Office Rental Performance in the Commercial Property Market in Abuja, Nigeria (2001-2012)

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Abstract

This study examined the performance of office rents in the commercial property market in Abuja, Nigeria. Data for the study were obtained from estate surveying and valuation firms which are active in the commercial property market in the city through field survey and comprised rental values of office properties in the city for the period, 2001-2012. The rental growth factor for office properties in Abuja for the period, 2001-2012 was fond to be 1.083 1.1197, representing an average rental growth rate of 8.3% - 11.97%. The studied commercial property sub-markets in the city revealed that the various commercial zones in Wuse district experienced higher rental growth prospects than other commercial zones in the city. These are Wuse Zone 2 (11.97%); Wuse Zone 1 (11.61%); Wuse Zone 4 (11.53%) and Wuse Zone 3 (10.97%). The risk of attaining such growth prospects was also found to be lower in the commercial zones in Wuse district than in any other district in the city. The study concludes that sustained office rental growth in Abuja can attract prudent national and international investors to invest in the commercial property sector in the city where they are likely to gain from positive increase in rental income flows from the sector during periods of economic prosperity. Thus, the policy implication of the study is that the Federal Capital Territory Administration through its relevant agencies should reform its urban property tax laws and policies towards sustained tax benefits of office property rental growth in the city.

Keywords: Abuja; Commercial Property; Investors; Office Properties; Property Market; Rental Growth

Introduction

Rent refers to the actual payments tenants make for use of the properties of others. The amount of these rental payments is normally agreed by the landlord and tenant in advance of the period of property use and thus emanate from mutual contractual arrangement. Rent is also viewed as a return on the capital value of real estate investments and landlords and property owners normally compare this return with those they could receive from alternative capital investments (Barlowe, 1986). Rent which is determined by the interaction of demand and supply in the property market in the absence of any government interference is known as commercial rent (Harvey & Jowsey, 2003) or market rent (Ifediora, 1993; Mackmin, 1995 & Investment Property Forum, 2007). In the Nigerian commercial property market, market rent is generally synonymous with the meaning ascribed to the term *"rent"* (NIESV, 2013).

Thus, the notion of rent which is implied in this study and also, which is the focus of this study is market rent. In the analysis of commercial property rents in urban areas in modern times, the factors identified by the classical economists in the early conceptualization of rent theory are still fundamental. These include location and land quality or fertility. However, some land economics scholars, including Barlowe (1986) have contended that location and land quality factors only cannot themselves provide completely satisfactory explanation of the ability of land to pay rent and even when they are considered together, they can leave significant aspects of rent-paying capacity unexplained. With respect to commercial real property, this argument has been substantiated by a good number of scholars and researchers [Dobson & Goddard, 1992 (in UK); Giussani; Hsia & Tsolacos, 1993 (in Europe); Ball; Lizieri & MacGregor, 1998 (in UK); MacFarlance & Moon, 1999 (in Australia); Yusof, 2001 (in Malaysia); Chin, 2003 (in Southeast Asia); Hui & Yu, 2006 (in Hong Kong) ; Boon & Higgins, 2007 (in Singapore)]. Empirical findings from these studies revealed that the demand for commercial properties is a derived demand which basically comprises demand for services (for office properties) and demand for goods (for shop properties). These studies also revealed that this derived demand is a function of so many factors which together with supply factors influence commercial property rents. Nevertheless, most of these studies were based on cities which are highly developed with state-of-the-art transport and communication facilities with little or no accessibility challenges. However, in other cities with inadequate and inefficient transport system, particularly cities in developing countries, locational differentials will likely influence patterns of commercial property rents and such rents will decrease outwards from the optimum location with greatest accessibility. This study examined the performance of office rents in Abuja, Nigeria's Federal Capital Territory. The study is justified by the need for real estate investors and practitioners in the city to get a better understanding of the trend in office rental movements in the city so as to obtain important insights to the patterns of office property rents in the city.

Literature Review

Hekman (1985) found that office market rents change in response to changes in economic conditions at the local, regional and national levels and are strongly affected in both the Central Business Districts (CBD) and the

suburbs by vacancy rates. Grissom, Hartzell and Liu (1987) identified that regional markets exist for industrial real estate. They further suggested that constructing real estate indices, including rental growth indices according to property type may be valid since each city has a unique economic base.

Hartzell, Shulman and Wurtzebach (1987) established eight regions in the United States based on similar underlying economic fundamentals and evaluated regional real estate returns. They found significant differences between correlation coefficient of returns among the areas. This suggests that there are real estate market differences between locations; and local real estate market research is a significant element in real estate performance analysis.

In their study, Corgel and Gay (1987) examined the potential for the diversification of regional investments in the thirty largest metropolitan areas in the United States and found significant differences in their economic vitality. Corcoran (1987) established the economic relationships between office rents, vacancy rates, asset prices, user costs and reproduction cost and found that the linkages between the rental market (tenants) and the asset market (investors) are through opportunity cost (user cost) of competing investments and replacement cost of real property. He argued that rising vacancy rates in the face of strong growth in demand in the asset market for rental properties in the 1980s was due to extra incentives in the asset market. He further explained that office building acquisition prices rose more rapidly than reproduction costs and that encouraged new construction that led to overbuilding and high vacancy rates in the study areas.

Pollakowski, Wachter and Lynford (1992) in their study tested for structural differences among metropolitan areas by office market size based on rental data for twenty-one metropolitan areas over the time period 1981 to 1990 .They argued that it was inappropriate to assume a single structure for demand and supply relationships in all commercial property markets and concluded that real estate cycles are clearly not uniform across markets. The results of their study suggest that property market outcomes vary by city size.

Jones (1995) asserted that property markets are urban, or a series of linked urban markets, rather than regional and that the office market itself is determined by local flows, partly influenced in turn by urban form and differential planning policies. He concluded that the analysis of office property markets is most appropriately undertaken at the urban level and given the relationship between property market dynamics, demand and supply elasticity and rental change, rental growth for office properties is linked to the profitability of businesses and inflation and therefore subject to national economic influences.

In a related study, Gordon, Mosbaugh and Canter (1996) examined office market volatility in the commercial property market in the United States using office rental data from thirty-one metropolitan areas over the time period 1978 through 1995, and the change in vacancy rate over time as its measure of the real estate cycle. They found that different metro areas behave differently over time and that some office markets have longer cycles or less volatility than others.

Offices are the premier city-building land use. They house the economic base in metropolitan service centers and are owned by institutional investors (Howarth & Malizia, 1998). Mueller (1999) determined rental growth rates to be statistically different at six different points in the property market cycle in

the United States. Peyton (2011) investigated commercial real estate as an inflation hedge in the United States and found that the country's commercial real estate investment performance history is more strongly correlated with inflation history. Odu (2011) examined the inflation hedging capacity of commercial properties in prime locations of Lagos State using Ordinary Least Squares (OLS) method of regression analysis. The study found that commercial properties in prime locations around Victoria Island and Ikoyi provide a perverse hedge against actual inflation while commercial properties located within Ikeja and environs provide a complete hedge against actual inflation.

Similarly, Osagie, Gambo, Anyakora and Idowu (2012) investigated the inflation hedging capacity of office and shop properties in Lagos metropolis for the period, 1998 - 2008. The study found that in the short-run, office property does not provide a good hedge against inflation but does so in the long-run, while shop property does not hedge against inflation both in the long and short-runs. Udoekanem, Ighalo and Nuhu (2014) examined the determinants of commercial property rental growth in Minna for the period, 2001 2012 and found that real GDP growth and vacancy rate are the major drivers of office rental growth in the city. The study also revealed that office rents in the city experienced upward rental movements at an average rate of 5.6% during the study period.

Research Methodology

Based on its master plan, the city was divided into three phases for the purpose of development. Abuja phase 1 comprises the Federal Capital Territory or what is commonly known as the Abuja Municipal Area Council (AMAC); and AMAC further consists of the Central Business Area, Garki, Wuse, Asokoro and Maitama. Garki District is the area in the Southwest corner of Abuja city and has the Central Business Area to the north and Asokoro district to the east. Garki District is subdivided into units called Areas, numbered 1-11 and Garki II. Wuse district is the northwestern part of the city and has Maitama district to its north and the Central Business Area to its south. It is numbered Zones 1-8 with Wuse II. Maitama district is to the north of the city, with Wuse and Central Business Area lying to its Southwest and Southeast respectively.

The target population for this study comprised office properties in Abuja, which are owned strictly for the purpose of investment and which are expected to produce benefits in the form of direct monetary return and are said to have income-earning potential or rent or income-earning capacity or generates rental income through letting. As used in this study, an office is an accommodation provided for advisory and service sectors of commerce, industry and related economic activities. The study covered office properties in Abuja, for the period, 2001-2012. It is important to note that even though Abuja was established as the Federal Capital Territory of Nigeria on 3rd February, 1976, the federal government did not move the seat of government to the city until 5th December, 1991. It is on this basis that a ten year gap was given (1991-2001) to allow for the period of development of the commercial property market in the city. The study utilised mainly primary data. The primary data basically comprise rental data of office properties in Abuja for the study period. These include annual data on rental levels for office properties under study for the period 2001 2012 and their specific characteristics. A total

of 723 office properties were selected for the study from the various commercial districts in the Abuja Municipal Area Council using systematic random sampling technique. These districts are Garki (Areas 1 11), Wuse (Zones 1 7), Central Area, Asokoro, Maitama and Utako. Research instruments used in data collection for the study were based on this sample size. The sample size for each of the commercial zones was determined quantitatively using the Frankfort-Nachmias (1996) model for sample size determination as follows:-

$$n = \frac{Z^2pqN}{e^2(N-1)+Z^2pq}$$

Where n = sample size
N = population size
p = sample population estimated to have characteristics being measured (In this study, 95% confidence level of the target population)
q = 1- p
e = Acceptable error
Z = 1.96 (The standard normal deviation at 95% confidence level)

The various commercial zones, number of commercial properties with required data and number of commercial properties sampled are presented in Table 1.

Table 1: *Commercial Zones, Number of Commercial Properties with Required Data and Number of Commercial Properties Sampled in Abuja*

Commercial District	Area/Zone	No. of Commercial Properties with Required Data	Sampling Ratio	No. of Commercial Properties Sampled
Garki	1	128	2	47
	2	79	2	38
	3	96	2	42
	7	106	2	43
	8	98	2	42
	10	131	2	47
	11	108	2	44
Central Area		101	2	43
Wuse	1	87	2	40
	2	92	2	41
	3	104	2	43
	4	133	2	47
	5	126	2	46
	6	110	2	44
	7	81	2	39
Asokoro		34	1	23
Maitama		47	1	29
Utako		37	1	25
Total		1,698		723

Rental levels for the office properties under study for the period, 2001 2012 were determined based on the annual average rental values of office properties for each year. The annual average rental value of office properties for each year was calculated from the rental values of all office properties in each commercial zone selected for the study. In determining the average rental value for office properties under study, the weighted mean model was used. The nature of frequency distribution of rental values in the properties necessitated the use of the weighted mean. The advantage of the weighted mean over other forms of mean in this scenario is that, it attaches relative weights to the occurrence of each rental value in the distribution. The annual rental growth rates were obtained from the rental growth factor as follows:

$$\textit{Rental Growth Factor} = \frac{WRV_t}{WRV_{t-1}} \qquad (1)$$

Where WRVt = Weighted Rent in the following year
WRVt-1 = Weighted Rent in the preceding year

$$\textit{Annual Rental Growth Rate} = [\textit{Rental Growth Factor-1}]X100\% \qquad (2)$$

Coefficient of Variation was used to measure the risk of attaining the rental growth prospects. The coefficient of variation is the ratio of the absolute dispersion of the annual rental growth rates to the average rental growth rate during the study period, expressed as a percentage. Mathematically, it is expressed as follows:

$$\textit{Coefficient of Variation} = \left[\frac{\textit{Absolute Dispersion of Annual Rental Growth Rates}}{\textit{Average Rental Growth Rate}}\right] \qquad (3)$$

Results and Discussion

Office rental levels in the study areas for the period, 2001 2012 are presented in Table 2. In order to establish the rental trend for the office properties under study, rental index was constructed based on the weighted rent/m2 of office properties in the commercial property market in the city. The rental index was constructed using 2001 as the base year as presented in Table 3. Annual rental growth rates were determined for the properties under study for the period, 2001 2012. The annual rental growth rates were determined based on the rental growth factor of office properties for each year under study. The rental growth factor for each year under study was calculated as the quotient of the weighted rent/m^2 in the following year and the weighted rent/m^2 in the preceding year. Office rents increased progressively in all commercial districts in the study area during the study period. In Garki Area 1, the weighted rent/m^2 for office properties in the area in 2001 was ₦11,683.55. This rose to ₦24,236.84 and ₦36,386.38 in 2007 and 2012 respectively. In Central Area, the weighted rent/m2 for office properties in the area in 2001 was ₦11,912.31. This increased to ₦30,452 in 2007 and ₦40,161.35 in 2012. Also, in Wuse Zone 5, the weighted rent/m^2 for office properties in the area in 2001 was ₦16,800. This rose to ₦30,660 and ₦40,435 in 2007 and 2012 respectively. In Utako, office rents also increased progressively from ₦ 8, 294.17 in 2001 to ₦20, 048. 4 in 2012. As at 2001, Wuse Zone 5 (₦16, 800.42), Central Area (₦16,369.04) and Asokoro (₦13,057.33) commercial zones in Abuja had the highest weighted office rent/m^2 while Maitama (₦11,097), Garki Area 2 (₦11,019.09), Garki Area 7 (₦10,667.50) and Utako (₦8,294.17) had the lowest weighted office rent/m^2. Twelve years later, Wuse Zone 2 (₦41,107.05), Wuse Zone 5 (₦40,435.09), Central Area (₦40,161.35), Wuse Zone 7 (₦40,071.33) and Wuse Zone 3 (₦40,064.02) are the commercial zones in Abuja with the highest weighted office rent/m^2 while Maitama (₦32,260), Garki Area 8 (₦32,024.29) and Utako (₦20,048.40) are the commercial zones in the city with the lowest weighted office rent/m^2.

Table 2: *Rental Levels for Office Properties in the Study Area, 2001-2012*

Commercial Property Market	Weighted Office Rental Value/m^2 in ₦' 000											
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Garki Area 1	11.68355	12.46394	14.89853	16.82086	18.63622	22.49622	24.23684	25.803	28.46907	31.2275	34.32478	36.38638
Garki Area 2	11.01909	12.0525	13.62192	15.78185	18.69571	22.10724	24.30839	26.81531	29.06909	31.14118	32.83861	34.22842
Garki Area 3	11.685	12.9976	14.4396	15.464	19.9604	21.36154	24.32407	27.05172	31.04303	32.70139	34.56897	35.91833
Garki Area 7	10.6675	11.19333	14.39727	15.00583	16.22667	20.12929	20.17034	22.68677	24.43545	25.03	26.8578	30.08628
Garki Area 8	11.86833	12.39563	14.97947	15.56043	17.51852	20.3525	22.10172	23.25323	25.95758	26.47973	27.31707	32.02429
Garki Area 10	11.95154	12.53294	14.9675	15.82792	17.75679	20.83379	22.46469	23.89647	26.34944	27.194	29.04364	36.0983
Garki Area 11	11.91231	12.50294	14.9675	15.82792	17.75679	20.83379	22.4647	23.89647	26.2446	26.95158	28.43122	35.25682
Central Area	16.36904	17.49785	19.79115	21.7295	26.40469	28.07777	30.452	33.2321	34.8754	35.44074	36.03515	40.16135
Wuse Zone 1	11.67368	13.084	14.49955	15.5657	19.9571	21.4144	24.25346	27.08714	31.0025	32.71171	35.14211	39.0975
Wuse Zone 2	11.8576	14.9289	19.17844	22.0072	27.7521	29.1666	31.41031	34.3876	36.0145	36.43911	37.47485	41.10705
Wuse Zone 3	12.7523	17.3236	19.95084	21.63339	26.34633	27.97036	30.48848	33.0689	34.9369	35.50228	36.1264	40.06402
Wuse Zone 4	11.78484	12.80242	15.07	16.94	18.63622	22.49622	24.23684	25.803	28.46907	31.2275	34.4587	39.12957
Wuse Zone 5	16.80042	17.85811	20.26718	21.92952	26.65697	28.35228	30.66056	33.43289	35.44003	35.98948	36.94839	40.43509
Wuse Zone 6	11.85	12.50294	14.9675	15.82792	17.75679	20.83379	22.46469	23.89647	26.24457	26.95158	28.75951	37.05818
Wuse Zone 7	12.85152	16.82283	19.67891	21.91904	26.13333	27.80573	29.85867	32.85547	34.57909	35.12434	35.68224	40.07133
Asokoro	13.05733	13.68067	14.21333	15.02067	16.77333	21.374	23.53813	26.20118	27.92944	30.06632	32.1381	35.19783
Maitama	11.097	13.23545	15.0421	15.0887	15.8406	20.2242	20.279	22.5405	24.6513	25.0648	26.92444	32.26
Utako	8.294167	9.555	10.4394	11.7612	11.9744	12.9395	13.7875	14.65286	14.96682	15.96304	16.48875	20.0484

Table 3: *Rental Index for Office Properties in the Study Area, 2001 - 2012*

Commercial Property Market	Office Rental Index											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Garki Area 1	100	106.68	127.52	143.97	159.51	192.55	207.44	220.85	243.67	267.28	293.79	311.43
Garki Area 2	100	109.38	123.62	143.22	169.67	200.63	220.60	243.35	263.81	282.61	298.02	310.63
Garki Area 3	100	111.23	123.57	132.34	170.82	182.81	208.16	231.51	265.67	279.86	295.84	307.39
Garki Area 7	100	104.93	134.96	140.67	152.11	188.70	189.08	212.67	229.06	234.64	251.77	282.04
Garki Area 8	100	104.44	126.21	131.11	147.61	171.49	186.22	195.93	218.71	223.11	230.17	269.83
Garki Area 10	100	104.86	125.23	132.43	148.57	174.32	187.96	199.94	220.47	227.54	243.01	302.04
Garki Area 11	100	104.96	125.65	132.87	149.06	174.89	188.58	200.60	220.31	226.25	238.67	295.97
Central Area	100	106.90	120.91	132.75	161.31	171.53	186.03	203.02	213.06	216.51	220.14	245.35
Wuse Zone 1	100	112.08	124.21	133.34	170.96	183.44	207.76	232.04	265.58	280.22	301.04	334.92
Wuse Zone 2	100	125.90	161.74	185.60	234.04	245.97	264.90	290.00	303.73	307.31	316.04	346.67
Wuse Zone 3	100	135.85	156.45	169.64	206.60	219.34	239.08	259.32	273.97	278.40	283.29	314.17
Wuse Zone 4	100	108.63	127.88	143.74	158.14	190.89	205.66	218.95	241.57	264.98	292.40	332.03
Wuse Zone 5	100	106.3	120.63	130.53	158.67	168.76	182.50	199.00	210.95	214.22	219.93	240.68
Wuse Zone 6	100	105.51	126.31	133.57	149.85	175.81	189.58	201.66	221.47	227.44	242.70	312.73
Wuse Zone 7	100	130.90	153.13	170.56	203.35	216.36	232.34	255.65	269.07	273.31	277.65	311.80
Asokoro	100	104.77	108.85	115.04	128.46	163.69	180.27	200.66	213.90	230.26	246.13	269.56
Maitama	100	119.27	135.55	135.97	142.75	182.25	182.74	203.12	222.14	225.87	242.63	290.71
Utako	100	115.20	125.86	141.80	144.37	156.01	166.23	176.66	180.45	192.46	198.80	241.72

Using 2001 as the base year, result of rental index analysis for office properties in the various commercial property sub-markets in Abuja as presented in Table 3 indicates upward trend in rental values of office properties in the city within the study period. Also, rental growth analysis for office properties in the various commercial property sub-markets in Abuja during the study period indicates that office rents in the city also increased per year at different rates within the period.

The average rental growth rate for office properties in the study areas for the period, 2001-2012 was determined using the geometric mean model, based on the natural logarithmic values of the weighted rent/m^2. The choice of geometric mean for the calculation of the average rental growth rate for office properties for the period, 2001 2012 was based on the fact that each annual rental growth rate accumulated over each year, thereby creating a compounding process for the entire period. The geometric mean reasonably approximates the exponential characteristics of this compounding process. The rental growth factor for office properties in all commercial property sub-markets in Abuja for the period, 2001-2012 is 1.0835 1.1197. This represents an average rental growth rate of 8.35% - 11.97% for the study period. The absolute and relative dispersion of these rental growth rates were determined to evaluate the risk of achieving such rental growth prospects. These are presented in Table 4.

Table 4: *Average Rental Growth Rate, Absolute Dispersion and Coefficient of Variation of Office Property Rental Growth in the Study Area, 2001 - 2012*

Commercial Property Market	Average Rental Growth Rate (%) (2001-2012)	Absolute Dispersion	Coefficient of Variation
Garki Area 1	10.88	5.7785	0.5311
Garki Area 2	10.85	5.6911	0.5245
Garki Area 3	10.75	7.4269	0.6909
Garki Area 7	9.88	8.9491	0.9058
Garki Area 8	9.44	6.8025	0.7206
Garki Area 10	10.57	7.2378	0.6847
Garki Area 11	10.37	7.3158	0.7055
Central Area	8.5	5.9355	0.6983
Wuse Zone 1	11.61	6.8333	0.5886
Wuse Zone 2	11.97	10.2073	0.8527
Wuse Zone 3	10.97	10.0652	0.9175
Wuse Zone 4	11.53	5.3705	0.4658
Wuse Zone 5	8.3	5.7522	0.6930
Wuse Zone 6	10.92	8.1684	0.7480
Wuse Zone 7	10.89	8.8731	0.8148
Asokoro	9.43	6.7828	0.7193
Maitama	10.19	9.0524	0.8884
Utako	8.35	6.2432	0.7477

Based on the results presented in Table 4, office properties in all commercial zones in Abuja experienced rental growth prospects (8.3% - 11.97%) during the study period. However, the risk of attaining such growth prospects was lowest in Wuse Zone 4 (46.58%) than in any commercial zone in the city. The findings of this study are consistent with those of Odu (2011) and Osagie et al (2012) in terms of evidence of upward rental changes in the Nigerian commercial property market. The progressive upward movement in rental values of office properties in the commercial property market in Abuja may be influenced by real GDP growth, resulting in increased demand for office properties in the city. Earlier study by Udoekanem et al (2014) has shown evidence of the positive effect of real GDP growth on commercial property rents in Nigeria. It may also be attributed to inflation in the economy.

Although office properties in all commercial zones in Abuja experienced upward rental changes during the study period, the size of the rental change was higher in the various commercial zones in Wuse district than in other commercial zones in the city. These are Wuse Zone 2 (11.97%); Wuse Zone 1 (11.61%); Wuse Zone 4 (11.53%) and Wuse Zone 3 (10.97%).

This scenario may be attributed to the fact that Wuse district was designated, designed and developed ab initio as the city's major commercial district and as such a significant proportion of the city's commercial activities

take place in this district. This may have sustained effective demand for office space in the district and coupled with limited space supply resulted in high rate of rental change in the district, far above those of Garki (9.44% - 10.88%); Maitama (10.19%); Asokoro (9.43%); Central Area (8.5%) and Utako (8.35%). The implication of these is that, commercial property investors and developers are likely to get high returns on office properties in Wuse District than on office properties in other districts in the city if the same capital sum is invested on office property investment in these areas.

Conclusion

There is progressive upward movement in rental values of office properties in the commercial property market within the study period. However, office rental performance in the commercial property sub-markets in Abuja was better sustained in Wuse district throughout the study period than in any other district in the city. In conclusion, sustained office rental growth in Abuja can attract prudent national and international investors to invest in the commercial property sector in the city as such investors are likely to gain from positive increase in rental income flows from such commercial properties during periods of economic prosperity.

Recommendation

Sustained commercial property rental performance in the city also implies enhanced annual or rateable values of office properties for tenement rate purposes. Such property tax in Abuja can generate huge revenue to the government if properly harnessed. The policy implication of this study is that, the Federal Capital Territory Administration through its relevant agencies should reform its urban property tax laws and policies to make them effective and efficient in harnessing the huge tax benefits of sustained office property rental growth in the city.

References

Ball, M.; Lizieri, C.; and MacGregor, B. D. (1998). *The Economics of Commercial Property Markets.* London: Routledge.

Barlowe, R. (1986). *Land Resource Economics* (4e). New Jersey: Prentice Hall.

Boon, F.N. and Higgins, D. (2007). Modelling the Commercial Property Market: An Empirical Study of the Singapore Office Market. *Pacific Rim Property Research Journal. 13*(2), 176 - 193.

Chin, H. W. (2003). *Macro-Economic Factors Affecting Office Rental Values in Southeast Asian Cities: The Case of Singapore, Hong Kong, Taipei, Kuala Lumpur and Bangkok.* Paper presented at the 9th Pacific Rim Real Estate Society Conference held at Brisbane, Australia.

Corcoran, P. J. (1987). Explaining the Commercial Real Estate Market. *Journal of Portfolio Management. Spring,* 15-21.

Corgel, J. B. and Gay, G. D. (1987). Local Economic Base, Geographic Diversification, and Risk Management of Mortgage Portfolios. J*ournal of the American Real Estate and Urban Economics Association. 15*(3), 25667.

Dobson, S. M. and Goddard, J. A. (1992). The Determinants of Commercial Property Prices and Rents. *Bulletin of Economic Research. 44*(4), 301-321.

Frankfort-Nachmias, C. (1996). *Research Methods in the Social Sciences*. Auckland: Hodder Arnold Ltd.

Giussani, B.; Hsia, M.; and Tsolacos, S. (1993). A Comparative Analysis of the Major Determinants of Office Rental Values in Europe. *Journal of Property Valuation and Investment. 11* (2), 157 173.

Gordon, J.; Mosbaugh, P.; and Canter, T. (1996). Integrating Regional Economic Indicators with the Real Estate Cycle. *Journal of Real Estate Research. 12*(3), 469501.

Grissom, T. V.; Hartzell, D.; and Liu, C. H. (1987). An Approach to Industrial Real Estate Market Segmentation and Valuation using the Arbitrage Pricing Paradigm. *Journal of the American Real Estate and Urban Economics Association. 15*(3), 199 219.

Hartzell, D.J.; Shulman, D. G.; and Wurtzebach, C. H. (1987). Refining the Analysis of Regional Diversification for Income-Producing Real Estate. *Journal of Real Estate Research. 2*(2), 85-95

.Harvey, J. and Jowsey, E. (2003). *Urban Land Economics* (6e). London: Palgrave Macmillan.

Hekman, J. (1985). Rental Price Adjustment and Investment in the Office Market. *Journal of the American Real Estate and Urban Economics Association. 13*(1), 32-47.

Howarth, R.A. and Malizia, E.E (1998). Office Market Analysis: Improving Best Practice Techniques. *Journal of Real Estate Research. 16* (1), 15 34.

Hui, E.C.M. and Yu, K. H. (2006). The Dynamics of Hong Kong's Office Rental Market. *International Journal of Strategic Property Management.10*, 145-168.

Ifediora, G. S. A. (1993). *Appraisal Framework.* Enugu: Iwuba Ifediora and Associates.

Investment Property Forum (2007). *Understanding Commercial Property Investment.* Retrieved from www. Ipf.org.uk on 3rd December, 2007.

Jones, C. (1995). An Economic Basis for the Analysis and Prediction of Local Office Property Markets. *Journal of Property Valuation and Investment. 13* (2), 16-30.

MacFarlane, J. & Moon. S. (1999). *Modelling of Office Markets in Australia.* Paper presented at the International Real Estate Society Conference held at KualaLumpur, Malaysia, 26th 30th January.

Mackmin, D. (1995). DCF Discounted: Further Implications for the Surveyor arising from the over-rented property debate. *Journal of Property Valuation and Investment. 13*(2), 5-15.

Mueller, G. R. (1999). Real Estate Rental Growth Rates at Different Points in the Physical Market Cycle. *Journal of Real Estate Research. 18* (1), 131-150.

NIESV (2013). Investment Property Databank. Abuja: The Nigerian Institution of Estate Surveyors and Valuers.

Odu, T. (2011). An Analysis of Relative Inflation Hedging Capacities of Prime Commercial Properties in Lagos. *Global Journal of Human Social Science. 11*(10): 43 51.

Osagie, J. U.; Gambo, Y. L.; Anyakora, M. I. & Idowu, O. B. A. (2012). Are Commercial Properties a Good Hedge Against Inflation? Evidence from Selected

Commercial Centres in Lagos. *ATBU Journal of Environmental Technology. 5*(1), 18 33. M; and Lynford, L. (1992). Did Office Market Size Matter in the 1980s? A Time-Series Cross-Sectional Analysis of Metropolitan Area Office Markets. *Journal of the American Real Estate and Urban Economics Association. 20*(1), 30324.

Udoekanem, N. B.; Ighalo, J. I. and Nuhu, M. B. (2014). Determinants of Commercial Property Rental Growth in Minna, Nigeria. *European University of Lefke Journal of Social Sciences. 5* (1), 60 - 75.

Yusof, A. M. (2001). *Modelling Office Market in Malaysia.* Paper presented at the Pacific Rim Real Estate Society Conference held at Adelaide, January 21st 24th.