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ESSENTIAL NOTES ON MODELING RENTAL RATE FOR ISLAMIC HOME FINANCING IN INDONESIA

Homeownership hitherto remains a formidable work in every country. Rental rate that comprises house and rental price is an arduous factor to determine just price to own the home. This study attempts to unveil some essential notes for Islamic bank in undertaking rental rates for Islamic mortgage financing in Indonesia. By employing the qualitative approach of pedigree on Islamic mortgage financing, this study found some pertinent elements such as the rental price of residential housing, macroeconomics variables, and its heterogeneity and homogeneity factors are among the essential notes to undertake by relevant stakeholders in determining rental rate. The novelty of this study can be considered as the one that initiated to an exploration of rental rates as an alternative element in Islamic home financing in Indonesia. This study implies government policy to consider rental rate mechanism as a new approach to derive just Islamic home financing in Indonesia. In addition, Islamic banks will incorporate this approach as part of their pricing component in determining Islamic home financing.

Key words: rental rate, Islamic Home (mortgage) financing, macroeconomics, heterogeneity, homogeneity.

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Индонезиядағы исламдық тұрғын үйді қаржыландыру үшін жалдау мөлшерлемесін модельдеу туралы негізгі ескертулер

Үйге иелік ету әр елде әлі де қиын міндет болып қала береді. Үйді және жалдау ақысын қамтитын жалдау мөлшерлемесі үйге иелік етудің әділ бағасын анықтаудың қиын факторы болып табылады. Бұл зерттеу Индонезиядағы исламдық ипотекалық қаржыландыруға жалдау мөлшерлемелерін анықтау кезінде ислам банкіне кейбір маңызды ұсыныстарды ұсынуға тырысты. Pedigree-дің исламдық ипотекалық қаржыландыруға сапалы көзқарасын қолдана отырып, бұл зерттеу тұрғын үйді жалға алу құны, макроэкономикалық айнымалылар, сондай-ақ оның гетерогенділігі мен біртектілігі факторлары сияқты кейбір тиісті элементтер жалдау мөлшерлемесін анықтау кезінде тиісті мүдделі тараптар ескеруі керек маңызды ескертулердің бірі болып табылатынын көрсетті. Бұл зерттеудің жаңалығы Индонезиядағы исламдық тұрғын үйді қаржыландырудың балама элементі ретінде жалдау мөлшерлемелерін зерттеуді бастады деп санауға болады. Бұл зерттеу Үкіметтің Индонезиядағы тұрғын үйді әділ исламдық қаржыландыруды алудың жаңа тәсілі ретінде жалдау мөлшерлемесінің механизмін қарастыру саясатын білдіреді. Сонымен қатар, исламдық банктер бұл тәсілді исламдық тұрғын үйді қаржыландыруды анықтауда баға құрамдас бөлігі ретінде қарастырады. Сондықтан нарықтың тиімділігін қалыптастыру үшін үкімет бұл мәселені шешуі керек. Бұл негізінен үй шаруашылығының байлығын жинақтау, жұмыс күші мен салықты арттыру сияқты үлкен мультипликативті эффектімен ұлттық экономиканы жұмылдыра алатын тұрғын үй секторына байланысты. Бұл сектордың шағын үлесі қаржы нарығының тиімсіздігіне әкеледі және табыс деңгейі төмен және орташа адамдар үшін тұрғын үй қорының жоқтығынан үкіметке ауыртпалық түсіреді.

Түйін сөздер: жалдау мөлшерлемесі, Исламдық тұрғын үй (ипотекалық) қаржыландыру, макроэкономика, біртектілік.

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Основные замечания по моделированию арендной ставки для исламского финансирования жилья в Индонезии

Домовладение до сих пор остается сложной задачей в каждой стране. Арендная ставка, которая включает в себя дом и стоимость аренды, является трудным фактором для определения справедливой цены владения домом. В этом исследовании предпринята попытка представить некоторые важные рекомендации исламскому банку при определении арендных ставок для исламского ипотечного финансирования в Индонезии. Используя качественный подход pedigree к исламскому ипотечному финансированию, это исследование показало, что некоторые соответствующие элементы, такие как стоимость аренды жилого помещения, макроэкономические переменные, а также факторы его неоднородности и однородности, являются одними из важных замечаний, которые следует учитывать соответствующим заинтересованным сторонам при определении арендной ставки. Новизной этого исследования можно считать то, что оно положило начало изучению арендных ставок как альтернативного элемента исламского финансирования жилья в Индонезии. Это исследование подразумевает политику правительства по рассмотрению механизма арендных ставок в качестве нового подхода к получению справедливого исламского финансирования жилья в Индонезии. Кроме того, исламские банки будут учитывать этот подход как часть своего компонента ценообразования при определении исламского финансирования жилья.

Ключевые слова: арендная ставка, Исламское жилищное (ипотечное) финансирование, макроэкономика, неоднородность, однородность.

Introduction

The development of mortgage (home) loan in Indonesia recorded a sluggish growth compared to other developing countries in Asia such as Malaysia, Thailand and India as it was accounted below 5% out of total GDP in 2019 compared to 14%-45% out of GDP in other countries. Indonesia showed better performance only compared to Philippine which was only 4%.

Table 1 shows mortgage loan ratio compared to GDP in some majority of developed countries such as Japan, Singapore and United State of America where they have more than 40% growth compared to GDP. However, South of Korea showed different performance with only 18%. Theoretically, mortgage to GDP ratio is publicly accepted as an indicator of maturity in financial industry market with 10% of threshold out of national GDP.

Table 1 – Comparison of Mortgage Loan Ratio to GDP in Some Countries 2015-2019

| No	COUNTRY	YEAR				
		2015	2016	2017	2018	2019
1	Philippines	3,19%	3,47%	3,70%	3,60%	3,78%
2	Indonesia	2,94%	2,95%	3,01%	4,35%	4,49%
3	India	6,06%	5,95%	5,42%	5,53%	7,75%
4	Thailand	13,50%	13,65%	13,55%	13,79%	14,09%
5	South Korea	19,76%	19,21%	17,69%	17,70%	18,27%
6	Malaysia	36,11%	36,66%	36,04%	36,04%*	36,04%*
7	Japan	47,24%	48,08%	48,69%	37,36%	38,30%
8	Singapore	44,86%	45,50%	45,41%	45,41%*	45,41%*
9	USA	52,79%	52,83%	51,83%	49,51%	48,90%
10	Australia	92,64%	95,02%	95,87%	96,17%	94,68%
11	Switzerland	121,35%	124,00%	124,94%	116,42%	117,80%
* Assuming the percentage is the same as in 2017 Note: Helgi Library (2021)						

The sluggish growth of mortgage loan to Indonesian economy can be caused by limited access to capital market and unstable interest rate. In addition, among the serious problem is financial inclusion and affordability to own the house among people with low income level particularly from informal sector of workforce (Soeroto, 2020). Payment system also did not perform well to meet financial need of people and caused more barriers to access loan from the bank

Therefore, the government have to settle this issue to create market efficiency. This is mainly due to housing sector that able to mobilize national economy with its huge *multiplier effect* such as wealth accumulation of household, increase labour force and tax. Small contribution of this sector will lead to inefficiency of financial market and burden to the government due to lack of housing facility for peo-ple with low and medium income level.

On another side, Islamic mortgage (home) financing based on sector in April 2022 showed tremendous growth with 49.5% total financing distributed to household sector accounted to 48.8% of financing distributed to labour force sector respectively. Construction and manufacture sector experienced a slow growth while gas and water sector showed significant growth.
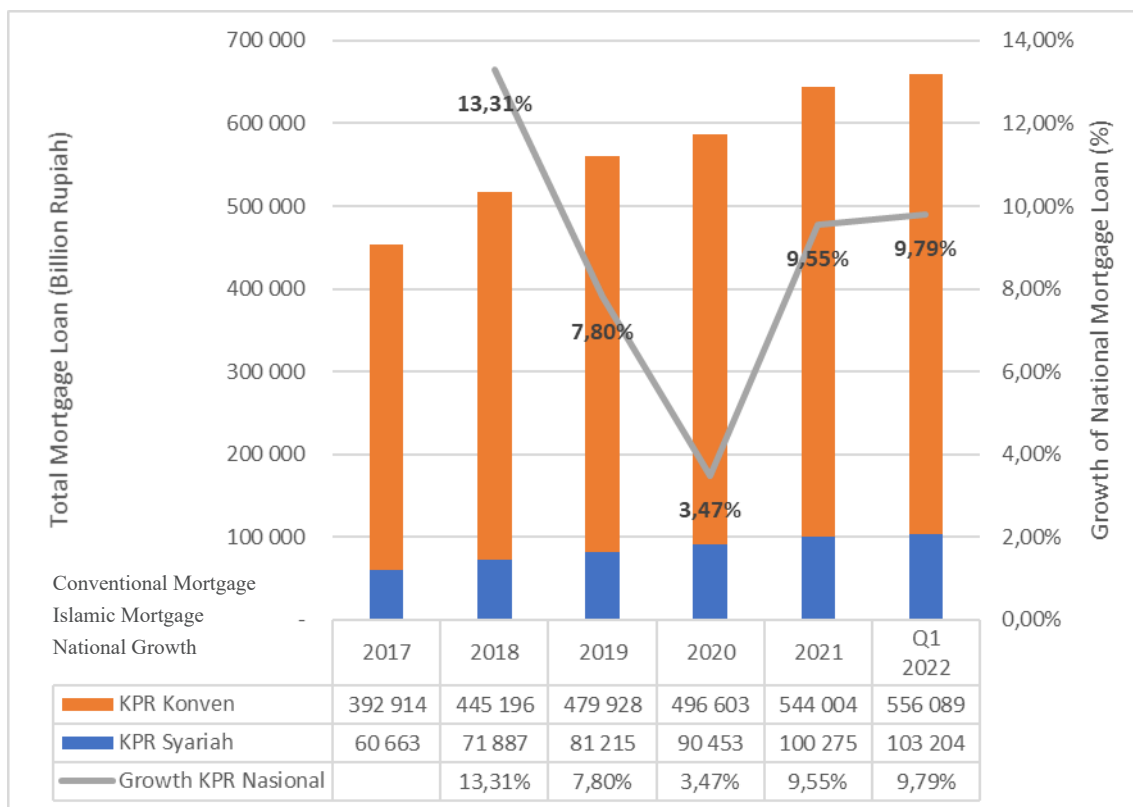
Meanwhile, Islamic banks have disbursed huge Islamic home financing to household sector, even higher than other financings which accounted for more than 24,47% as of March 2022. Based on Table 1 above Islamic bank focuses on Islamic home financing compared to conventional counterpart which was consistent above 20% for the last five years that preceded conventional bank which was accounted for below 10%.
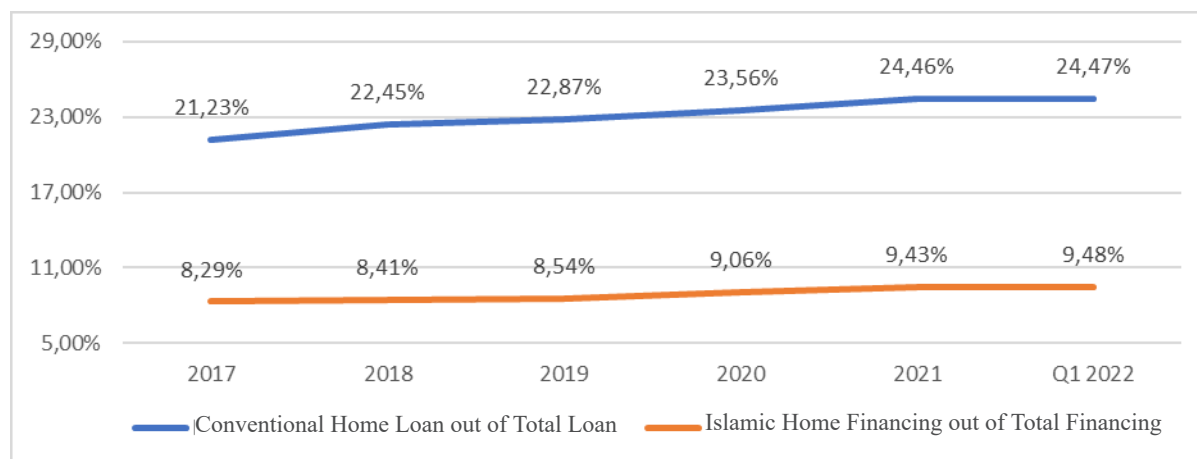
Figure 1 – Proportion of Mortgage Loan Towards Total Loan
Note: Various data of OJK (2022)

Based on the above data, it can be concluded that the strength of loan disbursement by Islamic bank mainly for consumer product with focuses on Islamic mortgage financing. In view of its low percentage out of total GDP in conventional bank, Islamic bank posed more untapped opportunity to be a market leader in extending credit of home ownership and an opportunity to gauge strong branding as Islamic mortgage bank.

As of March 2022, total Islamic home financing amounted to IDR 103 trillion while conventional counterpart accounted for IDR 556 trillion. These figures recorded similar to 2021 where based on YoY growth it was 9.79%. Previous year (2021) was recovery year of mortgage loan following the sluggish growth of property sector during Covid-19 pandemic that occurred in the early of 2020.

	2017	2018	2019	2020	2021	Q1 2022
KPR Konven	392 914	445 196	479 928	496 603	544 004	556 089
KPR Syariah	60 663	71 887	81 215	90 453	100 275	103 204
Growth KPR Nasional		13,31%	7,80%	3,47%	9,55%	9,79%

Figure 2 – Total Mortgage Loan and Its Growth (*Growth Q1 2022 is data based on year-on-year)
Note: Various sources based on data of OJK (2022)

Methodology

Qualitative approach undertaken to systematically examine the phenomenon that happened in the subject of the research such as perception, motivation and behaviour by way of describing in the form of scientific words and languages using different natural methodology. Descriptive research design also aims to obtain information In addition, qualitative research is descriptive approach and tend to use analysis where the process and objective become a guidance of research to meet its objectives. Therefore, this paper the collected data in the form of words rather than numbers.

This paper employs qualitative study by undertaking library research that relevant to modelling rental rate for Islamic home financing. The review encompasses empirical studies outside Indonesia as rental rate has not been determined yet by the regulator of Indonesia. This paper therefore will focus on what are suitable variables that can be applied in Islamic home financing in Indonesia taking the notes of best practices of Islamic home financing outside Indonesia. In addition to that, some

theoretical underpinning have been developed to match the concept of removing interest benchmark from Shariah perspectives. In other words, the analysis derived from quantitative evidences that supported by Shariah views.

Literature Review

It should be noted that many factors influence the determination of rent levels, (Kajuth, 2021) highlight by presenting three factors that influence housing prices, namely physical, location and general price variables. Similar investigations were carried out by (Day, 2003) and (Palmon, Smith, & Sopranzetti, 2004). At the same time, (Mahfudz, Ahmad, Yusoff, Naim, & Ali, 2016) argued that there are problems in replacing the current benchmarking analysis, because there is no general agreement on how to deal with the removal of benchmarking from Islamic financial practices. So far, Islamic scholars have unanimously agreed to use the real rental value of real estate to replace the interest rate benchmark that exists in Islamic financial practice (Meera & Razak, 2009). However, the formula they use is very similar to conventional practices. In this case, the

opinion of (Usmani, 2021) supported by Wahaba al-Zuhayli (2003) who said that "A sale without naming the price is defective and invalid "One cannot agree to buy or rent something without knowing the price one must pay.

In addition, (Meera & Razak, 2009) also argued about how the rental rate is replaced by the market price. The issue is based on the fact that the bank's cost of funds is likely to be linked to market interest rates. Second, if the interest and rental rates were to equalize, the same amortization schedule as in a traditional bank would be achieved. (Meera & Razak, 2009) also confirmed that interest is more expensive than rent. However, implementing a rental system can be difficult and expensive, especially if value-independent services are sought in the absence of rental indices.

At the same time, (Mohd Yusof, Bahlous, & Haniffa, 2016) developed an Islamic rental rate (RRi) instead of comparing interest rates. They argued that the RR should be stable without severe fluctuations and resistant to macroeconomic shocks. They further argued that RRi has proven to be suitable for both customers and banks because it resembles the fairness, equity and real returns of Islamic home finance.

(Mohd Yusof, Kassim, Shabri A. Majid, & Hamid, 2011) analyzed the possibility of basing the price of an Islamic housing finance product on the rental rate instead of the traditional interest-based loan rate in Malaysia. They document evidence that the rental rate is a better choice than the loan rate when pricing an Islamic housing finance product. In particular, rents are found to withstand short-term economic instability, while in the long run they actually reflect economic fundamentals.

Although MM is less problematic from an Islamic perspective, concerns have been raised about this practice involving issues of contract, agency, trust, property and share price and leasing in line with market forces as noted by (Smolo & Kabir Hassan, 2011); (Mydin Meera & Abdul Razak, 2005), (Meera & Razak, 2009). One of the highlighted issues is the approximation of traditional home financing and MM practices. For example, unlike rental rates, standard bank charges still apply and applicable interest rates are usually higher than rental rates. On the other hand, the use of rental prices requires the services of a real estate appraiser, whose evaluation is often very subjective and does not reflect the real value of the real estate or the prevailing macroeconomic conditions. (Meera & Razak, 2009) devised solutions to some practical problems by extracting changes in rental prices,

property values, estimating new rental values and rental prices. They concluded that the rental value is based on assumptions, but in practice it is still determined arbitrarily.

According to (Usmani, 2021), restructuring Islamic banking finance amid environmental practices is a huge task because people felt that removing interest from banks and financial institutions would not bring more profit than charity. In traditional practice, an interest-free loan extension is only suitable for a non-profit organization or charity. However, it is pertinent to note that Shariah has a special approach to business finance. Lack of interest in Shariah financing does not mean that the bank will suffer losses or that the bank will not make a profit. If the financing is for business purposes, it can be based on profit and loss sharing, although to some extent Musyarakah and Mudarabah are not applicable and it is possible for certain companies.

Result and Discussion

Islamic Banking Facility for Mortgage Ownership: Musyarakah Mutanaqishah Versus Murabahah

In Indonesian Islamic banking industry, there are only two banking facility for the purpose of home ownership that offered to customers namely Musyarakah Mutanaqishah (MMQ) and Murabahah. MMQ is a sophisticated facility can be used not only for home ownership but also for other products such as refinancing, working capital, restructuring the loan and take over from conventional to Islamic bank.

MMQ for home ownership is perceived as the right and proper banking facility for customers compared to Murabahah. Some fundamental reasons such as longer maturity than Murabahah and cheaper price for customer become pertinent consideration for customer in choosing the right banking facility for their home ownership. In addition, MMQ has lesser deposit payment compared to Murabahah and therefore MMQ is much preferred compared to Murabahah.

Meanwhile, Murabahah is a cost-plus profit or mark-up price banking facility that can be applied not for home ownership product but also can be used for multiple purposes. Murabahah is much easier for the bank to be applied and more return compared to MMQ. Bank can set the profit margin easily and determine the maturity with low risk exposure for the bank. On the other side, as Murabahah is considered as an expensive banking facility, home

ownership product becomes less preferred by the customer instead of MMQ.

Nevertheless, although MMQ is much better compared to Murabahah for home ownership product, the implementation of MMQ still remain an arduous work for Islamic bank in Indonesia. Murabahah hitherto still dominating banking facility for home ownership products. Only few Islamic bank provide MMQ for home ownership product. In fact, many of Islamic bank particularly for Islamic rural banks that belong to local government are lacking of knowledge on MMQ operation.

Determining Rental Rate of Residential Housing in Indonesia

There are many approaches that recorded in the pedigree of rental rate. In general, there are two methods employed by many researchers namely Hedonic Pricing Model and Macroeconomics Variables and econometric analysis. Rental rates for home loan comprise house price and rental price of residential house that must be available to determine rental rate. The data on rental price is inseparable component that is not easy to be obtained. Determining rental price of house in certain area subject to certain criteria that can be different from one area to another area. In Indonesia, rental price of residential house is very subjective and difficult to obtain the true and just rental price.

The hedonic pricing model (HPM) is one of the most commonly used methods for determining rental values (Filippova, Gabe, & Rehm, 2022). Hedonic regression analysis is a statistical technique that can be applied to multiple property values and related characteristics to identify and quantify the importance of characteristics in determining property value. This is an established technique that has been widely used in housing market pricing and is commonly used in property valuations in the US and UK. A further extension of the HPM leads (Ibrahim, Cheng, & Eng, 2005) accept an automated scoring model. Analyzing housing prices in Singapore's resale market between 1995 and 2000, the study results show that variables such as floor space, age, distance from the central business district (CBD) and distance from the MRT are important determinants of housing development. Government Resale price of flats. In a recent study, (Ahlfeldt, Heblich, & Seidel, 2021) used a dummy variable method to create hedonic indices in Oslo, Norway for the period 1970-2008.

Variables used in the analysis are large deposits, central location and use of real estate. Recent approaches to property rental pricing include the application of advanced econometric analysis. This requires the use of various econometric analyses, from simple OLS analysis to vector error correction models (VECM), variance decompositions (VDC) and impulse response functions (IRF). The purpose of these analyzes is to examine the dynamics or nature of the causal relationship between the variables and to determine the relative strength of the causal relationship between the variables after the experimental period. In other words, if the application of OLS analysis to property rent determination involves testing the explanatory power of identified property rent determinants, another econometric analysis helps to provide more information about the dynamic relationships of property rent levels variables. For example, (Allan, Liusman, Lu, & Tsang, 2021) sought to demonstrate the importance and potential value of commercial rent modelling, forecasting and forecasting in the UK office, industrial and retail markets between 1986 and 1995. Using (Pesaran, Shin, & Smith, 2001) and VAR estimation, the study concludes that theory appears to be a better indicator of the "correct" model structure than historical fit maximization. Meanwhile, (Rambaccussing, 2021) and (Trevillion, 2022) employed time series techniques and censored regression analysis to model property rents in both Scotland and Great Britain. Although (Rambaccussing, 2021) compared and contrasted the differences and commonalities of the three main sectors of the real estate market, (Trevillion, 2022) relates real estate stock prices to several macroeconomic variables.

For developing economies, research on real estate market rental values has focused primarily on modeling, estimating, and forecasting real estate rental values. Using regression analysis, (Hui, Yiu, & Yau, 2007), examine the relationship between market position and retail rents in Hong Kong from 1997 to 2003. Identifying the macroeconomic drivers of Singapore's private housing industry, (ho Kim Hin & Calero Cuervo, 1999) provide empirical evidence that housing prices in Singapore are integrated with real GDP, prime lending rates and the private housing sector.

Recent studies such as (Hanna, Caples, & Smith, 2013) examine housing demand and prices in the US state of Texas between 1980 and 2011. Developing a regression model to predict inflation-adjusted average monthly rent. The variables selected in the stepwise regression are occupancy rate, new housing construction, population change and employment change. (Hanna et al., 2013) find that the inflation-adjusted average rent level has a

significant effect on occupancy and the construction of new housing.

Despite extensive research to estimate, predict and identify important variables in the real estate industry, research on the relationship between house prices and rents and the financial sector remains insufficient due to the enormous development of the financial sector in this area. In fact, there is little research on the relationship between dynamic pricing in the real estate industry and the Islamic financial system.

Conclusion

Islamic home financing in Indonesia has to consider a new approach in determining just price for the customer of Islamic banks. Home ownership hitherto remain an arduous work for relevant stake holders to produce just price that include elements or variables that comply with Shariah principles. Rental index has not been established yet in Indonesia and therefore more challenges ahead in adopting some empirical and best practices of other countries to be applied in Indonesia which have certain characteristic. Therefore, some pertinent notes have to be considered by all relevant stake holders such as regulators, Islamic banks, developers and other leasing companies to work together to adopt hedonic pricing mechanism, macroeconomics variables, and its heterogeneity and homogeneity factors.

This paper implies policies to be taken by relevant stake holders in Indonesia particularly regulators in order to meet the government program on one million national housing projects by 2025. Determining rental rate could be adopted by taking not only micro variable but also macro variables as Indonesia comprises of many islands and remote area that require specific approach to calculate the price that lead to justice and fairness. In addition, taking the best practices of other countries which provide accurate data might help in determining proper rental rate that can be applied in Indonesia.

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