



Projection Pricing for Musyarakah Mutanaqisah Home Financing with the use of Rental Yield as the Reference Benchmark Pricing

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Abstract

The Islamic financial institution offers home financing products which are fully compliant with the Shariah. However, these Islamic financial products are in the absence of a reference benchmark pricing which is free from the interest rate. There is a call for introducing a reference benchmark pricing an alternative to interest-based borrowing and free from any of riba element. Usmani (2008) stressed that even though using an interest-based benchmark pricing is allowed and the practice is highly discouraged. He further argued that the practice of reference benchmarking pricing against interest rate does not advance the basic philosophy of promoting Islamic economy, whereby it makes no impact on the distribution system. The main objective of this study is to assess the projection of the pricing for musyarakah mutanaqisah home financing. The projection pricing is performed with the viability of adopting the rental yield as a reference benchmark pricing, which is the alternative to relying on the market interest rate. The forecasting technique of the Artificial Neural Network (ANN) model is adopted to assess the predictability of the rental yield of the housing market for a period of 20 years. Subsequently, the forecast data is used to project the pricing of musharakah mutanaqisah home financing product using simulation method. The projection pricing of musharakah mutanaqisah is compared with the bai bithaman ajil (debt-based financing) and the conventional home financing. Based on simulation exercise, there is a significance difference between total payment by the customer for these two products. The Islamic financial institution can consider relying on the rental yield as the reference benchmark pricing to price the home financing product.

Keywords: Islamic financial institution, Musyarakah mutanaqisah home financing, Reference benchmark pricing, Rental yield

1. Introduction

In providing loans for the purchase of houses, the conventional financial institution lends out the stipulated amount of money needed for the purchase and charges interest on the amount loaned. This practice requires a customer to pay the principal plus interest amounts over an agreed loan tenure. The financial institution generates revenue by requiring repayment of the principal together with the imposition of a certain amount of interest. In mitigating the risk of default, a financial institution requires its customer to pledge the house as collateral until the loan is fully paid. For Muslim customer, this credit arrangement is prohibited since, as clearly highlighted in the Holy Quran, the charging of interest on money-based loans is not permissible.

The Muslim home purchaser who adheres to the principles of Shariah wants to fully comply with the teachings of Islamic law, which prohibit the payment and collection of riba. In the contemporary financial system, riba is commonly interpreted as interest. The Shariah also prohibits gharar, generally interpreted as excessive uncertainty. In response to these prohibitions and to help the Muslim home purchaser avoids the use of interest and gharar, Islamic financial institution develops several contractual concepts to be able to offer interest-free home financing transactions. In this regard, there is a need for the Islamic financial institutions to be creative and innovative in providing home financing products that

are both appealing to the Muslim customer (in terms of pricing) as well as able to comply with the requirements (in terms of compliance) of the Shariah.

The Islamic financial institution offers home financing products based on several contractual concepts such as murabahah (cost-plus) and musharakah (joint-venture) which fulfil the Shariah requirement. However, these Islamic financial products are in the absence of a reference benchmark pricing which is free from the interest rate. There is a call for introducing a reference benchmark pricing an alternative to interest-based borrowing and free from any of riba element. Usmani (2008) stressed that even though using an interest-based benchmark pricing is allowed and the practice is highly discouraged. He further argued that the practice of reference benchmarking pricing against interest rate does not advance the basic philosophy of promoting Islamic economy, whereby it makes no impact on the distribution system.

Indeed, the Bank Negara Malaysia (BNM) in its first Financial Sector Masterplan (2000-2010) called for the Islamic financial institutions to search for an alternative reference benchmark pricing as a move to detach the Islamic financial system from the interest rate. Until today, this recommendation on searching for alternative reference benchmark pricing has yet to be achieved. Therefore, there is an imminent need for the Islamic financial institutions to expedite their efforts in exploring for an alternative reference benchmark pricing to replace the interest rate.



The paper aims to assess the projection pricing for musyarakah mutanaqisah home financing. The projection pricing is performed by adopting the rental yield of Malaysia residential property as a reference benchmark pricing. This rental yield could be as the alternative to relying on the market interest rate in determining the pricing of home financing product. The model is adopted to assess the predictability of the rental yield for a projection period of a 20-year horizon. Subsequently, the estimation rental yield is used to project the pricing of musharakah mutanaqisah home financing product using simulation method. This projection pricing is compared between the musyarakah mutanaqisah home financing and the conventional home loan.

2. Literature review

2.1. Structure of Pricing of Musyarakah Mutanaqisah Home Financing

The musharakah mutanaqisah (diminishing partnership in ownership) contract has enabled the Islamic banks to offer a shariah-compliant home financing product through a combination of three contractual principles, namely partnership (musharakah), leasing (ijarah), and sale (al-bay). This product was gradually developed to meet the increasing demand for Shariah-compliant products and to alleviate concerns that industry players were being complacent in offering debt-based murabahah home financing. Meera and Abdul Razak (2005) stated that musharakah mutanaqisah is a preferred alternative to murabahah home financing, particularly in the context of compliance with the Shariah. Despite this, Meera and Abdul Razak (2009) acknowledged several practical difficulties in the implementation of the musharakah mutanaqisah as a home financing product in the context of Islamic banking today.

There have been intense discussions among Shariah scholars regarding the fundamental characteristics of the musharakah mutanaqisah contract, its permissibility in the context of Shariah, the conditions for its validity, and other Shariah issues related to this contract. Compared to the more dominant murabahah home financing, this product is clearly superior as a contract of partnership. Its permissibility by way of Shariah ruling is widely discussed and well-accepted in the classical book of fiqh (Osmani & Abdullah, 2010). In Malaysia, the Shariah Advisory Council (SAC) of the Central Bank of Malaysia had, in its 56th meeting, issued a fatwa ruling that Islamic financing products which are structured based on musharakah mutanaqisah are permissible, given that musharakah mutanaqisah is a recognised contract in Islamic mu'amalat. To operationalise the contract of musharakah in home financing product, four contractual principles are applied in the home financing model, namely musharakah (partnership), waad (promise), ijarah (leasing), and al-bay (sale). The model calls for the financial institution to purchase a property jointly with a customer.

2.2. Justification for the Adoption of Rental Yield

The rental values reflected in the reference benchmark pricing for musharakah mutanaqisah home financing is consistent with the spirit of Islamic finance, as it is based on the real value of the property (Rosly, 2005). Amin, Abdul Rahman, and Abdul Razak (2013) advocated the importance of using the real value of property in determining the pricing of Islamic home financing products, based on the musharakah mutanaqisah concept. Currently, the interest rate is being used as the reference benchmark pricing which is based on the market interest rate. In fact, the use of rental would be more stable given that those are based upon the real value of the house.

The reference benchmark pricing should be disclosed to all contracting parties to avoid any conflict of interest. For financing

activities, the benchmarks may vary depending on concerns in relation to the real sectors and products. The alternative reference benchmark pricing should be made transparent to be in line with maqasid Shariah. A benchmark pricing derived from a real sector of the economy may prevent disputes on the pricing of financial products among the parties involved. In addition, transparency of the benchmark pricing used will bring honesty into the banking business, in turn boosting society's level of trust and confidence in the Islamic financial system. By doing away with interest rate benchmark, the financial institutions can avoid riba element in the transactions and revenues.

Islamic finance promotes mutual co-operation as the solution to deal with calamities. The related parties engage in mutually beneficial financial arrangements intended to alleviate hardship. In the case of Malaysia, the setting of Overnight Policy Rate (OPR) will translate into Base Financing Rate (BFR) or Base Rate (BR). The current practice is to benchmark the cost of fund and rely on interest rate in deciding the price of home financing products. This study proposes the adoption of rental yield instead, which are based on the movement of the market value of the house. The rental yield can be considered as the alternative reference benchmark pricing in determining the rate of return for musharakah mutanaqisah home financing.

The use of a real value of property in determining the profit rate of financing will be beneficial and will mitigate the effects of subprime crisis brought about by the evils of interest rate. The use of a real value of the property is permissible by the Shariah and is backed by the real transaction in the economy (Ahmed, 2011). The rental value is adjusted to reflect the economic conditions at the point of time. The customer will also benefit from musharakah mutanaqisah home financing in terms of cash flow management. The same applies to the financial institution that would also be able to manage the cash flow more efficiently (Rosly, 2005). Mohd Yusof, R., et al. (2016) propose the Rental Rate Index (RR-I) to be used in musyarakah mutanaqisah contract for home financing. The sample data are from the United Kingdom to formulate a profit rate based on rental index and house price index. The newly proposed RR-I is used for financial simulation to measure the actual rate of return of the product.

The structure of musharakah mutanaqisah home financing leads to fair pricing. Meera and Razak (2009) highlighted this argument that musharakah mutanaqisah home financing is consistent with the spirit of maqasid shariah, which comprises contractual elements of musharakah (partnership) and ijarah (leasing). It has been claimed that the musharakah mutanaqisah contract is a better option to bai bithaman ajil (sale-based contract) in several ways. This contract has greater flexibility of pricing based on rental value or real value of properties, which enables the financial institution to revise the rental value periodically. The profit gained from this financing contract is shared based upon the real market value of the property (Razak & Taib, 2011).

3. Methodology

To achieve the objective of the study, the forecasting method is adopted. The method adopted to estimate the forecast data of rental yield for the next 20 years. The method applied to conduct the forecasting is the artificial neural network (ANN) model. The ANN is a flexible computing framework for modelling a broad range of nonlinear problems. One significant advantage of the ANN model over other classes of nonlinear model is that ANNs are universal approximations which can approximate a large class of functions with a high degree of accuracy. Their power comes from the parallel processing of the information from the data. No prior assumption of the model form is required in the model building process. Instead, the network model is largely determined by the characteristics of the data.

The next step is to perform simulation performance of rental yield for the calculation of musharakah mutanaqisah home financing.

The method adopted is a simulation on payment schedules for musharakah mutanaqisah home financing, adopted from Meera, Abdul Razak, and Haron (2006). Data simulation can be defined as "driving a model of a system with suitable inputs and observing the corresponding outputs" (Bratley, Fox, & Schrage, 1987). While this definition is useful, it does not infer the diverse purposes for which simulation can be used. These purposes include prediction, performance, training, entertainment, education, proof, and discovery.

In the context of this study, the simulation process is conducted to assess the viability of the rental yield in pricing the musharakah mutanaqisah home financing. It is used to perform the calculation of the financing amount and related details (such as payment of rental amounts and share acquisition by the customer to the bank) for the whole financing tenure. The method applied here is a simple simulation process using the amortisation table available in the Microsoft Excel worksheet. It is worth noting that there is another more sophisticated simulation process which typically falls within the domain of artificial intelligence, where the technique mimics the way humans deal with the same task. This method can be thought of as a simulation of human perception and decision-making. The artificial intelligence techniques exploit the special strengths of digital computers, where simulation of task environments can also help with the design of new techniques (Axelrod, 2006). However, this sophisticated simulation process would normally require more detailed primary data collection, which is beyond the scope of this study.

The rental yield data are gathered from the Valuation and Property Services Department of Malaysia's Ministry of Finance through its quarterly publication; Malaysia Property Market Report. The report is available with the rental yield that provided in the form of annual data.

4. Results

The rental yield reflects the return of investment for the house and it is the most commonly used indicator in property investment. It allows a comparison of properties with different rental returns. It can be expressed as a percentage of the property's market value or purchase price. The calculation of rental yield is as follows:

$$\text{Rental yield} = \frac{\text{Rental price (annual)}}{\text{House price}} \times 100$$

The models use 31 years' rental yield data of the double story terrace residential property located at Kuala Lumpur from 1985 until 2015. The trends of rental yield for the period is shown in Figure 1.

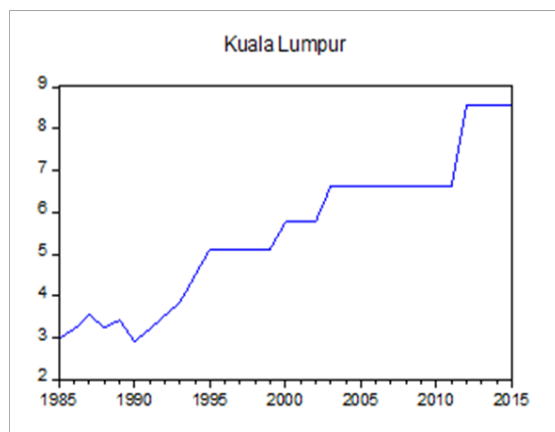


Figure 1: Trends of Rental Yield of House in Kuala Lumpur, 1985-2016

The graphical plots for the forecast data of Artificial Neural-Network model are presented in the Figure 2.

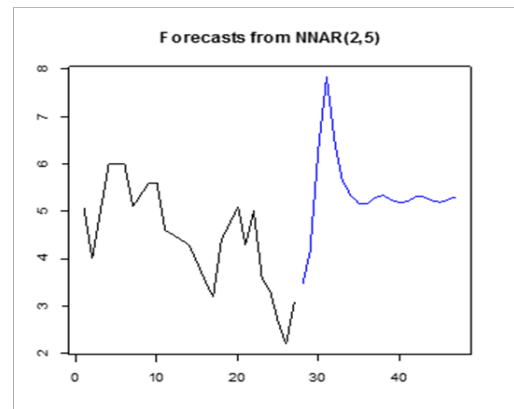


Figure 2: Forecast of Rental Yield

The musharakah mutanaqisah schedule payment is adopted from Ahamed Kameel Mydin Meera (2005), with forecast data of rental yield used in the calculation. The data is applicable for a double-storey terrace house located in Kuala Lumpur. Table 1 shows the result of simulation performance to calculate the pricing of musharakah mutanaqisah using the average gross rental yield as the reference benchmark pricing. The example takes the price of house which values RM500,000. The customer and financial institution enter a musharakah mutanaqisah home financing agreement. The agreement starts with 10% initial contribution from customer amount RM50,000 and remaining 90% contribution from a financial institution. As the result from forecast rental yield states that the average monthly rental value is RM1,858 and the additional monthly redemption is RM979. The average monthly payment by the customer is RM2,837 over the tenure of 240 months (equivalent to 20 years).

Table 1: Result of Simulation Performance

Price of Home	:	RM 500,000
Bank's Contribution	:	RM 450,000
Customer's Contribution	:	RM 50,000
Total months payable	:	240
Average Monthly Rent	:	RM 1,858
Additional Monthly Redemption	:	RM 979
Average Monthly Payment	:	RM 2,837

5. Conclusions

Several interesting findings have been observed from this research. The rental yield can be considered for predicting the housing market as the proxy of the rental value. It reflected the housing market performance with the changes of supply and demand of the house. The forecasting method considered for predicting the yield is the ANN model. The result suggests that the ANN model is appropriate in predicting the rental yield. Based on simulation exercise, there is a significance difference between total payment by the customer for these three types of contract.

Based on these findings, the conclusion can be made for the Islamic finance industry and the economy in general. The Islamic financial institution can consider relying on the rental yield as the reference benchmark pricing to price the home financing product. The rental yield can also be an indicator to predict the possibility of housing bubbles occurring. This would then prompt policymakers to institute appropriate policies to pre-empt further speculative activities on house price which can be detrimental to the economy. This study hopes the findings can shed the light to get rid of interest slowly in the Islamic financial system. Ultimately, Islamic finance shall fully rely on the real property in the economy to benchmark the price of Islamic financing product.

Acknowledgment

We would like to express our gratitude to the sponsor of this research project, the National Real Estate Research Coordinator (NAPREC), under the 11th Malaysia Plan NAPREC Research Fund.

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