

**RELATIONSHIP BETWEEN HOUSING LIQUIDITY AND REAL ESTATE  
MARKET MATURITY IN NAIROBI COUNTY**

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## Declaration

This research project is my original work and has never been presented for the award of a degree in any other university.

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I also would like to thank my family and colleagues both at my place of work (Amnesty International) and at school for their moral support, encouragement and motivation while working on this project.

Thank you all, I am highly indebted.

## **Dedication**

I would like to dedicate this research project upon approval and completion to my dear husband Samson, and our two lovely daughters Hawi and Geno who have stood by me throughout my studies and always gave me a shoulder to lean on. Their love, endurance and support during the long hours of absence as I studied were a contributor to my successful completion of the course.

## **Abstract**

Housing liquidity is the measure of how easily a house can be converted into cash through a willing buyer, willing seller agreement. Market Maturity as applied to the real estate market refers to the extent to which a market attains/performs with respect to a given set of criteria. This study investigated the relationship between the housing liquidity and the real estate market maturity in Kenya. It examined the factors affecting housing liquidity and their connection to real estate maturity in Kenya.

The study used data for the last five years since it's likely to give the true representation of the real estate industry which has changed overwhelmingly in the recent past. Data was collected from the licensed real estate developers in Nairobi using well designed questionnaires. The data was then analyzed using SPSS version 21. Regression and correlation models were used to clearly show the relationship between housing liquidity and real estate market maturity. The results have been shown in tables for better reporting and understanding.

From the data analysis, there is no linear relationship between all the factors affecting housing liquidity classified together and market maturity. But there is a linear relationship between market research and housing liquidity. There is a linear relationship between the building of houses that cater for diverse needs and investments and the housing liquidity. There is also a linear relationship between the development of houses with the guidance of professionals and the housing liquidity. This research can be extended to look for factors that determine the housing liquidity and market maturity in the real estate industry in Kenya, since I believe there are many more that were not included in this research.

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## **List of Abbreviations**

CBK	Central Bank of Kenya
GDP	Gross domestic product
GoK	Government of Kenya
HFI	Housing Finance Institution
REITs	Real Estate Investments Trusts
SPSS	Statistical Package for Social Science

# **CHAPTER ONE: INTRODUCTION**

## **1.1 Background of the Study**

The issue of return on investments by investors in the real estate industry and the need to own a house by middle level citizens is increasingly becoming of concern not only in Kenya but also globally. The economic reforms that have taken place in the country in the recent past have helped this industry towards enhancing the accessibility and affordability of houses. The supply of houses has never equaled the ever rising demand especially in Nairobi County therefore making the prices remain high and rising (Hass consult, 2010).

The real estate market is a great target of foreign direct investments and the extent to which the foreign investors are able to recoup their cash injections and make profit consequently have a direct impact on the nation's economy. Kenya being one of the emerging economies in the African continent exhausted its potential to attract international real estate investors and remains poorly ventured due to lack of enough information about its market maturity and housing liquidity.

The methods of measuring the attractiveness of investment markets are set by among other things the availability of information of the existing opportunities and allied operational structures that permit and support particular forms of investment (Osuntogun 2005, McGreal, et al. 2002). The real estate industry here in Kenya therefore must be supported and as a result it will develop at a faster rate than what is currently experienced. The real estate industry is profiting due to the positive economic growth in the past three years of the country and goodwill of foreign investors. Real estate is currently regarded as a very promising venture due with very

high profit margins because of the demand exceeding the supply forcing the prices upwards (Hass consult, 2012). The GoK has greatly invested in this industry indirectly through the establishment of the department of housing in the ministry of land, housing and urban development. The enforcement by the local authorities now under the county governments to do urban planning, regulatory laws in license permits are very crucial to future meaningful real estate development.

According to KIM journal (Nov-Dec 2007) vision 2030, 80% of the Kenyan young energetic population will move to reside in urban areas. This implies that the demand for housing will increase since shelter is a basic need. As of now the number of people living in informal settlements is a third of the total urban population whereby Kenya's Kibera slum is the largest in Africa. The total population living in urban areas currently is four million. With the projected growth the real estate industry requires a lot of focus in terms of how the market matures and the rate at which the houses sell or become liquid to enable reinvestment in the housing sector.

### **1.1.1 The Housing Liquidity**

Housing liquidity measures the ability to convert housing to cash as an important characteristic of housing stock (WU Jing, 2008). Housing liquidity measures the ability of housing to be converted to cash. Thus, housing liquidity is an intrinsic characteristic of the housing, rather than of the whole market (but it still may be impacted by market conditions or market maturity). Second, and most importantly, both the time before sale and transaction price should be considered to fully capture the housing liquidity. The transaction price is known to rise as the duration of a seller's search process lengthens. Thus, sellers face the trade-off of maximizing the

selling price and minimizing the time before sale, so neither the price nor the time before sale alone can fully capture the housing liquidity.

If liquidity is an important consideration for investors of financial assets, liquidity should be an even more important consideration for investors of real estates, for which no centralized market exists and where no two units are exactly alike. Indeed, this insight has motivated numerous theoretical studies that model how prices are formed in markets where the matches between households and housing units are drawn from some known distribution and where the meetings of buyers and sellers are governed by random search on the part of either buyers, sellers or both (Krainer, 2001). On the other hand, empirical studies on identifying and estimating transaction-based liquidity effects on house prices in the cross-section have been far and between. I believe that this gap in the literature is due to the difficulty in empirically defining market segments in an urban housing market, apart from the crudest and not particularly informative definitions.

### **1.1.2 Real Estate Market Maturity**

The real estate market maturity construct did not appear in the real estate literature discourse until the early 1990s. According to Armitage (1996), the construct emerged from a successive investigation of real estate markets. She cited Walter and Flanagan (1991) and Seek (1995) to demonstrate that the adoption of the market maturity paradigm was incremental. Walker and Flanagan had in the reported study of Hong Kong real estate market identified the characteristics of a high level of institutional investment; a sophisticated practice structure; regulation of the financial market; the size of market in terms of foreign investment, quantity of opportunities, diversity of interest and measured these to qualify the real estate market of Hong Kong as increasingly maturing (Armitage, 1996). Armitage (1996) further observed that the

subsequent work of Seek (1993) not only relied on the earlier identified characteristics by Walker and Flanagan (1991) but extended them to include strength and type of economy; foreign investment levels and control; market size; and infrastructure to indicate maturity of the Singaporean real estate market.

Keogh and D’Arcy’s (1994) work is credited with presenting the most comprehensive treatment and characterization of the market maturity paradigm (Armitage, 1996). In the said work, Keogh and D’Arcy (1994) had used the London property market as an exemplar to characterize a mature property market with which the property markets of Milan and Barcelona were studied and compared. Keogh and D’Arcy thus defined market maturity as the attainment of a set of desirable characteristics, which the authors identified from the London real estate market. They however refrained from specifying a qualifying definition of market maturity, suggesting that maturity is relative, and contingent upon the state of development of the economy. Keogh and D’Arcy (1994) specified the following six principal factors as characterizing maturity of a real estate market; Catering for the complex and diverse needs of users and investors by offering quality real estate products; Providing for flexible adjustment both in the short term and long term; Providing a large pool of skilled property professionals, with its associated institutions and networks; Providing for extensive information flow and research activity; Its ability to facilitate market openness in spatial, functional, and sectoral terms; and Providing for standardization of property rights, and market practices (Keogh & D’Arcy, 1994; Armitage, 1996, Chin, et al. 2006).

### **1.1.3 Housing Liquidity and Real Estate Maturity**

Keogh and D'Arcy (1994) specified the following six principal factors as characterizing maturity of a real estate market; Catering for the complex and diverse needs of users and investors by offering quality real estate products; Providing for flexible adjustment both in the short term and long term; Providing a large pool of skilled property professionals, with its associated institutions and networks; Providing for extensive information flow and research activity; Its ability to facilitate market openness in spatial, functional, and sectorial terms; and Providing for standardization of property rights, and market practices (Keogh & D'Arcy, 1994; Armitage, 1996, Chin, et al. 2006). Housing liquidity measures the ability to convert housing to cash as an important characteristic of housing stock (WU Jing, 2008).

This study presumes that all the above propagated principal factors characterizing maturity will have a direct relationship with the rate at which housing is converted into cash in the Kenyan real estate industry. In reality, buyers will certainly look for some qualities or will be influenced by certain factors when making their decision in buying a house. The presumption in this study is that they consider these characterizing factors of market maturity.

### **1.1.4 Real Estate Industry in Kenya**

The property market in Kenya has witnessed a boom in the last few years. What is uncertain in many people's minds however the sustainability of this economic condition.

There are a number of factors to suggest that the boom is real and here to stay: the property market in Kenya is responding to demand that has been created by an expanding middle class with disposable income and able to service mortgages.

This emerging middle class desires and demands quality infrastructure; they want well designed properties with great finishing and in safe and secure locations, and they have the ability to pay premium prices for their choices. Their purchasing power is backed by the sustained economic growth that has been witnessed in the region over the last few years (Turner, 2013).

Kenya's GDP growth has averaged five per cent in the last five years and is projected to continue on the growth trajectory (ministry of planning, 2012). The multiplier effect has seen investors increasingly wanting to back this market.

The significance of the Nairobi city as an investment, transport and financial Centre in Kenya cannot be opposed. The number of multinationals and NGOs that have either set up their operations or plan to relocate there, in addition to fast-growing domestic businesses, have ensured that Nairobi continues to attract investments in commercial office space.

With Kenya already on the path towards a devolved government, demand for residential, commercial and industrial property can only rise. The myriad opportunities in the sector were the topic of discussion at a recent real estate forum in Nairobi. During the Africa Global Reporting Initiative forum last month, (June, 2013) international investors and real estate developers heard and brainstormed on the potential they see and how to unlock it, what is driving the growth and how to make the most of this market (Turner, 2013). It was clear that investors are capitalizing on

these opportunities and bringing with them an expanded pool of institutional and private capital including international pension funds, sovereign wealth funds and African private equity and real estate funds.

However, for this industry to thrive and for the financiers to continue choosing Nairobi as a preferred destination, the country needs a conducive regulatory framework and enough information about market maturity as propagated by Keogh and D'Arcy (1994) as a framework for analyzing property markets using the six criteria of – extent of diversity of use and investment objectives catered for, flexibility, property profession, market information and research, standardization of market practices and property rights. This would go a long way in spurring further growth.

After the peaceful general elections in March this year (2013), most people are optimistic that implementing economic, political and social reforms that will boost productivity will be fast-tracked. Without doubt, Kenya is at a tipping point and because of the goodwill and feel-good factor coupled with the strong underlying fundamentals of the economy; the country will continue to remain attractive to investors.

## **1.2 Research Problem**

Over the last fifteen years the population in Kenya has been on the rise, as a result the population in Nairobi has hit up to four million. (Kamau, 2011). It is a fundamental requirement of prospective real estate investors and that markets reveal their states of maturity otherwise they remain shut out of their horizon. It would appear that the Kenyan real estate market remains shut out from benefitting from global real estate investment, necessitating an evaluation of its state of maturity and its relationship with housing



liquidity. Studies are needed to discover the real causes of housing liquidity and the correlation to the market maturity.

Kluger and Miller (1990) took to investigate the relationship between the property market liquidity and the opportunity cost. Keogh and D'Arcy (1994) in 1993 conducted a comparative study of the behaviour and performance of London and two emergent European property markets -Barcelona and Milan. Kalra and Chan (1993) in their research on the effects of interest rates and economic conditions (macro-economic) on the time on market of real estate property, concluded that time on market is affected by regional economic conditions, with time on market being positively related to interest rates and negatively associated with area employment. Jud, Winkler and Kissling (2005) undertook a study on Price Spreads and Residential Housing Market Liquidity in Greensboro, North Carolina. Hon-Ho Kwok, Chung-Yi Tse (2006) carried out a research on the liquidity effects on the housing markets, case study of China, Hong Kong real estate market. Lin and Vandell (2006) carried out a research to analyze Illiquidity and Pricing Biases in the Real Estate Market. Wu Jing and Siqu (2008) from the Institute of Real Estate Studies, Tsinghua University, China carried out a research about the determinants of housing liquidity. Head and Lloyd (2011) studied the interactions among geographical mobility, unemployment and home ownership in an economy with heterogeneous locations, endogenous construction and search frictions in the markets for both labour and housing in the United States of America. Chao He, Wright and Yu Zhu (2012) on housing and liquidity in the United States of America real estate market.

Omboi, (2011) carried out a research in Kenya to investigate factors influencing real estate property prices a survey of real estates in Meru municipality, Kenya. Kamau,

(2011) analyzed the factors influencing investment in the real estate industry in Nairobi County, Kenya. Inaltekin, Robert A. et al, (2011) carried out a study to establish the relationship between housing prices and the optimal time-on-the-market decision. Several studies has been done in respect to housing liquidity and real estate marketing maturity however non has sought to look at the relationship between these two important variables and in particular in the Kenyan real estate industry;

The study sought to find answers to the following research questions; What is the relationship between real estate market maturity and housing liquidity in Nairobi County, To what extent do determinants of real estate market maturity influence the housing liquidity in Nairobi County and Are there determinants of real estate market maturity that are more important to housing liquidity than others?

### **1.3 Research Objectives**

The study was guided by the following objectives;

- i. To examine the level of real estate maturity in Nairobi County.
- ii. To assess how factors influencing real estate market maturity connect to the liquidity of houses in Nairobi County.

### **1.4 Value of the Study**

The findings of the study are useful to the stakeholders and players in Real Estate Industry, who among others include, other enterprises related to real estate, the government, the public and the potential real estate investors. The study reveals the influence of economic, government policies and marketing in investing in real estate industry. There are many stakeholders in the real estate industry and in various ways

many of them are due to benefit from the outcome of this research project. It is expected that this knowledge shall assist them in their day to day decision making process as they are expected to enhance the examined factors.

Potential investors will be able to analyze benefits accrued from investing in real estate industry. It is anticipated that the data and study will trigger discussions amongst would be investors and stakeholders who in turn will come up with appropriate strategies of channeling financial aid to the real estate business in a manner that will ensure that the investors get high NPV and due profits ultimately. The study allows investors who have invested capital to have an avenue for creating more wealth, hence will inform them of opportunities availed by the real estate industry.

This study focused on those enterprises in the real estate industry hence allows other enterprises in the same industry to have information that may affect them and therefore be able to implement the needed recommendation of the study or combat limitations that may affect them from the solutions prescribed. The enterprises will have information on issues that may affect them and hence be able to place measures or blockades to protect them from the issues and deal with the problems before they are affected.

The public have the chance to gather information on the real estate industry, hence the reference point. The study shows employment opportunities presented by the industry that they can take advantage of. The information also benefits individuals intending to construct properties and be home owners; they have the study as reference point on the various players in the industry.

The government being the industry regulator can benefit from this research since the study shows how the regulations that it has implemented affect investment in the real estate industry and therefore useful for future planning, and benchmarking activities in this important sector of the economy.

This area of study has not been previously studied adequately hence it adds to the pool of knowledge on the under researched area of factors influencing investment in real estate industry. Future researchers will have a reference point from the information gathered that will contribute to understanding the factors as well as contributing to subsequent studies. It forms a basis for and stimulates research in order to develop a better understanding of factors affecting liquidity of houses and its relationship with the market maturity in the real estate industry.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter starts with a general overview of the real estate market and market maturity. Then the chapter unveils information on the status of the real estate market maturity and housing liquidity. This chapter also has a summary of the theoretical review showing previous studies done in the field of real estate.

### **2.2 Theoretical Framework**

The study of real estate market maturity and housing liquidity has borrowed a lot from three theories that were propagated by Keynes, (1956), Laibson (1998) and Fama (1960). These theories are liquidity preference theory, simulation theory and efficient market hypothesis.

#### **2.2.1 Liquidity preference theory**

In macroeconomic theory liquidity preference refers to the demand for money considered as liquidity (Keynes,1956). The demand for money as an asset was theorized to depend on the interest foregone by not holding property. He argues that interest rate cannot be a reward for saving as such because, if a person holds his saving in cash, keeping it will receive no interest. Keynes (1956) defines the rate of interest as the reward for parting with liquidity for a specified period of time. According to him, the rate of interest is determined by the demand for and supply of money.

Liquidity preference means the desire of the public to hold cash. According to Keynes, there are three motives behind the desire of the public to hold liquid cash:

Transaction motive: people prefer to liquidity to assure basic transactions, for their income is not constantly available. The amount of liquidity demanded is determined by the level of income. The higher the income the more money demanded for carrying out increased spending.

The precautionary motive: people prefer to have liquidity in the case of social unexpected problems that need unusual costs. The amount of money demanded for this purpose increases as income increases.

Speculative motive: people retain liquidity to speculate that property price will fall. When the interest rate decreases people demand more money to hold until the interest rate decreases, which would drive down the price of a property to keep its yield in line with the interest rate. Thus the lower the interest rate, the more money demanded and vice versa.

This theory offers a guide in determining why people or investors will hold money in liquid form and at what time they prefer to use the money. It is of importance in determining the issue of housing liquidity in the Kenyan real estate industry.

### **2.2.2 Simulation theory**

The theory was developed by Laibson 1998; it examines the extent to which markets enable the provision of housing finance across a wide range of countries. Housing is a major purchase requiring long-term financing, and the factors that are associated with well-functioning housing finance systems are those that enable the provision of long-term finance.

The theory further states that countries with stronger legal rights for borrowers and lenders (through collateral and bankruptcy laws), deeper credit information systems, and a more stable macroeconomic environment have deeper housing finance systems.

These same factors also help explain the variation in housing finance across emerging

market economies such as Kenya. Across developed countries, which tend to have low macroeconomic volatility and relatively extensive credit information systems, variation in the strength of legal rights helps explain the extent of housing finance.

To a certain extent, a statistical comparison of the loan-to-value and loan-to-income ratios can provide a good indication of the risks that owner-occupiers run in financing their own home. At the same time, this kind of comparison ignores the causes of the risks, namely the volatility or uncertainty of future interest rates, house prices and changes in income. It also disregards the main mortgage characteristics, the cost of taking out a mortgage, and the direct and indirect subsidies, including interest deductibility, factors that have a big influence on the real costs and risks for homeowners.

This theory connects housing liquidity to the finance aspect of the study. It explores the financing options in the acquiring of real estate property which has a direct relationship to housing liquidity.

### **2.2.3 Efficient market hypothesis**

An efficient capital market is characterized by the rapid adjustment of market prices to the arrival of new information so that they reflect this information and enable investors to make well-informed investment decisions. Investors enter the market to buy or sell a property at a certain price that is justified by the prevailing supply and demand (Fama, 1960). To determine appropriate price, the market participants should be able to acquire timely and accurate information on the volume and price of past transactions. These historical data determine current bids and offers.

The efficient market hypothesis (EMH) holds that investors, who buy property at efficient prices, should be provided with accurate information and should receive a

rate of return that implicitly includes the perceived risk of the property. The fundamental value of a property is the present value of the expected cash flows that investors will receive in the future. To anticipate these cash flows, the market should reflect all new available information in current property prices so that investors may use this information as the best forecasting tool of future value. The term "new information" implies information that was not known before and could not be predictable, because if it was predictable it would have been integrated in the security prices.

Efficient market hypothesis is divided in three sub-hypotheses, namely; Weak-form efficient market hypothesis, Semi strong-form efficient market hypothesis and Strong-form efficient market hypothesis.

### **2.3 Empirical Review**

Several studies have been done concerning the market maturity and housing liquidity in various countries real estate industry but none has been done in Kenya relating to the relationship between these two variables. The studies that have been done in Kenya have concentrated on the real estate industry as a whole and therefore none has narrowed down to either market maturity or housing liquidity.

Kluger and Miller (1990) took to investigate the relationship between the property market liquidity and the opportunity cost. The study developed a measure of liquidity that is closely related to time on market. The study revealed that their liquidity measure is related to the characteristics of the house in question.

Keogh and D'Arcy (1994) in 1993 conducted a comparative study of the behaviour and performance of London and two emergent European property markets -Barcelona



and Milan. Considered central to the focus of this study, this review of literature sought to establish how property market maturity has come to be. It also wanted to establish how various factors affected market maturity. Since 1994 when it was first advocated it has been mostly applied to the emerging markets of Central Europe and South East Asia. The study derived that; extent of diversity of use and investment objectives catered for, flexibility, property profession, market information and research, standardization of market practices and property rights influence the market maturity.

Kalra and Chan (1993) in their research on the effects of interest rates and economic conditions (macro-economic) on the time on market of real estate property, concluded that time on market is affected by regional economic conditions, with time on market being positively related to interest rates and negatively associated with area employment.

Jud, Winkler and Kissling (2005) undertook a study on Price Spreads and Residential Housing Market Liquidity in Greensboro, North Carolina. This research was able to deduce that housing stock liquidity is influenced by market information, transaction costs, and the cost of housing, and time on the market. Empirical estimates of the study indicated that housing market spreads are positively related to prices and transaction costs and negatively associated with the standard deviation of prices. Since spreads reflect market liquidity, the study suggested that liquidity is a function of transaction costs and market information.

Hon-Ho Kwok, Chung-Yi Tse (2006) carried out a research on the liquidity effects on the housing markets, case study of China, Hong Kong real estate market. From the empirical evidence derived in the study from the Hong Kong housing market strongly supports the joint hypothesis of market segmentation and transaction-based liquidity

effects in the housing market in the cross-section. Units in housing developments with a greater turnover rate sell at a substantial premium. On average, 9.2% of the percentage difference in the prices of two given housing units in our sample can be attributed to liquidity effects. Contrary to conventional wisdom, the size of the housing development is not in general positively related to the rate of turnover and thus asset liquidity, while a less obvious candidate factor – the quality of the housing units seems to matter.

Lin and Vandell (2006) carried out a research to analyze Illiquidity and Pricing Biases in the Real Estate Market. Their study addressed the micro-analytic foundations of illiquidity and price dynamics in the real estate market by integrating modern portfolio theory with models describing the real estate transaction Process. They concluded that traditional methods of estimation of real estate return and risk, which borrow in a naïve fashion from finance theory by ignoring real estate illiquidity, not only understate real estate risk but also overstate real estate returns.

Wu Jing and Siqu (2008) from the Institute of Real Estate Studies, Tsinghua University, China carried out a research about the determinants of housing liquidity.

A simple model of buyer offers' distributions was used to theoretically explore the determinants of housing liquidity in a search process. An empirical ordinary least squares model of the time-on-market was developed using data collected in four Chinese cities (Beijing, Shanghai, Guangzhou, and Shenzhen). The results showed that in these four Chinese cities, market maturity dominated the variation of housing liquidity, with the effects of housing characteristics, seller's search cost, search strategy, and market conditions being less significant to the time-on-market equation. These empirical results indicate that the market maturity and housing liquidity are very important areas that have not been researched well enough globally.

Head and Lloyd (2011) studied the interactions among geographical mobility, unemployment and home ownership in an economy with heterogeneous locations, endogenous construction and search frictions in the markets for both labour and housing in the United States of America. The study was able to derive that the decision of home-owners to accept job offers from other cities depended on how quickly they would sell their houses (i.e. their liquidity), which in turn depended on local labour market conditions. Consequently, home-owners accepted job offers from other cities at a lower rate than do renters, generating a link between home-ownership and aggregate unemployment. Their model predicts that the effect of home-ownership on aggregate unemployment is small. When unemployment is high, however, changes in the rate of home-ownership can have economically significant effects.

Omboi, (2011) carried out a research in Kenya to investigate factors influencing real estate property prices a survey of real estates in Meru municipality, Kenya. The study investigated factors such as incomes of real estate investors, the influence of location on the price, demand and realtors influence on the price. The study adopted descriptive research design to obtain information on the current status of the phenomenon. A summary regression showed that the variables considered could explain up to about 70% of variations in prices.

Kamau, (2011) analyzed the factors influencing investment in the real estate industry in Nairobi County, Kenya. Among the factors she was investigated include; financial, government policies, and marketing factors. The research design employed by the study was descriptive research. The target population was all licensed real estate enterprises in located in Nairobi. It was observed that government factors had the greatest impact of real estate investment with a correlation value of 0.717 followed by marketing factors with a correlation value of 0.656 and finally financial factors.

Inaltekin, Robert et al, (2011) carried out a study to establish the relationship between housing prices and the optimal time-on-the-market decision. The conclusion was that a seller maximizes his expected discounted payoff from accepting and rejecting offers from prospective buyers. This optimal policy is shown to be dependent on a single parameter which is the fixed fraction of the list price that the seller uses to determine the desired sales price. The seller chooses the optimal value for this parameter in order to maximize the present value of the transaction.

The most recent study that is related to housing liquidity and real estate market maturity is by Chao He, Wright and Yu Zhu (2012) on housing and liquidity in the United States of America real estate market. The study also sought to examine various mechanisms for determining the terms of trade, and different ways of specifying credit restrictions. They also studied the impact of monetary policy on housing markets. The conclusion of this study was that there was a connection between the big increases in home-equity loans and the United States house-price boom. Since liquidity is endogenous, and depends to some extent on beliefs, even when fundamentals are deterministic and time invariant equilibrium house prices can display complicated patterns, including cyclic, chaotic and stochastic trajectories. The framework used was tractable, yet it captured several salient features of housing markets qualitatively and to some extent quantitatively.

## **2.4 Summary of the Literature Review**

The issue of market maturity has emerged a critical issue as investors require a basis to compare markets and measure performance. Studies on real estate markets and housing liquidity have as a consequence soared but the issue as to how markets should be studied remains topical as real estate markets are heavily influenced by local institutional forces with practices within them being shaped, and their forms determined by social forces besides the easily observed economic factors. It becomes imperative to study their evolution and institutions driving them to understand market behaviour. The concept of market maturity as a new paradigm for studying real estate markets evolution and behaviour was therefore suggested by Keogh and D'Arcy (1994).

Keogh and D'Arcy (1994) had characterized market maturity in the framework of six factors comprising-accommodation of a full range of use and investment objectives; flexible market adjustment in both short term and long term; existence of a sophisticated property profession with its associated institutions and networks; extensive information flows and research activity; market openness in spatial, functional, and sectoral terms; and standardization of property rights and market practices. It is therefore become exigent to cover a wider scope of real estate industry and in particular housing liquidity and other factors specified as characterizing property market maturity in the Keogh and D'Arcy (1994) framework and their relationship in order to make more meaningful generalizations about the state of the Kenyan real estate market.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **Introduction**

This chapter discusses the methodology which was used in data collection, analysis and presentation. It also highly depicts the research design, target population, sampling design, limitations and delimitations of the study, ethical issues consideration and the expected outcome of the study.

### **3.1 Research Design**

This study adopted a descriptive research design. According to Sekaran (2003); the goal of a descriptive design is to offer the researcher a profile to describe relevant aspects of the phenomena of interest from an individual, or industry oriented perspective. This research design is best suited since it is the best that seeks to answer the “what is” question in research and in this study I was seeking to establish what is the relationship between the real estate market maturity and the housing liquidity in Kenya. This study was not only restricted to fact finding but also result in the formulation of knowledge and solutions to the problem under consideration.

### **3.2 Population**

Mugenda & Mugenda (1999) describe the target population as the complete set of individual cases or objects with some common characteristics to which the researcher wants to generalize the results of the study. The study targeted 20 licensed large listed real estate business operators in Nairobi County in the real estate directory. The accessible populations were narrowed down to the twenty selected operators in Nairobi County. (Attached in the Appendix). For each operator, at least four

respondents were interviewed i.e. senior officer, assistant manager, director and senior manager. The sum total of target respondents is  $20 \times 4 = 80$  respondents.

### **3.3 Sample Design**

These respondents were picked from a sample of 20 large real estate companies in Nairobi selected from the available real estate companies' directory. Nairobi was chosen for reasons that most real estate businesses are located in this county. Out of these companies the senior and middle level management were selected as the key respondents since they are best knowledgeable concerning the issue under my investigation in the industry. Further information was gathered from government officials of the Ministry of Lands and the Nairobi County Council. Selecting the 20 main players in the market, I believe they have the relevant information regarding my research as it is believed that 20% of the Kenyan enterprises control 80% of the economy, (transparency international, 2011).

Since the sample was not big, a census approach was used. All the 20 companies were considered for the study, the senior and middle level managers were issued with questionnaires which they filled in and formed the basis of the data. A non-Probability sampling technique such as purposive was also used to obtain further information from related institutions and regulatory bodies.

### **3.4 Data Collection**

This study has used both primary and secondary data. The primary data was collected using the process of interviews and questionnaires both in the offices and on site. The secondary data was gathered from the Ministry of Lands, Ministry of planning and

National Development and Nairobi City Council registry where I obtained data relevant to the number of sales and ongoing developments.

Data was collected using questionnaires and interviews. The questionnaire was preferred since it enabled coverage of population with little time, personnel and cost; anonymity of the respondents helped them to be honest with their responses; it helped avoid bias due to characteristics of interviews; and allowed respondent enough time to answer questions to avoid hasty responses. Questionnaire was designed to have structured questions, which sought the respondents rating or answer on the period of the year during which houses sell more quarterly, were easy for respondents to answer and helped me to form an opinion and a conclusion. It also had unstructured questions that gave room for the respondents to give more information and clarify other aspects of their answers.

Housing liquidity which was the dependent variable was measured as the time taken for a house to sell (Time on Market). Independent variable- diversity of use; was measured by way of a multi-response set question in the questionnaire. Independent variable –flexibility; was measured with a rating scale query comprising the ease of entry and exit in the market. Independent variable- property profession; was measured by participants' rating of level of property professionals going by their experience from operating in the market. Independent variable –market information and research; were measured through professionals' rating on the key aspects of availability; appreciation and level of research activity within the market; and extent of use of products of research findings by market participants. Independent variable- standardization of market practices; were subjected to respondents rating of the



aspects of quality of ethical conduct, existence of standards, regulatory processes, and transparency of reports.

### **3.5 Data Analysis**

Data collected from the field has been presented using tables which have been summarized and interpreted. The main measures of the independent variables are the mean score whereas the relationship between the dependent and the independent variables is established using Pearson's correlation and regression. The study distributed 20 questionnaires to the real estate agents in Nairobi County.

The statistical package for social sciences (SPSS) version 21 was used to analyze the data because it is the version I am well conversant with. The statistical method of Pearson Product of Correlation Coefficient was used to analyze relationship between various variables. SPSS and Excel were used to establish the relationship between housing liquidity and market maturity in the real estate industry in Kenya. Pearson Product of Correlation Coefficient was used to determine the magnitude and direction of the relationship between the housing liquidity (dependent variable) and market maturity in real estate industry in Kenya (independent variable).

The regression analysis model

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$  was used to determine the linear relationship between the variables

Where – extent of diversity of use and investment objectives catered for, flexibility, property professionalism, market information and research, standardization of market practices and property rights formed the independent variable.

Y= the dependent variable - housing liquidity which was measured as the time taken for a house to sell (Time on Market).

$\alpha, \beta (1-5)$  = regression coefficients extracted.

$X_1$ = Independent variable- diversity of use

Testing for diversity of use required identifying the common types of real estate housing products and this was achieved by way of a multi-response set question in the questionnaire.

$X_2$ = Independent variable –flexibility

This is dependent on two conditions including absence of entry restrictions to both local and international participants into the market and the extent to which participants' activities respecting change of use is facilitated. Since this is mostly an experiential issue, this factor was measured with a rating scale query comprising the items identified above.

$X_3$ = Independent variable- property profession

The extent or level of property professionals and other market intermediaries operating on the market was tested by the number relative to the market being serviced. This was measured by participants' rating going by their experience from operating in the market.

$X_4$ = Independent variable –market information and research.

To test for this, the key aspects of availability; appreciation and level of research activity within the market; and extent of use of products of research findings by market participants were measured through professionals' rating.

$X_5$ = Independent variable-standardization of market practices.

To test for this, the aspects of quality of ethical conduct, existence of standards, regulatory processes, and transparency of reports were subjected to respondents rating.

$\epsilon$  = the random error term

F-test has been used to test the linear relationship between all the independent variables above considered together and the independent variable.

T-test has also been used to determine whether there is a linear relationship between the dependent variable and each independent variable in isolation.

After the field work, all the questionnaires and interview schedules were checked for reliability and validity. All the data was fed in the statistical package for social sciences (SPSS) version 21 / Pearson Product of Correlation Coefficient for regression and correlation analysis. Another set of data was analyzed using the Microsoft excel 2010 version application to derive the charts, graphs and also the calculation of percentages.

The data has been presented by use of frequency tables, graphs and charts which facilitate easy interpretation and understanding of the information. This has enabled construction of an informed conclusion and summary of the study and also formed the basis for proposing further study in this field in future days.

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

### 4.0 Introduction

In this chapter, the descriptive statistics of the study variables is discussed. This chapter also discusses the empirical findings of this study and also gives a summary of the findings and interpretations with regard to the study objective. The objective of this study was to find out if there exists a relationship between the factors that affect the market maturity in the real estate market and the housing liquidity in the Nairobi County.

### 4.1 Data analysis and interpretation

#### 4.1.1 Frequencies of time on market

**During which period has your company seen growth in sales of houses within Nairobi county for the last five years (2008)?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Jan-March	5	7.1	7.1	7.1
April-June	15	21.4	21.4	28.6
July-September	31	44.3	44.3	72.9
October-Dec	19	27.1	27.1	100.0
Total	70	100.0	100.0	

In the year 2008, most of the houses were sold in the period of July to September, at 44.3% while the least were sold in the period of January to March with 7.1%.

**During which period has your company seen growth in sales of houses within Nairobi county for the last five years (2009)?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Jan-March	7	10.0	10.0	10.0
April-June	11	15.7	15.7	25.7
July-September	24	34.3	34.3	60.0
October-Dec	28	40.0	40.0	100.0
Total	70	100.0	100.0	

In the year 2009, most of the houses were sold in the period of October to December with 40%, followed by July to September with 34.3%. The least were sold in the period of January to March with 10%.

**During which period has your company seen growth in sales of houses within Nairobi county for the last five years (2010)?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Jan-March	6	8.6	8.6	8.6
April-June	16	22.9	22.9	31.4
July-September	27	38.6	38.6	70.0
October-Dec	21	30.0	30.0	100.0
Total	70	100.0	100.0	

In 2010, July to September registered the highest number of house sales with 38.6% followed closely by the period of October to December with 30%. The period of January to March was the lowest in terms of house sales with 8.6%.

**During which period has your company seen growth in sales of houses within Nairobi county for the last five years (2011)?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Jan-March	9	12.9	12.9	12.9
April-June	18	25.7	25.7	38.6
July-September	26	37.1	37.1	75.7
October-Dec	17	24.3	24.3	100.0
Total	70	100.0	100.0	

In 2011, July to September registered the highest number of house sales with 37.1% and the lowest in January to March at 12.9%

**During which period has your company seen growth in sales of houses within Nairobi county for the last five years (2012)?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Jan-March	7	10.0	10.0	10.0
April-June	22	31.4	31.4	41.4
July-September	23	32.9	32.9	74.3
October-Dec	18	25.7	25.7	100.0
Total	70	100.0	100.0	

The case was similar in 2012 as it was in 2011, where most houses were sold in the period of July to September.

#### 4.1.2 Frequencies on Impact

**What impact does research and market search have on time taken to sell houses?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Low impact	4	5.7	5.7	5.7
Moderate impact	6	8.6	8.6	14.3
Great impact	30	42.9	42.9	57.1
Very great impact	30	42.9	42.9	100.0
Total	70	100.0	100.0	

There seems to be a big impact by research and market search on time taken to sell houses in Nairobi. This was acknowledged by the high number of respondents who indicated so with a percentage of 42.9%.



**What impact does building of houses that cater for diverse needs and investments have on the time taken to sell houses?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Low impact	1	1.4	1.4	1.4
Moderate impact	7	10.0	10.0	11.4
Great impact	37	52.9	52.9	64.3
Very great impact	25	35.7	35.7	100.0
Total	70	100.0	100.0	

Building of houses that cater for diverse needs and investments also has a strong impact on the time taken to sell the houses after completion, as shown in the table above with the highest frequency of 52.9%.

**What impact do following strict and standard market practices have on time taken to sell houses?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No impact	4	5.7	5.7	5.7
Low impact	12	17.1	17.1	22.9
Moderate impact	29	41.4	41.4	64.3
Great impact	16	22.9	22.9	87.1
Very great impact	9	12.9	12.9	100.0
Total	70	100.0	100.0	

Following strict and standard market practices has a moderate impact on the time taken to sell completed houses, meaning it neither has a great nor a low impact.

**What impact does proper conferment of property rights to client have on time taken to sell houses?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No impact	9	12.9	12.9	12.9
Low impact	30	42.9	42.9	55.7
Moderate impact	16	22.9	22.9	78.6
Great impact	10	14.3	14.3	92.9
Very great impact	5	7.1	7.1	100.0
Total	70	100.0	100.0	

From the table above, we also see that conferment of property rights to the client has a low impact on the time taken to sell houses in Nairobi.

**What impact does development of houses with the guidance of professionals has on time taken to sell houses?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No impact	2	2.9	2.9	2.9
Low impact	3	4.3	4.3	7.1
Moderate impact	12	17.1	17.1	24.3
Great impact	29	41.4	41.4	65.7
Very great impact	24	34.3	34.3	100.0
Total	70	100.0	100.0	

Building of houses with the guidance of professionals such as architects has a great impact on the time taken to sell houses, in the city of Nairobi.

**What impact does rules that businesses adhere to have on the time taken to sell houses?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No impact	5	7.1	7.1	7.1
Low impact	20	28.6	28.6	35.7
Moderate impact	27	38.6	38.6	74.3
Great impact	14	20.0	20.0	94.3
Very great impact	4	5.7	5.7	100.0
Total	70	100.0	100.0	

On matters concerning the rules that businesses are supposed to adhere to, e.g. registration of businesses, there seems to be a moderate impact from this, on the time taken to sell houses.

#### **4.1.3 Regression Analysis**

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.581 <sup>a</sup>	.338	.275	.687

From the model summary above, the R-Square is 0.338, showing that 33.8% of the variability in the outcome is explained by the model. That means that 33.8% of the dependent variables explain the housing liquidity with a square root 0.851.

#### 4.1.4 Analysis of Variance for Variables

##### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.210	6	2.535	5.364	.000 <sup>b</sup>
	Residual	29.776	63	.473		
	Total	44.986	69			

From the table above, the significance level is 0.000 thus showing that the model was a strong one in predicting the outcome, since it is below the threshold of 0.05. Thus we can comfortably conclude that the overall model was good fit for the data. We thus reject the null hypothesis and conclude that there is a linear relationship with at least one factor that defines a mature real estate market and the housing liquidity. It also shows that at least one of the independent variables predicts the dependent variable.

#### 4.3 Summary and Interpretation of findings

The regression analysis model

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$  was used to determine the linear relationship between the variables. From the study, the following coefficients were derived at 0.687 error level.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

$$\text{Housing Liquidity} = 0.525 + 0.35X_1 + 0.239X_2 + 0.976X_3 + 0.040X_4 + 0.187X_5 + 0.687$$

From the hypothesis, at 0.05 level of significance, there is no linear relationship between the factors affecting market maturity and housing liquidity.

But there is a linear relationship between the Research and market search and the housing liquidity and there is also a linear relationship between the building of houses that cater for diverse needs and investments and the housing liquidity and there is also a linear relationship between the development of houses with the guidance of professionals and the housing liquidity at 0.040 level of significance.

From the table above, we see that research and market search has significant impact on the number of houses sold. This is confirmed by a significance of 0.001, which is below 0.05 and thus its one of the variables predicting the dependent variable.

Building of houses that cater for diverse needs and investments also has a significant impact on the number of houses sold, with a significance level of 0.035, which is also below 0.05.

Development of houses that suit a particular profession also has significant impact on the number of houses sold in Nairobi.

The rest of the variables however do not have a significant impact on the number of houses sold in Nairobi.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMENDATION**

### **5.1 Introduction**

This chapter explores the summary part of the study from the interpretation of the findings and data analysis. It also draws a conclusion about the study which was establishing the relationship between the real estate market maturity and housing liquidity in Kenya. Recommendations are also drawn in this chapter, both the policy and future study recommendations. Since, every success has its own challenges; the limitations of the study are also elaborated.

### **5.2 Summary**

From the hypothesis, at 0.05 level of significance, there is no linear relationship between the factors affecting market maturity and housing liquidity.

But there is a linear relationship between the Research and market search and the housing liquidity and there is also a linear relationship between the building of houses that cater for diverse needs and investments and the housing liquidity and there is also a linear relationship between the development of houses with the guidance of professionals and the housing liquidity at 0.040 level of significance.

We see that research and market search has significant impact on the number of houses sold. This is confirmed by a significance of 0.001, which is below 0.05 and thus its one of the variables predicting the dependent variable. Every business that aims at remaining relevant in the market and maintaining their customers must always research on the changing market / customer needs. This could be the reason for the relationship.



Building of houses that cater for diverse needs and investments also has a significant impact on the number of houses sold, with a significance level of 0.035, which is also below 0.05. The reason for the relationship could be because every buyer would want a house that suits his/ her specific needs, for example if it's a supermarket, they would prefer a house that is spacious, with a strong room and stores.

Development of houses with the guidance of professions also has significant impact on the number of houses sold in Nairobi. This could be attributed to the quality and the confidence that clients have when buying a house bearing in mind that it was developed by professionals.

The rest of the variables however do not have a significant impact on the number of houses sold in Nairobi. This is evident from the significant level of above the benchmark of 95% level of significance.

### **5.3 Conclusion**

In seeking to know the relationship between housing liquidity and real estate market maturity in Kenya, several factors were taken into place, to try to establish the relationship. They are; Research and market search, Building of houses that cater for diverse needs and investments, following strict and standard market practices, Proper conferment of property rights to clients, Development of houses with the guidance of professionals.

From the results in the regression model, we found out that three factors have a relationship with the housing liquidity. They are; Research and market search, Building of houses that cater for diverse needs and investments and Development of houses with the guidance of professionals.

Research and market search is important before developing a house. This is so as to determine what the people want and thus developing houses according to their preferred style and type. It is also important so as to have prior knowledge of the living standards of the people living in a certain area, to avoid building of houses that people cannot afford to stay in, or are on the other hand too low for them.

In recent times, it is important to develop houses that cater for diverse needs and investments. Many people will go for a house that can serve many purposes. Developers therefore are going to extremes in attempts to woo the public into buying their houses, which have very attractive features.

Development of houses with the guidance of profession is also important in the modern day real estate business. This is because people in different professions prefer different types of houses that suit their type of jobs.

However, it is also important that developers consider the other factors that did not have a significant impact on the time taken to sell the houses; that is the factors that did not have a relationship with housing liquidity.

#### **5.4 Limitation to the study**

The study faces the constraint of limited data on the factors affecting market maturity and their relationship to housing liquidity in the real estate. The researcher found the available data useful in formation of a firm foundation to the study and aims to provide a credible benchmark for the future studies.

There was a problem acquiring complete and accurate data to use in the research. Availability of the data was also a major challenge since many firms were not willing to release their confidential information to the public.

There was also the cost involved in the acquisition of the data. The research was also involving travelling and hiring assistance costs in data collection. Sometimes it involved travelling to the respondent organization several times before the questionnaire could be filled in.

Time is a valuable factor. The study was time consuming especially during the data collection task. Data analysis also consumed the better part of the study and my time too.

## **5.5 Recommendations**

### **5.5.1 Policy Recommendation**

From the study, it is evident that there is no specific body that regulates the real estate market in Kenya. The existing bodies, National Construction Authority, County governments and Kenya Revenue Authority do not regulate how the market operates. There's need for the government through the respective ministry of Land, Housing and Urban development to regulate the Prices of houses in order to ensure that many people can afford houses since it's a basic commodity.

### **5.5.2 Recommendation for future research**

This research was mainly focused on finding the relationship between factors affecting real estate market maturity and housing liquidity. From the data obtained, the factors found to have a relationship with housing liquidity were; Research and market search, Building of houses that cater for diverse needs and investments, Development of houses that suits particular profession. This research can be extended to look for factors that determine the housing liquidity and market maturity in the real estate industry in Kenya, since I believe there are many more that were not included in this research.

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# APPENDIX 1

## Questionnaire

### SECTION 1

#### Background information

Tick as appropriate

1. Category of respondent

- Director
- Senior manager
- Assistant manager
- Senior officer
- Other please specify.....

#### Section 2:

2. During which period has your company seen growth in sales of houses within Nairobi County for the last five years?

(Please tick as appropriate)

Period/Year	Year1 (2008)	Year2(2009)	Year3(2010)	Year4(2011)	Year5(2012)
Jan-march					
April-June					
July- September					
October- Nov.					

3. Rate the extent to which your company;

	Very Large extent (5)	Large extent (4)	Moderate Extent (3)	Small extent (2)	No extent (1)
Researches the market and develops new products and services that fit diverse investment needs.					
Updates and maintain good facilities with the guidance of various professionals.					
Follow the laid down standard market practices while marketing its properties.					
Inform and educate its customers about their property rights.					
Follow the city council by laws and other laws set by the construction authority while constructing and selling					
Work towards reducing the housing deficit in the city of Nairobi which stands at 410 units a day					



4. What impact do the following factors have on the time taken to sell houses?

	Very great impact	great impact (4)	Moderate impact (3)	Low impact (2)	No impact (1)
Research and market search					
Building of houses that cater for diverse needs and investments					
Following strict and standard market practices					
Proper conferment of property rights to clients					
Development of houses with the guidance of professionals					
Rules that businesses adhere to e.g. registration of the business					

5. That is the time taken to sell an average of five houses for the last five years?

	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
One to three months					
Four to six months					
Seven to nine months					
Ten to twelve months					
More than twelve months					

**The End.**

**Thank you for your time.**

## **APPENDIX 2**

### **List of Real Estate Firms for study**

Hass Consult Real Estate

Halifax Estate Agency Limited

Real Management

Dunhill

Ndatani

Colburn

Face-Saver Limited

Housing Finance

Karengata Property Managers

Fortress consulting

AMS Properties ltd

Realty Plus Ltd

Nextgen Mall

Muna Tree Estate

Superior Homes Kenya

Optiven Enterprises Ltd

Verity Management Limited

Property Link Africa

Coral Property Consultants

Lloyd Masika Property Agents

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### Appendix 3

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**Table of Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.483	.756		.639	.525
	What impact does research and market search have on time taken to sell houses	.371	.105	.385	3.545	.001
	What impact does building of houses that cater for diverse needs and investments have on the time taken to sell houses	.276	.129	.234	2.150	.035
	What impact does following strict and standard market practices have on time taken to sell houses	.099	.083	.129	1.189	.239

What impact does proper conferment of property rights to client have on time taken to sell houses	-.002	.077	-.003	-.030	.976
What impact does development of houses with the guidance of professionals has on time taken to sell houses	.201	.096	.243	2.099	.040
What impact do rules that businesses adhere to have on the time taken to sell houses	-.121	.090	-.149	-1.334	.187