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Університет Шривіджая, м. Палембанг, Індонезія

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Імам АСНГАРИ

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Фактори, що впливають на фінансування придбання житла за законами шаріату

Анотація. В Індонезії відчувається значний і зростаючий дефіцит житла. Існуюча пропозиція знаходиться у поганому стані, а попит на нове житло зростає. Тим часом купівельна спроможність людей, бажаних придбати будинок, все ще відносно низька. Уряд формує додатковий житловий фонд, співпрацюючи з приватними забудовниками, щоб допомогти задовольнити попит населення на житло. Ісламські банки також надають кошти на придбання будинків для громади. У цьому дослідженні аналізується вплив коштів третіх осіб, маржі фінансування власності на житло, інфляції та доходу домогосподарств на ісламське фінансування власності на житло. Аналітична модель, яка використовується у цьому дослідженні, – це звичайний найменший квадрат із методом моделі виправлення помилок. Метод звичайного найменшого квадрата у цьому дослідженні використовується для того, щоб побачити зв'язок між короточасним та довгостроковим ефектом впливу незалежних змінних на залежну змінну. Аналітичний інструмент, використаний у цьому дослідженні, – це економетричні моделі, реалізовані у програмному забезпеченні EViews 10 Standard Edition для Windows. Результати дослідження показують, що в короткостроковій перспективі всі аналізовані змінні мають значний позитивний вплив на фінансування власності на житло в ісламських банках в Індонезії. В довгостроковій перспективі кошти третіх осіб, маржа фінансування власності на житло, інфляція та доходи домогосподарств мають значний позитивний вплив на фінансування власності на житло в ісламських банках в Індонезії, але така змінна як маржа фінансування власності на житло має значний негативний вплив на ісламське фінансування власності на житло. Результати дослідження можуть бути використані для удосконалення державної політики фінансування власності на житло на житло в Індонезії, а також інших країнах, де існує проблема низької доступності житла.

Ключові слова: фінансування власності на житло, кошти третіх осіб, маржа фінансування власності на житло, інфляція, доходи домогосподарств.

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The Factors Affecting Islamic Financing for Homeownership

Abstract. Indonesia has a significant and growing shortfall of housing. Existing supply is in poor condition and demand is rising for new units. Meanwhile, people's purchasing power to buy a house is still relatively low. Government overcomes added stock housing availability by collaborating with private developers to help meet the demand for housing needs. Islamic banks can provide funds to buy houses for the community. This study analyzes the

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Finance & Taxation

effect of third-party fund (TPF), margin of homeownership financing (PPR), inflation, and household income on Islamic financing for homeownership. The analytical model used in this research is the ordinary least square with the Error Correction Model (ECM) method. The Ordinary Least Square (OLS) method in this study is used to see the relationship between the short-term and long-term effects of the independent variables on the dependent variable. The analytical tool used in this research is Econometric Views (EViews 10 Standard Edition for Windows). The study results show that in the short term, the TPF, PPR margin, inflation, and household income variables have a significant positive effect on homeownership financing in Islamic banks in Indonesia. The long term TPF, inflation, and household income variables have a significant positive effect on homeownership financing in Islamic banks in Indonesia, but the variable of PPR margin has a significant negative impact on sharia financing for homeownership.

Keywords: homeownership financing, third-party fund (TPF), margin PPR, inflation, households income.

Problem Statement

The population growth in Indonesia, which always increases every year, has caused an increase in the community's need for housing ownership. Decent housing is one of the leading indicators of Indonesia's

economic growth. Indirectly declared that population growth affects economic growth. Population growth has a positive correlation with economic growth (Rochaida, 2016).

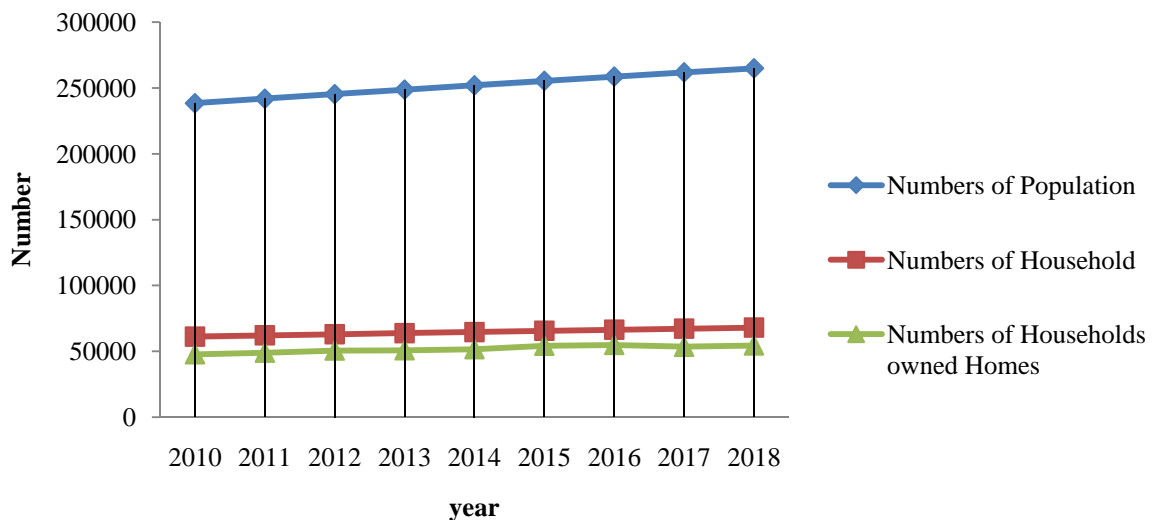


Figure 1. The relations between the population growth and the number of households having residence

Source: Central Bureau of Statistics.

Based on Figure 1, the number of households that do not yet have a house is still quite large when though every year the number of households that own a house shows a positive trend, but there is still a gap between the number of households that do not have a home and those who already have one. The large backlog shows that the government or private developers have not been able to

supply the demand for housing. On the other hand, financially society is a bit rough to afford the place to live so the authority and developer also the community need help from other teams such as banking institutions that supply the financing to facilitate the societies having the residences.

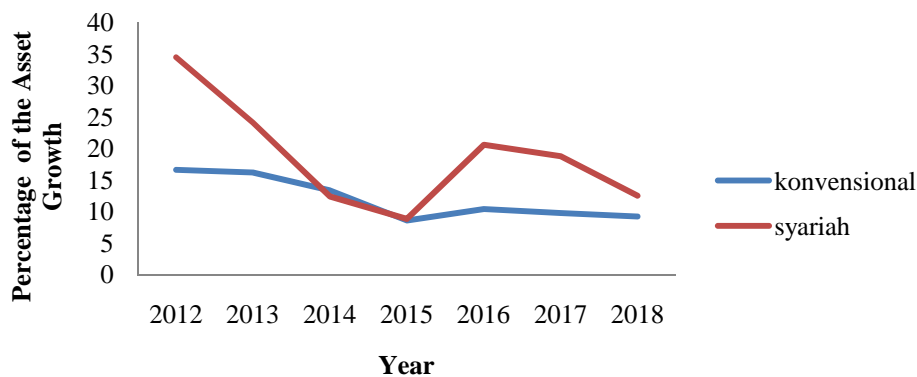


Figure 2. The ratio of the average asset growth between conventional and Sharia banking

Source: Financial Services Authority.

Based on Figure 2, the average growth of Islamic bank assets is greater than the growth of conventional bank assets. This indicates that more and more people choose Islamic banks to conduct transactions, either saving or getting financing from Islamic banks. So it is interesting to study what are the factors that can influence sharia financing for homeownership.

Literature Review

The financing that can be provided by Islamic banks is influenced by how much funds can be collected by the bank. The greater the third-party funds obtained from the community, the greater the financing to be share. According to Fitria and Astutik (2017), TPF significantly affects the distribution of homeownership financing. Meanwhile, the research by Syaputra & Thohirin (2019) shows that TPF has a positive but not significant effect on homeownership financing.

In addition, one factor which can affect the distributed numbers of the finances is the margin of the homeownership finance. Opera (2016) stated that the

margin of Murabaha financing profoundly affected the rates of Subsidized-Household Loan Credit.

One of the macroeconomic factors that can affect the financing of Sharia banking is inflation. Research by Ramlan, Hashim, and Salem (2018) stated that the inflation variable is significant but harms the household's increased loan. In another opinion, Syaputra and Thohirin (2019), the inflation variable also affects negatively but not significantly to the household increased-loan.

The household earnings affect relative affording house cash even credit. Based on research has done by Bandyopadhyay and Asish (2009), the changes in earnings affect the demands of housing growth in India. Lasmarohana & Maski (2015) stated that income had a significant effect on making the decision to provide household loan credit..

Research Conceptual Framework

Based on the description, the research conceptual framework can be explained as follows:

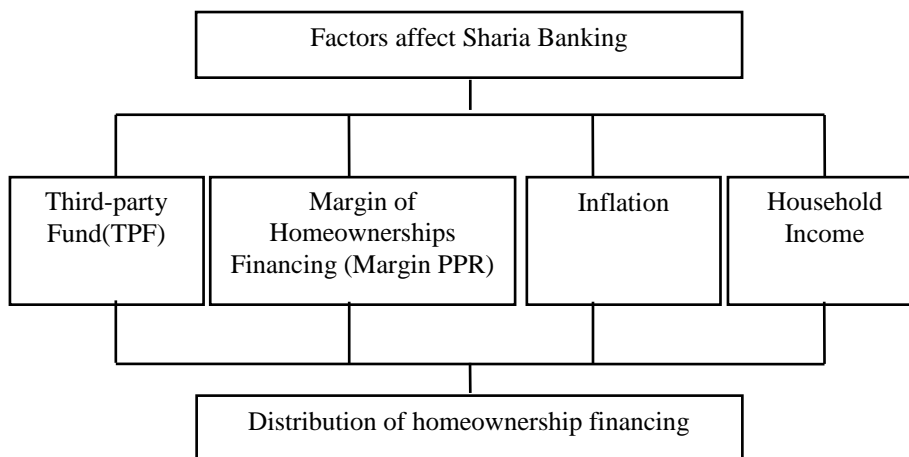


Figure 3. Research conceptual framework

Source: built by the authors.

Figure 3 is a framework to be analyzed to see the effect of TPF, Margin PPR, Inflation, and Household Income on Islamic financing for homeownership in Islamic banks in Indonesia for the 2015-2019 period.

The hypothesis of this study will be as follows:

- H₁: The third-party fund has a positive effect on Islamic homeownership financing;
- H₂: Margin of homeownership financing has a positive effect on Islamic homeownership financing;
- H₃: Inflation has a positive effect on sharia financing of homeownership;
- H₄: Household income has a positive effect on sharia financing of homeownership.

Model and method analysis

Data analysis in this study used quantitative analysis with the Error Correction Model (ECM) method. The Ordinary Least Square (OLS) method in this study is used to see the relationship between the short-term and long-term effects of the independent variables on the dependent variable. The analytical tool used in this research is Econometric Views (Eviews) version 10 on windows.

The Regression Models used for this research are:

The form of the Short-term:

$$\Delta \text{LogFNC} = \beta_0 + \beta_1 \Delta \text{LogTPF} + \beta_2 \Delta \text{RPROF} + \beta_3 \Delta \text{INF} + \beta_4 \Delta \text{LogHHI} + \text{ECT} \quad (1)$$

The form of the Long-term:

$$\text{LogFNC} = \beta_0 + \beta_1 \text{LogTPF} + \beta_2 \text{Rprof} + \beta_3 \text{INF} + \beta_4 \text{LogHHI} \quad (2)$$

Remarks:

- ΔLogFNC = The finance of the homeownership of sharia banking
- ΔLogTPF = Third-Party Fund (TPF) of sharia banking

- ΔRPROF = The margin of the homeownerships financing (Margin PPR) of sharia banking
- ΔINF = Inflation
- ΔLogHHI = Households' income
- β₀ = Constants
- β₁, β₂, β₃, β₄ = Regression Coefficients
- ECT = Error Correction Time

Results and Discussion

1. Unit Root Test

The results of the analysis show that the ADF-fisher chi-squares value is 63.61 with a probability value of less than = 5 percent, then H₀ is rejected, which means that all variables together do not contain unit roots at the same level or the data is stationary.

2. Co-Integration Test

Co-integration test results from the Johansen method obtained a trace statistic value of 91.09, which is greater than the critical value=5 percent of 69.81 with a probability of 0.000 then H₀ is rejected. All the variables have a relation to the Long-term/ data that have been co-integration.

3. Classic Assumption Test

Autocorrelation Test

Based on the test results, the probability value of Q-stat is greater than = 5 percent / in other words, none of them are significant in the significance level of = 5 percent that the model used in this study is free from autocorrelation problems. Autocorrelation testing the

squared residuals. Based on the test results, the Q-stat probability value of the squared residual is above than =5 percent, meaning that the squared residual in this study is free from the autocorrelation problem.

Heteroscedasticity Test

To discover which models have had Heteroscedasticity or not, it will be using *the Breusch-Pagan-Godfrey test* instead. The result shows that the *Chi-Square* value is 3.82 the probability value amounted to 0.57 greater than α=5 percent, H₀ is acceptable. The model has been free from the heteroscedasticity problem.

Multicollinearity Test

The test has done by doing the observation to the *Variance Inflation Factor (VIF)* value on the regression model. The result of VIF value in each variable is less than 10, thus can be inferred that the model is free from the multicollinearity problem.

4. The Estimates of ECM Model

4.1 The Short-term Sharia Financing Model

Table 1

Short-term Regression model

Independent Variable	Coefficient	Standard Error (SE)	Z-Test	Probability
Constants	0.003451	8.30E-05	41.58172	0.0000
Log TPF	0.445046	0.003982	111.7641	0.0000
Margin PPR	0.001464	0.000488	3.008955	0.0026
Inflation	0.003181	0.000452	7.043961	0.0000
Log Households Income	0.005483	0.000430	12.76562	0.0000
ECT	0.004775	0.000614	7.775907	0.0000

The form of the Short-term is as follows:

$$\Delta\text{LogFNC} = 0.003451 + 0.445046\Delta\text{logTPF} + 0.001468\Delta\text{RPROF} + 0.003181\Delta\text{INF} + 0.005483 \Delta\text{logHHI} + 0.004775 \text{ECT}$$

(8.30E-05)*** (0.003982)*** (0.000488)*** (0.000452)*** (0.000430)*** (0.000614)***

Note: *** significant at α=1%

Based on the short-term estimation equation using robust regression, the results show that all independent variables TPF, Margin PPR, inflation, household income have a positive effect on housing finance have a significant effect at α =1 percent. In the short-term equation using the ECM model, the ECT coefficient is 0.004775 and significant at α=1 percent.

The Rw-Squared value in this model is 0.797, mean that all variations of the independent variables can explain variations in the level of change in homeownership financing by 79.8 percent, and the

remaining 20.2 percent is influenced by changes in other variables outside the model. Prob value. Rn-square statistic is 0.000 smaller than =0.05, then H₀ is rejected, which means that all independent variables significantly affect changes in homeownership financing.

The z-statistic value on the TPF is about 111.764 with the probability value amounted to 0.000 less than α=1persen so the H₀ hypothesis which dismissed having the meaning that the short-term for DPK variable significantly affect the homeownerships financing. The z-statistic value on the margin PPR variable is about

3.008 with the probability value amounted to 0.002 less than $\alpha=1\%$ so the H_0 hypothesis which dismissed having the meaning that the short-term for margin PPR variable also significantly affect the homeownerships financing. The same situation to the inflation variable that has the z-statistic value 7.043 with the probability 0.000 less than $\alpha=1\%$ significantly affect the homeownerships financing. Another variable is households' income variable that has the z-statistic value 12.765 with the probability value 0.000 less than $\alpha=1\%$ significantly affects the homeownerships financing.

The relation of TPF short-term to the homeownerships financing

Based on the regression results above, the coefficient value of the TPF variable is 0.445 with a probability value of 0.0000 has a significant effect on the significance level of $\alpha = 1$ percent. The elasticity value of the TPF variable is 0.445046, which means that if the TPF elasticity is 0.445, the homeownership financing will change by 0.445 or significantly equivalent to Rp. 2,000,786,416 per month. The slope value of the TPF variable is 0.402, which means that if the TPF increases by 1 percent, the financing for homeownership will increase by 0.402 percent.

The relation of the margin PPR short-term to the homeownerships financing

The coefficient value of the Margin PPR is 0.001464 with a probability value of 0.0026 and has a significant effect on level $\alpha= 1$ percent. The elasticity value of the Margin PPR variable is -0.0004, which means that if the Margin PPR elasticity is 0.0004, the homeownership financing will change by -0.0004. The slope value of the

Margin PPR variable is 0.001464, which means that if the Margin PPR increases by 1 percent, the mortgage financing will decrease by -0.001 percent.

The relation of the inflation short-term to the homeownerships financing

The inflation variable has a coefficient value of 0.003181 with a probability value of 0.0000 and has a significant effect on $\alpha= 1$ percent. The elasticity value of the inflation variable is 0.002004297. It means that if the inflation elasticity value is 0.0020, the homeownership financing will change by 0.0020. The slope value of the inflation variable is 0.003181, which means that if inflation increases by 1 percent, financing will increase by 0.003181 percent.

The relation of the households' income short-term to the homeownerships financing

The coefficient value of the household income variable is 0.005483 with a probability value of 0.0000 and has a significant effect level $\alpha= 1$ percent. The elasticity value of the household income variable is 0.005483. It means that if the household income value is 0.0054 then the financing of homeownership will change by 0.0054. The slope value of the household income variable is 0.012286, which means that if household income increases by 1 percent, the financing will increase by 0.012286 percent.

The coefficient ECT value on ECT short-term regression model amounted to 0.004775. So, we can be stated that the rates of the change in the financing of the homeownership need 0.14 days per month (0.004775 x 30 days) to get the balanced value for the next month.

4.2 The Long-term Sharia Financing Model

Table 2

Long-term Regression Model				
Independent Variable	Coefficient	Standard Error (SE)	Z-Test	Probability
Constant	5.282427	0.054644	96.67045	0.0000
Log TPF	0.041250	0.008341	4.945605	0.0000
Margin of PPR	-0.082156	0.000987	-83.28004	0.0000
Inflation	0.019816	0.002549	7.775225	0.0000
Log households income	0.026757	0.002563	10.43842	0.0000

The form of the long-term model is as follows:

$$\text{LogFNC} = 5.282427 + 0.041250 \text{ LogTPF} - 0.082156 \text{ Rprof} + 0.019816 \text{ INF} + 0.026757 \text{ LogHHI}$$

(0.054644)*** (0.008341)*** (0.000987)*** (0.019816)*** (0.002563)***

Note: *** significant at $\alpha=1\%$

Based on the long-term estimation equation using robust regression, the results show that TPF, inflation, household income have a positive effect on homeownership financing, while the Margin PPR variable harms homeownership financing. All variables are significant at $\alpha = 1$ percent.

The R²-Squared value in this study is 0.89, meaning that all variations of the independent variable can explain the variation in the rate of change in home ownership financing by 89 percent and the remaining 11 percent is influenced by other variables outside the model. Prob.value R²-Square statistic 0.000000 < $\alpha = 0.05$, then

H_0 is rejected, which means that all independent variables significantly affect to homeownership financing.

The z-statistic value on the TPF variable is 4.945 with the probability 0.000 less than $\alpha=1\%$ hence the H_0 hypothesis which dismissed has the meaning that this has the significant effect to the homeownerships financing. The z-statistic value on the Margin of PPR variable is about -83.280 with the probability value 0.000 less than $\alpha=1\%$ so the H_0 hypothesis was dismissed and the variable has a significant effect to the financing. The same for the inflation variable that has the z-statistic value 7.775 with the probability value 0.000 less than $\alpha=1\%$ having the significant effect to the financing. Also, in another variable that has the significant effect to the financing is the households income that has the z-statistic value 10.438 with the probability 0.000 less than $\alpha=1\%$.

The relation of the TPF long-term to the homeownerships financing

The coefficient value on the TPF variable is 0.041250 with the probability value 0.0000 and a significant effect on level $\alpha=1$ percent. The elasticity value is 0.041250 means that homeownership financing will change to 0.041 or Rp. 1,099,638,660 per month. The slope value is 0.034754, which means that if the TPF increases by 1 percent, the financing for homeownership will increase by 0.034 percent.

The relation of the margin of PPR long-term to the homeownerships financing

The coefficient value of the Margin PPR is -0.082156 with the probability of 0.0000 and affects the Sig. Value $\alpha=1\%$. The elasticity value is -0.027906922 means that if the Margin PPR elasticity is -0.0279, the mortgage financing will change by -0.0279. The slope value is -0.082156 means that if the Margin PPR increases by 1 percent, the mortgage financing will decrease by -0.082 percent.

The relation of the inflation long-term to the homeownerships financing

The coefficient value on the inflation is 0.019816 with the probability value 0.0000 and significant on level $\alpha=1$ percent. The inflation elasticity value is 0.342763028 can explain the inflation elasticity value is 0.3427 then homeownership financing will change by 0.3427. The slope value of the inflation variable is 0.019816, which means that if inflation increases by 1 percent, financing will increase by 0.019816 percent.

The relation of the households' income long-term to the homeownerships financing

The coefficient value of household income is 0.026757 with the probability value 0.0000 and significant on level $\alpha=1$ percent. The elasticity value of the household income variable is 0.026757. It can explain that if the household income value is 0.026757, then homeownership financing changed to 0.026757. The slope value of the household income variable is 0.117314, which means that if household income increases by 1 percent, the homeownership financing will increase by 0.117314 percent.

The impact of TPF variable on the homeownerships financing

The short-term and the long-term on the TPF Variable have positive effects and significant to the homeownership financing. That means if the TPF collected by Islamic banks increases, the homeownership financing distributed by Islamic banks will be even greater. TPF is the main source of funds owned by banks. Sharia Banking will get the profit and will pay the profit-sharing to the customers funneling much bigger financing. The results of this study are in line with the research of Fitria and Astutik (2017), where TPF significantly affects the distribution of homeownership financing. However, this result was not in line with Syaputra & Thohirin (2019) stated that TPF has a positive but not significant effect on housing financing. Because in the short-term SBI promises more definite liquidity benefits and has very low risk so that third party funds obtained are not significant impact on financing to the real sector.

The impact of margin PPR variable on the homeownerships financing

Based on the research, the Margin PPR variable in the short term has a significant positive effect when a long-term has a significant negative effect on homeownership financing. If the Margin PPR increases in the short term, it will increase homeownership financing. This condition can occur because the house/residence is the primer needs that must be satisfied. In the short term, people do not consider the amount of margin charged by the bank. But in the long term, the increased margin of PPR will reduce the financing funneled by Sharia banking. Margin PPR is the profit obtained by the bank from the results of the business it runs. If the bank takes a high profit, it will reduce public interest in applying for financing so that the distribution of financing will be smaller. This study was consistent with Opera (2016), where the Murabaha margin positive effects of level homeownership financing by 38.84 percent.

The impact of inflation variable on the homeownerships financing

Inflation is a condition when the price of a commodity or service increases continuously for a certain period. This state will affect the property values that increase continuously. An increased home price will affect the capability of the societies to afford the houses if it is not equal to the increased income of the public. The results of this study, the inflation variable has a positive and significant effect on housing financing. An increase in inflation will increase the distribution of homeownership financing. The results of this study are not in line with the results of research from Ramlan, Hashim, and Salem (2018), where the inflation variable is significantly negative to the total increase in home loans. The results of other studies are not in line with Syaputra and Thohirin (2019), where the inflation variable has a negative and not significant effect on inflation. Because the inflation used classified as mild inflation has increased the national income and encouraging people to work, save and invest. In addition, from a sharia perspective, the primary

consideration in providing financing is the benefits for society.

The impact of households' income variable on the homeownership financing

Household income is the wages/remunerations obtained by the head of the household or other household members. For banks, the amount of income received will determine the ability of a family to buy a house. Based on the results of this study, the household income variable in the short and long term has a positive and significant influence on homeownership financing. This means that the more incomes earned by households the more requests in financing. The increase of the capability of households will make them afford the more costly house or a place of residence so the financing requests to the banks will increase. The results of this study are in line with the results of research by Lasmarohana and Maski (2015), where income has a significant effect on the decision to grant mortgages. Ganthari and Syafri (2018) state that income has a positive and significant on

mortgage demand. Research conducted by Hawa and Rosyidi (2018) also supports his study where the income of prospective customers has a significant and significant effect on the demand for homeownership financing.

Conclusions

Given this, it can be concluded that:

The independent variables in this study are TPF, Margin PPR, inflation, and households' income simultaneously affect sharia financing for homeownership.

1. In the short-term TPF, inflation, and household income variables have a significant positive effect on homeownership financing in Islamic banks in Indonesia. while the variable Margin PPR has a significant negative effect on sharia financing for homeownership

2. In the long -term TPF, inflation, and household income variables have a significant positive effect on homeownership financing in Islamic banks in Indonesia. while the variable Margin PPR has a significant negative effect on sharia financing for homeownership

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