid, p. 216.

⁷⁹ Muḥammad Abd al-Ḥalīm ‘Umar & Muḥammad Faṭḥī Shaḥātah; quoted from Shehata, *Ījād Mu’ashshir*, pp. 216-217.

⁸⁰ Muḥammad Taqi Usmani, *An Introduction to Islamic Finance*, p. 120.

3.5.4. Tobin's Q Theory

This was proposed by Abbas Mirakhor (1996). 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. It is based on the well known Tobin's q and can be used in the private as well as the public sector to obtain a benchmark in reference to which investment decisions can be made.

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, utilizing only Tobin's q, to calculate the 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. The paper has presented the simplest model of q to derive a measure of cost of capital.

3.5.5. A Benchmark That Fits both Islamic and Conventional Banks

This model was proposed by Aznan Hasan.⁸¹ According to him, in Malaysia there are various ways to determine the interest rate based on different sectors; for instance, KLIBOR, Interbank Money Market, BLR, BFR and Overnight Policy Rate (OPR).

⁸¹ Dr. Aznan Hassan, "Al-Siyāsah al-Naqdiyyah fī Daw' al-Siyāsah al-Shar'īyyah (*Monetary Policy in the Light of Islamic Law*)", presentation paper at International Shariah Scholars Forum 2009 at Hotel Niko on 19 November 2009,

It is possible to use the rate of OPR in line with Sharī‘ah principles which suit both Islamic banks as well as 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 funds in the money market. Then, based on that rate, the banks will determine their own respective interest rates that will be used to price all loans and financing. Indeed, all the previously mentioned pricing rates are affected directly by OPR, which is determined by BNM.

The challenge faced by Islamic banks is how to avoid using a profit rate based on the 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 implement, but after conducting 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 have a negative impact on Islamic banks since Islamic banks are smaller in number compared to conventional banks.

If the monetary authority accepts to review and determine the price based on an 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 the real economy, but the existing OPR is at present based on some elements that are against Sharī‘ah. He proposes an in-depth 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 the CPI or Business Price Index or a mix of the two, be used as a basis to determine the profit rate charged by Islamic banks. Possibly, this new benchmark rate could be used for both Islamic and conventional banks.

Besides the previously proposed models, a few researchers have included Islamic pricing studies in their research. Selim (2008) establishes an Islamic finance approach to the capital asset pricing model (CAPM), based primarily on the principles of the abolition of usury, of justice in *hisbah*, and of universal complementarity. He examines the theoretical application of the Islamic financing method based on direct

mushārah to the conventional CAPM. He found *mushārah* financing to yield a lower beta-risk of investments than that compared to the market.

Shubber and Alzafiri (2008) are concerned with computing the cost of capital for Islamic banks, which differs from that of their conventional counterparts. 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 their capital costs. 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 et al. (2009) attempt 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 propose the use of the equilibrium property rental values as an alternative to the current conventional interest rates.

Fitri (2007) attempts to examine the pricing mechanism used by Islamic banking in determining the price of the two most common contracts—i.e., *murābahah* and *ijārah* products—offered by Islamic financial institutions in Malaysia. According to him, in Malaysia's dual-banking environment, 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 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 examined 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 the financier upon conversion of the facility without resorting to any interest-based (*ribawī*) index. Finally, they conducted a sensitivity analysis to study the impact of exogenous variables and to reconcile with the existing mainstream finance literature.

In 2001, Bank Negara Malaysia introduced the framework of rate of return to standardize the methodology for 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 for calculating the rates of return; (2) provide the same playing level and term of reference for 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.

3.5.6 Modern Finance Theory on Cost of Funds/Capital

Over the past five decades, a number of theories, concepts and models have been evolved aiming to compute the respective cost of each source of capital. Among others, they include the trade-off theory or traditional model of capital structure;

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Modigliani and Miller (M&M) propositions (1958); capital asset pricing model (CAPM) (Sharpe, 1964 & Litner 1965); and arbitrage price theory (APT) (Ross, 1976). 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 a minimum, while the second advanced the concept of isolating capital structure from the cost of capital, due to the process of arbitrage practiced by investors, and assuming perfect conditions, including the absence of dealing costs and personal and corporate taxes. CAPM hypothesized a linear relationship between the 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 a 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 finance directors could compute the cost of acquiring new capital from single or multiple sources.

In summary, a few studies have been conducted of an Islamic pricing benchmark, but they are in the early stages. This study extends past studies and offers a model for an Islamic pricing benchmark as an alternative to the current interest-based pricing models. The proposed model utilizes modern finance theory and incorporates the Sharī'ah parameters mentioned in Section 2. With this, it is hoped that Islamic banking and finance will become more comprehensive in Sharī'ah compliance and thereby bring more credibility to the Islamic financial system in general.

4. ISLAMIC PRICING BENCHMARK: A PROPOSAL

4.1 Introduction

In the current practice of Islamic banking and finance, the interest rate is used as the benchmark for pricing products. Profit rates charged in Islamic finance basically track the market interest rate. This has been largely accepted in Islamic finance circles, for the interest rate is merely regarded as a benchmark.

This phenomenon is a manifestation of the ‘law of one price’ that is brought about by arbitraging activities between both 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 a similar market environment. Hence, their cost of capital, etc. tends to converge. But since Islamic banking functions are more varied, with most of its financing 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 as its benchmark interest rates, the very thing it abhors.

As described in Section 2 under Justification for Introducing a New Benchmark Pricing Model for Islamic Banks, there is an urgent need to create a new benchmark as an alternative to the interest-based rate. As stated earlier, the fundamental reason for introducing a new benchmark as an alternative to the interest-based borrowing and lending benchmark is the prohibition of *ribā* itself. Shaykh Muhammad Taqi Usmani (2007) advocates that Islamic banks and financial institutions should get rid of this practice as soon as possible. He argues that using the interest rate as a benchmark for *ḥalāl* business is undesirable and does not advance the basic philosophy of Islamic economy, thereby making no impact on the system of distribution.⁸²

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

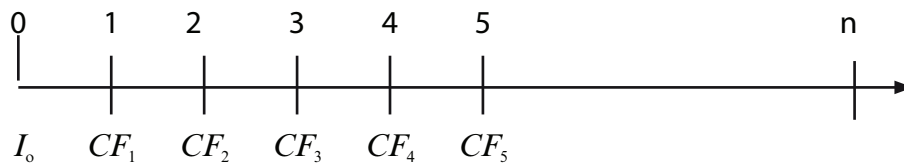
82 Muhammad Taqi Usmani, *An Introduction to Islamic Finance*, p.120.

4.2 Theories of Interest Rates

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

For whatever purposes the funding is given, the financier would want to at least be 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 cash flows. 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 and 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 gives the weighted average of the 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 the interest rate, particularly on government treasury bills and bonds, is taken as riskless, the average IRR in the economy has 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 a 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, $i \leq IRR$

4.3 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.; it 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 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 home on a corner lot as one on 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 conventional finance, the interest rate charged is based on an exogenously determined base rate (here it is the OPR) and a mark-up charged on the perceived riskiness of the funding. Assessing the riskiness of funding is what rating agencies basically do.

Islamic financing is all real, i.e., linked to assets, and therefore, it is 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 *sukūks* 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 has 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 within an industry. Hence 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 should be determined by the amount of perceived unique risk involved.

4.4 Estimating the Islamic Pricing Benchmark

As discussed earlier, the Islamic pricing benchmark should be linked to assets and, therefore, be anchored to the real economy. Accordingly, the 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 macroeconomic factors. Thus, Islamic financing should take both systematic and firm-specific factors into consideration. Therefore, we propose that the Islamic pricing benchmark which will be used as the bank's cost of capital should be based on the market risk plus the perceived unique risk involved.

4.5 Shari'ah-Compliance Status of the Model

The proposed model of an Islamic pricing benchmark offers alternative factors and variables for computation that are based on real economic sectors. This is more acceptable in Shari'ah compared to the interest rate. Using the interest rate indirectly supports the interest-based financial system. *Ribā* is *ḥarām* and regarded as a grave sin in Islam as *ribā* makes a fictitious profit regardless of and against real economic activities; this model offers the opposite.

To include risk profiles in computing estimated return is also justified from a Shari'ah perspective since the owner (vendor) has to bear all the risks related to his goods, which include any incurred damages or losses. In compensation, he is given exclusive right to anticipate and acquire profits from his possession. This is in line with the *fiqh* maxim "*al-ghurm bi al-ghunm*", which means entitlement to profit is associated with assumption of risks. In financial transactions, risks are not confined to the value, damage and safety of the goods prior and after the sale, but also includes default on payment by the buyers.

The formula is in tandem with our proposed Shari'ah parameters in structuring a pricing benchmark. We conclude that the model and formula, as per the proposed Shari'ah parameters, are Shari'ah compliant.

Based on the above reasons, we initially postulated using 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.

4.6 Methodology

4.6.1 Capital Asset Pricing Model (CAPM)

The Islamic benchmark is based on the real economy and is endogenously determined within the economy. Hence, the model most suited here should be akin to the Capital Asset Pricing Model (CAPM), which 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:

$$E(r_i) = r_f + \beta_i(r_m - r_f) \quad (4.1)$$

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

β_i is the measure of market risk of the project, which, in turn, is 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 since Islamic banks are generally operating in a dual system, the 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 *ṣukūks* like government *ṣukūk al-ijārah*.

An Islamic Pricing Benchmark

The total riskiness of a business or project comprises both the market risk and the unique risks of that business or project [Equation (4.2)]. Market risk is borne by all elements in the economy and is, therefore, 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 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.

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

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 up-front.

To capture the market risk embedded in investments, we first assumed that investments can be grouped into sectors as classified by Bursa Malaysia: Consumer Products, Industrial Products, Trading/Services, Plantation, Finance and Property. This is because different sectors have different risk profiles.

Next, we obtained 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 computed the daily returns to the respective sectors and the KLCI. Thereafter, we computed the beta (β), 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: r_m .

We used the respective index value for the sectors as classified by Bursa Malaysia, while the Kuala Lumpur Composite index (KLCI) was used as a proxy for the market itself. Using regression analysis, we obtained the beta, β , the measure of market risk and average rate of return for each sector concerned. Then we plugged the estimated β 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.

4.6.1.1 Results from the CAPM Model

Figure 1 through Figure 7 show the relationship between the calculated expected return and ROE, ROA and OPM for each sector. It is seen that the calculated expected returns based on the 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 while still being able to take into consideration both systematic risk and the specific risk of firms. However, the results obtained show that expected returns based on a simple CAPM model are of little practical use. This may be due to the highly speculative nature of the stock market such that it does not fully reflect the true business situation.

An Islamic Pricing Benchmark

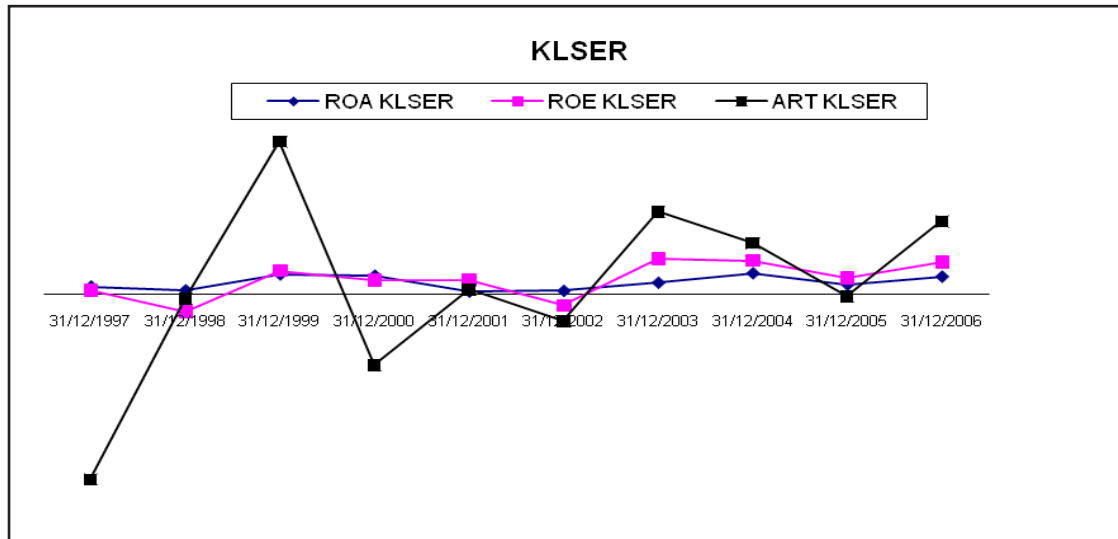


Figure 1: Return for Service Sector

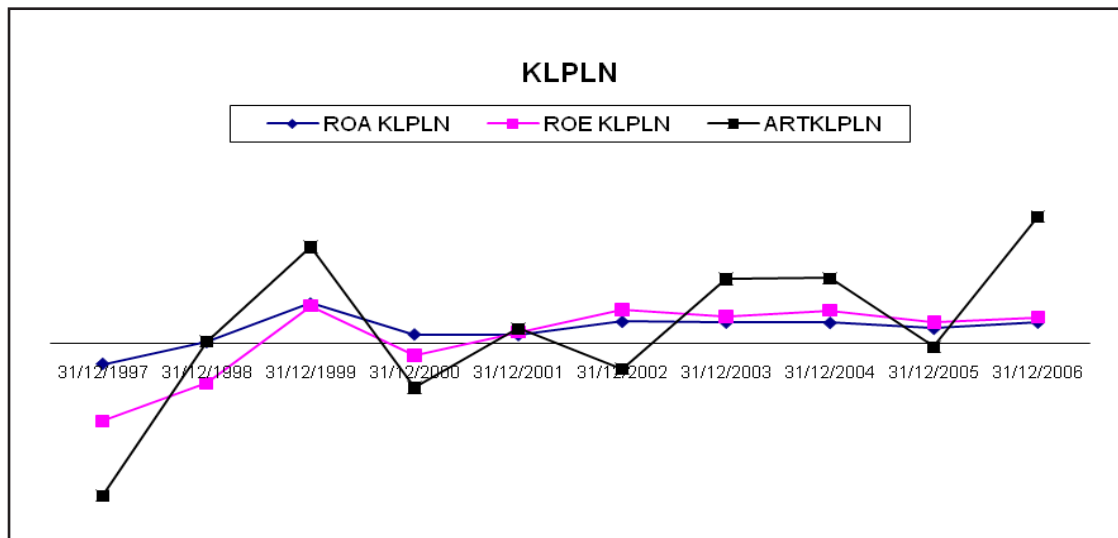


Figure 2: Returns for Plantation Sector

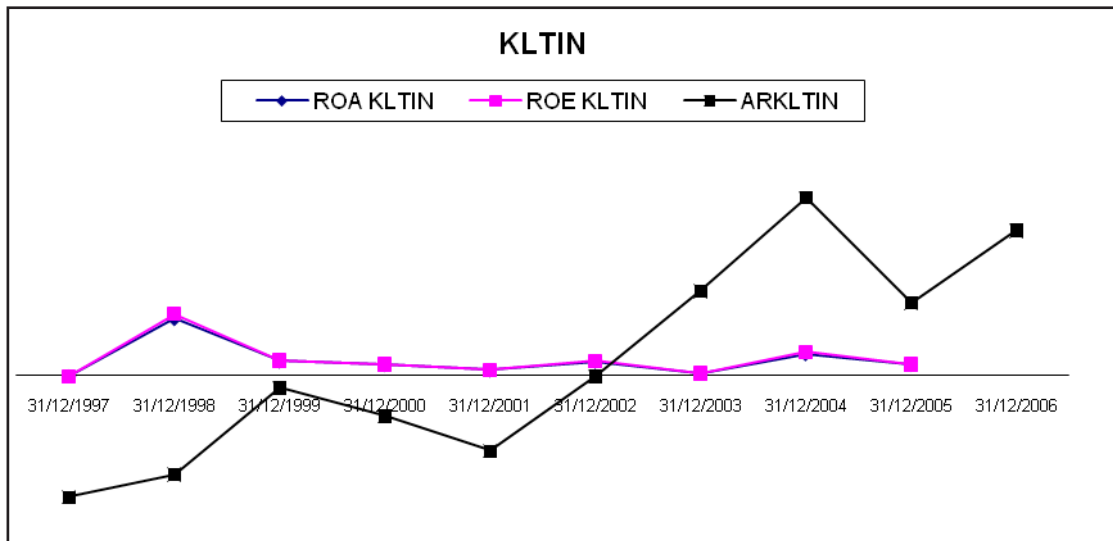


Figure 3: Returns for Tin Sector

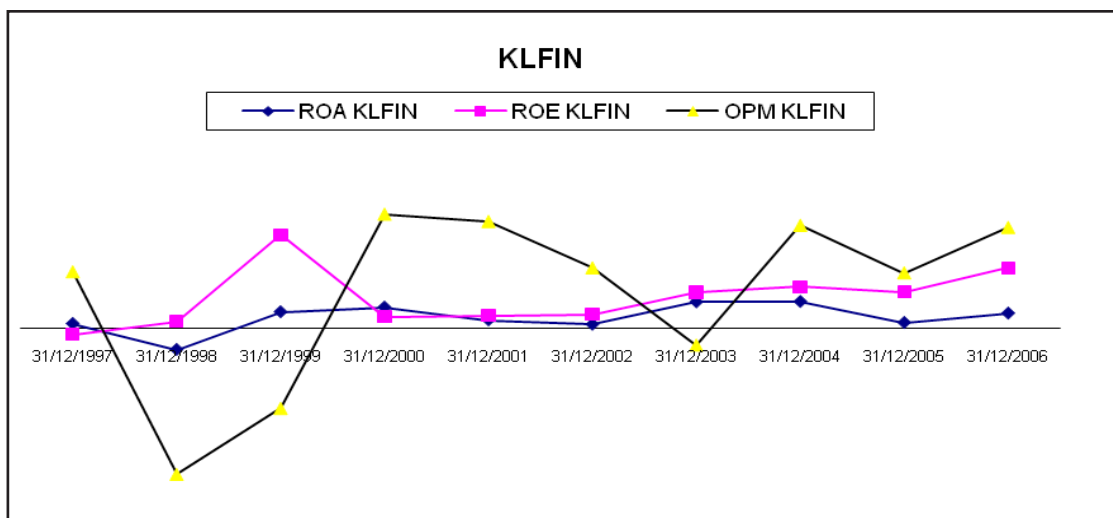


Figure 4: Returns for Financial Sector

An Islamic Pricing Benchmark

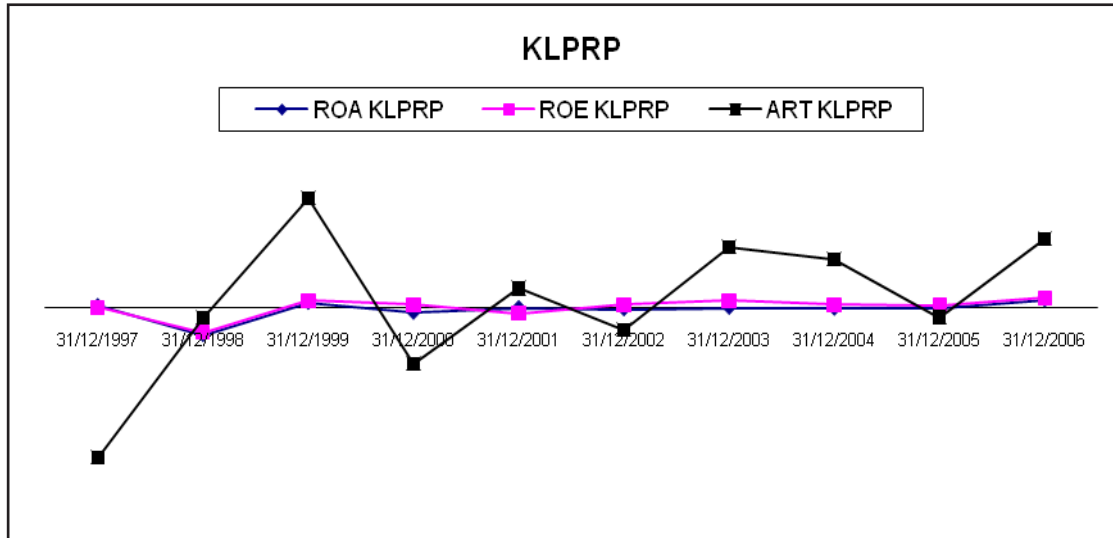


Figure 5: Returns of Property Sector

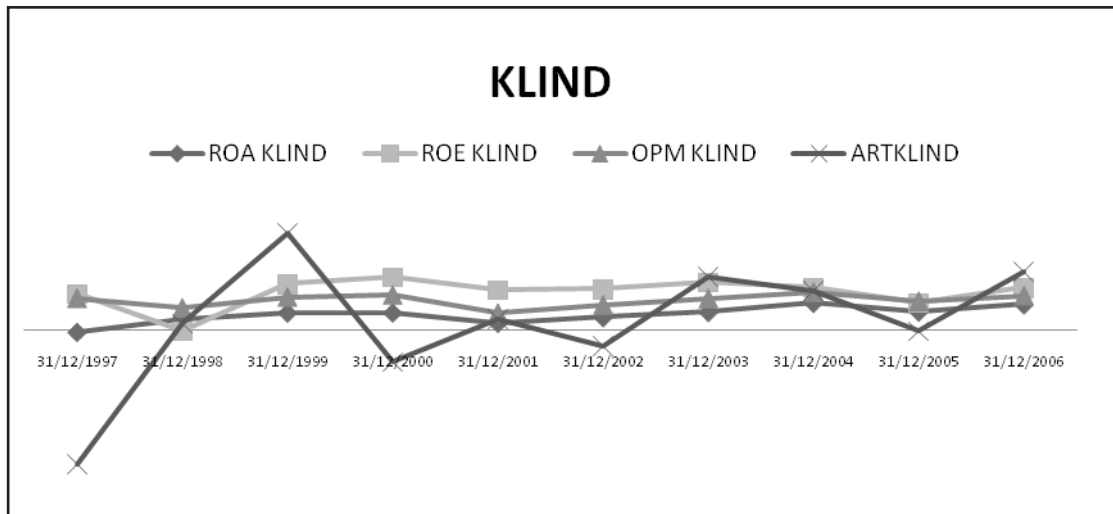


Figure 6: Returns of Industry Sector

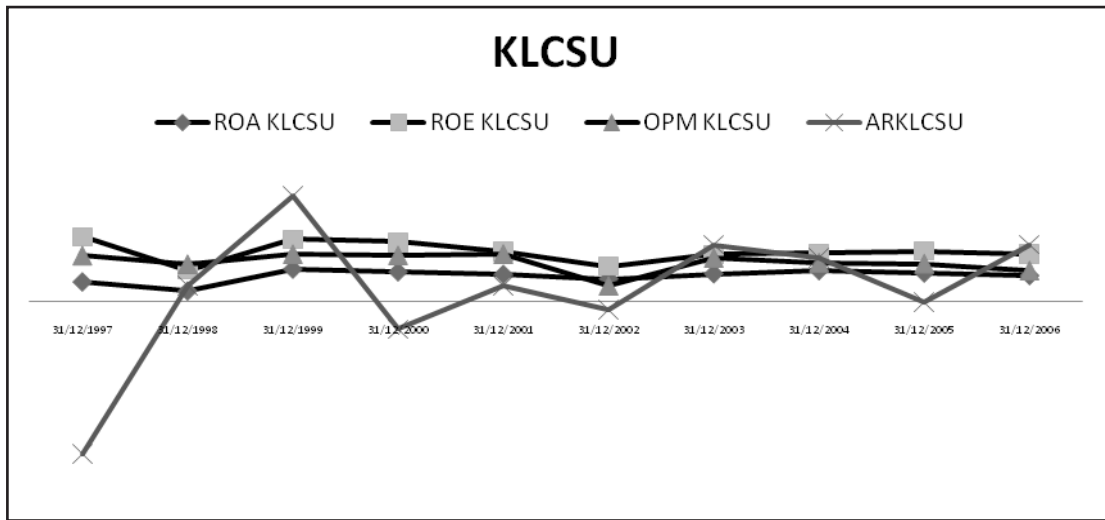


Figure 7: Returns of Consumer Service Sector

4.6.2 The Arbitrage Pricing Theory (APT) Model

Given the unstable and impractical results of the CAPM exercise, we next turned to the Arbitrage Asset Pricing model (APT). The APT model is actually an extension of 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 turned 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 an 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: $\tilde{f}_k = \tilde{F}_k + E(\tilde{F}_k)$

An Islamic Pricing Benchmark

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

\tilde{u}_i 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 short and long-term bonds, the term structure of interest rates, changes in oil prices, exchange rates, general market returns, etc. 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 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 overall market performance.

The model and the variables used incorporate the Sharī'ah parameters outlined in Section 2; for example, the pricing benchmark takes into account the real sectors and products. It also takes into account the Sharī'ah parameter which requires the benchmark to be free from non-*halāl* activities, interest rates, and non-real economic activities such as indices of financial derivative products. Potential loss is also incorporated into the computation of the pricing benchmark.

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

To have a better comparison, the estimated expected returns of different sectors (with and without the risk-free rate) were plotted with the actual Return on Asset (ROA) of the corresponding sector. Figure 8 to Figure 14 clearly show that the estimated returns are very closely synchronized with actual returns. 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.

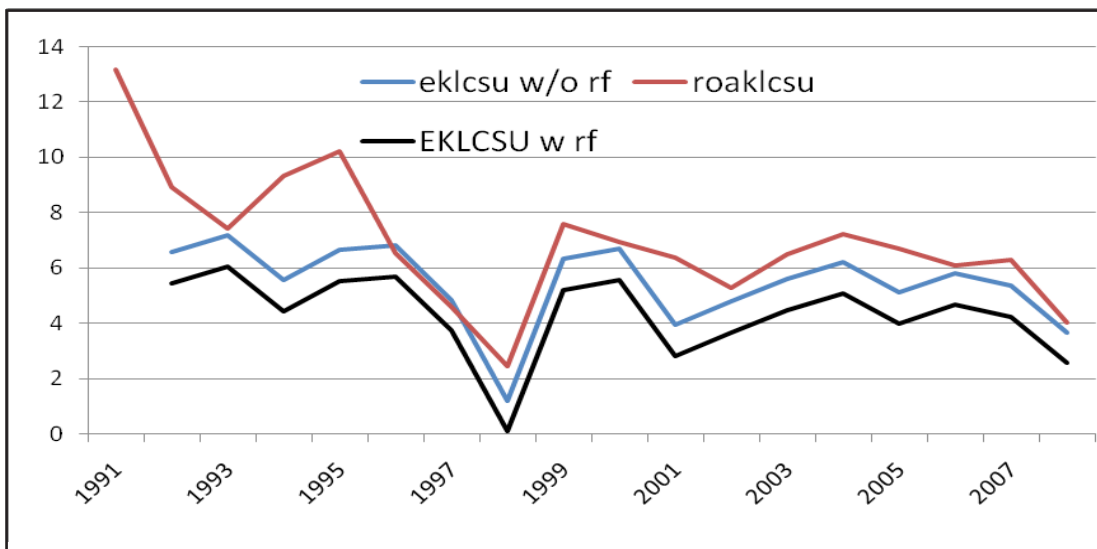


Figure 8: Returns of the Consumer Service Sector

An Islamic Pricing Benchmark

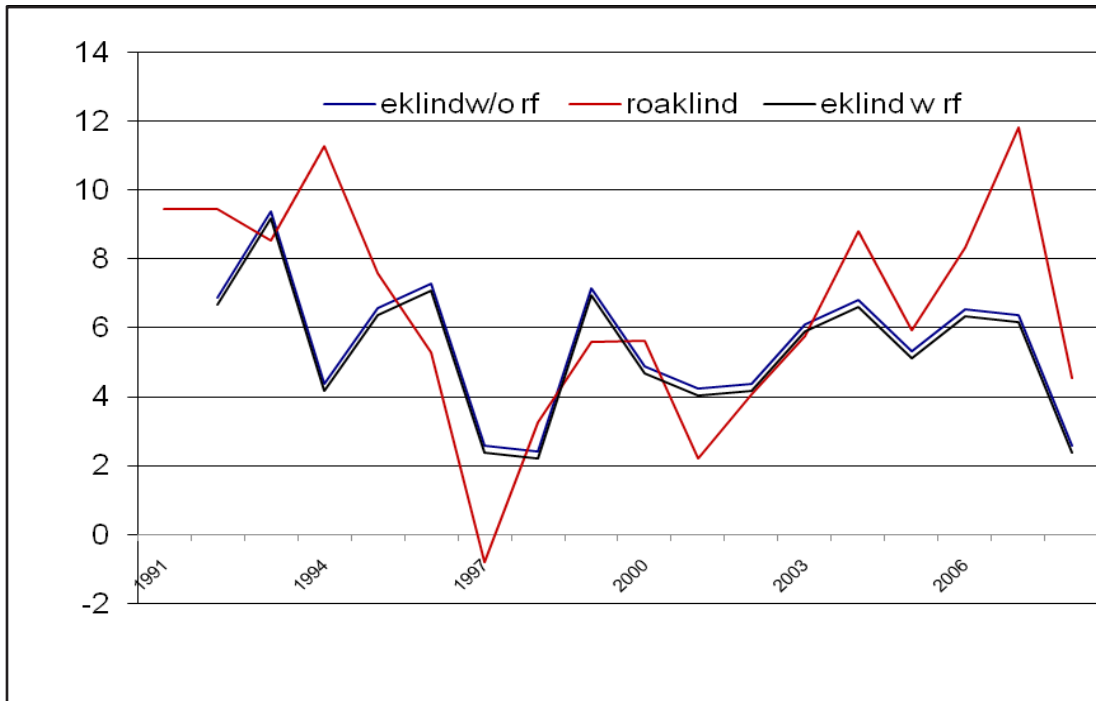


Figure 9: Returns of the Industry Sector

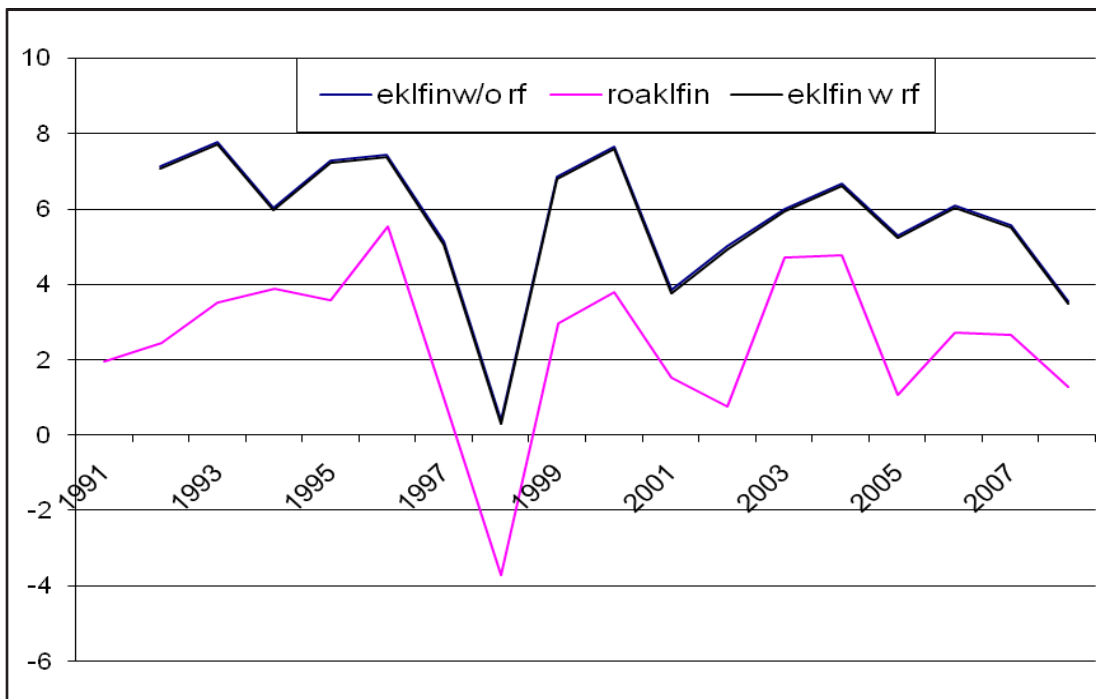


Figure 10: Returns of the Financial Sector

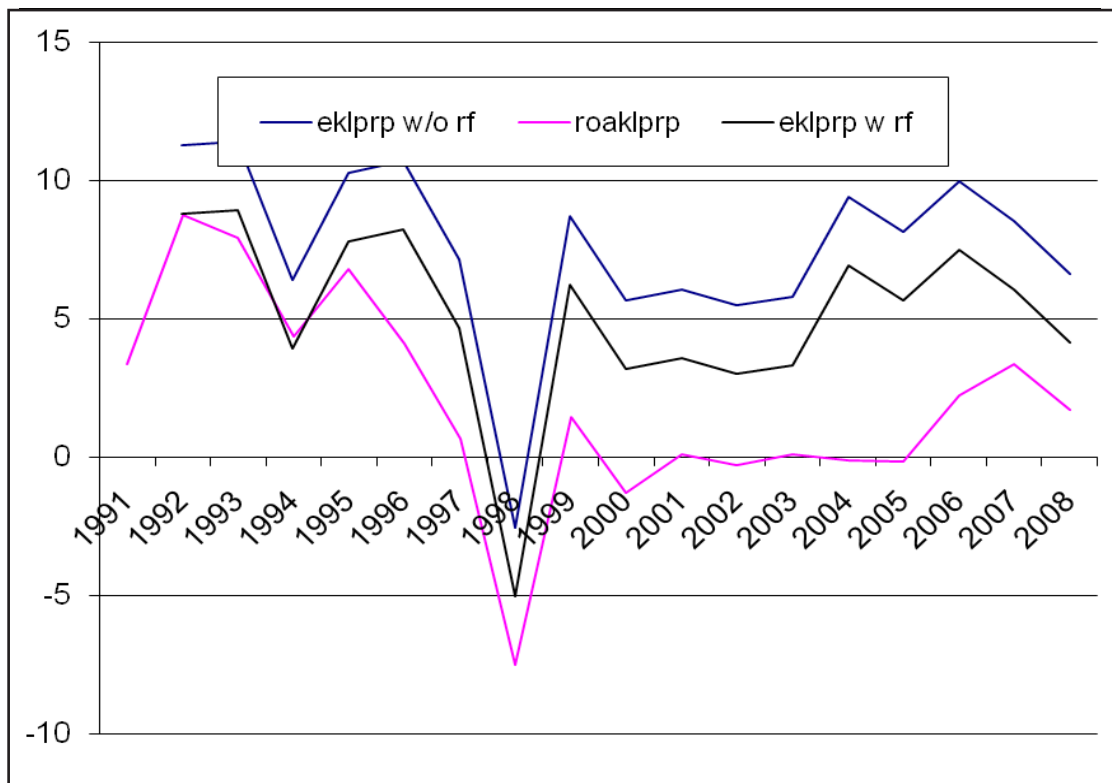


Figure 11: Returns of the Property Sector

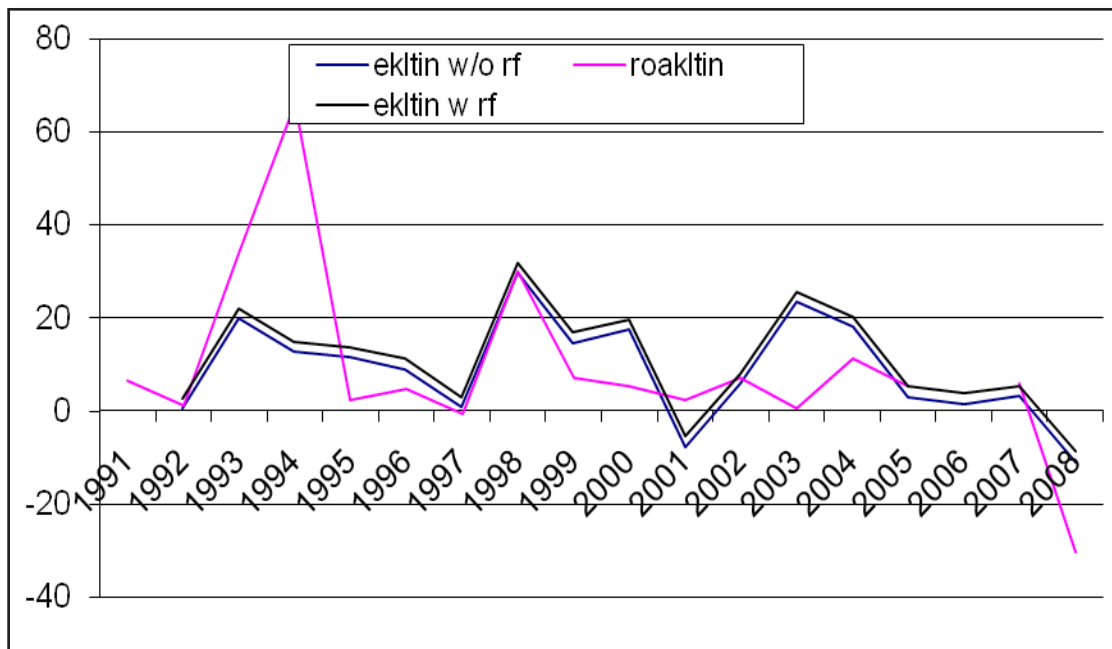


Figure 12: Returns of the Tin Sector

An Islamic Pricing Benchmark

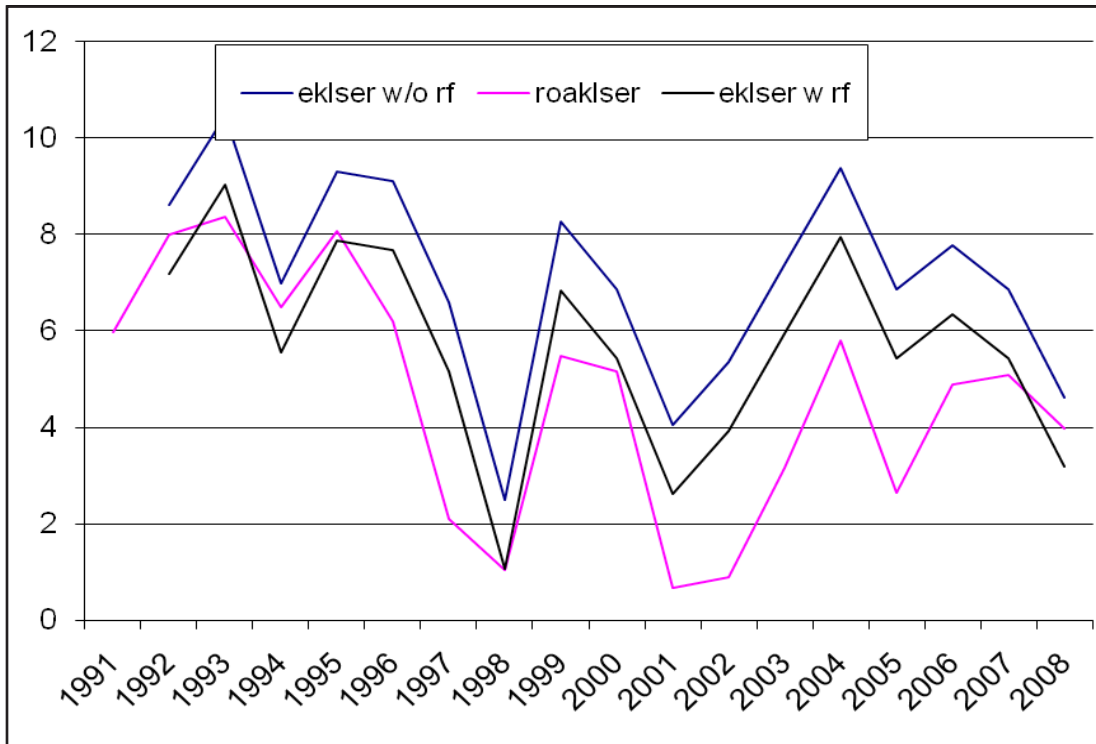


Figure 13: Returns of the Service Sector

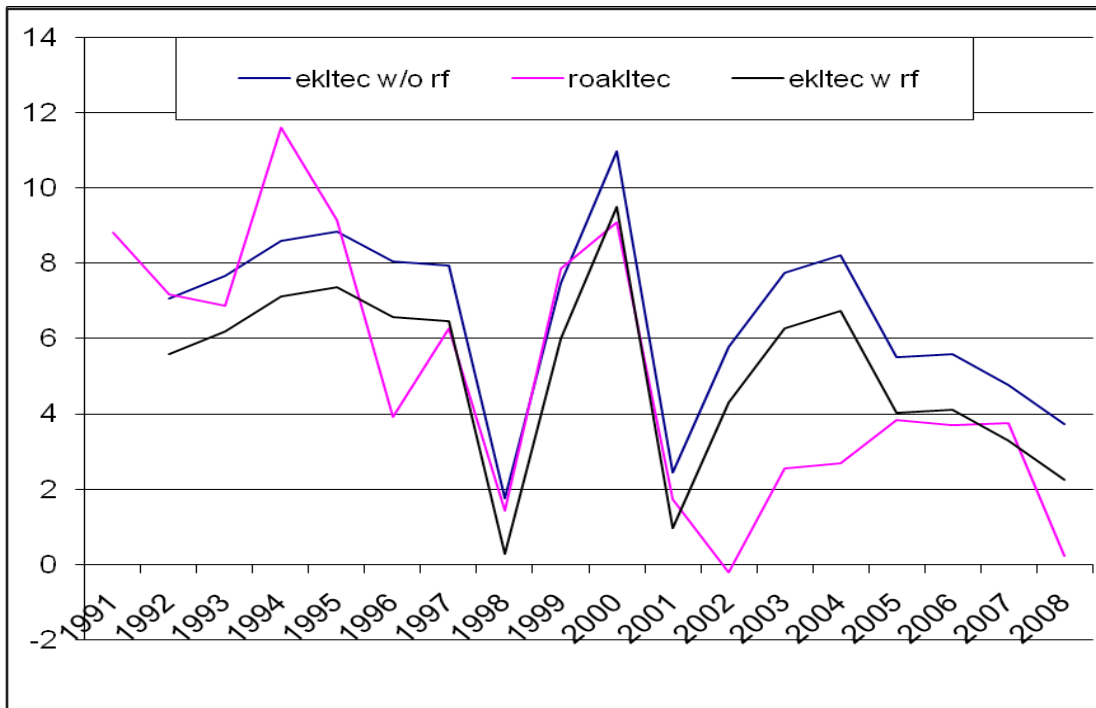


Figure 14: Returns of the Technology Sector

	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KLTIK
Constant	5.16623	0.7254	4.78989	3.4883	-1.7039	1.4651	2.2145	4.0764
RETKLC	1.55423	1.7722	4.73226	7.331	2.22378	2.81348	0.21224	18.746
RETM2	3.2999	2.9807	7.28152	14.752	27.8812	16.1356	-0.6347	-32.95
RETIPI	15.459	21.057	7.39631	7.0699	1.48542	14.3999	40.5774	116.89
RETXR	7.37369	9.1912	4.70446	11.924	30.1728	2.71693	-3.5974	-155.98

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

Year	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KLTIK
1991	13.15	1.93	9.45	6.13	3.36	5.97	8.83	6.38
1992	8.91	2.42	9.45	8.65	8.77	7.98	7.20	1.28
1993	7.42	3.51	8.55	14.78	7.94	8.36	6.89	34.09
1994	9.32	3.86	11.29	12.73	4.38	6.49	11.62	66.14
1995	10.20	3.56	7.61	10.05	6.82	8.06	9.16	2.32
1996	6.54	5.52	5.29	9.33	4.09	6.20	3.94	4.78
1997	4.57	0.86	-0.78	-4.74	0.67	2.10	6.29	-0.75
1998	2.43	-3.74	3.27	0.29	-7.52	1.06	1.44	30.18
1999	7.58	2.94	5.62	9.18	1.47	5.48	7.87	7.23
2000	6.92	3.76	5.63	2.06	-1.31	5.15	9.12	5.32
2001	6.34	1.51	2.23	1.93	0.09	0.68	1.75	2.41
2002	5.28	0.73	4.09	4.98	-0.29	0.91	-0.19	7.11
2003	6.48	4.70	5.79	4.80	0.09	3.16	2.57	0.68
2004	7.21	4.76	8.80	4.72	-0.13	5.80	2.70	11.23
2005	6.66	1.05	5.94	3.38	-0.15	2.64	3.85	5.41

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2006	6.06	2.70	8.33	4.80	2.24	4.88	3.73	na
2007	6.26	2.65	11.82	7.14	3.36	5.08	3.76	5.81
2008	3.99	1.25	4.57	7.91	1.70	3.98	0.25	-30.46

Table 2: ROA For Each Sector from 1991 to 2008 (percentage)

4.6.2 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 customers have different risk profiles; therefore, different financing rates 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 customer's probability of default. The principle is that the higher the likelihood of default, the higher the financing rate. Once we know the probability of default of a 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 by the following steps:

1. Data collection from historical profile
2. Single and multifactor modeling using logistic function
3. Identification of the most important factors that have good predictability of default
4. Model calibration
5. Establishing 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, the expected default loss from a particular customer can be calculated using the following formula:

Expected default loss = (Probability default) x (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.

We know from Equation (4.6) the expected real return from different industry sectors, so given 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

4.6.3 Simulation Exercise

To gain a better understanding of the practicability of Equation 4.8 in estimating 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 assumed the probability of default follows a normal distribution with a mean of 10% and a standard deviation of 20%. With 10,000 replications, we observed the following:

An Islamic Pricing Benchmark

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

Table 3 Descriptive Statistics for Simulated Final Pricing Rate

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

	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KLTIN
Mean	4.32	5.68	5.35	6.22	5.13	5.68	5.14	11.14
Median	4.50	5.95	5.93	6.71	5.68	5.56	6.01	11.11
Max.	6.06	7.71	9.20	12.38	8.94	9.03	9.52	31.83
Min.	0.10	0.30	2.24	0.60	-5.01	1.06	0.30	-8.78
Std Dev	1.48	1.87	1.92	3.13	3.31	2.09	2.41	10.91

Table 4: Actual Returns from Respective Sectors

	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KLTIN
Mean	4.55	5.99	5.64	6.54	5.38	5.95	4.35	11.82
Median	4.50	5.93	5.62	6.52	5.34	5.91	4.33	11.74
Max.	10.12	13.93	14.16	22.69	18.07	15.21	16.19	60.36
Min.	-0.63	-2.58	-1.91	-6.80	-9.46	-2.47	-5.34	-33.12
Std Dev	1.44	2.07	2.10	3.38	3.31	2.25	2.57	11.66

Table 5: Simulated Pricing Rate (Percentage)

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.

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

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

	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KLTIN
Mean	10.61	2.43	9.15	6.08	3.71	-6.33	8.50	2.87
Median	10.48	2.43	9.06	6.03	3.67	-7.38	8.46	2.80
Max.	25.14	26.02	17.13	15.69	13.34	283.55	28.10	14.93
Min.	-0.28	-22.08	2.50	-1.94	-3.99	-270.15	-13.02	-7.59
Std Dev	3.13	6.01	1.87	2.28	2.28	70.97	4.97	5.45

Table 7: Simulated Pricing Rate Based EBIT (Percentage)

In order to gain further insight on the predictive capability of the APT model, we did another simulation based on our APT model in which we took the factor loadings found in Table 1. Since the macroeconomic variables in the model do not follow normal distribution, we used the Bootstrapping Method with 10,000 draws, the results of which are shown in Table 8 below:

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

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

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 that the simulated results displayed 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 suggested as a viable Islamic pricing benchmark rate that emanates from the real economy itself.

4.6.4 Scenario Analysis (Stress Test)

To further evaluate the reliability and robustness of the proposed pricing benchmark model and its assumptions, several scenarios (stress tests) were taken into consideration with the additional aim of estimating the best and worst possible rates for the benchmark. The scenarios were categorised into five rates, i.e., the best, above average, average, below average and the worst average. The rates were derived based on the actual performance of KLCI, changes in M2, exchange rate (XR) and Industrial Production Index (IPI). Table 9 illustrates percentage of the rates based on different scenarios.

Scenario	KLCI	M2	IPI	XR
Best	68	22	17	7
Above Average	15	15	8	2
Average	3	13	5	1.5
Below	0	5	3	1
Worst	-73	2	-7	-22

Table 9: Rates for Different Scenarios (%)

A scenario analysis or stress test was conducted by substituting the rates of various scenarios (Table 9) into the factor loadings (betas) of the proposed APT model for the pricing benchmark (Table 1). The estimations of the expected returns without and with risk-free rates for different scenarios across sectors are reported in Tables 10A & 10B below:

	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KL TIN	MEAN
Best	6.54	7.31	5.96	6.92	7.30	6.95	8.6789	10.45	7.51
Above Avg.	5.61	6.10	5.28	5.83	5.74	5.92	7.1722	10.74	6.55
Avg.	5.03	5.34	4.82	5.19	5.20	5.22	5.9728	7.78	5.57
Below	4.62	4.81	4.48	4.70	4.69	4.70	5.1814	6.18	4.92
Worst	3.53	3.37	3.67	3.55	3.81	3.84	3.2371	3.19	3.52
Expected Mean	5.07	5.38	4.84	5.24	5.35	5.33	6.0485	7.67	5.62
Std. Dev.	1.12	1.47	0.86	1.26	1.30	1.18	2.052	3.14	1.37

Table 10A: Expected Returns without Risk Free Rate for Various Scenarios by Sectors

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	KLCSU	KLFIN	KLIND	KLPLN	KLPRP	KLSEK	KLTEC	KL TIN	MEAN
Best	5.44	5.91	5.00	5.27	4.83	5.51	7.22	12.59	6.47
Above Average	4.50	4.70	4.32	4.19	3.27	4.47	5.71	12.87	5.50
Average	3.92	3.94	3.86	3.55	2.73	3.78	4.51	9.91	4.52
Below	3.51	3.41	3.52	3.06	2.22	3.26	3.72	8.31	3.88
Worst	2.42	1.97	2.70	1.91	1.34	2.40	1.77	5.32	2.48
Expected Mean	3.96	3.98	3.88	3.59	2.88	3.88	4.59	9.80	4.57
Std. Dev.	1.12	1.47	0.86	1.26	1.30	1.18	2.05	3.14	1.37

Table 10B: Expected Return with Risk Free Rate for Various Scenarios by Sectors

To come up with a single final pricing rate for the whole market in Malaysia, the weighted average of each sector was calculated based on the market capitalization figures of year 2009. The weight for each sector is reported in Table 11.

Sectoral Indices	Market Capitalization	Weight
KLCSU	86.23	0.0852
KLFIN	225.60	0.2229
KLIND	164.30	0.1623
KLPLN	86.44	0.0854
KLPRP	41.68	0.0412
KLSEK	396.20	0.3915
KLTEC	11.49	0.0114
KL TIN	0.10	0.0001
Total	1012.30	1.0000

Table 11: Weighted Average across the Sectors

Based on the above weights, the expected returns from the Malaysian market for the different scenarios were calculated. The results of the expected returns together with their standard deviations for the market are reported in Table 12 below. The results of the proposed single final pricing rates for the market were also plotted in Figure 15.

	Without risk-free rate	With risk free rate
Best	6.87	5.48
Above Average	5.83	4.44
Average	5.17	3.79
Below	4.69	3.30
Worst	3.65	2.26
Expected Mean	5.24	3.85
Standard Deviation	1.21	1.21

Table 12: Expected Returns of the Market by Scenarios

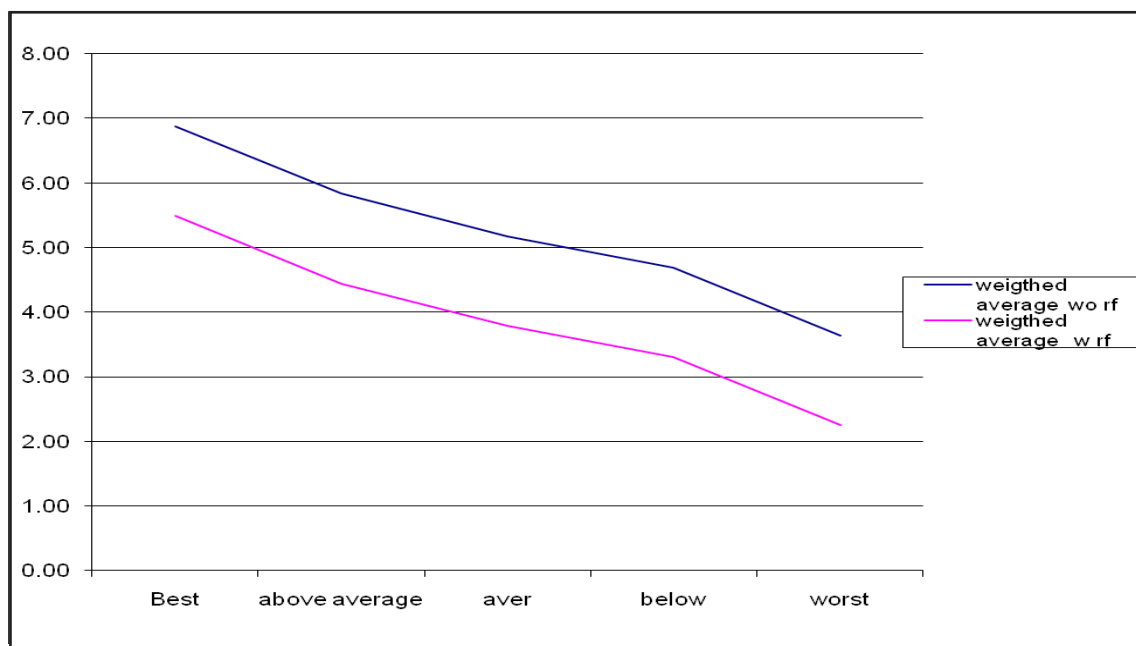


Figure 15: Plots of Expected Market Returns by Scenarios

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Consequently, to assess the reliability and predictability of the proposed pricing benchmark, we need to compare the volatility (in terms of standard deviation) of our proposed assets-based benchmarking rate (Table 12) with the average rate of various existing KLIBOR Indices (Table 13), i.e., KLIBOR of 1-month (KLIB1M Index), 3-month (KLIB3M Index), 6-month (KLIB6M Index), 9-month (KLIB9M Index), and 12-month (KLIB12M Index). Comparing the standard deviations of the various KLIBOR indices (Table 12) with the standard deviations of the expected returns of the market by scenarios (Table 13) shows that our proposed single final pricing rates for both with and without risk-free rates are more stable and better rates for reference. In other words, the proposed pricing benchmark's standard deviations (1.21) for both with and without risk-free rates were lower than the standard deviations of all KLIBOR rates, implying that KLIBOR is more volatile than the proposed benchmark rate.

	Mean	Standard Deviation
KLIB1M Index	4.33	1.98
KLIB3M Index	5.90	2.33
KLIB6M Index	4.56	2.09
KLIB9M Index	4.62	2.10
KLIB12M Index	4.68	2.13

Table 13: Mean of the Various KLIBOR Indices and Their Standard Deviations

Finally, to reexamine the reliability and predictability of the proposed pricing benchmark rate, we also computed the cost of funds using Equation 3.1, plugging in three different rates: the existing KLIBOR rate of 2.50%, the actual rate of 2.33% (see Table 6) and a simulated pricing rate of 2.47 (see Table 8) for the financial sector. The objective was to evaluate the comparability of the existing cost of funds with our proposed cost of funds based on the actual and simulated pricing rates. The calculated costs of funds (COF) based on the existing KLIBOR and on actual and simulated pricing rates are reported in Table 14. We found that the proposed cost of funds calculated, both based on the actual pricing rate (2.00%) and the simulated pricing rate (2.14%), are indeed comparable with the existing calculated cost of

funds (2.17%). This indicates that the proposed asset-based cost of funds which is interest-free can be used to replace the existing cost of funds which is interest-based, i.e., KLIBOR-based.

	KLIBOR	Actual Pricing Rate for Finance industry	Simulated Pricing Rate
Rates	2.50	2.33*	2.47**
Statutory Reserve (SRR)	1.00	1.00	1.00
Liquid Assets (LA)	12.00	12.00	12.00
Return on LA	2.00	2.00	2.00
Cost of Funds (COF)	2.17	2.00	2.14

*Note: * and **; the values are taken from the second row and the third column of Table 6 and Table 8, respectively.*

Table 14: Calculated Values of Cost of Funds for Financial Sector (%)

In conclusion, based on the scenarios analysis, our proposed pricing benchmark was found to be more stable and better than the existing rates of KLIBOR. In addition, our proposed cost of funds, which was calculated either based on actual or simulated pricing rates, was found to be comparable to the existing KLIBOR rates. This indicates that the proposed asset-based pricing benchmark and asset-based cost of funds, which are interest-free, can replace the existing cost of funds, which is interest-based.

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 the outset, the study recognized that the Islamic pricing benchmark should be based on the risk profiles of the real economic ventures. The Sharī'ah encourages the seeking of profits but abhors the taking of interest (*ribā*). Profit is tied to real economic activity and is subject to risk-taking. The Islamic benchmark should, therefore, be based on profit rates that emanate from the real sector. 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 and unrelated 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 Arbitrage Asset Pricing Theory (APT) was recognized as being better than the CAPM model. The study recognized four macroeconomic variables as having good return predictability for all the sectors: 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. A weighted average of the sectoral returns determined through the APT is suggested here as a viable Islamic pricing benchmark rate for the market as a whole.

Monte Carlo simulations were carried out to gain a better understanding of the final pricing rate and its predictive capabilities. The results showed the model to have good predictive capability. Similar results were also observed when EBIT was used as a measure of profitability. Bootstrap simulations were also carried out on the APT model, and the simulated pricing rates were found statistically not different from the actual returns, i.e., the model has good predictive capability.

The reliability and robustness of the proposed pricing benchmark model was established using stress tests under several scenarios that also provided estimates for the best and worst possible rates for the sectoral benchmark rates.

Finally, to derive a single final pricing rate, a weighted average based on market capitalization of the sectoral benchmarks was computed. It is this rate which this study proposes as the Islamic benchmark rate for the overall market. The overall market Islamic benchmark rate can be used by the central bank in lieu of interest rates like OPR to affect the market rates. This benchmark is endogenously determined rather than exogenously determined, as is the case with interest rates.

Not only is the proposed benchmark Shari'ah compliant, being based on profitability and risk profiles, it is also found to be more stable than interest rates. The simulated benchmark rate for the finance industry was also found to be comparable to the actual pricing rate based on EBIT, indicating that the proposed asset-based cost of funds which are interest-free can be used in lieu of the conventional interest-based cost of funds.

Such a proposed pricing benchmark model could be used by other central banks and Islamic financial institutions worldwide; however, the respective factor loadings would need to be estimated and incorporated in the model in order to obtain the respective market's benchmark. Subsequently, the probability of default, which incorporates firm-specific risk, can be estimated and added to the benchmark rate.

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

References

- Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) (2004). *Shari'ah Standards*.
- Al-'Asqalānī, Ibn Ḥajr. (1996). *Bulūgh al-Marām (Attainment of the Objective according to Evidences of the Ordinances)*, (1st ed.), Riyadh, Saudi Arabia: Dār as-Salām.
- Al-Bājī, Abū al-Walīd Sulaymān ibn Khalaf. (n.d.). *Al-Muntaqā: Sharḥ Muwaṭṭa' Mālik*. Dār al-Kitāb al-'Arabī.
- Al-Bayhaqī, Aḥmad ibn al-Ḥusayn ibn 'Alī. (1999). *Al-Sunan al-Kubrā*. Beirut: Dār al-Kutub al-'Ilmiyyah.
- Al-Buhūṭī, Maṣṣūr ibn Yūnus ibn Idrīs. (1394 AH). *Kashshāf al-Qinā'an Matn al-Iqnā'*. Makkah: Matba'at al-Ḥukūmah.
- Al-Bukhārī. (n.d.). *al-Jāmi' al-Ṣaḥīḥ*, (2).
- Al-Bukhārī, 'Abd Allāh ibn Ismā'īl. (n.d.). *Ṣaḥīḥ al-Bukhārī*. Beirut: Dār al- Jil.
- Al-Duraynī, Muḥammad Fathi. (n.d.). *Buḥūth Muqāranah fī al-Fiḥ al-Islāmī wa Uṣūluḥ*.
- Al-Dusūqī, Muḥammad ibn Aḥmad. (n.d.). *Hāshiyat al-Dusūqī 'alā al-Sharḥ al-Kabīr*.
- Al-Farrā', Qāḍī Abū Ya'lā Muḥammad ibn Ḥusayn al-Ḥanbalī. (n.d.). *Al-Aḥkām al-Sulṭāniyyah*. Beirut: Dār al-Kutub al-'Ilmiyyah.
- Al-Gharnaṭī, Abū Qāsim Muḥammad Aḥmad ibn Jazī al-Kalbī. (1988). *Al-Qawānīn al-Fiḥiyyah*, Libya: Dār al-'Arabiyyah li al-Kitāb.
- Al-Ghazālī, 'Abd al-Ḥamīd. (1414). *Al-Arbāḥ wa al-Fawā'id al-Maṣrafiyyah Bayna al-Tahlīl al-Iqtiṣādī wa Ḥukm al-Sharī'ah*. Jeddah: Islamic Development Bank.
- Al-Hali, Ḥasan ibn Yūsuf ibn Muṭahhir. (1900). *Tadhkirat al-Fuqahā'*. Karbala: Mudīriyyat Ma'ārif Karbala.
- Al-Ḥaṭṭāb, Muḥammad ibn Muḥammad ibn 'Abd al-Raḥmān al-Ru'aynī. (n.d.). *Mawāhib al-Jalīl fī Sharḥ Mukhtaṣar Khalīl*.

- Al-Haytamī, Nūr al-Dīn ‘Alī ibn Abī Bakar. (1984). *Kashf al-Astār ‘an Zawā’id al-Bazzār ‘alā Kutub al-Sunnah*. Beirut: Mu’assasat al-Risālah.
- Al-Haytamī, Nūr al-Dīn ‘Alī ibn Abī Bakar. (1982). *Majma‘ al Zawā’id wa Manba‘ al-Fawā’id*. Beirut: Dār al-Kitāb al-‘Arabī.
- Al-Ḥusnī, Muḥammad Abū Hudā al-Ya‘qūbī. (2000). *Aḥkām al-Tas‘īr fī al-Fiqh al-Islāmī*. Pakistan: Dār al-Bashā’ir al-Islāmiyyah.
- Al-Kāsānī, Abū Bakr ibn Mas‘ūd. (1986). *Badā’i‘ al-Ṣanā’i‘ fī Tartīb al-Sharā’i‘*. Beirut: Dār al-Kutub al-‘Ilmiyyah.
- Al-Kufrawī, ‘Awf Maḥmūd. (1985). *Dirāsāt fī Takālīf al-Intāj wa al-Tas‘īr fī al-Islām*. Egypt: Mu’assasat Shabāb al-Jāmi‘ah.
- Al-Mardāwī al-Damishqī, ‘Alā al-Dīn Abū al-Ḥasan ‘Alī ibn Sulaymān. (1419). *al-Inṣāf fī Ma‘rifat al-Rājih min al-Khilāf ‘alā Madhhab al-Imām Aḥmad ibn Ḥanbal*. Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī.
- Al-Marghīnānī, Abū al-Ḥasan ‘Alī ibn Abū Bakr ibn ‘Abd al-Jalīl. (1980). *Al-Hidāyah: Sharḥ Bidāyat al-Mubtadi’*. Egypt: Muṣṭafā al-Bābī al-Ḥalabī.
- Al-Māwardī, ‘Alī ibn Muḥammad Ḥabīb al-Baṣrī, (1983). *Al-Aḥkām al-Sulṭāniyyah wa al-Wilāyah al-Dīniyyah*. Cairo: Dār al-Fikr.
- Al-Miṣrī, Rafīq Yūnus. (2005). *Fiqh al-Mu‘āmalāt al-Māliyyah*. Damascus: Dār al-Qalam.
- Al-Mundhirī, ‘Abd al-Aẓīm ibn ‘Abd al-Qawī. (1968). *al-Targhīb wa al-Tarhīb min al-Ḥadīth al-Sharīf*. Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī.
- Al-Nawawī, Abū Zakariyyā Muḥy al-Dīn ibn Sharaf. (n.d.) *Tahdhīb al-Asmā’ wa al-Lughāt*. Beirut: Dār al-Kutub al-‘Ilmiyyah.
- Al-Qaraḍāwī, Yūsuf. (1409). Determining profits for traders (4th ed.). *Majallat Majma‘ al-Fiqh al-Islāmī*. Kuwait: Fifth Conference, p. 2789.
- Al-Qaysī, Kamīl Saqar, (2008). *Ma‘āyir al-riḥ wa Ḍawābiṭuhu fī al-tashrī‘ al-Islāmī*, Dubai: Islamic Affairs & Charitable Activities Department, Government of Dubai.

An Islamic Pricing Benchmark

- Al-Qurah Daghi, ‘Alī Muḥī al-Dīn. (2009). *Buḥūth fī Fiqh al-Bunūk al-Islāmiyyah: Dirāsāt Fiqhiyyah wa Iqtisādiyyah*. Beirut: Dār al-Bashā’ir al-Islāmiyyah.
- Al-Rāzī, Muḥammad ibn ‘Umar Fakhr al-Dīn. (n.d.). *Al-Tafsīr al-Kabīr*. Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī.
- Al-Şāliḥ, Muḥammad bin Aḥmad. (2001). *Al-Ru’yah al-Islāmiyyah li Tas‘īr al-Sila’ wa al-Khadamāt*. Jāmi‘at al-Imām Muḥammad bin Sa‘ūd al-Islāmiyyah.
- Al-Salūs, ‘Alī Aḥmad. (2004). *Fiqh al-Bay’ wa al-Istinsāq wa al-Taṭbīq al-Mu‘āşir*. Egypt: Mu’assasat al-Rayyān.
- Al-Sanhūrī, ‘Abd al-Razzāq. (n.d.). *Maşādir al-Ḥaqq fī al-Fiqh al-Islāmī*. Beirut: Dār Iḥyā’ al-Turāth al-‘Arabī.
- Al-Shawkānī, Muḥammad ibn ‘Alī ibn Muḥammad. (n.d.). *Nayl al-Awṭār: Sharḥ Muntaqā al-Akḥbār*. Cairo: Dār al-Ḥadīth.
- Al-Suyūṭī, Jalāl al-Dīn ‘Abd al-Raḥmān ibn Abī Bakr ibn Muḥammad. (1909/1378). *al-Ashbāh wa al-Nazā’ir fī Madhhab al-Shāfi‘iyyah*. Egypt: Maṭba‘at Muşṭafā al-Bābī al-Ḥalabī.
- Al-Ṭabarānī, Sulaymān ibn Aḥmad ibn Ayyūb. (n.d.). *al-Mu‘jam al-Kabīr*, ed. Ḥamdī ibn ‘Abd al-Majīd al-Salafī. Dār Iḥyā’ al-Turāth al-Islāmī.
- Al-‘Umrānī al-Shāfi‘ī al-Yamanī, Abu al-Ḥusayn Yaḥyā ibn Abī Khayr ibn Salīm, (n.d.). *Al-Bayān*. Beirut: Dār al-Manhaj.
- Al-Zaynī, Maḥmūd Muḥammad. (2004). *Jarā’im al-Tas‘īr al-Jabarī*. Egypt: Dār al-Jāmi‘ah al-Jadīdah.
- AsianbondsonLine. (2009). Glossary of OPR. Retrieved from [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*. International Sharī‘ah Scholars Forum at Hotel Nikko, Malaysia on 19 November 2009.

- Chen, Nai-Fu, Roll, Richard & Ross, Stephen A. (1986). Economic forces and the stockmarket, *Journal of Business*, 59(3), 386-403.
- Coyle, Brian (2001). *Money Markets*, UK: Financial World Publishing.
- Ebrahim, M.S., & 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](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.
- Fitri, M.R. (2007). *Pricing of Murabahah and Ijarah Products in Malaysia*, Master's Thesis, Department of Fiqh and Uşul al-Fiqh, IIUM.
- Gertler, M. & Gilchrist, S. (1994). Monetary policy, business cycles and the behavior of small manufacturing firms. *Quarterly Journal of Economics*, (109), pp. 310-338.
- Ḥammād, Nazīh. (1995). *Mu'jam al-Muṣṭalahāt al-Māliyyah wa al-Iqtiṣādiyyah fī Lughat al-Fuqahā'*. Riyadh: International Islamic Publishing House.
- Ḥammād, Nazīh. (2001). *Qadāyā Fiqhiyyah Mu'āṣirah fī al-Māl wa al-Iqtiṣād*. (1st ed.), Damascus: Dār al-Qalam.
- 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>.
- Hasanuz Zaman, S.M. (1981). *Indexation of Financial Assets: an Islamic Evaluation*. Pakistan: The International Institute of Islamic Thought.
- Ibn 'Abd al-Barr, Yūsuf ibn 'Abd Allāh ibn Muḥammad al-Qurṭubī. (1979). *Al-Kāfī fī Fiqh Ahl al-Madīnah*, (2), p. 73. Cairo: Maṭba'at Ḥasan.
- Ibn 'Ābidīn, Muḥammad Amīn ibn 'Umar. (1979). *Ḥāshiyat Radd al-Muḥtār 'alā al-Durr al-Mukhtār: Sharḥ Tanwīr al-Absār fī Fiqh Madhhab al-Imām Abī Ḥanīfah*. Cairo: Dār al-Fikr.

An Islamic Pricing Benchmark

- Ibn al-Humām, Muḥammad ibn ‘Abd al-Wāḥid al-Sīwāsī. (1900). *Sharḥ Faṭḥ al-Qadīr*. Beirut: Dār al-Fikr.
- Ibn al-Qayyim, (n.d.). *Al-Ṭuruq al-Ḥukmiyyah fī al-Siyāsah al-Shar‘iyyah*, edited by Muḥammad Ḥāmid al-Fiḥī. Beirut: Dār al-Kutub al-‘Ilmiyyah.
- Ibn ‘Āshūr, Muḥammad al-Ṭāhir. (1427 AH/2006 CE). *Treatise on Maqāṣid al-Sharī‘ah*, translated by Dr. Muḥammad El-Ṭāhir El-Mesawi. Herndon, Va.: International Institute of Islamic Thought.
- Ibn Ḥanbal, Aḥmad ibn Muḥammad al-Shaybānī. (n.d.). *Musnad Aḥmad*. Beirut: Dār al-Ṣādir li al-Ṭibā‘ah.
- Ibn Hazm, Abū Muḥammad ‘Alī ibn Aḥmad ibn Sa‘īd. (n.d.). *Al-Muḥallā*. Beirut: Dār al-Fikr.
- Ibn Nujaym, Zayn al-‘Ābidīn ibn Ibrāhīm. (1985). *Al-Ashbāh wa al-Nazā‘ir ‘alā Madhhab Abī Ḥanīfah*. Beirut: Dār al-Kutub al-‘Ilmiyyah.
- Ibn Qudāmah, Abū Muḥammad ‘Abd Allāh ibn Aḥmad. (1983). *Al-Mughnī*. Beirut: Dār al-Fikr.
- Ibn Taymiyyah, Aḥmad ibn ‘Abd al-Ḥalim. (1992/1412). *Al-Ḥisbah fī al-Islām wa Wazīfat al-Ḥukūmah al-Islāmiyyah*. Beirut: Dār al-Kutub al-‘Ilmiyyah.
- Ibn Taymiyyah, *Nazariyyat al-‘Aqd* (n.d.), in Rafīq Yūnus (2005). *Fiqh al-Mu‘āmalāt al-Māliyyah*. Damascus: Dār al-Qalam.
- Imām Aḥmad ibn Yaḥyā ibn Murtaḍā. (840 AH) *al-Baḥr al-Zakḥkhār al-Jāmi‘ li Madhāhib ‘Ulamā’ al-Amṣār*. Beirut: Mu’assasat al-Risālah.
- 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*, (2nd 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.
- Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *Review of Economics and Statistics* (47), pp. 13–47.
- Majallat Majma' al-Fiqh al-Islami*. (1409 AH). 5th Conference (4th ed.), Kuwait.
- Majallat Majma' al-Fiqh al-Islami*. (1993). 8th Conference on Currency Issues, Jeddah.
- Mājid Abū Rakhīyah, (1983). *Hukm al-tas'ir fī al-Islam*. Amman: Maktabat al-Aqṣā.
- Mālik, ibn Anas. (1993). *al-Muwatta'*, (2nd ed.). Morocco: Dār al-Āfāq al-Jadīdah.
- Mejelle. (2003). *Being an English Translation of Majallat al-Aḥkām al-Adliyyah 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.
- Modigliani, F. & Miller, M. (1958). The cost of capital, corporation finance, and the theory of investment. *American Economic Review* 48 (3), pp. 261–297.
- Mohd Yusof, R., Abd. Majid, M.S., Kassim, S.H., & Hamid, Z. (2009). *Modelling an alternative benchmarking for home financing: a comparative analysis between Malaysia and the United Kingdom*. Unpublished Manuscript, IIUM.
- Muḥammad Abd al-Ḥalīm 'Umar & Muḥammad Fathī Shaḥātah. (n.d). in Shehata. (2000). *Ījād Mu'ashshir*. pp. 216-217. Cairo: University of al-Azhar Book Centre, College of Commerce.
- Muhd Ramadhan Fitri. (2007). *Pricing of Murabahah and Ijarah Products in Malaysia*, IIUM, Master's Thesis.
- Qal'ahjī, Muḥammad Rawwās. (1988). *Mu'jam Lughat al-Fuqahā'*. Beirut: Dār al-Nafā'is.

An Islamic Pricing Benchmark

- 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. & Ismail, A., (2007). How have the changes in monetary policy affected lending behaviour of Islamic banking in Malaysia? *Journal Ekonomi Pembangunan*. 12(3), pp. 163-177.
- Saunders, A. & Schumacher, L. (2000). The determinants of bank interest rate margins: an international study. *Journal of International Money and Finance*, (19), pp. 813–832.
- Securities Commission, (2006). *Resolutions of Securities Commission Shariah Advisory Council*, (2nd ed.).
- Selim, T.H. (2008). An Islamic capital asset pricing model. *Humanomics*, 24(2), pp. 122-129.
- Shahatah, Hussain Hassan. (1978). Understanding Capital from an Islamic Perspective. *Al-Majallah al-‘Ilmiyyah li Tijārat al-Azhar*, (1), December.
- Sharpe, W. (1964), Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance* (19), pp. 425–442.
- Shehatah, Hussain, (1423 AH). *Naḥwa mu’ashshir Islāmī li al-Mu‘āmalāt al-Māliyyah al-Ājilah*, Research presented at the Barakah Conference.
- Shubber, K. & Al-Zafiri E. (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*.
- 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 & 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, Muḥammad Taqī. (2007). *An Introduction to Islamic Finance*. Pakistan: Quranic Studies Publishers.
- Usmani, Muḥammad Taqī. (1998). *Buḥūth fī Qaḍāyā Fiqhiyyah Mu‘āṣarah*, (1st ed.). Damascus: Dār al-Qalam.
- Zaydān, Abdul Karīm. (1987/1407H). *Al-Wajīz fī Uṣūl al-Fiqh*, Beirut: Mua’ssasat al-Risālah.
- Zuhayli, Wahbah. (1989). *Al-Fiqh Islāmī wa Adillatuhu*, (3rd ed.). Damascus: Dār al-Fikr.
- Zuhayli, Wahbah. (2002). *Al-Mu‘āmalāt al-Māliyyah al-Mu‘āṣarah*. Beirut: Dār al-Fikr.



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