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Global Real Estate Benchmark Indices And 10-Year Annualized Performance Report Of Foreign Direct Investment In Nigeria's Commercial Real Estate Market

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Abstract: *The discourse on performance appraisal has not given adequate attention to how performance indices and modelling of Foreign Direct Investment (FDI) in the commercial real estate markets of sub-Saharan economies such as Nigeria, compare with global benchmark. The study relied on this foundation to examine the empirical constructions of the MSCI index in a bid to establish a mean global benchmark index for measuring FDI performance in Nigeria's commercial real estate market. The objectives of the study were to ascertain the extent to which yield from foreign commercial real estate investments domiciled in Nigeria compares with international benchmark yield, compare the capital growth rate of foreign commercial real estate assets in Nigeria against international benchmark capital growth rate, and determine the extent to which total returns of foreign commercial real estate in Nigeria compares with the global benchmark for real estate total returns. The study employed ex post facto research design and collected secondary data on the returns profile of the commercial real estate investments from the financial records of foreign controlled commercial properties, and valuation reports of Estate Surveyors and Valuers in Lagos and Abuja, Nigeria. The population of the study comprised 17 foreign controlled commercial properties across Lagos and Abuja, Nigeria. upon analysis with One Way Analysis of Variance, the study found significant differences in the yield, capital growth rate and total returns from foreign commercial real estate investments domiciled in Nigeria compared with international benchmarks. Therefore, the study concluded that FDI into the Nigerian commercial real estate sector has compared favourably to the global benchmark performance; thus indicative of a satisfactory performance. Therefore, the study strongly advocates that practitioners do not rest on their laurels but instead embrace growth strategies that assures the competitiveness of their real estate investments in a dynamic environment as ours.*

Keywords: *FDI, Commercial real estate returns, Real estate performance appraisal*

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I. Introduction

The discourse on performance appraisal and long-term investment modelling has not given adequate attention to how performance indices and modelling of Foreign Direct Investment (FDI) in the commercial real estate markets of sub-Saharan economies such as Nigeria, compare with global benchmark. As no sane investor leaps without looking first, this paucity of empirical data renders foreign real estate investors at the mercy of a rule of thumb approach to investment decisions. Clearly, this is not acceptable for global real estate investors and fund managers who wish to exploit the huge potentials of emerging markets, and this anomaly becomes weightier in significance in a country where big data and machine learning applications in the real estate market is still unconceivable. To aid strategic investment decision making, evaluation of certain FDI performance indices in commercial real estate becomes necessary, or *would you spend money if you did not know your bank balance* (Misiewicz, 2014)?

Accordingly, a performance appraisal of FDI in commercial real estate in Nigeria with respect to global benchmarking becomes imperative. To achieve this, the study resorted to real estate benchmarking as it compares actual performance from existing FDI in commercial properties in Nigeria over a 10-year period against a predetermined framework of measurement. However, market analysts have decried the relative paucity of empirical information on the performance of commercial real estate as an investment category, as compared to other markets such as stock, money and commodity markets (Krystalogianni, Matysiak and Tsolacos, 2004). The significance of this situation becomes more critical given the rising volume of investable funds, and institutional funds such as insurance and pension going into commercial real estate investment globally.

Globally, attempts to arrest this imbroglio and improve real estate transparency as an influence for strategic decision making have seen the adoption of valuation-based indices such as capitalization rate and capital growth rate as the dominant performance parameters of indexed property performance calculators such

as Morgan Stanley Capital International (MSCI) which has taken over the Investment Property Databank (IPD), the National Council of Real Estate Investment Fiduciaries (NCREIF) (lays more emphasis on the United States market), Jones Lang LaSalle (JLL) Property Index, Deloitte Development and the Vanguard Real Estate Index Fund. Both are significant models in the determination of investment yield and capital growth, but are yet to be applied to the evaluation of how FDI performance in the commercial real estate market in Nigeria compares with global benchmark, as is the remit of the study.

The application of valuation-based index as indices for FDI performance in commercial real estate in Nigeria does not render the study ignorant of other forms of real estate indices. In the measurement of commercial property performance, real estate appraisers have employed repeat sales indices, valuation-based indices, hedonic models and real estate equity performance (Booth and Marcato, 2003). It is argued that in a country without standard property databank, the application of such indices as repeat sales and hedonic models may not be accurate (except in very micro research); as both indices dwell on the availability of intensive and extensive data constructions on characteristics and movements of property in the market. The study also discounts equity performance of real estate through its focus on unlisted real estate investments which make the bulk of FDI in the industry.

Correspondingly, Napoli, Giuffrida, Trovato and Valenti (2017) applied the capitalization rate index to survey the liquidity and profitability of real estate capital asset in Italy, using a sample of the urban real estate market. The study aimed at the utilization of valuation indices to *provide a multifaceted viewpoint of the real estate market to overcome the difficulties arising from opacities and informative asymmetries that hinder the decision of investors, by facilitating thecomparison of different options such as capital value, income and performance* (Napoli et al., 2017). Booth et al. (2003) aligns with this position with the extrapolation that valuation-based indices are the most generally accepted form of index construction for real estate performance globally.

The study relied on this foundation to examine the empirical constructions of the MSCI index in a bid to establish a mean global benchmark index for measuring FDI performance in Nigeria's commercial real estate market. The MSCI Global Real Estate Performance Index covers at least 23 countries globally, and utilizes consistent and comprehensive methodology of index construction that allows for global market comparisons across all market capitalization sizes (see https://www.msci.com/documents/10199/0dc1184b-e692-418a-a181-5a9b8fcfa2a3; cited on January 11, 2019). The index uses Global Industry Classification Standard (GICS) to provide a benchmark for investors to track and compare real estate performance with their peers; taking account of listed and unlisted residential and commercial real estate investments.

Table 1 illustrates the global real estate performance benchmark of MSCI Global Real Estate Performance Index over a 10-year period from 2008 to 2017:

Table 1: MSCI Global All Property Total Return History

(%)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Yield	5.2	6.1	6.2	6.0	5.9	5.8	5.5	5.3	4.8	4.7
Capital Growth	-10.2	-14.1	3.2	3.5	1.4	2.8	4.5	5.4	2.6	3.2
Total Returns	-5.6	-8.0	9.4	9.5	7.3	8.6	10.0	10.7	7.4	7.9

Source: MSCI; KTI (2016) and MSCI Global Real Estate Performance (2018)

From Table 1, one can discern a stochastic distribution of the income return, capital growth rate and total returns from global real estate investments. The Index in Table 1 provides international benchmark settings for commercial real estate investment performance which would be used as comparison for the determination of FDI performance in the Nigerian commercial real estate sector. Also, it can be observed in Table 1 that real estate investments suffered the incidence of negative returns in 2008 and 2009 due to the prevalence of global economic meltdown within that period. The explanation is that, being a capital intensive investment, real estate investment portfolios rely on vibrant mortgage and monetary policies. With the mortgage system at the eye of the global meltdown storm of 2008, returns from real estate portfolio were adverse at best. The world's dominant commercial real estate markets are in better shape than at any time since global financial crisis of 2008-2009 (Udobi, Kalu and Elekwachi, 2016), but the period of negativity is sure to impact on any mean capital growth calculation involving those periods.

From Table 1, the following can be discerned as shown in Table 2:

Table 2: Mean Benchmark Settings for Real Estate Investment Performance Indices

Commercial Real Estate Performance Indices	Mean Global Performance Benchmark
Yield	5.6%
Capital Growth	0.2%
Total Returns	4.7%

Source: MSCI; KTI (2016) and MSCI Global Real Estate Performance (2018)

Table 2 shows mean global benchmark performance indices for commercial real estate. How do these compare with FDI performance in commercial real estate in Nigeria? It is obviously clear that the evident dearth of research on foreign real estate performance measurement indices in Africa, and particularly in Nigeria, is not helpful. This calls for serious empirical consideration, and the study utilized this benchmark for the performance measurement of FDI in commercial real estate assets due to its empiricism from an international perspective towards ascertaining its empirical realities in Nigerian-based foreign commercial real estate sector. This presents the terms of reference of this study.

1.1 Objectives of the Study

1. To ascertain the extent to which yield from foreign commercial real estate investments domiciled in Nigeria compares with international benchmark yield.
2. To compare the capital growth rate of foreign commercial real estate assets in Nigeria against international benchmark capital growth rate.
3. To determine the extent to which total returns of foreign commercial real estate in Nigeria compares with the global benchmark for real estate total returns.

1.2 Hypotheses

The following null hypothesis guided the study.

H_{01}: There is no significant difference in the yield from foreign commercial real estate investments domiciled in Nigeria compared with international benchmark yield.

H_{02}: There is no significant difference in the capital growth rate of foreign commercial real estate assets in Nigeria against international benchmark capital growth rate.

H_{03}: There is no significant difference in the total returns of foreign commercial real estate in Nigeria compared with the global benchmark for real estate total returns.

II. Justification of The Study

Yield, capital growth rate and total returns have been the bedrock of real estate performance measurement by major global real estate performance calculators. Yield (also known as capitalization rate) is the annual income accruable to a property expressed as a percentage of the capital value of the same property while capital growth rate signifies the rate of appreciation or depreciation of the capital value. Total return is the sum of the yield and capital growth rate of a property.

Globally, investors and fund managers have relied on these indices in making strategic choices on real estate investments. Unfortunately, with increasing global attention to the prospects of investing in emerging markets, any of these investors that wish to make a foray into the Nigerian commercial real estate may be relying on a rule of the thumb approach due to the very low real estate transparency of the market. Therefore, available and accessible information on how well similar forays have fared would be of major interest to such international investor.

The study is justified on the grounds that it utilizes globally accepted indices in appraising the performance of FDI in the Nigerian commercial real estate market to enable investors make informed strategic choices. The need for this study is significantly highlighted given the paucity of empirical works in the area, and it is expected that it saves investors the additional financial burden of commissioning private investigations on the discourse.

III. Methodology

The study employed *ex post facto* research design. The study collected secondary data on the returns profile of the commercial real estate investments from the financial records of foreign controlled commercial properties, and valuation reports of Estate Surveyors and Valuers in Lagos and Abuja, Nigeria. The population of the study comprised 17 foreign controlled commercial properties across Lagos and Abuja, Nigeria. Lagos and Abuja are home to more foreign controlled investments than in any other part of Nigeria, and being the commercial and administrative capitals are better poised to mirror the situation in the whole country. Due to the manageable nature of the population, holistic sampling was employed by the study.

To determine the yield, capital growth rate and total returns from the obtained rental and capital values of the properties under study, the study adopted the MSCI (2018) Global Intel Measures. For the yield, this was expressed in Equation (I) as follows:

$$\text{(I) Yield (i)} = \frac{\text{Annual rental value}}{\text{Current capital value}} \times 100\%$$

The average yield for the 10-year period in review was expressed in Equation (II) as follows:

$$\text{(II)} \quad \text{Average Yield} = \frac{\Sigma i\ (\%)}{n}$$

Where Σi is the sum of the yields in percentage
n is the number of years under review

For capital growth rate, the formula is expressed thus in Equation (III):

$$\text{(III)} \quad \text{CGR} = \frac{CV_1 - CV_0}{CV_0} \times 100\%$$

Where: CGR is Capital Growth Rate
CV_1 is the Capital Value for Current Year
CV_0 is the Capital Value for Previous Year

The capital growth rate for the period under review is calculated thus as shown in Equation (IV):

$$\text{(IV)} \quad \text{Mean CGR} = \frac{\Sigma CGR\ (\%)}{n}$$

Where: Mean CGR is the average capital growth rate
ΣCGR is the sum of the capital growth rate in percentage
n is the number of years under review

IV. Results

4.1 Trend in Rental Values for the Asset Class Under Study

Trend in rental values of the estates were shown in dollars in Table 3.

Table 3: Trend in Rental Values/Cash Inflow of foreign controlled commercial properties.

Year	Mean Rental Value/Cash inflow ($)
2009	256,500
2010	294,300
2011	294,300
2012	294,300
2013	329,400
2014	329,400
2015	329,400
2016	414,500
2017	414,500
2018	553,700

Source: Field Survey (2018)

Table 3 indicates a growth in the mean rental values of the foreign direct commercial estate investments in Lagos and Abuja. However, this growth is not constant annually but recorded in triannual periods. Also, the rate of growth is not constant but varies whenever it occurs.

4.2 Trend in Capital Values of Foreign Direct Commercial Real Estate Investments in Lagos and Abuja

The capital values of the properties under study were presented in Table 4.

Table 4: Trends in Capital Values of Foreign Direct Commercial Real Estate Investments under study

Year	Mean Capital Value ($) in Millions
2009	5.32
2010	6.94
2011	6.91
2012	7.01
2013	7.65
2014	15.01
2015	14.87
2016	18.71
2017	18.64
2018	18.63

Source: Field Survey (2018)

Table 4 shows the mean capital values of foreign direct commercial real estate investments in Lagos and Abuja Nigeria. The data shows a stochastic distribution of capital values. This is a s a result of drops recorded in years 2011 and 2015. Estate Surveyors and Valuers in the area opined that the drop was triggered by the political tensions that preceded the 2011 and 2015 general elections.

4.3 Measuring the Yield Trend from Foreign Direct Commercial Real Estate Investments in Lagos and Abuja

For convenient calculation of the investment yield, Table 5 shows an amalgamation of the rental and capital values data of the investments.

Table 5: Merged Rental and Capital Values Data of the Investments

Year	**Rental Value/Cash inflow ($)**	**Capital Value ($) 'Millions**
2009	256,500	5.32
2010	294,300	6.94
2011	294,300	6.91
2012	294,300	7.01
2013	329,400	7.65
2014	329,400	15.01
2015	329,400	14.87
2016	414,500	18.71
2017	414,500	18.64
2018	553,700	18.63

Table 5 shows the mean rental and capital value data of the commercial real estate investments under review with uniform dates for convenient calculation of the yield per annum. This is expressed in Equation (I) as follows:

$$\text{(II) Yield (i)} = \frac{\text{Annual rental value x 100\%}}{\text{Current capital value}}$$

Table 6 shows the yield trend of foreign controlled commercial real estate investments in Lagos and Abuja as obtained from their financial records for the period 2009 to 2018.

Table 6: Yield Trend of Foreign Direct Commercial Real Estate Investments in Lagos and Abuja

Year	Rental Value/Cash inflow ($)	Capital Value ($) 'Millions	Yield (%)
2009	256500	5.32	4.8
2010	294300	6.94	4.2
2011	294300	6.91	4.3
2012	294300	7.01	4.2
2013	329400	7.65	4.3
2014	329400	15.01	2.2
2015	329400	14.87	2.8
2016	414500	18.71	2.2
2017	414500	18.64	2.2
2018	553700	18.63	3.0

Source: Field Survey (2018)

Table 6 shows the yield trend of commercial real estate investments in the study area which indicates a dip in the rate of return of these properties.

From the data in Table 6, the average yield for the period in review is calculated thus in Equation (II):

$$\text{(II) Average Yield} = \frac{\Sigma i\_(\%)\_}{n}$$

Where Σi is the sum of the yields in percentage

n is the number of years under review

$$= \frac{4.8 + 4.2 + 4.3 + 4.2 + 4.3 + 2.2 + 2.8 + 2.2 + 2.2 + 3.0}{10}$$

$$= 3.4\%$$

Therefore, average yield of foreign direct commercial real estate investments in Lagos and Abuja, Nigeria over a 10-year period is 3.4%.

4.4 Measuring the Capital Growth Rate of Foreign Direct Commercial Real Estate Investments in Nigeria

Capital growth rate measures the change in asset capital value over a period of time, relative to the capital employed. This measure of the 'growth' component of performance is based on the change in value for properties held at the start and end of an analysis period (2006 to 2017). In the measurement of capital growth rate, the study took account of actual transaction prices for bought or sold assets where applicable. Otherwise, data in this respect was sought from the valuation reports of Estate Surveyors and Valuers in the study area. The calculation is expressed thus in Equation (III):

$$\text{(III) CGR} = \frac{CV_1 - CV_0}{CV_0} \times 100\%$$

Where: CGR is Capital Growth Rate

CV_1 is the Capital Value for Current Year

CV_0 is the Capital Value for Previous Year

The result is further displayed in Table 7.

Table 7: Results of the Capital Growth Rate of Foreign Direct Commercial Real Estate Investments under study

Year	Mean Capital Value ($) in Millions	Capital Growth Rate (%)
2009	5.32	0%
2010	6.94	30.5%
2011	6.91	0.4%
2012	7.01	1.4%
2013	7.65	9.1%
2014	15.01	96.2%
2015	14.87	0.9%
2016	18.71	25.8%
2017	18.64	0.4%
2018	18.63	0%

Source: Field Survey (2018).

Table 7 shows the capital growth rate of the estates under study. Data in Table 7 shows that the trend of growth is undulated, inferring a volatile market for the properties concerned.

From the data in Table 7, the capital growth rate for the period under review is calculated thus as shown in Equation (IV):

$$\text{(IV) Mean CGR} = \frac{\Sigma CGR\_(\%)\_}{n}$$

Where: Mean CGR is the average capital growth rate

ΣCGR is the sum of the capital growth rate in percentage

n is the number of years under review

$$= \frac{0 + 30.5 + 0.4 + 1.4 + 9.1 + 96.2 + 0.9 + 25.8 + 0.4 + 0}{10}$$

$$= 16.47\% \textit{ approximately } 16.5\%$$

Therefore, the mean capital growth rate of foreign direct commercial real estate investment in Nigeria over a 10-year period is 16.5%.

4.5 Mean Total Returns of Foreign Direct Commercial Real Estate Investments in Nigeria in the Past Decade

Table 8 shows an aggregation of the yield and capital growth rate, from which total returns of foreign direct commercial real estate investments in Nigeria was derived.

Table 8: Total Returns of Foreign Direct Commercial Real Estate Investments in Nigeria in the Past Decade

Yield (%)	Capital Growth Rate (%)	Total Returns (%)
4.8	0%	4.8%
4.2	30.5%	34.7%
4.3	0.4%	4.7%
4.2	1.4%	5.6%
4.3	9.1%	13.4%
2.2	96.2%	98.4%
2.8	0.9%	3.7%
2.2	25.8%	28 %
2.2	0.4%	2.6%
3.0	0%	3%

Source: Field Survey (2018)

Table 8 shows the total returns trend of foreign direct commercial real estate investments in Nigeria. as expected it had the same undulating flow of the yield and capital values.
From the data in Table 8, the mean total returns for the period under review is calculated thus as shown in Equation (V):

$$\text{(V) Mean TR} = \frac{\Sigma TR\_(\%)\_}{n}$$

Where: Mean TR is the average total returns
ΣTR is the sum of the annual total returns
n is the number of years under review

$$= \frac{4.8 + 34.7 + 4.7 + 5.6 + 13.4 + 98.4 + 3.7 + 28 + 2.6 + 3}{10}$$

$$= 19.9\% \textit{ approximately } 20\%$$

By implication, the mean total returns of foreign direct commercial real estate investment in Nigeria over a 10-year period is 19.9%.

4.6 Data Analysis

Tests of hypotheses were done using One Way Analysis of Variance (ANOVA) with the aid of Statistical Package for Social Sciences (SPSS, version 23).

Decision Rule: Accept the alternative hypothesis when the probability value is less than alpha otherwise reject. All the analysis will be tested at alpha level of 0.05.

4.6.1 Test of Hypothesis I

H_0: There is no significant difference in the yield from foreign commercial real estate investments domiciled in Nigeria compared with international benchmark yield.

Decision rule: We accept the null hypothesis when the probability value is greater than the alpha value, otherwise we reject it. Level of significance = 0.05. Table 9 shows the testing of this hypothesis with ANOVA.

Table 9: ANOVA

Variable

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.214E11	2	4.107E11	160.424	.000
Within Groups	6.913E10	27	2.560E9		
Total	8.906E11	29			

From the analysis in Table 9, it can be seen that the probability value (0.001) is less than the alpha value, the researchers accept the alternative hypothesis and conclude that there is a significant difference in the yield from foreign commercial real estate investments domiciled in Nigeria compared with international benchmark yield.

4.6.2 Test of Hypothesis II

H_0: There is no significant difference in the capital growth rate of foreign commercial real estate assets in Nigeria against international benchmark capital growth rate.
This hypothesis was tested with ANOVA as indicated on Table 10.

Table 10: ANOVA

Variable

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.214E11	2	4.107E11	160.424	.002
Within Groups	6.913E10	27	2.560E9		
Total	8.906E11	29			

The analysis in Table 10 shows that the probability value (0.002) is less than the alpha value, so the researchers accept the alternative hypothesis and conclude that there is a significant difference in the capital growth rate of foreign commercial real estate assets in Nigeria against international benchmark capital growth rate.

4.6.3 Test of Hypothesis III

H_0: There is no significant difference in the total returns of foreign commercial real estate in Nigeria compared with the global benchmark for real estate total returns.

Table 11 shows the testing of this hypothesis using ANOVA.

Variable

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.214E11	2	4.107E11	160.424	.013
Within Groups	6.913E10	27	2.560E9		
Total	8.906E11	29			

From the analysis shown in Table 11, the probability value (0.013) is less than the alpha value, thus the researchers accept the alternative hypothesis and conclude that there is a significant difference in the total returns of foreign commercial real estate in Nigeria compared with the global benchmark for real estate total returns.

V. Findings

1. There was a significant difference in the yield from foreign commercial real estate investments domiciled in Nigeria compared with international benchmark yield.
2. There was a significant difference in the capital growth rate of foreign commercial real estate assets in Nigeria against international benchmark capital growth rate.
3. There was a significant difference in the total returns of foreign commercial real estate in Nigeria compared with the global benchmark for real estate total returns.

VI. Conclusion And Recommendations

The result from the Nigerian commercial real estate market show an average yield of 3.4% for foreign direct commercial real estate investment. This falls short of the global benchmark of 5.7%. This was as a result of the fact that the growth in rental value of the properties was not commensurate with the high capital growth rate of 16.5%. Again, the performance of FDI in Nigeria's commercial real estate sector compared favourably with the global benchmark given a higher 10-year annualized capital growth rate and mean total returns for FDIs. Therefore, the study concluded that Foreign Direct Investment into the Nigerian commercial real estate sector has compared favourably to the global benchmark performance; thus indicative of a satisfactory performance.

Therefore, the study strongly advocates an improvement in commercial property management practices to ensure optimum returns to investors, and invariably improve property yield. While capital growth rate of foreign commercial properties in Nigeria performed better than the global benchmark, practitioners are advised to not rest on their laurels but instead embrace growth strategies that assures the competitiveness of their real estate investments in a dynamic environment as ours.

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Appendix

Descriptives

Variable

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
						Lower Bound	Upper Bound			
Capital Value		10	11.9690	5.67954	1.79603	7.9061	16.0319	5.32	18.71	
Rental Value/Cash		10	351030.0000	87639.65427	27714.09208	288336.3681	413723.6319	256500.00	553700.00	
Yeild		10	3.4200	1.03795	.32823	2.6775	4.1625	2.20	4.80	
Total		30	117015.1297	1.75241E5	31994.44590	51579.1405	182451.1188	2.20	553700.00	
Model	Fixed Effects			50598.77809	9238.03071	98060.2563	135970.0030			
	Random Effects				1.17007E5	-386427.2308	620457.4901			4.08162E10

Test of Homogeneity of Variances

Variable

Levene Statistic	df1	df2	Sig.
15.235	2	27	.000

Multiple Comparisons

Variable
LSD

(I) factors	(J) factors	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Capital Value	Rental Value/Cash	-3.51018E5	22628.46148	.002	-397447.7988	-304588.2632
	Yield	8.54900	22628.46148	1.000	-46421.2188	46438.3168
Rental Value/Cash	Capital Value	3.51018E5	22628.46148	.003	304588.2632	397447.7988
	Yields	3.51027E5	22628.46148	.000	304596.8122	397456.3478
Yields	Capital Value	-8.54900	22628.46148	1.000	-46438.3168	46421.2188
	Rental Value/Cash	-3.51027E5	22628.46148	.000	-397456.3478	-304596.8122

*. The mean difference is significant at the 0.05 level.

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