Does Size matter Performance and How?: Case of Thai Property Fund
ขนาดกองทุนมีผลต่อผลการดำเนินงานหรือไม่และอย่างไร?: กรณีศึกษากองทุนอสังหาริมทรัพย์ไทย

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Abstract

Effect of size is widely studied as one of the key determinants to performance of the investment asset. This research applies both quantitative and qualitative methods to explain size effect to performance of the property fund over 2003 – 2013. Although the quantitative result explains insignificant relationship between size and performance, small coefficient value with positive sign (B, 0.02) suggests some degrees of benefits for the property fund to be large. This result contradicts to other findings of Australia and the U.S. REITs with negatively insignificant and significant coefficients of size to their performances respectively due to the optimal point existence for economies of scale benefit and variable management expenses on asset size. The qualitative result supports optimistic rational of large size that the property fund might have less liquidity risk and attract the institutional and foreign investor, and consequently increase premium to market price, although economies of scale is suggested to generate insignificant benefit. This research might support some size benefits to the property fund, and suggest one of the reasons for them to convert to be REIT to increase capital for being larger.

Keywords : Thai Property fund Performance, Fund size, Liquidity, Participation of the institutional investor and Economies of scale

บทคัดย่อ

ผลของขนาดถูกศึกษาอย่างกว้างขวางในฐานะหนึ่งในตัวแปรสำคัญซึ่งมีผลต่อการดำเนินงานของสินทรัพย์ลงทุน การศึกษานี้ใช้ทั้งวิธีวิจัยเชิงปริมาณและคุณภาพเพื่ออธิบายผลของขนาดต่อผลการดำเนินงานของกองทุนอสังหาริมทรัพย์ไทยในช่วงปี 2003 – 2013 แม้ว่าผลการวิธีวิจัยเชิงปริมาณอธิบายถึงการไม่มีนัยสำคัญของความสัมพันธ์ระหว่างขนาดกับผลการดำเนินงาน ค่าสัมประสิทธิที่เป็นบวกเล็กน้อยที่ 0.02 แสดงถึงประโยชน์ของกองทุนอสังหาริมทรัพย์ไทยที่มีขนาดใหญ่ โดยผลการศึกษานี้ไม่สอดคล้องกับการศึกษาอื่นของกองทุนทรัสต์ของออสเตรเลียและสหรัฐอเมริกาซึ่งมีค่าสัมประสิทธิ์เป็นลบอย่างไม่มีนัยและมีนัยสำคัญตามลำดับเนื่องจากการมีจุดสูงสุดที่จะได้รับประโยชน์จากการประหยัดเนื่องมาจากขนาด และค่าใช้จ่ายในการบริหารซึ่งแปรตามขนาดสินทรัพย์ ผลการวิจัยเชิงคุณภาพสนับสนุนให้กองทุนอสังหาริมทรัพย์มีขนาดใหญ่ซึ่งมีความเสี่ยงด้านสภาพคล่องที่ลดลงและดึงดูดนักลงทุนสถาบันและต่างชาติ และส่งผลให้เกิดส่วนได้ในราคาตลาด แม้ว่าการประหยัดเนื่องมาจากขนาดอาจไม่ได้ถูกเสนอให้มีประโยชน์อย่างมีนัยสำคัญต่อผลการดำเนินงาน การศึกษานี้อาจสนับสนุนประโยชน์ของขนาดบางส่วนต่อกองทุนอสังหาริมทรัพย์และเสนอแนะหนึ่งในเหตุผลให้กองทุนอสังหาริมทรัพย์เปลี่ยนเป็นกองทุนทรัสต์อสังหาริมทรัพย์เพื่อให้เพิ่มทุนและมีขนาดใหญ่ขึ้นได้

คำสำคัญ: ผลการดำเนินงานของกองทุนอสังหาริมทรัพย์ไทย ขนาดกองทุนปริมาณ สภาพคล่องในการซื้อขาย การเข้ามาของนักลงทุนสถาบัน และการประหยัดเนื่องมาจากขนาด

1. Introduction

Structure of Thai property fund for Public Offerings (hereafter "property fund") has been applied from the international Real Estate Investment Trusts (REITs) which originated in the United States. Both Thai property funds and U.S. REITs have significantly grown because of their interesting attributes. Such indirect real estate vehicles make investments in the real estate assets not only do rental income and capital appreciation gain but also obtain liquidity from trading in the stock market [1 and 2]. Also, they can acquire more properties for expanding fund size to enhance trading liquidity. In this regard, the indirect real estate vehicle with large fund size might gain economies of scale from reduced costs per square metre, attention from the institutional investor, high liquidity and/or premium market price to NAV and higher investment return [3 – 5]. Many academic studies have been conducted about beneficial consequences of being large fund size. However, there are also contradictory conclusions, which vary by time and market situation. Due to very limited study about these aspects for Thai property fund, understanding the factor affecting performance of the investment vehicle in capital market is required [6 – 8]. In the Current, the existing property fund can convert to be new vehicle of REIT so that they can increase capital to grow from acquiring more assets. From the property fund regulatory expiration in 2013 to late 2014, none of the property funds transform to be REIT. Therefore, an existence of size benefits would support a rationale for such conversion.

2. Literature Review

2.1 Real Estate Investment Vehicle

Johnston [9] discusses that the real estate is the largest asset class in the world with value of USD 16 trillion for the U.S. residential property alone. In this market, Li [10] states that real estate asset also values approximately USD 50 trillion greater than the private equity asset with value of approximately USD 30 trillion. After introduction of REITs in 1960s, transforming such real properties to REIT have been continuously and dramatically grown with significant increase in market capitalization value from USD 1.49 billion in 1972 to USD 603.4 billion in 2012, worth approximately 3.85% of U.S. GDP. NAREIT [11] informs that REIT and REIT-like structures have been globally employed in 37 countries.

Applying from structures of international REITs, the first Thai property fund named UOB Apartment Property Fund I (UOBAPF) has been initially offered to be listed in the Stock Exchange of Thailand in October 2003. The property fund market has continuously grown to be one of the major investment vehicles in Thai capital market. There are 43 property funds listed for trading in the stock market in 2013, which is one of the economic drivers accounts for 1.4 – 1.5 % of GDP of Thailand [12]. The development of property fund vehicle would also benefit the property sector because the developer or owner can dispose real estate to gain capital for reinvestment in other development projects.

There are some benefits from investment in the indirect real estate vehicle because of their advantage attributes which include professional property management, commercial property investment opportunities, and more transparency and much less required investment capital in comparison with traditional investment method of real property acquisition [1 and 2]. Yong et al. [8] also suggest that the real estate vehicle gains liquidity from trading in a stock market thanks to more centralized market of the stock market.

2.2 Size Factor

There are researches about impact of size factor toward performance of the real estate investment in capital market. For instance, U.S. REIT returns have shown negative relationship with total asset during 2002 – 2011 [6]. The result is consistent with average return of the common stock which has a negative relationship with size of the firm [13 and

14]. There is also negative relationship between 1990 and 2008 between Australia REIT return (A-REIT) and size, although the relationship shows insignificantly positive relationship during sub period of 2003 – 2008 [8]. The aspects related to size factor are discussed as follows:

2.2.1 Liquidity and Trading Volume

The property funds might gain liquidity benefit from trading in the stock market because there are many shareholders thanks to small lot first rule and minimum numbers of 250 investors on IPO date in accordance with the Thai property fund regulation or even greater for regulation of other international Singapore REITs (S-REITs) with 500 minimum investors on IPO date. More partial owners would help increase liquidity. However, the property fund sector has 0.04% three month average of daily trading volume of market capitalization or ten times less turnover than the overall stock exchange of Thailand in 2013. Nevertheless, all property funds with greater size than THB 5 billion have average trading volume higher than THB 1 million. It might imply that a large enough fund size would have less liquidity problem from large number of traded shares per day. Yong et al. [8] find that Australia REITs (A-REITs) with large size worth more than USD 1 billion gained attention from institutional and foreign investors because of high enough liquidity.

2.2.2 Participation of the Institutional Investor

Ciochetti et al. [2] mention that many institutional investors make more investment in REITs with more liquidity than real property. As aforementioned, a large enough fund is required to attract institutional and foreign investors [8]. Moreover, those managing high value of investment portfolios may require diversification strategy to diminish unsystematic risk [15]. Statistically, performance of the REIT stocks could balance other investment assets by offering a diversification benefit in the volatile equity markets [16 and 17]. Lee [18] finds that REIT returns have been negatively related to small cap value stocks. With regard to impact of the institutional investor participation, REIT IPOs with higher shareholder portion of the institutional investor are not overpriced because they tend not to pay if it is overpriced [19]. Wang et al. [20] inform that security analyst is likely to pay attention to stock which are invested more by the institutional investor. Increasing attention and investment demand might lead to price premium. Additionally, REIT investment as one of the main investment options of pension funds and other institutional investors have significantly driven market growth [21 and 22].

2.2.3 Premium to market price

Without considering other factors, market price of large property fund might be different to that of small fund because of liquidity factor. Clayton & MacKinnon [4] find there is a significance of liquidity premium in REIT price. Acharya & Pedersen [23] discuss that required return of the security may also rely on its expected liquidity. Chen et al. [3] mention liquidity risk should be incorporated into REIT pricing, whilst Li [10] states there is a positive correlation between trading volume and volatility of REIT return.

2.2.4 Economies of scale

There are many studies about the influence of fund size toward performance. In this regard, the economies of scale is one of the key reasons that might contribute average expense reduction and higher net profit margin. Both international REITs and Thai property funds have fixed and variable operational and management expenses for the underlying properties. Such fixed costs like administrative expenses are constant and averagely lowered for every square meter of the larger leased space, whilst variable costs like utility expenses and fee paid to management will not dropped by scale economies [24]. Larger firms do have higher profit margins and lower implied capitalization rates [24 and 25]. There is significant evidence of economies of scale existence for the U.S. REIT during 1992 – 1994 [5]. Such factors like type of management and degree of leverage are also found to magnify the scale economy. There is finding about 85 merger transactions of U.S. REITs between 1994 and 1998 to support economies of scale [26]. Ambrose et al. [24] find that larger U.S. REITs have appreciated economies of scale during 1990 – 1995. REITs with large size gain increasing growth prospects and benefit from economies of scale thanks to lowering costs and firm profitability [27]. Ambrose et al. [27] also mention that economies of scale derive from growth and acquisition transaction amongst REITs. Chan et al. [28] believe that the large fund may be perceived to be more secured than the small fund, which results in easier possibility in accessing debt capital at a lower rate. In addition, Rosenthal et al. [29] finds that the fund with large amount of capital could afford longer list of the property deal for choosing better and attractive investment opportunities. On the other hand, there are some literatures that argue the benefit of size. Vogel [30] discovers that there is an optimal point of REIT size to benefit from scale economies. Hughes & Wachter [31] research on 41 REITs and find no evidence of such benefit. A size optimal point for the REIT is explained as a concave quadratic cost function [32]. Hardin [33] suggests that the compensation of REIT's executive tends to increase with the enlargement of REIT's size. Therefore, it is inconclusive about the economies of scale benefit.

3. Research Data and Methodology

3.1 Research Data

This research collects monthly time series index of 43 property funds which are actively traded in the Stock Exchange of Thailand. Total return net dividend (TOT_RETURN_INDEX_NET_DVDS) and average net asset value of the property fund (average FUND_NET_ASSET_VAL) between 2003 and 2013 are gathered from Bloomberg database. The log value is applied on average net asset value variable to evade the inflated value.

Table 1: Descriptive variables of monthly total return and average net asset value of Thai Property Fund

Dependent Variable (Y)	TOT_RETURN_INDEX_NET_DVDS Monthly total return of the Thai Property Fund index
Independent Variable (X)	Log (average FUND_NET_ASSET_VAL) Log average fund Net Asset Value
Period	November 1, 2003 – December 31, 2013
Observations	122

3.2 Research Methodology

This research use both quantitative and qualitative methods. Since Three – Factor Asset Pricing Model takes the size factor into account of pricing the investment asset [14], a generalized linear model of the regression study is constructed in the quantitative approach as follow:

Thai Property Fund Monthly Return =
$B_0 + B_1$ Log (average FUND_NET_ASSET_VAL)

Compared to U.S. REIT market, Thai property fund market has much shorter history and less academic studies. Interviewing is chosen to be the other research method that broadens understanding about the rationale of the size effect. Klingom [34] mentions that a simple random sampling of the interviewee should be cautiously conducted because results from significantly different samples might be affected by both research questions and specific dissimilarities of each interviewee. Therefore, a qualitative research approach is conducted by selectively interviewing ten property fund professionals, such as fund managers and security analysts, to obtain their viewpoints whether fund size affects the property fund performance or not. For this study, a semi – structured interview is applied. Afterwards, a summative content analysis is used for analyzing data. The following list is the interviewees in this research:

Table 2: List of the interviewee sample

No	Position	Job Title	Interview Date
1	Fund Manager	Vice President, Investment Department	Jan 10, 2014
2	Fund Manager	Director, Property Fund	Feb 26, 2014

Table 2: List of the interviewee sample

No	Position	Job Title	Interview Date
3	Fund Manager	Director, Head of Property Department	Mar 4, 2014
4	Fund Manager	Senior Vice President , Property Fund and Infrastructure Fund	Mar 12, 2014
5	Fund Manager	Senior Vice President , Corporate Finance & Equity Capital Market Group	Mar 21, 2014
6	Security Analyst	Managing Director	May 20, 2014
7	Security Analyst	Senior Research Manager	June 9, 2014
8	Fund Manager	Vice President, Investment Department	June 26, 2014
9	Fund Manager	Deputy Managing Director	June 27, 2014
10	Security Analyst	Head of Research and Information	July 2, 2014

4. Research Analysis

4.1 Quantitative approach

Although the model has low explanatory power (R-square, 0.015), the coefficient show the positive sign (B1, 0.02). The positive beta for log average fund net asset value explains the impact of positive change in fund size on Thai property fund return or implied some size benefits, even though this size factor is statistically insignificant. This result is inconsistence with Australia REIT return (A-REIT) with insignificantly negative relationship with size over 1990 – 2008 (B, -0.0069) and positively insignificant in sub period between 2003 and 2008 (B, 0.1086) [8].

Table 3: Regression result of monthly total return and average net asset value of Thai Property Fund

Variable	
Constant	-0.17
	-1.30
Log (AVERAGE_FUND_NET_ASSET_VAL)	0.02
	1.34
R Square	0.015
Adjusted R Square	0.007
F	1.806
Correlation	0.12

For U.S. REITs, the study finds negatively significant relationship between returns and total asset during 2002 – 2011 (B, -3.526) and explains reason that there might be an existence of optimal asset level for economies of scale benefit and variable management expenses [6, 30 – 32].

4.2 Qualitative approach

Topics of interview research regarding effects of size factor are summarized as follow:

4.2.1 Reduce liquidity risk

All interviewees agree that the property funds with large size may have higher trading volume and lower liquidity risk. In the Thai market, there are, however, not many property funds with high trading volume. Some funds have no trading volume for weeks and there are no changes in price and return, which come from such small fund sizes. One of them mentions about price of the property fund with less trading volume can be distorted from NAV or intrinsic value. For instance, some investors expect to exit from the investment but low liquidity market may force them to dispose shares at discount price. Without changes in fundamental, price and return of the property fund may irrationally change owing to illiquidity effect. Few interviewees also agree that market price does not reflect fair value of securities when they are illiquid from small fund size. At least three – five percent trading volume or high enough liquidity is viewed for the stock to represent fair market value.

4.2.2 Attract participation of institutional and foreign investors

The property fund with large enough fund size would attract the institutional investor because one of their general requirements is enough liquidity to dispose securities in a relatively short period to exit from investment when situations change. Such liquidity risk would make them require additional return or ignore the investment. One of the interviewees points out benefits of participation of these investors that they ask for required information, monitor fund performance actively and participate in general meeting, which also benefits to the retail investor. The institutional investor is also one of the key entities to determine IPO price via book building process because the investment banker and underwriter would typically propose such group of investor to check investment demand at each specific price. In addition, another interviewee mentions that such investors tend to apply buy – and – hold strategy for long – term investment, therefore they might not make speculative investment. This results in less price volatility of the investment unit. For the foreign institutional investors, one trillion USD is required as minimum size of the fund, except underlying properties are attractive.

4.2.3 Premium to market price

Regarding market price of the property fund, some interviewees agree that the investor may accept to pay premium for similar property fund with large fund size to avoid liquidity risk. Increase in investment demand from both domestic and international institutional investors may cause price premium. One of the interviewees also suggests that liquidity or large fund size is an important factor affecting price and return of the property fund. Market price, however, is not found to be much different to NAV compared to general stock with beta between 0.2 and 0.3 to overall stock market and low price change from speculation on IPO date.

4.2.4 Generate economies of scale and increase profit margin of fund

In Thailand, size of the property fund tends to grow by sponsoring properties from the same property owner. Many active property funds in Thai stock market would increase capital in order to acquire additional assets from the sponsor, for instance 6th and 3rd times of capital increases of TFUND and WHAPF. For other types of fund growth, Due to difficulties to negotiate between each property owners, the interviewees points out more complicated for merging the property fund rather than acquiring properties from non – fund, especially the existing sponsor. There is none of the merging transaction of the property fund, whilst there are 19 times of capital increase from the sponsor. One mentions that the property fund with prospect growth may benefit from economies of scale thanks to bargaining power for lower management and other related expenses, such as security, cleaning, appraisal and accounting companies.. Nevertheless, other interviewees argue that reduced expenses may be low and insignificant to overall expenses e.g. 0.5% and 0.45% fund management fees for fund size with valued less than 5 trillion Baht and more than 5 trillion Baht on a progressive basis respectively. Regarding scale economies for the property fund, some interviewees support their views that there is less effect due to variable management expense e.g. percentage of fund size. Although there are negotiations for reducing fund and property managements, they are not reduced significantly. One of them supports the potential benefit from economies of scale.

The interview conclusions are as follows:

Table 4: Qualitative result of the effect from size factor

Effects	Agree	Disagree	Conclusion
Reduce liquidity risk	10	0	Agree
Attract participation of institutional and foreign investors	8	2	Agree
Premium to market price	7	3	Agree
Generate economies of scale and increase profit margin of fund	2	8	Partially agree

Benefits of being large size of the property fund are mostly concluded to reduce liquidity risk and attract the institutional and foreign investors. These professional' recommendations are consistent with the finding that such investors concentrate more on liquid of REIT than real estate [2 and 8]. Premium market price of the property fund is mainly agreed as consequences of the size benefits. Nevertheless, premium in price is not high like other common stocks. This finding is also consistent with the study which concludes REITs are more transparent than general stocks because of predictability of future income [35]. When compared to common stocks, low or no abnormal gain or loss in U.S. and Hong Kong REITs IPO are found during 1980 to 2001 and 1986 to 1997 respectively [36 and 37]. With regard to benefit of economies of scale, it is considered to be less significant to the property fund performance. This is consistent to the study which does not support the existence of such scale benefit because of a variable cost of managerial expenses [33].

5. Research Conclusion

The quantitative result shows insignificantly positive coefficient of the property fund size to their performances, which is inconsistent to negative coefficients of Australia and U.S. REITs in other markets. Negative relationships are supported by optimal point for benefit from economies of scale and variable management expenses on size.

The qualitative conclusion, however, provides some supporting rationales that liquidity and participation of institutional and foreign investors might yield premium market price and higher return of the property fund, although economies of scale is recommended to be an insignificant reason. This finding might support some size benefits to the property fund and suggest one of the reasons for them to convert to be REIT to be larger.

References

[1] Stevenson, S. & Lee, S. L. 2007. The case for REITs in the mixed – asset portfolio in the short and long Run, **Journal of Real Estate Portfolio Management**, 11(1), 55 – 80.

[2] Ciochetti, B. A., Craft, T. M. & Shilling, J. D. 2002. Institutional Investors' Preferences for REIT Stocks, **Journal of Real Estate Economics**, 30(4), 567 – 594.

[3] Chen, T. and Liao, H. and Lee, A. & Lu, C. 2009. **Internal Liquidity Risk in REIT Excess Returns**, working paper.

[4] Clayton, J. & MacKinnon, G. H. 2002. Departures from NAV in REIT Pricing: The Private Real Estate Cycle, the Value of Liquidity and Investor Sentiment, **Real Estate Research Institute working paper**.

[5] Bers, M. & Springer, T. M. 1997. Economies-of-Scale for Real Estate Investment Trusts, **Journal of Real Estate Research**, 14(3), 275 – 290.

[6] Buranasiri, J. 2012. **Performance of Real Estate Investment in Capital Market**, working paper.

[7] Cheong C. S., Wilson, P. J. & Zurbruegg, R. 2009. An Analysis of the Long-run Impact of Fixed Income and Equity Market Performance on Australian and UK Securitized Property Markets, **Journal of Property Investment and Finance**, 27(3), 259 – 276.

[8] Yong, J., Allen, D. E. & Lim, L. K. 2009. **A Multi – Factor Analysis of A-REIT Returns**, working paper.

[9] Johnston, S. J. 2004. **Real Estate: The Most Imperfect Asset**, working paper.

[10] Li, L. 2012. **The Determinants of REIT Volatility**, working paper.

[11] NAREIT 2013. **Global Real Estate Investment.** Retrieved December 17, 2013, from http://www.reit.com/REIT101/REITFAQs /GlobalRealEstateInvestment.aspx

[12] Office of National Economic and Social Development Board 2013. **Thai Economic Performance in Second Quarter and Economic Outlook for 2013**, working paper.

[13] Chaudhry, M.K., Maheshwari, S. & Webb, J.R. 2004. REITs and idiosyncratic risk, **Journal of Real Estate Research**, 26(2), 207 – 222.

[14] Fama, E. F. & French K. R. 1993. Common risk factors in the returns on stocks and bonds, **Journal of Financial Economics**, 33, 3 – 56.

[15] Sharpe, W. F. 1964. Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk, **Journal of Finance**, 19(3), 425 – 442.

[16] Ong, S. E., Ooi, J. T. L. & Kawaguichi, Y. 2008. **Seasoned equity issuance by Asian REITs**, working paper.

[17] Ooi, J. T. L., Newell, G. & Sing, T. F. 2006. The growth of REIT markets in Asia, **Journal of Real Estate Literature**, 14(2), 203 – 222.

[18] Lee, S. L. 2010. **The Changing Benefit of REITs to the Mixed – Asset Portfolio**, working paper.

[19] Wang, K., Su, H. C. & George, W. G. 1992. Initial Public Offerings of equity securities: Anomalous evidence using REITs, **Journal of Financial Economics**, 31, 381 – 410.

[20] Wang, K., Erickson, J. & Chan S. H. 1995. Does the REIT Stock Market Resemble the General Stock Market?, **Journal of Real Estate Research**, 10(4), 445 – 460.

[21] Below, S. D., Stansell, S. R. & Coffin, M. 2000. The Determinants of REIT Institutional Ownership, **Journal of Real Estate Finance and Economics**, 21(3), 263 – 278.

[22] Crain, J. L., Cudd, M., & Brown, C. L., 2000. The Impact of the Revenue Reconciliation Act of 1993 on the Pricing Structure of Equity REITs, **Journal of Real Estate Research**, 19, 275 – 286.

[23] Acharya, V. V. & Pedersen, L. H. 2005. Asset pricing with liquidity risk, **Journal of Financial Economics**, 77(2), 375 – 410.

[24] Ambrose, B. W., Ehrlich, S. R., Hughes, W. T. & Wachter, S. M. 2000. REIT Economies of Scale: Fact or Fiction?, **Journal of Real Estate Finance and Economics**, 20(2), 211 – 224.

[25] Linneman, P. 1997. **The Forces Changing Real Estate Industry Forever**, working paper.

[26] Campbell, R. D., Ghosh, C. & Sirmans, C. 1998. The Great REIT Consolidation: Fact or Fancy?, **Journal of Real Estate Finance,** 15, 45 – 54.

[27] Ambrose, B. W., Highfield, M. J. & Linneman, P. D. 2000. Real Estate and Economies of Scale: The Case of REITs, **Journal of Real Estate Economics**, 33, 323 – 350.

[28] Chan, S. H., Erickson, J. & Wang, K. 2003. **Real estate investment trusts: structure, performance, and investment opportunities**. The Financial Management Association survey and synthesis series; Oxford University Press: Oxford.

[29] Rosenthal, M. 1996. Bigger REITs, Better REITs, **Journal of Institutional Investor**, 30(2), 101.

[30] Vogel, J. 1997. Why the New Conventional Wisdom about REITs is Wrong, **Journal of Real Estate Finance,** 14, 7 – 12.

[31] Hughes, W. & Wachter, S. 2000. REIT economies of scale: Fact or fiction?, **Journal of Real Estate Finance and Economics**, 20, 211 – 224.

[32] Yang, S. X. 2001. Is Bigger Better? A Re-Examination of the Scale Economies of REITs, **Journal of Real Estate Portfolio Management**, 7(1), 67 – 77.

[33] Hardin, W. G. 1998. Executive Compensation in EREITs: EREIT Size is but One Determinant, **Journal of Real Estate Research**,16(3), 401 – 410.

[34] Klingom, L. 2012. Completely Randomized Design, **Journal of Industrial Education**, 11(2).

[35] Ling, D. C. & Ryngaert, M. 1997. Valuation Uncertainty, Institutional Involvement, and the Underpricing of IPOs: The Case of REITs. **Journal of Financial Economics**. 43 (3), 433 – 456.

[36] Buttimer, R. J., Hyland, D. C. & Sanders, A. B. 2005. REITs, IPO Waves and Long - Run Performance, **Journal of Real Estate Economics.** 33(1), 51 – 87.

[37] Chan, S. H., Stohs, M. H. & Wang, K. 2001. Are Real Estate IPOs a Different Species? Evidence from Hong Kong IPOs. **Journal of Real Estate Research**, 21(3), 201 – 220.