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# REIT PERFORMANCE ANALYSIS: ARE OTHER FACTOR DETERMINANTS CONSTANT?

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## ABSTRACT

*This main focus of this paper is to propose a regression analysis for the appraisal of REIT performance. The quantitative data required for the study were extracted from the annual financial reports of AMFIRST REIT, a REIT company listed in the Bursa Securities Commission, for the period 2007 to 2013. A regression analysis on the data and the study rejected the assumption of holding other factor constant when analysing REIT performance, all factor determinants have simultaneous effect on REIT performance. The findings are useful for the REIT industry to predicting the minimum expected return from the beginning of a financial year. However, this paper is the result of the study at micro (individual) level and cannot be adopted as an aggregate for National REIT performance. There is need to extend the study to more REIT companies for an aggregate conclusion.*

**Keywords:** REIT, Performance analysis, Factor determinants, Simultaneous effect.

## 1. INTRODUCTION AND BACKGROUND

REIT is a contemporary investment vehicle that enjoys tax exemption on the income distributed to its shareholders (90%) and expected to invest not less than 75% of its fund in Real Estate Assets to enjoy the tax exemption. Over the years, the performance of REIT have been studied and analysed to identify the contributing factor(s) to REIT yield as being evidenced by dividend distributed to investors. These studies have in most times consider one determinant factor at a time while others are assumed to be constant or of no simultaneous effect, a situation that rarely exist in real life investment market thus a gap for the study of simultaneous effects of all factor determinants on REIT performance.

REIT is a duly registered company similar to mutual funds that enables investors to pool together huge capital sum for investment in diversified pools of real estate assets and other real

estate investment media. A lot of definitions have been given to REIT in literatures and past studies but with similar keywords. REIT is an entity that invests primarily in real estate and qualifies for special tax treatment, providing a conduit for earnings to be taxed at the investor level and not at the entity level (EPRA, 2012). Oreagba (2010) defines REIT as "a company that owns, and operates income producing real estate, whose shares are publicly traded in a way similar to any other stock". REIT is a company that owns and manages investment grade and income producing real estate properties such as office buildings, residential buildings, shopping malls, tourism related facilities, healthcare facilities, industrial facilities and infrastructures (FMI, 2010). Corgel *et al.* (1995) defined REIT as "investment tool to create flow of funds from investors to the real estate and property sector of the country (Ong *et al.*, 2011). REIT is a security that sells like a stock on the major exchanges (stock exchange market), and invest in a real estate directly, either through properties or mortgages. Under the United States Federal Income Tax Law, a REIT is any corporation, trust or association that acts as an investment agent specializing in real estate and real estate mortgages.

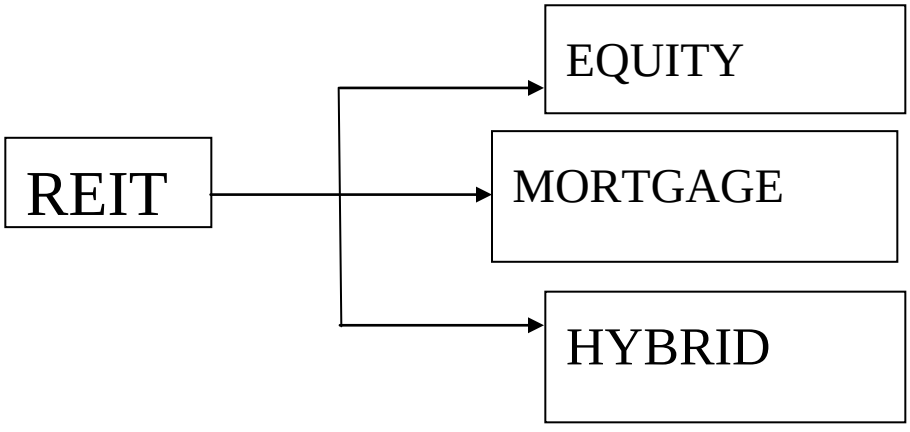
REIT typically offers investors high yield, receive special tax consideration and presents a highly liquid method of investing in real estate. Individuals can invest in REIT either by purchasing their shares directly in an open exchange or by investing in a mutual fund that specializes in real estate. REITs by law are required to distribute at least 90% of their taxable income as dividend unto the hands of the investors. Common to all definitions of REIT from various literatures are the following features:

i. A registered company, association, trust or corporation
ii. Investment in income yielding real estate properties, and or real estate mortgage
iii. Generate revenue from real estate properties
iv. Distribution of revenue before tax to investors in form of dividend

REIT started in the United States in 1960. Since then more countries around the world have established REIT regimes at different times. The spread of the REIT approach to real estate investment around the world has also increased awareness and acceptance of investing in global real estate securities. REIT is not new in Malaysia, It was previously known as Property Trust Fund which had been in existence since 1986. The Bank Negara Malaysian (Malaysian Central Bank) approved the first regulatory framework under Company Act 1965 and Securities Commission Act of 1983, governed the establishment and operations of the Property Trust Funds. Further guidelines were published by the Specific Securities Commission in 1995 (Ong *et al.*, 2011; Ong *et al.*, 2012). After that, the Securities Commission introduced a consultation process for property related trust funds in 1999 which lead to a revised guideline in 2002. Malaysian REIT in modern form, came into existence in 2005 following the guidelines of the Securities Commission same year.

While many REITs are publicly traded on the stock exchange, some others are not. The publicly traded REITs are referred to as Listed REITs while the non-traded ones are referred to as Unlisted REITs. This is an important distinction among various types of REITs which could affect

both the benefit and risks to an investor. REITs also could be categorized as Commercial and Islamic REITs. While both have the same operational and regulation framework, the difference comes in the form/type of tenancy and/or activities/business conducted to generate income from the REIT acquired properties. Commercial REITs allow all legal trading/business activities while Islamic REITs allowed only Sharia compliant activities and trading/business. Broadly and conventionally, REITs are classified into three, Equity, Mortgage and Hybrid.




The operations of Real Estate Investment Trusts (REITs) are tailored towards investing in income generating real estate assets, most especially commercial properties – office and retail properties. The recent trends however show that REIT fund are invested in healthcare and hospitality facilities as well as high rise income yielding residential properties (condominium), industrial and agricultural properties. In general, the performance of REITs are mainly determined by the different types of investment the companies make, which is basically divided into Equity REIT, Mortgage REIT and hybrid REIT (which invest in both equity and mortgage debts) (Grupe and DiRocco, 1999). Returns from REITs are primarily derived from dividend yield and share price appreciation. Dividend is thus a measure of performance of investment (REIT inclusive) in the stock/capital market and could be measured in percentages (%) or money units (e.g cents or Ringgit).

There are lots of methods that had been discussed and applied in the past studies to measure the performance of REIT. Each of the methods however focused on each determinant factor that contributed to the yield while holding other factors constant or of no simultaneous effect. Yong *et al.* (2009)using a multi-factor approach to analyse Australian REIT (A–REIT) returns identified size (in terms of capitalisation), degree of leverage (Gearing) and market-to-book (Value) ratio among others as the determinant of REIT returns.

For the size (capitalisation) factor, studies had suggested that there is an inverse relationship between returns and size implying that smaller yields tend to yield more return than the larger REIT (Yong *et al.*, 2009). Chaudhry *et al.* (2004) and Hamelink and Hoesli (2004) stated that Larger REITS are found to be more geographically diversified but less diversified across property

types and this could result in negative relationship of size to return. Yong *et al.* (2009) found and concluded that size factor had a negative impact on return and was only found to be a determinant of returns before 1996, prior to Asia financial crisis of 1997. Alias and Soi Tho (2011) agreed with Ambrose and Linneman (2001) and stated that there is a positive relationship among REIT size, Revenue and Profit. The larger the size, the higher the rental income and profit margin therefore the better the yield. Brounen and Sjoerd (2012) attributed REIT stock outperformance in Europe to size, specialization and geographic focus.

The degree of influence of leverage on returns had been found to be significant. Leverage magnifies both positive and negative investment returns, resulting in pronounced gain and losses Allen *et al.* (2000). The relationship between the leverage/gearing was found to be positive but not significant. A short term interest rate has inverse relationship with return while a long term interest rate posits a positive relationship. Delcoure and Dickens (2004) agreed with Allen *et al.* (2000) that a short term interest rate has negative relationship with return while long term interest has positive relationship with return. However Ratcliffe and Dimowski (2007) in their study of a sample in Australian found a contrasting result that there is a significant negative relationship between long term interest rates and returns, with a positive insignificant relationship with short term interest rates.

The market-to-book ratio was also found to have positive relationship with returns (contrary to most literature on REIT) with significance only at 1%. This finding however, contradicted the negative relationship between size and returns of Yong *et al.* (2009). The significance of the value stock has been increasing for REITs since 1990 and plays an important role in diversification of REITs across continents rather than across countries (Hamelink and Hoesli, 2004). Alias and Soi Tho (2011) however stated in their conclusion that a detailed study has to be carried out before generalizing on the factors affecting REITs performance. Stocks with high market-to-book ratio are regarded as growth stock while those with low market-to-book value ratios are value stocks. Value stocks are expected to outperform growth stock.

Hwa and Abdul Rahman (2007) studied stability of dividend and FFO (fund from operation) in Malaysia, he concluded that the dividend (return) declared by REITs/Listed Property Trusts are not stable because it is affected by (FFO), the net income from the underlying property assets. His finding is supported by Alias and Soi Tho (2011). Gore and Stott (1998) found that FFO is more closely related to stock returns, Hardin III and Hill (2008) stated that excess dividends are a function of a firm's capacity to generate FFO, a view that was supported by Feng *et al.* (2011). Fields *et al.* (1998) on the contrary concluded that the REIT industry's claim of FFO superiority is premature. Bradley *et al.* (1998) examined cash flow volatility and dividend pay-out and concluded that there is a negative relationship between cash flow volatility and dividend level. Alias and Soi Tho (2011) concluded that FFOs are in turn affected by other economic factors.

Ong *et al.* (2011) studied the performance of Malaysian REITs from 2005 – 2010 using Net Asset Value (per unit). An investment that trade at a market price that is below the NAV is perceived to have positive growth potentials NAV while one with market price above NAV signals

to investors, a negative growth opportunities for the REIT. NAV is a function of the net market value of the underlying real property assets of the REIT companies spread over the total outstanding units of the REIT Company. Clayton *et al.* (2007) discussed three REIT evaluation methods to include discounted cash flow (DCF), fund from operations (FFO) and Net Asset Value (NAV). REITs trading at high or low premium or even at discount have been discovered to be a result of investors' sentiments in most cases (Clayton and Mackinnon, 2001).

The contradictions clearly indicate that one factor in exclusion of other factors cannot determine the true actual return from an investment but all factors are impacting on REIT returns simultaneously. There is therefore a need for further research into the simultaneous effect of prominent identified factors if not all and their relative significances to enhance accuracy and precision in REIT return forecast, an indication of a gap yet to be filled.

## 2. METHODOLOGY

Quantitative approach was adopted for this paper. Statistical analyses were conducted on the data set collected from secondary source. Data were collected in respect of the performance of AMFIRST REIT which is duly registered on the board of Bursa Malaysia Securities Commission's market for the period 2007 to 2013. From the various annual reports for the period under study, various data with respect to the Size (capitalisation), Leverage, Share Price, Net Asset Value, Portfolio Value and Dividend were extracted. Through the use of Microsoft Excel, the relationship of the dividend to each other variable was presented in charts. A regression analysis was then performed on the data set using SPSS software, holding dividend as the dependent variable and other variables as determinant factors. Table 1 present the extracted data for subsequent analysis.

**Table- 1.** Extracted data set from annual report of AMREIT for period 2007 – 2013

| Year | Total Unit | Opening Unit Price (RM) | Nav/ Unit (RM) | Mkt Cap (RM'M) | Net Income (FFO) (RM'M) | Leverage (RM'M) | Asset Value (RM'BN) | Dividend (Cent) |
|---|---|---|---|---|---|---|---|---|
| 2007 | 429001 | 0.99 | 0.995 | 424710.99 | 8.349 | 65.5 | 501.7 | 1.946 |
| 2008 | 429001 | 0.895 | 1.032 | 383955.90 | 31.313 | 395.606 | 852.1 | 7.299 |
| 2009 | 429001 | 0.87 | 1.32 | 373230.87 | 37.537 | 402 | 980 | 8.75 |
| 2010 | 429001 | 0.85 | 1.3535 | 364650.85 | 23.528 | 413 | 1008 | 9.75 |
| 2011 | 429001 | 1.1 | 1.3631 | 471901.1 | 14.419 | 407 | 1024 | 9.75 |
| 2012 | 429001 | 1.16 | 1.3917 | 497641.16 | 23.179 | 380 | 1179.8 | 9.31 |
| 2013 | 686402 | 1.19 | 1.1828 | 816818.38 | 17.686 | 88.4 | 1277.226 | 6.81 |

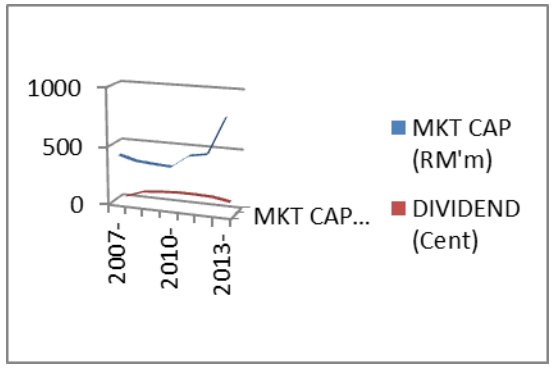
**Source:** www.amfirstreit.com.my/ Retrieved on 28/7/2013.

## 3. FINDINGS AND DISCUSSION

From table 1 above, it is clearly shown that the dividend does not consistently follow a linear pattern with any of the determinant factor variables, For capitalization, as the size decreases

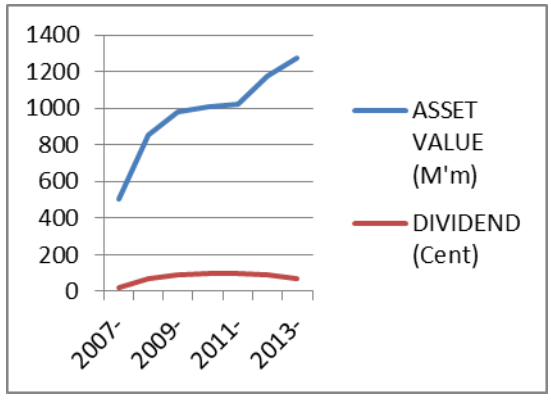
through 2007 and 2010, the dividend was increasing, and dividend fall between 2011 and 2013 at a very small rate despite increase in size (market capitalization), an inverse relationship (fig 1).

**Figure- 1.** REIT Size and Dividend.



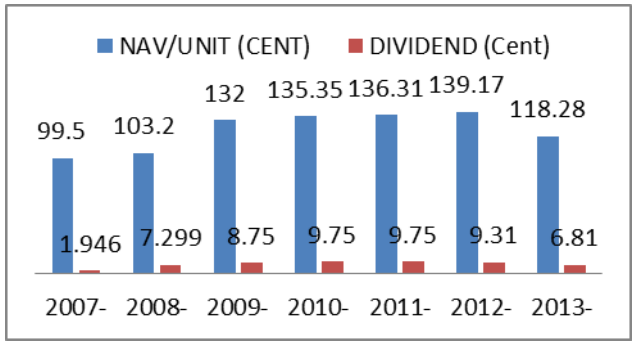

With respect to asset value, dividend increases as value increases until 2012 when the dividend started falling even with increase in value (fig 2).

**Figure- 2.** Dividend and Asset Value.



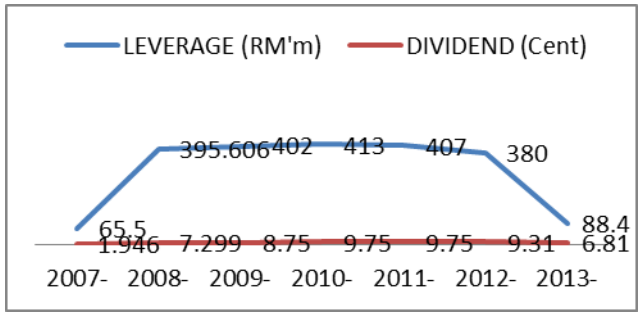

Net Asset Value (NAV) kept increasing through the period under study with increases in dividend between 2007 and 2011 and a fall in 2012 and 2013 (fig 3).

**Figure- 3.** Dividend and Net Asset/Share (NAV)



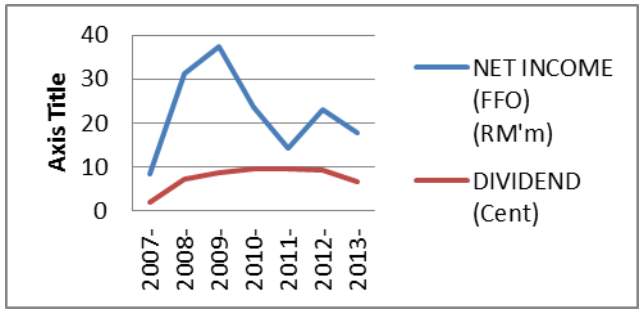
Dividend exhibits a direct relationship with leverage but at a very low rate(fig 4). This agrees with Delcoure and Dickens (2004) and Allen *et al.* (2000). However, the terms of the borrowings were not known nor investigated in this study. The term of loan have influence in the direction of the relationship.

**Figure- 4.** Dividend and Leverega.




There is a mix reaction of dividend to Net Income. Between 2007 and 2009, dividend increases as income increases; in 2010 and 2011, dividend rises irrespective of the fall in income resulting from global financial crises of 2007/2008. Increase in income in 2012 was greeted with decrease in dividend and both income and dividend experience a fall in 2013 (fig 5).

**Figure- 5.** Net Income and Dividend.




The data presented in table 1 and figures 1 to 5 represent the extraction from the annual reports of AMFIRST REIT between 2007 and 2013 which confirms the findings of researchers on the performance of REIT with respect to each individual determinant factor variables. This study went further to perform a regression analysis with the belief that all the factors exert influence on REIT performance simultaneously and that none of the factor determinant should be assumed constant at any point in time.

**Table- 2.** Regression Coefficients

| Model | Standardized Coefficients | T | Sig. | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics |
|---|---|---|---|---|---|---|---|---|---|
| | Beta | | | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance |
| (Constant) | | -6.075 | .104 | -13.743 | 4.853 | | | | |
| Net Asset Value | .025 | .444 | .734 | -11.673 | 12.519 | .857 | .406 | .011 | .205 |
| Capitalization | .528 | 4.548 | .138 | .000 | .000 | .357 | .977 | .117 | .049 |
| Asset Value | .025 | .238 | .851 | -.015 | .015 | .722 | .231 | .006 | .059 |
| Net Income | -.109 | -2.798 | .218 | -.168 | .108 | .511 | -.942 | -.072 | .435 |
| Outstanding Loan | .992 | 11.599 | .055 | .000 | .000 | .833 | .996 | .298 | .090 |

The result of the regression returns standardised beta values for the determinant factor variables (Table 2). The regression equation then looks thus. $D = 0.025N + 0.5285S + 0.25V - 0.109I + 0.992L$ where D is dividend, N is net annual value, S is size (capitalisation), V is asset value, I is FFO (net income) and L is leverage(Gearing/Borrowing). None of the predictor variable has individual significant contribution to the dividend judging from their corresponding significant values in table 2. The significant values are in each case greater than 0.05 ($P \leq 0.05$). This result agrees with the contracting findings of the past studies on the influence each predictor factor on REIT return. The findings corroborated the position that dividend is simultaneously affected by the predictor variables.

The model summary of the regression indicated adjusted R square value of 0.996 (Table 3). This means that the predictor variables jointly accounted for 99.6% of dividend with significant value of 0.44. At $P \leq 0.05$ the simultaneous contribution of predictor variables to the dividend is significant. The confirm the view of simultaneous effect of all predictable factor.

**Table- 3.** Regression Model Summary.

| Model | R | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|
| | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | 1.000[a] | .996 | .17455 | .999 | 302.736 | 5 | 1 | .044 | 3.389 |

The ANOVA presents an F value of 302.736 which is greater than F value in statistics table (230.162). Therefore the unstated hypothesis that all the factor determinants do not affect REIT performance (return/dividend) simultaneously is rejected.

**Table- 4.** Analysis of Variance (ANOVA)

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 46.119 | 5 | 9.224 | 302.736 | .044[b] |
| | Residual | .030 | 1 | .030 | | |
| | Total | 46.149 | 6 | | | |

By substituting the real values into the regression equation, the average (expected) annual yield for AmFirst REIT is 8.5%. This shows that AmFirst REIT has the capacity of giving 8.5% return to the investors. The minimum yield from AmFirst over the period March 2007 – March 2013 was 7.8% with 9.5% average return for the same period. It could be said that AmFirst is performing to expectation return by meeting up with the predicted return of 8.5% and above it four times within the study period. The return for the year 2007 only represents quarterly (3 months) return since the REIT commenced operation in January 2007. The predicted return is above the average return for Malaysia REIT (M-REIT) of 6.26% as of September 2013. This indicated that AmFirst REIT has capability of generating above the average return. Therefore a regression analysis of this nature using all the REIT companies in Malaysia can give a more adequate benchmark for REIT performance analysis with a reflection of the capacity and capabilities of each REIT Company as well as the consideration of simultaneous effect of factor determinants of REIT.

## 4. CONCLUSION

The real dividend declared for four years of the period covered by this study is more than the predicted minimum, implying the good performance of REIT above expected return. Therefore this paper concludes that all the factor variables exact influence on the performance of REIT simultaneously. The study also revealed that multiple regression analysis will show the potentials of REIT to yield return based on the characteristics of the predictor factors. However, this paper only consider one REIT company, AMFIRST REIT for analysis which indicated a micro analysis and cannot be taken to represent aggregate position for M-REIT performance. Therefore there is need for further aggregate study and application of the regression method where adequate sample of REITs will be studied and analysed to reflect the differences in portfolio, size and type of REITS.

## 5. ACKNOWLEDGEMENT

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