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Article

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MANAGEMENT | RESEARCH ARTICLE

An investment decision: Expected and earned yields for passive income real estate investors

Niti Rattanaprichavej^{1*} and Monthinee Teeramungcalanon²

Abstract: This study aims to analyse the demographic characteristics of real estate investors and their attitude towards expected and earned yields when making direct, indirect, and non-real estate passive income investments. Quantitative analysis is employed based on both online and offline survey data from 334 real estate investors. Results reveal that general investor characteristics such as gender, education, and marital status tend not to affect investment decisions. Moreover, investors' earned yields from any investment type are mostly lower than expected yields. However, the results also reveal that direct real estate investment has a higher probability of earning higher yields and a lower probability of earning poor yields than indirect real estate and non-real estate investments. Although most investors believe that passive income is the key to achieving financial freedom, few are successful in earning excellent yields. This demonstrates the difficulty of attaining financial success through passive income investments alone. Therefore, active income remains necessary to enhance an investor's passive income portfolio in the pursuit of financial freedom.

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PUBLIC INTEREST STATEMENT

Rapidly changing structures of Thailand's economy and society—such as the single society, aged society, emerging property tax, disruptive technology, and others—have led to the dream of financial freedom. Consequently, the concept of passive income has become trendy, particularly in real estate investment. However, investing in real estate is unique with respect to its own business risk and yield uncertainty. The study thus contributes to the understanding of investor decisions in real estate investments, creates a realistic perspective on possible yields, and makes recommendations for investors to reduce risk and to rethink over their investment plan towards the goal of financial freedom.

Subjects: Investment & Securities; Property & Real Estate Finance; Business, Management and Accounting

Keywords: earned yield; expected yield; investment decision; passive income; real estate

1. Introduction

Today, various alternative passive investment options exist, either in intangible assets such as bitcoin, bonds, debentures, equity funds, and mutual funds, or in tangible assets such as gold, land, antiques, and other types of real estate. Each investment type has different advantages and disadvantages, such as the rate of return, risk, and payback period (Haight et al., 2005; Sharma, 2014), and all require complex investment decisions (Kida et al., 2010).

In Thailand, in the past few years, investment generally has been significantly affected by changes in economic and societal structure, as well as in technology. These include an interest rate reduction, legislation on land and building tax, modification of the deposit insurance policy, an aged society, the single society, disruptive technology, and work-life balance, which have led in part to early retirement in response to these changes. As a result, there has been an increased awareness of the need for supplementary income in the pursuit of financial freedom.

Generating income that does not require a significant amount of time or effort, that is, auto-generating income is considered the ultimate goal of investors (Blaskie, 2011; Morgan, 2016). Such passive income differs from active income, which is mainly dependent on formal employment or business engagement. Passive income can be generated in various ways, such as through interest, dividends, rental fees, copyright fees, or royalty fees. In Thailand, one of the most common ways to create passive income is through rental fees from rental property investments. Consequently, many seminar courses that tout financial freedom through real estate investments that generate passive income are popular and fast growing today. The idea of compound interest with an expected yield at 10% and the disregard of unique business risks in real estate investment are often assumed. The plausibility of such high returns on real estate rentals is somewhat curious, especially when the risk-free rate on the 12-month bank deposit is only around 1.25% and the dividend yields of various types of property funds, such as Real Estate Investment Trusts (REITs), hotels, shopping malls, apartments, and industrial buildings are mostly around 3–6% (Thai Appraisal and Estate Agents Foundation, 2020).

Various real estate investing options exist for generating passive income. These include direct investment in rental property projects, such as the purchase of land, condominiums, residential houses, or commercial buildings, as well as indirect investment in real estate stocks, and real estate debentures or REITs. Investment decisions in any of these options require assessment and comparison. However, direct real estate investment is a unique kind of investment due to its characteristics of immobility, required high investment cost, low liquidity, and positioning in an imperfect market. In general, decision-makers in direct real estate investment tend to need much more experience in the purchasing decision process, especially when compared with other types of investment. Specifically, investors do not have much experience in finding and comparing information, making decisions, using samples, valuating, and re-buying (Appraisal Institute, 2013; Whipple, 2006). This results in a unique business risk or unsystematic investment risk in real estate. As such, real estate investment decision-making requires more investigation, as real estate differs from other investment types (Baum, 2015; Jacobus, 2018).

The ultimate investment goal for many investors is to achieve satisfactory passive income returns, that is when the expected yields equal the actual earned yields. Therefore, this study focuses on expected and earned yields of investors and whether actual earned yields can meet expectations or not. Furthermore, this study focuses on the real estate investors' decision-making, demography, and attitudes towards passive income and financial freedom.

2. Literature review

A review of the literature found some interesting concepts and theories used in this study.

Decision-making theory, which is originally derived from the principles of public administration, is used to study investment decisions (Buchanan & Connell, 2006). Decision-making theory draws on principles from diverse fields, such as Mathematics, Psychology, and Sociology. It is directly related to choice, complexity, risk, rationality (Buchanan & Connell, 2006), and anticipation (Cheng, 2014). Thus, it can be assumed that the principles required for investment decision-making are not different from that of decision-making theory; however, delineating the scope and detail of investment decision-making is also essential, as it is related to behavioural finance, behavioural economics, and consumer behaviour (Jariwala, 2015). Investment decision-making has been studied from various perspectives, including at the individual or corporate level, at the government or private sector level, and for creating models to support decision-making on a particular subject.

One of the most well-known behavioural economic theories was postulated by Kahneman and Tversky (1979). Their pioneering prospect theory weighed the scenario of gains and losses into decision-making rather than the concern for final asset. It contends that decision-making is embedded with risk attitudes of loss aversion beyond only a utilitarian approach. This, thus, indicates that investors' attitude also affects investment decisions (Wofford et al., 2010). Latterly, the prospect theory becomes a classical principle applied to real estate investment in several contexts. It expanded the concepts to real estate investment decisions, specifically real estate portfolio allocation and diversification (Blundell et al., 2005; Heaney et al., 2012; Steinert & Crowe, 2001) and risk behaviour in real estate (Lim et al., 2002; Peng & Liu, 2015; Seiler & Seiler, 2010).

Decision-making refers to the process of choosing the best alternative after a systematic assessment of all options (Jariwala, 2015). Similarly, investment decision-making refers to the choice of spending money in the present, based on the expectation of the best possible future return on investment. Investors believe that the additional return on investment will compensate for time, inflation, and risk (Sharma, 2014).

Several studies on investment decision-making analyse expected risk and return (Bhattacharya & Garrett, 2008; Boyle, 2005; Dorfman & Park, 2014; Gordon & Gordon, 1997; Kahneman & Tversky, 1979; Krystalogianni & Tsolacos, 2004). Most of the studies focus on the Capital Asset Pricing Model (CAPM) and aim to illustrate various models to estimate future returns. In these models, positive or negative expected returns depend on many factors, such as past performance, time-varying covariance, market volatility, financial ratios, and investor psychology. While historical data play a vital role in expected risk and returns (Black, 1995; He & Shen, 2010), some scholars contend that past performance alone is not sufficient to estimate expected returns (Hughson et al., 2006).

It is not an easy task for investors to earn their expected returns, as they seem to be either over-optimistic or over-pessimistic (He & Shen, 2010). In certain situations, higher returns might not correlate with risk (Bhattacharya & Garrett, 2008). The study in real estate also considers the yield differential with respect to direct and indirect real estate investment (Krystalogianni & Tsolacos, 2004). While several studies apply mathematical methodology, this study focuses on surveying investor attitudes about expected and actual earned yields from real estate investments. The concept of expected return is important for pursuing financial freedom through passive income, especially by direct real estate investment, owing to its unique business risk and long-time requirements.

The individual investment decisions for generating passive income vary according to demographic characteristics and investor attitudes (Arora & Marwaha, 2014; Arti et al., 2011; Bashir et al., 2013; Gambetti & Giusberti, 2019; Jariwala, 2015; Sharma, 2014; Xiao, 2015). For example, investors can be divided into two main categories: (1) investors who expect the appreciation of capital will focus on

short-term investment; and (2) investors who expect dividends will focus on long-term investment. The first group tends to be more risk-seeking, and mostly includes teenage or working-age men with high incomes. The second group tends to be risk averse with slow decision-making, and usually comprises women or the elderly with relatively low incomes (Riffin & Ahmad, 2012; Sharma, 2014; Singh & Yadav, 2016; Trönberg & Hemlin, 2019). Moreover, psychological factors can lead to different investment decisions. These factors can be determined by different demographic characteristics, or decisions may be considered as irrational (Jariwala, 2015), based on personal preference, investment knowledge, experience, and others (Sarwar & Afaf, 2016).

Previous research found that the following important demographic characteristics can influence investment decision-making: gender, age, occupation, income, education level, and marital status. It was found that men and women's investment perspectives differ in investment type, investment period, and the awareness of investment information. Men tend to make a decision based on financial statistical information. They tend to be confident, are more risk-averse than women, and tend to prefer short-term investments. Women tend to consider the comments and opinions of surrounding people, such as friends or those with successful investment experience, and tend to make long-term investments (Arti et al., 2011; Gambetti & Giusberti, 2019; Singh & Yadav, 2016). Marital status also affects investment behaviour. It was found that there is a change in the investment behaviour of those who marry and have a family. They tend to listen to the opinions of spouses or loved ones and are more cautious in investing, as the risk will be shared (Mahalakshmi & Anuradha, 2018; Uccello, 2000). Higher-income investors tend to be more risk-taking than those with lower income levels. The investor's past investment experience is also essential in assessing risk when making an investment decision (Jariwala, 2015; Riffin & Ahmad, 2012; Sharma, 2014).

In conclusion, this study contributes to the literature by focusing on decision patterns and elements related to investment decisions. It investigates the principle of expected and earned yields, as well as the attitudes of investors toward passive income. In addition, since investor demography influences investment decision-making, a clear understanding of the individual investor's character will be used to develop the views and attitudes of investors toward generating more passive income from real estate investments.

3. Research methodology

This study employed a quantitative approach. It utilized a questionnaire that was developed from a literature review and from workshops with professionals and was distributed online and offline using a judgmental sampling. The online distribution was approached through Thammasat's real estate networks and various online real estate communities via LINE communication application. For the offline distribution, the sampling locations included bank headquarters, community malls, and a university in Bangkok city, Thailand. The data were collected from November 2019 to February 2020 from participants aged 20 years and older who had generated passive income from investing in real estate, including rental property, REITs, property funds, real estate stocks, and real estate debentures.

A non-comparative scale questionnaire was utilized that included questions on investor demography, expected and earned yields, attitudes towards financial freedom, and perceptions about passive income in different types of investments, namely, real estate direct and indirect investment, and non-real estate (RE) investment. A pre-test was conducted with 10 sample questionnaires to ensure the quality of the questionnaire. Content validity was tested by consulting with three real estate investment professionals.

Descriptive statistics and Chi-square statistics through cross-tabulation techniques were analysed by the concept of gap analysis in order to explain investor demography, their investment decisions, and the difference between expected and earned yields.

4. Research results

Of the 392 online and offline distributed questionnaires, 334 were returned and screened. The results are divided into four main parts. The first part shows a general description of the three investment types. The second part categorises the investment types by investor attributes, which can be compared with general investment attributes from the literature review. The third part compares the expected yields and the earned yields, which could be considered to reflect the plausibility of satisfactory passive income. The last part shows a comparison between passive income attitudes and earned yield, to further analyse whether the ultimate goal of financial freedom could be achieved.

4.1. Description of the three investment types

Table 1 indicates that direct real estate investments and non-real estate investments comprise the majority of passive income investments. Interestingly, 296 respondents invested directly in real estate. Although direct real estate investment is more complicated than other kinds of investment, investing in a condominium in Thailand was popular during the previous 2–3 years; this represented the choice of most respondents, followed by investments in housing estates and land. For indirect real estate investment, property funds and REITs are the most popular types of investments, and many investors consider this as one of the best investment havens in the current

Table 1. Description of the three investment types

Investment types	Frequency	Percentage
Direct Investment		
Apartment	44	10.4
Housing Estate	115	27.0
Commercial Building	54	12.7
Condominium	150	35.3
Land	58	13.6
Others	4	0.1
Total	425	100
Indirect Investment		
Property Fund	66	34.4
Real Estate Debenture	21	10.9
REIT	49	25.5
Real Estate Stock	56	29.2
Total	192	100
Non-Real Estate Investment		
Bank Deposits	141	26.5
Bank Long-Term Lottery	85	16.0
Bond	34	6.4
Forex	11	2.1
Gold	41	7.7
Debenture	37	6.9
Stock	129	24.2
Personal Lending	39	7.3
License fees	4	0.7
Others	11	2.1
Total	532	100

Note: As respondents can choose more than one investment type, the total frequency is counted as the total chosen investment.

Table 2. Investment types categorized by investor attributes

Investor attributes	Real estate investment			Non-real estate investment n = 267	Total
	Direct investment n = 269	Indirect investment n = 131			
Gender					
Female	110 (41.1%)	49 (18.3%)	108 (40.6%)	267 (100%)	
Male	157 (39.8%)	81 (20.6%)	156 (39.6%)	394 (100%)	
Others	2 (3.3%)	1 (1.6%)	3 (5.0%)	6 (100%)	
Age (yr.)					
20-30	51 (36.4%)	31 (22.1%)	58 (41.4%)	140 (100%)	
>30-40	102 (39.7%)	52 (20.2%)	103 (40.1%)	257 (100%)	
>40-50	50 (39.7%)	25 (19.8%)	51 (40.5%)	126 (100%)	
>50-60	50 (47.2%)	15 (14.2%)	41 (38.6%)	106 (100%)	
>60	16 (42.1%)	8 (21.0%)	14 (36.9%)	38 (100%)	
Marital Status					
Single	145 (38.2%)	82 (21.6%)	153 (40.2%)	380 (100%)	
Married	119 (44.7%)	48 (18.0%)	109 (48.2%)	266 (100%)	
Others	5 (4.5%)	1 (9.0%)	5 (4.5%)	11 (100%)	
Educational Degree					
Below Bachelor's degree	15 (4.9%)	5 (15.6%)	12 (37.5%)	32 (100%)	
Bachelor's degree	88 (42.5%)	38 (18.4%)	81 (39.1%)	207 (100%)	
Above Bachelor's degree	166 (38.8%)	88 (20.6%)	174 (40.6%)	428 (100%)	
Occupation					
Government Agent	22 (31.4%)	17 (24.3%)	31 (44.3%)	70 (100%)	
Private Employee	101 (37.9%)	56 (21.1%)	109 (41.0%)	266 (100%)	
Medical-Related	3 (30.0%)	4 (40.0%)	3 (30.0%)	10 (100%)	
Business Owner	101 (45.3%)	35 (15.7%)	87 (39.0%)	223 (100%)	
Freelance	27 (39.7%)	13 (19.1%)	28 (41.2%)	68 (100%)	
Others	15 (50.0%)	6 (20.0%)	9 (30.0%)	30 (100%)	
Work Experience (yr.)					
<5	35 (36.8%)	21 (21.1%)	39 (41.1%)	95 (100%)	
5-10	72 (38.1%)	41 (21.7%)	76 (40.2%)	189 (100%)	
>10	162 (42.3%)	69 (18.0%)	152 (39.7%)	383 (100%)	
Age of Expected Retirement (yr.)					
>30-40	10 (41.6%)	2 (8.4%)	12 (50.0%)	24 (100%)	
>40-50	34 (34.7%)	28 (28.6%)	36 (36.8%)	98 (100%)	
>50-60	92 (42.1%)	42 (19.3%)	84 (38.6%)	218 (100%)	

(Continued)

Table 2. (Continued)

Investor attributes	Real estate investment		Non-real estate investment n = 267	Total
	Direct investment n = 269	Indirect investment n = 131		
>60	60 (36.8%)	37 (22.7%)	66 (40.5%)	163 (100%)
No retirement	73 (45.3%)	21 (13.0%)	67 (41.6%)	161 (100%)
Active Income (USD/month)				
No active income	17 (45.9%)	6 (16.2%)	14 (37.8%)	37 (100%)
<500	5 (50.0%)	1 (10.0%)	4 (40.0%)	10 (100%)
500-1,000	30 (36.1%)	23 (27.7%)	30 (36.1%)	83 (100%)
>1,000-1,500	31 (43.6%)	17 (24.0%)	33 (46.4%)	71 (100%)
>1,500-2,000	41 (38.6%)	21 (19.8%)	44 (41.5%)	106 (100%)
>2,000-2,500	25 (45.5%)	8 (14.5%)	22 (40.0%)	55 (100%)
>2,500-3,300	38 (40.8%)	18 (19.3%)	37 (39.8%)	93 (100%)
>3,000-10,000	66 (40.0%)	32 (19.4%)	67 (40.6%)	165 (100%)
>10,000-16,000	5 (45.5%)	1 (9.0%)	5 (45.5%)	11 (100%)
>16,000	11 (42.3%)	4 (15.3%)	11 (42.4%)	26 (100%)

uncertain economic situation. For non-real estate investments, bank savings is still the classic choice at all times, followed by stock market investments.

4.2. Investment types categorized by investor attributes

The literature review of general investment indicates that investment types could be characterized according to investors' demographic characteristics, which is similar for this study that investigates an investment decision in real estate for passive income. Table 2 indicates that investment choices of male and female investors do not differ for the three types of investments. In terms of age groups, the majority of investors from the millennials (>30-40) and generation Z (20-30) focus more on generating passive income, while elder respondents (>60) seem to invest less in passive income. In addition, the majority of investors in each investment type are single, with high education levels and have more than 10 years of working experience. This obviously reflects the change in Thailand's societal structure. The majority of investors earn a monthly income of between USD 3,000 and 10,000, which is considered very high in Thai society. In terms of occupations, private employees and business owners play a major role in each investment type. It can be deduced that most respondents who are able to make such a long-term real estate investment are likely to earn high incomes.

It can be concluded that investors of different demographics are not likely associated with different investment types. However, regarding overall attributes, direct investment and non-real estate investment seem to be the most popular, followed by indirect real estate investment. It seems that if investors decide not to invest in direct real estate investment, they tend to select non-real estate investments.

4.3. A comparison between expected and earned yield in real estate investment

Table 3 indicates that most respondents (59.09%) expect to have a rental yield at >3-7%. Respondents who have the matching expected rental yield and earned rental yield at >3-5% formed the majority (50 out of 112 respondents). The 3-5% yield can be considered as rather possible when compared to the 12-month savings account interest rate of around 1%. Moreover, it seems that generally the earned rental yield is not equal to the expected rental yield, and that the earned rental yield is often lower than the expectation by one level especially for the expected rental yield at 3-11% (107 out of 269 respondents). It is also rare to earn higher-than-expected yields (only 10 out of 269 respondents). Surprisingly, approximately 15 respondents could earn rental yields higher than 9%, which is very high compared to general investment; at an expected rental yield of >11%, 10 out of 15 respondents earned as expected. In summary, of the 269 direct real estate investors, 124 respondents (46.1%) earned rental yields at their expected rates (the majority at the rental yield of 3-7%); 11 respondents (4.1%) earned higher than expected; and 134 respondents (49.8%) earned lower than expected. The chi-square statistic is significant at $\chi^2(36) = 473.43$, $p < .01$ ($p = 0.00$), indicating that expected and earned rental yields are significantly different.

Table 4 indicates that most respondents (59.09%) expect to have a rental yield at >3-7%.

Respondents who have a matching expected rental yield and earned rental yield at >3-5% formed the majority (50 out of 74 respondents). Moreover, it seems that generally the earned rental yield is not equal to the expected rental yield, and that the earned rental yield is often lower than the expectation by one level, especially for the expected rental yield at 1-9% (39 out of 131 respondents). It is also rare to earn a higher-than-expected yield (only 11 out of 131 respondents). In summary, of the 131 indirect real estate investors, 62 respondents (47.3%) earned rental yields at their expected rates (the majority at the rental yield of 3-7%); 11 respondents (8.4%) earned higher than expected; and 58 respondents (44.3%) earned lower than expected. The chi-square statistic is significant at $\chi^2(36) = 193.22$, $p < .01$ ($p = 0.00$), indicating that expected and earned indirect investment yields are significantly different.

Table 3. A comparison between expected and earned rental yield for direct real estate investment

Earned rental yield	Expected rental yield										Total
	<1%	1-3%	>3-5%	>5-7%	>7-9%	>9-11%	>11%				
<1%	5	5	1	0	0	0	0	0	0	0	11 (4.09%)
1-3%	1	17	22	1	2	2	2	2	2	1	46 (17.10%)
>3-5%	0	0	50	48	9	5	0	0	0	0	112 (41.63%)
>5-7%	0	0	1	28	25	4	2	2	2	2	60 (22.30%)
>7-9%	0	0	0	6	11	5	0	0	0	0	22 (8.17%)
>9-11%	0	0	0	1	0	3	2	2	2	2	6 (2.23%)
>11%	0	0	0	1	1	0	0	10	10	10	12 (4.46%)
Total	6 (2.23%)	22 (8.17%)	74 (27.50%)	85 (31.59%)	48 (17.84%)	19 (7.06%)	15 (5.58%)				269 (100%)

Notes: 1) Each cell reflects the number of respondents.

2) The dark highlighted fields demonstrate the ranges where the expected and earned yields are the same.

3) The light highlighted fields demonstrate the ranges where the earned yield is lower than expected yield.

4) The non-highlighted fields demonstrate the ranges where the earned yield is higher than expected yield.

Table 4. A comparison between expected and earned yield in real estate indirect investment

Earned indirect investment yield	Expected indirect investment yield									
	<1%	1-3%	>3-5%	>5-7%	>7-9%	>9-11%	>11%	Total		
<1%	4	7	4	2	1	0	0	18 (13.74%)		
1-3%	0	11	15	2	1	0	1	30 (22.90%)		
>3-5%	1	1	15	13	3	0	0	33 (25.19%)		
>5-7%	1	0	2	18	3	3	1	28 (21.37%)		
>7-9%	0	0	0	4	8	1	1	14 (10.68%)		
>9-11%	0	0	0	1	0	4	0	5 (3.81%)		
>11%	0	0	0	0	1	0	2	3 (2.29%)		
Total	6 (4.58%)	19 (14.50%)	36 (27.48%)	40 (30.53%)	17 (12.97%)	8 (6.10%)	5 (3.81%)	131 (100%)		

Notes: 1) Each cell reflects the number of respondents.

2) The dark highlighted fields demonstrate the ranges where the expected and earned yields were the same.

3) The light highlighted fields demonstrate the ranges where the earned yield is lower than expected yield.

4) The non-highlighted fields demonstrate the ranges where the earned yield is higher than expected yield.

Table 5 presents a comparison between expected and earned yields in non-real estate investment. It can be seen that the majority of respondents (49.80%) have expected non-real estate investment yields of 1–5%; similarly, a majority of respondents (56.17%) also have earned non-real estate investment yields of 1–5%. In addition, over half of the respondents have earned yields of >3–11%, which is aligned to their expectations, and most of the earned non-real estate investment yield is lower than the expectation by one level, similar to other investment types. When compared to other investment types, earned non-real estate investment yields of >7% are more difficult to attain. Regardless, a high proportion of respondents (15 out of 25) have a matching expected and earned non-real estate investment yield of >11%. In summary, from the 267 non-real estate investors, 141 respondents (52.8%) earned at their expected rates (the majority at the rental yield of 1–5%); only 7 respondents (2.6%) earned higher than expected; and 119 respondents (44.6%) earned lower than expected. The chi-square statistic is significant at $\chi^2(36) = 427.26$, $p < .01$ ($p = 0.00$), indicating that expected and earned non-real estate investment yields are significantly different.

By comparing the expected and earned yields of each investment type, the results illustrate the following observations. Firstly, about half of real estate investors have earned yields and expected yields at 3–7% or higher, while non-real estate investors have lower earned yields at 1–5%. Secondly, earned yields are commonly less than the expected yields by one level, and it is very rare to earn higher-than-expected yields. Thirdly, it is very difficult to earn a yield of more than 7%. Hence, it can be concluded that it is very difficult to achieve financial freedom through these three types of passive income investments.

4.4. A comparison between earned yield and passive income attitudes in each type of investment

Table 6 presents a comparison between earned yields across different investment types. The results show that earned yields of 3–7% are most possible in direct real estate investment (63.93%), followed by indirect investment (46.56%), and non-real estate investment (37.07%). For earned yields of $\leq 3\%$, which might be considered a poor investment, non-real estate investment formed the majority (50.17%), followed by indirect investment (36.64%), and direct real estate investment (21.19%). For earned yields above 7%, which might be considered an excellent investment, indirect investment constitutes the majority (16.78%), followed by direct real estate investment (14.86%), and non-real estate investment (12.74%). It could be concluded that respondents who invest directly in real estate are more likely to earn a satisfactory yield.

Table 7 indicates that most direct real estate investors (64.30%) agree that passive income can give them financial freedom, while 83.2% of these respondents earned satisfactory and excellent rental yields. Only 21.2% of the total earned yields represent a poor result, which reflects an unsuccessful investment. Moreover, the chi-square statistic, which is significant at $\chi^2(8) = 14.85$, $p > .01$ ($p = 0.06$) indicates that passive income attitudes and earned rental yields are not significantly different.

Table 8 indicates that the overall results do not differ significantly from those of direct real estate investment, as most indirect real estate investors (65.64%) agree that passive income can give them financial freedom, while 67.44% of these respondents earned satisfactory to excellent indirect investment yields. One-third of the total earned yields (36.64%) represent a poor result, which reflects an unsuccessful investment. Moreover, the chi-square statistic, which is significant at $\chi^2(8) = 10.85$, $p > .01$ ($p = 0.21$) indicates that passive income attitudes and earned indirect investment yields are not significantly different.

Table 9 indicates an overall result that is not different from direct and indirect real estate investments. Most non-real estate investors (62.54%) agree that passive income can give them financial freedom, while only 52.69% of these respondents earned a satisfactory to excellent non-real estate investment yield, whereas half of the total earned yields (50.18%) represent a poor result, which reflects an unsuccessful investment. Moreover, the chi-square statistic, which is

Table 5. A comparison between expected and earned yield in non-real estate investment

Earned non-real estate (RE) investment yield	Expected non-real estate (RE) investment yield									
	<1%	1-3%	>3-5%	>5-7%	>7-9%	>9-11%	>11%	Total		
<1%	16	14	2	7	2	3	2	46 (17.22%)		
1-3%	0	50	26	7	4	1	0	88 (32.95%)		
>3-5%	0	2	35	15	6	3	1	62 (23.22%)		
>5-7%	0	1	2	17	11	4	2	37 (13.85%)		
>7-9%	0	0	1	0	5	4	2	12 (4.49%)		
>9-11%	0	0	0	0	0	3	3	6 (2.25%)		
>11%	0	0	0	0	0	1	15	16 (6.00%)		
Total	16 (6.00%)	67 (25.09%)	66 (24.71%)	46 (17.22%)	28 (10.48%)	19 (7.11%)	25 (9.36%)	267		

Notes: 1) Each cell reflects the number of respondents.

2) The dark highlighted fields demonstrate the ranges where the expected and earned yields are the same.

3) The light highlighted fields demonstrate the ranges where the earned yield is lower than expected yield.

4) The non-highlighted fields demonstrate the ranges where the earned yield is higher than expected yield

Table 6. A comparison between earned yields across investment types

Investment result	Earned rental yield	Can passive income give you financial freedom?		Non-real estate investment n = 267 (100%)	Total
		Direct investment n = 269 (100%)	Indirect investment n = 131 (100%)		
Poor	≤3%	57 (21.19%)	48 (36.64%)	134 (50.17%)	239 (35.83%)
Satisfactory	>3-7%	172 (63.93%)	61 (46.56%)	99 (37.07%)	332 (49.78)
Excellent	>7%	40 (14.86%)	22 (16.78%)	34 (12.74%)	96 (14.39%)
				Total	667 (100%)

significant at $\chi^2(8) = 8.11, p > .01$ ($p = 0.42$) indicates that passive income attitudes and earned non-real estate yields are not significantly different.

From comparing the expected and earned yields, the results illustrate the following observations. Firstly, from the insignificantly different result of the chi-square statistic of each investment type, it can be interpreted that no matter what investment results are, investors still consider investing in real estate for passive income, which is contradictory to the concept of rational economic behaviours. Secondly, even though most investors believe that passive income is the key to achieving financial freedom, few are successful in making excellent yields.

5. Discussion and conclusion

This study aims to understand investors' decisions in real estate investments and their attitudes toward passive income. The study has reached the following main conclusions:

- (1) Although direct real estate investment is more complicated than other investment types, it still remains a popular passive income investment.
- (2) Investors' general characteristics, such as gender, education, and marital status, seem to indifferently affect investment decisions, in a manner similar to other investment types.
- (3) The earned yields for any investment type are not as high as most investors expect, which means that the ultimate goal of financial freedom could not be achieved. This perspective provides good evidence for investors not to overestimate their expected yields. Should they do so, their investment goals will not be achievable, and the time it takes to get to the financial breakeven point will be longer. Furthermore, it is difficult to achieve financial freedom with an earned yield of only >3-5% from passive income. While most of the passive income investment guidelines often overestimate the yield at 10% and overemphasise the power of compound interest, attainment of such a high yield seems hardly possible in real life. However, the results also show that it is possible to attain yields of greater than 7% by making some excellent investments. Therefore, investors have to find ways to earn as high a yield as possible, so they can get closer to financial freedom through passive income investments.
- (4) Both successful and unsuccessful investors tend to agree that passive income can give them financial freedom. Thus, the situation of irrational investment occurs. (Normally, the ones who make successful investments should believe in the concept of passive income more than the ones who do not).
- (5) Although most investors believe in the concept of passive income, very few of them successfully earn excellent yields, especially the non-real estate investors.
- (6) Investing in direct real estate seems more profitable than indirect real estate and non-real estate investments, as it has a higher probability of earning satisfactory yields and a lower probability of earning poor yields.

Table 7. A comparison between passive income attitude and earned yield in direct real estate investment

Direct real estate investment result	Earned rental yield	Can passive income give you financial freedom?				Total
		Strongly disagree	Disagree	Neither agree nor not agree	Agree	
Poor	≤3%	1	11	16	23	57 (21.18%)
Satisfactory	>3-7%	6	19	33	77	172 (63.93%)
Excellent	>7%	1	6	3	16	40 (14.86%)
Total		8 (2.97%)	36 (13.38%)	52 (19.33%)	116 (43.12%)	269 (100%)

Notes: Each cell reflects the number of respondents.

Table 8. A comparison between passive income attitude and earned yield in indirect real estate investment

Indirect real-estate investment result	Earned indirect investment yield	Can passive income give you financial freedom?					Total
		Strongly disagree	Disagree	Neither agree nor not agree	Agree	Strongly agree	
Poor	≤3%	2	8	10	26	2	48 (36.64%)
Satisfactory	>3-7%	2	7	11	29	12	61 (46.56%)
Excellent	>7%	1	1	3	10	7	22 (16.78%)
Total		5 (3.81%)	16 (12.21%)	24 (18.32%)	65 (49.61%)	21 (16.03%)	131 (100.0%)

Notes: Each cell reflects the number of respondents.

Table 9. A comparison between passive income attitude and earned yield in non-real estate investment

Non-real estate investment result	Earned non-real estate yield	Can passive income give you financial freedom?					Total
		Strongly disagree	Disagree	Neither agree nor not agree	Agree	Strongly agree	
Poor	≤3%	3	20	32	58	21	134 (50.18%)
Satisfactory	>3-7%	3	14	16	45	21	99 (37.07%)
Excellent	>7%	2	2	8	12	10	34 (12.73%)
Total		8 (2.99%)	36 (13.48%)	46 (17.22%)	115 (43.07%)	52 (19.47%)	267 (100%)

Note: Each cell reflects the number of respondents.

It could be inferred from these conclusions that achieving financial freedom from passive income investments seems hardly possible, especially when the initial investment value is small. Therefore, the findings of this study can provide recommendations for passive income investors in their pursuit of financial freedom. First, passive income investors need to realistically evaluate the potential for achieving financial freedom by looking at the past performance of investment alternatives. Second, they should accept passive income investments as financial vehicles that will only generate yields higher than the economic inflation rate, or find ways of attaining higher than average yields, if possible. Third, passive income can be concentrated in larger investment portfolios to earn larger returns, regardless of the yield, while active income remains necessary to enhance a passive income portfolio for investors to attain financial freedom. Fourth, applying scenario analysis is important when evaluating passive income investments, and the risk threshold of each investor should be taken into account. Lastly, although direct investment in real estate seems more lucrative than other investment types, investors should bear in mind that they are responsible for tenant management, building obsolescence, occupancy rates, and maintenance. In addition, illiquidity and other issues also present challenges to real estate investors.

This study has two limitations. First, it is rather difficult to define how much investment is required to realise passive income, since it varies among investors. Second, as respondents can choose more than one answer to some questions, the scope for statistical testing is limited and intricate.

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Appendix

Questionnaire (Translated from Thai Language)

Questionnaire

An Investment Decision: Expected and Earned Yields for Passive Income

Real Estate Investors

The research “An Investment Decision towards Expected and Earned Yields in Real Estate for Passive Income” is funded by Business Research Center (BRC), Thammasat Business School, Thammasat University. The head of the research project is Associate Professor Dr Niti Rattanaprichavej and the co-researcher is Dr Monthinee Teeramungcalanon.

Keywords' Definition:

Passive income is creating an income that does not require a significant amount of time.

Active income is creating an income that does require a significant amount of time and mainly depends on the formal employment or business engagement.

Filtered Question: Please check the appropriate box to specify your answer.

You are above 20 years old and have an investment experience in passive income-real estate such as property for rent, Real Estate Investment Trust (REIT), property funds, real estate stocks, real estate debenture.

Yes

No (Thank you for your cooperation but you are not the sample of this research, end of questionnaire)

Dear Research Participants,

You are invited to participate in this research project because you are a group of people who have experience investing in real estate to generate passive income. Before you decide to participate in the study, please read this following instruction carefully in order to understand the objectives and details of this research.

- (1) You can ask your family, friends, and colleagues for advice to participate in this research project. You have sufficient time to make independent decisions. In which, if you agree to answer the questionnaire online or on paper considered that you have agreed to participate in this research (No need for written sign)
- (2) Reasons to conduct research— to study the attitude of real estate investors.
- (3) Project objectives— to study the decision-making model and the components involved in real estate investment for passive income.
- (4) Benefits that participants will receive—you will not receive any compensation or expenses.
- (5) Total number of participants in the study—approximately 200 people.
- (6) Total time for research—November 2019 to February 2020.
- (7) Risks that may occur when joining the research project—You may feel compressed or may feel uncomfortable with some questions. You have the right to not answer those questions or you have the right to withdraw from this research project at any time without prior notice. There are no consequences of not participating or withdrawing from this research project.
- (8) If you decide to participate in the research project, please take about 10 minutes to complete the questionnaire which consists of 2 parts with 40 questions.
- (9) Information obtained from your responses to the questionnaire will use the code instead of your name and personal information. Your information will be saved into the computer and will be destroyed within a period of not more than 1 year.
- (10) Your personal information will be kept and not disclosed to the public on an individual basis, only people who are involved in this research project will grant access to your information.

If you have any query about this research program, please do not hesitate to contact Associate Professor Dr Niti Rattanaprichavej (the head of the research project) via mobile no. 081.484.4524 or email no. nitir2001@yahoo.com at any time.

This research project is endorsed by The Human Research Ethics Sub-Committee of Thammasat University No.2 Social Sciences. As the participants, if you have not been treated according to this information sheet, you can contact the chairperson of the sub-committee or a representative at

the Office of The Human Research Ethics Sub-Committee of Thammasat University No.2 Social Sciences, Research Administration Division, Dome Building, third Floor, Room 316, Phone 0-2564-4440-79 Ext. 1804, Fax 0-2564-3937.

Part 1 Types of real estate investment for passive income

Please check the appropriate box to specify your answer.

Section A. Do you have an investment in rental-real estate?

Yes

No (Please go to Section B)

Investment in rental-real estate

1.1 What types of rental-real estate have you invested in (you can choose more than one answer)

Apartment for rent

Condominium for rent

Housing estate for rent

Land for rent

Commercial properties for rent

Others, please specify

1.2 Total investment value of your rental-real estate investment (USD).

Less than 3,000 30,001-100,000

3,001-10,000 100,001-160,000

10,001-16,000 160,001-250,000

16,001-25,000 More than 250,000

25,001-30,000

1.3 Total rent value per year of your rental-real estate investment (USD).

No rent/Loss 2,501-3,000

Less than 300 3,001-10,000

301-1,000 10,001-16,000

1,001-1,600 More than 16,000

1,601-2,500

1.4 Expected yield per year from your rental-real estate investment (not include capital gain).

<1% >7-9%

1-3% >9-11%

>3-5% >11%

>5-7%

1.5 Earned yield (after all expenses) per year from your rental-real estate investment (not include capital gain).

<1% >7-9%

1-3% >9-11%

>3-5% >11%

>5-7%

1.6 Investing in rental-real estate is the right investment for building passive income.

Totally agree

Agree

Neither agree nor disagree

Disagree

Totally disagree

Section B Do you have an investment in indirect real estate? (such as property funds, real estate bond, real estate stock)

Yes

No (Please go to Section C)

Investment in indirect real estate

1.1 What types of indirect real estate have you invested in (you can choose more than one answer)

Property funds Real estate debenture

Real Estate Investment Trust (REIT) Others, please specify

1.2 Total investment value of your indirect real estate investment (USD).

Less than 3,000 30,001-100,000

3,001-10,000 100,001-160,000

10,001-16,000 160,001-250,000

16,001-25,000 More than 250,000

25,001-30,000

1.3 Total investment value per year of your indirect real estate investment (USD).

- | | |
|--|---|
| <input type="checkbox"/> No rent/Loss | <input type="checkbox"/> 2,501–3,000 |
| <input type="checkbox"/> Less than 300 | <input type="checkbox"/> 3,001–10,000 |
| <input type="checkbox"/> 301–1,000 | <input type="checkbox"/> 10,001–16,000 |
| <input type="checkbox"/> 1,001–1,600 | <input type="checkbox"/> More than 16,000 |
| <input type="checkbox"/> 1,601–2,500 | |

1.4 Expected yield per year from your indirect real estate investment (not include capital gain).

- | | |
|---------------------------------|----------------------------------|
| <input type="checkbox"/> <1% | <input type="checkbox"/> >7–9% |
| <input type="checkbox"/> 1–3% | <input type="checkbox"/> >9– 11% |
| <input type="checkbox"/> >3–5% | <input type="checkbox"/> >11% |
| <input type="checkbox"/> >5– 7% | |

1.5 Earned yield (after all expenses) per year from your indirect real estate investment (not include capital gain).

- | | |
|---------------------------------|---------------------------------|
| <input type="checkbox"/> <1% | <input type="checkbox"/> >7– 9% |
| <input type="checkbox"/> 1%–3% | <input type="checkbox"/> >9–11% |
| <input type="checkbox"/> >3– 5% | <input type="checkbox"/> >11% |
| <input type="checkbox"/> >5–7% | |

1.6 Investing in indirect real estate is the right investment for building passive income.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

Section C Do you have an investment in non-real estate asset? (Such as bank deposit, government bond, non-real estate stock)

- Yes
- No (Please go to Part 2)

1.1 What types of non-real estate have you invested in (you can choose more than one answer)

- | | |
|--|--|
| <input type="checkbox"/> Bank deposit | <input type="checkbox"/> Non-real estate debenture |
| <input type="checkbox"/> Government Bank Lottery | <input type="checkbox"/> Non-real estate stock |
| <input type="checkbox"/> Government bond | <input type="checkbox"/> Personal loan |
| <input type="checkbox"/> Foreign Exchange Market (Forex) | <input type="checkbox"/> License fees |
| <input type="checkbox"/> Gold | |
| <input type="checkbox"/> Others, please specify | |

1.2 Total investment value of your non-real estate investment (USD).

- | | |
|--|--|
| <input type="checkbox"/> Less than 3,000 | <input type="checkbox"/> 30,001–100,000 |
| <input type="checkbox"/> 3,001–10,000 | <input type="checkbox"/> 100,001–160,000 |
| <input type="checkbox"/> 10,001–16,000 | <input type="checkbox"/> 160,001–250,000 |
| <input type="checkbox"/> 16,001–25,000 | <input type="checkbox"/> More than 250,000 |
| <input type="checkbox"/> 25,001–30,000 | |

1.3 Total investment value per year of your non-real estate investment (USD).

- | | |
|--|---|
| <input type="checkbox"/> No rent/Loss | <input type="checkbox"/> 2,501–3,000 |
| <input type="checkbox"/> Less than 300 | <input type="checkbox"/> 3,001–10,000 |
| <input type="checkbox"/> 301–1,000 | <input type="checkbox"/> 10,001–16,000 |
| <input type="checkbox"/> 1,001–1,600 | <input type="checkbox"/> More than 16,000 |
| <input type="checkbox"/> 1,601–2,500 | |

1.4 Expected yield per year from your non-real estate investment (not include capital gain).

- | | |
|----------------------------------|----------------------------------|
| <input type="checkbox"/> <1% | <input type="checkbox"/> >7%–9% |
| <input type="checkbox"/> 1%–3% | <input type="checkbox"/> >9%–11% |
| <input type="checkbox"/> >3%– 5% | <input type="checkbox"/> >11% |
| <input type="checkbox"/> >5%–7% | |

1.5 Earned yield (after all expenses) per year from your non-real estate investment (not include capital gain).

- | | |
|--------------------------------|----------------------------------|
| <input type="checkbox"/> <1% | <input type="checkbox"/> >7–9% |
| <input type="checkbox"/> 1–3% | <input type="checkbox"/> >9– 11% |
| <input type="checkbox"/> >3–5% | <input type="checkbox"/> >11% |
| <input type="checkbox"/> >5–7% | |

1.6 Investing in non-real estate is the right investment for building passive income.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

Part 2 General information

Please check the appropriate box to specify your answer.

1. Gender

- Female
- Male
- Others

2. Marital status

- Single
- Married
- Others

3. Age (year-old)

- Under 20
- >40–50
- 20–30
- >50–60
- >30–40
- >60

4. Educational level

- Below bachelor degree
- Bachelor Degree
- Master/Doctoral degree

5. Occupation

- Government employee
- Business owner
- Private employee
- Freelancer
- Medical staff
- Others, please specify

6. Work Position

- Staff
- Manager
- Head of department
- High management/Business Owner
- Others, please specify

7. Work experience (years)

<5

5–10

>10

8. Your approximate active income per month (USD)?

no active income 2,001–2,500

Less than 500 2,501–3,300

500–1,000 3,000–10,000

1,001–1,500 10,000–16,000

1,501–2,000 More than 16,000

9. Investing in real estate for passive income will grant you financial freedom without depending on active income.

Totally agree

Agree

Neither agree nor disagree

Disagree

Totally disagree

10. At what age do you plan to retire (year-old).

>20–30 >50–60

>30–40 >60

>40–50 No plan to retire

Other comments

Thank you very much for your kind cooperation.



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