ASSET PRICE BUBBLES: CAUSES, CONCEQUENCES AND REGULATION OPTIONS FOR KENYA'S REAL ESTATE MARKET

BY:

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DECLARATION

I, **FRANCIS KARIUKI MAHIA**, do solemnly declare that the work presented in this research project is original. It has never, in its entirety or in part, been presented to any other university or institution. Where other people's works have been used, they have been duly acknowledged. I accordingly present this work in partial fulfilment of the requirements of the award of the Master of Laws Degree, University of Nairobi.

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This research project has been submitted for examination with my approval as the University Supervisor.

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If bricks aren't well made, the walls fall.

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DEDICATION

To my parents, Eliud Mahia and Theresia Nduta.

Thank you

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ABBREVIATIONS

CBK	Central Bank of Kenya
EMH	Efficient Market Hypothesis
GBP	British Pound
IPO	Initial Public Offerings
KNBS	Kenya National Bureau of Statistics
Ksh	Kenya Shilling
NASDAQ	National Association of Securities Dealers Automated Quotations
TV	Television
U.S.	United States of America

ABSTRACT

Since the year 2006, it has been reported that property prices have more than quadrupled in all areas in Kenya and especially in and around Nairobi. So fast has been the escalation of the prices that by the end of last year, prices of prime residential areas in Nairobi had been ranked the second fastest growing in Africa, second only to Cape Town and 14th globally by the Knight Frank Prime Global Cities Index that tracks the cost of luxury houses.

The rapid increase of land prices is based on speculative buyers who trust that the prices of property will continue to go up even though incomes are relatively unchanged since the 70s given inflation. People are thus borrowing more and more to afford the property.

This speculative purchase of assets at inflated values is oftern commonly referred to as an Asset Price Bubble.

This project addresses three themes. First, the project sets out to define the term Asset Price Bubble (or 'Bubble' in short) by reviewing key historical instances of asset price bubbles including the Tulipmania, the Mississippi and South Sea Bubbles and the Dot-Com Bubble. The project also explores the factors that make up or lead to a bubble including behavioural human patterns and the corresponding negative changes in commercial and economic activity that follow the crash and aftermath of bubbles.

Secondly, using the results of the analysis above regarding the makeup of the fundamental factors that make up a Bubble, this project then analyses whether the Kenyan property market is in a Bubble by collecting primary data via questionnaires to check on investor attitudes of the Kenyan population.

Finally, this project examines one of the most debated aspects of the asset-price bubbles and that is what, if anything, should policy makers do about them?

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1 CHAPTER ONE

1.1 Introduction

The global recession that took place from 2008 to 2009 created an opportunity for the understanding of the role that is played by asset-price bubbles in aggravating economic volatility within economies that are considered as being capitalistic.[1] A case point in this situation is the United States that experienced an increase in the prices of homes between 2000 and 2006. Case-Shiller 20-city index indicated that there was an adjustment of the prices of the median-sized homes between the period of 2000 and 2006.[2]

The bursting bubble that was experienced was closely followed by a significant decline in the mortgage value based on securities that were involved and the factors that were linked to the securities.[3] The collapse of the prices lead to the weakening and in some of the cases, the collapse of the financial institutions globally and this led to the economic recession within the United States that was deemed as being severe in the post-World War II period.[4] The bubble described above is one of the latest examples of asset-price that have always affected economies that are capitalistic in nature. The decline in the economic activities has also been caused by the sharp crash in the price of assets.[5][6] Numerous financial specialists have contended that central banks ought to alter their strategy instruments to account not just for

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[1] Burton G. Malkiel, 'Bubbles in Asset Prices , Princeton University CEPS Working Paper No . 200 January 2010' [2010] Policy Studies.
[2] ibid.
[3] Iyanatul Islam and Sher Verick, 'The Great Recession of 2008-09: Causes, Consequences and Policy Responses' [2010] From the Great Recession to Labour Market Recovery: Issues, Evidence and Policy Options 19.
[4] ibid.
[5] Malkiel (n 1).
[6] Anne Vila, 'Asset Price Crises and Banking Crises: Some Empirical Evidence' [2000] BIS conference papers 232 <https://www.bis.org/publ/confer08l.pdf> accessed 5 October 2019.

their estimates of future expansion and the hole among real and potential yield, however, at resource costs too.[7]

This project addresses three themes. First, the project sets out to define the term Asset Price Bubble (or 'Bubble' in short) by reviewing key historical instances of asset price bubbles including the Tulipmania, the Mississippi and South Sea Bubbles and the Dot-Com Bubble.[8] The project then explores the factors that make up or lead to a bubble including behavioural human patterns and the corresponding negative changes in commercial and economic activity that follow the crash and aftermath of bubbles.[9]

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Finally, this project examines one of the most debated aspects of the asset-price bubbles and that is what, if anything, should policy makers do about them?

1.2 The Research Problem

1.2.1 Background

An asset price bubble is defined in various ways. One way it has been defined is buying and selling an asset in high volumes at prices that differ with its fundamental values.[10] It has

[7] Malkiel (n 1).
[8] ibid.
[9] ibid.
[10] Robert J Shiller, *Irrational Exuberance* (Princeton University Press 2000).

likewise been portrayed as a circumstance in which asset prices seem, by all accounts, to be founded on unrealistic or conflicting perspectives about the future.[11]

Economists by and large define asset price bubbles as the fluctuation in the cost of an asset or asset from its normal value[12], which value is defined as the present value of all estimated cash flows from an asset in the future.

Further, Phillips and Yu, define a financial bubble as a circumstance where the cost of a financial resource quickly go up in a speculative manner that is dissimilar from what is viewed as the asset's intrinsic cost. The term, they add, conveys the allusion that the expansion is not supported by economic principles and that there is, accordingly, the risk of a consequent collapse whereby asset price falls significantly.[13] This is the definitive indication of a bubble.

Kenya as at 2014 to 2017 is undergoing the biggest expansion in land prices than it ever has since independence.[14] This expansion is more so in the real estate and property markets. This expansion in prices is based on the speculative belief that there is no way but up in this market.[15]

The rapid increase of land prices based on speculative buyers who trust that the prices of property will continue to go up despite the fact that incomes are relatively unchanged since the

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[11] 'Bernanke's Bubble Laboratory - WSJ' <https://www.wsj.com/articles/SB121089412378097011> accessed 9 October 2019.

[12] Robert P. Flood and Peter M. Garber, 'Market Fundamentals Versus Price-Level Bubbles: The First Tests' (1980) Journal of Political Economy 745.

[13] Peter CB Phillips and Jun Yu, 'Dating the Timeline of Financial Bubbles during the Subprime Crisis' (2011) 2 Quantitative Economics 455.

[14] Stephen Githae Njaramba, 'Growth of Housing Prices in Kenya and Its Dynamic Relationship with Selected Macroeconomic Variables' <https://ir-library.ku.ac.ke/bitstream/handle/123456789/18773/Growth of housing prices in kenya and its dynamic relationship with....pdf?sequence=1&isAllowed=y>.

[15] 'NSE Plans to Launch Trading Platform for SMEs | Kuzabiashara' <http://www.kuzabiashara.co.ke/2013/01/17/nse-plans-to-launch-trading-platform-for-smes/> accessed 6 October 2019.

70s given inflation.[16] People are thus borrowing more and more, aided by the capping of interest rates.[17]

More and more people get into debt[18] hoping the property they purchase will get them out of the debt after selling the same.

In the short-term, the property prices will continue to rise. But will that rise lead to the overstating of the value of the asset? In places near the proposed site for Konza City, prices have risen from an average price of KShs. 60,000 an acre to almost a million shillings. More than 1000% rise.[19]

Whoever buys that land would still hope to make a profit out of the same continuing on until in this researchers' opinion, the value of the land far outpaces the true value of the asset.[20]

Since the year 2006, it has been reported that property prices have more than quadrupled in all areas in Kenya and especially in and around Nairobi. So quick has been the acceleration of the costs that, in 2016, Knight Frank ranked the City as the second fastest growing in Africa, second only to Cape Town and 14th globally.[21]

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[16] Central Bank of Kenya and World Bank, 'Mortgage Finance in Kenya: Survey Analysis' <https://www.centralbank.go.ke/wp-content/uploads/2016/08/Housing-Finance-Survey-in-Kenya-November-2010.pdf>.

[17] Central Bank of Kenya, 'The Impact of Interest Rate Capping on the Kenyan Economy' <https://www.centralbank.go.ke/wp-content/uploads/2018/03/Interest-Rate-Caps_-March-2018final.pdf>.

[18] Central Bank of Kenya and World Bank (n 16).

[19] 'Land Prices Rise Again as Excavators Roar in Konza but Will It Last? : The Standard' <https://www.standardmedia.co.ke/article/2000227371/land-prices-rise-again-as-excavators-roar-in-konza-but-will-it-last> accessed 5 October 2019.

[20] Wallace Kantai, 'Why Kenya's Real Estate Scene Is a Bubble Waiting to Burst' (*Business Daily*, 2014) <https://www.businessdailyafrica.com/Opinion-and-Analysis/Why-Kenya-s-real-estate-scene-is-a-bubble-waiting-to-burst/-/539548/2437872/-/12fkykc/-/index.html> accessed 6 October 2019.

[21] Vincent Achuka, 'Housing Sector and Queries on Source of Cash - Daily Nation' <https://www.nation.co.ke/business/Housing-sector-and-queries-on-source-of-cash/-/996/3055954/-/hb3gdm/-/index.html%3E> accessed 6 October 2016.

Since the year 2000, housing prices in Kenya have increased by over 300 percent in real terms especially in the urban centers and rapidly continues to grow.[22] Indeed in only seven years between 2009 and 2016, Stanlib reports, prices of land rose by 535 percent in Nairobi, making the trade in the property market the most lucrative business in the city.[23]

Seeing how much money people are making in the property markets has brought in a new kind of investor: the speculator. The speculator has no sound understanding of the Market he is entering and is only out to make quick profits, always believing that the price will always have an upward trajectory. The Speculator is an asset buyer who pays a higher cost than the asset's fundamentals because, over and above the asset, the buyer gains the option to sell the asset to other buyers who are more optimistic about the asset's future value[24].

In the property market, it has been reported that only 8% of the population can afford a mortgage to buy property currently. However, the number of people going into debt to buy property is higher than that. I believe the reason for this is because these people are looking to re-sell this property in a few months or years later at a huge profit and pay off their debt and make some money.[25]

In the stock market, investors have so far been limited to Initial Public Offerings (IPOs) as they have so far been given at cheap prices. The IPOs of KenGen and Safaricom that were over-subscribed by a huge margin and that immediately sold at a profit immediately after they were opened for trading has added impetus to the speculators. This is despite the fact that not all

[22] Njaramba (n 14).
[23] Achuka (n 21).
[24] James Chen, 'Speculator, Definition' (*Investopedia*, 2019) <https://www.investopedia.com/terms/s/speculator.asp>. Accessed 5th November 2014
[25] Kantai (n 20).

IPOs are fairy tales. The case of Eveready which floated at KShs. 11 and was at one time selling at KShs. 2.00 is a case in point.[26]

1.2.2 Statement of the Problem

The problem that arises is whether a bubble can be identified from the study of what is termed as its fundamental factors and if so, whether it can be predicted. If a bubble can be predicted by the observation of the fundamental factors, can policies and laws be used to deflate a bubble before the same bursts? In other words, can a study of the fundamental factors that make up an Asset Price Bubble be used to identify a bubble in an asset category in Kenya and in this way find a way to deflate it before it bursts.

1.2.3 The Purpose of the Study

The purpose of the study is to investigate the current definition of the term Asset Priced Bubbles and attempt to distill the fundamental factors making up a bubble. Thereafter using the definition gleamed from the fundamental factors, investigate if the Kenyan market is indeed in a period of inflation and investigate the position of laws governing investments and come up with a framework that enables policymakers to understand the current legal position, improve the current policies and laws to forestall the creation of and subsequent bursting of an asset price bubble.

This study will be useful as a source of information to all who wish to have a legal discourse on investment laws in Kenya. It will also be useful to the Members of Parliament as they seek to come up with laws to regulate the financial market and land transactions to stop speculative pricing behaviours and to other researchers as they seek to refine their arguments.

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[26] Micheal Kanyagithi, 'A short history of Kenyan IPOs: Lessons and reminiscences' (2008, April 2) <http://mjengakenya.blogspot.com/2008/04/sdhort-history-of-kenyan-ipos-lessons.html> accessed 21 August 2019.

It will also in the long run help in improving the lives of the people of Kenya as these principles are adopted into practicable regulations and/or laws.

1.2.4 The Objectives of the Study

This research achieves the following objectives:

- This research develops a definition of asset price bubbles by studying the history of asset price bubbles.
- To interrogate what causes of asset price bubbles and see if they can be predicted.
- To investigate if the causes of the asset price bubbles are present in the Kenyan real estate market.
- Finds out if there are options available to forestall the bursting of an asset price bubble.

1.2.5 The Research Questions

The research shall answer the following questions:

- What is Asset price bubbles?
- What are the known causes of asset price bubbles?
- Do the Kenyan Property and investor markets have the elements that cause asset price bubbles?
- Are there options available to forestall the bursting of an asset price bubble?

1.3 Theoretical Framework

Bubbles and crashes in financial markets have never been able to be identified in advance despite numerous attempts. Instead, commentators and specialists line up after the fact to proclaim that a particular asset price bubble was obvious in hindsight. Financial regulation, however, has often been proposed to try and prevent the occurrence of these bubbles.[27]

There are advanced theories that inform government regulation of the economy. Of these, the "public interest" theory and the "interest group" or "capture" theory[28] are two favoured examples.

The "public interest" theory provides that rules are created in response to public demand regarding the improvement of unfair and wasteful market practices. On the other hand, the "capture" theory holds that regulation is created in response to the demands of interest groups fighting to capitalize on the incomes of their members [29].

A third theory espoused by Garber is known as the Efficient Market Hypothesis. Efficient market hypothesis (E.M.H.) posits that the impression that values prevailing in a market make it difficult to earn irregular returns by transacting in that market on the same amount of data and/or information.[30] There cannot, as per this theory, therefore, exist a bubble in any asset market as the information received by investors would easily disclose that the asset price is based on speculation.[31]

The question then becomes, whether a government can legislate and stop people from exercising their free will in an open market.

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[27] Lawrence J White, 'Preventing Bubbles: What Role for Financial Regulation?' (2011) 31 Cato Journal 603.

[28] Richard a Posner, 'Theories of Economic Regulation (NBER Working Paper Series No 41)' [1974] NBER Working Paper Series <https://www.nber.org/papers/w0041>.

[29] ibid.

[30] Douglas D Evanoff, George G Kaufman and Anastasios G Malliaris, 'Asset Price Bubbles: What Are the Causes, Consequences, and Public Policy Options?' (2012) 304 The Federeal Researve Bank of Chicago, Essays on Issues <https://pdfs.semanticscholar.org/9b4c/c88f2bba46460a25997d608418decfbdbe61.pdf>.

[31] ibid.

The Libertarian school of thought holds that every individual has the option to carry on with their life in any capacity they pick as long as every regard the equivalent common freedoms of others [32]. In the libertarian view, all human relationships should be voluntary; the main activities that ought to be taboo by law are those that include power against the individuals who have not themselves utilized power.[33]

Therefore, if the land is sold on a willing buyer, willing seller basis, the state should not be concerned and try to stop the transaction.

The Social contract theory as espoused by various Philosophers states briefly that individuals have agreed, either overtly or implicitly, to surrender some of their rights and defer to an authority of the ruler or magistrate (or to the decision of a majority), in return of the defense of the remaining rights.

Therefore, if the government sees it fit to protect the people by making legislation denying them the rights of a willing buyer, willing seller then it can.

This project looks at the interplay of the above theories with the Positivist theory of law providing a background for this study. The study was conducted taking the law as it is and not as it ought to be[34].

1.4 Research Methodology

The method used to gather information for this project was both qualitative and quantitative. The qualitative research through library and internet research was used to analyse various

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[32] David Boaz, *The Libertarian Mind : A Manifesto for Freedom* (2015) <https://books.google.de/books?id=zs8NBAAAQBAJ&printsec=frontcover&hl=de&source=gbs_ge_summary_r&redir_esc=y#v=onepage&q&f=false> accessed 5 October 2019.

[33] Ibid

[34] Omony John Paul, *Key Issues in Jurisprudence: An in-depth discourse on Jurisprudence problems* (1st Ed. LawAfrica Publishing: Kenya) 48

definitions of Asset Price Bubbles as they currently exist. It was also used to come up with a criterion for what may be the fundamental factors that show proof of the existence of a bubble in a particular asset category.

The quantitative research through the use of questionnaires to a sample of Kenyan citizens was used to establish if Kenya is susceptible to the identified fundamental factors as identified by the desk study.

The data from the questionnaires is used to examine investor attitudes and find out the investing habits of the Kenyan people to show whether there is a need to protect them through legistlation.

1.5 Literature Review

Asset price bubbles have been defined in various ways. Stiglitz[35] defined it as prices only being exorbitant now because they are expected to be still higher later. Galbraith defined asset price bubbles as a temporary increase in prices above fundamental value[36]. Schiller, classifies a bubble as a situation that is not permanent where asset prices are forced beyond any accurate fundamental value because the society believes that the justification of the current price by possible future price increases. Episodes involving asset bubbles are often characterised by a non-stop steep increment in the cost of an advantage, prompting more cost increments driven for the most part by financial specialists looking for return through considerably more

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[35] Joseph E Stiglitz, 'Symposium on Bubbles' (1990) 4 Journal of Economic Perspectives 13 <http://web.econ.ku.dk/okocg/Students SeminarsØkon-Øvelser/Øvelse 2007/artikler/Stiglitz-Bubbles-JEP-1990.pdf>.

[36] Lorne D Cooke and John Kenneth Galbraith, 'The Great Crash 1929.' (1956) 11 The Journal of Finance 100.

expensive rates[37]. This is quickly followed by the bust, as buyers quickly become sellers leading to a crash.

Episodes of bubbles are scattered throughout recorded history whereby market values of assets have vastly surpassed the reasonable calculations of their fundamental value[38].

Bubbles are hard to notice as they occur and are mostly found after the fact.

In order to understand a bubble, one must, therefore, seek to understand what the makeup of the assets fundamental factors would be. Previously it was moderately simple to cost shares as most of a companies' assets would be physical, and pricing markets were fairly stable. Now, increasingly, assets are incorporeal (intellectual property) making them much harder to value. As we shall see in Chapter 2, the dot-com companies of the late 1990's also pushed the limits of incorporeal assets by placing a value on revenues that would not be had for a considerable period in time in the future and brands that weren't well-known or that were non-existent[39].

Asset price bubbles have appeared severally in history following the same track as has been stated above. Examples include Tulipmania, dotcom bubble among others.

And what causes the asset price bubbles?

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[37] Douglas E French, *Early Speculative Bubbles and Increases in the Supply of Money* (2nd Editio, Ludwig von Mises Institute 1992) <https://mises-media.s3.amazonaws.com/Early Speculative Bubbles and Increases in the Supply of Money_2.pdf>.

[38] Wei Xiong, 'Bubbles, Crises, and Heterogeneous Beliefs' [2013] Handbook on Systemic Risk 663.

[39] University of Essex, 'What are the Characteristics of Bubbles' (2007, January) <http://www.essex.ac.uk/economics/documents/eesj/sp07/craddock-371.pdf> accessed 30 August 2019.

In his well-known account of the bubble of the Dutch tulip market in the early 17th Century, Charles Mackay observed that at its height, everyone from the aristocracy, domestic servants, gardeners to the priests dabbled in tulips.[40]

The word 'mania' or 'irrationality', something close to mass panic has been used as the cause of some asset price bubbles. The word 'mania' connotes a loss of touch with reality or rationality, even something close to mass hysteria or insanity. According to Kindleberger, Manias and panics, are associated on occasion with general irrationality and mob psychology.[41]

The total loss of rationality of speculators has been noted by numerous experts, including Alan Greenspan who was once the chairman for American Federal Reserve, who authored the expression "irrational exuberance" to describe the phenomenon of rising stock costs driven by financial specialists' enthusiasm at the beginning of the dot-com bubble[42].

The second known cause is the presence of easily accessible Credit. Asset prices bubble characteristically have three different stages.[43] The 1st stage begins with a Central Bank deciding to increase credit in the market.[44] While the availability of credit and loans is usually seen as important for strong economies, a quick rise in local access to credit and loans has been recognised to be one of the most reliable and substantial causes of asset price bubbles occurring throughout the world. Credit booms inflate the bubble and tend to lead to financial busts.[45]

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[40] Charles Mackay, *Memoirs of Extraordinary Popular Delusions Vol. 1* (Robson, Levey and Franklin 1852).

[41] Charles P Kindleberger and Robert Z Aliber, *Manias, Panics and Crashes* (Fifth Edit, John Wiley & Sons 2005); By Bernard Lietaer, 'An Integral View on Money and Financial Crashes' [2005] World <www.lietaer.com/images/Integral_Money.pdf>.

[42] Alan Greenspan, 'The Challenge of Central Banking in a Democratic Society' <https://www.federalreserve.gov/BOARDDOCS/SPEECHES/19961205.htm> accessed 6 October 2015.

[43] Franklin Allen, 'Modelling Financial Instability' (2005) 2 National Institute Economic Review 57 <http://finance.wharton.upenn.edu/~allenf/download/Vita/MODELINGFINANCIALINSTABILITY.pdf>.

[44] ibid.

[45] Ben Beachy, 'A Financial Crisis Manual Causes , Consequences , and Lessons of the Financial Crisis', vol NO. 12-06 (2012) 12–06 <http://www.ase.tufts.edu/gdae/Pubs/wp/12-06BeachyFinancialCrisis.pdf>.

This decision to increase access to credit is characterised by an increase in the cost for some assets. This increase in prices continues for a period, as the bubble expands.[46] The 2nd stage begins when the bubble bursts then the collapse of the asset prices. The 3rd stage is characterised by the defaulting of many companies and other key players that have taken loans to purchase assets that have inflated prices. The crisis within the banking industry may catch up with such defaults.[47] The defaults bring forth a crisis in the economy which can last for several years.[48]

But can the bubbles be stopped by financial regulation?

According to White,[49] the answer is no, and he argues against the use of fiscal rules aimed at mitigating the bubbles while terming it a miscalculation. This is because, while identifying bubbles is easy after the fact, they are impossible to identify beforehand, and one may run the risk of dampening an efficient market with false positives.[50]

Another researcher, Gerding, found that financial regulation laws, while they limit economic expansion, actually work to stop financial bubbles. Additionally, a review of all the laws that have been passed in the wake of the various bubbles, what is clear is that we cannot legislate against the gullibility and greed of the people which in the end is the major cause of asset price bubbles[51].

In Kenya, financial regulation has been studied by various authors. Mwega studies the possible compromises between regulations and steadiness of Kenya's financial sector and their consequences for inclusive growth. In the article, he argues that Kenya's financial systems are

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[46] ibid.
[47] ibid.
[48] ibid.
[49] Lawrence J White, 'Preventing Bubbles: What Role for Financial Regulation?', *Cato Institute's Annual Monetary Conference* (Cato Institute 2010) <http://ssrn.com/abstract=1836752>.
[50] ibid.
[51] Mackay (n 40).

very inclusive mostly due to the advent of the Mobile Banking sector. Additionally, he notes that as of 2013, the access to credit was growing exponentially.[52]

Miregi and Obere studied the high prices of property and the associated concerns over fundamentally unstable markets. The study was inconclusive on whether the property market had a bubble and suggested further investigation into the same to establish the existence of a bubble.[53]

Misati and Nyamongo studied the efficacy of asset price in monetary policy communication and the effect of stock market instability on monetary policy in Kenya.[54]

Many authors have tried to define what a bubble is, but none has been successful in observing a bubble as it happens. Additionally, no one has studied the causes of bubbles in relation to the Kenyan market to see whether the elements are present and secondly if the same can be diffused before the bubble pops.

Further, there has been no conclusive study done in Kenya to see whether the financial regulations work and if so whether our laws have properly prepared us for a bubble burst.

1.6 Hypotheses

This research proceeds on the presumption that Kenya is in a bubble marked with a high rise in speculative pricing. Further, I find that Kenyan policies and laws or lack of are aiding the

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[52] Francis M Mwega, 'Financial Regulation in Kenya: Balancing Inclusive Growth with Financial Stability' (2014) 407 <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9279.pdf>.

[53] Maurice Ochieng Miregi and Prof Alamdi Obere, 'Effects of Market Fundamental Variables on Property Prices in Kenya – A Case of Nairobi Residential Property Market' (2014) 5 IOSR Journal of Economics and Finance 101.

[54] Roseline Nyakerario Misati and Esman Morekwa Nyamongo, 'Asset Prices and Monetary Policy in Kenya' (2012) 39 Journal of Economic Studies 451.

current state of things and if we do not legislate or make effective policies to stop the speculative nature of our land pricing, the bubble will continue to expand and will soon burst.

1.7 Limitation of the Study

This study has a limitation because its focus area was Nairobi and its environs. The solutions suggested may have the effect of dampening the property market around the country whereas maybe only Nairobi's property market may be inflated.

In addition, I believe that further study is required to check on the effect of corruption, money laundering and war profiteering in delaying the bubble burst.

However as has been discussed earlier, predicting a bubble remains a fool's errand, but since the elements of the bubble are clearly visible in the property market currently, I believe that this is the time to try and sort out the matter instead of waiting for the crash.

2 CHAPTER 2: DEFINING A BUBBLE

2.1 Introduction

Ths Chapter creates a definition of what an Asset Price bubble is. To do so, this Chapter shall investigate the history of asset price bubbles and first, interrogate the causes of asset price bubbles, second, to establish what are the fundamental make-up of a bubble and lastly to determine if asset price bubbles can thus be predicted.

2.2 Defining a Bubble: History of Putative Asset Price Bubbles

The world is just starting to shrug off the effects of one of the largest bubbles in recent history. Episodes of bubbles are scattered throughout recorded history whereby have value if assets within the market have excessively surpassed the reasonable calculations of their fundamental value.[55] These episodes of bubbles are spread out across vastly different geographic regions and different markets.

Different scholars have different views on the definition of an asset bubble. A bubble is usually defined as a period in which an asset's worth exceeds the fundamental cost.[56] Stiglitz[57] adds that the basic definition would be as simply that the expectation of future high prices affecting and increasing current asset prices.[58]

Episodes involving asset bubbles are often known by a nonstop rise in the price of an asset, leading to further price increases on the value of the asset pushed, for the most part, by investors

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[55] Xiong (n 38).
[56] ibid.
[57] Stiglitz (n 35).
[58] Gilles Christian and Stephen F. LeRoy, *Asset price bubbles; The New Palgrave Dictionary of Money and Finance*, Vol 1, pp 74, (London: Macmillan, 1992).

seeking profit through even higher prices.[59] This is quickly followed by the bust, as buyers quickly become sellers leading to a crash.

However, by not defining 'fundamental factors' it is not possible to recognise bubbles[60] nor is it possible to differentiate asset price bubbles from sunspots and Ponzi schemes[61].

Defining what these so-called *fundamental factors* is consequently important and essential to try and establish correct asset values so as to identify asset-price bubbles. In order to understand a bubble, one must, therefore, seek to understand what the makeup of the assets' fundamental factors would be. Previously it was moderately simple to cost shares as most of a companies' assets would be physical, and markets were quite constant. Nowadays, and more increasingly, assets are not physical (intellectual property) making them much harder to value. As we shall see in Chapter 2, the dot-com companies formed at the end of the 1990s also pushed the limits of incorporeal assets by placing a value on revenues that would not be had for longer period and brands that weren't well-known or that were non-existent[62].

Kindleberger has indicated that market members are regularly stirred by different purposes, operate with different intent, money, and data. To Kindleberger, there are three different types of investors. The first is the initial investor who gets back his investment. The second is an investor far more interested in the profits to be had which results in the increase in asset value while the third group of investors also known as the speculators have their investments based on the predictions that they have about an increase in the value of assets. The term fundamental

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[59] French (n 37).
[60] ibid.
[61] Gilles and Stephen F. LeRoy, *The New Palgrave Dictionary of Money and Finance*, Vol 1, pp 75, (London: Macmillan, 1992).
[62] University of Essex, 'What are the Characteristics of Bubbles' (2007, January) <http://www.essex.ac.uk/economics/documents/eesj/sp07/craddock-371.pdf> accessed 30 August 2016.

factors must therefore also include some form of analysis of intentions of the consumer when acquiring assets.[63]

In order to properly understand what makes up an asset bubble, we will now delve into history's most infamous bubble episodes. They include; Tulipmania, the South Sea Bubble and the Mississippi Bubble.

2.2.1 Netherlands: The Dutch Tulipmania

Tulipmania is defined as the earliest bubble in recorded history[64]. It occurred in the 17th Century in the Netherlands.[65] According to Xiong, in the mid-16th Century is when tulips were introduced to Europe from the Ottoman Empire.

The nature of the tulip, as discussed by MacKay[66] and French[67] was that patterns on some tulips caused by the mosaic virus. This Virus also caused reproduction to be subdued. Tulips with more exotic patterns were slower to reproduce, making them rarer and more valuable than normal, uninfected bulbs.[68]

At first, the bulb marketplace was restricted to professional cultivators. This was until the early 17th Century when speculators entered the fray, led by high demand for bulbs in France.[69] Coupled with the demand from France, the tulips continued to be so highly sought-after in the

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[63] Kindleberger and Aliber (n 41).
[64] Xiong (n 38).
[65] Peter M Garber, 'Famous First Bubbles' (1990) 4 Journal of Economic Perspectives 35.ibid; Xiong (n 38).
[66] Mackay (n 40).
[67] French (n 37).
[68] Peter M Garber, 'Tulipmania' (2010) 97 The Journal of Political Economy 535 <http://www.jstor.org/stable/1830454>.
[69] ibid.

Netherlands that it triggered speculative frenzies among all classes of the Country.[70] Everyone from domestic workers to tailors to ordinary citizens and aristocrats participated in the same.[71]

At the height of tulipmania, the value of tulip bulbs increased by twenty percent in 3 months between the end of November 1636 and the first 2 months of 1637 and this was followed by an even larger deterioration in the next three months.[72]

2.2.2 France and Britain: The Mississippi and South Sea Bubble

In the first years of the 18th Century Europe was at war. Britain and France as major powers were belligerents in multiple wars. The debt was piling up and was held by different people at different repayment models, interests and periods. Some of this debt is still being paid today. [73]

Debt consolidation was mooted as a necessary way to prevent a government default. In France, the Mississippi Company and in Britain, the South Sea Company were tasked with buying up government debt and issuing shares in exchange. The government would then make one payment a year to the company who in turn would issue dividends. [74]

To make the deals sweeter, in France the Mississippi company was given the charter to develop the French region in North America called Louisiana (named after King Loius

[70] ibid.
[71] Xiong (n 38); Mackay (n 40).
[72] Xiong (n 38).
[73] Stephen Castle, 'That Debt From 1720? Britain's Payment Is Coming' (*New York Times*, 2014) <https://www.nytimes.com/2014/12/28/world/that-debt-from-1720-britains-payment-is-coming.html> accessed 6 October 2019.
[74] Peter Temin and Hans Joachim Voth, 'Riding the South Sea Bubble' (2004) 94 American Economic Review 1654.

XIV). In Britain, the South Sea Company was given sole trading rights to South America ports.[75]

Neither venture panned out. Louisiana remained a swamp and due to the war between Spain and Britain, no British ship could access the Spanish controlled South America. In Europe however, both companies touted lies about their ventures in these exotic places.[76]

Due to the above and guaranteed returns from the government debts the public came running to buy the shares and to exchange the shares for debt. Prices of shares soon expanded to many times the fundamental values of the companies themselves as everyone wanted into the money-making ventures.[77]

The situation was untenable and with no forthcoming profits from the ventures in the Americas, the dividends were pitiful.[78] Other questionable moves by the companies, including giving loans and then convincing the debtors to use the loans to buy shares also brought the matter to a head.[79] Soon the value of the shares tanked and the companies folded. Overnight paper millionaires became destitute.[80]

One such investor was Sir Isaac Newton. He bought shares and sold them at 100% profit. Due to the mania at the time he bought a larger number of shares. When the bubble burst,

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[75] ibid.
[76] Kindleberger and Aliber (n 41); Larry Neal and Eric Schubert, 'The First Rational Bubbles: A New Look at the Mississippi and South Sea Schemes', vol 53 (1985) 1188 <https://www.ideals.illinois.edu/bitstream/handle/2142/28982/firstrationalbub1188neal.pdf?sequence=1;The>.
[77] Kindleberger and Aliber (n 41); Mackay (n 40).
[78] Ibid.
[79] Temin and Voth (n 74).
[80] Mackay (n 40).

he lost GBP 20,000. During this period, he reminisced stating: "*I can calculate the motion of heavenly bodies, but not the madness of people*."[81]

The Mississippi and South Sea have features as indicated above. The value of the companies' shares was higher than the value of their assets. Secondly, people were investing speculatively in the hope of getting a huge return on investment.[82]

The supporters of the Efficient Market Theory, however, insist that the Mississippi and South Sea episodes are not bubbles.[83] One such proponent argues that investors base their conclusions on their discernment of the market.[84] This means that the perception of future increase in price held by the investors makes up part of the fundamental factors. If asset prices collapse, this may be deemed a problem of unequal information, but not the asset price bubble's presence.

On the other side of the spectrum, supporters of the existence of bubbles argue that bubbles can exist even with people investing their money consciously and rationally. One of the supporters of this, Kindleberger, adds that it's not the decision of one acting rationally that can be termed as a mania. It is the combined actions of many acting with the same rational intent that causes the presence of a speculative mania.[85]

It is rational to invest in an asset that is rising in value; however, if everyone makes the same decision to invest in an asset that was rising in value, this is what leads to a bubble.[86]

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[81] Malkiel (n 1); Temin and Voth (n 74); Lietaer (n 41); Kindleberger and Aliber (n 41).
[82] Kindleberger and Aliber (n 41); Mackay (n 40).
[83] Paul Atkinson, 'Asset Price Bubble Identification and Response' [2012] University of New Hampshire Scholars' Repository <https://scholars.unh.edu/honors/2%0AThis>.
[84] Garber (n 42) pp. 40.
[85] Kindleberger (n 22) pp. 28
[86] University of Essex (n 20).

Garber disagrees and argues that an investment that only looks bad in hindsight cannot be termed to be a bubble as all information was present at the time of making the investment and the decision at the time was sound.[87]

Garber's assessment and argument against the existence of bubbles has come under attack as the market has experienced bubbles in *sophisticated, well informed and regulated modern markets*; including in the United States of America in the Dot-com 'bubble' of the late 20th Century.[88]

2.2.3 The Dot-Com Bubble

The 'Dot Com Bubble' was created in the late 20th Century and burst in the early 21st Century.[89] Even though it has always been characterised as an internet-based bubble, interestingly enough, the Dot Com Bubble began without the internet.[90]

In the beginning, when Al Gore, the then Vice President of the United States coined the term the 'Information Super Highway' in 1993, he was mainly referring to interactive TV on cable.[91] Ian Peter writes regarding that period in time that what started it was the prediction of an information super-highway made up of a merged telephone and computer. A Telecomputer.[92]

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87 Garber (n 65).
88 Univeristy of Essex, 'Fundamental Factors' (2007) <https://www.essex.ac.uk/economics/documents/eesj/sp07/craddock-371.pdf?>.
89 Political Calculations, 'Here's Why The Dot Com Bubble Began And Why It Popped' 1 <http://www.businessinsider.com/heres-why-the-dot-com-bubble-began-and-why-it-popped-2010-12>.
90 Ian Peter, 'The Dotcom Bubble' [2004] Net History <http://www.nethistory.info/History of the Internet/dotcom.html>.
91 ibid.
92 ibid.

He concludes by stating that indeed the internet never began the dot-com bubble, rather it was just grabbed by investors when the other avenues of investment seemed to be stalling.[93] Everything changed with the invention of the Wild Wide Web in 1989 by an English scientist Sir Tim Berners. The intentioned allowed information to be identified and interlinked and made available over the internet through browsers. This development heralded a new age. The ability of the computer not only to perform computational functions but also to communicate was a game changer.[94]

The web was a totally progressive innovation that opened new prospects. it offered a method for sharing and transmitting data never thought; and better approaches for commerce.[95]

The possibilities were limitless. What's more, being a new innovation, the limitations were still unknown. Positive feedback loops amplified by the media caused the internet and its related issues to become a major topic in everyday life.[96] People were bombarded with sometimes realistic and often unrealistic visions of the future.[97]

Then came the Initial Public Offerings (IPOs).[98] With the knowledge by investors that there now existed an entirely new market, Internet companies begin to be created and to raise funds started to have IPOs. Due to the media attention, investors and speculators clamoured for the stocks. Any dot-com company's shares once public automatically skyrocketed.[99] In

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[93] ibid.

[94] Jesse Colombo, 'The Dot-Com Bubble' (2015) 1 <http://www.thebubblebubble.com/dotcom-bubble>; Peter (n 90).ibid.

[95] Álvaro Jiménez Jiménez, 'Understanding Economic Bubbles'. (Unversitat-Empresa 2011).

[96] ibid.

[97] Peter (n 90); Jiménez (n 95).

[98] Alexander Ljungqvist and William J Wilhelm, 'IPO Pricing in the Dot-Com Bubble' (2003) 58 Journal of Finance 723.

[99] Jiménez (n 95).

some cases, the value of a company was based only on an idea expressed in one paragraph in a piece of paper.[100]

Venture capitalists who were major catalysts in the funding and valuation of companies changed their usual strategy, and instead of focusing on the capability of a project they soon financed any dot-com venture making it stable enough to participate in an IPO and cash in on a big quick profit.[101]

Any web-based public company had its valuations rise without stopping so much so that the traditional criteria for companies' valuation changed.[102] The excitement was so huge that the basic principles of investment were thrown out the window. Price-earnings ratios, sales, or profits were no longer important. Instead, how many visits did a site attract, how many times did the visitors spent on the site, or simply prospects market expansion was found to be more valuable criteria. [103]

A new Dot-Com Theory was muted that stated that the rapid expansion in the customers base is one of the key issues that are critical for the performance of a computer base company. The statement is proved by the performance of Google and Amazon.[104]

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[100] Colombo (n 94).
[101] Jiménez (n 95).
[102] ibid.
[103] ibid; Burton G Malkiel, 'A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing (10th Edition)' [2015] W W Norton & Co Inc.
[104] Colombo (n 94).

Overnight paper millionaires and billionaires caused everyone to want in on the action. In 1999, the US had 457 IPOs—most of them web-based companies. 117 of them managed in the first year of trading to double their performance.[105]

This begun a frenzy or mania and just as we saw with Tulipmania, everyone wanted a piece of the pie; normally shrewd investors, mothers, and fathers became irrational, with some, amassing great wealth.[106]

The NASDAQ Index peaked at 5046.86 points in 2000. Double what it was a year before.[107] Speculation increased dramatically as well; people bought and sold shares within days or sometimes even within hours of purchase.[108]

Between 1999 and 2000, the U.S. Federal Reserve increased interest rates and the economy started to slow down. In addition, many web-based companies reported vast net losses.[109] The loss-making of the new web-based companies were indeed significant and it affected most of the investors [110] and the bubble burst. Most web-based companies that had publicly traded shares lost between 90% – 97% in the share price.[111]

All the bubbles mentioned above burst at some point. Even given all the available information that we currently have, despite everything it stays exceptionally hard for market analysts to recognize solid monetary development and air pockets. Kindleberger composes

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[105] ibid.
[106] Peter (n 90).
[107] Colombo (n 94); Jiménez (n 95).
[108] Jiménez (n 95).
[109] ibid.
[110] ibid.
[111] ibid.

those budgetary emergencies are 'like pretty ladies: difficult to characterize however conspicuous when experienced.'[112] The other issue that complicates the matter is whether if found to be bubbles, the regulator should burst the bubble or let the same collapse naturally.[113]

2.3 Defining a Bubble: Finding the Fundamental Factors

As seen above, asset price bubbles go back at least to 1636 where a single tulip bulb sold for more than a house, only for the bubble to burst in early 1637. In general, and as discussed above, a bubble can be defined as the temporary increase in prices above fundamental value because they are expected to be still higher later.[114] But what causes a bubble? Historians have indicated that each event is special. However, economists, have a contrary opinion in that they state that data and specific events are likely to trigger the same reactions under similar circumstances.[115]

Of these patterns, the two primary causes of financial bubbles have been the irrational speculative investor and easy access to credit.

2.3.1 Irrational Speculative Mania

In his famous description of the Dutch tulip market during the Tulipmania, Charles Mackay commented that at its peak, everyone from the nobility to the average citizenry participated in the trade in tulips.[116] The word 'mania' can be defined as a loss of touch with rationality or on the other hand dysfunctional behavior set apart by times of extraordinary elation, daydreams,

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[112] Kindleberger and Aliber (n 41).
[113] Malkiel (n 1).
[114] Evanoff, Kaufman and Malliaris (n 30).
[115] Kindleberger and Aliber (n 41).
[116] Mackay (n 40).

and overactivity.[117] Economic history is replete with manias, as has been seen in the sections above.[118]

The origin of any bubble is usually the same: demand increases which spur a steady rise in price, which then morphs into a quick and sustained price jump.[119] Jose Scheinkman and Wei Xiong[120] developed an asset bubbles' behavioural model, presuming short-sale limitations.[121] They stated that an asset buyer is likely to consider a high price for an asset as, apart from the asset, the purchaser gets an opportunity to sell the asset to others who believe in the future value.[122] This – buying to sell later – is what is known as Speculation.

Speculation is buying an asset, not for its use, but for the anticipated gain from the projected rise in their prices.[123] Additionally, speculation involves buying assets for resale instead of for the anticipated investment profits attached to these assets.[124] Speculation is the acquiring of an asset hoping to earn profits in an anticipated increase in the worth of the asset.[125]

Speculation frequently advances in two phases. In the first, clear-headed, phase persons invest in an asset in a limited and rational way and for purposes of getting a return from the investment. In the second phase, the appetite for profits to be made from the selling of the asset itself and not from the income generated far outdoes the first reason for investment and that is when the mania sets in.[126]

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[117] Kindleberger and Aliber (n 41).
[118] ibid.
[119] Beachy (n 45).
[120] Xiong (n 38).
[121] Evanoff, Kaufman and Malliaris (n 30).
[122] Xiong (n 38).
[123] Kindleberger and Aliber (n 41).
[124] ibid.
[125] ibid.
[126] ibid.

In the late twentieth Century, Wall Street experts anticipated that U.S. corporate benefits would ascend at the pace of 15% per year for a long time. Really, the vast majority in the U.S. who had put resources into the offer market saw their capital ascent definitively as offers multiplied in over the most recent four years of the twentieth Century.[127] Retrospectively, it was found out that this increase was indeed the result of the dot-com bubble, a separate speculative price hike whereby exuberance over new web-based corporations drove investors to overrate the worth of many companies and their shares[128] that soon spurred a never-ending cycle of price hikes based on the assumption an important aspect of price bubbles.[129]

This speculative cycle can also be seen in the housing bubble in America of the 2000s.

In the Early 21st Century, housing prices in the U.S. rose. As they increased, both purchasers and vendors of homes grew to believe that the prices to continue to increase ad infinitum. People started purchasing houses in order to 'flip them' or rather sell them at a profit. Households and firms that were seeing others profiting from the speculative purchase and re-sale also wanted into the profit-making ventures and it led to a cascading effect. As they say '*There is nothing as disturbing to one's well-being and judgment as to see a friend get rich*' *unless it is to see a non-friend get rich.* [130]

Purchasers of houses, believing that the increase in prices would never cease, became interested house prices that are costly, believing that the investments would definitely make a greater return on the initial capital costs.[131]

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[127] ibid.
[128] Beachy (n 45).
[129] ibid.
[130] Kindleberger and Aliber (n 41).
[131] Beachy (n 45).

Additional firms and people who had beforehand been indifferent on the value of the speculative ventures begun to take part in the scramble for high profits.[132] The new buyers, in turn, sold the houses for a profit encouraging even more new buyers to buy so as to benefit from the sale. This led to both a rising demand for homes and the increase in price. [133] This movement from normal rational investment behaviour to the frenzy of speculation is what is now defined as a 'bubble.'[134]

The irrational theoretical madness is the most imposing study of the Efficient Market Hypothesis. This hypothesis places that the cost of an advantage accurately incorporates every single accessible data about an asset's value.[135] Consequently, under this hypothesis, theoretical air pockets can't exist since financial specialists would utilize the effectively accessible information to recognize the cost increment, anticipate that the cost should before long drop, and accordingly sell the benefits, making the value to be sure drop.[136]

But investors, in all of the bubble events we have discussed so far, did not follow this hypothesis. There was a certainty that persisted that asset prices in the individual asset categories would increase indefinitely, despite the evidence being readily available that prices had reached peaks not previously evidenced in the asset category. This information was easily ignored, and prices continued to rise until the eventual bursting of the specific bubble.[137] Why?

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[132] Patrick J Bayer, Kyle Mangum and James W Roberts, 'Speculative Fever: Investor Contagion in the Housing Bubble' [2016] SSRN Electronic Journal <http://erwan.marginalq.com/HULM14f/km.pdf>.

[133] Beachy (n 45).

[134] Kindleberger and Aliber (n 41).

[135] Erik F Gerding, 'Inside Law , Bubbles , and Financial Regulation'; Malkiel (n 1); Bradley Jones, 'Asset Bubbles: Re-Thinking Policy for the Age of Asset Management' (2015) 15 IMF Working Papers 1.

[136] Beachy (n 45); Erik F Gerding, 'Laws against Bubbles: An Experimental-Asset-Market Approach to Analyzing Financial Regulation' (2007) 2007 Wisconsin Law Review 977; Malkiel (n 1); Jones (n 135).

[137] Beachy (n 45).

The simple answer is that investors are not rational.[138] EMH presupposes that when information is made available to a group of investors[139] some will reject the information and overvalue the real value of the asset while there will be others who will take on the information and make rational decision to undervalue the asset, causing the cumulative price the right one. But this is not how the markets have worked thus far. All the bubbles did not have a balanced investor pool thus leading to the hyper-increase in pricing termed as 'irrational exuberance' by the former Federal Reserve Chairperson Alan Greenspan and not with a touch of irony.[140]

Everybody who added to the housing bubble followed up on the suspicion that home costs would keep on rising.[141] This was mostly based on the fact that home prices had never fallen countrywide within any year since the Great Depression.[142] No effort was put in dampening the market specifically due to the fact that everyone believed that the asset would always pay itself back.[143] Riskier investment decisions were placed on the asset because they would be able to handle the same. Examples included mortgage-backed securities and subprime mortgages. Home loan banks kept on making expanding quantities of subprime home loans and customizable rate contracts. These home loans were characterised by fewer defaulters if there is continuous growth in the home costs.[144]

Home costs kept rising for quite a while. Alarms of a possible bubble were issued as early as 2001 but the prices continued to rise for another 5 years before the same peaked. Any person

[138] Kindleberger and Aliber (n 41).
[139] Gerding (n 136); Beachy (n 45).
[140] Greenspan (n 42); Beachy (n 45); Jones (n 135); Gerding (n 136).
[141] Beachy (n 45).
[142] ibid.
[143] ibid.
[144] ibid.

looking at the data in 2002 would have been forgiven for dismissing the same because of the five-year growth in price that the asset experienced.[145]

The irrational speculative mania is difficult to identify and to avoid, and actually not certainly beneficial to avoid.[146] Tulips, Shares, Houses were all perfectly food investment vehicles before their various bubbles burst.[147] Indeed take as an example the time that Alan Greenspan made his comment on the price of stocks being extremely highly over-valued. Shares would go on to increase by another 75% over the next three years before the bubble started crumbling.[148]

But what indeed causes this irrational exuberance? Behavioural economics, a study of economics that also includes human psychology into its studies, gives us a number of explanations for such irrationality. One of these is called 'representativeness heuristic' which is a bias that humans have that makes us rely heavily on recent and minor samples.[149]

Secondly, irrational exuberance has also been linked to mob psychology or herd mentality.[150] Psychologists have often tried to understand what makes rational individuals cede their individuality and instead join up with a mob or 'herd and form an irrational group of individuals.'[151]

However, this 'herd' mindset, the propensity of people to rest their choices on the behaviour of the majority, has also been used to explain the rise of bubbles.[152] In the legal and philosophical realms, we can equate this tendency to the Social Contract theory that espouses

[145] ibid.
[146] ibid.
[147] ibid.
[148] ibid.
[149] Robert J Shiller, 'Measuring Bubble Expectations and Investor Confidence' (2000) 1 Journal of Psychology and Financial Markets 49.
[150] Kindleberger and Aliber (n 41).
[151] Shiller (n 10); Kindleberger and Aliber (n 41); Gerding (n 136).
[152] Shiller (n 10); Beachy (n 45); Kindleberger and Aliber (n 41).

that individuals agree, either overtly or implicitly, to surrender some of their rights and defer to an authority of another (king, ruler, noble or to the decision of a majority), in return of the defense of their remaining rights.

Economists, relying somewhat on this tenet of behavioural psychology, have claimed that investors seldom think about the basic estimation of a benefit in choosing their willingness to pay for a project.[153] Rather, they generally think about whether an investment was rising or dropping in the general market.[154] During bubbles, "herd" members buy up the assets at higher prices, this, in turn, influences their peers' decisions in adopting the same – thus joining the herd – which causes the snowballing effect leading to the inflation of the asset.[155]

To further demonstrate the effect of the 'herd' on an individual, Schiller described an experiment done by exclaimed social psychologist Solomon Asch.[156] Asch placed a research subject with 7 to 9 other people who for purposes of the study had been prepared and coached by the psychologist.[157] Each person was required to answer a series of twelve questions. The test subject was to answer last and therefore heard all the others in the room before relaying their answers. The correct answers were apparent, but the coached subjects deliberately gave the wrong answer in 9 of the 12 questions.[158] In order not to seem different or foolish before the other members of the test in the room, one out of three times, the test subjects gave the wrong answer to the questions to match what had been said by the others in the room. They also exhibited signs of anxiety or distress showing that they knew they were saying the wrong

[153] Ibid.
[154] Ibid.
[155] Ibid.
[156] Shiller (n 10) 149.
[157] Shiller (n 10).
[158] ibid.

answers but had been swayed with the idea of not wanting to look stupid in front of the other team members.[159]

Asch thought that this was due to social pressure.[160] Maybe there is some truth to this interpretation, but a later experiment showed that the change in the answer may not have been due to this pressure. This later experiment, done psychologists Morton Deutsch and Harold Gerard changed the earlier experiment slightly.[161] In this later rendition, the subjects could not see the other people being asked the questions but could only see the answers given. Indeed, there were no other people involved and the subject could give their answer by pressing a button. There was no-one to face who could express this social pressure on the subject. Save for this detail the experiment proceeded as before. Surprisingly, even with the change having been made to the experiment and the subject not being pressured by the group directly, the subjects still gave the wrong answers in almost the same rate as in the previous experiment.[162]

Deutsch and Gerard came to the conclusion that the subjects gave the wrong answers both to of the experiments were not because of social pressure and anxiety but because basically the subjects could not believe that the other people were all wrong.[163] The subjects were simply focusing on information and trying to process why a large group of people would come to a conclusion that was different from theirs and not on whether they would look foolish in front of peers.[164] This behaviour is simply a matter of ordinary everyday calculations we do. We as a human race have been conditioned to believe that a large number of people that are united in their judgment on a matter are usually right. The anxiety and distress that the subjects showed

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[159] ibid.
[160] ibid.
[161] ibid.
[162] Ibid.
[163] Ibid.
[164] Ibid.

in the earlier experiment could be explained as the conflict within the body that their senses were not reliable.[165]

This could also be used to explain World War 2 atrocities conducted by rational human beings as well as other Genocidal actions throughout history including in the neighbouring East African country of Rwanda. But in studying the Nuremberg War Criminals trials, another psychologist, and Yale University professor Stanley Milgram also found another reason that may cause a person to act irrationally. The 'Power of Authority' he called it.[166]

During the trials of the war criminals, a number of the accused gave the defence of obedience. That they as soldiers had the duty and mandate to follow orders regardless of the outcome. Milgram became very curious about this. Could one really cede their judgment of what is right or wrong so completely as to commit such an atrocity on the basis of 'orders from above'? If so, how far would they go?[167]

Milgram recruited volunteers all of them male for a laboratory experiment to investigate learning and memory. This was a ruse. He took one of his students as a confederate in the experiment. At the start of the experiment, the subject and the confederate were introduced. Then they drew straws to see who would play teacher and who would play a student. The Confederate was always picked to be the student. Once this was done, the student was placed in a room and had electrodes placed on them. The Teacher (the Subject of the experiment) was told to ask the Student a progression of inquiries. For each off-base answer, the subject was to manage an electric stun. For each off-base answer, the subject was to control a larger amount

[165] Ibid
[166] Ibid
[167] Ibid

of stun to the understudy. The shock voltage varied from 15 volts (minor) to 450 volts (dangerous).

The student was to give mostly wrong answers and was meant to pretend to be experiencing an increasing degree of pain and anguish when indeed there was none. When a teacher failed to administer the shock, Milgram was to give him a prod with 4 statements. The startling result was that all participants in the experiment continued to shock the student up to the level of 300 volts and a majority of 65% of participants reached the maximum voltage of 450 volts.[168]

The shocking results showed just how large and looming the power of authority was on the human mind. Ordinary people could be trusted to follow orders given by an authority figure even to the extent of killing another human.[169] Another nugget that could be picked up is that people who were told that things were ok, would trust that things are ok even when their conscience was saying different. People would tend to obey orders and directions if they recognised the authority as being legitimate no matter the consequences.[170]

The above experiments are interesting as they show that people are ready to believe the majority view or to believe legitimate authorities even when they clearly contradict obvious and clear right judgment. Secondly, they also show that this move to associate oneself with the majority view is actually rational and intelligent.[171]

Many of us have had an experience of failure after going against what a person in authority or a group of people have said (these include orders from school teachers which when contradicted were followed up swiftly with the cane among others) and we have learned from

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[168] Ibid
[169] Ibid
[170] Ibid
[171] Ibid

these experiences.[172] The experiments detailed above show us that people would be so confident in the information given by someone they perceive to have more knowledge that they would bet on the information and fully rely on the same in having their own opinion.[173]

And based on the above, it is not surprising that people would rely on others in making of investment decisions.[174] A majority of people would trust their ability to make good decisions as regards investments even less than the people we have seen who were experimental subjects.[175]

Apart from herd mentality or mob psychology, other theories that have been put forth to explain the irrationality of the speculative mania include first that a lack of appropriate information which causes investors to fall into the hands of swindlers. [176] Second, there is the demonstration effect, which leads the one family to spend more than they earn trying to keep up with their neighbours.[177]

The other is the Duesenberry effect named after James Duesenberry. Typically, it is observed that levels of consumption in a house rise with the rise of income in that household. Should the income fall, then consumption should fall proportionally with the reduced income. However, Duesenberry found out different. That indeed once consumption habits are acquired, it is hard to get rid of them. Therefore people who are used to spending their money on certain assets would find it difficult to stop spending the money even if incomes reduced.[178]

[172] Ibid
[173] Ibid
[174] Ibid
[175] Ibid
[176] Ibid.
[177] Kindleberger and Aliber (n 41).
[178] ibid.

Then there are the investors who act rationally *irrational.* Take the example of a banker who participated in the South Sea Bubble. As Charles MacKay reported in his book, the banker purchased five hundred pound worth of worth of South Sea shares saying, *'When the rest of the world is mad, we must imitate them in some measure*.'[179] Another rational investor was quoted during the South Sea Bubble:[180]

"The additional rise above the true capital will only be imaginary; one added to one, by any stretch of vulgar arithmetic will never make three and a half, consequently all fictitious value must be a loss to some person or other first or last. The only way to prevent it to oneself must be to sell out betimes, and so let the Devil take the hindmost."

Indeed in many bubbles, there are a number of rational participants. Each of their action is rational but taken as a whole, they become irrational. This is known as the fallacy of composition; when the whole differs from the sum of its parts.[181] That the behaviour of the group of people will differ from the individual behaviours if looked upon separately. The action of investing in an asset that is increasing in value is rational and indeed on the off chance that an investor is brisk enough to advance beyond the others, he may progress admirably, as insiders, for the most part, do, it is the action of everyone wanting to ride in the bandwagon of rising price that causes the ultimate crash during the bubble burst.

The last reason for irrationality is overconfidence.[182] An increase in the optimism of investors and business firms and of the banks as lenders[183] prompts progressively certain desires for a constant flow of riches and of an ascent in returns to incite financial specialists to purchase

[179] Mackay (n 40); Kindleberger and Aliber (n 41).
[180] Kindleberger and Aliber (n 41).
[181] ibid.
[182] ibid.
[183] ibid.

more dangerous offers. Monetary establishments make more dangerous credits and go out on a limb with the pool of the individuals who get the advances. The increased optimism may continue unabated until it advances into mania.[184]

Manias and irrationalities would not be limited to a few. Sir Isaac Newton, a world-class scientist renowned for physics and mathematics was in the early eighteenth century a Master of the Mint. He is credited with saying *'I can calculate the motions of the heavenly bodies, but not the madness of people*'[185] after losing twenty thousand pounds in the South Sea Bubble.[186] Sir Isaac Newton bought South Sea Shares and sold them at 100% profit. Due to the mania at the time he then bought more shares at near the peak of the bubble price. When the bubble burst, he lost the money. To his dying day, he could not bear to hear the name South Sea.[187]

2.3.2 Credit Inflates the Bubble

The second known cause is the presence of easily accessible Credit or loans. Bubbles in asset prices characteristically have three different stages.[188] The 1st stage begins with a Central Bank deciding to increase credit in the market.[189] While the availability of credit and loans is commonly seen as important for strong economies, a quick increase in local credit and loans has been found to be one of the most reliable and substantial causes of financial emergencies occurring throughout the world. Credit booms inflate the bubble and tend to lead to financial busts.[190]

[184] ibid.
[185] ibid; Temin and Voth (n 74); Lietaer (n 41); Malkiel (n 1).
[186] Kindleberger and Aliber (n 41).
[187] Ibid.
[188] Allen (n 43).
[189] ibid
[190] Beachy (n 45).

This decision to increase access to credit is based on an increment in the cost for some assets. This increase in prices continues for a period of time, as the bubble expands.[191] The 2nd stage begins when the bubble bursts and the cost of assets fall. The 3rd stage is characterised by many firms defaulting and the inflation of assets based on their purchase by other agents who have.[192] The defaults bring forth a crisis in the economy which can be long lasting.[193] There is a huge association between the monetary framework and development.[194]

Inflation is reliant on the increase of money in circulation and Asset price bubbles are reliant on the increase in the availability of funds and credit.[195] The correlation between credit and bubble events is easy to surmise has been observed severally throughout history. This is because increased borrowing trends have a tendency to increase interest for the advantage being referred to, empowering oneself propagating ascend in cost.[196] Bubbles and the mania that accompanies it assemble speed through the accessibility of cash and credit. Not all increments of accessibility of cash and credit lead to a mania; for the most part, they are basically financial developments as opposed to bubbles. Yet, every mania has been related to the extension of credit.[197]

Constant access to credit is often a double-edged sword when dealing with bubbles.[198] Usually, credit and access to funding are extremely important for healthy economies. At the same time, a quick upsurge in local credit has been found to be a core predictor of bubble events occurring

[191] ibid.
[192] ibid; Atkinson (n 83); Kindleberger and Aliber (n 41); Shiller (n 10).
[193] ibid
[194] ibid.
[195] Kindleberger and Aliber (n 41).
[196] Beachy (n 45).
[197] Kindleberger and Aliber (n 41).
[198] Jiménez (n 95).

throughout the world in the recent past by inflating short-lived bubbles, leading to financial busts.[199]

Every bubble in the last century has been preceded by credit expansion and almost specifically through financial systems and banks.[200] The tulip bubble mania had credit from sellers of the bulbs.[201] John Law had his Banque Generale, and the South Sea Company relied on the Sword Blade Bank.[202]

In the seventeenth and eighteenth centuries which is the pre-banking period, personal credit or vendor financing enhanced the bubble.[203] Later on, banks were created and they expanded the stockpile of credit and their liabilities. In the nineteenth century, they developed the arrangements of monetary certificates and later they added to the store adjusts of explicit account holders.[204] Alongside the development of credit by the perceived banks, new banks were shaped; the endeavours of these new banks to expand piece of the overall industry prompted fast development of credit and cash in light of the fact that the built up banks regularly were reluctant to acknowledge a disintegration in the market portion that they would some way or another experience.[205]

Bank credit can be very unstable; at times financial institutions have have lent easily and without restrictions and then at other times they have become very careful and withheld funding to potential borrowers.[206]

[199] ibid; Beachy (n 45); Kindleberger and Aliber (n 41).
[200] Beachy (n 45).
[201] Garber (n 68); Garber (n 65); Beachy (n 45).
[202] Garber (n 68); Mackay (n 40); Temin and Voth (n 74).
[203] Beachy (n 45).
[204] Kindleberger and Aliber (n 41).
[205] ibid.
[206] ibid.

One key policy issue revolves around the regulation of credit and access to funds by and from banks and other financial institutions that supply credit. In many cases, Regulators place strict controls to the capability of banks to provide certain kinds of loans.[207] To avoid the regulations, financial institutions then establish subsidiaries that can provide the loans that are forbidden for the banks. Thus, even though the ability to issue a credit by the parent bank is curtailed, the availability of credit will not be hampered and enough money to finance the bubbles is still found circulating in the market.[208]

In addition, and as noted above, access to credit is a double-edged sword. Often, to counter economic headwinds including high unemployment, regulators and central banks can increase the money supply to promote lower interest rates. This makes it easier and cheaper for people to borrow. Increased borrowing leads to increased investment which may create jobs since it usually means the expansion of businesses, while increased consumption can spur job growth by boosting income for those selling goods or services, typically leading them to hire more people. The new availability of funds in an economy leads to the increase of asset prices and may spur a manic euphoria.[209]

Envision an upsurge in the typical interest for products and enterprises. Sooner or later, this expansion clashes with the ability to create products. Values increase, and the faster surge in profits brings interests in the form of both more investment and more organisations. Optimistic reaction develops as the ascent in venture prompts ascends in the pace of development the valuation that thus incite extra speculation, etc. ceaselessly raising the estimation of a resource

[207] ibid.
[208] Ibid.
[209] Ibid.

for beforehand inconspicuous levels.[210] 'Euphoria' might develop at this stage as people with the liquid money buy up the assets.

2.3.3 Fraud

Another visible sign of the presence of a Bubble in a particular asset is the presence of fraud. Expansion in asset prices begins when the economy grows and generates optimism about expected returns.[211] Bubbles occur when this optimism is greater than common sense and facts and participants in the bubble are willing to accept fake and fraudulent information that would otherwise have seemed unlikely. As one writer stated, in the best of times, there is a lot of fraud. This is because people are most gullible when they are happy so when people believe that they are growing financially, there are others who look upon it as an opportunity to gain from fabricating information.[212] A recent example would be the ENRON scandal that followed the stock market crash during the dot-com bubble.

Likewise, Professor Galbraith sees that fraud increases in economic good times as individuals are relaxed, credulous, and funds are abundant.[213] Speculation requires a prevalent sense of self-confidence and hopefulness and belief that everyone can be rich and actually that they were destined to be rich. This feeling of trust is crucial for a bubble to form, but it brings with it easy marks for con games.[214]

Prejudices in judgment increase the enthusiasm that drives bubbles. Speculators may, for instance, be presumptuous in their very own aptitudes, be excessively hopeful, be driven by a

[210] Ibid.
[211] Ribstein, Larry E, 'Commentary: Bubble Laws' (2003) 'Houston Law Review' 77.
[212] Bagehot, W. (2007). *Lombard Street: A Description of the Money Market.* New York: Cosimo Classics.
[213] John Kenneth Galbraith, *The Great Crash 1929* (New York: Houghton Mifflin Company 1979).
[214] Ibid;

"conservatism" inclination to ignore evidence that is divergent to the current trend.[215] Managers, especially those who have the highest self-esteem, also are particularly susceptible to brashness.[216]

The reasons that people have to participate in fraud are influenced by various factors and vary depending on whether a business is growing or is in decline. As the economy improves, people will commit fraud as they share in the general excitement and gullibility of the market. On the other hand, as the economy takes a downturn, they may participate in the same to defend their wealth and freedom.[217] To be sure, the outcomes of disclosure might be severe to the point that reasonable participants in the fraud might be motivated to conceal even with minimal chance that the concealment will be fruitful. This mental calculation is based on human psychology that beleives that it would be better to avoid immediate pain and take a chance that there might not be any pain in the long run.[218]

2.4 The Crash

No one knows the exact cause of the crash. What is known is that as the asset prices grow, fewer and fewer people are able to purchase the asset at the ever increasing new sale price. The balance that is brought by having an almost equal number of vendors as are purchasers shrinks and suddenly there are more sellers than buyers in the market.[219] Investors hurry to board the 'sell' market.[220] And as is the market provision, if the enthusiasm of buyers is stronger than

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215 Barberis Nicholas and Thaler, Richard H, 'A Survey of Behavioral Finance' (September 2002) <https://ssrn.com/abstract=327880 or http://dx.doi.org/10.2139/ssrn.327880> accessed 5 August 2019.
216 Donald C. Langevoort, 'The Organizational Psychology of Hyper-competition: Corporate Irresponsibility and the Lessons of Enron' (2002) 70 GEO. WASH. L. REV.
217 Jennifer H. Arlen and William J. Carney, *Vicarious Liability for Fraud on Securities Markets: Theory and Evidence*, 1992 U. ILL. L. REV. 691, 702-03
218 Ibid
219 Kindleberger and Aliber (n 41).
220 Ibid.

those willing to sell, the prices of the assets will increase. The reverse is also true when the sellers are more motivated to sell than the purchasers of any asset, then the prices start to reverse and fall.[221]

When the sellers are more motivated to sell than the purchasers of any asset, individuals and firms become unable to service their debts.[222] This leads some to bankruptcy and the economy as a whole takes a nosedive as people stop spending money and instead prefer to hold on to their liquid cash and reduce their spending on goods and services.[223] Some investors may choose to hide their heads in the sand and continue to hold the assets as the price for the asset drops wrongly believing that the decline in prices was for a short time.[224] Indeed at times, the prices for an asset may actually begin to increase giving the illusion that the asset in question was rebounding. This leads to some investors believing that the asset price had reached its lowest point, and so they come back to the market to try and be among the first to buy the asset while they are still inexpensive. However, viewed from a more stretched out perspective in time, the graph would show a declining asset. This phenomenon has happened severally during bubble events including the more recent US housing crash and the dot-com bubble.[225]

The exact action that precipitates the crisis may vary. The discovery of a fraudulent act, the collapse of a financial institution, the refusal to provide a loan on the basis of a specific asset, or even the sudden and dramatic fall in the price of an asset. Any of these could have the effect of shouting fire in a crowded place. [226] However as the prices continue to decline, people start to come to the realisation that they should get out before the same fall even further; in some

[221] Ibid.
[222] Ibid
[223] Ibid.
[224] Ibid.
[225] Ibid
[226] Ibid.

cases this awareness occurs slowly and in others rapidly quickly turning the slow gallop into a stampede and may deteriorate into frenzy as the acknowledgment spreads that solitary a couple of speculators can sell while costs remain not far underneath their pinnacle esteems and they swarm the exit attempting to traverse the entryway before it pummels shut.[227]

The frenzy benefits from itself until costs have declined up until now and have turned out to be low to such an extent that financial specialists are enticed to purchase the less fluid resources, or until exchange the advantages is halted by setting limits on value decays, closing down trades or generally shutting exchanging, or a moneylender after all other options have run out prevails with regards to persuading speculators that cash will be made accessible in the sums expected to satisfy the need for money and that consequently, security costs will never again decrease as a result of a deficiency of liquidity.[228]

2.4.1 The Aftermath

With the benefit of hindsight, which as they say has perfect vision, a number of people keep saying that a bubble can be foreseeable. Consider the following examples.

With the stock market crash of May 1866, one writer stated that the investments people were making made them '*sapient nincompoops*.' He went on to add that it would have been far better to have the money invested by a child than by the investment firms at the time as even a child would have been able to predict the coming crash.'[229]

Yet another added that simply some people had not thought things through and instead had acted in a manner far surpassing common sense.[230]

[227] Ibid.
[228] Ibid.
[229] Ibid.
[230] Ibid.

But even with all the above causes being seen in a market that is undergoing a bubble event, it is only in hindsight that people seem to be clear on the existence of the same.

2.5 Conclusion

This Chapter accomplishes two things. First it has created a definition of what constitutes an Asset Price Bubble: the substantial and long-lasting divergences of asset prices from valuations that would be determined from the rational expectation of the present value of the cash flows from the asset (or assets) and partially driven by irrationality on the part of a portion of the investors in that asset category. Secondly, the Chapter establishes what the fundamental make-up of a bubble are. What are the fundamental factors that are present in an asset category and its investors that serve as a herald to the coming bubble bust and crash.

This Chapter has also dealt with the argument on whether or not a bubble is foreseeable and found that the same may not be conclusive. The variables we have found are too many for one to say with certainty that indeed all bubbles may accurately be predicted. However, whether or not a bubble maybe foreseeable it may be essential for the government to enact regulations that deal with identified causes of bubbles and that protect citizens from losses and adverse economic effects of a bubble bursting.

3 CHAPTER 3: PREDICTING ASSET PRICE BUBBLES IN KENYA

3.1 Introduction

Emerging Markets have so far been able to avoid asset price bubbles. But with financial systems in a nascent state, emerging markets like Kenya face particular challenges in stabilizing the financial systems in order to pursue sustainable high-growth paths.

In order to establish if Kenya is susceptible to the ingredients defined in the preceding Chapters that make up or that may lead to Asset Price Bubbles, this Researcher decided to conduct a survey through questionnaires. The questionnaire is designed to examine investor attitudes[231] and establish whether the fundamental factors necessary in an asset market primed for a bubble event.

In this case, the asset category chosen is that of the property market. This chapter also describes the research design used in this study, the population of the study, sampling design (sample size and sampling technique), data collection methods, data analysis tools and techniques, and finally data validity and reliability.

3.2 The population of the Study

According to Mugenda and Mugenda,[232] a population refers to a common group of individuals, cases or objects with some shared observable characteristics, which differentiate it from other populations.

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[231] Shiller (n 149).
[232] Olive Mugenda and Abel Mugenda G, *Research methods: Quantitative and Quantitative* (Nairobi: African Centre for Technology Studies (ACTS) Press 2003).

The study area, Ruaka, is a shopping centre in Kiambu County 15 Km from Nairobi's Central Business District. Kiambu County is located in what was previously Central Kenya It borders Murang' a County to the North and North East, to the East, lies Machakos County, in the South Nairobi and Kajiado Counties and, Nakuru County and Nyandarua to the to the West and North West respectively. The County covers an area of about 2543.4 square kilometres.[233]

According to the Kenya Population and Housing Census 2009, the population of Ruaka sub-location where the study area lies is 15,583 people (7,507 males & 8,076 females). There are 5,067 households in the sub-location occupying an approximate area of about 4.3KM^2. The density is 8,931 persons per square kilometre. However, the current peak and off-peak population for the project area remain unknown thus presenting a data gap.

Ruaka is a preferred dormitory area to house people working in and around Nairobi.[234]

This area was chosen as it contains a broad spectrum of people with diversified backgrounds, economic status and purchasing power which is important in my Study.

3.3 Sampling Design

A sample is a subset of a particular population. Sampling design encompasses the sampling technique and sample size. This study used simple random sampling technique. This was considered appropriate because the population of the study was considered highly homogeneous.

[233] County Government Kiambu, 'County Government of Kiambu County Integrated Development Plan'.
[234] 'Ruaka: When Poor Planning Increases Pollution' <https://www.the-star.co.ke/watchdog/2019-03-11-ruaka-when-poor-planning-increases-pollution/> accessed 9 October 2019.

3.4 Data Collection Methods

Data collection methods refer to the instruments used to gather the required data from the respondents. In this research, data were collected using structured questionnaires to facilitate ease of analysis.

I distributed questionnaires to a random sampling of 100 individuals in the Ruaka Shopping Centre in two Saturday afternoons in April 2015 that guaranteed me having access to a large and diverse number of residents. The questions were designed to gauge risk appetites and investor confidence which would then show whether there exist elements that are defined in previous Chapters that are likely to lead to asset price bubbles.

3.5 Data Analysis Tools and Techniques

Collected data were analysed using statistical tools and have been presented by the use of tables and charts. Microsoft-Excel has been used to generate the tables and charts. Frequencies and percentages have been used to display the results of findings.

3.6 Data Analysis and Presentation

Collected data are presented in form of tables and figures to facilitate comparisons. The figures are in the form of charts/graphs. Explanations are also given on the contents of tables and figures.

The questionnaire was based on 16 key questions as contained in Annex 1 and it yielded the following results.

The following was the makeup of the basic characteristics of the people who were gracious enough to answer my questionnaire.

Figure 1 Age of Respondents (Source:Author)

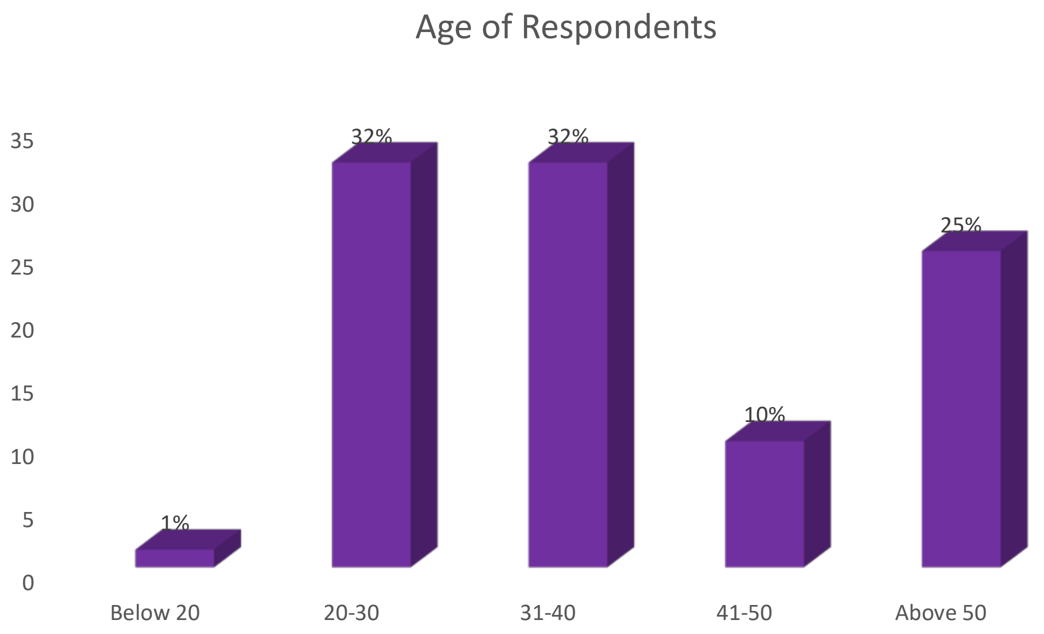


Figure 2 Gender of the Respondents (Source:Author)

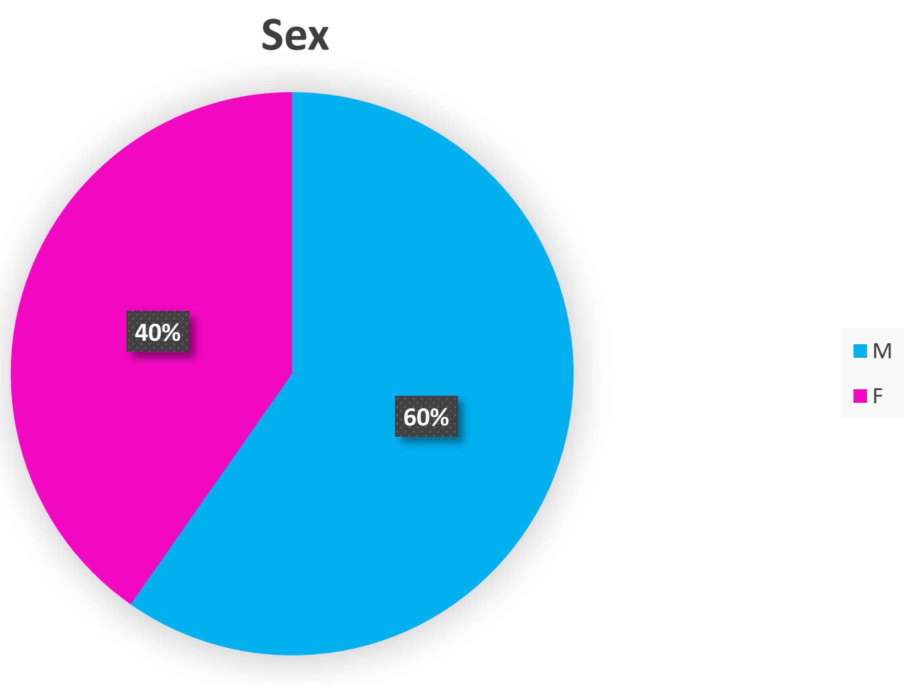


Figure 3 Marital Status of the Respondents (Source:Author)

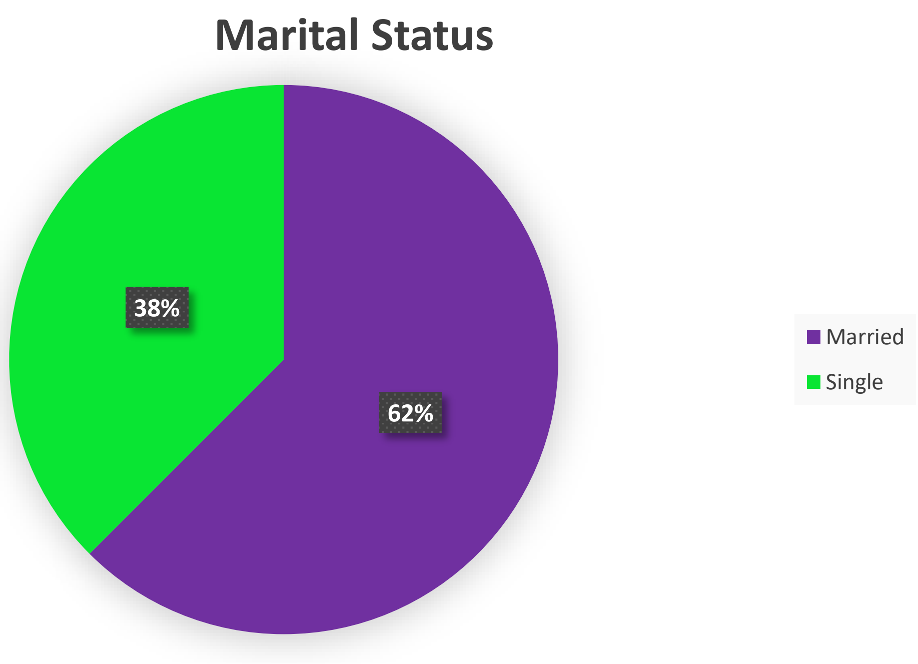


Figure 4 Respondents with Children (Source:Author)

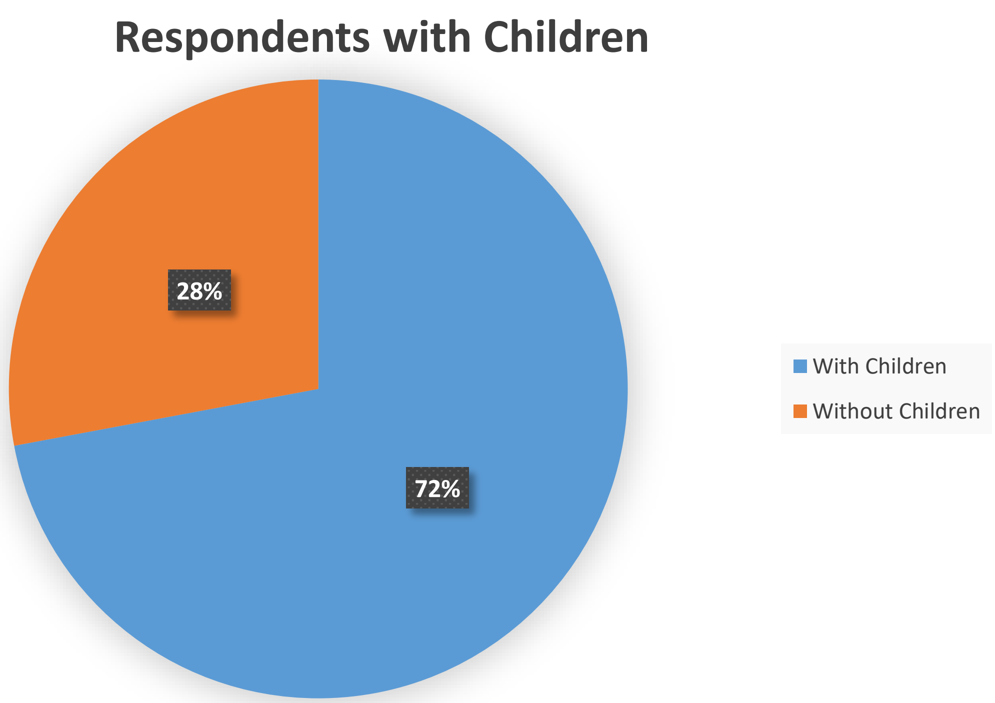


Figure 5 Respondents Employment Status (Source:Author)

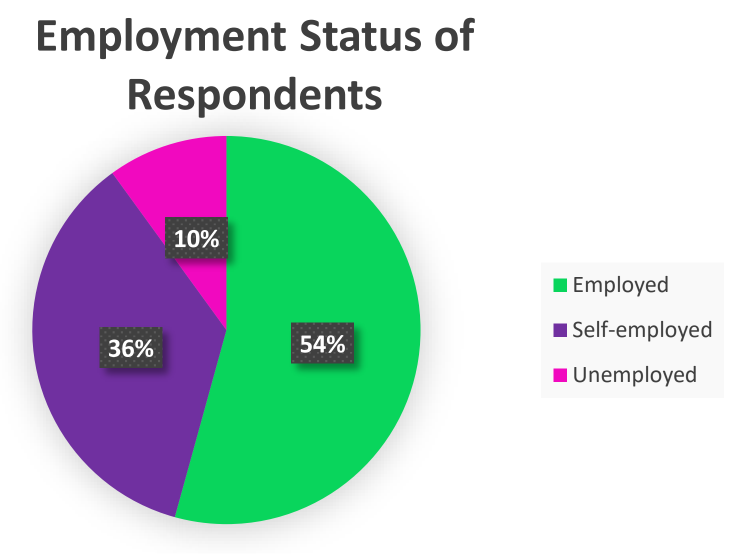


Figure 6 Respondents Employment Sector (Source:Author)

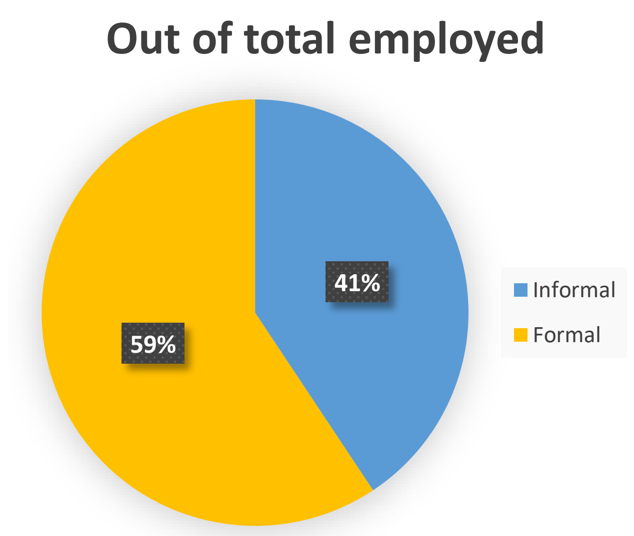
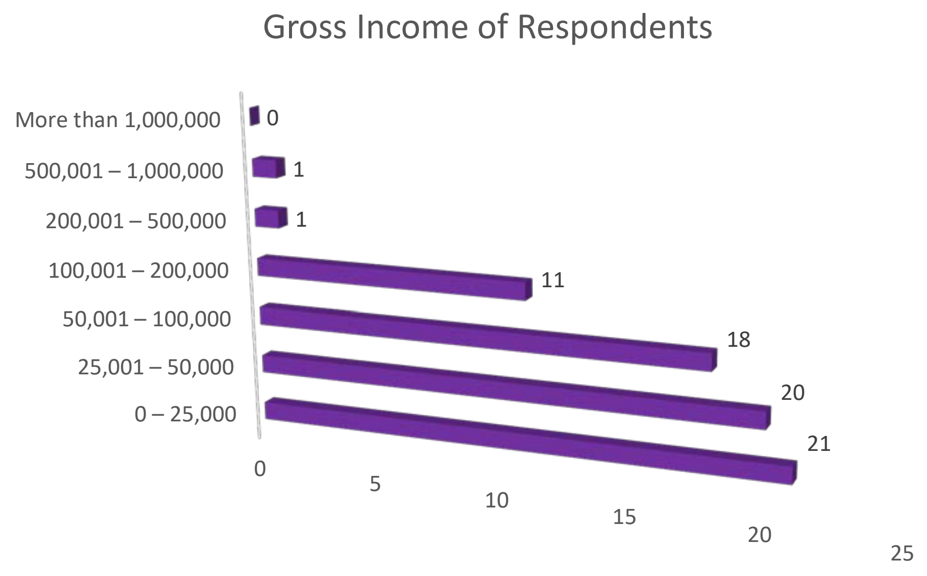


Figure 7 Gross Income of Respondents (Source:Author)



Of the respondents to the questionnaire, the following was the percentage with investments and the makeup of their investments.

Figure 8 Respondents with Investments (Source:Author)

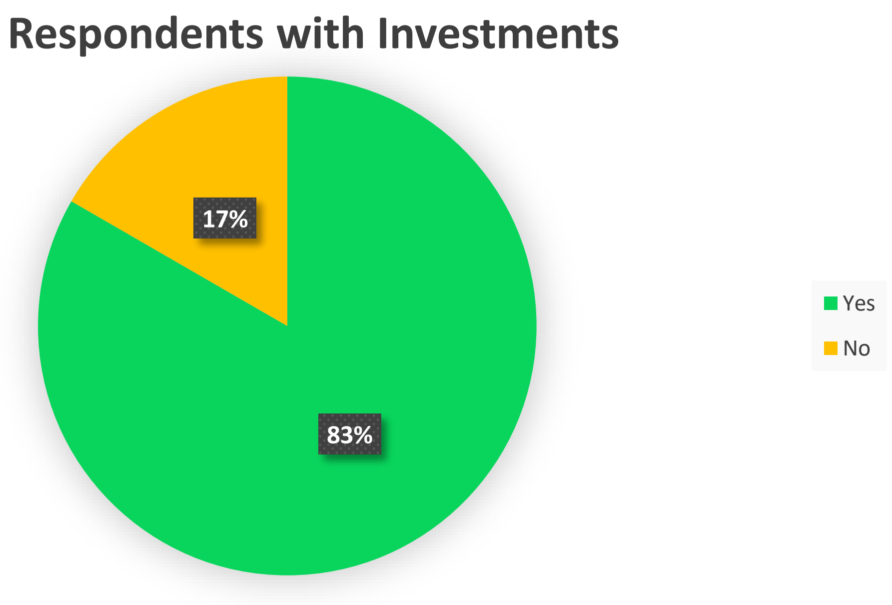
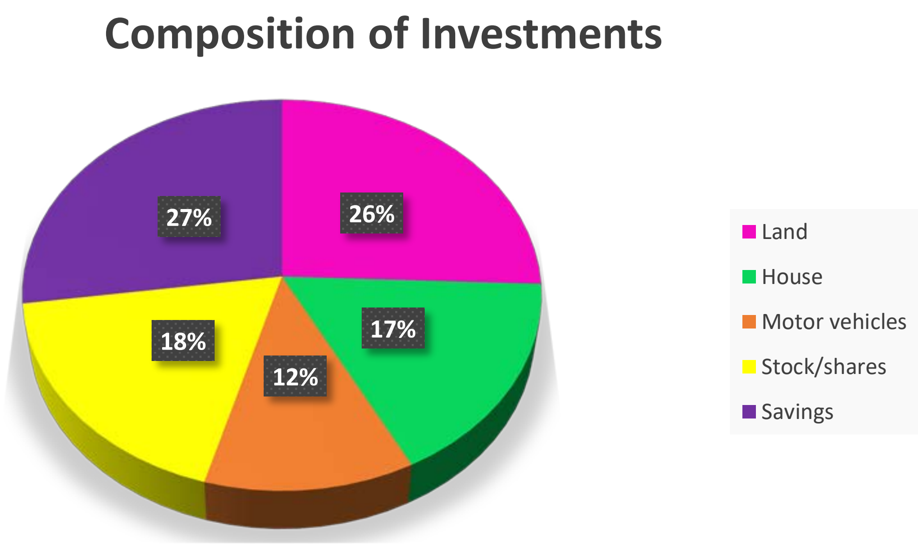
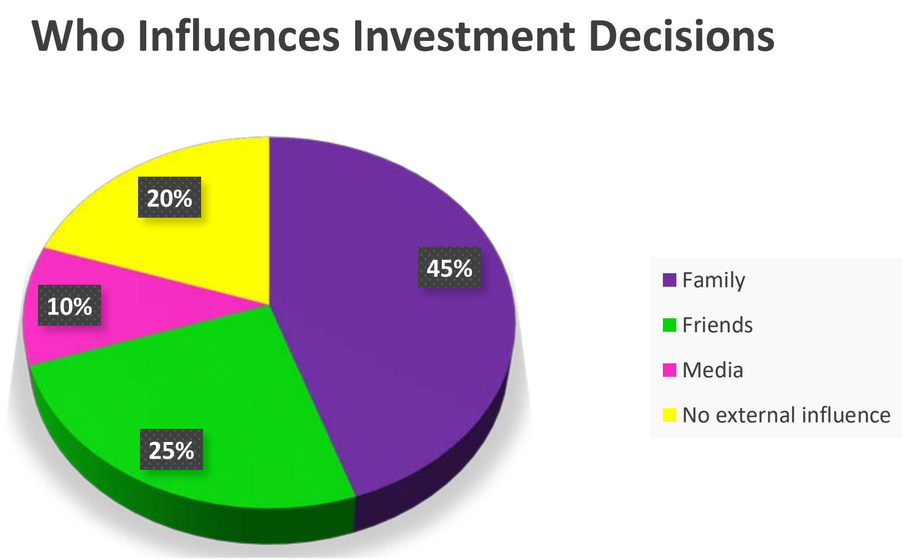


Figure 9 Respondents Portfolio of Investments (Source:Author)



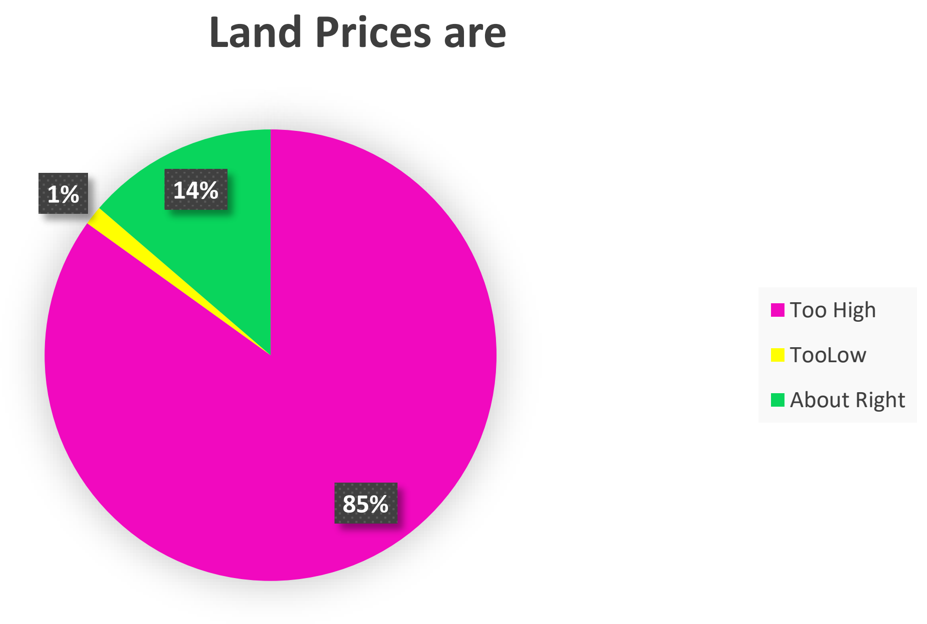
The media makes up a very small percentage among Respondents of people who influence their investment decisions. This was somewhat surprising as I would believe a majority would have invested in properties being advertised in one of the local radio stations in the morning shows.

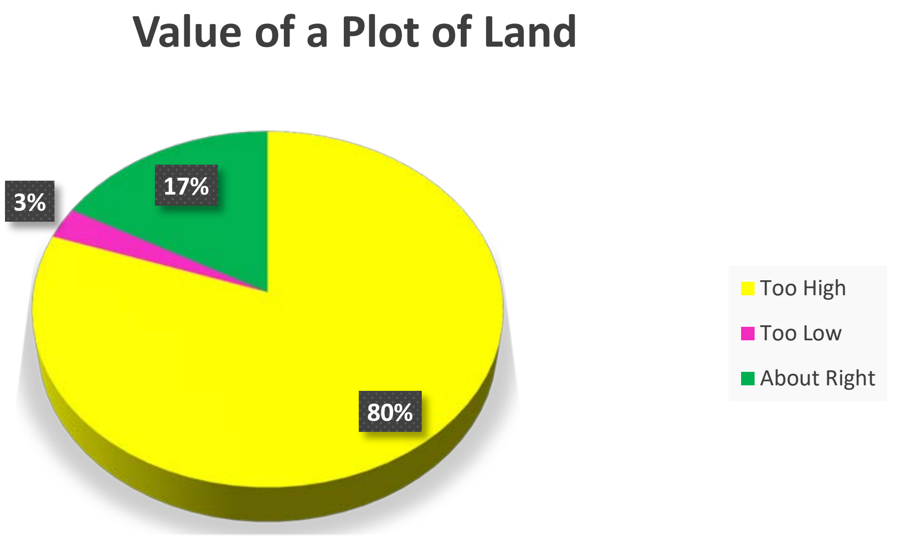
Figure 10 Respondents Investment Decisions Influencers (Source:Author)



To the questions, ‘*Land Prices generally are?*’ and ‘*I believe the value of a 1/8 (eighth) acre plot of land to be?*’, the respondents by a large majority stated that the value of the land was too high. See below.

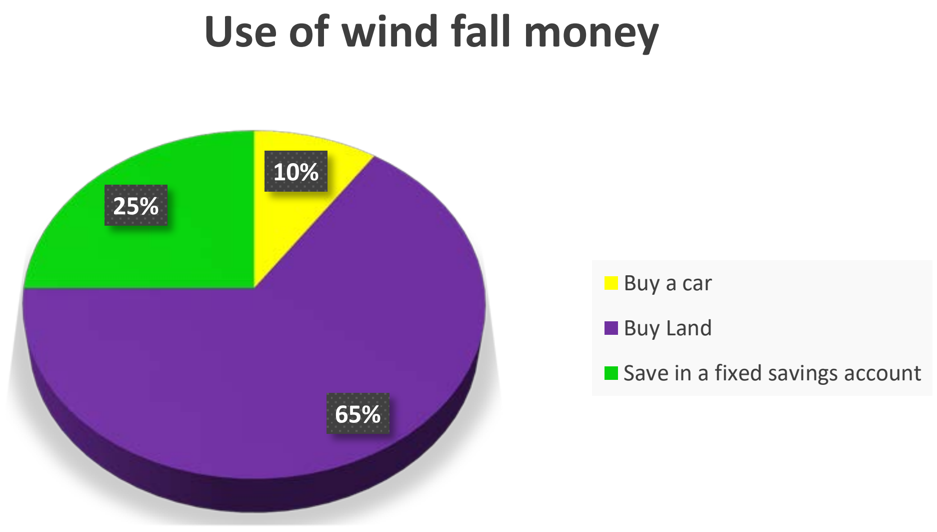
Figure 11 Perception of value of Land (Source:Author)





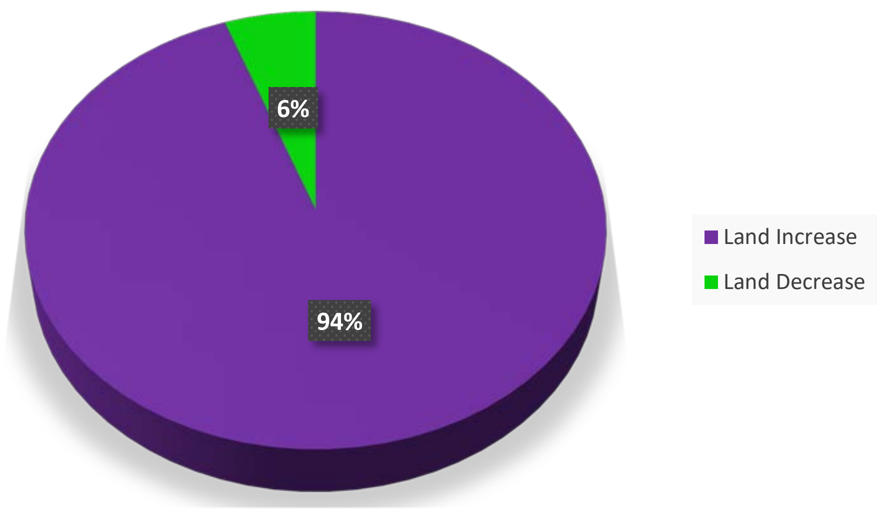
However, when the Respondents were asked what they would invest a windfall of money in they also by a great majority answered that they would invest in land.

Figure 12 Respondent's use of windfall money (Source:Author)



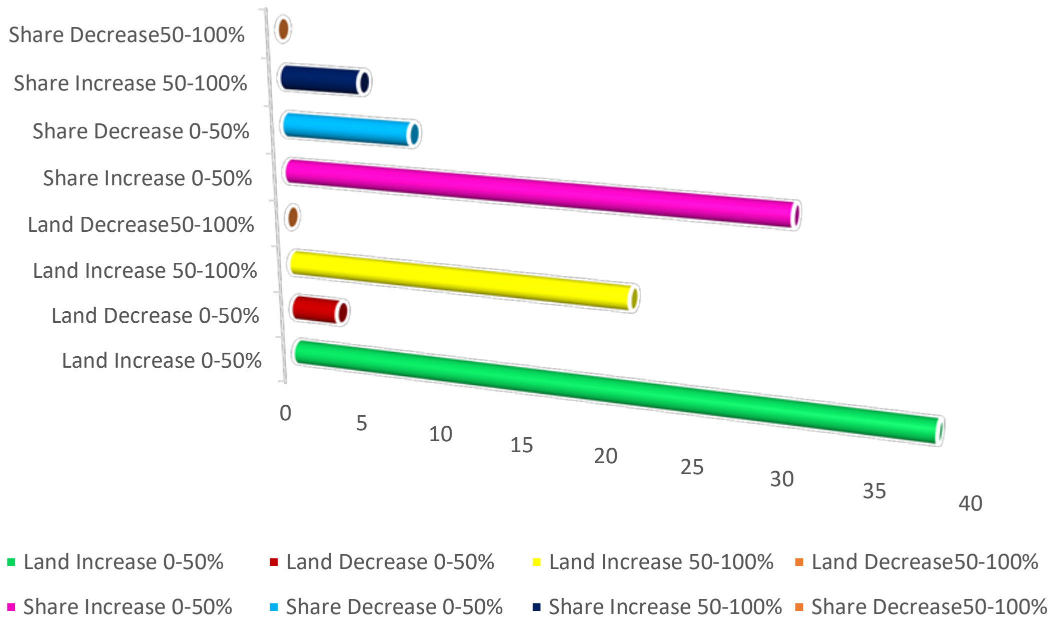
Additionally and tellingly, a majority of the Respondents also stated that they believed that in the next 5 years the price of land would only increase.

Figure 13 Respondents projection of future value of land (Source:Author)



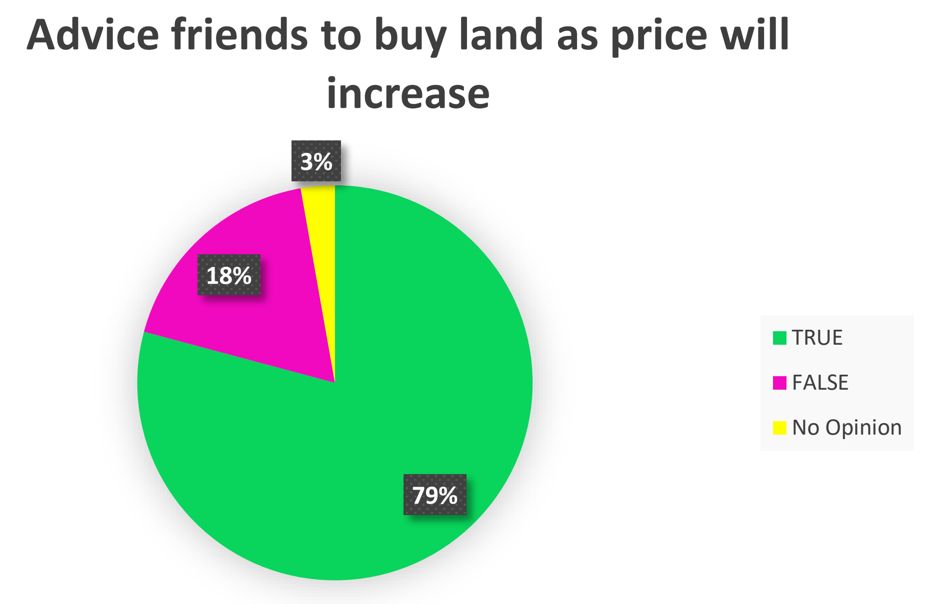
A significant number also believed that the land prices would increase by between 50% and 100% of their present value, which value they had already indicated to be too high.

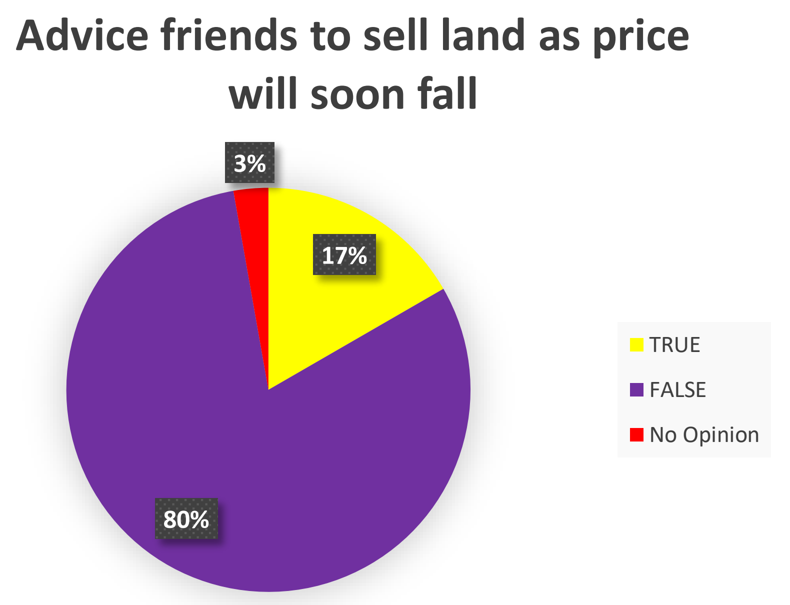
Figure 14 Projected percentage increase of land prices (Source:Author)



Due to the above, from the data collected, I believe that this is the reason why when asked whether they would advise a friend to buy or sell land at the current prices, most said they would advise the friend to buy land and keep it as it appreciates.

Figure 15 Advise to friends regarding purchase of land (Source:Author)





Of the Respondents, only 46% were currently servicing a loan. This could show that there might be difficulties in accessing credit even though of those who had a loan, 42% accessed the credit through a bank.

Figure 16 Respondents currently servicing a loan (Source:Author)

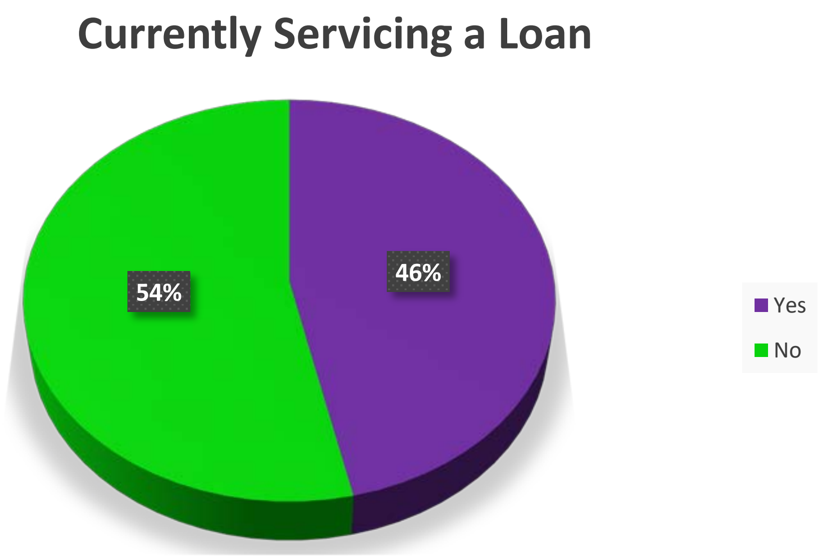
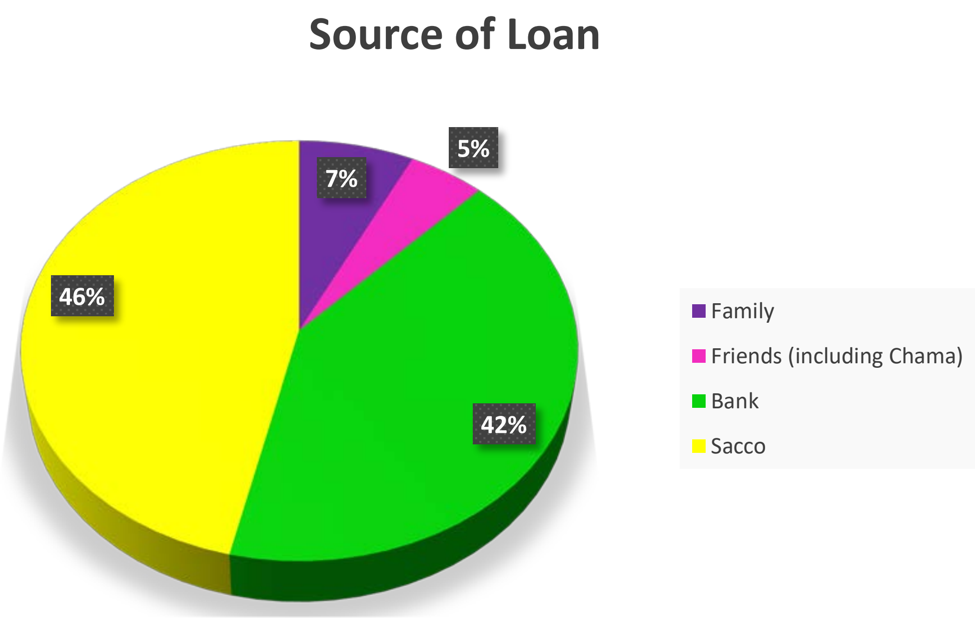
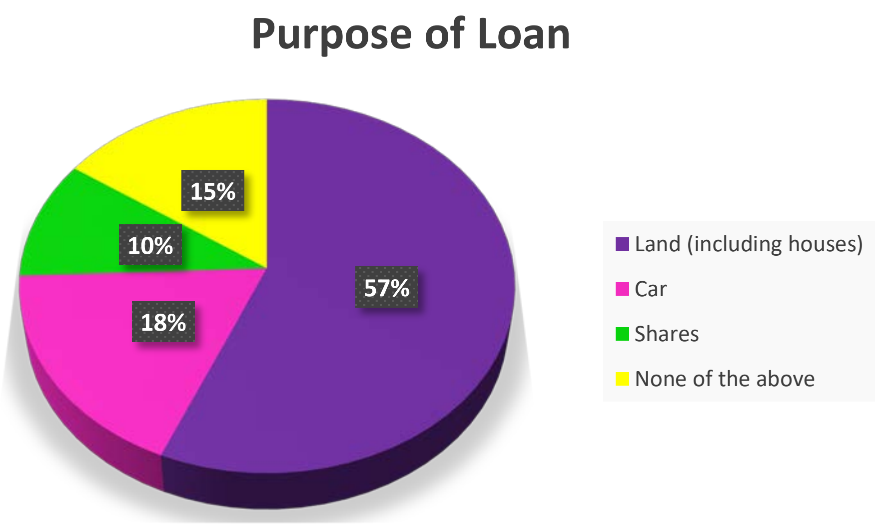


Figure 17 Source of Loan for Respondents servicing a loan (Source:Author)



It is also of note that of those who had loans 57% got the loan to buy land or housing.

Figure 18 Purpose of the Loan being serviced (Source:Author)



3.7 Indicators of a Bubble

The following indicators each represents evidence of the economy heading to a bubble and have a simple interpretation. None of the indicators attempts to capture the notion of a bubble directly but are indicators of the expectations for the market.

The Respondents who said that the prices of land were too high, but would both buy the same land if they got a windfall and advice their friends not to sell land that they hold shows an over exuberance in the respondents in the market.

Additionally, a majority believe the land prices are high, but still, believe the prices would rise by between 50% - 100% in the next 5 years.

3.8 Conclusion

This Chapter was to establish if the property market as an Asset category is susceptible to Bubbles, by examining investor attitudes and establishing whether the fundamental factors necessary in an asset market primed for a bubble event.

Recalling the definition of a Bubble as contained in Chapter 2; and as can be seen from the analysis above, the Kenyan market is seemingly ripe for a bubble as people would be willing to buy land at what they admit are exorbitant prices for speculative purposes and not for the value.

4 CHAPTER 4: DEFLATING A BUBBLE: REVIEW AND RECOMMENDATIONS ON POLICY, LAWS, AND REGULATIONS

4.1 Introduction

Previous Chapters and writings of various scholars have shown clearly that in hindsight, bubbles are always easy to identify; the test being that Asset prices for a specific asset class went up and then the prices dropped. Therefore, this asset class experienced a bubble.[235]

During the boom time, there will always be a range of attitude, as cynics and fanatics argue over whether the asset price increase is valid or not. After all, the cynics must be selling, and the fans of the product rising must be buying the asset in question. Nonetheless, it is at this time of the price increase that the opinion of the optimists outweighs that of the doubters.[236]

Having identified above that a bubble event is present in the real estate market in Kenya, effective and efficient means to dampen the market and deflate the bubble must be identified. This Chapter first looks at various options that are available to Policy and lawmakers in this regard and also at whether effort should be put to deflate a bubble.

4.2 Deflating a Bubble

4.2.1 Should Monetary Authorities Attempt to Deflate an Asset Price Bubble?

It is argued that public policy efforts to prevent asset price bubbles before they occur are a fool's errand. At best, they will fail; at worst, they will also dampen the economy of a country.[237] Regular asset bubbles are one of the costs and effects of capitalism.[238]

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[235] White (n 49).
[236] ibid.
[237] White (n 32).
[238] Malkiel (n 1).

It is only natural to ask if central bankers and policy makers respond promptly to deter the inflation of asset-price bubbles, can it result into the decline of bubbles within the financial marker and consequent dislocations present in the current economy.[239] A response by Alan Greenspan, the former chairman of Federal Reserve stated that asset-price bubbles are an aspect that central bankers ought to avoid reacting to by themselves and thus should make arrangements to employ brisk actions that will counteract any economic dislocation that may ensue.[240]

Another query to be acknowledged is whether it essential to call for a more effective reaction. Instead of only dealing with the hangover, could it be more efficient if drunkenness was averted in the beginning? According to the Geneva Report on the World economy authors, this would be the ideal situation.[241] Moreover, these authors conceive that the stabilization of inflation is the main concern of a central bank.[242]

Asset-price movements may result in financial cycles which may develop imbalances in the real economy. One technique of explicitly considering asset prices is to prevent any central bank's monetary reaction to not only the expectation of output gap and inflation but also to asset prices.[243] Also, the technique would include the variables of an asset price to navigate the monetary policy, due to the fact that Asset Price Bubbles, in most cases go hand in hand with the extremely high investment and accruing of debts. Furthermore, increasing asset values appreciates the collateral value, which facilitates debt accumulation. As a result, balance sheets tend to appear as though balanced, as debt build-up is offset by asset values that have

[239] ibid.
[240] Greenspan (n 42).
[241] Malkiel (n 1).
[242] ibid.
[243] Lansing, Kevin J, *Asset Price Bubbles* (Economic Letter, San Francisco: Federal Reserve Board of San Francisco 2007).

appreciated. However, when this bubble raptures, the result is financial distress and a loss in book value.[244]

Mostly, asset-price bubbles can develop misrepresentation of consumption as well as investment and can have a significant impact on inflation and output. Nonetheless, the central bank is recommended to increase interest rates in occasions where asset prices surpass what is perceived as "acceptable" levels and decrease these rates if the asset-prices drop beneath these levels. Through this form of augmented notion of "flowing with the wind," it becomes possible for the central bank to decrease the potential of bubbles expanding and enhance the stability of the economy. Not only does the central bank find it challenging to evaluate asset-price misalignments but also the forecast of the output gap and inflation. Thus, it is only apparent that shocking innevitable misalignments occur.[245]

4.2.2 Reasons Against Central Bank Interferances in Perceived Bubbles in Asset Prices

There is no meaning whatsoever, to put regulations regarding bubbles following a bubble burst. Putting rules at that point only makes matters worse. Besides, it is better to maintain balance a market than to deal with a crash.[246]

Additionally, for all potential arguments that vouch for pre-emptive action by monetary authorities against bubbles, there are credible arguments that advocate for an letting the market be. There are many reasons for this: 1) It is difficult to identify a bubble and predict its eventual scale; 2) the growth of a bubble may take more than a few years and a Central Bank cannot follow an obstructive fiscal policy for such an extensive and indeterminate period; 3) the rate modifications are a somewhat imprecise tool, that cannot be directed exactly toward the bubble

[244] White (n 49); Malkiel (n 1); Evanoff, Kaufman and Malliaris (n 30).
[245] Malkiel (n 1).
[246] ibid.

segment of a market; and 4) there is no need to necessarily direcly target an asset piced bubble for as soon as the increase in liquidity within the market is noted, then the Central Bank or other regulatory body would be able to act by targeting the price of the assets in the sector to control inflation.[247]

This inability to accutately predict the occurrence or existence of a bubble in a market should cause the Policy makers and the Central Bank to pause on implementation of any policies that would dampen the market.[248]

For example, Robert Shiller published his book 'Irrational Exuberance' in the year 2000. Alan Greenspan wrote his speech in 1996 but no-one could have predicted the magnitude of the stock market crash. Indeed, as a matter of fact, from 1992 to 2004, the yearly returns of the stock market were more than eleven percent which was way above the average returns in history.[249]

Since Greenspan's speech in 1996 until the end of 2004, the annual stock market returns were 7% despite encountering two intense and bear markets. It goes to show that the overly high stock prices experienced from 1999 to early 2000. Furthermore, Randall Kroszner tends to query our capability of establishing incipient bubbles.[250] He goes to show a crash in stock prices at their Peak in 2000, seemed to be very identical to the past number of patterns in stock prices.

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[247] Evanoff, Kaufman and Malliaris (n 30).
[248] WC Dudley, 'Asset Bubbles and the Implications for Central Bank Policy' [2010] Speech at the Economic Club of New York 1 <http://www.econclubny.com/events/WCD_Economic_Club_April-7-2010.pdf>.
[249] Greenspan (n 42).
[250] Randall Kroszner, *Asset Price Bubbles, Information, and Public Policy*," in William Hunter, et al., eds., *Asset Price Bubbles* (Cambridge: MIT Press, 2003) 4.

Also, the central bank finds it challenging to evaluate increasing asset prices due to technology shocks. Moreover, there is an enormous disparity between the asset prices collapsing due to a transformation in economy fundamental and prices crash due to a negative mechanism of feedbacks and a bubble outlined in the project. Therefore, the hardship in establishing asset-price should be a warning against central bankers employing pre-emptive actions.[251]

Kohn has argued out this point whereby if monetary authorities could establish bubbles, then a question would arise on the urgency to take pre-emptive action. Following this, there would be a considerable rise in asset prices which would seem to be unduly elevated. Meanwhile, other information may be showing that policies made by monetary authorities should be tightened. Despite the presence of lags in monetary policy operations, there is a high unlikeliness that the impact of the actions would occur in time. Besides, policy actions that react to the perceived bubbles of asset-price could elevate asset-price volatility instead of decreasing them. Important to note is that monetary policy tends to be an ineffective tool.[252]

Monetary policy cannot be functional in streamlining misaligned asset prices. Thus the technology-internet bubble that occurred from 1999 to 2000 is subject to examination. During this time, the technology stocks were the only ones in the market to prove that they were overpriced. The well-known "value" stocks that were characterized by multiples of price-to-book value and low-price earnings showed to be priced reasonably. Following the bubble burst, these stocks brought about significant and positive return rates in spite of most technology stocks losing eighty to ninety percent worth of value. Consequently, it is impossible to deflate

[251] Dudley (n 248).

[252] Kohn, Donald L. "Monetary Policy and Asset Prices." Speech delivered at "Monetary Policy: A Journey from Theory to Practice," European Central Bank Colloquium held in honor of Otmar Issing: Frankfurt, Germany, March 16, 2006.

a bubble gradually. Thus, it is easy to predict the outcome of a scenario whereby a monetary authority attempted to puncture incipient bubbles which will incur more damage.[253]

In addition, with the predispositions that people have, should another bubble begin, people will forget their previous warnings and will still participate in the bubble. Take the example of the dot-com bubble that was quickly followed by the housing bubble when the first collapsed. Regulations cannot be able to effectively prevent this from wearing off the immunity described above.[254]

Also, because the circumstances and type of fraud of a later bubble effect may not be like a previous one, the regulations may only be backward looking and will not be able to deal with the future fraudulent structures that will be planned. In addition, every crash is followed up by public outcry and political overreaction which is not suitable to the careful examination of causes and best solutions. Politicians who also govern the regulators would be more intent on having their day before a camera punishing a guilty party than they would investigate and trying to prevent a future occurrence. This will lead to the regulations being passed being slightly sub-standard.[255]

As discussed and seen above, the current price of property is unsupported by any fundamental variables on property prices in Kenya.[256] It is driven almost entirely by euphoric speculators as can be surmised from the data collected. These Speculators will keep pushing up the price of the property until it becomes unsustainable. Something that may already have started to happen

[253] Dudley (n 248); White (n 27).
[254] White (n 27).
[255] ibid
[256] Miregi and Obere (n 53).

as it has been reported that for the first time in a long time, the rental prices declined due to more supply and less demand.

As buyers become more reluctant and sellers more eager to sell the assets probably purchased with debt, this will set the stage for the collapse as investors' try to get out of a collapsing house of cards before they get caught out.[257]

4.3 Selective Central Bank Policies

As has been discussed in earlier Chapters, it is hard or almost impossible to predict a bubble. However, looking at the trends and the data available, a Bubble may be growing in the real estate market and if left unchecked, it will soon burst.

The history of asset bubbles' expanding and collapsing stretches back a long while to the Mississippi land and British South Sea air pockets of the mid eighteenth century, and the Dutch bubble insanity air pocket of the mid seventeenth century. Monetary and money related history specialists can presumably extend significantly upon this rundown.[258]

For each of the recorded asset bubble periods, the reaction by implementing anti-bubble laws has been the norm.[259] These laws and regulations have been geared towards dampening the bubbles and preventing excessive speculation.[260]

According to Gerding[261] anti-bubble laws can be broken down to 3 general categories; Disclosure laws and guidelines and laws that give financial specialists higher-quality data about major estimations of advantages; Laws to hose or break the positive input made when

[257] Kindleberger and Aliber (n 41).
[258]White (n 49); Gerding (n 135).
[259] ibid
[260] Gerding (n 135).
[261] Ibid.

speculators are pursuing rising resource costs; and laws that plan to confine credit to financial specialists to hose "unreasonable" hypothesis.[262]

White[263] argues that prudential guideline or the administrative exertion to keep up the dissolvability of budgetary foundations could be utilized effectively to keep up the dissolvability of money related establishments.[264] I classify the prudential regulations under the same heading of Credit restrictions. The last particular approach that is here and there proposed is to force some type of duty on momentary theoretical securities exchange exchanges.

Supporters of such an assessment, for example, Westerfall (2003, 2006), contend that such an expense could decrease the instability of stock costs. In any case, such a duty could lessen liquidity, and sometimes, increment instability. In addition, in a domain of worldwide capital markets, journalists, for example, Frankel (1996) have addressed how well a solid authorization system can be forced. Such a particular strategy may cause a larger number of issues than it would settle.

4.3.1 Disclosure laws and regulations

The advancement of advantage value bubbles or unnecessary theory can be blocked by furnishing speculators with higher quality data on principal esteems or improving financial specialist capacity to process that data or, so it is argued. The proposals have therefore been to enhance disclosure regulations and investor education.[265]

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[262] Ibid.
[263] White (n 49).
[264] Ibid.
[265] Gerding (n 135).

However, the problem with this situation is that it would be difficult to determine the fundamental value of an asset.

4.3.2 Short-circuiting positive-feedback investment loops

A speculative mania feeds upon itself churning on the optimistic beliefs about an assets future value rather than its current fundamental value. This, in turn, is fed by positive-feedback investment loops. One way of stopping this loop is by short-circuiting the same by restricting the access to the market of investors involved in risky or misprice assets or channelling the investor's investments to less risky assets.[266]

The government could also use tax policy to increase costs to investors who sell assets immediately after purchasing them.

Lastly, so-called circuit breakers and reverse circuit breakers can be used to calm down the market. This would necessitate the halting of trade of an asset class where the prices rise too sharply or drop suddenly. This would enable people to shake off their herding behaviours.[267]

The above two policy directions are present in or implied by the United States securities and tax laws.[268]

4.3.3 Tightening Credit and Prudential Regulations

As we have seen in the previous chapter, credit fuels bubbles which makes investors take unwarranted risks. Therefore, one way to cool down a market would be to pass regulations that would stifle access to credit related to a market. In caset house costs are rising too rapidly, the legislature could present controls which limit the accessibility of home loans. This could include demanding a specific size of deposits by banks or rules that would demand that before

[266] Gerding (n 136).
[267] ibid.
[268] ibid..

an individual takes a mortgage facility, they would need to have as security, a percentage of the total loan as a deposit in the bank.[269]

Banks and financial institutions could also be required to increase the minimum capital levels relative to the risks that are undertaken by the bank. Should the bank's capital buffer get thinner, prudential regulators should progressively restrict its activities.[270]

Since prudential controllers can't precisely find out the dangers that are related with all monetary and non-money related exercises, White proposes that if prudential controllers can't learn the hazard of a movement that action should not be allowed for a bank or a budgetary organization.

4.3.4 Central Bank Regulations

The Central Bank of Kenya is charged with the development and implementation of Kenya’s monetary policies.[271] Through this role, it may issue regulations that would eventually influence demand in housing through credit controls and interest rates.

In principle, the Central Bank of Kenya could utilize loan costs as an instrument to impact house costs. An ascent in loan costs, in the present atmosphere, would definitely make an end the house value development as home loans would turn out to be increasingly costly. Home loan instalments are an enormous level of extra cash, in this way any adjustment in financing costs will significantly affect lessening lodging reasonableness and lodging request.

Moreover, and all the more sensibly, the Central Bank of Kenya could receive another guideline which makes home loan loaning scarcer. On the off chance that house costs are rising

[269] ibid..
[270] White (n 49).
[271] https://www.centralbank.go.ke

too rapidly, the Central Bank of Kenya could present controls which point of confinement the accessibility of home loans. This could include demanding a specific size of stores by banks or decides that would request that before an individual takes a home loan office, they would need to have as security, a level of the all-out credit as a store in the bank.

4.3.5 Transaction Taxes on Short-Term Trading

Can transaction taxes on short period sale be levied to rein in speculative buying?

For example, Parliament could enact a law that effectively prevents an asset from being sold at a profit equivalent to more than 2-5% a year compared to the purchase price or at no more than 10% of the value of the building cost assessed by a government-appointed quantity surveyor.

Parliament or the different regulators in each sector may also enact regulations aimed at ameliorating the consequences of a bursting bubble. For example, for the construction companies, each company may be required to be depositing a certain percentage of its gross profit with a Construction regulator as part of a fund to protect the investors and the Company from the bubble risks. Similar regulations should be put in place for land selling entities, for shares selling entities, and the like.

Such regulations will provide capital to such entities if a bubble arises and even though not one hundred percent protect the investors.

The Banks should also be prevented from lending beyond a certain percentage to one similar sector in case a bubble arises in any given sector.

4.3.6 Code of Conducts and Guidelines

Each major sector should have a code of conduct and guidelines for price calculation so as prevent the crashing of the major economic sectors. The said code of conduct and guidelines should provide the procedure and limitation on how much am asset/service can appreciate overnight without any investment or development being made on the said asset/services. This will prevent situations such as the selling of the quail eggs which shoot from Kshs. 10/- to Kshs. 100 over an unbelievable duration.

4.3.7 Financial and Investment Awareness

One of the reasons some people follow the flow is because they trust the decisions made by others whom they believe have the adequate capacity to make investment decisions. Financial and investment awareness will assist the people to make independent decisions that are not heavily influenced by the activities of those they believe to be more informed than they are. This may not abolish bubbles but will reduce the number of people affected.

4.4 Conclusion

This Chapter set out to look at what, if anything, should policy makers do about Asset Price Bubbles. The Chapter has looked at whether monetary policy should be placed as a barrier to the unimpeded increases in asset prices and if so, how the same should look like.

As has been discussed above, clearly, the first problem with such approaches is the difficulty in recognizing that a bubble, in fact, exists. Given this fact, the Policy makers are unlikely to have additional information over and above what the market has and an attempt to deflate a bubble by letting the air out slowly is likely to do more harm than good.

That said, some asset price bubbles become so big that they threaten to bring down the whole financial system of a country. These kinds of asset price bubbles must be of concern to the Central Banks and other Policy makers in the country and efforts must be put to recognise and dampen the rising prices in the asset category.

Based on our findings from the data collected in the preceding Chapter, pointing towards the bubble growing within the property market as an Asset category effort towards deflating the same should be considered as presented in this Chapter.

5 CHAPTER 5:

5.1 Conclusion

In the last few decades, many countries have experienced booms and bursts in asset prices. This project set out to confirm the hypotheses that Kenya's property market is in a bubble marked with a high rise in speculative pricing which if left unchecked would continue to expand and eventually burst.

To investigate this, the project examines 3 main themes. First, the project set out to define the term Asset Price Bubble (or 'Bubble' in short) by reviewing key historical instances of asset-price bubbles as well as the EMH theory that proclaims that there can never be bubbles in any market which is clearly a minority view. The project also explores the factors that make up or lead to a bubble including behavioural human patterns and the corresponding changes in commercial activity that follow the crash and aftermath of bubbles. In doing so, the project succeeded in defining Asset Price Bubbles as the substantial and long-lasting divergences of asset prices from valuations that would be determined form the rational expectation of the present value of the cash flows from the asset and partially driven by irrationality on the part of a portion of the investors in that asset category. We also identified the fundamental factors that are present in an asset category and its investors that serve as a herald to the coming bubble bust and crash. These fundamental factors include irrational speculative mania with a significant portion of the populous purchasing an asset category based solely on prospects for profit and easily available credit. I also found that though easy to identify after the fact, asset priced bubbles are almost impossible to identify before the fact.

Secondly, by collecting primary data via questionnaires to check on investor attitudes of the Kenyan population, and pitting the information collected against the indicators of a bubble stipulated above, I set out to predict whether the Kenyan property market is in a Bubble. The results were clear as based on the data collected, people would be willing to buy land at what they admit are exorbitant prices for speculative purposes and not for the intrinsic value. The data showed that a significant number also believed that the land prices would increase by between 50% and 100% of their present value, which value they had already indicated to be too high.

Lastly, the project examines the most debated aspect of any discussion of asset-price bubbles: what, if anything, should law makers do about them? Considering that asset price bubbles may negatively affect the economy, what, if any, is the suitable public policy response? Must law and policy makers react to major surges in asset values that they believe to be distinct to what is identified in Chapter 2 as the fundamentals of an Asset Price Bubble?

Clearly, the first problem with such approaches is the difficulty in recognizing that a bubble, in fact, exists. Given this fact, the law and policy makers are unlikely to have additional information over and above what the market has and an attempt to deflate a bubble by letting the air out slowly is likely to do more harm than good. However, given the danger associated with a bubble to a financial system, pre-emptive action is recommended and possibly required.

Options of possible actions have been proposed that would allow for the deflation of the bubble. These include options for short-circuiting positive feedback investment loops and tightening of credit. Without these, the identified bubble will continue expanding unabated and soon burst.

5.2 Suggestions for Further Research

This study is limited to the fact that the focus area was Nairobi and its environs. The solutions suggested may have the effect of dampening the property market around the country whereas maybe only Nairobi's property market may be inflated.

In addition, I believe that further study is required to check on the effect of corruption, money laundering and war profiteering in delaying the bubble burst.

However as has been discussed earlier, predicting a bubble remains a fool's errand, but since the elements of the bubble are clearly visible in the property market currently, I believe that this is the time to try and sort out the matter instead of waiting for the crash.

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APPENDIX 1: QUESTIONNAIRE

ASSET PRICE BUBBLES: CAUSES, CONCEQUENCES AND REGULATION OPTIONS FOR KENYA

My name is Francis Kariuki Mahia. I am an LLM Candidate at University of Nairobi, School of Law. As part of the requirements for the fulfilment of the award of the degree, I am carrying out a research under the topic ***Asset Price Bubbles: Causes, Consequences and Regulation Options for Kenya***. The research intends to establish if there exist elements that have been shown to exist in economies experiencing asset price bubbles. Primarily, the research seeks to establish if regulations can stem a bubble if one is identified in Kenya.

The interview will take approximately thirty minutes and is a voluntary process. You may withdraw your consent from participating in this at any time during the interview. The information obtained from this interview will be used for academic purposes only. Kindly answer the questions posed as accurately as possible. I value your opinion on the subject matter and where the same is provided in during this interview, it will be protected and respected as such.

Would you wish to participate in the interview?

NAME (*Optional*): ____

SEX: ______ **AGE:** ______ **MARITAL STATUS:** __________________

NO. OF PEOPLE IN HOUSEHOLD: ____________ **OCCUPATION:**_______________ ______

1. Average gross income per month in KES:

- ☐ 0 – 25,000
- ☐ 25,001 – 50,000
- ☐ 50,001 – 100,000
- ☐ 100,001 – 200,000
- ☐ 200,001 – 500,000
- ☐ 500,001 – 1,000,000
- ☐ More than 1,000,000

2. Do you have any investments?
   - ☐ Yes
   - ☐ No
3. My investments comprise of (*You can tick more than one)*:
   - ☐ Land
   - ☐ House
   - ☐ Motor vehicles
   - ☐ Stock/shares
   - ☐ Savings
   - ☐ None of the above

4. Land/share prices in the country right now are:

- ☐ Too high
- ☐ Too low
- ☐ About right
- ☐ Don’t know

5. In the next 1 – 5 years, do you expect the price of land and/or shares at the Nairobi Stock Exchange to increase or decrease?

   Land: ___________________

   Shares:___________________

6. By what percentage do you expect the value of the land and/or shares to increase/decrease?

   Land: ___________________

   Shares:___________________

People have made several statements regarding credit advice. For these statements, please indicate whether it is true, false or no opinion.

		True	**False**	**No Opinion**
7.	“I would advise my friends to take a loan and buy as much land and/or shares as they can, as I believe the prices are likely to continue rising in the near future”			
8.	“I would advise my friends to sell land/shares as I believe the prices are likely to come down in the near future”			
9.	“There is a lot of enthusiasm and excitement about the prospects of owning land and shares in Kenya and I must be careful not to be influenced by them.”			
10	“There are a lot of people saying that taking a loan to buy land and shares in Kenya is not a wise move as I will not be able to recover my money and I must be careful not to be influenced by them.”			

11. “I believe the value of a 1/8 (eighth) acre plot of land to be”

- ☐ Too High
- ☐ Too Low
- ☐ About Right

12. “If I won KSHS. 1,000,000 today, I would” (*You can tick more than one)*

- ☐ Buy a car
- ☐ Buy Land
- ☐ Save in a fixed savings account
- ☐ All the above
- ☐ Other

13. What influences investment decisions that you make (*You can tick more than one)*:

- ☐ Family
- ☐ Friends
- ☐ Media
- ☐ No external influence
- ☐ Other: ______________________

14. Are you currently servicing an investment loan?

- ☐ Yes
- ☐ No

15. If yes, what is the source of the loan? (*You can tick more than one)*

- ☐ Family
- ☐ Friends (including Chama)
- ☐ Bank
- ☐ Sacco

16. Was the purpose of the loan to purchase:

- ☐ Land (including houses)
- ☐ Car
- ☐ Shares
- ☐ None of the above

17. Any comments or recommendations on the subject matter:

Thank you for participating in this interview, for your time and your answers.