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December 24th 2020

Dear Professor Gratiela Georgiana NOJA
Editor-in-Chief IJFIRM

We would like to submit an original research article entitled "Effects of Financial Knowledge, Risk & Return, and Geographical Attributes towards Property Investment Decision" in International Journal of Finance, Insurance and Risk Management. We confirm that this work is original and has not been published elsewhere, nor it is currently under consideration for publication elsewhere.
In this paper, we report on research which aimed to examine the effects of financial knowledge, possible return, risk preference, and geographical attribute towards property investment decisions. Most previous studies on property investment decision focused on financial knowledge, possible return, and risk preferences. There is lack of studies on property investment decision focused on portfolio diversification. Filling the gap of existing studies, this study specifically discusses geographical diversification by property investor in Indonesia.

We believe that this manuscript is appropriate for publication by International Journal of Finance, Insurance and Risk Management because this journal is aimed at disseminating international research work which relate on issues property investment. Accordingly, this manuscript reflects the scope of which this journal aims to cover.

We strongly believe that the readers would benefit from the research work as it explores the effects of financial knowledge, possible return, risk preference, and geographical attribute towards property investment decisions in Indonesia, one of the largest developing countries in the world.

Thank you very much for your consideration of this manuscript.

Yours sincerely,

Njo Anastasia

Dear Anastasia,

I am writing with regards to your paper # IJFIRM-12-2020-252 entitled "Effect of Financial Knowledge, Risk & Return, and Geographical Attributes towards Property Investment Decisions" which you submitted to the International Journal of Finance, Insurance and Risk Management. Please revised according to the reviewers feedbacks. In the revised version please highlighted any changes that you make. We wait the revised version up to 1st March 2021.

Best wishes,
Professor dr. hab. Gratiela Georgiana NOJA
Editor-in-Chief

Referee(s)' Comments to Author:
Referee: 1 Recommendation: Major Revision

Comments:
1. The paper does not demonstrate any significantly new. It investigates the factors that impact property investment decision making. The paper adds an additional variable: geographic diversification, as one of the factors considered amongst property investors in Indonesia.
2. The literature review coverage needs to be expanded to highlight past studies on diversification strategies in property investment and their effectiveness. There are many past studies that have looked on the same geographic diversification issues in many developed property markets.
3. The methodology is adequate to address the objectives of this study. The study is confined mostly to respondents in Surabaya rather than major capital cities in Indonesia. This needs more explanation and possibly should reflect in the title of the paper as well.
4. The analysis and findings section needs to be improved. See comments.
5. A stronger practical implication for property investment in Indonesia is needed, in particular regarding the strategic portfolio management issue amongst property investors. See comments.
Property or real estate? Be consistent. Check paper for typing, formatting and grammatical error.

Referee: 2 Recommendation: Major Revision
1. The paper attempts to shed light on how financial knowledge (literacy), return expectation, risk attitude and geographical location of properties affect individual property investors' investment decisions in Indonesia.
2. The literature review section is adequately written but seems to be missing main of teh main references required for this work. However, more background information on property investment regulations, property price trend, and a map of Java Island are needed to give more Indonesia context to the paper.
3. It is not very clear how the Snowball sampling approach is used to identify the 186 respondents in this paper.
4. In view of the above concerns, I am not convinced of authors' claim of the positive impact of financial knowledge, possible return, and geographical attributes on property investment decisions.
5. No significant implication can be drawn from this paper.
6. The authors need to get the paper thoroughly edited and proofread by an English native speaker

EFFECT OF GEOGRAPHICAL DIVERSIFICATION TOWARDS PROPERTY INVESTMENT DECISIONS IN INDONESIA

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ABSTRACT

Purpose: *Property investment is one of the investment product options with a high risk. Nonetheless, it still attracts investors, as they have more than one property to increase their wealth through their investment portfolio. This study aims to explore the effects of financial knowledge, possible return, risk preference, and geographical attribute towards property investment decisions.*

Design/methodology/approach: *Data was collected through online questionnaires, from which 148 investors were gathered, with the criteria of having property investments in different regions. Data were then analyzed using SmartPLS.*

Findings: *Analysis results showed that financial knowledge, possible return, and geographical attribute significantly affect property investment decisions, but risk preference does not. This study will benefit property investors by showing that creating an investment portfolio in the property sector will help in increasing return and reducing risks. Investing requires a careful consideration as property is a high-risk investment product; hence, by having property portfolio with geographical diversification, risks are reduced.*

Originality: *Most previous studies on property investment decisions have been done before with the variable of financial knowledge, possible return, and risk preference. However, this study develop geographical attribute used as variables related to an investment portfolio in property, where said variable is seldom used in studies on property investment decisions.*

Keywords: *financial knowledge, possible return, risk preference, geographical attribute, property investment decision.*

JEL codes: *O1, O2*

Paper type: *Research Article*

Introduction

Investing is the act of investing capital now in the hope of making a profit in the future. Forms of investment consist of investment in the financial sector (financial assets) and investment in the real sector (real estate). One form of financial assets investment is in the capital market, but investment in the real market in the form of land, houses, apartments, and warehouses (Halim, 2005). Investment in the real sector (real estate products) is one of the forms of investment that is of interest to the Indonesian people. Purnomo (2019) states that Indonesia is one of the countries that experiences growth in investment in the field of property, in accordance with the data from the Investment Coordination Agency that the realization of investment in housing, industrial area, and office buildings in Indonesia showed an increase in 2015 of Rp.6.5 trillion to Rp.47.4 trillion in 2019 with a market capitalization of Rp.114 trillion. The top choices for investors are Bali, Jakarta, and West Java (BPKM, 2019) as well as Surabaya as a prospective city for property business (Pane, 2019).

However, during the COVID-19 pandemic in 2020, the property sector experienced a decline and oversupply (Lawi, 2020) thus creating opportunities as well as risks. Investors can invest when property prices are declining and gain profits later when property prices rise again and stabilize. On the other hand, investors who have already invested bear the risk of declining prices. Therefore, investors must have financial knowledge of their investment assets. Financial knowledge is the ability of individuals to process economic information for investment decision making (Lusardi & Mitchell, 2007). A person with good financial

knowledge will have the ability to analyze and evaluate the form of investment before deciding on one of the property investments, lack of financial knowledge allows a person to experience perception errors when making financial decisions. Financial knowledge has a significant impact on property investment decisions (Al-Tamimi & Bin Kalli, 2009).

Financial knowledge that investors have will help them to understand risks and return when choosing an investment. Return is the motivation of investors to invest, divided into two definitions namely return realized and possible return. Possible return is a profit that is expected to happen or will not happen (Omisore, et al., 2012). The profit is certainly not risk-free, as the risk chosen by the investor will determine the possible return to be obtained. Baker, Hargrove, & Haslem (1977) stated that the relationship between risk and possible return, which is in uncertain conditions, investors must be able to determine the combination of risk and possible return that can provide a constant utility (indifferent curve). Indifferent curve is the curve of the trade-off function between risk and possible return.

Determining risk combinations is termed risk preference, which is the tendency of individuals to choose risk options based on their willingness to bear investment risk (Weber & Hsee, 1998). Risk preference is an important factor that investors consider when making investment decisions because each investor has different risk preferences such as risk-seeking or conservative. Property investment is a risky investment product because it requires a large amount of capital. Therefore, investors with risk-seeking preferences need to apply geographical diversification to minimalize risk. Geographical diversification is a group or combination of different classes of real estate in different regions (Olaleye, et al., 2006). Geographical diversification is needed by property investors to minimalize risk by considering potential regions to increase return. Each region has its own uniqueness, strengths, weaknesses, as well as different growth rates, affecting investment decision-making. When a certain geographical region experiences a price decrease, investors will gain profit from investments made in other geographical regions. Rohe and Steward (1996) showed that geographical attribute significantly affects investment decisions made in the property sector.

Studies on property investment decisions have been done before with the variable of financial knowledge (Lusardi & Mitchell, 2014; Mandell & Klein, 2009), possible return (Omisore, et al., 2012), risk preference (Yao, 2017), and geographical attribute used as variables related to an investment portfolio in property (Natasha & Hassan, 2015). This study aims to explore the effects of financial knowledge, possible return, risk preference, and geographical attribute towards investment decisions in property in Indonesia. The result of this study will benefit property investors by giving them a more profound knowledge of the importance of considering risk and return according to their risk preference. The strategy is to do a portfolio diversification, which is investing in property in different regions. This also creates a market opportunity for developers to develop property not only limited in one region, to fulfill the demands of investors and consumers. This paper is divided into four sections: the first contains the background of the study, the second contains literature review, the third contains research methodology and data analysis, and the last contains conclusions and suggestions.

Literature Review

Modern Portfolio Theory

The Modern Portfolio Theory (MPT) is an investment theory that explains how rational investors diversify to reach an optimal portfolio. The Modern Portfolio Diversification theory was introduced by Harry Markowitz in 1952 that suggests investors make asset allocation decisions on risks and returns, by combining assets such as stocks, obligations, and real estates on portfolios through diversification to minimize risks. Among the possible portfolios, the best one is called efficient portfolio. The conventional approach towards real estate portfolio uses sector real estate and geographic regions, according to surveys on diversification strategies of institutional investors which stated that real estate type and geographic distribution are the most important diversification criterias. Webb's study (1984) found that 61% of investors are diversified based on real estate type, while 62% are based on geography. Louargand (1992) found that 89% of institutional investors which were surveyed, were diversified based on real estate type, and 72% based on geography.

Real estate has a high specific risk with localized real estate market, so portfolio diversification is done as part of investment decision and portfolio management strategy to minimize risks. Santoso (2008) and Al-Tamimi & Bin Kalli (2009) states that investing in real estate is an expense of capital for an asset in the form of land and building on a lot with the hope of gaining profit in the future. There are losses and profits to be considered when investing in real estate, where the aim of said investment is differentiated into short-term investment and long-term investment. Short-term investment is the purchase of real estate with the aim of reselling, as the purchase of land, house, house-shop which is then re-sold to acquire capital gain. Long-term

investment is the purchase of real estate for private use or to gain routine income through rent such as villa, function house, office building, shopping centers, hotels, apartments, and sports clubs.

Effects of Financial Knowledge towards Property Investment Decisions

Investors need financial knowledge on their investment product of choice. Financial literacy, also called financial knowledge, is an individual's ability to process information on economy to make investment decisions (Lusardi & Mitchell, 2014; Liebermann & Flint-Goor, 1996). According to Lyons and Hunt (2003), a person who has financial knowledge can interpret data to determine goals, anticipate events, and respond accordingly to their needs and desires. Financial knowledge includes basic personal finance, money management, credit and debt management, saving and investment, as well as risk management (Mandell & Klein, 2009). The knowledge an investor has will influence his way of thinking and behavior, thus making him more cautious in making investment decisions, while considering the risks and profits to be gained.

Robb & Woodyard (2011) proved that financial knowledge is an important factor in investing so that decisions on finance can be made correctly. To achieve their financial goals, an individual with a good financial knowledge must be able to choose the proper investment, which counts as a long-term financial planning (Larisa, et al., 2020). Conversely, Irjayanti (2017) stated that not every investor dares to choose a risky investment although generally, investors have sufficient financial knowledge, and not every investor who does not possess financial knowledge dares to even choose an investment with low risk. This shows that whether or not financial knowledge is existent does not cause investors to make an investment decision even when there is a hefty profit to be made.

H_1: Financial knowledge significantly affects property investment decisions.

Effects of Risk Preferences and Possible Return towards Property Investment Decisions

An investor should make a portfolio to achieve an optimal portfolio with the expected return. An investment portfolio is a collection of two or more investment instruments with different levels of risk and profit over a period of time to maximize profits with minimal risk. The aim of investment is to maximize the possible return from the portfolio from a number of a certain portfolio risk or to minimize equivalent risk to the expected rate of return by carefully choosing the proportion of various assets (Markowitz, 1952). Elton, Gruber, Brown, & Goetzmann (2013) showed that there is a correlation between risk and possible return. Hartono (2000) stated that possible return is the return expected to happen in the future and is uncertain in nature, so investors will choose investments they deem more worthy compared to other investment instruments. Possible return becomes an important factor in investment decision making as every investor expects a good return for their investment (Natasha & Hassan, 2015). The motivation of investors in investing in real estate is caused by the belief that the price of real estate will increase from year to year.

Hopfensitz (2009) stated that lower expected return results in lower risk-seeking, while higher expected return results in higher risk-seeking, thus increasing investment decisions. However, Brandt & Kang (2004) showed that expected return does not affect risks that directly impact investment decisions, because the unexpected return is caused by uncertainty, while risk is different from uncertainty. Risk is defined as a situation that might or might not happen and can be measured, while uncertainty is a situation where the possibilities are immeasurable.

The risk accepted is different for each investor, since each investor has different risk preferences. Investors' risk preference is divided into three categories (3) namely risk seeker, risk neutrality, and risk averter. Investors within the risk seeker category will choose a greater risk in hopes of making a profit equal to the risk accepted. Investors within the risk neutrally category has a flexible nature, where investors are more careful in making investment decisions by considering the profits earned with the risk borne. Investors within the risk averter category tend to choose investments with smaller risks, so they consider carefully before deciding (Halim, 2005).

One way to determine individual risk preferences is to use a domain-specific risk-taking questionnaire (DOSPERT) developed by Weber, Blais, dan Betz (2002). DOSPERT questionnaire deals with a large number of high-risk activities or behaviors in five areas, namely sports and recreation, health, social problem, ethics, and financial issues. Research related to the risk profile in property investment decisions lies more suitably in the field of finance, where each respondent estimates his risk preferences based on a scale of 1 (low risk) to 5 (high risk). Virlics (2013) stated that risk preference is an important factor in making investments decision in the field of property. On the other hand, Wen, Hen, & Chen (2014) disagreed with the argument as investors with a risk-seeking profile who suffer losses are influenced to lower their risk preferences. That is, investors can change from risk-seeking to becoming risk-averse when making investment decisions.

H_2: Possible return significantly affects property investment decisions.
H_3: Risk preference significantly affects property investment decisions.

Effects of Geographical Attribute towards Property Investment Decisions

Property investors have two options in portfolio diversification, namely geographic diversification and property type diversification (Cheng & Liang, 2000). Geographical diversification is a collection or combination of different classes of real estate assets in different regions (Olaleye, et al., 2006). The rate of return and risk of real estate investment varies according to its region as well as other influential aspects that include transaction structure, type, and size of similar properties. In short, a property investor makes a decision with the goal of earning a high rate of return in the future with a lower level of risk. Risk reduction is required to avoid losses in making investments when investors set a strategy in selecting the region in which to invest their assets.

The traditional approach to defining geographical regions is Northeast, South, Midwest, and West (Del Casino, 1995) at various levels namely national, regional, metropolitan, and even spatial (Del Casino, 1995; Cheng & Liang, 2000). Accurate geographical diversification can solve some of the problems of liquidity and immobility which are attached to real estate. Byrne & Lee (2011) proved that investors who perform portfolio diversification in different regions receive a higher risk-adjusted return than a property portfolio concentrated in one area only. However, Fisher & Liang (2000) shows that geographic diversification does not significantly affect property investment decisions, since sector effects are more likely to provide a greater potential of portfolio risk across sectors in a specific region than across regions in a specific sector. Moreover, location attribute does not affect risk reduction in property investments due to negative environmental factors, such as environmental pollution and disturbance effects which includes visual, aesthetic, noise, safety, and traffic.

H_4: Geographical attribute significantly affects property investment decisions.

INSERT FIGURE 1 - Figure 1. Research Model

Research Methodology

This associative study aims to test the influence of financial knowledge, possible return, risk preference, and geographical attribute towards property investment decisions within property investors in Indonesia. Purposive sampling and snowball technique was used to gather samples.

Purposive sampling and snowball technique were used in sample gathering. Purposive sampling is a type of nonprobability sampling, which is also referred to as judgmental or expert sampling. The goal of purposive sampling is to acquire a sample that can be used to represent the population, by selecting a sample of elements that represents a cross-section of the population in a nonrandom manner (Lavrakas, 2008). Snowball sampling uses a select group of initial respondents to nominate other participants who meet the eligibility criteria for a study (Given, 2008).

The sample selection method used is purposive sampling, with the criteria of the property investor expects a return (income and capital gain) and has invested more than once in various regions. Primary data collection was done by distributing online questionnaires via Line and Whatsapp amidst the COVID-19 Pandemic from March to May 2020. The Snowball technique is used to find respondents, namely in groups of property investors in various provinces in Indonesia. Details of variables, variable definitions, and indicators or measurement codes are listed in Table 1.

INSERT TABLE 1 - Table 1. Variable and Indicator Variable

After coding and compiling the data, a descriptive test is performed to find out the demographic background of the respondents. Then, PLS Path Modeling testing is done on 2 models, which are inner model and outer model with the help of SmartPLS software version 3 for windows. The steps include: (1) Constructing a diagram path to show the relationship between exogenous and endogenous variables; (2) Evaluating the Goodness-of-fit of the Outer Model for validity and reliability test, which includes (a) Convergent Validity provided the loading factor value is (>0.7); (b) Discriminant Validity provided the AVE (Average Variance Extracted) is (> 0.5); (c) Composite Reliability provided the reliability value is (> 0.7); (3) Evaluating the Goodness-of-fit of the Inner Model through R^2 to measure the degree of variation of the exogenous and

endogenous variable. Q-square predictive is used to measure the construct model; (4) testing the hypothesis using the coefficient path value or inner model ≥ 1.96 for a two-tailed hypothesis at an error rate of (α) 5%.

Analysis

This study used primary data by distributing questionnaires to 186 respondents; however, 38 of them were eliminated, so that the remaining 148 respondents are used in this study. The respondents are 21-68 years old and meet the sample criteria which are having made more than one investment and having property investments in different areas. The demographic characteristics of the respondents which include gender, age, education, employment, annual income, and place of residence are listed in table 2.

INSERT TABLE 2 - Table 2 Demographic Characteristics of the Respondent

Table 2 shows that males (73%) prefer to invest with a total investment of 4-7 properties. They are aged between 51-68 years old (59.5%), have an undergraduate degree (72.3%), and work as an entrepreneur with a yearly income of Rp 300.000.000 – Rp 600.000.000 (53.4%). The growing age of respondents leads to their readiness to manage finances so that they have greater potential to invest property up to 4-7 units. The investor's purpose is to obtain capital gain from sales and regular income of property rent. The property type chosen is lot (35.9%) and the area that is the destination of investment is West Surabaya (31.19%) and the rest is spread in other regions such as East Surabaya, Central Surabaya, South Surabaya, North Surabaya, and outside East Java such as Bali, Kalimantan, and Sulawesi.

INSERT TABLE 3 - Table 3. Description of Variables and Indicators of Financial Knowledge, Possible Return, Risk Preference, and Geographical Attribute

Table 3 shows the mean values of each indicator used according to the research variables, namely Financial Knowledge variables, Possible Return, Risk Preference, Geographical Attribute, and Investment Decision. These variables' correlations are tested to see the magnitude of the influence between the variables as shown in Table 4. The test results show that increased financial knowledge, possible return, risk preference, dan geographical attribute will drive property investment decisions.

INSERT TABLE 4 - Table 4. Correlation Test between Variables

To see the relationship between endogenous and exogenous variables, data analysis was performed using Smart-PLS by performing a Convergent Validity test to measure the magnitude of the correlation between constructs and latent variables. Figure 2 shows the loading factor value of each indicator> 0.7 which meets the criteria of a good loading factor.

INSERT FIGURE 2 - Figure 2. Outer Loading Output

The second evaluation is the discriminant validity test on the outer model by comparing the values of the loading factor on the designated construct with the loading factor of the other construct using the Average Variance Extracted (AVE). Table 5 shows the cross-loading value of each indicator on one variable is higher than the indicator on another variable, which satisfies the discriminant validity.

INSERT TABLE 5 - Table 5. Cross Loading

Table 6 shows the AVE value of each variable is > 0.5, therefore the variables of this research have good discriminant validity. Furthermore, the value of composite reliability is > 0.7 per variable, therefore this research model is declared reliable.

INSERT TABLE 6 - Table 6. Composite Reliability and AVE Test Result

Data processing in PLS shows a determinant coefficient value (R^2) of investment decision as an endogenous variable of 0.771, which explains exogenous variable as much as 77.1% while the other 22.9% is explained by other variables outside of the examined model. Q^2 value also shows the same result, therefore the research model has suitable goodness of fit (GoF). Q^2 predictive relevance analysis measures

how well the observed value are generated by the model. Furthermore, hypothesis testing through t-statistic shows a value of ≥ 1.96.

INSERT FIGURE 3 - Figure 3. Structural Output Model

Figure 3 shows the final model of examined variable. Financial knowledge, possible return, and geographical attributes shows t-statistic value of ≥ 1.96, with t-statistic of risk preference of less than 1.96. Table 7 shows that financial knowledge, possible return, and geographical attribute variables have a significant effect on property investment decisions, but risk preference has no significant effect on property investment decisions.

INSERT TABLE 7 - Table 7. Path Coefficient in Structural Model Testing

Discussion

F*inancial knowledge* has a significant influence on property investment decisions in accordance with Robb & Woodyard's research (2011). The survey results display that investors already have financial knowledge through formal and informal education. Investors who have good financial knowledge will have good financial planning while understanding the risk of every investment instrument taken. A person with a lack of financial knowledge has a bad habit of managing savings as well as choosing financial instruments without careful consideration. They understand how to manage debt, capital, and savings properly. Product selection on investment as well as its risks have been well understood before making an investment decision.

The variable of possible return also has a significant effect on the decision of making a property investment. The goal of investors in making investments is to gain wealth or profit in the future, therefore they will consider how much possible return can be obtained from the existing investment options. When considering making property investments, investors expect the return to be higher than the inflation rate as well as other forms of investment such as deposits. Hence, property has become one of the most frequently chosen investment options, as the survey data shows that the majority of investors own between 4-7 property units. Possible return from property investment is one of the driving motivation for investors to gain benefits in the future, thus affecting property investment decisions (Natasha & Hassan, 2015).

Risk preference has no significant effect towards property investments decision. Investors set aside their annual income more on conservative products as their risk profile is risk-averse (avoids risk and gains proportionate profit). Property investments are chosen with the assumption that it is safe as it is a tangible asset, it has the tendency to increase in value annually, and not as fluctuating compared to other investment products such as stocks. However, the majority of investors think that investing in property requires a large capital, so it is more suitable for investors with the risk profile of risk-seeking. Thus, each investor has a different view towards risk preference in property. In investment theory, it is said that property is one of the more risky investment products in accordance with the risk-seeking profile that expects large profits according to the trade-off theory, namely high risk-high return (Heaton & Lucas, 2001). The different view of each investor regarding property investments shows that investors with their various risk profiles namely risk-seeking, risk neutrally, and risk-averse, have the potential to make property investments. Risk preference is not regarded as investors' consideration when making investment decisions, so risk preference does not affect property investment decisions (Wen, et al., 2014).

The variable of geographical attribute significantly affects property investments decision based on Olaleye, Aluko, & Oloyedest's study (2006). Most investors have 4-7 units of property in different regions, namely Surabaya (West/East/North/Central/South Surabaya), outside of Surabaya, and outside of East Java (Bali, Kalimantan, and Sulawesi). Investors chose these locations with the aim to gain profit from buying, selling, and renting property. This proofs that investors have applied geographical diversification, so they will earn a greater adjusted risk-return compared to investors who are limited to only one region. Geographical diversification provides a benefit to investors in the form of reduction of risk against possible losses such as errors in selecting a strategic region. On the other hand, each region has its own uniqueness, strengths, and weaknesses, so with diversification, regional diversity becomes a strength and investors gain profits in the future related to the economic potential that can be developed in that region.

Conclusion

The result of this study proves that financial knowledge, possible return, and geographical attribute significantly affect property investment decisions, except for risk preference. Therefore, both investors and

future investors are required to have financial knowledge so a strategical plan to diversify the capital on hand can be carried out to reduce the risk in making property investment decisions. Furthermore, developers who plan to develop properties should consider regions which are overlooked by investors, to create a new market for investors in other regions with the potential to flourish. However, the limited nature of this study has not yet delved into the level of financial knowledge and risk profile of investors, therefore future studies should provide a detailed evaluation to comprehend investors' profiles to determine a better investment diversification strategy. Finally, this study benefits investors specifically, and market players generally, that individual financial literacy will enlighten considerations on risk and return, so that investment goals in personal financial planning in the future can be better realized. Investors and market players are advised to diversify their property portfolio by choosing differing property types in various locations to reduce risks, as properties have unique physical characteristics which are heterogenous and situs.

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GRAPH and TABLE

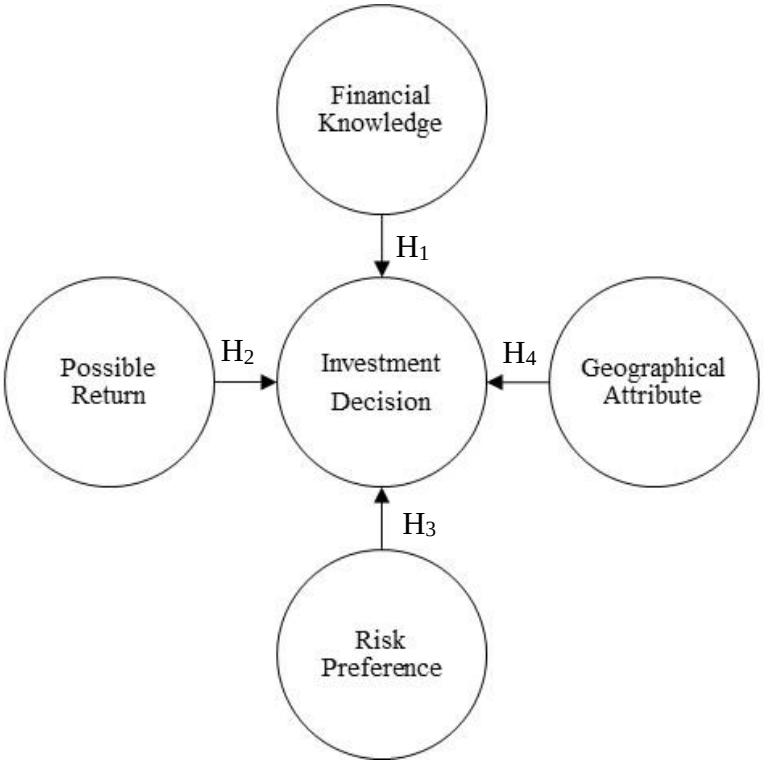

Figure 1. Research Model

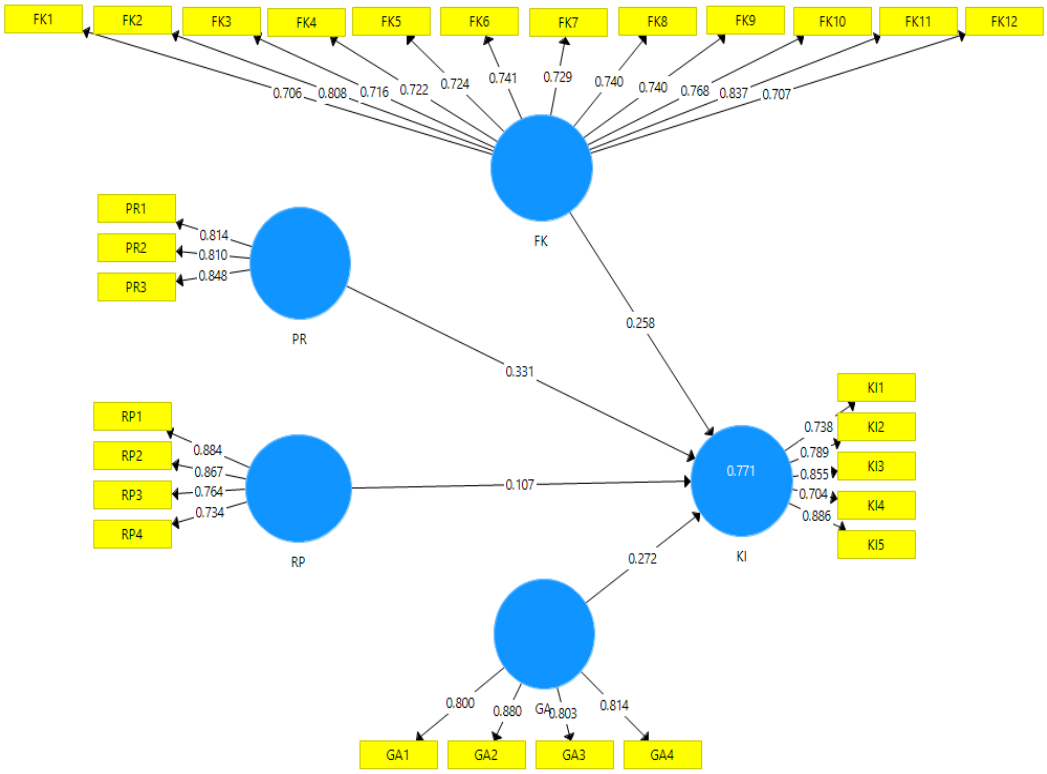

Figure 2. Outer Loading Output

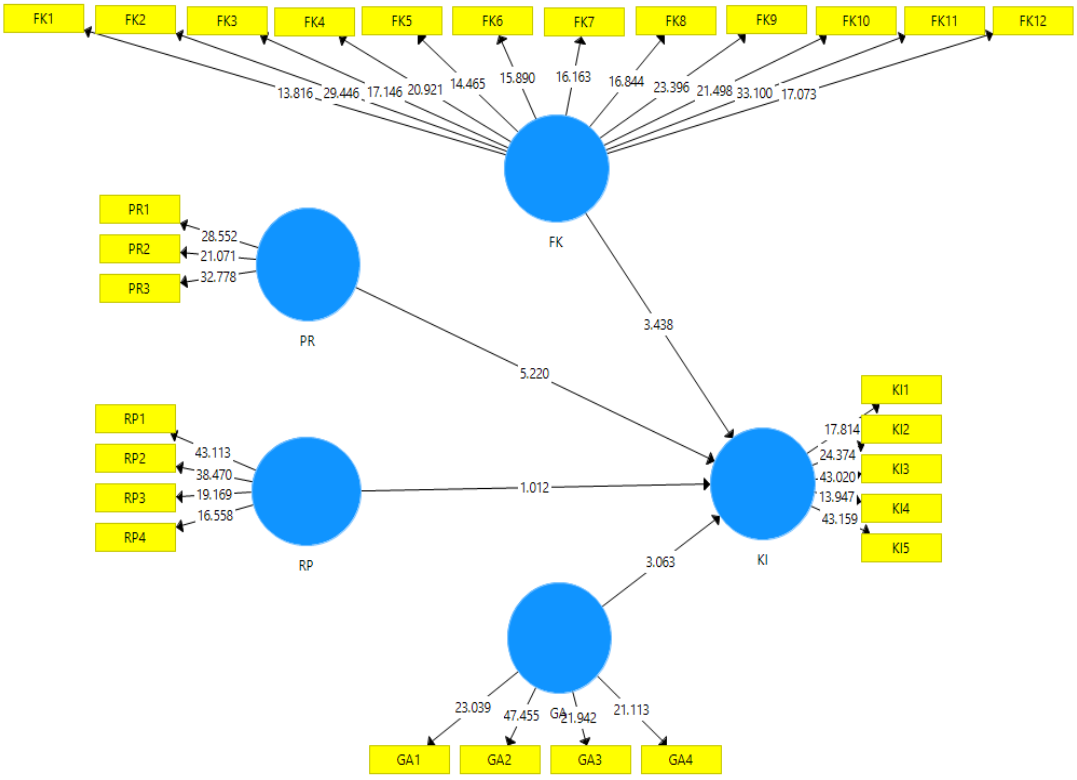

Figure 3. Structural Output Model

Table 1. Variable and Indicator Variable

No	Variable	Definition	Indicator
	Endogenous variable		
1	Investment Decision	The process of choosing from several alternatives related to investment decisions	Statement of investment decisions chosen by investors by understanding the risk and return of investments using the Likert scale measurements (Gill, et al., 2012)
	Exogenous variable		
2	Financial Knowledge	Financial knowledge in making investment decisions	Statements on financial knowledge related to basic aspects of financial knowledge; financial management knowledge; knowledge of credit and debt; knowledge of saving and investing; knowledge of risk management using the Likert scale measurements (Mandell & Klein, 2009).
3	Possible Return	The expected return that will be obtained in the future due to uncertainty	Statement of possible return in the hope that return will be obtained from a higher investment through other financial institutions as well as deposits using the Likert scale measurements ((Churchill Investment, n.d)
4	Risk Preference	A series of risk options (risk seeker, risk neutrality, and risk averter) based on the willingness to bear the risk of investment	Statement of investor's risk preference on property investment using DOSPERT with the Likert scale measurements (Weber, et al., 2002).
5	Geographical Attribute	A group or combination of different classes of real estate assets in different regions	Statement on the choice of investment product as a portfolio of diversification from a regional or geographical attribute using Likert scale measurements (Njuguna, 2018)
6	Demography	Gender	0= Male; 1= Female
		Age	1= 21-30; 2= 31-40; 3= 41-50; 4= 51-68
		Education	1= ≤ High school; 2= Undergraduate; 3= Graduate or Post-Graduate
		Occupation	1= Employee; 2= Entrepreneur 3= Professional; 4= Others
		Annual income	1= ≤ Rp.120,000,000; 2= Rp.120,000,000 – Rp.300,000,000; 3= Rp.300,000,000 – Rp.600,000,000; 4= ≥ Rp.600,000,000
		Place of residents	1= West Surabaya; 2= Central Surabaya 3= East Surabaya; 4= North Surabaya 5= South Surabaya; 6= Outside of Surabaya
		Amount of property investment	1= ≤3; 2= 4-7; 3= ≥8

	Purpose of property investment	1= Buy-Sell Property; 2= Rent Property 3= Buy-Sell and Rent Property
	Property Type	1= Apartment; 2= House; 3= Land; 4= Shop-House; 5= Others

Table 2 Demographic Characteristics of the Respondent

Respondent Characteristics	Amount of Property Investment			Total	Percentage
	≤3	4-7	≥8		
Gender					
Male	57	48	3	108	73%
Female	20	19	1	40	27%
Age					
21-30	18	2	0	20	13.5%
31-40	15	2	1	18	12.2%
41-50	16	6	0	22	14.9%
51-68	28	57	3	88	59.5%
Education					
≤ High School	8	7	1	16	10.8%
Undergraduate	68	57	3	128	86.5%
Graduate or Post-Graduate	1	3	0	4	2.7%
Occupation					
Employee	23	6	0	29	19.6%
Entrepreneur	47	56	4	107	72.3%
Professional	3	5	0	8	5.4%
Others	4	0	0	4	2.7%
Yearly Income					
≤ Rp.120,000,000	9	5	0	14	9.5%
Rp.120,000,000 – Rp.300,000,000	36	2	1	39	26.4%
Rp.300,000,000 – Rp.600,000,000	28	50	1	79	53.4%
≥ Rp.600,000,000	4	10	2	16	10.8%
Home Location					
West Surabaya	35	25	1	61	41.2%
Central Surabaya	2	2	0	4	2.7%
East Surabaya	17	20	2	39	26.4%
North Surabaya	1	3	0	4	2.7%
South Surabaya	14	8	0	22	14.9%
Outside of Surabaya	8	9	1	18	12.2%

Table 3. Description of Variables and Indicators of Financial Knowledge, Possible Return, Risk Preference, and Geographical Attribute

Code	Indicator	*Mean*	*Std. Dev.*
FK1	I have an economic education background	2.777	1.758
FK2	I keep up with the news of the development of economic conditions	2.953	1.517
FK3	I make a financial budget and record every expense	2.865	1.349
FK4	My expense is lower than my income	3.696	1.450
FK5	I have applied for a loan to a person or a bank	3.514	1.459
FK6	I have used loan credit to make investments	2.541	1.583
FK7	I made regular investments to achieve a certain goal	2.682	1.390
FK8	Property products are a form of investment asset that I want to have	3.838	1.115
FK9	I have enough saving to cover unexpected expenses	3.851	1.270
FK10	I feel the need to have life insurance as a self-protection	3.432	1.489
FK11	I choose investment assets by understanding its risk beforehand	3.277	1.418
FK12	I feel capable of achieving financial goals in the future	3.872	1.226
Financial Knowledge (FK)		3.275	0.162
PR1	I hope my investment value is always greater than if the funds were only placed on deposit	4.115	1.010
PR2	I hope the return total per year of my chosen investment exceeds the return from the financial institutions in general	3.709	1.327
PR3	I am able to tolerate the high risk of investment loss to increase the likelihood of a higher return	3.169	1.322
Possible Return		3.664	0.148
RP1	I set aside 10% of my annual income to invest in assets with moderate growth	2.649	1.385
RP2	I set aside 5% of my annual income on highly speculative investments (willing to take risks)	2.608	1.344
RP3	I set 5% of my annual income on conservative investments	3.243	1.200
RP4	I invest 10% of my annual income in new business ventures	2.500	1.265
Risk Preference		2.750	0.071
GA1	I make a lot of property investments in new areas/region	2.311	1.360
GA2	I have made property investments in different areas	3.257	1.448
GA3	I agree with the idea of making property investments in other areas besides Surabaya	3.264	1.722
GA4	I benefit from investing in property in different areas	3.291	1.434
Geographical Attribute		3.031	0.137
KI1	I prefer property investment as a way to minimize risk rather than investing in other investment products	3.291	1.396
KI2	I understand the risk of investing in property	3.392	1.195
KI3	I chose property as an investment product because it has a higher return rate than inflation	3.845	1.057
KI4	I invest in property to earn an income on a regular basis	3.088	1.399
KI5	Investing in property is beneficial because of the wide selection of products and regions	3.696	1.038
Investment Decision		3.462	1.1891

Table 4. Correlation Test between Variables

	FK	PR	RP	GA	KI
Financial Knowledge (FK)	1.000				
Possible Return (PR)	0.730	1.000			
Risk Preference (RP)	0.780	0.718	1.000		
Geographical Attribute (GA)	0.828	0.699	0.808	1.000	
Investment Decision (KI)	0.797	0.766	0.753	0.793	1.000

Table 5. Cross Loading

Indicator	Variables				
	FK	PR	RP	GA	KI
FK1	**0.706473**	0.476868	0.580272	0.585931	0.556097
FK2	**0.808063**	0.731651	0.701494	0.755873	0.786014
FK3	**0.715748**	0.567277	0.583744	0.668052	0.560665
FK4	**0.722088**	0.630318	0.630378	0.640922	0.665061
FK5	**0.723643**	0.359940	0.448245	0.537590	0.502046
FK6	**0.740633**	0.488137	0.595968	0.619996	0.580852
FK7	**0.729380**	0.538570	0.695311	0.661069	0.530404
FK8	**0.740219**	0.405490	0.422650	0.502103	0.539434
FK9	**0.740116**	0.398839	0.466752	0.544875	0.510558
FK10	**0.767805**	0.533475	0.568671	0.688306	0.619130
FK11	**0.837052**	0.649854	0.715521	0.768772	0.732121
FK12	**0.707120**	0.524311	0.484240	0.518518	0.556643
PR1	0.528654	**0.813727**	0.563818	0.534567	0.646076
PR2	0.621105	**0.809999**	0.587970	0.564932	0.583476
PR3	0.630291	**0.847937**	0.621830	0.620331	0.698776
RP1	0.698943	0.644568	**0.884168**	0.743201	0.661512
RP2	0.614219	0.670432	**0.866811**	0.711943	0.698227
RP3	0.625886	0.472975	**0.763915**	0.588829	0.617618
RP4	0.609974	0.539494	**0.734220**	0.585300	0.499238
GA1	0.665860	0.497076	0.668399	**0.800009**	0.576586
GA2	0.848759	0.583909	0.735278	**0.880121**	0.728493
GA3	0.528275	0.621820	0.641619	**0.802916**	0.663513
GA4	0.734876	0.588592	0.629094	**0.813772**	0.685014
KI1	0.531267	0.581201	0.553035	0.539237	**0.737507**
KI2	0.724147	0.677784	0.600292	0.621963	**0.788648**
KI3	0.669170	0.681758	0.698428	0.741235	**0.855149**
KI4	0.599091	0.480355	0.514116	0.554892	**0.703867**
KI5	0.691271	0.676325	0.670902	0.737137	**0.885582**

Table 6. Composite Reliability and AVE Test Result

Variables	**Composite Reliability**	**AVE**
Financial Knowledge	0.938	0.556
Possible Return	0.864	0.679
Risk Preference	0.887	0.664
Geographical Attribute	0.895	0.680
Investment Decision	0.896	0.635

Table 7. Path Coefficient in Structural Model Testing

Relationship	***Path coefficient***	***t-Statistic***
FK -> KI	0.266	3.438*
PR -> KI	0.325	5.220*
RP -> KI	0.118	1.012
GA -> KI	0.261	3.063*

Note: significant at * t-statistic ≥ 1.96

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The Effect of Geographical Diversification Towards Property Investment Decisions in Indonesia

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Abstract:

Purpose: *This study aims to explore the effects of financial knowledge, possible return, risk preference, and geographical attribute towards property investment decisions.*
Design/methodology/approach: *Data was collected through online questionnaires, from which 148 investors were gathered, with the criteria of having property investments in different regions. Data were then analyzed using SmartPLS.*
Findings: *Analysis results showed that financial knowledge, possible return, and geographical attribute significantly affect property investment decisions, but risk preference does not. This study will benefit property investors by showing that creating an investment portfolio in the property sector will help in increasing return and reducing risks. Investing requires a careful consideration as property is a high-risk investment product; hence, by having property portfolio with geographical diversification, risks are reduced.*
Practical implications: *Property investment is one of the investment options with high risk. Nonetheless, it still attracts investors, as they have more than one property to increase their wealth through their investment portfolio. The present study gives new insights for an effective investment portfolio.*
Originality value: *Most previous studies on property investment decisions have been done before with the variable of financial knowledge, possible return, and risk preference. However, this study develops geographical attribute used as variables related to an investment portfolio in property, where said variable is seldom used in studies on property investment decisions.*

Keywords: *Financial knowledge, possible return, risk preference, geographical, attribute, property investment decision.*

JEL codes: *O1, O2.*

Paper type: *Research article.*

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1. Introduction

Investing is the act of investing capital now in the hope of making a profit in the future. Forms of investment consist of investment in the financial sector (financial assets) and investment in the real sector (real estate). One form of financial assets investment is in the capital market, but investment in the real market in the form of land, houses, apartments, and warehouses (Halim, 2005). Investment in the real sector (real estate products) is one of the forms of investment that is of interest to the Indonesian people. Purnomo (2019) states that Indonesia is one of the countries that experiences growth in investment in the field of property, in accordance with the data from the Investment Coordination Agency that the realization of investment in housing, industrial area, and office buildings in Indonesia showed an increase in 2015 of Rp.6.5 trillion to Rp.47.4 trillion in 2019 with a market capitalization of Rp.114 trillion. The top choices for investors are Bali, Jakarta, and West Java (BPKM, 2019) as well as Surabaya as a prospective city for property business (Pane, 2019).

However, during the COVID-19 pandemic in 2020, the property sector experienced a decline and oversupply (Lawi, 2020) thus creating opportunities as well as risks. Investors can invest when property prices are declining and gain profits later when property prices rise again and stabilize. On the other hand, investors who have already invested bear the risk of declining prices. Therefore, investors must have financial knowledge of their investment assets. Financial knowledge is the ability of individuals to process economic information for investment decision making (Lusardi & Mitchell, 2007). A person with good financial knowledge will have the ability to analyze and evaluate the form of investment before deciding on one of the property investments, lack of financial knowledge allows a person to experience perception errors when making financial decisions. Financial knowledge has a significant impact on property investment decisions (Al-Tamimi & Bin Kalli, 2009).

Financial knowledge that investors have will help them to understand risks and return when choosing an investment. Return is the motivation of investors to invest, divided into two definitions namely return realized and possible return. Possible return is a profit that is expected to happen or will not happen (Omisore, et al., 2012). The profit is certainly not risk-free, as the risk chosen by the investor will determine the possible return to be obtained. Baker, Hargrove, and Haslem (1977) stated that the relationship between risk and possible return, which is in uncertain conditions, investors must be able to determine the combination of risk and possible return that can provide a constant utility (indifferent curve). Indifferent curve is the curve of the trade-off function between risk and possible return.

Determining risk combinations is termed risk preference, which is the tendency of individuals to choose risk options based on their willingness to bear investment risk (Weber & Hsee, 1998). Risk preference is an important factor that investors consider when making investment decisions because each investor has different risk preferences such as risk-seeking or conservative. Property investment is a risky

investment product because it requires a large amount of capital. Therefore, investors with risk-seeking preferences need to apply geographical diversification to minimalize risk. Geographical diversification is a group or combination of different classes of real estate in different regions (Olaleye, et al., 2006). Geographical diversification is needed by property investors to minimalize risk by considering potential regions to increase return. Each region has its own uniqueness, strengths, weaknesses, as well as different growth rates, affecting investment decision-making. When a certain geographical region experiences a price decrease, investors will gain profit from investments made in other geographical regions. Rohe and Steward (1996) showed that geographical attribute significantly affects investment decisions made in the property sector.

Studies on property investment decisions have been done before with the variable of financial knowledge (Lusardi & Mitchell, 2014; Mandell & Klein, 2009), possible return (Omisore, et al., 2012), risk preference (Yao, 2017), and geographical attribute used as variables related to an investment portfolio in property (Natasha & Hassan, 2015). This study aims to explore the effects of financial knowledge, possible return, risk preference, and geographical attribute towards investment decisions in property in Indonesia. The result of this study will benefit property investors by giving them a more profound knowledge of the importance of considering risk and return according to their risk preference. The strategy is to do a portfolio diversification, which is investing in property in different regions. This also creates a market opportunity for developers to develop property not only limited in one region, to fulfill the demands of investors and consumers. This paper is divided into four sections: the first contains the background of the study, the second contains literature review, the third contains research methodology and data analysis, and the last contains conclusions and suggestions.

2. Literature Review

2.1 Modern Portfolio Theory

The Modern Portfolio Theory (MPT) is an investment theory that explains how rational investors diversify to reach an optimal portfolio. The Modern Portfolio Diversification theory was introduced by Harry Markowitz in 1952 that suggests investors make asset allocation decisions on risks and returns, by combining assets such as stocks, obligations, and real estates on portfolios through diversification to minimize risks. Among the possible portfolios, the best one is called efficient portfolio. The conventional approach towards real estate portfolio uses sector real estate and geographic regions, according to surveys on diversification strategies of institutional investors which stated that real estate type and geographic distribution are the most important diversification criteria. Webb's study (1984) found that 61% of investors are diversified based on real estate type, while 62% are based on geography. Louargand (1992) found that 89% of institutional investors which were surveyed, were diversified based on real estate type, and 72% based on geography.

Real estate has a high specific risk with localized real estate market, so portfolio diversification is done as part of investment decision and portfolio management strategy to minimize risks. Santoso (2008) and Al-Tamimi and Bin Kalli (2009) states that investing in real estate is an expense of capital for an asset in the form of land and building on a lot with the hope of gaining profit in the future. There are losses and profits to be considered when investing in real estate, where the aim of said investment is differentiated into short-term investment and long-term investment. Short-term investment is the purchase of real estate with the aim of reselling, as the purchase of land, house, house-shop which is then re-sold to acquire capital gain. Long-term investment is the purchase of real estate for private use or to gain routine income through rent such as villa, function house, office building, shopping centers, hotels, apartments, and sports clubs.

2.2 Effects of Financial Knowledge towards Property Investment Decisions

Investors need financial knowledge on their investment product of choice. Financial literacy, also called financial knowledge, is an individual's ability to process information on economy to make investment decisions (Lusardi and Mitchell, 2014; Liebermann and Flint-Goor, 1996). According to Lyons and Hunt (2003), a person who has financial knowledge can interpret data to determine goals, anticipate events, and respond accordingly to their needs and desires. Financial knowledge includes basic personal finance, money management, credit and debt management, saving and investment, as well as risk management (Mandell and Klein, 2009). The knowledge an investor has will influence his way of thinking and behavior, thus making him more cautious in making investment decisions, while considering the risks and profits to be gained.

Robb and Woodyard (2011) proved that financial knowledge is an important factor in investing so that decisions on finance can be made correctly. To achieve their financial goals, an individual with a good financial knowledge must be able to choose the proper investment, which counts as a long-term financial planning (Larisa, et al., 2020). Conversely, Irjayanti (2017) stated that not every investor dares to choose a risky investment although generally, investors have sufficient financial knowledge, and not every investor who does not possess financial knowledge dares to even choose an investment with low risk. This shows that whether or not financial knowledge is existent does not cause investors to make an investment decision even when there is a hefty profit to be made.

H_1: Financial knowledge significantly affects property investment decisions.

2.3 Effects of Risk Preferences and Possible Return towards Property Investment Decisions

An investor should make a portfolio to achieve an optimal portfolio with the expected return. An investment portfolio is a collection of two or more investment instruments

with different levels of risk and profit over a period to maximize profits with minimal risk. The aim of investment is to maximize the possible return from the portfolio from several a certain portfolio risk or to minimize equivalent risk to the expected rate of return by carefully choosing the proportion of various assets (Markowitz, 1952). Elton, Gruber, Brown, and Goetzmann (2013) showed that there is a correlation between risk and possible return. Hartono (2000) stated that possible return is the return expected to happen in the future and is uncertain in nature, so investors will choose investments they deem more worthy compared to other investment instruments. Possible return becomes an important factor in investment decision making as every investor expects a good return for their investment (Natasha and Hassan, 2015). The motivation of investors in investing in real estate is caused by the belief that the price of real estate will increase from year to year.

Hopfensitz (2009) stated that lower expected return results in lower risk-seeking, while higher expected return results in higher risk-seeking, thus increasing investment decisions. However, Brandt and Kang (2004) showed that expected return does not affect risks that directly impact investment decisions, because the unexpected return is caused by uncertainty, while risk is different from uncertainty. Risk is defined as a situation that might or might not happen and can be measured, while uncertainty is a situation where the possibilities are immeasurable.

The risk accepted is different for each investor since each investor has different risk preferences. Investors' risk preference is divided into three categories (3) namely risk seeker, risk neutrality, and risk averter. Investors within the risk seeker category will choose a greater risk in hopes of making a profit equal to the risk accepted. Investors within the risk neutrally category has a flexible nature, where investors are more careful in making investment decisions by considering the profits earned with the risk borne. Investors within the risk averter category tend to choose investments with smaller risks, so they consider carefully before deciding (Halim, 2005).

One way to determine individual risk preferences is to use a domain-specific risk-taking questionnaire (DOSPERT) developed by Weber, Blais, and Betz (2002). DOSPERT questionnaire deals with many high-risk activities or behaviors in five areas, namely sports and recreation, health, social problem, ethics, and financial issues. Research related to the risk profile in property investment decisions lies more suitably in the field of finance, where each respondent estimates his risk preferences based on a scale of 1 (low risk) to 5 (high risk). Virlics (2013) stated that risk preference is an important factor in making investments decision in the field of property. On the other hand, Wen, Hen, and Chen (2014) disagreed with the argument as investors with a risk-seeking profile who suffer losses are influenced to lower their risk preferences. That is, investors can change from risk-seeking to becoming risk-averse when making investment decisions.

H_2: Possible return significantly affects property investment decisions.
H_3: Risk preference significantly affects property investment decisions.

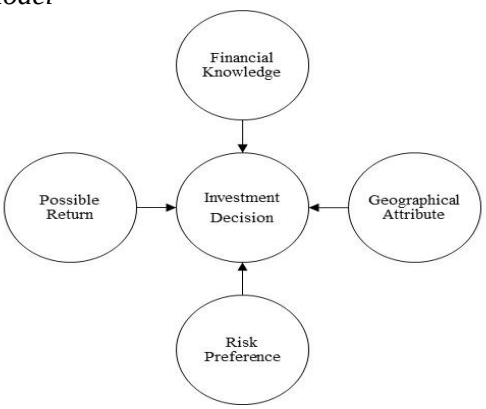
2.4 Effects of Geographical Attribute towards Property Investment Decisions

Property investors have two options in portfolio diversification, namely geographic diversification, and property type diversification (Cheng and Liang, 2000). Geographical diversification is a collection or combination of different classes of real estate assets in different regions (Olaleye *et al.*, 2006). The rate of return and risk of real estate investment varies according to its region as well as other influential aspects that include transaction structure, type, and size of similar properties. In short, a property investor makes a decision with the goal of earning a high rate of return in the future with a lower level of risk. Risk reduction is required to avoid losses in making investments when investors set a strategy in selecting the region in which to invest their assets.

The traditional approach to defining geographical regions is Northeast, South, Midwest, and West (Del Casino, 1995) at various levels namely national, regional, metropolitan, and even spatial (Del Casino, 1995; Cheng and Liang, 2000). Accurate geographical diversification can solve some of the problems of liquidity and immobility which are attached to real estate. Byrne and Lee (2011) proved that investors who perform portfolio diversification in different regions receive a higher risk-adjusted return than a property portfolio concentrated in one area only. However, Fisher and Liang (2000) shows that geographic diversification does not significantly affect property investment decisions, since sector effects are more likely to provide a greater potential of portfolio risk across sectors in a specific region than across regions in a specific sector. Moreover, location attribute does not affect risk reduction in property investments due to negative environmental factors, such as environmental pollution and disturbance effects which includes visual, aesthetic, noise, safety, and traffic.

H_4: Geographical attribute significantly affects property investment decisions.

Figure 1. *Research Model*



Source: *Own study.*

3. Research Methodology

This associative study aims to test the influence of financial knowledge, possible return, risk preference, and geographical attribute towards property investment decisions within property investors in Indonesia. Purposive sampling and snowball technique was used to gather samples.

Purposive sampling and snowball technique were used in sample gathering. Purposive sampling is a type of nonprobability sampling, which is also referred to as judgmental or expert sampling. The goal of purposive sampling is to acquire a sample that can be used to represent the population, by selecting a sample of elements that represents a cross-section of the population in a nonrandom manner (Lavrakas, 2008). Snowball sampling uses a select group of initial respondents to nominate other participants who meet the eligibility criteria for a study (Given, 2008).

The sample selection method used is purposive sampling, with the criteria of the property investor expects a return (income and capital gain) and has invested more than once in various regions. Primary data collection was done by distributing online questionnaires via Line and Whatsapp amidst the COVID-19 Pandemic from March to May 2020. The Snowball technique is used to find respondents, namely in groups of property investors in various provinces in Indonesia. Details of variables, variable definitions, and indicators or measurement codes are listed in Table 1.

Table 1. *Variable and Indicator Variable*

No	Variable	Definition	Indicator
	Endogenous variable		
1	Investment Decision	The process of choosing from several alternatives related to investment decisions	Statement of investment decisions chosen by investors by understanding the risk and return of investments using the Likert scale measurements (Gill, et al., 2012)
	Exogenous variable		
2	Financial Knowledge	Financial knowledge in making investment decisions	Statements on financial knowledge related to basic aspects of financial knowledge; financial management knowledge; knowledge of credit and debt; knowledge of saving and investing; knowledge of risk management using the Likert scale measurements (Mandell & Klein, 2009).
3	Possible Return	The expected return that will be obtained in the future due to uncertainty	Statement of possible return in the hope that return will be obtained from a higher investment through other financial institutions as well as deposits using the Likert scale measurements ((Churchill Investment, n.d)
4	Risk Preference	A series of risk options (risk seeker, risk neutrality, and risk averter)	Statement of investor's risk preference on property investment using

		based on the willingness to bear the risk of investment	DOSPERT with the Likert scale measurements (Weber, et al., 2002).
5	Geographical Attribute	A group or combination of different classes of real estate assets in different regions	Statement on the choice of investment product as a portfolio of diversification from a regional or geographical attribute using Likert scale measurements (Njuguna, 2018)
6	Demography	Gender	0= Male; 1= Female
		Age	1= 21-30; 2= 31-40; 3= 41-50; 4= 51-68
		Education	1= ≤ High school; 2= Undergraduate; 3= Graduate or Post-Graduate
		Occupation	1= Employee; 2= Entrepreneur 3= Professional; 4= Others
		Annual income	1= ≤ Rp.120,000,000; 2= Rp.120,000,000 – Rp.300,000,000; 3= Rp.300,000,000 – Rp.600,000,000; 4= ≥ Rp.600,000,000
		Place of residents	1= West Surabaya; 2= Central Surabaya 3= East Surabaya; 4= North Surabaya 5= South Surabaya; 6= Outside of Surabaya
		Amount of property investment	1= ≤3; 2= 4-7; 3= ≥8
		Purpose of property investment	1= Buy-Sell Property; 2= Rent Property 3= Buy-Sell and Rent Property
		Property Type	1= Apartment; 2= House; 3= Land; 4= Shop-House; 5= Others

Source: *Own study.*

After coding and compiling the data, a descriptive test is performed to find out the demographic background of the respondents. Then, PLS Path Modeling testing is done on 2 models, which are inner model and outer model with the help of SmartPLS software version 3 for windows.

The steps include: (1) Constructing a diagram path to show the relationship between exogenous and endogenous variables; (2) Evaluating the Goodness-of-fit of the Outer Model for validity and reliability test, which includes (a) Convergent Validity provided the loading factor value is (>0.7); (b) Discriminant Validity provided the AVE (Average Variance Extracted) is (> 0.5); (c) Composite Reliability provided the reliability value is (> 0.7); (3) Evaluating the Goodness-of-fit of the Inner Model through R^2 to measure the degree of variation of the exogenous and endogenous variable. Q-square predictive is used to measure the construct model; (4) testing the hypothesis using the coefficient path value or inner model ≥ 1.96 for a two-tailed hypothesis at an error rate of (α) 5%.

4. Analysis

This study used primary data by distributing questionnaires to 186 respondents; however, 38 of them were eliminated, so that the remaining 148 respondents are used in this study. The respondents are 21-68 years old and meet the sample criteria which

are having made more than one investment and having property investments in different areas. The demographic characteristics of the respondents which include gender, age, education, employment, annual income, and place of residence are listed in Table 2.

Table 2. *Demographic Characteristics of the Respondent*

Respondent Characteristics	Amount of Property Investment			Total	Percentage
	≤3	4-7	≥8		
Gender					
Male	57	48	3	108	73%
Female	20	19	1	40	27%
Age					
21-30	18	2	0	20	13.5%
31-40	15	2	1	18	12.2%
41-50	16	6	0	22	14.9%
51-68	28	57	3	88	59.5%
Education					
≤ High School	8	7	1	16	10.8%
Undergraduate	68	57	3	128	86.5%
Graduate or Post-Graduate	1	3	0	4	2.7%
Occupation					
Employee	23	6	0	29	19.6%
Entrepreneur	47	56	4	107	72.3%
Professional	3	5	0	8	5.4%
Others	4	0	0	4	2.7%
Yearly Income					
≤ Rp.120,000,000	9	5	0	14	9.5%
Rp.120,000,000 – Rp.300,000,000	36	2	1	39	26.4%
Rp.300,000,000 – Rp.600,000,000	28	50	1	79	53.4%
≥ Rp.600,000,000	4	10	2	16	10.8%
Home Location					
West Surabaya	35	25	1	61	41.2%
Central Surabaya	2	2	0	4	2.7%
East Surabaya	17	20	2	39	26.4%
North Surabaya	1	3	0	4	2.7%
South Surabaya	14	8	0	22	14.9%
Outside of Surabaya	8	9	1	18	12.2%

Source: *Own study.*

Table 2 shows that males (73%) prefer to invest with a total investment of 4-7 properties. They are aged between 51-68 years old (59.5%), have an undergraduate degree (72.3%), and work as an entrepreneur with a yearly income of Rp 300.000.000 – Rp 600.000.000 (53.4%). The growing age of respondents leads to their readiness to manage finances so that they have greater potential to invest property up to 4-7

units. The investor's purpose is to obtain capital gain from sales and regular income of property rent. The property type chosen is lot (35.9%) and the area that is the destination of investment is West Surabaya (31.19%) and the rest is spread in other regions such as East Surabaya, Central Surabaya, South Surabaya, North Surabaya, and outside East Java such as Bali, Kalimantan, and Sulawesi.

Table 3. *Description of Variables and Indicators of Financial Knowledge, Possible Return, Risk Preference, and Geographical Attribute*

Code	Indicator	*Mean*	*Std. Dev.*
FK1	I have an economic education background	2.777	1.758
FK2	I keep up with the news of the development of economic conditions	2.953	1.517
FK3	I make a financial budget and record every expense	2.865	1.349
FK4	My expense is lower than my income	3.696	1.450
FK5	I have applied for a loan to a person or a bank	3.514	1.459
FK6	I have used loan credit to make investments	2.541	1.583
FK7	I made regular investments to achieve a certain goal	2.682	1.390
FK8	Property products are a form of investment asset that I want to have	3.838	1.115
FK9	I have enough saving to cover unexpected expenses	3.851	1.270
FK10	I feel the need to have life insurance as a self-protection	3.432	1.489
FK11	I choose investment assets by understanding its risk beforehand	3.277	1.418
FK12	I feel capable of achieving financial goals in the future	3.872	1.226
Financial Knowledge (FK)		3.275	0.162
PR1	I hope my investment value is always greater than if the funds were only placed on deposit	4.115	1.010
PR2	I hope the return total per year of my chosen investment exceeds the return from the financial institutions in general	3.709	1.327
PR3	I am able to tolerate the high risk of investment loss to increase the likelihood of a higher return	3.169	1.322
Possible Return		3.664	0.148
RP1	I set aside 10% of my annual income to invest in assets with moderate growth	2.649	1.385
RP2	I set aside 5% of my annual income on highly speculative investments (willing to take risks)	2.608	1.344
RP3	I set 5% of my annual income on conservative investments	3.243	1.200
RP4	I invest 10% of my annual income in new business ventures	2.500	1.265
Risk Preference		2.750	0.071
GA1	I make a lot of property investments in new areas/region	2.311	1.360
GA2	I have made property investments in different areas	3.257	1.448
GA3	I agree with the idea of making property investments in other areas besides Surabaya	3.264	1.722
GA4	I benefit from investing in property in different areas	3.291	1.434
Geographical Attribute		3.031	0.137
KI1	I prefer property investment as a way to minimize risk rather than investing in other investment products	3.291	1.396
KI2	I understand the risk of investing in property	3.392	1.195
KI3	I chose property as an investment product because it has a higher return rate than inflation	3.845	1.057
KI4	I invest in property to earn an income on a regular basis	3.088	1.399

Code	Indicator	*Mean*	*Std. Dev.*
KI5	Investing in property is beneficial because of the wide selection of products and regions	3.696	1.038
Investment Decision		3.462	1.1891

Source: *Own study.*

Table 3 shows the mean values of each indicator used according to the research variables, namely Financial Knowledge variables, Possible Return, Risk Preference, Geographical Attribute, and Investment Decision. These variables' correlations are tested to see the magnitude of the influence between the variables as shown in Table 4. The test results show that increased financial knowledge, possible return, risk preference, dan geographical attribute will drive property investment decisions.

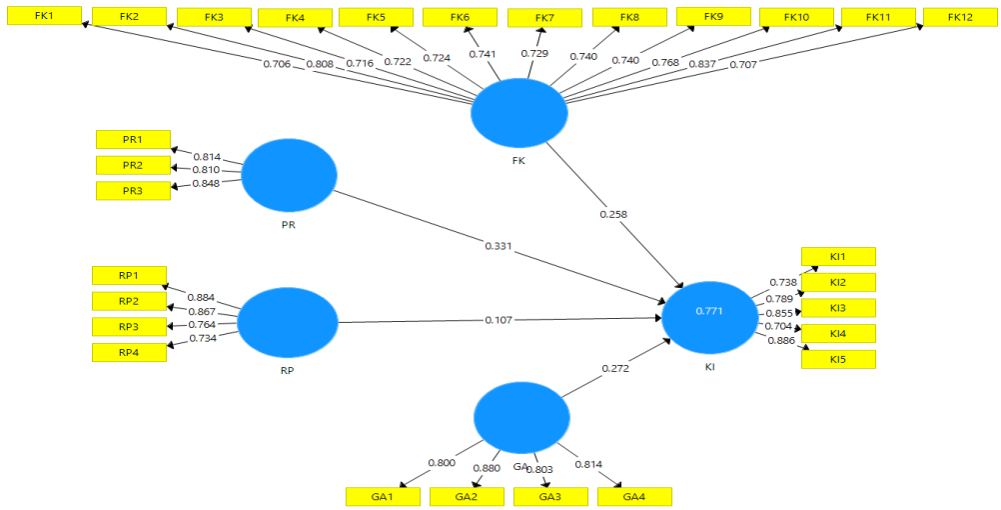
Table 4. *Correlation Test between Variables*

	FK	PR	RP	GA	KI
Financial Knowledge (FK)	1.000				
Possible Return (PR)	0.730	1.000			
Risk Preference (RP)	0.780	0.718	1.000		
Geographical Attribute (GA)	0.828	0.699	0.808	1.000	
Investment Decision (KI)	0.797	0.766	0.753	0.793	1.000

Source: *Own study.*

To see the relationship between endogenous and exogenous variables, data analysis was performed using Smart-PLS by performing a Convergent Validity test to measure the magnitude of the correlation between constructs and latent variables. Figure 2 shows the loading factor value of each indicator> 0.7 which meets the criteria of a good loading factor.

Figure 2. *Outer Loading Output*



Source: *Own study.*

The second evaluation is the discriminant validity test on the outer model by comparing the values of the loading factor on the designated construct with the loading factor of the other construct using the Average Variance Extracted (AVE). Table 5 shows the cross-loading value of each indicator on one variable is higher than the indicator on another variable, which satisfies the discriminant validity.

Table 5. *Cross Loading*

Indicator	Variables				
	FK	PR	RP	GA	KI
FK1	**0.706473**	0.476868	0.580272	0.585931	0.556097
FK2	**0.808063**	0.731651	0.701494	0.755873	0.786014
FK3	**0.715748**	0.567277	0.583744	0.668052	0.560665
FK4	**0.722088**	0.630318	0.630378	0.640922	0.665061
FK5	**0.723643**	0.359940	0.448245	0.537590	0.502046
FK6	**0.740633**	0.488137	0.595968	0.619996	0.580852
FK7	**0.729380**	0.538570	0.695311	0.661069	0.530404
FK8	**0.740219**	0.405490	0.422650	0.502103	0.539434
FK9	**0.740116**	0.398839	0.466752	0.544875	0.510558
FK10	**0.767805**	0.533475	0.568671	0.688306	0.619130
FK11	**0.837052**	0.649854	0.715521	0.768772	0.732121
FK12	**0.707120**	0.524311	0.484240	0.518518	0.556643
PR1	0.528654	**0.813727**	0.563818	0.534567	0.646076
PR2	0.621105	**0.809999**	0.587970	0.564932	0.583476
PR3	0.630291	**0.847937**	0.621830	0.620331	0.698776
RP1	0.698943	0.644568	**0.884168**	0.743201	0.661512
RP2	0.614219	0.670432	**0.866811**	0.711943	0.698227
RP3	0.625886	0.472975	**0.763915**	0.588829	0.617618
RP4	0.609974	0.539494	**0.734220**	0.585300	0.499238
GA1	0.665860	0.497076	0.668399	**0.800009**	0.576586
GA2	0.848759	0.583909	0.735278	**0.880121**	0.728493
GA3	0.528275	0.621820	0.641619	**0.802916**	0.663513
GA4	0.734876	0.588592	0.629094	**0.813772**	0.685014
KI1	0.531267	0.581201	0.553035	0.539237	**0.737507**
KI2	0.724147	0.677784	0.600292	0.621963	**0.788648**
KI3	0.669170	0.681758	0.698428	0.741235	**0.855149**
KI4	0.599091	0.480355	0.514116	0.554892	**0.703867**
KI5	0.691271	0.676325	0.670902	0.737137	**0.885582**

Source: *Own study.*

Table 6 shows the AVE value of each variable is > 0.5, therefore the variables of this research have good discriminant validity. Furthermore, the value of composite reliability is > 0.7 per variable, therefore this research model is declared reliable.

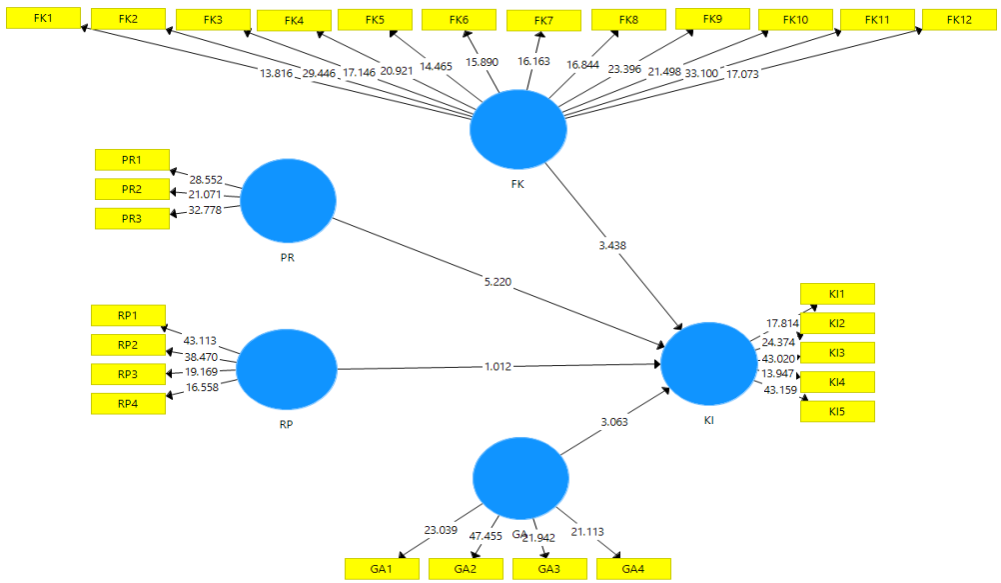
Table 6. *Composite Reliability and AVE Test Result*

Variables	Composite Reliability	AVE
Financial Knowledge	0.938	0.556
Possible Return	0.864	0.679
Risk Preference	0.887	0.664
Geographical Attribute	0.895	0.680
Investment Decision	0.896	0.635

Source: *Own study.*

Data processing in PLS shows a determinant coefficient value (R^2) of investment decision as an endogenous variable of 0.771, which explains exogenous variable as much as 77.1% while the other 22.9% is explained by other variables outside of the examined model. Q^2 value also shows the same result, therefore the research model has suitable goodness of fit (GoF). Q^2 predictive relevance analysis measures how well the observed value are generated by the model. Furthermore, hypothesis testing through t-statistic shows a value of ≥ 1.96.

Figure 3. *Structural Output Model*



Source: *Own study.*

Figure 3 shows the final model of examined variable. Financial knowledge, possible return, and geographical attributes shows t-statistic value of ≥ 1.96, with t-statistic of risk preference of less than 1.96. Table 7 shows that financial knowledge, possible return, and geographical attribute variables have a significant effect on property investment decisions, but risk preference has no significant effect on property investment decisions.

Table 7. *Path Coefficient in Structural Model Testing*

Relationship	*Path coefficient*	*t-Statistic*
FK -> KI	0.266	3.438*
PR -> KI	0.325	5.220*
RP -> KI	0.118	1.012
GA -> KI	0.261	3.063*

Source: *Own study.*

5. Discussion

Financial knowledge has a significant influence on property investment decisions in accordance with Robb and Woodyard's research (2011). The survey results display that investors already have financial knowledge through formal and informal education. Investors who have good financial knowledge will have good financial planning while understanding the risk of every investment instrument taken. A person with a lack of financial knowledge has a bad habit of managing savings as well as choosing financial instruments without careful consideration. They understand how to manage debt, capital, and savings properly. Product selection on investment as well as its risks have been well understood before making an investment decision.

The variable of possible return also has a significant effect on the decision of making a property investment. The goal of investors in making investments is to gain wealth or profit in the future, therefore they will consider how much possible return can be obtained from the existing investment options. When considering making property investments, investors expect the return to be higher than the inflation rate as well as other forms of investment such as deposits. Hence, property has become one of the most frequently chosen investment options, as the survey data shows that the majority of investors own between 4-7 property units. Possible return from property investment is one of the driving motivations for investors to gain benefits in the future, thus affecting property investment decisions (Natasha and Hassan, 2015).

Risk preference has no significant effect towards property investments decision. Investors set aside their annual income more on conservative products as their risk profile is risk-averse (avoids risk and gains proportionate profit). Property investments are chosen with the assumption that it is safe as it is a tangible asset, it has the tendency to increase in value annually, and not as fluctuating compared to other investment products such as stocks. However, the majority of investors think that investing in property requires a large capital, so it is more suitable for investors with the risk profile of risk-seeking. Thus, each investor has a different view towards risk preference in property.

In investment theory, it is said that property is one of the more risky investment products in accordance with the risk-seeking profile that expects large profits according to the trade-off theory, namely high risk-high return (Heaton and Lucas, 2001). The different view of each investor regarding property investments shows that

investors with their various risk profiles namely risk-seeking, risk neutrally, and risk-averse, have the potential to make property investments. Risk preference is not regarded as investors' consideration when making investment decisions, so risk preference does not affect property investment decisions (Wen *et al.*, 2014).

The variable of geographical attribute significantly affects property investments decision based on Olaleye, Aluko, and Oloyedest's study (2006). Most investors have 4-7 units of property in different regions, namely Surabaya (West/East/North/Central/South Surabaya), outside of Surabaya, and outside of East Java (Bali, Kalimantan, and Sulawesi). Investors chose these locations with the aim to gain profit from buying, selling, and renting property.

This proofs that investors have applied geographical diversification, so they will earn a greater adjusted risk-return compared to investors who are limited to only one region. Geographical diversification provides a benefit to investors in the form of reduction of risk against possible losses such as errors in selecting a strategic region. On the other hand, each region has its own uniqueness, strengths, and weaknesses, so with diversification, regional diversity becomes a strength and investors gain profits in the future related to the economic potential that can be developed in that region.

6. Conclusion

The result of this study proves that financial knowledge, possible return, and geographical attribute significantly affect property investment decisions, except for risk preference. Therefore, both investors and future investors are required to have financial knowledge so a strategical plan to diversify the capital on hand can be carried out to reduce the risk in making property investment decisions. Furthermore, developers who plan to develop properties should consider regions which are overlooked by investors, to create a new market for investors in other regions with the potential to flourish.

However, the limited nature of this study has not yet delved into the level of financial knowledge and risk profile of investors, therefore future studies should provide a detailed evaluation to comprehend investors' profiles to determine a better investment diversification strategy. Finally, this study benefits investors specifically, and market players generally, that individual financial literacy will enlighten considerations on risk and return, so that investment goals in personal financial planning in the future can be better realized. Investors and market players are advised to diversify their property portfolio by choosing differing property types in various locations to reduce risks, as properties have unique physical characteristics which are heterogenous and situs.

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