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**THE IMPACT OF THE 2008 ECONOMIC RECESSION ON THREE RESIDENTIAL
PROPERTY TYPE INVESTMENTS: A CASE STUDY OF FIVE DIVERSE ZIP CODES
IN WASHINGTON DC, USA.**

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**THE IMPACT OF AN ECONOMIC RECESSION ON DIFFERENT TYPES OF
RESIDENTIAL PROPERTY INVESTMENTS IN URBAN CITIES. A CASE STUDY OF
HOW THE 2008 ECONOMIC RECESSION IN THE UNITED STATES AFFECTED
DIFFERENT TYPES OF RESIDENTIAL PROPERTY INVESTMENTS IN SOME
SELECTED CITIES.**

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ABSTRACT

There has been 47 recessions in the United States of America (US) since 1790. US recessions have increasingly affected economies of other countries in the world as nations become more and more interdependent on each other. The worst economic recession so far was the “Great Depression” – an economic recession that was caused by the 1929 crash of the stock market in the US.

The 2008 economic recession in the US was a result of the burst of the “housing bubble” created by predatory lending. The economic recession resulted in increased unemployment (according to NBER 8.7 million jobs were lost from Feb. 2008 to Feb. 2010); decrease in GDP by 5.1%; increase in poverty level from 12.1% (2007) to 16.0% (2008) (NBER)

This dissertation is an attempt to research the impact of the 2008 economic recession on different types of residential investments: a case study of five (5) diverse neighborhoods/zip codes in Washington DC, USA

The main findings were that the effect of the 2008 economic depression on the different types of residential properties was dependent on the location of the property and the demographics/socio-economic factors associated with that location.

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ABBREVIATIONS

AVG	Average
ALP	Average List Price
ASP	Average Sold Price
BR	Bedroom
CUA	Catholic University of America
DC	District of Columbia
DOM	Average Days on the Market
GDP	Gross Domestic Product
LISC	Local Initiatives Support Corporation (Washington, DC)
MRIS	Metropolitan Regional Information System
NBER	The National Bureau of Economic Reform
# sold	Number of units sold
ULI	Urban Land Institute
USA	United States of America
WDCEP	Washington DC, Economic Partnership

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1. INTRODUCTION

Research Question: How has the 2008 Economic Recession affected investment and purchase decisions for 3-bedroom (BR) units for three types of residential properties in five selected Zip codes in Washington DC, USA.

Objective: The main objective is to determine how the 2008 Economic Recession impacted the trends in purchase decisions for different residential property types and influenced market pricing of these property types in some selected Zip codes in Washington DC USA. The study focuses on 3-bedroom units in the following property type categories: Detached House, Townhouse and Condominium Units.

Scope of Work:

The study has focused only on 3-bedroom units in the above referenced property categories because generally they are a more popular housing investment type than “2 or less bedroom units” and “4 or more bedroom units”.

Secondly, the thesis has also limited its study to the aforementioned residential property categories: detached house, townhouse and condominium units because these property categories are the more commonly reported sales transactions in the **Metropolitan Regional Information Systems, Inc.** database (**MRIS**) from which all the samples of the study was derived. **MRIS** is an online real estate information service for real estate professionals in Maryland, Washington DC, Northern Virginia, and parts of West Virginia and Pennsylvania States in the US. See the glossary for the definition of the residential property categories being considered in the study.

As mentioned earlier, the study addresses the question of how much impact the 2008 economic recession had on investment decisions for the different types of residential properties under consideration; namely 3 bedroom detached houses, 3-bedroom townhouses and 3-bedroom condominium units. In view of the time-lag it takes for supply of new housing inventory to come into the market and the legal process entailed in transferring existing properties from sellers to purchasers; the study has limited the study to (+/-) four (4) years of the 2008 economic recession (Years 2004-2012)

2. BACKGROUND INFORMATION

2.1. 2008 Economic Recession

The 2008 economic crisis in the United States (US) was a National Housing crisis tagged the “National Housing Bubble Burst” that affected the US economy tremendously by introducing and escalating financial panic in the system. The genesis of the National Housing crisis began as a result of irresponsible lending/leverage by diverse mortgage banks: many financial institutions packaged and sold residential mortgages to unqualified home buyers. This led to a large

generation of these “sub-prime mortgages” that were later sold to Investment bankers as artificial “high- value” loans with “huge profitability returns”.

In addition, there was a growing development of reckless consumption and spending habits “of living beyond your means” by the populace which was fueled by the “unending lines of credit” provided by banks/financial institutions. All these coupled with reckless and incompetent management of a lot of companies in Corporate America resulting in huge losses and financial collapse of these companies, despite the ridiculously huge salaries and bonuses paid to their executive management team, eventually led to the collapse of the economy in the United States in Year 2008.

2.1.1. Washington, DC

Washington, DC was founded in 1791 as the new national capital for the United States. In 1871, Congress created a single municipal district for Washington: District of Columbia (DC). DC is not a state and has no voting rights in Congress.

Washington DC, being the capital of the United States, has a high representation of government and private offices. The city is the seat for the centers of all the three branches of the Federal Government: the Presidency, Congress and the Supreme Court. It also hosts 176 foreign embassies as well as the headquarters of many international organizations, trade unions, non-profit organizations and professional organizations.

As at 2013, the population of Washington DC is estimated to be 646,449 (with a total land area of 61.05 square miles. However, the population of the city rises to more than one million during the work week because of the commuters from the neighboring suburbs states of Virginia and Maryland. The population of Washington DC is 47.2% male and 52.8% female. It has a very diverse population: White (35.8%), Black (49.5%), Hispanic/Latino(10.1%), Asian origin(3.9%) respectively. Population under age 18: 16.8%; 65 and over: 11.4%. The median household income is \$66,583(2012). (US Census Bureau)(City.data.com)

Washington DC has continually witnessed a dramatic change in its demographics, development and housing since its inception. In the 1950's there was a mass exodus (approximately 300,000 persons) of the white population to the suburbs leaving a predominantly black population in the city. By 1968, after the assassination of Rev. Martin Luther King many middle /working class black families moved to the suburbs as well because of the destruction of some parts of the city. The black population in DC had continued to shrink over time: 70% in the 1980's, by 2000 it was 61% and 51% by 2010. Recently, there has been a great influx of young, well educated and high income predominantly whites persons and to a lesser extent Hispanics/Latinos, Asians and foreign persons into the city from Year 2000 to 2010 as more blacks continued to leave the city. (ULI &LISC) (Neighborhood Info- Our Changing City).

This new demand coupled with the fact that the city houses a lot of Government offices(federal, state and local); international agencies and headquarters to a lot of public and private offices has resulted in DC'S continued population growth and has led to

escalating land and property values resulting in making Washington DC one of the most expensive housing markets/place to live in the United States. (ULI & LISC).

Redevelopment, Conversions and New construction have been a way for the city to keep up with this new demand. From Years 2002 to 2013, approximately 600 condo developments, 4000 detached houses and 680 rental apartments were added to the housing stock in Washington DC. Currently, 9,700 rental units were under construction out of a proposed 18,500 units.(WDCEP)(Neighborhood Info- Our changing city)

3. REAL ESTATE MARKETS

Property Values in the real estate market are established over a longer period of time unlike the commodities market, which has a much shorter demand/supply cycle. There is a longer demand/supply cycle in the housing market because of the longer time-lag it takes for the housing supply to respond to the housing demand in terms of new construction or for processing the legal requirements to transfer ownership of title from various vendors to buyers of already developed properties which varies in different states of the United States. In view of the foregoing, this study will cover a period of (+ or -) 4years from Year 2008 i.e. from Years 2004 to 2012.

The local characteristics of a city can be analyzed either by neighborhoods, school zones, and subdivisions or by zip codes. Zip codes are the physical geographical boundaries delineated by the United States Postal Service (USPS) as a way to organize mail delivery in the US. Analysis of data by zip codes allows you to group basic demographics and statistical information; but does not allow you to analyze social and cultural characteristics. Neighborhoods are the most natural way for people living in a community to refer to a place; therefore the local community determines neighborhoods. Analysis of data by neighborhoods allows you to understand the social characteristics in a given area.

However, for purposes of this study, the collection of research data will be from 5 zip codes in Washington DC; these selected zip codes are under listed below. (Maponics)

1. Zip code 20007(Georgetown)
2. Zip code 20010(Columbia Heights)
3. Zip code 20015(Chevy Chase/Friendship Heights)
4. Zip code 20017(Brookland/CUA)
5. Zip code 20020(Anacostia SE)

3.1. ZIP CODE 20007 (Georgetown).

Georgetown in Zip code 20007 is one of the oldest historic neighborhoods in Washington DC, is located in zip code 20007 north of the Potomac just across the Francis Scott Key Bridge. The main roads in the neighborhoods are M Street and Wisconsin Avenue. The neighborhood extends from Georgetown University to the west to Rock Creek Parkway to the east to Montrose Park and Oak Hill Cemetery to the north.

Many of the historic residential homes in Zip code 20007 are 250+ years old coupled with a lot of high-end shops, restaurants and upscale businesses along the commercial roads. Georgetown has about 300 locally owned retailers, restaurants and cafes, spas and salons; it also boasts of over 100 national/international retailer. (DC facts) (WDCEP).

The historic and charming neighborhood of Georgetown's diverse mix of retirees, professionals, city goers, tourists, suburbanites and some students is unparalleled in DC. 95% of the population living in Georgetown neighborhood is affluent professionals that are singles or unmarried couples with an average household size of 2.1 persons. (DC facts) (WDCEP).

The population of zip code 20007 in Year 2013 was 9,951 persons within a 1/2 mile radius: 82.4 % (whites), 3.9 % (blacks), 5.6 % (Asians), 5.2% (Hispanics/Latinos). It is a high density populated area of approximately 8,339 persons per square mile. The male to female ratio is about (46%:54%). The median age for both men/women is 32 years. 93.0% of this affluent zip code has college degrees whilst 55% have graduate/professionals degrees. The estimated median household income/average household income (2013) is \$138,623.0/\$192,287.0 respectively. The unemployment rate is estimated to be 2.9%. The median house/condo value is \$1,000,001.0; whilst 47.8% of the population lives in owner-occupied homes. (Neighborhood Info DC) (City-Data.com)

3.2. ZIP CODE 20010 (Columbia Heights)

Columbia Heights in Zip code 20010 lies to the north of Florida avenue and sits between 16th street and Georgia avenue with Spring road representing the northern border of the neighborhood.

Columbia Heights in Washington DC has undergone a lot of redevelopment in the last 10 years, mostly due to the great fore-sight and partnership the DC government had with some developers to turn-around and revitalize this neighborhood. The major developments undertaken include the development of several large residential buildings, renovation of the Giant supermarket, creation of a new shopping mall (DC USA), re-establishment of the historic Tivoli Theatre and the creation of a plaza on 14th Street and Park road. (Washington Post)(WDCEP)

The neighborhood, currently has one of the most diversified mix of residents in Washington DC; originally, the neighborhood was primarily a mixture of Black Americans and Latinos. However, the revitalization of the neighborhood has generated an influx of diverse persons particularly young professionals into the area. Columbia Heights is one of the most densely populated neighborhoods in DC with an average population density of 27,866 persons per square mile. Approximately 60% of the persons living in this zip code are young, educated, singles with a good job. They are trendsetters and are spenders with upscale city living. They are very health conscious; they shop at Wholefoods and Trader Jones. (WDCEP)(Citi-data)(Tapestry)

The current total population of Zip Code 20010 is approximately 34,703(2013) persons: whites (32%), blacks (33%), Latinos (30%), Asians (4.5%). The average household size is 2.6. The median age is 31.9 years: 20-34 years (42%), 35-64 years (33%), 65+(8%). (WDCEP)(Citi-data)

The average household income/median household income is \$81,325.0/\$54,032.0 per annum. The average residential house value is \$653,000.0 whilst the median house value is \$492,670.0. Only 26% of the population is owner-occupiers. (WDCEP) (Neighborhood Info DC)

3.3. ZIP CODE 20015(Chevy Chase/ Friendship Heights)

Chevy Chase/Friendship Heights in Zip code 20015 is situated on the DC/Maryland borderline and easily links to other areas of DC and Maryland via the metro lines and Connecticut /Wisconsin Avenues- the major roads in the neighborhood.

The neighborhood houses a lot of the national and regional retail stores in its two main shopping centers: Chevy Chase Pavilion and Mazza Gallerie: an additional 21,700 sq. ft. of retail space was added to the Chevy Chase Pavilion.

The population of Zip code 20015 within a half-mile radius is 10,314(2013): Whites(77%), Blacks(10%), Hispanics/Latinos(6.4%)and Asians(5.8%). In this neighborhood the median age is 46.5 years: 20-34 years(22%), 35-64 years(37%), 65+years(27%). The average household size is 1.9 persons whilst the male: female ratio is 43%:57%. The average population density is about 4,460 persons per square mile. (Neighborhood Info DC)(WDCEP)(City-data)

Over 82% of the population is well educated with college degrees or higher; 72% are married couples with older children or no children. 51% of the population are into consulting or have their own businesses whilst 22% have professional/top managerial positions. The average household/median household income per annum is \$145,481.0/\$103,736.0 respectively. The median household value for property is \$690,912: about 44% of the population is owner-occupiers whilst 56% are renters. The unemployment rate is 1.9%. (City-data)(Tapestry DC)(WDCEP)

3.4. ZIP CODE 20017(Brookland/CUA)

The Brookland /Catholic University neighborhood is located in Zip code 20017 and is home to major employment centers, some colleges/universities and tourist destinations in the Washington DC area. Near-by hospitals include Washington Hospital center, Children's hospital, Veteran Administration Hospital, Providence Hospital, the National Rehabilitation Hospital and the Hospital for Sick Children Pediatric Center. Colleges/Universities in the neighborhood include the Catholic University, Trinity University, Howard University Divinity School and the Franciscan Monastery with a student/faculty/staff population of about 10,000 persons; although many of which do not reside in the neighborhood.

The Brookland neighborhood also hosts the Basilica of the National Shrine of the Immaculate Conception; the largest Catholic church in the United States, a master-piece architectural design which is a major tourist attraction throughout the year.

Brookland' original commercial district on 12th St. has a variety of small retail shops, restaurants and many companies offering different type of goods and services. The area is easily accessible to public transportation: the Brookland/CUA metro station has access to the red line metro rail and buses. Near-by residential buildings adjoining the commercial strip on 12th Street were mostly old residential single family detached houses. However, a new commercial/residential district has recently been developed on Monroe Street by the Catholic University along with developers like Abdo Development and the Bozzuto Group. The completed phase 1 project provided 525 apartments, an Arts Walk with studio space for artists, a public square and 57,000 sq. ft. of retail space that has already been let to commercial tenants like Barnes & Nobles, Bus Boys, Potbelly and Pizza. Other new developments(not yet completed) by EYA in the neighborhood include Chancellor's Row(237 single-family homes) and 901 Monroe St. (213 unit apartments and 13,000 sq. ft. of retail space.(WDCEP) (Neighborhood Info DC)

The population living in Zip code 20017 is 11,371 persons with a high population density of 8,227 persons per sq. mile: Whites (17%), Blacks (74%), Hispanic/Latinos (6.6%) and Asians(1.8%).

The median age is about 39.9 years: age<20(23%), 20-34(30%), 35-64(34%), 65+ (13%). Males represent 43% of this neighborhood population; whilst the female population is approximately 57%. (Neighborhood Info)(WDCEP)

About 42% of the people living in this Zip code have college degrees or higher qualifications. The neighborhood profile comprises of active, independent seniors that are mostly 'empty nesters'(30%); well educated persons in professional and managerial positions(14%) living in single family homes and some foreign-born married couple families living in apartments.(22%). (Tapestry)

The average household income is \$94,862.0 per annum whilst the median household income is \$62,487.0 per annum. The median household value in this neighborhood is \$421,796.0 and 56% of persons living in this zip code are owner-occupiers. (WDCEP)

3.5. ZIP CODE 20020 (Anacostia SE)

The historic **Anacostia neighborhood** is located near the banks of the Anacostia River in the south-east area of Washington, DC. It is accessible by Metrorail, Interstates Highways 295 & 395 and Suitland Parkway. The major thoroughfare within the neighborhood is the Martin Luther King Jr. Avenue. In recent times, there has been a lot of focus and activities on investment and development in the Anacostia neighborhood particularly in the arts/culture, entrepreneurship and small business development, retail amenities, affordable housing, provision of jobs, preservation and redevelopment and transportation connections.

The population of Zip Code 20020 (2013) is about 10,774 persons: Whites (1.7%), Blacks(96.0%), Hispanics/Latinos(1.4%) and Asians(0.3%). The population density in Zip code 20020 is high; about 9,979 persons per sq. mile. The median age is 31.9 years; <20years(32%), 20-34 years (22%), 35-64 years(37%) and 65+ years(9%). The male: female ratio is 45:55.

The average household /median household incomes are \$46,885.0/\$27,778.0 respectively. The median value of homes in the neighborhood is \$253,237.0 with a 27% ownership rate. The typical profile of the persons living in this neighborhood is young uneducated and low-income earners. 80% of the residents completed high school whilst others dropped out of school; only 13% completed college degrees. Many live on government assisted programs like Medicaid/Medicare. They might be single, married couples or single parents. Most of the people living in this area live in apartments and work at retail or service jobs. Some have cars; but many commute long distances to work using public transportation.

3.6. TYPES OF RESIDENTIAL PROPERTIES

The three types of residential properties discussed in this research are the more common owner-occupied and investment properties found in Washington DC: namely Detached houses, Townhouses and Condominium units.

Another common type of investment property found in the Washington DC area but not discussed in this research paper due to time constraints are the Multi-units/Multi-tenanted high-rise apartment buildings in which the ownership structure is vested in an individual, partnership, corporation or a cooperative where the multi-units are sold as (#) of shares of a whole structure as opposed to condominiums where each multi-unit is sold as separate legal entities. Other types of residential properties not considered in this research paper due to time constraints include Semi-detached houses (Duplexes) and also bungalows.

3.6.1. Detached Houses

A detached house is a building on two or more floors that does not share any party wall with any adjacent building and it is free standing on its own; likewise the legal ownership of the detached house can vest in an individual, partnership or a corporation. In Real Estate, this refers mostly to single-family homes that sit on their lot without sharing any walls with another home or building.

This type of dwelling provides distance between neighbors, greater sense of privacy and provides more floor space generally than an attached house. Owners and /or occupants of this building tend to bear all the running expenses for this building alone.

3.6.2. Townhouses

A townhouse is a type of home constructed on two (2) or more story (levels) units with a common wall or walls bordering adjacent unit(s). This implies that a townhouse has two or more floors, stairs and is attached to other similar units in a planned unit residential developments or condominium development. Ownership structure for each unit can also be vested in an individual, partnership or a corporation. All the common area running expenses for this property are shared with other occupants in the same residential development e.g. maintenance of the common areas like the streets, street lighting, garbage collection and disposal, snow removal, joint security/surveillance in the residential development etc. However, other running expenses that are pertinent to the property alone e.g. Property taxes, gas/electricity bills, water bills, etc. are borne by the owner and/or occupier as mutually agreed by both parties.

3.6.3. Condominium Units

A condominium unit is one unit out of a multi-unit structure where each homeowner own their individual unit space and all the dwelling units in that specific property and share joint ownership of the common areas/land, structure and amenities like the pool, recreation center, hall ways, etc. The Condominium is governed by a **Condominium Declaration**, which spells out the provisions, covenants, conditions and restrictions for all the condominium unit owners. The declaration also spells out the Limited common areas and the General common areas. Details of what is included in the Condominium Declaration affect how the Condominium unit is owned, insured or can be transferred.

3.6.4. Differences between Townhouses and Condominiums

Condominiums refer to the form of ownership structure whilst the Townhouses refer to the architectural style or type of dwelling unit. For example, a townhouse can be owned in “absolute ownership” or “condominium ownership.

4. LITERATURE REVIEW

The study attempts to research and review the various existing economic studies on how the 2008 economic recession impacted the residential housing market values.

An economic recession is a business cycle contraction; a general slowdown in economic activity when macroeconomic indicators such as GDP (Gross Domestic Product), employment,

investment pending, capacity - utilization, household income, business profits, and inflation) fall whilst bankruptcies and unemployment rise.

The 2008 economic recession was a “National Housing Bubble” burst (Wendell Cox, June 2011) which greatly impacted the housing market nationwide. The National Housing Bubble burst was primarily as a result of Predatory Lending (Predatory Lending) is when lenders give mortgage loans that are unfair, deceptive with unfavorable loan terms such as very high interest rates to borrowers during a loan origination process. (Jeff Holt, 2009) These lenders target borrowers with poor credit scores who would ordinarily have no access to credit or sometimes the elderly and uneducated persons who do not understand the financial implications of the contractual agreements they were entering into. When borrowers of these predatory loans failed to pay their mortgages, these lenders foreclosed and repossessed these properties, which in turn increased the supply of properties in the Housing market reducing the values of residential properties in the housing market.

Another viewpoint by Chairman Ben S Bernanke of the Federal Reserve Bank, as reported by the Financial Times (August 31, 2007) traced the historical evolution of the housing markets and housing finance in the United States. He has argued that institutional changes in the US housing and mortgage markets often significantly influence both the transmission of monetary policies and the cyclical dynamics of the economy. For example, he argued that the emergence of Capital markets as a source of long term funding for the housing market has resulted in major changes in the financial markets and financial instruments. This made the housing finance sector less sensitive and less dependent to conditions in the short –term money markets where the central bank operates. In fact, he traced the genesis of the problems in the housing sector to the summer of 2005 (before the 2008 economic depression) when sales of new and existing properties declined significantly due to a decrease in demand. The decrease in the demand was as a direct result of the increased interest rates and the tightening of credit conditions for borrowers in the mortgage market. The decreased demand and stock of unsold new residential properties has led to a cutback in residential construction. He argued that the interaction of housing(newly developed/existing), housing finance(mortgage markets) and the economic activities in a location will always impact and be of major importance to understanding the behavior of the economy in that location.

An overview of the relevant literature in the field concerning the impact of the 2008 economic recession on residential property investments revealed mostly discussions of the general effects of this recession on the Real Estate housing markets. Most of the studies did not do a detailed analysis of the impact of the recession on different categories or types of residential properties.

This thesis is an attempt to contribute further to the existing theories of the impact of the 2008 economic recession on the housing market by providing more detailed information on how this particular recession has impacted types of residential property investments in five(5) diverse neighborhoods of Washington, DC.

The study is particularly important for investors or realtors who are advising clients about different types of residential property investments in Washington DC. In view of the time-lag it takes for supply to meet the demand; the effects of the 2008 economic recession would linger

much longer on property values and thereby affect investment decisions in determining what type of residential property to invest in.

5. RESEARCH METHODOLOGY

5.1. DATA COLLECTION/ PROCESS

The main research methodology utilized in this study is a quantitative analysis of sales data on the different types of residential properties mentioned above from Years 2004 to 2012. The sales data is collected from the data bank of MRIS. MRIS is an on-line Real Estate

Information Service that provides information on the Real Estate market activities for members who are Licensed Real Estate professionals in Washington, Maryland, West Virginia, Virginia and Pennsylvania states of the United States of America and who are bound by contractual agreement to report all their real estate market activities into the MRIS pool.

I have access to this database as a Licensed Real Estate professional operating in Washington DC. As a Licensed Practicing Realtor in the aforementioned state, I already pay quarterly and yearly dues for as a member and would not have to pay any additional charge for use of the database.

I have collected data for the 9-Year Period (2004 to 2012) for the three different residential property types for the selected Zip codes in Washington DC and analyzed same for trends. My analysis compared results from pre-2008 with post-2008 to determine the trends in property values for the three residential property types under consideration. Any outlying data would be given a special attention in order to determine why there are outlying results.

My Universal data are all residential transaction activities that occurred for all types of residential properties in Washington DC from Years 2004 to 2012 and were reported in the MRIS system. My sample data collected for analysis would be residential transactions for 3-bedroom detached houses, 3- bedroom townhouses and 3-bedroom condominium units that occurred between Years 2004 and 2012 for five selected Zip codes in Washington, DC, USA and was reported in the MRIS database.

This study is particularly important for investors or realtors who are advising clients about the different types of residential investment categories being considered in the study. In view of the time-lag it takes for supply to meet demand; the effects of the 2008 recession would linger much longer on property values and thereby affect investment decisions in determining what type of residential property to invest in or not depending on the location in question.

5.1.1. Independent Variables

The four independent variables collated from the MRIS database utilized to study the trends in 3-bedroom investments and the behavioral pattern of 3- bedroom investors for the various residential property categorizations under study from 2004 to 2012 are namely:-

Average List Price (ALP): of the 3-Bedroom units. This is the average of all the original list prices requested by the vendors selling 3-bedroom units when the property entered the market for

sale in specific locations at specific time periods as reported by real estate professionals into the MRIS database.

Average Sold Price (ASP): of the 3-bedroom units. This is the average of all sold prices for the 3-bedroom units in different categorizations under consideration for different locations and different specific time periods.

Average days on the market (DOM): The number of days the property stayed on the market from when it was originally listed on the market to when it was eventually sold.

Number of units sold (# sold): The number of 3-bedroom units sold for each residential property category in different locations per year.

Assumptions: In the MRIS; sales transactions for each year of study is collated as the sum total of all sales transactions from the end of the month of January of the previous year to the month of January of the year under consideration. For example, sales transaction data collated for Year 2005 is the sum total of sale transactional activities from end of January 2004 through January 2005.

Limitations: The study is only limited to data that was submitted by licensed real estate practitioners into the MRIS data bank. It does not take into account market transactions whereby sellers decide to market and sell their properties directly by themselves thereby not utilizing the services of Licensed Real Estate Professionals; in such cases there is no obligation on the part of the seller to report same into the MRIS data bank. Secondly, the study was only limited to urban cities; it did not consider the effect of the 2008 economic recession on rural or semi-urban areas.

6. RESULTS OF THE RESEARCH

The results of this study is collated and organized in tabular and graphical forms for the five under listed locations under consideration in Washington DC:

1. Zip code 20007(Georgetown)
2. Zip code 20010(Columbia Heights)
3. Zip code 20015(Chevy Chase/Friendship Heights)
4. Zip code 20017(Brookland /Catholic University)
5. Zip code 20020(Anacostia)

6.1. ZIP CODE 20007(Georgetown)

A total number of 1,652 3-bedroom units were sold in Zip code 20007, around the Georgetown neighborhood, during the period of study from 2004 to 2012: Townhouses (818 units-49.52%), Condos (704units-42.61%)and Detached houses (130 units-7.87%)

3-Bedroom Detached Houses.

From 2004 to 2012; 3-bedroom detached houses were sold from \$896,000.00 to \$1.3million resulting in a peak price of approximately \$1.289million in Year 2009. Thereafter, there was a 17.2% decrease in the average sold prices of 3-Bedroom detached houses purchased from Years 2009 to 2012 with a corresponding 16.9% decrease in the number of units sold from Years 2009 to 2012. The average no of days on the market (DOM) for 3-bedroom detached houses for the period under study was 1-2months; except in Year 2010 when the DOM was over10 months.

3- Bedroom Townhouses.

The research findings indicate that 3-bedroom townhouses represented approximately half (49.52%) of all the 3- bedroom units sold in this zip code from 2004 to 2012. There was a gradual increase of 31.8% in the value of average sold prices from \$847,810.0 to \$1.242million of 3-Bedroom townhouses sold in the Georgetown area from Years 2004 to 2010. In Year 2011, there was a gradual decrease in the value of average sold price to \$1.242million. The average no of days on the market (DOM) for 3-bedroom townhouses was

1-2 months from Years 2004-2012 except for Year 2010which recorded about 8 months. The results of the research also showed a corresponding decrease in the number of units sold in Years 2004-2011 from 114 to 75 units.

3- Bedroom Condominium Units.

The results indicate that 3-bedroom Condominium units sold represented 42% of all 3-bedroom units sold in Years 2004to 2012. However, there was a decline in the number of units sold (from 100 to 69) from Years 2004-2008 with a gradual increase of 35.6% in the value of average sold prices for 2004-2010. The average DOM was 1-3 months for Years 2004-2009 and was 4-5 months for Years 2010-2011.

Year	Detached House	Townhouses	Condos
2004	\$888,275	\$838,484	\$482,881
2005	\$949,414	\$977,193	\$689,903
2006	\$883,167	\$997,050	\$509,781
2007	\$1,167,000	\$965,266	\$487,930
2008	\$1,430,869	\$1,010,293	\$509,926
2009	\$1,009,417	\$999,580	\$596,635
2010	\$1,127,917	\$1,038,932	\$728,578
2011	\$896,588	\$988,200	\$587,957
2012	\$982,077	\$1,052,971	\$525,303

Table 1 – Avg. Sold Price of 3 BR Units in Zip code 20007(Georgetown)

Year	Detached House	Townhouses	Condos
2004	34	26	55
2005	41	32	29
2006	57	47	54
2007	66	66	87
2008	4	64	81
2009	68	70	67
2010	312	235	157
2011	60	70	133
2012	48	53	86

Table 2: Avg. Days on Market (Zip code 20007-Georgetown)

Year	Detached House	Townhouses	Condos
2004	20	114	100
2005	17	113	89
2006	12	96	93
2007	13	101	97
2008	14	70	69
2009	12	75	66
2010	12	75	58
2011	17	75	56
2012	13	99	76

Table 3: No. of 3-BR units sold (Zip code 20007-Georgetown)

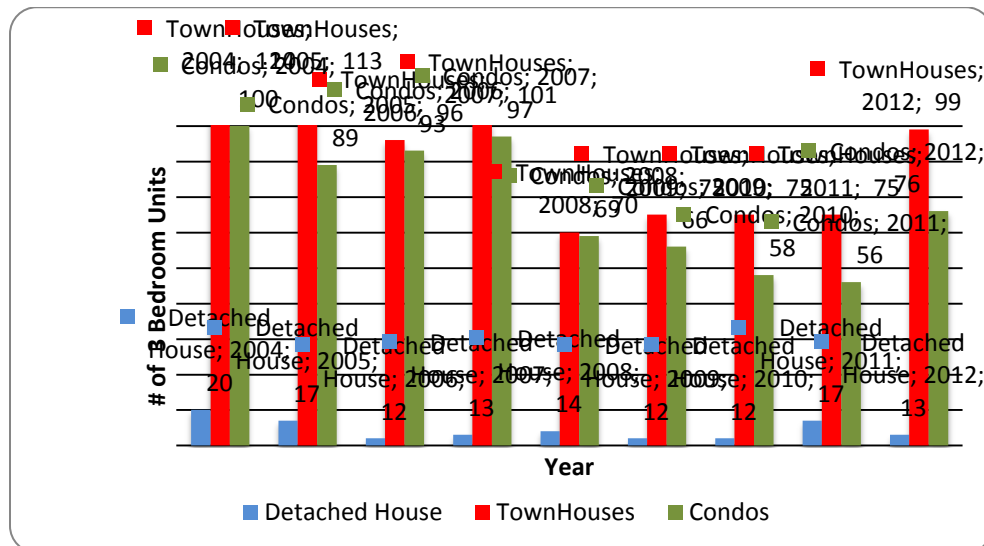


Figure 1: No. of 3-BR units sold (Zip code 20007-Georgetown)

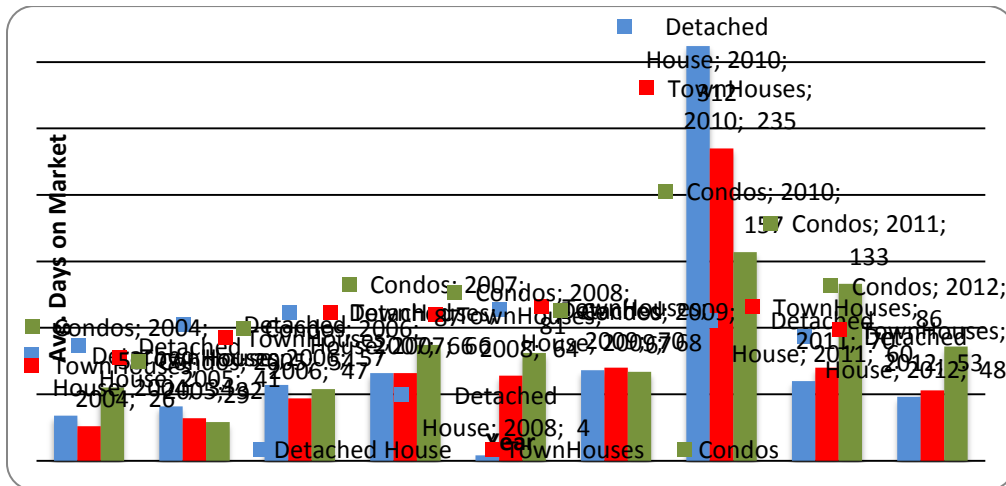


Figure 2: Avg. Days on Market (DOM) in Georgetown

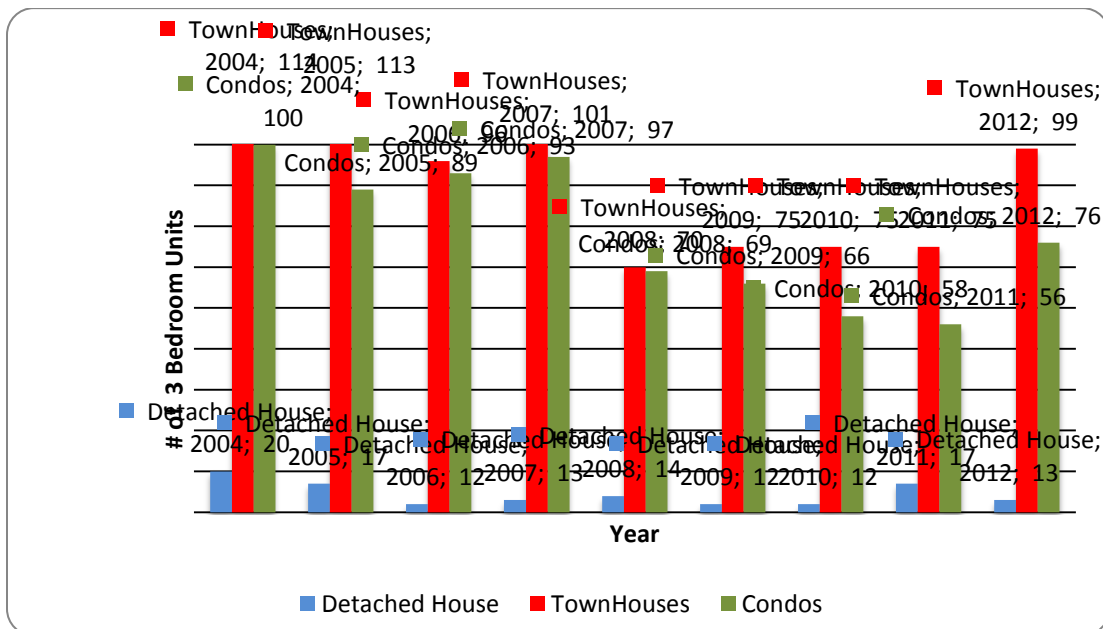


Figure 3: # of 3BR units in Washington, DC-Zip code 20007(Georgetown)

6.2. ZIP CODE 20010 (Columbia Heights)

There was a total number of 1,303 purchase activities for 3-bedroom units in Zip code 20010 (Columbia Heights) from Years 2004 – 2012: detached houses(19units -1.45%), townhouses(739 units – 56.72%), (545units – 41.83%).

3-bedroom Detached houses.

The very low sale activities for detached houses in Zip code 20010(Columbia Heights) during this study period indicates that the existing houses did not change hands and also a scarcity of newly developed detached houses at this location. However, a review of the demographics for the location reveals a very high density of 27,866 persons per sq. mile. This explains why townhouses and condominium units are the more common residential building types found at this location to house the highly dense population.

3-bedroom Townhouses .

Approximately 60% of all the 3-bedroom units sold in zip code 20010(Columbia Heights) for the study period (Years 2004-2012) were townhouses. The average price for 3-bedroom townhouses ranged from \$358,220.0 to \$493,234.0 from Years 2004-2008. In Year 2009, there was an 18.33% decline in the average sold price of the previous year. After Year 2009, there was a fluctuating increase to \$445,452.0(2010), \$432,395.0(2011) and \$508,176.0(2012). The average DOM in months was 1-4 months for the study period (2004 to 2012).

3-bedroom Condominium units.

A total number of 545 3-bedroom condominium units were sold at this location during the study period. 58.35% of the units were sold Pre-2008, whilst a lower percentage (41%) was sold after the 2008 economic recession. There was an actual increase of 9.67% in the average price of 3-bedroom condominium units sold after-2008 from \$352,133.0 to \$386,191.0. The average DOM for listed condo units Pre-2008 was (1-1.5 months) and (1.5-3.0 months) After-2008.

Year	Detached House	Townhouse	Condo
2004	\$435,333	\$358,220	\$340,004
2005	\$567,500	\$483,269	\$391,630
2006	\$580,000	\$493,234	\$372,542
2007	\$246,900	\$488,074	\$350,115
2008	\$866,000	\$461,922	\$345,653
2009	\$540,000	\$377,236	\$326,521
2010	\$190,000	\$445,452	\$364,643
2011	\$436,333	\$432,395	\$368,196
2012	\$212,500	\$508,176	\$405,768

Table 4: Avg. Sold Price(\$) of 3 BR units in Washington, DC- Zip Code 20010(Columbia Heights)

Year	Detached House	Townhouse	Condo
2004	12	20	12
2005	-	34	29
2006	80	49	32
2007	67	102	40
2008	1	45	45
2009	-	111	80
2010	18	70	90
2011	86	83	71
2012	-	87	48

Table 5: Avg. DOM of 3 BR units in Washington, DC- Zip Code 20010(Columbia Heights)

Year	Detached House	Townhouse	Condo
2004	3	116	36
2005	2	95	73
2006	6	69	55
2007	-	87	118
2008	2	64	36
2009	1	83	78
2010	1	77	46
2011	3	82	50
2012	1	66	53

Table 6: # of 3 BR units in Washington, DC- Zip Code 20010 (Columbia Heights)

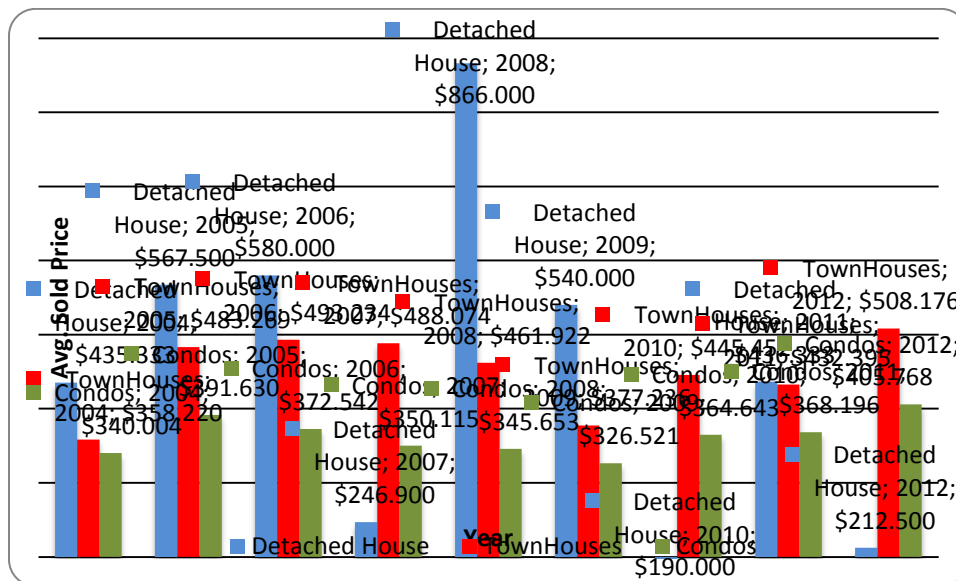


Figure 4: Avg. Sold Price of 3 BR units in Zip code 20010(Columbia Heights)

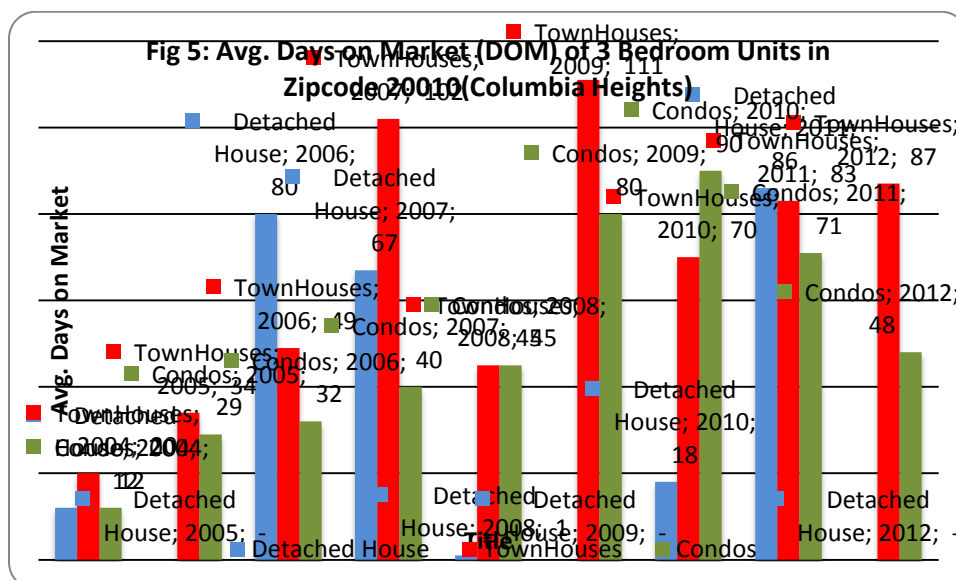


Figure 5: Avg. Days on Market (DOM) of 3 BR Units in Zip code 20010(Columbia Heights)

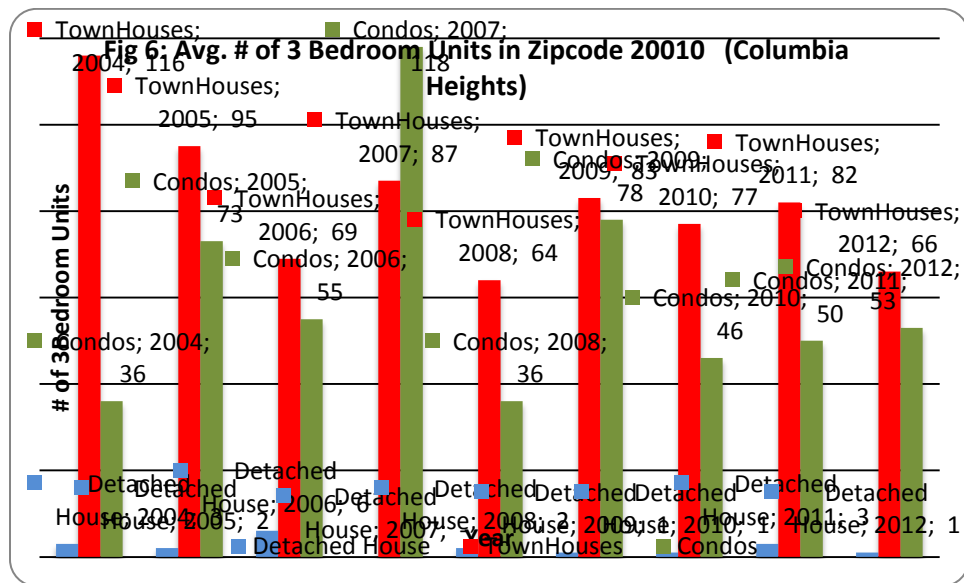


Figure 6:: Avg. # of 3 BR Units in Zip code 20010 (Columbia Heights)

6.3. ZIP CODE 20015 (Chevy Chase/Friendship Heights.)

A negligible number of (40) 3-bedroom units were sold at this zip code for the entire study period from Years 2004 to 2012. This implies few transactional activities for existing properties and none/very few new developments at the location. The zip code recorded a low average population density of 4,460 persons per sq. mile.

3-bedroom Detached Houses.

Approximately 42.5% of the total number of 3-bedroom units sold during the study period at this zip code was a single family detached house. The average sold price of these 3-bedroom units was \$668,931.0 (Pre-2008) and \$747,333.0 (After-2008) resulting in an increase of 11.72% in average sold price after the recession. The average DOM was Pre-2008(1-2.5 months) and After-2008(1-1.5 months).

3-bedroom Townhouses.

The average sold price of 3-bedroom townhouses (Pre-2008) was \$745,504.0 and \$740,730.0 (After-2008) resulting in an 0.6% decrease in the average sold price after the recession. 67% of the 3-bedroom townhouses sold were sold Pre-2008 within a period of one month after it was listed in the market; units sold After-2008 were listed for 1-3 months.

3-bedroom Condos.

35% of the 3-bedroom units sold were condos; for an average price of \$294,993.0 (Pre-2008) and \$389,864 (After-2008) resulting in a 32.16% increase After-2008. More condo units were sold after the 2008 recession. The average DOM for 3-bedroom condo units sold in zip code 15 for the study period is (1-3 months)

Year	Detached House	Townhouse	Condo
2004	\$537,500	\$692,500	\$240,000
2005	\$677,500	\$693,000	\$0
2006	\$660,250	\$835,500	\$306,500
2007	\$685,500	\$688,000	\$327,000
2008	\$701,600	\$850,000	\$0
2009	\$735,000	\$639,000	\$0
2010	\$750,000	\$842,500	\$340,875
2011	\$757,806	\$0	\$431,670
2012	\$686,500	\$0	\$0

Table 7: Avg. Sold Price (\$) of 3 BR units in Washington, DC (Zip Code 20015) Chevy Chase

Year	Detached House	Townhouses	Condos
2004	22	21	23
2005	10	35	23
2006	38	7	41
2007	49	17	91
2008	75	9	160
2009	5	85	160
2010	43	115	70
2011	51	35	6
2012	41	12	6

Table 8: Avg. Days on Market (DOM) of 3 BR units in Washington, DC (Zip Code 20015) Chevy Chase

Year	Detached House	Townhouses	Condos
2004	1	1	1
2005	2	1	-
2006	2	2	2
2007	2	1	1
2008	4	1	2
2009	1	1	-
2010	1	2	2
2011	2	-	6
2012	2	-	-

Table 9: # of 3 BR units in Washington, DC (Zip Code 20015) Chevy Chase

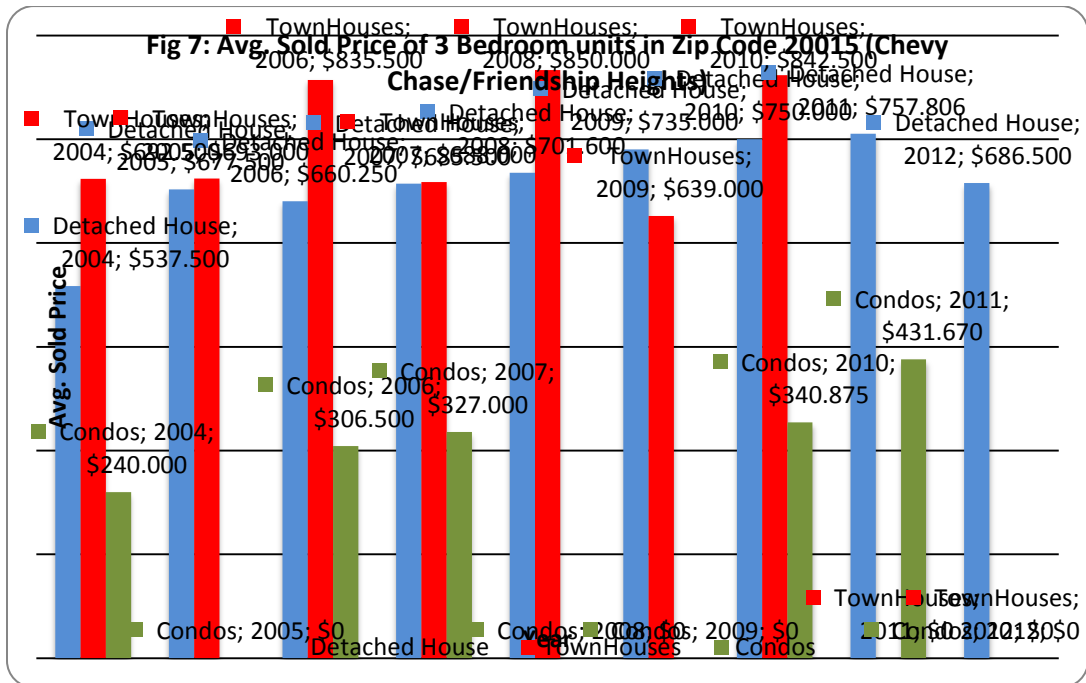


Figure 7: Avg. Sold Price of 3 BR units in Zip Code 20015 (Chevy Chase/Friendship Heights)

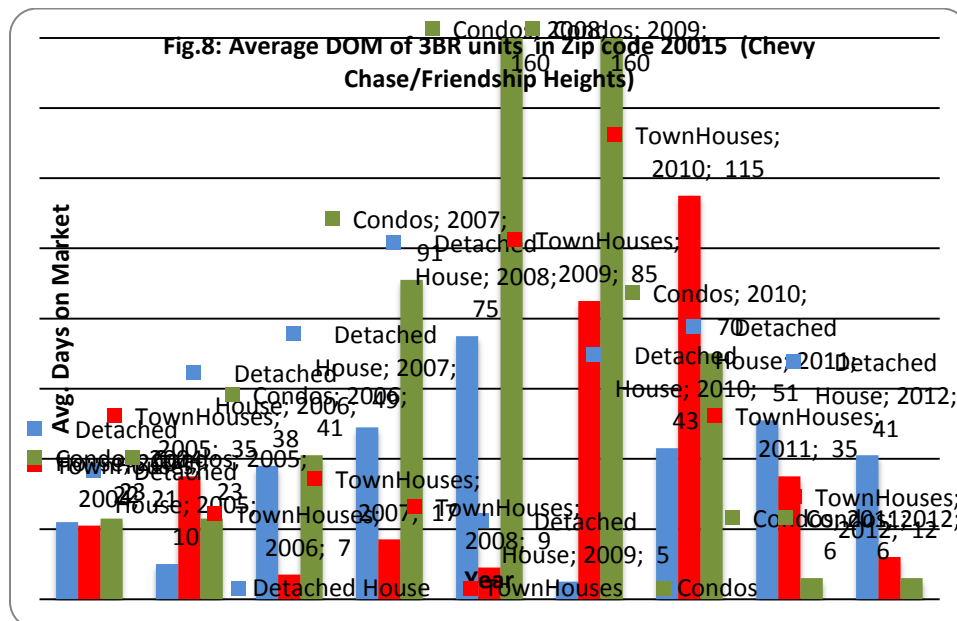


Figure 8: Avg. DOM of 3BR units in Zip code 20015 (Chevy Chase/Friendship Heights)

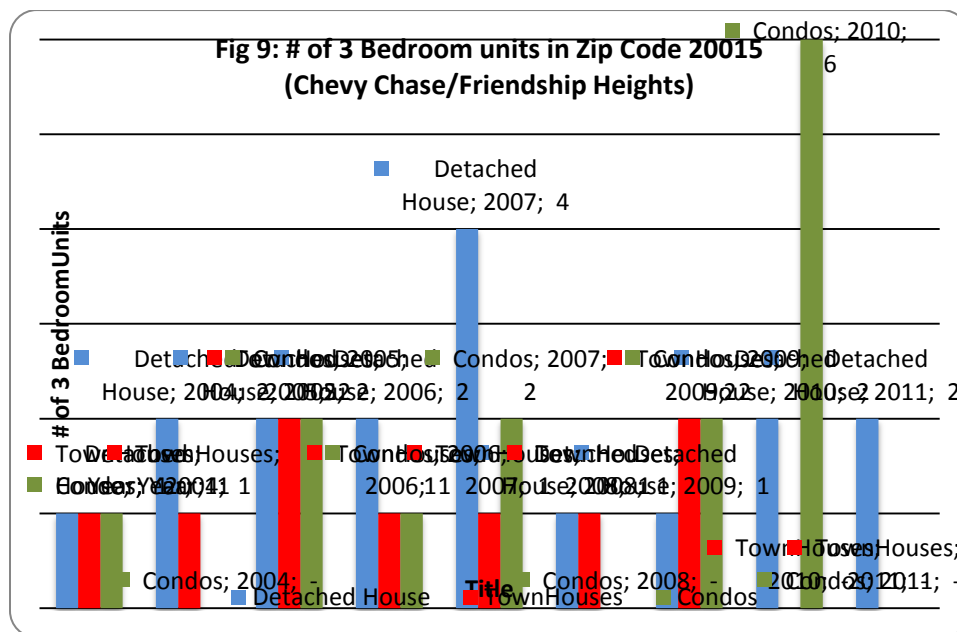


Figure 9: # of 3 BR units in Zip Code 20015 (Chevy Chase/Friendship Heights)

6.4. ZIP CODE 20017(Brookland & Catholic University)

A total number of 802 3-bedroom units were sold in this zip code from Years 2004 to 2012. Townhouses represented over half (57.23%) of all the 3-bedroom units sold in this location; Detached houses (26.80%) and Condominium units (15.97%).

3-bedroom Detached houses.

The number of 3-bedroom detached houses that were sold Pre-2008 was 121 units (56.28%); 94 units were sold After-2008. The average price Pre-2008 was \$392,265.0, whilst the After-2008 price was \$368,685.0 resulting in a 6.0% decrease in price. The average DOM in months the property was listed before sale during the study period was (1-3) months except in Year 2008 when the DOM for detached houses was approximately 6 months.

3-bedroom Townhouses.

55.56%(255 units) of 3-bedroom Townhouses sold in this zip code was Pre-2008 whilst 44.44% was After-2008. The average price of \$346,452.0 of 3-bedroom townhouses (Pre-2008) decreased by 12.43% to \$305,144.0(After-2008) The average DOM was (1-3) months Pre-2008 and (4-5) months After-2008 except in Years 2009/2012 when it was 10/14 months respectively.

3-bedroom Condominium units.

Over 80% of the 3-bedroom condo units sold Pre-2008, whilst only 18.75% of these units sold After-2008. The average price for these units was \$225,569.0 Pre-2008; and \$239,569.0 After-2008. The 3-bedroom condos sold after a DOM of (1-3) months for the study period except for 2008/2009, which has a DOM of 5 months.

Year	Detached House	Townhouses	Condos
2004	\$368,752	\$270,215	\$185,899
2005	\$416,732	\$344,510	\$254,520
2006	\$436,145	\$355,912	\$247,056
2007	\$427,183	\$359,952	\$253,463
2008	\$363,175	\$321,679	\$214,408
2009	\$343,636	\$261,636	\$193,812
2010	\$349,354	\$281,320	\$179,299
2011	\$363,609	\$276,161	\$199,679
2012	\$349,354	\$276,161	\$179,299

Table 10: Avg. Sold Price of 3-BR units in Zip code 20017(Brookland/CUA)

Year	Detached House	Townhouse	Condo
2004	28	50	16
2005	25	60	52
2006	19	69	16
2007	30	40	10
2008	19	36	10
2009	11	52	7
2010	24	53	4
2011	22	55	8
2012	37	44	5

Table 11: Avg. Days on Market (DOM) of 3 BR units in Washington, DC (Zip Code 20015) Brookland/CUA

Year	Detached House	Townhouse	Condo
2004	7	14	48
2005	18	42	37
2006	19	29	62
2007	101	96	50
2008	182	66	132
2009	95	323	144
2010	59	138	61
2011	31	116	37
2012	63	420	91

Table 12: Avg. # of 3BR units sold in Zip code 20017(Brookland/CUA)

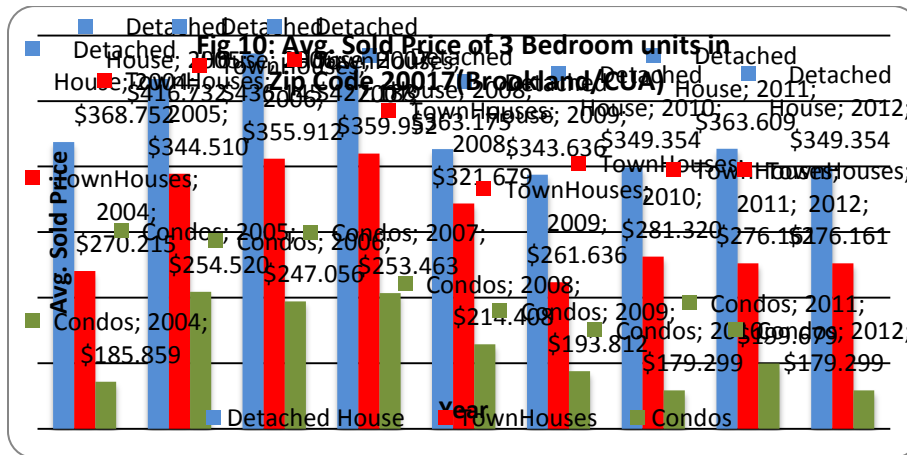


Figure 10: Avg. Sold Price of 3 BR units in Zip Code 20017

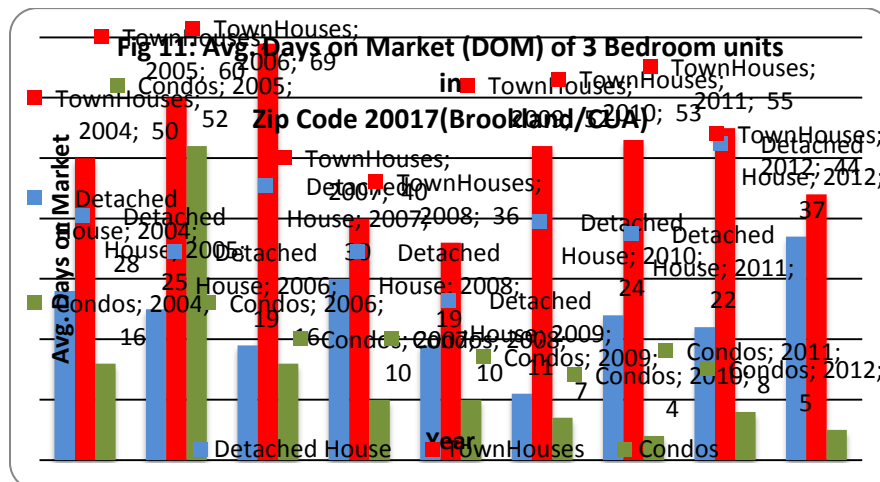


Figure 11: Avg. Days on Market (DOM) of 3 BR units in Zip code 20017

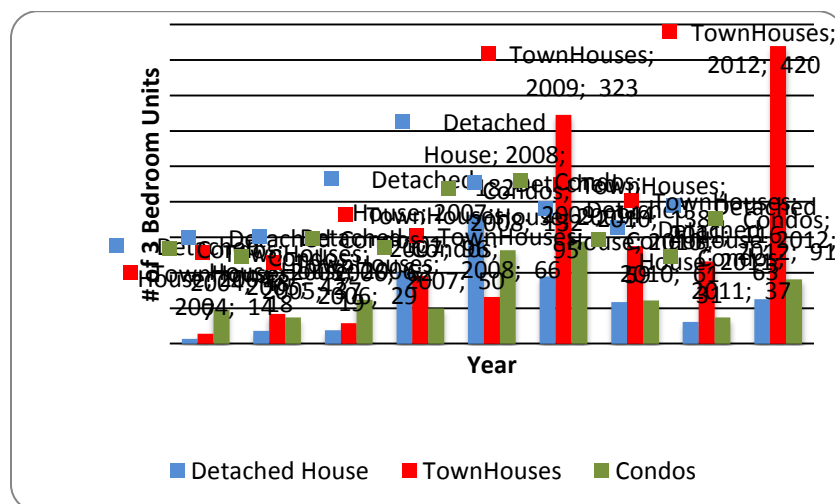


Figure 12: Avg. # of 3BR units sold in Zip code 20017

6.5. ZIP CODE 20020 (Anacostia, SE)

A total of 1,381 3-bedroom units were sold in zip code 20020 during the study period; Detached houses(24.19%)Townhouses(41.85%) and Condominium units(33.96%).The population density for this zip code is high: 11,432persons per sq. mile.

3-bedroom Detached houses.

Over half (52.39%) of the 3-bedroom detached houses were sold Pre-2008 whilst 159 units(47.61%) was soldAfter-2008. The average price for the Pre-2008 sold units was \$365,024.0 and the average price for the After-2008sold units was \$259,317.0 resulting in a (28.96%)decrease in price. The average DOM for units sold Pre-2008 and After-2008 was both (1-4) months except for Year 2009when the DOM for 3-bedroom units sold was 8 months.

3-bedroom Townhouses.

A total of 578 3-bedroom townhouses were sold from Years2004 to 2012: (57.27%)Pre-2008 and (42.73%)After-2008. There was a decline of (22.93%) of the average price of townhouses from \$249,231.0(Pre-2008) to \$193,435.0 (After-2008) in this zip code. The average DOM for 3-bedroom units sold was (1-3) months Pre-2008 except for Year 2008, it was 7 months. The After-2008 DOM was (3-5)months.

3-bedroom Condominium units.

77.61%(364 units) of the 3-bedroom condo units sold werePre-2008 whilst 22.39% was After-2008. The average price for the units sold Pre-2008 was \$167,540.0 and After-2008was \$111,553.0 resulting in a 33.42% decrease in price. The average DOM for units sold was (1-3) months for both Pre-2008 and After-2008 except for Year 2010(5 months)

Year	Detached House	Townhouses	Condos
2004	\$282,394	\$169,892	\$97,158
2005	\$329,033	\$239,190	\$142,999
2006	\$363,515	\$276,446	\$192,180
2007	\$374,605	\$278,122	\$187,301
2008	\$342,961	\$281,534	\$188,879
2009	\$261,138	\$174,725	\$158,705
2010	\$254,944	\$158,558	\$66,565
2011	\$230,246	\$146,254	\$55,590
2012	\$257,746	\$177,237	\$73,118

Table 13: Avg. Sold Price of 3B Units in Zip code 20020(Anacostia SE)

	Detached House	Townhouses	Condos
Year	76	30	16
2004	38	9	18
2005	51	19	23
2006	115	82	64
2007	128	217	86
2008	229	123	63
2009	87	86	151
2010	8	109	153
2011	71	139	27
2012			

Table 14: Avg. DOM of 3BR units in Zip code 20020(Anacostia SE)

	Detached House	Townhouses	Condos
Year	53	91	36
2004	47	66	47
2005	32	82	101
2006	21	46	128
2007	22	46	52
2008	31	62	35
2009	43	65	30
2010	39	67	26
2011	46	53	14
2012			

Table 15: Avg. # of 3-BR units sold in Zip code 20020(Anacostia SE)

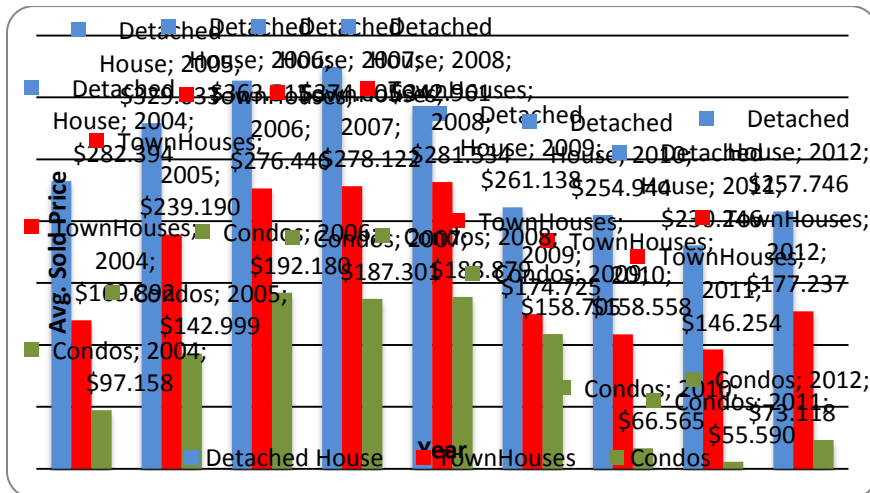


Figure 13: Avg. Sold Price of 3 BR Units in Zip Code 20020

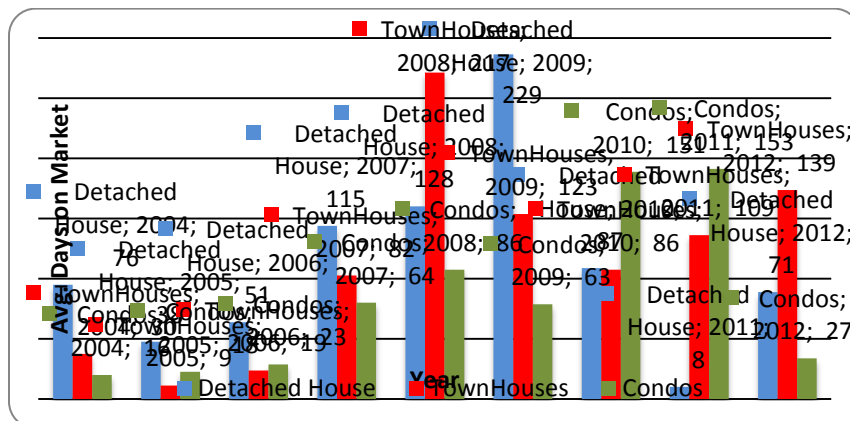


Figure 14: Avg. Days on Market (DOM) of 3 BR Units in Zip Code 20020(Anacostia SE)

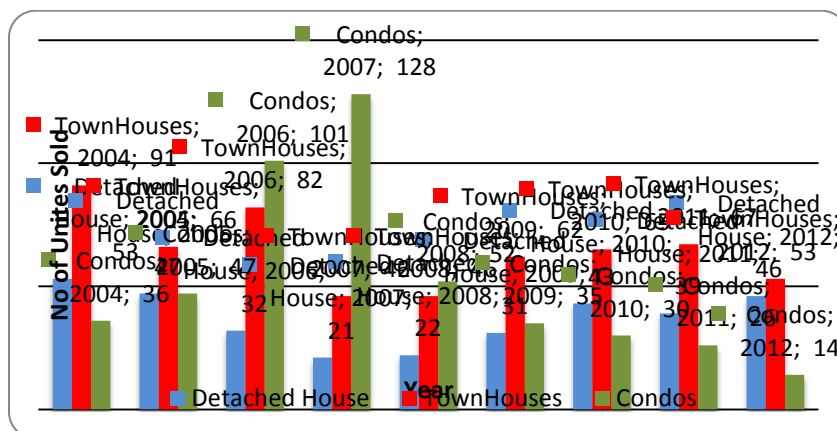


Figure 15: Avg. # of 3 BR Units in Zip Code 20020 (Anacostia SE)

7. ANALYSIS

In view of the objective of the study, the analysis of the result findings from the research study would be discussed in two ways: Pre-2008 and After-2008 in order to review the effects of the 2008 economic recession on residential property purchase and investment.

High Density Population

A review of all the zip codes in the study reveal that, except for zip code 20015 with a population density of 4,460 persons /sq. mile, all other zip codes are high density urban centers with a population of over 7,000 persons/sq. mile: Zip code 20007-Georgetown(8,339/sq. mile), zip code 20010-Columbia Heights(27,866/sq. mile), zip code 20017-Brookland(8,227person/sq. mile) and zip code 20020-Anacostia(11,432 persons/sq. mile). This explains why 62.1% of the housing units in Washington DC are multi-story and multi-tenanted buildings. More 3-BR units particularly townhouses and condominium units were sold in the other higher density zip codes under consideration than in zip code 20015-Chevy Chase/Friendship Heights both before and after the 2008 economic depression. See Tables 16-20. (City-data.com)

After 2008; Reduction in Average number of Sold Units

A review of the result findings revealed that more purchases were made on all the three types of residential properties for the five different zip codes for 3-bedroom units sold Pre-2008 than After-2008 except for 3-bedroom condos sold After 2008 in zip code 20015. See Tables 16-20 which give summaries of the number of units sold for the five different zip codes under study in our research in Washington DC.

The lower number of sales recorded after 2008 can be as a result of more stringent borrowing requirements put in place by the government through the banks after the Government tried to curb the excesses of the predatory banks that had financed mortgages to people who could not afford to pay for them at the end of Year 2008. This led to a lot of foreclosures and invariably increased the housing supply.

After-2008;(Reduction)or(Increase)in the Average Sold Price(ASP)

A review of all the data from the five zip codes in the case study actually revealed that After-2008, there was an across the board increase on average sold price(ASP) for all types of 3-bedroom units in zip code 20007(Georgetown)(median age of 32 and a median household income of \$138,623/annum). The median value for a house/condo in zip code 20007(Georgetown) is one million dollars with an owner-occupier rate of 47.8%. In zip code 20010(Columbia Heights), there was a decrease in the ASP of detached houses and an increase in the ASP OF townhouses and condominium units at that location because of the very high density population(27,866 persons/sq. mile)(median age of 32 and median household income of \$54,032.0). Only 26% of persons residing in zip code 20010 are owner-occupiers with a median house value of \$492,670.0; majority(74%) are renters.(WDCEP)

See Tables 21-22. Zip codes 20007 and 20010 were mostly the locations most of the well educated, young and high-income population predominantly whites(average age of 32 years) relocated to in Washington DC from Years 2000 to 2010.

In Zip code 20015(Chevy Chase/Friendship Heights), there is a more matured white population(77%)(median age of 46.5 years with a median household income of \$103,736.0. The After-2008 data(see Table 23) revealed an increase in the ASP of 3-BR detached houses and Condominium units and not townhouses. The median house value is \$690,912.0 and the owner occupier rate is 44%. The population density at this location(4,460 persons/sq. mile) was relatively lower than other parts of DC accommodating married couples that were ‘empty nesters’ or couples with older children.

In Zip codes 20017 and 20020; After-2008, there was a decrease in the ASP of all 3-BR units of the various housing types under consideration in this study except for condominium units in zip code 20017 which actually recorded a 6% increase in average sold price(ASP). See Tables 24 & 25. Majority of the population in these two zip codes are blacks: Zip code 20017(median age of 39.9 years with a median household income of \$62,487.0 per annum) and zip code 20020(median age of 31.9 years with a median household income of \$27,787.0)

After-2008; Increased DOM

After the economic recession in Year 2008, data collated for the five zip codes in the case study indicate a general trend of increase in the average days on the market (**DOM**) from when the 3-bedroom units are listed and eventually sold in the market for all the different property types. Tables (26-30) give summaries of the Average days on the market(DOM) for all types of 3-bedroom units considered in the study in zip codes 20007, 20010, 20015, 20017 and 20020 respectively.

Table 26 shows that in zip code 20007, the average DOM for detached houses and townhouses was two months or less whilst it took a longer time to sell condo units in this same zip code(2-5 months)

The average DOM for detached houses and condo units in zip code 20010 was two months or less while it took a longer period of 1-4 months to sell townhouses in zip code 20010.

For zip code 20015 there was no difference in the DOM for both Pre-2008 and After-2008 for all the 3-bedroom units sold within the study period: the average DOM was(1-3) months. See Table 28.

Tables 29 & 30 reveal an average DOM ranging between (1-3)/(1-4) months respectively for zip codes 20017/20020 for all the 3-bedroom units sold during the study period.

Year	Detached Homes	Townhouses	Condos	Total
Pre-2008 - # of Units	76	494	448	1018
% of Pre-2008 units	7.47%	48.53%	44.01%	62%
After 2008 - # of Units	54	324	256	634
% of After-2008 Units	8.52%	51.10%	40.38%	38%
Total # of Units	130	818	704	1652
% of Total Units	7.87%	49.52%	42.62%	100%

Table 16: Summary for 3 BR Units sold in Zip code 20007(Georgetown)

Year	Detached Homes	Townhouses	Condos	Total
Pre-2008 - # of Units	13	431	318	762
% of Pre-2008 units	1.71%	57%	42%	58%
After 2008 - # of Units	6	308	227	541
% of After-2008 Units	1.11%	56.93%	41.96%	41.52%
Total # of Units	19	739	545	1303
% of Total Units	1.46%	56.72%	41.83%	

Table 17: Summary for 3 BR Units Sold in Zip code 20010(Columbia Heights)

Year	Detached Homes	Townhouses	Condos	Total
Pre-2008 - # of Units	11	6	6	23
% of Pre-2008 units	47.83%	26.09%	26.09%	57.50%
After 2008 - # of Units	6	3	8	17
% of After-2008 Units	35.29%	17.65%	47.06%	42.50%
Total # of Units	17	9	14	40
% of Total Units	42.50%	22.50%	35.00%	

Table 18: Summary for 3 BR Units Sold in Zip code 20015(Chevy Chase/Friendship Heights)

Year	Detached Homes	Townhouses	Condos	Total
Pre-2008 - # of Units	121	255	104	480
% of Pre-2008 units	25.21%	53.13%	21.67%	59.85%
After 2008 - # of Units	94	204	24	322
% of After-2008 Units	29.19%	63.35%	7.45%	40%
Total # of Units	215	459	128	802
% of Total Units	26.81%	57.23%	15.96%	

Table 19: Summary for 3 BR Units Sold in Zip code 20017(Brookland/CUA)

Year	Detached homes	Townhouses	Condos	Total
Pre-2008 - # of Units	175	331	364	870
% of Pre-2008 units	20.11%	38.05%	41.84%	63.00%
After 2008 - # of Units	159	247	105	511
% of After-2008 Units	31.12%	48.34%	20.55%	37.00%
Total # of Units	334	578	469	1381
% of Total Units	24.19%	41.85%	33.96%	

Table 20: Summary for 3 BR Units Sold in Zip code 20020(Anacostia SE)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	\$1,072,207	\$1,007,600	\$560,814
After 2008 (2009-2012)	\$1,142,374	\$1,128,326	\$651,187
% Change	6.54%	11.98%	16.11%

Table 21: Summary of Avg. Sold Price (\$) for 3 BR units in Zip code 20007(Georgetown)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	\$545,843	\$476,561	\$352,133
After 2008 (2009-2012)	\$341,428	\$480,375	\$386,191
% Change	-37.45%	0.80%	9.67%

Table 22: Summary of Avg. Sold Price(\$) of 3 BR units in Zip code 20010 (Columbia Heights)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	\$668,931	\$745,504	\$294,993
After 2008 (2009-2012)	\$732,327	\$740,750	\$389,864
% Change	9.48%	-0.64%	32.16%

Table 23: Summary of Avg. Sold Price (\$) of 3 BR units in Zip code 20015 (Chevy Chase/Friendship Heights)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	\$392,265	\$348,452	\$225,569
After 2008 (2009-2012)	\$368,685	\$305,144	\$239,569
% Change	-6.01%	-12.43%	6.21%

Table 24: Summary of Avg. Sold Price (\$) of 3 BR units in Zip code 2001(Brookland/CUA))

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	\$365,024	\$249,231	\$167,540
After 2008 (2009-2012)	\$259,317	\$193,435	\$111,553
% Change	-28.96%	-22.39%	-33.42%

Table 25: Table 25: Summary of Avg. Sold Price (\$) of 3 BR units in Zip code 20020

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	1-2	1-2	1-3
After 2008 (2009-2012)	2, 10*	2, 8*	2-5

Table 26: Summary of Avg. Days on Market (DOM) in Zip code 20007(Georgetown)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	1-2.5	1-3.5	1-1.5
After 2008 (2009-2012)	1	2.5-4	1.5-3

Table 27: Summary of Avg. Days on Market (DOM) in Zip code 20010(Columbia Heights)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	1-2.5	1	1-3
After 2008 (2009-2012)	1-1.5	1-3	1-3

Table 28: Summary of Avg. Days on Market (DOM) in Zip code 20015(Chevy Chase/Friendship Heights)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	1-3, 6*	1-3	1-2, 5*
After 2008 (2009-2012)	1-3	4-5, 10*, 14*	1-3, 5*

Table 29: Summary of Avg. Days on Market (DOM) in Zip code 20017(Brookland/CUA)

	Detached Houses	Town Houses	Condo
Pre-2008 (2004-2008)	1-4	1-3, 7*	1-3
After 2008 (2009-2012)	1-4, 8*	3-5	1-3, 5*

Table 30: Summary of Avg. Days on Market (DOM) in Zip code 20020(Anacostia SE)

8. CONCLUSIONS AND IMPLICATIONS OF STUDY

The returns and satisfaction from a residential property purchase and/or investment is dependent on the expectations of the purchaser/investor and to a very large extent on the location of the property in question. The expectations and returns to a buyer; individuals –for example a first-time home buyer or a second- time buyer buying a bigger home, a partnership, corporate entity, an insurance company sitting on clients’ money may all have differing expectations for the same property and different measuring criteria for investing in the purchase or not. Therefore, we can say that the returns to the different buyers above will be **subjective**.

However, the returns from a property purchase or investment in a particular location is also dependent on *location, location, location*.

What are the intrinsic values of that particular location? What is the value of the land?, what is the character of the neighborhood like i.e. demographics of the neighborhood, complementary businesses and essential services for that location, types of schools/school system in that area, current capacities of the utilities/services, level of security and criminal activities in a location. All these and more give a very **objective** valuation of the property at the property location and this is very measurable when considering different alternative residential property purchase/investment options. For example, the same type of property –a 3-bedroom townhouse

with the same style/design/layout, same constructional materials replicated in three different locations will give three different property values.

This dissertation was a research study of the impact of the 2008 economic recession on 3(no) different residential property types in five different zip codes in Washington DC depicting differing locational characteristics, demographics and socio-economic attributes.

A review of the research findings indicate that the 2008 economic recession affected the demand for all the 3-bedroom types of property considered in the study resulting in the reduction of number of units sold after the 2008 economic recession. Secondly, the recession affected the average sold price depending on the location of the property. In general, most of the properties in the affluent neighborhoods recorded an increase in the average sold price of the different types of 3-bedroom units after the 2008 recession while the less affluent neighborhoods recorded a decrease in the average sold price of the 3-bedroom units after the 2008 recession. This implies that unlike the less affluent locations, the 2008 economic recession did not profoundly affect or influence the average sold price of the affluent neighborhoods. There were a few exceptions to the above stated findings.

Finally, the after effects of the 2008 economic recession resulted in a greater or equal DOM for 3-bedroom units in all the selected zip codes/neighborhoods in Washington DC. This implies there was a longer period i.e. DOM for After-2008 than Pre-2008 from when the property is listed to when it eventually sold in the market. The DOM varied for different property types at different locations.

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