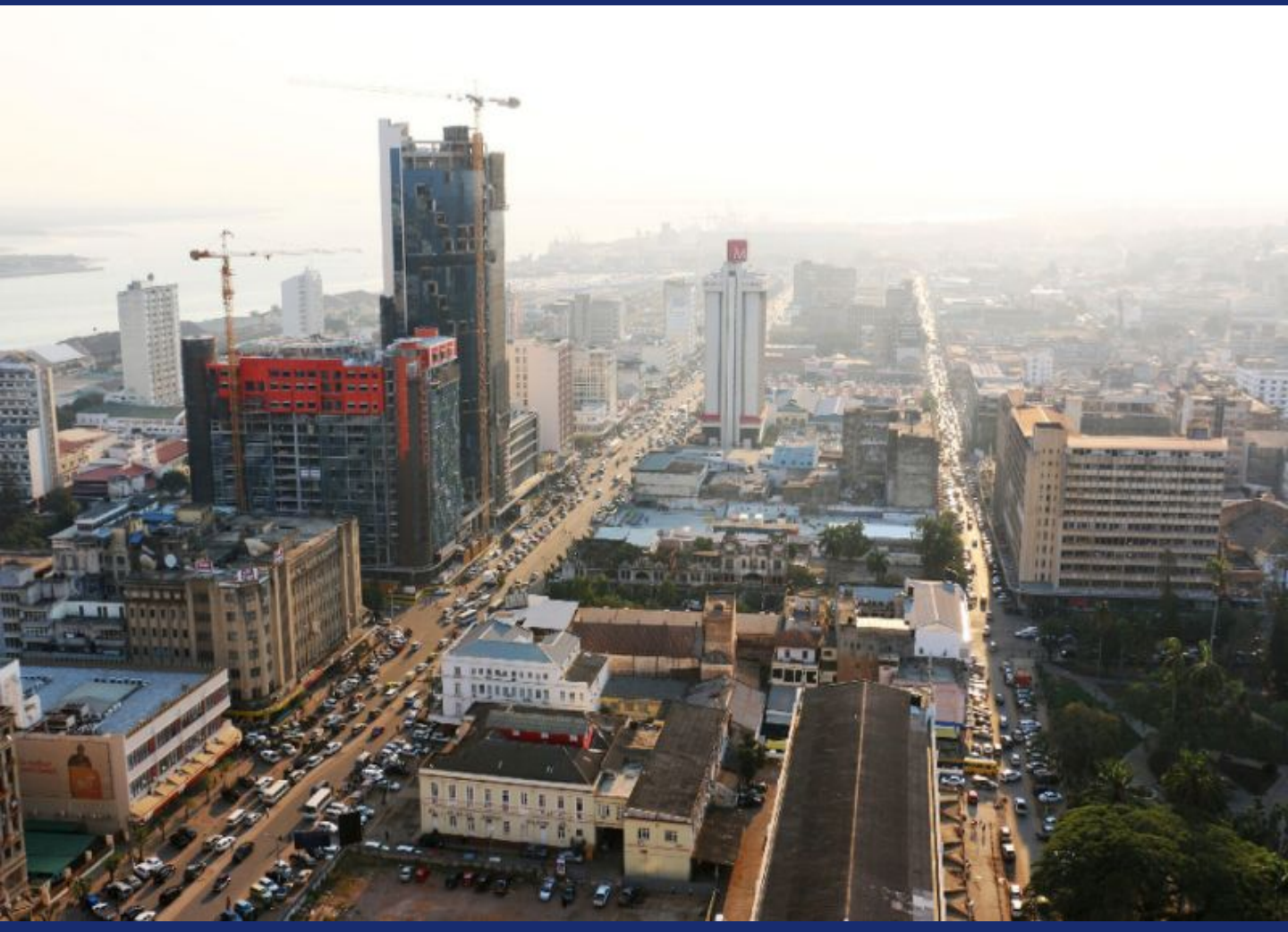
ISSN: 2304-8395

Journal of African Real Estate Research

June 2020



Volume 5, Issue 1

https://journals.uct.ac.za/index.php/JARER/index

OpenUCT

JARER

Volume 5 Issue 1

Table of Contents

Articles

Editorial

The Journal of African Real Estate Research (JARER) continues to be an exciting outlet for authors across Africa to propagate the results of their research activities. This is the fifth volume and first issue for 2020 as well as the first issue under the stewardship of our reconstituted editorial board. I would like to take this opportunity to welcome them all to the journal and I have no doubt that their expert knowledge and experience will continue to steward the ascension of JARER as the premier publication on real estate related research in the African continent. In other news, we are in the process of developing a special issue highlighting the work of early career female researchers in real estate. Supporting female researchers in real estate is an important agenda for the real estate discipline and is strongly supported by the editorial team. The guest editors for the special issue are Karen Gibler and Geci Karuri-Sebina and publication is planned for April 2021. If you are interested in publishing your work in the special issue, please contact the co-editors or the managing editor.

Turning to the current issue, we are excited to welcome a variety of articles from East Africa. This is encouraging for the journal, and African real estate research more broadly, as research from this region has been underrepresented by the journal to date. Another significant and promising aspect of this issue is the range and diversity of the research topics addressed, from residential rental market dynamics to housing finance and informal settlement upgrading. This reiterates the significance and importance of JARER in creating a platform to illuminate the range and complexity of critical issues relating to real estate on the continent. What follows is a brief outline of key elements that form this issue's focus.

The first paper examines the nuances of compulsory land acquisition and compensation in Botswana. The paper specifically examined the perceptions of the displaced persons and the expropriating authority with respect to the adequacy of the compensation payment in the Pitsane-Tlhareseleele Road Project. The paper concludes that there is a need to amend relevant statutes with a view to ensuring the use of the same yardstick to measure compensation adequacy and close the gap in the perceptual strands of the two groups studied.

The second paper explores whether feedback from housing price shocks is factored into the availability of mortgage credit in Tanzania. This analysis was done by estimating a Vector Error Correction Model (VECM) with mortgage financing and using three measures of house pricing trends in the luxury, mid-end and economy sub-markets as dependent variables. The paper's results revealed that both mortgage credit and housing markets were highly persistent, but the effect of the previous shocks lasted longer in the mortgage lending process.

The problem of socio-economic inequality among urban dwellers in many developing countries of Africa appears intractable and the impact of this on the urban poor and informal settlers has been enormous. The third paper focuses on regularisation as a mechanism to address some of the negative externalities of the above. The study highlights the challenges and opportunities of regularising informal settlements in Dar es Salaam and Mwanza in Tanzania. The results supported the idea that land regularisation remains an important tool to reduce urban socio-economic inequality and upgrading informal settlement in urban areas.

The fourth paper examines the bases and approaches of mortgage valuation among banks in Ethiopia. By adopting a qualitative research approach, the results of the paper suggested that in the absence of a coherent framework guiding mortgage valuation, Ethiopian banks value mortgage securities without any clear and consistent basis. Further, the authors suggest that there is a lack of professional competence when it comes to mortgage valuations and banks carry out valuations without any basis

and use the replacement cost approach regardless of the unique characteristics of the property being valued. The authors conclude that the market value basis should be supported by a regulatory body for mortgage valuations.

Against the background of an absence of a well-developed procedure that guides the determination of rental value in Ethiopia, the fifth and final paper identifies monthly rent determinant variables of residential apartments in Addis Ababa. A concrete benefit of this paper is that the information it provides could enhance and guide real estate investment and development decisions.

As always, our gratitude goes to the journal editorial board members who have have dedicated their time and energy into making this issue possible. We also appreciate the unwavering support we continue to receive from the African Real Estate Society, the library services at the University of Cape Town, and the Managing Editor, Luke Boyle, who has been working tirelessly in coordinating all aspects of the journal's operations. Our thanks also go to Prof. Karl-Werner Schulte and his team from the IREBS at Regensburg University, the IRES, ERES, from whom JARER continues to receive strong support. The journal continues to build a reputation as a quality publication that showcases the best that Africa has to offer, and it is a privilege and an honour to head up this project. Please let me know if you have any feedback regarding the work we do as we are always looking for ways to improve the quality of the journal.

Best wishes,

Professor Abel Olaleye
Editor-in-Chief

JARER
Journal of African Real Estate Research

Journal of African Real Estate Research

Volume 5, Issue 1

www.journals.uct.ac.za/index.php/JARER/index

Nuances of Compulsory Land Acquisition and Compensation in Botswana: The Case of the Pitsane-Tlhareseleele Road Project

Danie Nametso Lekgori [1], Partson Paradza [2], and Innocent Chirisa [3]

[1-2] Department of Real Estate, BA ISAGO University, Botswana.
[3] Department of Rural and Urban Planning, University of Zimbabwe.

To cite this article: Lekgori, D.N., Paradza, P. & Chirisa, I. (2020). Nuances of Compulsory Land Acquisition and Compensation in Botswana: The Case of the Pitsane-Tlhareseleele Road Project. *Journal of African Real Estate Research, 5*(1), pp.1-15. DOI: 10.15641/jarer.v5i1.811.

Abstract

For years compensation has been awarded for compulsory land acquisition in Botswana and land acquisition for infrastructure projects is typically accompanied by dissatisfaction by displaced families. This is particularly the case on communal/customary land where affected parties tend to have an unclear understanding of the legal procedures that govern and inform acquisition and compensation. Often these issues of dissatisfaction relate to the misinterpretation of the legal frameworks. However, limited research has been conducted to examine the perceptions of the displaced persons and the expropriating authority as to the adequacy of the compensation payment. Therefore, it is necessary to understand how they are interpreted by each party to identify how they can be improved to better align with both parties. This paper seeks to examine the views of both the affected persons (occupying customary land) as well as the expropriating authorities (expropriating the land) in a bid to inform policy and practice, and to contribute to existing debates on compensation for expropriation. A case of the Pitsane-Tlhareseleele road project where portions of land were expropriated from customary land holders was used. Data were collected through key informant interviews and document analysis. The results of this study revealed differences between the perceptions of affected people and those of the expropriating authority. Government officials believed that the compensation offered was satisfactory, as everything was prepared in keeping with the provisions of the law. However, the affected persons were of the view that the compensation they received was not satisfactory, even though the compensation was paid in accordance with the existing statutory framework. The study concluded that this difference in perception emanates from the use of different yardsticks to measure adequacy. These differences in perception could be minimised if the existing statutes are amended to make it mandatory for the affected people to be actively involved in the property valuation process.

Keywords: Compulsory Land Acquisition; Expropriation Policy; Compensation Adequacy; Customary Land; Botswana

[2] Corresponding Author: paradza.partson@baisago.ac.bw

1. Introduction

Lewin (2011) opines that Botswana is one of the fastest-growing economies in Southern Africa, as indicated by its high per capita income increase from USD $80, when the country attained independence in 1966, to USD $6,924 in 2016 (United Nations Development Programme [UNDP], 2009; Honde & Abraha, 2017). Since gaining its independence in 1966, Botswana managed to turn its economy from a low-income into a middle-income country (UNDP, 2009). This economic development has also been characterised by the compulsory acquisition of properties in terms of Section 8 of the Constitution of 1966, read together with Section 3 of the Acquisition of Property Act (Chapter 32:10) (APA) of 1955, and Section 33 of the Tribal Land Act (Chapter 32:02) of 1966. Adams et al. (2003) pointed out that when Botswana commercialised the livestock industry through the Tribal Grazing Land Policy of 1975 and the National Policy of Agricultural Development of 1991 it displaced a number of customary land holders. This practice has continued into other economic sectors.

The 2002 land policy review highlighted that there are wide differences in compensation between displaced people from freehold and those from customary land. Those displaced from customary land receive far less compensation as compared to those displaced from freehold properties (Adams et al., 2003). These differences are attributed to the differences in statutory provisions of the Tribal Land Act (which guides compensation for customary land) and the Acquisition of Property Act (Adams et al., 2003; Department of Roads, 2008). According to the Department of Roads (2008:12), "*Land boards have argued that since tribal land is free, it is impossible to quantify, in monetary terms, loss of rights to use a particular piece of land beyond unexhauseted improvements on it*…" Many large projects in Botswana (such as the construction of Maun Airport) have compulsorily acquired land and has led to the displacement of hundreds of families living on customary land.

There is consensus that when real estate is expropriated, a fair or just compensation should be paid to the affected persons (Ambeye, 2009; Alemu, 2012; Sellke, 2012; Nikiema, 2013). The underlying principle of compensation is that no one should become impoverished for public benefit and that any affected person should be paid for the loss he/she was forced to incur. Although legal provisions stipulate that fair compensation has to be paid, it is noted that inadequate compensation is among the chief causes of compensation disputes (Ambaye, 2009; Alemu, 2012). Nikiema (2013) has pointed out, in this regard, that the valuation method has a significant impact on the compensation value. Unjust compensation may also be associated with delayed payment, disregarding some compensable items during inspection, and using arbitrary compensation rates (Kakulu, 2008; Ndjovu, 2016). Major challenges associated with compensation for expropriated real estate, especially in Africa, include inadequacy of compensation, delays in payment of compensation, and the lack of professional valuers used for compensation purposes (Alemu, 2012; Chimbetete, 2016; Mutema, 2019).

This paper seeks to examine the views of affected persons and the expropriating authorities in a bid to inform policy and practice as well as contribute to existing debates on compensation for expropriation. It is important to understand the perspectives of both parties because, often the issues relate to the misinterpretation of the legal frameworks. Therefore, it is necessary to understand how they are interpreted by each party to identify how they can be improved to better align with both parties. A case study of Pitsane-Tlhareseleele road project was chosen for this research as it is the most recent example of compulsory acquisition of communal land. The project falls under the Good Hope District Council on the South-East border of Botswana. The project was the construction of a 5.25km long road and acquired close to 1,400m2 of land. This resulted in the displacement of 22 households. Data were collected through semistructured interviews.

2. Literature Review

This section begins by discussing the theories relevant to the paper and thereafter reviews past research in a bid to identify the gaps in the literature.

2.1 Theoretical Framework

Compensation for expropriation is based on two theories: the Equity and Equivalence Theory and the Takers' Gain Theory (Kabanga & Mooya, 2018). According to Mugisha (2015), the Equity and Equivalence Theory is also known as the Indemnity Theory or the Owner's Loss Theory. This theory was developed in the United Kingdom through the Lands Clauses Act of 1845 (Denyer-Green, 2013); and is generally accepted in international case law (Vig & Gajinov, 2016). The Equity and Equivalence Theory is the dominant principle in most legal frameworks guiding compensation for compulsory acquisition of land across the world (Ambaye, 2009, 2013; Mugisha, 2015).

The theory of Equity and Equivalence is based on the principle that affected owners and occupants should neither be enriched nor impoverished as a result of the compulsory acquisition of their property (Viitanen, 2002; Asian Development Bank, 2007; Keith et al., 2008; FAO, 2009; Viitanen et al., 2010; Deeyah & Akujuru, 2017; Kabanga & Mooya, 2017). The main objective of this theory is to place the affected person in the same position as he/she was before the property was compulsorily acquired (Ambaye, 2009; Keith et al., 2008; Ambaye, 2013; Pai & Eves, 2016). In other words, no one is supposed to benefit from the government's quest to take property for public benefit, but in the same vein, no private individual should be disadvantaged simply because the government needs this property for the benefit of the public. In effect, the theory of Equity and Equivalence is aimed at providing dispossessed groups with adequate financial compensation (Mahalingam & Vyas, 2011). The aim of this theory is not only to compensate for tangible losses, but also to provide compensation for intangible losses which include disturbance, solatium, severance and injurious affection (Pai & Eves, 2016; Kabanga & Mooya, 2018; Pai, 2019). The guiding assumption is that the affected person is supposed to purchase a similar property on the market using the compensation he/she received for the expropriated property (Ambaye,

2013; Denyer-Green, 2013). Property valuation for the subject property is based on its development potential use and not on its current use when compensation is based on the Indemnity Principle (Denyer-Green, 2013).

It is also important to note that contrary to the principle of Equity and Equivalence, the Taker's Gain principle can also form the foundation for compensation (Mugisha, 2015; Kabanga & Mooya, 2017; Kabanga & Mooya, 2018). The Taker's Gain Theory is based on the principle that the expropriating authority is supposed to pay for what it gained from the affected person. In this case what the expropriating authourity is gaining is land and nothing more (Ambaye, 2013). As such intangible heads of claim which are compensable under the Equity and Equivalence Theory, including disturbance allowance, solatium, severance and injurious affection, are disregarded (Kabanga & Mooyer, 2018; Pai, 2019). Only the market value of the expropriated property is a compensable head of claim under the Taker's Gain Theory (Ambaye, 2013). The Taker's Gain Theory, which is used in China, is based on the principle that payment of any claims which are not gained by the expropriating authourity drains public resources. Under the Taker's Gain principle, property valuation for expropriation is based on the current use unlike the development potential of the subject property which is used in the Equity and Equivalence Theory (Ambaye, 2013).

In view of the above discussion, the legal framework guiding property valuation for expropriation in Botswana appears to be based on the Equity and Equivalence Theory. This is based on the fact that heads of claim as provided by Section 33 of the Tribal Land Act and Section 16 of the Acquisition of Property Act include other factors other than the expropriated land like injurious affection and cost of resettlement. It is important to note that customary land is not considered under compensable heads of claim in terms of Section 33 of the Tribal Land Act. It is therefore important to have a discussion on customary land.

2.2 Compensation for Customary Land

The communal land tenure system is also known as the tribal or customary land tenure system. Unlike the freehold tenure system where individuals have ownership rights, under the communal land tenure system individuals enjoy use rights (Mutema, 2003), as the land belongs to the community. In most cases communal land is administered by community leaders (Adams, Kalabamu & White, 2003; Kalabamu, 2019) and only members of a certain community have use rights which can be passed from one generation to the other (Nsoh, 2018). Wily (2018) pointed out that most of the communal land rights are not formally registered through the modern cadastral system. According to Adams et al. (2003), customary land is not considered as a commercial asset on the grounds that it is given for free.

Information is not easily available in communal land because property ownership and use rights are not formally documented (Kabanga & Mooya, 2018; Pai, 2019). The customary land tenure system, where land is not considered to be a commercial commodity, makes it incompatible with

market value standards (Pai & Eves, 2016; Kabanga & Mooya, 2017, 2018; Makathimo, 2019). According to Pai (2019), the use of market value for customary properties results in undervaluation due to the fact that its unique cultural value does not conform to market value standards. Kabanga and Mooya (2018) recommended for further research to come up with more appropriate valuation standards for communal land which is not based on market value principles. This recommendation was supported by Pai (2019) who pointed out that when customary land is expropriated, it is not just the land in its physical nature which is expropriated, but this includes both tangible and intangible assets associated with that land. Existing valuation methods do not take into consideration the value of intangibles which include sentimental attachments, proximity to neighbors or relatives, spiritual sites, aesthetic qualities and customer goodwill (World Bank, 2004). These intangibles are dicarded because it is difficult to estimate their value objectively.

Usually when communal land is expropriated, land is not considered to be among the compensable heads of claim based on the notion that land holders do not own the land but only have use rights (Tagliarino, 2017; Wily, 2018). Scholars like Sheehan (2002) and Tagliarino (2017) challenged this notion on the view that because communal land is not legally registered using the modern land registeration system it does not disqualify land holders to be owners of their land. They opined that displaced persons must be compensated for their land as well. Sheehan (2002) recommended that statutes must provide for compensation of communal land since land holders have use rights. In some cases communal land holders are ignorant of the statutory provisions guiding expropriation and compensation of their land (Kusiluka et al., 2011; Kabanga & Mooya, 2018; Grover, 2019). Good governance in expropriation and compensation calls for the expropriating authourities to make sure that affected persons understand statutory provisions guiding expropriation. There must be a statutory provision which makes it mandatory for displaced people to get professional advise where necessary at the expense of the expropriating authourity (FAO, 2008).

From the above discussion, it can be inferred that generally there is no compensation for customary land as it is considered to be a free commodity. It can also be noted that market value principles do not take into consideration intangible value which is a key characteristic of customary land. Furthermore, information on customary land tenure is not easily available since land rights are passed from one generation to the other orally. As such, market based valuation methods as well as conventional legal frameworks for compulsory acquisition might not capture adequately the loss of the displaced customary land holders.

2. 3 Review of Past Studies

Over the years, there has been an increase in literature on the issue of adequacy of compensation offered for expropriated properties across the world. Studies have been undertaken in different countries using different approaches. Alias and Daud (2006) for example, carried out a study on the

adequacy of compensation paid for expropriated properties in Malaysia. They benchmarked existing legal frameworks guiding compensation in Malaysia with the statutes of other countries and concluded that there are gaps in the country's existing framework. Further, they recommended the adoption of international best practices as a way of addressing the issue of adequacy in compensation. Komu (2014) also carried out a case study on the adequacy of compensation paid for expropriated properties in Tanzania, collecting data through interviews, document analysis and workshops. This study concluded that different stakeholders do not have a common understanding of the entire compensation process. Kusiluka et al. (2011) noted differences in perceptions between diplaced persons and expropriating authourities when it comes to the adequacy of the compensation paid in Tanzania. Similar studies were done by Alemu (2012) and Ambaye (2009) in Ethiopia. These scholars also used a case study approach and collected data through the questionnaire surveys, interviews, field observations and document analysis. Primary data were collected from displaced peoples and the study concluded that a better understanding of the legal framework guiding compensation for expropriation could lead to adequate compensation settlements in future.

In Nigeria, Kakulu (2008), and Deeyah and Akujuru (2017) also carried out case studies on the adequacy of compensation paid for expropriated properties. In each case, data were collected through focus group discussions, interviews, questionnaires and document analysis. These scholars concluded that the compensation offered by the expropriating authorities was not adequate to indemnify the affected people. In Zimbabwe, Chimbetete (2016) and Mpofu (2019) used the case of farms expropriated during the fast-track land reform programme to assess the adequacy of the compensation paid. They collected data through document analysis, key informant interviews and focus group discussions. These studies noted differences in the definitions of adequate compensation advanced by former commercial farmers and government authorities. They recommended the amendment of existing legal frameworks that guides compensation for expropriation and the development of a system which accommodates consensus-based compensation. The need to amend current statutes guiding compulsory acquisition and compensation in Zimbabwe is inline with international best practice which was also echoed by Paradza, Yacim and Zulch (2019).

From the reviewed literature, one can extract that affected people are of the view that the compensation offered for their expropriated properties is inadequate. Many of the issues around inadequate compensation gravitate around unclear legal frameworks and the misunderstanding or misinterpretation of these legal frameworks for compensation. However, it is can also be noted that issues around inadequate compensation vary in different contexts.

From the foregoing, it can be noted that although there are several studies on the adequacy of compensation paid in compulsory property acquisition, empirical studies focusing on Botswana are limited. Those that exist have only partially focused on compensation adequacy. Ng'ong'ola (1989), for example, used the case study approach to analyse property valuation for

expropriation in Botswana and collected data through document analysis. A recent study done by Mengwe (2019) was based on a review of statutes guiding compensation for expropriation in Botswana. Both studies did not examine the perceptions of both the affected people and the expropriating authorities involved in land acquisition. Furthermore, since Ng'ong'ola's (1989) study was carried out three decades ago, things might have changed in the intervening years. Ng'ong'ola also focused on expropriated freehold properties without considering communal land. The present study seeks to bridge this gap in knowledge by analysing the perceptions of the expropriating authority and affected persons on the adequacy of the compensation paid for expropriated customary properties based on recent data. It is important to understand the perspectives of both parties because often the issues relate to the misinterpretation/misunderstanding of the legal frameworks. Therefore it is necessary to understand how they are interpreted by each party to identify how they can be improved to better align with both parties.

Recent expropriation projects in Botswana include the Botswana Integrated Transport project which resulted in the displacement of 191 households on land acquired compulsorily (Department of Roads, 2008), while the construction of the Maun Airport resulted in the relocation of 256 families. Previous studies noted that compensation for expropriation in Botswana is biased towards freehold property owners whilst customary land holders receive much less compensation (Adams et al., 2003). These compensation disparities emanate from differences in compensable heads of claim which are provided by the Tribal Land Act and the Acquisition of Property Act.

3. Methodology

A case study approach was adopted based on the Pitsane-Tlhareseleele road project. Evidence from previous studies indicates that the case study approach is the most appropriate for conducting research on the adequacy of compensation paid for expropriated properties. This is shown by the fact that all reviewed literature adopted the case study approach, albeit with different data collection methods, including field observation, document analysis, key-informant interviews and questionnaire surveys.

The case study area falls within the boundaries of the Good Hope District Council and is administered by Rolong Land Board. The Pitsane-Tlhareseleele road project covers a stretch of 5.25km and was constructed by the government of Botswana in partnership with the World Bank using Output and Performance-Based Road Contracting (OPBRC). OPBRC is a type of public-private partrnership where contracts for road construction or maintenance are given to private actors and fixed payments are made when performance levels are met. There is a provision for payment reductions in the event of noncompliance with set performance levels (Radović et al., 2014). A total of 22 people lost part of their communal land to make way for the construction of the road. This project was used as a case study because it is one of the recent projects where affected communities have already been compensated for expropriated customary/tribal land. This sets affected people

in a better state to assess the adequacy or inadequacy of the compensation offered, unlike in cases where the outcome of compensation is inconclusive. Primary data were collected through guided interviews. An interview guide with semi-structured questions was used during interviews. Interviews were preferred because they allowed the researcher to probe further as a way of seeking clarity on the responses given to the research questions. Respondents were questioned on matters relating to the perceived adequacy of the compensation paid. Furthermore, questions relating to their interpretations of the process of acquisition and compensation that directly related to the case study project were asked. A total of 22 displaced people and eight planning officers were interviewed; four from the Rolong Land Board and four from the Good Hope Council. The Good Hope Council is one of the rural local authorities in Botswana. The Good Hope Council Council, like other rural local authourities, has a mandate to provide local governance. It is important to note that rural local authourities in Botswana do not have powers to administer customary land, such powers are vested on Land Boards by Section 13 of the Tribal Land Act of 1970. The Rolong Land Board is responsible for administering customary land which falls within the bounderies of the Good Hope Council's jurisdiction. Secondary data were also used through the review of letters and official reports about the Pitsane-Tlhareseleele road project. The results of this study are discussed in the following section.

4. Results

The results of this study are divided into two subsections as follows: Section 4.1 focuses on the perceptions of government officials and Section 4.2 discusses the perceptions of the affected persons about the adequacy of the compensation paid.

4.1 Adequacy of Compensation Paid: Government Perspective

It was observed that both key informants from the two local authorities (Good Hope Council and Rolong Land Board) were of the view that the compensation paid to the affected people was adequate as it was calculated in accordance with the requirements of Section 33 of the Tribal Land Act of 1970.

One of the interviewed expropriating authorities highlighted that during the project, there were consultations between the Land Board, the community and other stakeholders through meetings that were held at Pitsane and Tlhareseleele on different dates. The Land Board requested a meeting to inform the affected people about the expropriation and their rights in relation to this matter. The views of the affected communities were documented and taken into consideration prior to the expropriation phase. Another respondent stated that the acquiring authority, with the assistance of the Land Board, made a reasonable effort to identify and contact all occupiers within all zoned areas. However, a few individuals, who did not live on their land and did not have relatives in the area, were not aware that the land had been acquired. This goes against the principle of transparency, which was emphasised by

Food and Agriculture Organisation (FAO) (2008; 2017) and requires that the expropriating authority does everything within its powers to inform and engage all affected persons. In order to protect the affected people, especially vulnerable members of the community, the expropriating authority should have identified all people with interests in the subject properties and sought their views during the planning stage.

It was also established from four other research respondents that when the decision was made to proceed with the project, the compensation assessment committee (consisting of members from the Council and Land Board) conducted a physical inspection of the affected properties, recording the details of all improvements to the land and any other fixed assets affected within the zoned area. As highlighted before, 22 households were affected, and portions of their land were taken for road development purposes. The recorded details of improvements on land included the type of building materials used, size, location, owner and approximate age. Respondents reiterated that after the assessment, the committee invited interested parties to verify the captured data and to raise any queries or objections to the committee. According to several interviewees, the Department of Lands submitted the valuation report to the acquiring authority for compensation soon after the completion of the valuation exercise. In terms of Section 33(2) of the Tribal Land Act (Chapter 32:02) of 1970, the compensable heads of claim for customary land should include the value of standing crops, improvements on the land, resettlement costs and the loss of right of land use. In this particular case, the affected persons were not resettled since just a portion was acquired, hence it was believed that the remainder was economically productive. Document analysis revealed that the compensation authority managed to capture the relevant details stipulated in the Tribal Land Act which includes details about existing crops and improvements on land. However, it is worth noting that only a portion of the land was expropriated, but the Tribal Land Act is silent on how severance is supposed to be calculated when only a portion of land is acquired. Therefore, an assessment of whether the severance was calculated as provided by law could not be easily undertaken.

From the above discussion it can be inferred that the in the view of officials from the expropriating authourity that the compensation paid was adequate as it was administered in line with the provisions of the Tribal Land Act. In this case, compensation claims which are outside what is stipulated by the law becomes illegal and therefore it is not considered. In the view of government officials in cases which include compensation for communal land, the Tribal Land Act must be used as a yardstick to measure adequacy. In this view, only heads of claim which are prescribed in the Tribal Land Act are compensable. This shows a gap between the law and the expectations of the people. If this gap continues to remain unadressed whilst affected people are not satisfied it can spoil the relationship between the expropriating authourities and affected people. Any form of conflict between the expropriating authourities and affected communities can delay the completion of projects, creating broader economic repercussions.

Having discussed the views of government officials on the adequacy of the compensation paid, to provide a balanced investigation into compensation requires that the views of affected people are considered. The next section therefore focuses on the perceptions of the affected people about the adequacy of the compensation paid.

4.2 Adequacy of Compensation Paid: Views of Displaced Persons

Interviews with affected persons revealed that the affected people felt the compensation paid was not adequate since certain factors that they believed they were entitled to compensation for were disregarded. Most of the affected people complained about non-compensation for disturbance and were of the view that they were supposed to be compensated for disruptions in electricity and water services as well as the widespread dust, smoke and disruptions in the irrigation and drainage systems in the area. Another interviewee lamented that:

> *"property valuation for expropriation for this project was shrouded in obscurity. We were not involved during the time when our properties were assessed for compensation."*

Moreover, all the affected people confessed that they were not familiar with the statutes guiding compulsory acquisition and compensation in Botswana. This was also compounded by the relative lack of professional valuers, who could have proffered impartial advice to the dispossessed people. As noted by Mutema (2019), property valuers in the Southern African Development Community (SADC) region are so scarce that the costs of valuation services are likely to be beyond the reach of most rural subsistence farmers.

Although most of the affected people were not satisfied with the compensation offered, only one person challenged the compensation offered in terms of Section 33(3) of the Tribal Land Act in court. This person lost the case. As highlighted before, none of the respondents were aware of the legal provisions guiding compensation for expropriation. As such, it is very likely that people might not have known that they could challenge the compensation offered.

5. Discussion

From the results of this study, it can be deduced that professionals and affected persons have different perceptions about the adequacy of compensation offered for expropriated communal properties. Differences in perception on compensation between affected persons and expropriating authourities were also noted by Komu (2014) and Kusiluka et al. (2011). In the eyes of the professionals, provisions of the Tribal Land Act must be used as a yardstick to measure adequacy. On the other hand, affected persons do not make reference to the Tribal Land Act, but on their subjective assessment of adequate compensation. Table 1 summarises the principal views expressed by different interviewees.

Table 1: A Matrix Indicating the Principal Views from Various Organisations

Respondent	Major view(s)
Government officials	The expropriation was carried out in line with the provisions of the law. People were consulted prior to and during the expropriation and compensation process. Objections were considered and the government did everything within its powers to identify and engage all relevant stakeholders.
Displaced persons	The compensation offered was not adequate and affected persons were not part of the assessment process. They were not aware of the legal framework guiding compensation for expropriated properties. Displaced persons perceived the compensation process that is provided by the legislation to be unfair.

As shown in Table 1, affected people and government officials have different views about the adequacy of the compensation offered. Key informants, namely government officials, were of the view that the expropriation and compensation process was undertaken as prescribed by the law. However, displaced persons sang a different tune. For them, even if the compensation was done in accordance with the provisions of the law, it could not be classified as adequate. The general perception of affected people was that the compensation offered was not adequate since they were not compensated for loss caused by disturbances like noise and dust which are not provided in statutes.

In the eyes of the professionals, the success of a compensation programme lies in the legality of the process, whereas the affected people are of the opinion that it depends on whether the relevant authorities have taken their views into consideration. Furthermore, affected parties are not privy to the legal framework of compensation and few attempts were made by authorities to bring them along in the process and help them understand. This leaves the displaced parties vulnerable to being exploited. Professionals, on the other hand, are well versed with the legal provisions and laws pertaining to land acquisition and compensation. It can be noted that the authorities do make the effort to make sure they follow the legal guidelines but do so in a way to 'tick boxes' manner rather than making it a fair and transparent process where both parties are satisfied and have equal knowledge and understanding of the process. Kusiluka et al., (2011) also found similar findings in Tanzania.

6. Conclusion, Policy Options and Recommendations

This study used structured interviews to measure the perceptions of affected persons and expropriating authorities on the adequacy of compensation offered for expropriated properties pertaining to the Pitsane-Tlhareseleele Road Project. From the findings of this study it can be concluded that the affected people and the professionals leading the expropriation process were not reading from the same page. The authorities followed the legal framework without using further judgement or consideration to the complexities of removing people from customary land. This was coupled by the fact that the affected people had very little understanding of the legal framework and

procedures around compensation. As a result, the two parties had contrasting perceptions regarding the legitimacy and adequacy of the compensation paid for the land used for the road project.

In view of the findings of this paper, it is recommended that there is a need to educate communities about the provisions of legislation on compulsory acquisition and compensation. Furthermore, there is a need for more research with the view of developing a valuation approach that is guided by both statutory and customary law and is acceptable and appropriate for the affected people living on customary land. The limitations of this study include that it could have used an independent valuer to assess the fairness of compensation offered for expropriated properties. Also, this study was based on a single case study, it is recommended that the same study can be replicated in future using a multiple case study approach.

7. References

Adams, M., Kalabamu, F. & White, R. (2003). Land tenure policy and practice in Botswana: Governance lessons for Southern Africa. *Journal fur Entwicklung Spolitik*, *19*(1), pp.55-74.

Alemu, B.Y. (2012). Expropriation, valuation and compensation practice in Amhara National Regional State (ANRS) – The case of two cities (Bahir-Dar and Gonder). *Nordic Journal of surveying and Real Estate Research*, *9*(1), pp.30-58.

Alias, A. & Daud, M.N. (2006). Payment of adequate compensation for land acquisition in Malaysia. *Pacific Rim Property Research Journal*, *12*(3), pp.326-349.

Ambaye, D.W. (2009). Land valuation in Ethiopia: Valuation methods and adequacy of compensation. *A paper presented the 7th the International Federation of Surveyors (FIG) regional conference.* October 19 – 22, Vietnam. pp.1-38.

Ambaye, D.W. (2013). *Land rights and expropriation in Ethiopia*. Unpublished PhD thesis, Stockholm, Royal Institute of Technology.

Asian Development Bank (2007). *Compensation and valuation in resettlement*: Peoples Republic of China.

Chimbetete, I.H. (2016). *Final report for capacity needs assessment for the valuation of immovable improvements on acquired farms*. United Nations Development Programme (UNDP).

Deeyah, C.L. & Akujuru, V.A. (2017). Investigating the Sufficiency of Paid Compensation for Compulsory Acquisition in Road Infrastructural Provision in Rivers State. *Research on Humanities and Social Science 7*(2), pp.20-27.

Department of Roads, (2008). *Resettlement Policy Framework final report.* Goborone, Ministry of Works and Transport, Government of the Republic of Botswana.

Denyer-Green, B. (2013). *Compulsory purchase and compensation* (10th Edition). London and New York: Routledge.

Food and Agriculture Organization (FAO). (2008). *Compulsory acquisition of land and compensation: Land tenure studies 10*. Rome: Food and Agriculture Organisation of the United Nations.

Food and Agriculture Organisation. (2009). *Land tenure studies 10*. Compulsory acquisition of land and compensation. Rome: Food and Agriculture Organisation of the United Nations.

Government of Botswana. (1955). Acquisition of Property Act (Chapter 32:10). Gaborone, Government of Botswana.

Government of Botswana. (1966). Constitution of Botswana. Gaborone, Government of Botswana.

Government of Botswana. (1970). Tribal Land Act (Chapter 32:02). Gaborone, Government of Botswana.

Government of Botswana. (2013). Local Government Act (Chapter 40:01). Gaborone, Government of Botswana.

Grover, R. (2019). Compulsory purchase in developing countries. In Plimmer, F, and McCluskey, W. (eds) 2008. *Routledge Handbook of Contemporary Issues in Expropriation*. Routledge: London and New York. pp.1-29.

Honde, G. & Abraha, F.G. (2017). *Botswana.* African Economic Outlook 2017, pp.9.

International Valuation Standards Council, (2016). International valuation standards. London, International Valuation Standards Council.

Kabanga, L. & Mooya, M.M. (2017). Assessing compensation for customary property rights in Malawi: The case of Mombera University project. African Journal of Rural Development, *2*(4), pp.483-496.

Kabanga, L. & Mooya, M.M. (2018). Compensation theories and expropriation of customary property rights: A Critical Review. *Journal of African Real Estate Research*, *3*(2), pp.87-106.

Kakulu, I.I. (2008). An Analysis of processes and methods in compulsory land acquisition and compensation in Nigeria. Doctoral dissertation, University of Reading.

Kalabamu, F.T. (2019). Land tenure reforms and persistence of land conflicts in Sub-Saharan Africa:The case of Botswana. *Land Use Policy, 81*, pp.337–345.

Keith, S., McAuslan, P., Knight, R., Lindsy, J., Munro-Faure, P., Palmer, D. & Spannenberg, L. (2008). Compulsory acquisition of land and compensation. In: Food and Agriculture Organisation, 2008. Land Reform: Land Settlement and Cooperatives, pp.7-16. Rome: Food and Agriculture Organisation.

Komu, F. (2014). Conceptualizing fair, full and prompt compensation – the Tanzanian context of sustaining livelihood in expropriation projects. Journal of Land Administration in Eastern Africa, *2*(2), pp.252-267.

Kusiluka, M.M., Kongela, S., Kusiluka, M.A., Karimuribo, E.D. & Kusiluka, L.J. (2011). The negative impact of land acquisition on indigenous communities' livelihood and environment in Tanzania. *Habitat International*, *35*(1), pp.66-73.

Lewin, M. (2011). Botswana's success: Good governance, good policies, and good luck. *Yes, Africa Can*, *81*.

Makathimo, M.K. (2019). Valuation of unregistered community land in Kenya – addressing the fundamentals. *In proceedings of The 19th*

African Real Estate Society Annual Conference. 10-13 September 2019, Arusha, Tanzania. pp.319-335.

Mengwe, D. (2019). Compensation for expropriation in Botswana: Issues and transformative suggestions. Pimer, F. & McCluskey, W. (eds). 2019. *Routledge Handbook of Contemporary Issues in Expropriation* London and New York: Routledge. pp.352-378.

Mpofu, R. (2019). *An investigation of the valuation methodology for compensation of former white owned farms in Zimbabwe: A case study of Seke and Goromonzi District*. Unpublished Bachelor of Science Honours Real Estate Management Dissertation, Harare, University of Zimbabwe.

Mutema, M. (2003). Land Rights and Their Impacts on Agricultural Efficiency, Investments and Land Markets in Zimbabwe. *International Food and Agribusiness Management Review*, *6*(2), pp.50-64.

Mutema, M. (2019). The valuation profession and compulsory acquisition and compensation in Africa with special reference to Zimbabwe. In Plimmer, F. & McCluskey, W. (eds). *Routledge Handbook of Contemporary Issues in Expropriation.* Routledge: New York. pp.379-397.

Mugisha, J. (2015). Compensation for land expropriation in Rwanda: The need for conventional approaches to valuation. *Journal of Land Administration in Eastern Africa, 3*(1), pp.296-306.

Mwakapalila, F. & Henerico, E. (2019). Determinants of land values during compulsory land acquisition in Dar es Salaam: The case of Kinyerezi and Kipawa Wards of Ilala Municipality. *International Journal of Science and Research, 8*(6), pp.1210-1224.

Ng'ong'ola, C. (1989). Compulsory acquisition of private land in Botswana: The Bonnington farm case. *Comparative and International Law Journal of Southern Africa*, *22*(3), pp.298–319.

Ndjovu, C. (2016). Understanding Causes of dissatisfaction among compensate landowners in expropriation programs in Tanzania. *International Journal of Scientific & Technology Research*, *5*(1), pp.160-172.

Nikiema, S.H. (2013). *Compensation for Expropriation*. The International Institute for Sustainable Development: Manitoba, Canada.

Nsoh, W. (2018). The legal status of customary land tenure systems and the protection of communal property in Cameroon. In Xu, T. & Clarke, A. (eds.). *Legal strategies for the development and protection of communal property*. In proceedings of *The 216 British Academy*. 23 May 2016. Oxford University. pp.102-126.

Pai, A. & Eves, C. (2016). Valuation and equity concerns in customary land takings compensation: the case in Papua New Guinea. In Proceedings of *The 22nd Annual Pacific-rim Real Estate Society Conference*. 17-20 January, Queensland, Australia. pp.1-15.

Pai, A. (2019). *Towards a culturally inclusive valuation method for assessing compensation in compulsory acquisition of customary land*. Unpublished PhD thesis, Queensland University.

Paradza, P., Yacim, J. & Zulch, B. (2019). A critical review of property valuation for expropriation in Zimbabwe. In proceedings of *The 19th*

African Real Estate Society Annual Conference. 10-13 September 2019, Arusha, Tanzania. pp 424-449.

Radović, N., Mirković, K., Šešlija, M. & Peško, I. (2014). Output and performance based road maintenance contracting–case study Serbia. *Technical Gazette*, *21*(3), pp.681-688.

Sellke, A.C. (2012). Property: eminent domain and restoring access to parcels isolated by highway reconstruction: finding the public use-state, Ex.Rel commissioner of Transport V Kettleson. *Willim Mitchell Law Review, 39*(1), pp.335-372.

Sheehan, J.B. (2002). Towards compensation for the compulsory acquisition of native title rights and interests in Australia. In proceedings of *The FAO/USP/RICS Foundation South Pacific Land Tenure Conflict Symposium*. 10-12 April, Suva, Fiji. pp.1-46.

Tagliarino, N.K. (2017). The status of national legal frameworks for valuing compensation for expropriated land: an analysis of whether national laws in 50 countries/regions across Asia, Africa, and Latin America comply with international standards on compensation valuation. *Land*, *6*(37), pp.2-29.

United Nations Development Programme. (2009). *Assessment of development results: Evaluation of UNDP contribution – Botswana*. United Nations Development Programme: Gaborone,.

Viitanen, K. (2002). Just compensation in expropriation? In proceedings of *The International Federation of Surveyors (FIG) XXII International Congress*. April, Washington, D.C. USA. pp.19-26.

Viitanen, K., Falkenbach, H. & Nuuja, K. (2010). Compulsory purchase and compensation recommendations for good practice. *FIG Commission 9 – Valuation and the Management of Real Estate*. Denmark, International Federation of Surveyors (FIG).

Vig, Z. & Gajinov, T. (2016). The development of compensation theory in international expropriation law. *Hungarian Journal of Legal Studies, 57*(4), pp.447-461.

World Bank (2004). *Involuntary resettlement sourcebook: Planning and implementation in development projects*. Washington, DC: The World Bank.

Journal of African Real Estate Research

Volume 5, Issue 1

www.journals.uct.ac.za/index.php/JARER/index

Housing Finance and Market Dynamics in Tanzania: An Analysis of Cross Sector Linkages

Vianey John Mushi [1]

[1] School of Earth Science, Real Estate, Business and Informatics, Ardhi University, Tanzania.

To cite this article: Mushi, V.J. (2020). Housing Finance and Market Dynamics in Tanzania: An Analysis of Cross Sector Linkages. *Journal of African Real Estate Research, 5*(1), pp.16-31. DOI: 10.15641/jarer.v5i1.800.

Abstract

This study examines whether feedback from housing price shocks factored into the availability of mortgage credit in Tanzania between 2008 and 2018. This was done by estimating a Vector Error Correction Model (VECM) with mortgage financing and using three measures of house pricing trends in the luxury, mid-end and economy sub-markets as dependent variables. Results showed that mortgage credit expansion is related to housing price growth in the long-run, but the impact mostly ran from housing price shocks to mortgage growth. In the short-term, changes in price for luxury houses led to a mortgage growth in the first quarter after the shocks, which in turn stimulated changes in housing prices. However, variations on mortgage credit flows had a more significant short-term impact on prices of housing units than it did for houses priced on mortgage credit. The dynamic response between mortgage credit flow and housing prices disappeared when housing price indicators for the economy and mid-end sub-markets were used in the analysis. In addition, both mortgage credit and housing markets were highly persistent, but the effect of previous shocks lasted longer in the mortgage lending process. The paper concludes that the substantial increase in housing prices might be a major concern for policymakers, in particular, because it foreshadows a mortgage crisis.

Keywords: Housing Finance; Mortgage; Housing Markets; Co-integration; Causality

1. Introduction

Over the last ten years, both the mortgage credit market and house prices of Tanzania have experienced significant changes. The dynamic evolution of the mortgage sector in the country began to accelerate in 2008 when a market-oriented housing finance approach was established and adopted (TMRC, 2018). Since then, and leading up to the end of 2017, the volume of outstanding mortgages has increased well over 400% in real terms.

[1] vianeymushi@gmail.com

Furthermore, the mortgage credit flow has fallen almost 90% since its peak value in the last quarter of 2015 (TMRC, 2018). Alongside the fluctuations of mortgage credit flow, substantial changes in housing prices have also been reported. As depicted in Figure 1 the average house price rapidly increased until the end of 2014 and started to fall from around mid-2016. The contraction in housing prices implies the end of a long period of expansion in Tanzania's mortgage credit market.

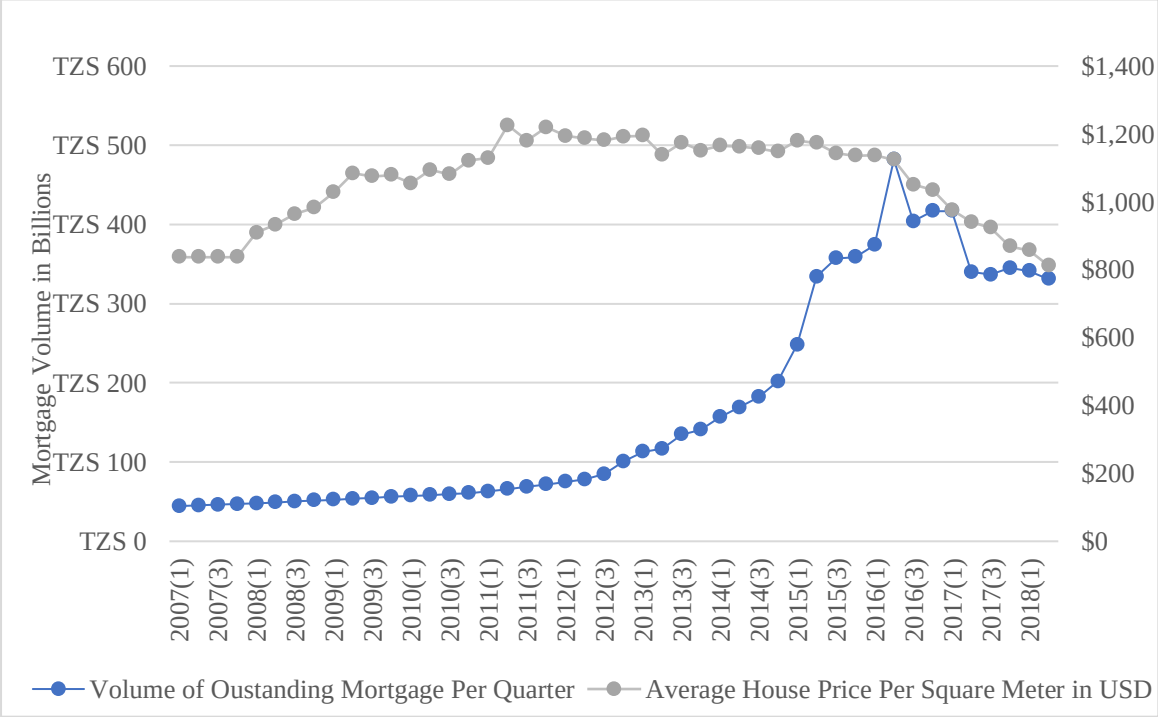


Figure 1. Quarterly Volume of Oustanding Mortgage Credit and House Price Trends in Tanzania From 2007(1) to 2018(4)

Although the structure of the mortgage market and housing prices have commonly been at the centre of economic and policy analysis in Tanzania, the literature on whether feedback from housing price shocks actually factors into the availability of mortgage credit in Tanzania is less well documented. Most studies that have analyzed mortgage credit crises in Tanzania have focused on the importance of macroeconomic stability and establishing effective mechanisms for collateralisation of housing assets in mortgage credit expansion. In particular, because low inflation and borrowing charges minimise default risks on existing loans (Boleat, 2003; Warnock & Warnock, 2008), reducing lengthy and complicated foreclosure procedures encourages primary mortgage lenders (PMLs) to offer mortgage credit to low and middle income households (Beck et al., 2011). Similarly, effective mechanisms for collateralisation of housing assets minimises information asymmetry (Levine et al., 2000; Boyd et al., 2001; Sacerdoti, 2005) [1]. On the more conceptual side, Kombe (2000), Groves (2000) and Tomlinson (2007), among others, have shown that a higher degree of informality in real estate markets and a

[1] Effective collateralisation of housing assets can be achieved by adopting effective land titling and registration systems (Sacerdoti, 2005), and addressing issues related to information asymmetries (Levine et al., 2000; Boyd et al., 2001).

lack of property ownership rights restrain the majority of households in the country from accessing the formal mortgage credit market. UN-Habitat et al. (2003) and Kironde (2003), provide a detailed discussion on remedies required in the legal and regulatory frameworks in order for the mortgage sector in Tanzania to function properly. The one notable exception is Komu (2015) who, theoretically, argues that mortgage credit flow appeared to drive housing construction output and price bubbles since 2008. That said, knowledge on whether the underdevelopment of the mortgage sector is a symptom or consequence of a limited relationship between mortgage credit flow and housing prices is not well known.

In an international context, the literature on the mortgage credit and housing price system is long and extensive. See, for example, Fitzpatrick and McQuinn (2007), Oikarinen (2009), Adrian and Shin (2009), Gimeno and Martinez-Carrascal (2010), among others. Nonetheless, cross-country generalisations are constrained by a lack of consensus about the direction of causality (Hofmann, 2002, 2004; Gerlach & Peng, 2005; Oikarien, 2009; Gimeno & Martinez-Carrascal 2010; Anundsen & Jansen, 2013; Linder, 2014), and variations on the implied speed of equilibrium-correction (Fitzpatrick & McQuinn, 2007; Caldera Sanchez & Johansson, 2011; Arestis & Gonzalez, 2013).

Given the aforementioned gap in the literature, this research explores whether self-reinforcing effects exist between mortgage credit flow and housing prices in Tanzania over the period 2008 to 2018. The study complements the existing literature twofold. First, by focusing on sectorial house price indicators the study highlights, within country variation, the importance of house price elasticity on the expansion of the mortgage credit market, and vice versa. Second, this research relates to the underdevelopment of the mortgage credit market due to the lack of feedback between the housing market and the mortgage market. Understanding the degree of associations between the markets mentioned above is a major concern, partly because a sudden collapse in the mortgage sector is often a consequence of house price shocks stimulating mortgage credit, which in turn creates a sudden fall in house prices (Bernanke & Gertler, 1989; Kiyotaki & Moore, 1997; Allen & Gale, 1999, 2000; Collyns & Senhadji, 2002; Almeida et al., 2006; Mian & Sufi, 2009; Mian et al., 2010; Flam, 2016).

The rest of this paper is structured as follows: After the background in section one there is an overview of the mortgage sector in Tanzania. The theoretical and empirical perspective on the links between housing price and mortgage originations are discussed in section three. In the fourth part, the research methodology and approach are presented. Section five and six are the test on the mortgage credit and housing price nexus and then a discussion of findings, respectively. Section seven concludes the study.

2. Mortgage Credit Development in Tanzania

The growth of the mortgage credit system in Tanzania has gone through many changes over the last five decades. Before 1972, housing finance was

dominated by housing loan schemes set up for a specific market niche. For example, the African Urban Housing Loan Scheme was set up in 1953 to support urban development by offering long-term (over 20 years) construction loans at a fixed interest rate per annum, while the Revolving Loan Fund, established in 1963, offered mortgage credit for government employees. From 1972 to 1995, the bulk of mortgage credit was mobilised from public housing finance institutions, mostly through Tanzania Housing Bank (THB)[2]. The bank was established in 1972 as a specialised PML to support and move mortgage credit operations down-market. The THB originated mortgages held until maturity, to be repaid over 20 years with a fixed interest rate. However, the bank was liquidated in 1995[3]. Following the collapse of THB, most banks were reluctant to participate in mortgage credit, except for the Azania Bankcrop and the International Bank of Malaysia, which in 2002 introduced a house purchase credit (Kironde, 2003, UN-Habitat et al., 2003).

The dynamic evolution of the mortgage sector in Tanzania began to accelerate in 2008 following the adoption of market-based reforms– that is, the economic and financial sector liberalisation in the mid-1990s. These reforms opened up the financial sector as an improved macroeconomic environment (Boleat, 2003). As a result, a number of PMLs launched various types of mortgage products at relaxed interest rates (Warnock & Warnock, 2008; TMRC, 2018). Additionally, the Tanzania Mortgage Refinance Company Limited (TMRC) (2018) identifies other important drivers as being the availability of flexible, cheap and long-term sourced funds, combined with the establishment of the Credit Reference Bureau and a series of legal reforms. While the Credit Reference Bureau has promoted better sharing of information and minimised information asymmetry and default risks (Sacerdoti, 2005), the latter has increased the maximum Loan to Value (LTV) ratio, mortgage tenor and enhanced the ability to enforce collateral (MLHHSD, 2009; BoT, 2017; TMRC, 2018).

3. Mortgage Financing and Housing Price Interaction: Conceptual and Empirical Contributions

House purchases usually require access to external funding in the form of a mortgage. This arrangement often leads to direct accelerator effects between mortgage credit systems and housing prices (Bernanke & Gertler, 1989; Almeida et al., 2006), but the dynamic response is far more complex. Using the Collateral Effect theory, Allen and Gale (1999, 2000) show that variations

[2] Other institutions include the revolving fund for civil service and National Housing Corporation (NHC). Housing finance from NHC was partly extended through the Tenant Purchase Scheme (TPS) or housing improvement Scheme. In the TPS approach, houses built by the NHC were sold under a long-term repayment option of over 15 years at a fixed rate, while under House Improvement Scheme the NHC carried out repair and respective dwelling owners required to reimburse the NHC over several years.

[3] The THB originated mortgages and financed its operations through short-term customer deposits. Thus, the high inflation and rising interest rates together with poor collateral and record-keeping as well as inherently malpractices adversely affected bank's capital base and loan recovery rate (UN-Habitat et al., 2003).

in housing prices are partly linked to increased mortgage credit availability. Conversely, Bernanke and Gertler (1989) highlight the importance of housing price elasticity to mortgage expansion patterns. They show that a more dynamic mortgage credit market might stimulate higher housing price growth, which in turn may positively affect borrowers' equity in the property as well as the level of mortgage credit demanded. Consistently, while Mehta and Mehta (1991) also suggest that expanding mortgage markets might lead to an increase in housing prices if the supply system does not respond adequately, Kiyotaki and Moore (1997) argue that mortgage credit elasticity to housing price growth occurs simply because price increases lowers borrowers' credit constraints. Malpezzi (1990) and Dubel (2007) also observe, however, that the availability of mortgage credit leads to lower-priced housing units if supply responds to credit availability adequately.

The literature on empirical tests on the nature and degree of an extended run response between measures of mortgage credit and house prices is extensive. Nonetheless, findings from these studies are inconclusive and sometimes contradictory (Lindner, 2014). For example, while Fitzpatrick and Mcquinn (2007), Adrian and Shin (2009), Oikarinen (2009), Gimeno and Martinez-Carrascal (2010) show that the two markets are cointegrated, and innovations from each market explain changes, Gerlach and Peng (2005) highlight that in the co-integration process measures of mortgage financing are weakly exogenous. The impact mostly runs from mortgage shocks to house pricing changes. Brissimis and Vlassopoulos (2008) present another view showing that measures of mortgage credit can be predicted (through Granger Causality)[4] by lags in the levels or shocks of housing price measures. Also, studies such as Goodhart and Hofmann (2003), and Davis and Zhu (2004) observe uni-directional causality in which changes in the housing price can predict innovations in mortgage credit. Conversely, Hofmann (2004) and Almeida et al. (2006) found that shocks in housing finance availability factor into the pricing of housing units. The disagreement about the direction of causality is partly linked to countries' differences in sample size and type, as well as the methodology adopted (Anundsen & Jansen, 2012).

4. Methodology

4.1 Data Sources

This study relies on secondary sources to construct quarterly indicators of mortgage flow and housing prices over the 2008 to 2018 period. The data prior to 2008 is less reliable. The data on the level of outstanding mortgage per quarter was compiled from TMRC Mortgage Update reports. The data only shows formal mortgage loans from regulated PMLs. Presently, TMRC data is only available for a cross-section of 31 PMLs since 2012. As such, this study sampled for PMLs in two stages. First, following Saunders (2000) as well as Kombo and Tromp (2006), purposive sampling was employed. To be

[4] Granger Causality is a statistical concept that determines whether the past values of one variable is useful in predicting the other variable. In this case, if the past values of housing finance contain information that is useful in predicting measures of house prices, it can be deduced that housing finance Granger causes house price measures, and vice versa.

included in the sample, PMLs had to have offered mortgage credit for at least five years. This was to ensure that PML types were properly represented in the study. Secondly, the sample size for the PMLs was determined by the formula recommended by Nassiuma (2000). The model is effective for estimating sample sizes for simple random sampling. The required sample size estimate is illustrated through Nassiuma's (2000) formula below. In the formula, 'n' is the required sample size, 'N' is the total number of mortgage lenders, 'C' is the coefficient of variation which is ≤ 30%; and 'e' is the margin of error which is fixed between 2-5%. In this analysis, the total number of mortgage lenders (N) is 31 as of the end of June 2018. The sample size has been calculated at 16% coefficient of variations and a 5% margin of error. A 16% coefficient of variations has been adopted to ensure that the sample is wide enough to justify the relevance of the results.

$$n = {NC^2}/{[C^2 + (N-1)e^2]} \quad (1)$$

$$8 = {31 * (16\%)^2}/{[16^2 + (31-1)(5\%^2)]} \quad (1)$$

Following this procedure, eight out of 31 PMLs were selected for the analysis. The selected PMLs in total supply over 60% of mortgage credit in the market, suggesting a highly representative sample size.

Housing price indicators were constructed from a sample of 750 properties collected randomly from 12 neighbourhoods in the Dar es Salaam region. The housing price data was obtained from different data portals such as online listing agencies, mainly from Zoom Tanzania and Jumia websites. Supplementary information was obtained from discussions with local leaders, real estate agents and brokers. The collected data contains detailed property-level information that has been used to estimate three independent housing price measures for tracking price trends in the three top housing submarkets. The first price indicator tracks the price trend for luxury housing units. In contrast, the second and third (economy) measures track price trends for housing units predominantly occupied by upper and lower-middle-income households. The price indicator for luxury housing units is constructed from a random sample obtained in Oysterbay, Masaki, Msasani Mikocheni, and part of Upanga, and Kawe, while the second measure tracks price trends for housing units mostly occupied by upper-middle income households in areas such as Mbezi beach, Kunduchi beach, Kinondoni, Kijitonyama, and Kinondoni. The final measure tracks price trend in the economy housing submarket, mostly accommodating households in the lower-middle-income bracket, and located in areas such as Kimara, Tegeta, Bunju, Salasala, Ubungo and Kigamboni.

Mean price per square meter is used to measure housing price indicators. The mean price is used because it is least affected by the sample size (Crone & Voith, 1992). The adoption of the three housing price indicators highlights the importance of house price (income) elasticity to the mortgage credit market.

4.2 Estimating the Vector Error Correction Method Process

The Vector Error Correction Method (VECM) approach as defined in Equation (2) is adopted to examine whether the size of the mortgage credit market is both dependent on changes in housing price, and in turn, whether it helps to stimulate growth. In this formulation, Δ indicates the first-order difference process; either for the measures of housing prices ($\mathrm{hp_t}$) or mortgage credit ($\mathrm{mtg_t}$). Subscripts "i" and "t" indicate various measures of housing price and time at a quarterly frequency. The vector (ψ) and Ω_t capture the respective trend and mean effects in the mortgage credit or housing price deterministic process, while coefficient matrix Φ_i determines how the mortgage credit or house price adjusts in the short-run. The innovations ε_τ are such that error terms are normally distributed and not correlated. Engle and Granger (1987) present a detailed theory underlying the framework. This approach has been applied in, among others, Brissimis and Vlassopoulos (2008); Oikarinen, (2009), Gimeno and Martinez-Carrascal (2010), and Linder (2014).

$$\begin{pmatrix}\Delta hp(i)_t \\ \Delta mtg_t\end{pmatrix} = \Pi \begin{pmatrix}hp(i)_{t-1} \\ mtg_{t-1}\end{pmatrix} + \sum_{i=1}^{k} \Phi_i \begin{pmatrix}\Delta hp(i)_{t-i} \\ \Delta mtg_{t-i}\end{pmatrix} + \psi\Omega_t + \varepsilon_\tau \qquad (2)$$

In equation (2), the coefficient Π is called the lagged error correction term and determines how the level of the mortgage credit or house prices adjusts to the long-run equilibrium level. If $\Pi = 0$ at 5% level of significance, then there is no long-run response (no co-integration) between the two variables. The presence of equilibrium-correction (cointegration) is determined by testing for the order (rank "m") of integration (Π) using trace and maximum eigenvalue tests proposed by Johansen (1988). The trace statistical testing proceeds by the sequence of the null of: $\mathrm{Rank}(\Pi) = \text{"M"} = 0$, against the alternative hypothesis that there is at least one cointegration relationship (i.e. $\mathrm{Rank}(\Pi) > \text{"M"}$). Then "M" is selected as the first insignificant statistic. The maximum eigenvalue approach tests if there are "M" cointegrating vectors within "$\mathrm{M} + 1$". In addition, and following Ng and Perron (2001), the Augmented Dickey Fuller (ADF) tests on residual sequence from cointegrating regression is used to examine if the two variables are non-stationary and thus co-integrated. The ADF test has the null hypothesis of non-stationarity and stationarity after the first difference as an alternative hypothesis.

Following Johnsen (1988), the lagged error correction term (Π) in (2) can be further decomposed into the feedback coefficients ("$\alpha\begin{pmatrix}\mathrm{hp(i)_{t-1}} \\ \mathrm{mtg_{t-1}}\end{pmatrix}$") and the equilibrium-correction terms ("$\beta'\begin{pmatrix}\mathrm{hp(i)_{t-1}} \\ \mathrm{mtg_{t-1}}\end{pmatrix}$") as in Equation (3). That said, if measures of mortgage credit and housing prices are co-integrated ($i.e. \Pi \neq 0$), determining which process drives the other is established by testing if individual elements in the feedback coefficients ("$\alpha\begin{pmatrix}\mathrm{hp(i)_{t-1}} \\ \mathrm{mtg_{t-1}}\end{pmatrix}$") are significant at 5% level using T-tests. If "α" is not statistically significant, it suggests that the process does not adjust to the "equilibrium" in the long-run

(i.e. is weakly exogenous), and therefore drives the other process (Engle et al., 1983).

$$\begin{pmatrix}\Delta hp(i)_t\\ \Delta mtg_t\end{pmatrix} = \alpha\beta' \begin{pmatrix}hp(i)_{t-1}\\ mtg_{t-1}\end{pmatrix} + \sum_{i=1}^{k} \Phi_i \begin{pmatrix}\Delta hp(i)_{t-i}\\ \Delta mtg_{t-i}\end{pmatrix} + \psi\Omega_t + \varepsilon_\tau \qquad (3)$$

Additionally, the test for whether measures of mortgage credit and housing prices can predict each other (i.e. Granger Causality test, 1986) is done by using the Wald test in the vector $\Phi_i\Delta hp$ and $\Phi_i\Delta mtg$. Significant coefficients will have a P-Value of less than 0.05. If coefficients in the vector $\Phi_i\Delta hp$ and $\Phi_i\Delta mtg$ are jointly significant at 5%, this implies dual causality. If the coefficient in one of the vectors is significant this suggests unidirectional causality. When the process is weakly exogenous and does not predict (Granger Cause), the other process is strongly exogenous. Finally, if estimated coefficients in the vector (Φ_i) are close to one, this means that shocks to the process are highly persistent, while a close to zero coefficient in the vector (Φ_i) indicates that impulse response is more transitory.

Estimation of equation (3) is done by using the cointegration dynamic system analysis available in PcGive module, OxMetrics. For estimation overviews see Doornik et al. (1998). A logarithmic transformation of the variables included in equation (2) and (3) is used to eliminate problems related to heteroscedasticity and non-normality in the data. The modified Akaike Information Criterion (AIC) is used to determine the appropriate lag length to create white noise for the ADF tests. Starting with an initial lag length of four the specification with the lowest AIC valued was adopted.

5. Results on Cointegration Analysis

5.1 The Trend on Housing Price and Mortgage Growth in Tanzania

As a preliminary exploration, Figure 2 depicts the dynamic evolution of the mortgage credit and housing prices over the 2008 to 2018 period. The trend shows a sudden rise and fall on the quarterly house price indicators. However, the housing price growth trend differs across income levels. The most significant increases in housing prices have been in the main areas accommodating luxury and upper-middle income housing units compared to neighbourhoods characterised with economy housing units. The price levels for the upper-middle income households has increased more than 20% since mid-2009 and deteriorated shortly after 2012. Still, the market for luxury housing quickly recovered. In synchrony with the rise and fall in house prices are fluctuations in mortgage credit flow. The mortgage credit growth in 2012 was already three times as high as the growth rate prices for luxury housing, signifying that the expansion of mortgage credit flow contributed to increasing house prices, which in turn stimulated growth. The contraction in housing prices for luxury houses in 2016 implied the end of a long period of expanding mortgage credit in Tanzania.

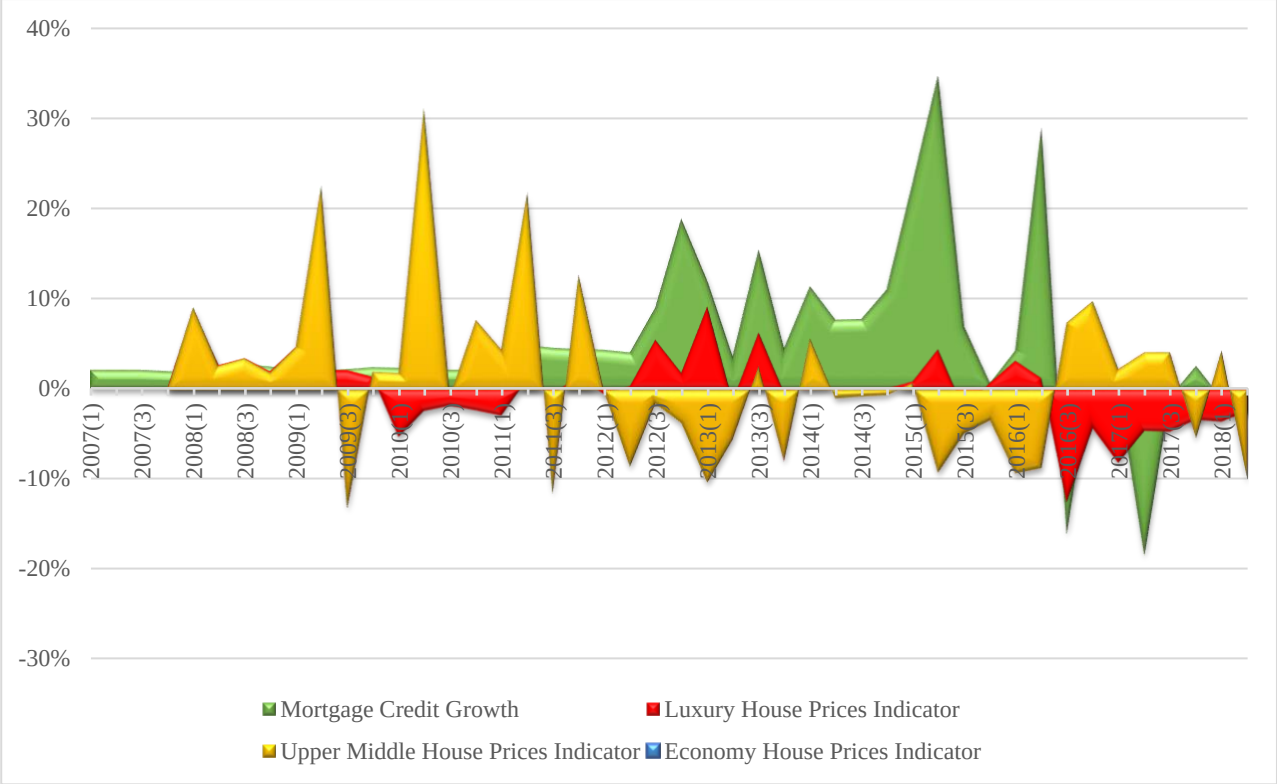


Figure 2: Mortgage Credit and House Prices Growth Trend in Tanzania

5.2 Cointegration Tests

Judging from the results of the ADF test presented in Table 1, the residual sequence from housing finance and price measures is stationary at a 5% level after first differencing. This sequence signifies that the level of house prices and mortgage credit measures are non-stationary and possibly co-integrated (See Granger, 1986; Engle & Granger, 1987; Mackinnon, 1991; Banerjee et al., 1993; and Johansen 1992, 1995). According to AIC, the VAR model, with two lag lengths, was enough to crease white noise on residuals.

Table 1: Unit Root Test

Variable	ADF Critical Value	Order of Integration	Decision at Level
Measure for Luxury Housing Prices	-5.8352**	I(1)	Non-Stationary
Measure for Mid-End Housing Prices	-5.5954**	I(1)	Non-Stationary
Measure for Economy Housing Prices	-4.5736**	I(1)	Non-Stationary
Mortgage Credit		I(1)	Non-Stationary
Note 1: ** significant at 5% level *Source: Author Analysis (2018)*			

The maximum eigenvalue test (output in Table 2) shows there are two very small eigenvalues, suggesting that the rank of the long-run matrix to be less

than three, while the Trace test rejects the null hypothesis of no co-integration at 1% level and shows the rank of co-integration is one based on the P-values. As discussed below, the model is well specified and indicates measures of mortgage credit and housing prices adjusted to the long-run equilibrium level.

Table 2: Co-integration Analysis

Hypothesised No. of Co-integration Relationship	Maximum Eigenvalue	Trace Test Statistic	P-Values**
None		52.204	0.017*
At Most 1	0.51489	20.376	0.409
At Most 2	0.28764	5.4522	0.760
At Most 3	0.09254	1.1794	0.277
At Most 4	0.02645		
* Denotes rejection of the Null hypothesis at 1% level, *Source: Author Analysis (2019)*			

5.3 The Long-run Dynamic Evolution of House Prices and Mortgage Credit

Panel 1 of Table 3 summarises the results on the long-run effect of disequilibrium in the mortgage and house markets. Loading factors suggest that both indicators of housing prices and mortgage credit flow are adjusted in the subsequent quarter if the data generating processes differ significantly from values implied by their corresponding fundamentals. The degree of long-run adjustment to the effect of disequilibrium in mortgage credit flows range from 14% to 17%. The level of adjustment to the effect of disequilibrium in house prices is 57% for the luxury housing price indicator and 64% for the upper-middle income housing price indicator. Conversely, the house price indicator for the economy houses does not adjust in the long-run. Estimations are significant at the 5% level.

Results summarised in Panel 2 of Table 3 show how the level of the mortgage credit adjusts to the long-run equilibrium level (as contained in vector β) to the effect of disequilibrium in house prices, or vice versa. The evidence implies that mortgage credit corrects any deviations from the long-run equilibrium in response to house price growth, meaning that an increase in housing prices drives the size of the mortgage credit flow in the long-term. The speed of adjustment ranges from 30% to 36% per quarter. Conversely, house prices do not respond to fluctuations in the mortgage debt market, and it is therefore weakly exogenous. All results are significant at the 5% level. Furthermore, output in diagnostic tests (Panel 3, Table 3) shows that residuals are not correlated and seem to be relatively normally distributed and homoscedastic, signifying that all models are properly specified, and results are robust and valid.

Table 3: Long-Run Relationship

Description of House Price Indictor	**PANEL 1 Adjustment Factor (−α)**		**PANEL 2 Equilibrium Correction Term**	
	$\alpha\ hp(i)_{t-1}$	$\alpha\ mtg(i)_{t-1}$	$\beta' hp(i)_{t-1}$	"$\beta' mtg_{t-1}$
For Luxury Housing	0.57 [0.184] ***	0.18 [0.033]***	0	0.30
For Mid-Income Housing	0.64 [0.245] **	0.16 [0.0315]***	0	0.33
For Economy Housing	-0.06 [0.18]	0.144 [0.035]***	0	0.36
PANEL 3: Diagnostic Checks				
AR 1-2 test:	**ARCH 1-1 test:**	**Normality test:**		**Hetero test:**
0.73130 [0.4881]	0.46261 [0.5002]	0.69769 [0.7055]		2.3280 [0.0530]
0.30367 [0.7399]	0.085045 [0.7720]	0.091546 [0.9553]		0.60081 [0.7277]
0.42628 [0.6561]	0.022368 [0.8818]	0.20097 [0.9044]		1.4038 [0.2400]

Note 1: *** represents significant at 1% level, ** indicates significant at 5% level and * shows significant at 10% level. **Note 2:** The 5% critical value for the Test for No Cointegration in the process with two variables is negative 2.31. **Note 3:** Wald test for the joint significance of the various respective coefficients contained in the adjustment factors as well as co-integration parameters.
Source: Author Analysis (2018)

5.4 Can Mortgage Credit and House Prices Predict Each other?

Following Engle et al. (1983), since the notion of weak exogeneity was not rejected in the analysis above, this section presents an insight on whether the pricing of housing units triggers changes in the mortgage credit availability, or vice versa by using the Wald tests as described above. The results are displayed in Table 4. First, the relationship between mortgage credit and the housing price indicator for the luxury units is examined. The bivariate correlation shows that the causal effects appear to operate in both directions. Mortgage credit growth is supported by an increase in house prices, while the expansion of the mortgage credit market further develops house prices for luxury units. What is clear is that both housing finance and price measures can only be predicted by the lag in changes rather than the level of previous information of other processes. Indeed, evidence shows an increase in mortgage credit flow leads to a significant and negative change (1.06%) in housing prices in the first quarter after a shock. Additionally, rising housing prices lead to a significant fall (0.037%) of mortgage credit, and vice versa. This is consistent with Malpezzi (1990) who observed that the deeper the penetration of a country's mortgage credit market, the more affordable its housing units are as long as the supply system responds adequately.

Conversely, Granger Causality is rejected in models estimated using the economy and mid-end housing price measures as dependent variables. The latter results confirm that mortgage credit taken explicitly to finance housing does not seem to drive (or Granger Caused) changes in housing price measures for the economy and mid-end housing submarkets. Indeed, since housing price measures in these submarkets are weakly exogenous as well as somewhat unresponsive to mortgage innovations. They are strongly exogenous.

Finally, Table 4 shows that changes in mortgage finance availability and housing price measures are strongly determined by previous information of each variable. In mortgage lending processes, however, the impact of previous information in the first quarter after the shock is over 50% and strong. The influence of previous knowledge is less than 50% in the price of housing units in the next quarter. This signifies that the mortgage origination process is rather unresponsive to news relative to housing price measures. More striking, however, is the impact of previous information. In the first quarter after the shock there is less than 16% in the mid-housing submarket, while the influence of previous information is approximately between 50% and 39% in the next quarter after the shock in the luxury and economy housing submarkets. This suggests that the data generating process in the mid-housing sub-market adjusts more quickly compared to other measures of housing price.

Table 4: Short-Run Dynamics Using Granger Causality Tests

Type of Housing Market	Variable of Interest	Adjustment Coefficients			Trend Constant	Wald Test:
		$\Phi_1\Delta Mt_{t-1}$	$\Phi_1\Delta hp_{t-1}$	$\Phi_2\Delta hp_{t-}$	φ	
Luxury	ΔMt_t	0.53 [0.08]***	-0.037 [0.019]**		1.23 [0.22]***	105.9 [0.0000] **
	Δhp_t	-1.06 [0.450] **	0.50 [0.128] ***		2.51 [1.55]	
Mid-End	ΔMt_t	0.59 [0.073]***	-0.025 [0.02]		1.077 [0.21]***	81.63 [0.0000] **
	Δhp_t	-1.16 [0.643]	0.162 [0.147]		2.33 [2.33]	
Economy	ΔMt_t	0.65 [0.077]***	-0.017 [0.023]		0.95 [0.22]***	49.82 [0.0000] **
	Δhp_t	-0.15 [0.45]	0.39 [0.15] ***	-0.39 [0.15] ***	0.73 [1.53]	

Note 1: *** represents significant at 1% level, ** indicates significant at 5% level and * shows significant at 10% level. **Note 2:** The coefficient Φ_1 describes changes that help restore an equilibrium market position. The coefficient Π_0 describes short-term changes resulting from previous changes in the market – which need not have permanent effects on the levels. The β coefficients characterise long-run relationships between levels of variables.
Source: Author Analysis (2018)

6. Discussion

In this analysis, three models were estimated based on three housing price measures, and findings showed evidence of co-integration between the availability of housing finance and pricing of housing units. Specifically, the evidence seems to suggest that there is a uni-directional influence where mortgage credit adjusts to the long-run equilibrium relationship (and not vice versa), indicating the lending view expressed in several studies. These include, among others, Bernanke and Gertler (1989), Kiyotaki and Moore (1997), Hofmann (2004), Fitzpatrick and McQuinn (2007), Brissmis and Vlassopoulos (2008), where it is shown that property prices are likely to have induced the ups and downs in the mortgage credits in the long-run. The estimated 0.3 to 0.36 elasticity of mortgage credit concerning house prices in

the long-term is significantly lower than 0.76 as observed by Anunndsen and Jansen (2012) in Norway, or around 1.41% as observed by Fitzpatrick and McQuinn (2007) and Gimeno and Martinez-Carrascal (2010). Part of the reason for the observed low elasticity of mortgage credit flow with respect to changes in house prices is that the housing finance is used by less than 2% of adult households in Tanzania, and most creditworthy borrowers (FinScope, 2006, 2010; Bah et al., 2018). Furthermore, higher housing prices decrease affordability levels, and subsequently the amount of mortgage credit needed from formal PMLs.

The evidence above shows that variation in mortgage credit flow is closely correlated with pricing measures for luxury houses, which is not surprising given that mortgage credit facilities in Tanzania are mostly used by creditworthy borrowers (FinScope, 2006, 2010; Tomlinson, 2007). Those who can secure mortgage credit are often required to provide an initial payment of up of 20% or higher of the collateral value. The evidence of Granger Causality also signifies that prices for luxury houses and mortgage credit flow are mutually re-enforcing, meaning that an increase in prices for luxury houses leads to an expansion in mortgage credit flow, which in turn puts an upward pressure on housing prices (Fitzpatrick & McQuinn, 2007; Gimeno & Martinez-Carrascal, 2010).

It is also noted that mortgage credit flow does not adjust with changes in prices for the economy or mid-end housing markets, contrary to the aforementioned theory that advocates for significant and positive Granger Causality between housing prices and mortgage credit flow (e.g. Bernanke & Gertler, 1989; Kiyotaki & Moore, 1997; Allen & Gale, 1999, 2000; Almeida et al., 2006). In the case of Tanzania, this is not surprising given that households in low-income brackets are frustrated by their inability to access mortgage facilities for housing purchases. Majale et al. (2011) and Bah et al. (2018) identify essential drivers of this trend as being low income relative to mortgage, combined with high down payment requirements and interest rates. The other part of the reason is the lack of streamlined development of housing and land information systems as well as unregulated real estate market operations which undermine the mortgage credit market in these sub-markets (Levine et al., 2000; Boyd et al., 2001; UN-Habitat et al., 2003; Bah et al., 2018). In such contexts, those who cannot secure a formal mortgage credit are forced to use informal sources of housing finance (Kombe, 2000; Groves, 2004; Sacerdoti, 2005; Tomlinson, 2007), resulting in a low level of correlation between changes in formal mortgage credit and housing prices.

7. Conclusion

This research examined the nature and degree of association between housing prices and mortgage credit flow in the long-run using quarterly sample data from 2008 to 2018. The findings show that the mortgage credit flow over the study period is correlated with housing price measures in ways explained by existing theories. Specifically, price indicators for luxury houses has the highest level of correlation with mortgage credit flows, while price indicators for the mid-end and economy houses have a low level of association with

mortgage credit flow. Furthermore, evidence of a uni-directional co-integrational relationship, where mortgage credit adjusts to the long-run equilibrium, is documented. This outcome supports the view that mortgage credit flow depends on housing prices due to collateral effects. In the short-term, however, evidence of self-reinforcing effects was established in the luxury housing sub-market, where an increase in housing prices leads to mortgage credit growth, which in turn spurs positive changes in housing prices. The inclusion of mid-end and economic housing prices in the estimation dampens the existence of a short-term dynamic response between mortgage credit flow and housing prices. It is thus likely that the increased housing prices in the luxury housing sub-market might have had a substantial positive impact on mortgage credit flow recorded between 2008 to 2018 on the one hand. The slow development signifies how the formal mortgage credit sector is incompatible with the mortgage credit needs of middle and low-income households in Tanzania on the other.

8. References

Allen, F. & Gale, D. (2000). Bubbles and Crises. *The Economic Journal, 110* (460), pp 236-255.

Allen, F. & Gale, D. (1999). Bubbles, Crises, and Policy. *Oxford Review of Economic Policy, 15*(3), pp.9-18.

Almeida, H., Campello, M. & Liu, C. (2006). The Financial Accelerator: Evidence from International Housing Markets. *Review of Finance, 10*(3), pp.321-352

Anundsen, A.K. & Jansen, E.S. (2012). *Self-reinforcing Effects Between Housing Prices and Credit*. Working Paper. University of Oslo.

Bah E.M., Faye I. & Geh Z.F. (2018). Housing Finance in Africa. In: *Housing Market Dynamics in Africa*. London: Palgrave Macmillan.

Banerjee, A., Dolado, J.J., Galbraith, J.W. & Hendry, D.F. (1993). *Co-integration, Error Correction and the Econometric Analysis of Non-Stationary Data*. Oxford: Oxford University Press.

Bank of Tanzania. (2017). Monthly Economic Review. Dar es Salaam: Bank of Tanzania.

Beck, T., Munzele, M., Faye, I. & Triki, T. (2011). *Financing Africa: Through the Crisis and Beyond*. Washington, DC: World Bank Publications.

Bernanke, B. & Gertler, M. (1989). Agency Cost, Net Worth and Business Fluctuations. *The American Economic Review, 79*(1), pp.14-31.

Boyd, J.H., Levine, R. & Smith, B.D. (2001). The Impact of Inflation on Financial Sector Performance. *Journal of Monetary Economics, 47*(2), pp.221-248.

Brissimis, S.N. & Vlassopoulos, T. (2008). The Interaction between Mortgage Financing and Housing Prices in Greece. Finance and Economics. *The Journal of Real Estate, 39*(2), pp.146-164.

Crone, T. & Voith, R. (1992). Estimating house price appreciation: A comparison of methods. *Journal of Housing Economics, 2*(4), pp.324-338.

Collyns, C. & Senhadji, A. (2002). *Lending Booms, Real Estate Bubbles and the Asian Crisis*. Working Paper. International Monetary Fund.

Davis, P. & Zhu, H. (2004). *Bank Lending and Commercial Property Cycles: Some Cross-Country Evidence*. *Journal of International Money and Finance, 30*(1), pp.1-21.

Diamond, D. & Lea, M. (1995). Sustainable Financing for Housing: A Contribution to Habitat II. Washington, DC: Fannie Mae Office of Housing Research.

Doornik, J.A., Hendry, D.F. & Nielsen, B. (1998). Inference in cointegrated models: UK M1 revisited. *Journal of Economic Surveys, 12*(5), pp.533-572.

Engle, R.F., Hendry, D.F. & Richard, J.F. (1983). Exogeneity. *Econometrica: Journal of the Econometric Society, 51*, pp.277- 304.

Finscope. (2006). *Access to Housing Finance in Africa: exploring the issues*. Johannesburg: FinMark Trust.

Finscope. (2010). *Access to Housing Finance in Africa: Exploring the Issues. Issue no 10, Overview of the housing finance sector in Tanzania*. A Johannesburg: FinMark Trust.

Fitzpatrick, T. & McQuinn, K. (2007). House Prices and Mortgage Credit: Empirical Evidence for Ireland. *The Manchester School, 75*(1), pp.82-103.

Gerlach, S. & Peng, W. (2005). Bank Lending and Property Prices in Hong Kong. *Journal of Banking and Finance, 29*(2), pp.461-481.

Gimeno, R. & Martinez-Carrascal, C. (2010). The Relationship Between House Prices and House Purchase Loans: The Spanish Case. *Journal of Banking and Finance, 34*(8), pp.1849-1855.

Goodhart, C. & Hoffman, M. (2003). *Deflation, Credit and Asset Prices.*

Granger, C.W.J. (1986). Development in the Study of Cointegrated Economics Variables. *Oxford Bulletin of Economics and Statistics, 48*(3), pp.213-228.

Granger, C.W.J. (1988). Some Recent Development in a Concept of Causality. *Journal of Econometrics, 39*(1-2), pp.199-211.

Groves, R. (2004). Challenges Facing the Provision of Affordable Housing in African Cities. *Housing Finance International, 18*(4), pp.26-31.

Hendry, D.F. & Richard, J.F. (1983). The econometric analysis of economic time series. *International Statistical Review, 51*, pp.111-63.

Hofmann, B. (2004). The Determinants of Bank Credit in Industrialized Countries: Do Property Price Matters? *International Finance, 7*(2), pp.203-234.

Johansen, S. (1995). *Likelihood-based Inference in Cointegrated Vector Autoregressive Models*. Oxford: Oxford University Press.

Johansen, S. (1992). Testing weak exogeneity and the order of cointegration in UK money demand. *Journal of Policy Modeling, 14*(3), pp.313-334.

Kironde. L., Mabele, R. & Mutagwaba. H. (2003). *Re-establishing Effective Housing Finance Mechanisms in Tanzania: The Potentials and The Bottlenecks, the Government of Tanzania and UN-HABITAT*. Nairobi, Kenya: United Nations Human Settlements Programme in

Kiyotaki, N. & Moore, J. (1997). Credit and Cycles. *Journal of Political Economy, 105*(2), pp.211-248.

Kombe, W. (2000). Regularizing Housing Land Development During the Transition to a Market-led Supply in Tanzania. *Habitat International, 24*(2), pp.67-184.

Kombo, D.K. & Tromp, D.L.A. (2006). *Proposal and Thesis Writing: An Introduction.* Nairobi: Don Bosco Printing Press.

Komu, F. (2015). Delivering Mortgage Finance Services In Tanzania: Spotlights On Housing Boom And Burst. In Proceedings of the African Real Estate Society Conference, p.123.

Levine, R., Loayza, N. & Beck, T. (2000). Financial Intermediation and Growth: Causality and Causes, *Journal of Monetary Economics 46*(1), pp.31-77.

Lindner, F. (2014). The interaction of mortgage credit and housing prices in the US". IMK Working Paper, p.133. Dusseldorf.

Mian, A. & Amir, S. (2009). The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis. *The Quarterly Journal of Economics, 124*(4), pp.1449-1496.

MacKinnon, J.G. (1991). Critical values for cointegration tests, in R.F. Engle and C.W.J. Granger, eds., *Long-run economic relationships: Readings in cointegration*. Oxford: Oxford University Press.

Nassiuma, D.K. (2000). Survey sampling: Theory and Methods. Njoro, Kenya: Egerton University Press.

Ng, S. & Perron, P. (2001). Lag Length Selection and the Construction of Unit Root Tests with Good Size and Power. *Econometrica, 69*(6), pp.1519-1554.

Oikarinen, E. (2009). Interaction Between Housing Prices and Household Borrowing: The Finnish Case. *Journal of Banking and Finance, 33*(4), pp.747-756.

Sacerdoti, E. (2005). *Access to Bank Credit in Sub-Saharan Africa: Key issues and reform strategies*. IMF Working Paper WP/05/, pp.166.

Saunders, M.K. (2000). Research Methods for Business Students, Second Edition, New York, Prentice-Hall.

Senbet, L. & Otchere. I. (2005). Financial Sector Reforms in Africa: Perspectives on issues and policies. Prepared for the Annual World Bank Conference on Development Economics (ABCDE), Dakar, Senegal, January.

Tanzania National Bureau of Statistics. (2012). 2012 Population and Housing Census. Available from https://www.nbs.go.tz/

Tanzania Mortgage Refinance Company LTD. (2018). Tanzania Mortgage Market Update. [Online]. Available at: https://www.tmrc.co.tz/

Tomlinson, M.R. (2007). *A Literature Review on Housing Finance Development in Sub-Saharan Africa*. Johannesburg: FinMark Trust.

UN-Habitat (2003). *Re-establishing Effective Housing Finance Mechanisms in Tanzania: The potentials and Bottlenecks*. Nairobi: United Nation Human Settlements Programme.

Warnock, F. & Warnock, V. (2008). Markets and Housing Finance. *Journal of Housing Economics, 17*(3), pp.239-25.

Journal of African Real Estate Research

Volume 5, Issue 1

www.journals.uct.ac.za/index.php/JARER/index

The Urban Land Nexus– Challenges and Opportunities of Regularising Informal Settlements: The Case Studies of Dar es Salaam and Mwanza in Tanzania

Fredrick B. Magina [1], Alphonce G. Kyessi [2], and Wilbard J. Kombe [3]

[1] School of Spatial Planning and Social Sciences, Ardhi University, Tanzania
[2-3] Institute of Human Settlements Studies, Ardhi University, Tanzania

To cite this article: Magina, F.B., Kyessi, A.G., & Kombe, J.W. (2020). The Urban Land Nexus– Challenges and Opportunities of Regularising Informal Settlements: The Case Studies of Dar ed Salaam and Mwanza in Tanzania. *Journal of African Real Estate Research*, 5(1), pp.32-54. DOI: 10.15641/jarer.v5i1.837.

Abstract

Informal settlements in Tanzania accommodate more than 70% of the urban population. Owing to this, the Tanzanian government has undertaken several initiatives to address the growing size and number of informal settlements. One such initiative is regularisation which addresses security of tenure for residents of these settlements. Most of the people living in informal settlements lack legal land ownership and as a result properties in such settlements have relatively less value and lack security of tenure. Providing security of tenure is believed to encourage investment into informal households and facilitate the provision of urban services. This study aims to evaluate the process of regularisation in three Tanzanian settlements; Magengenu in Dar es Salaam (Tanzania's largest city), Ibungilo and Isamilo in Mwanza city (the nation's second largest city). Using qualitative data the paper explores the challenges and opportunities that emerged from regularisation. Findings indicate that the regularisation process has facilitated the issuance of title deeds, increased land value and security of tenure. However, a number of challenges were highlighted during regularisation. These include an over-emphasis on the protection of private rights while undermining public interests, a lack of harmonised cost for regularisation, and prolonged delays in completing the regularisation process. These require policy actions, particularly reviewing the national informal settlements regularisation guidelines, as a way to address the weaknesses emerging from regularisation projects in the studied settlements. We conclude that land regularisation remains an important tool to enhance livable cities and protect long-term public and private interests in land development. In order to achieve this, supportive policy actions are required to support the protection of public interests in land regularisation and harmonise the costs of regularisation.

Keywords: Informal Settlements; Regularisation; Tenure Security; Public Interest; Tanzania

[1] maginafred@yahoo.com

1. Introduction and Background

Globally, more people live in urban areas than in rural areas. In 2014, 54% of the world's population lived in urban areas and projections indicate that this will rise to 66% by 2050 (UN, 2014). Increased population growth and urbanisation are projected to add 2.5 billion people to the world's urban population by 2050, with nearly 90% of this increase being concentrated in Asia and Africa (ibid). The ten cities that are projected to become megacities between 2016 and 2030 are all located in developing countries (UN, 2016).

The rapid growth of urban population has also led to the development of informal settlements in most of the world's cities. Apart from rapid population growth, other main causes of informality include issues relating to cultural, economic and environmental speculations and urban planning disciplines. From a social perspectives, people living in informal settlements have difficulties accessing basic social infrastructure services and facilities (Kyessi, 2002). Estimates have shown that 25% of the world's urban population live in informal settlements, with 213 million informal settlement residents added to the global population since 1990 (UN-Habitat, 2012). The World Bank report on Cities in Transition noted that in 2001, over 90% of new urban developments in Africa would be informal. In addition, it was estimated that about 166 million people were living in informal settlements in Sub-Saharan Africa (World Bank, 2000).

In Tanzania, studies conducted in 1995 under the Urban and Housing Indicators Programme showed that at the national level, 70% of the population were living in informal settlements. Recent studies have revealed that the proportion of the urban population living in informal settlements has sharply risen to 80% and these areas are increasingly occupied by low and middle-income households (DCC, 2008; URT, 2013). Most poor people in urban areas resort to informal housing often located in marginal areas that are poorly served by public services or utilities. Further, poor people living in informal settlememts are vulnerable to natural disasters and other safety concerns such as fires and disease. Accessing housing that provides adequate shelter and physical safety is one of the greatest challenges confronting the urban poor (DCC, 2004). In an attempt to address informality and improve the quality of life in informal settlements, Tanzania has implemented several strategies over the past 60 years. These include squatter upgrading as well as site and services schemes of the 1960s and 1970s; community infrastructure upgrading of the 1980s up to early 2000s; and the programme to regularise informal settlements which commenced in the mid 2000s (UN-Habitat, 2010; Kyessi & Sakijege, 2014).

De Soto (2000) defines land regularisation as the process, tools and procedures involving urban [land use] planning, cadastral surveying, and land titling and registration, i.e. upgrading and land legalisation of informal settlements (De Soto, 2000; Zakayo et al., 2018). Currently, regularisation is seen as the most effective option to formalise informal areas. It is, therefore, used as a tool to improve property rights (titling), provide infrastructure (proper streets, public lighting, etc.), facilities (police stations, schools, social

services) and basic public services (water, energy, sewers) to the consolidated informal settlements (Guevara, 2014). The implementation of regularisation processes is usually supported through two main planning approaches; namely top-down or state-led approaches, and bottom-up or community-led approaches (Majani & Magigi, 2006; Midheme, 2007; Duminy, 2011; Guevara, 2014). Midheme (2007) notes that the majority of regularisation projects are state-led where a top-down approach is adopted. This model pays little attention to the participation of beneficiaries such as community members. Community involvement in land regularisation, as widely discussed by Pretty and Frank (2000), has been perceived as a viable strategy to enhance the security of land tenure in informal neighbourhoods. It is an alternative approach to the state-led method to overcoming weaknesses relating to the lack of participation with the intended beneficiaries (De Soto, 2000). The approach is becoming widespread, particularly in the form of self-regularisation projects that are initiated by community organisations and interest groups within informal settlements. Although issues and challenges of state-led regularisation are largely known (Pretty & Frank, 2000; Payne et al., 2009; Varley, 2016), grey areas still exist as to the opportunities and shortcomings of community-led regularisation projects.

The broad aim of this paper is to study the challenges and opportunities that emerge from state-led and community-led regularisation processes and how the two approaches have affected the economic and social well-being of landowners in affected communities. It uses two informal settlements in Mwanza city which were regularised by Mwanza City Council (MCC); representing a state-led regularisation approach, and one settlement in Dar es Salaam city which was regularised by a private planning firm and is more representative of a community-led regularisation approach. A qualitative design, by mainly employing interviews and focus group discussions, facilitated data capturing. The paper briefly provides literature on regularisation in developing countries before providing a brief discussion on the regularisation of informal settlements in Tanzania by highlighting the policy and legal provisions on the rights of land occupiers in informal settlements. Later on, the paper presents different programmes which have been implemented to solve issues in informal settlements before presenting the empirical results from which conclusions are drawn.

2. Literature Review

There exists a body of scholarly insights on regularisation programmes and how effective they have been in developing countries, particularly in Latin America and Africa. In Latin America, Kagawa and Turkstra (2002) applaud the Agency for Formalisation of Informal Property (COFOPRI) in Peru as the best example of a state-led approach in regularising informal settlements. They argued that the state recovered infrastructural investments by charging taxes, and property/construction interests capitalised on the valorised asset. In cases where the government is directly involved, the main financiers are also government agencies whose objectives are normally expressed in terms of ‘so-many titles’ within a given timeframe. Fernandes (2002) argues that the state-led approach seems to be largely propagated by the authorities’

interest of taking into custody deteriorating physical conditions in such informal settlements. Objectively, they seek to bring the regularised areas under formal checks of development control, activate land markets and levy land rates. In Westen Africa, Payne et al. (2009) note that Senegal was the first country to implement a nationwide tenure regularisation programme based on the delivery of real property rights, transferred and mortgaged in urban areas. However, titles were granted for only a renewable period of 50 years; these could be converted into freehold titles once the land has been developed and the fees, taxes and costs of regularisation and the administration of the land are fully paid. Between 1987 and 2007, incremental improvements were carried out in four settlements in Dakar; tenure regularisation and physical upgrading activities were implemented (Durand-Lasserve & Ndiaye, 2008). From the process, physical restructuring and upgrading, including the provision of basic services and roads were carried out. Importantly, the security of tenure was also improved. However, a significant percentage of people with the right to obtain titles had not yet received them. Until the conclusion of the projects, a negligible number of titles, amounting to less than 1,280 had actually been delivered (Durand-Lasserve & Ndiaye, 2008). Despite significant measures taken in 1990s to simplify procedures and the setting up of a specialised entity responsible for speeding up the titling process, decades would be needed to be able to respond to titling needs.

In Cape Town, South Africa, Brown-Luthango et al. (2016) report the status of three informal settlements before and after re-blocking[1] (upgrading). Like any other informal settlements, such settlements had very poor living conditions, especially in terms of shelters and water drainage facilities. They also had a history of violence, shack fires, flooding and a significant lack of basic services such as electricity, water taps and toilets (ibid). After re-blocking, infrastructure and services were provided; this made peoples' lives somewhat easier and gave them dignity. In this regard, a decrease in violence and crime was certain, residents had running water, electricity, flushing toilets; houses were made of walls and not in hokkies[2] anymore (Brown-Luthango et al., 2016). In Ekurhuleni metropolitan area in South Africa, regularisation was a response to the post-apartheid movement to redress years of dispossession of low-income black households. However, literature on the subject, [e.g. Payne et al. (2009)], shows that possessing a title deed has little effect on; (i) borrowing/accessing credit, (ii) owners' perception of their security of tenure, (iii) improvements and household investment, and (iv) quality of life. Banks do not cater for, or consider the value of, title deeds held by low-income households or low-cost properties and the 'titling system' does not help households to enter the property or land markets.

1 Reconfiguration and repositioning of shelters in very dense informal settlements according to a spatial framework drafted by the community with the aim is to use the spaces in informal settlements better in order to create space for provision of better services by local government.

2 Informal structures made of zinc and wood

Land tenure regularisation in Rwanda, with the application of a well-functioning land information system, is one of the success stories of regularising informal settlements. A nationwide systematic land registration programme, with a goal to provide legally valid land documents to all rightful landholders, started in 2010 and was completed in 2013. A general/visible boundaries approach was used and data were collected in a highly participatory manner. For geospatial data, high-resolution orthophotos and satellite imagery was used. Teams comprised of locally recruited and specially trained staff outlined the parcel boundaries on the imagery printouts that were scanned, geo-referenced and digitised. By May 2013, about 10.4 million parcels were registered and 8.8 million printed land lease certificates had been issued. The achievements accrued include social harmony arising from reduced land conflicts and tenure security, increased investment in land, greater land productivity and an increased contribution of land as an economic resource towards national development (UN-Habitat, 2016). These types of approaches are becoming widespread, particularly in the form of self-regularisation projects that are initiated by community organisations and interest groups within informal settlements. In this context, it is conceived as a process of inclusion of different actors not limited to landholders or tenants in planning, facilitating, guiding and controlling land development activities.

In summary, De Soto (2000) argues that the ultimate advantage of regularisation is the increase in economic consolidation opportunities provided by legal land titles in terms of access to credit from financial lending institutions through the use of land titles as collateral. Furthermore, Durand-Lasserve & Selod. (2007) observe that the social impacts of regularisation include increasing social status and integration or inclusiveness, health, education and fertility; and residential mobility and gentrification. Durand-Lasserve & Selod (2007) and Brueckner et al. (2009) add that increased investment in housing or property; property values and costs of access; household incomes, employment and labour mobility; and tax revenue collection constitute the economic impacts of land titling through regularisation. Fernandes (2011) asserts that regularisation encompasses positive impacts related to building and the environment such as enhancement in the provision of and access to urban technical and social infrastructure services.

3. Regularisation of Informal Settlements in Tanzania

In Tanzania, the National Land Policy of 1995 clearly recognises the rights of land occupiers in informal settlements. The policy outlines that residents in unplanned areas ought to have their rights recorded and maintained by the relevant land allocating authority and that those records have to be registered (URT, 1995). On the other hand, section 4.1.4 of the National Human Settlements Development Policy, NHSDP (2000) recognises informal settlements in urban areas and acknowledges that they are a result of rapid population increase that is associated with high natural birth rates and sustained rural-urban migration. An inadequate supply of planned land compounds this problem. Most importantly, both policies recognise the emergence and development of informal settlements and the need to

regularise them (URT, 2000). In particular, the Land Policy prohibits demolition of unplanned settlements and advocates upgrading and provision of basic community facilities, except settlements on hazardous areas. Likewise, the NHSDP, in recognition of the emergence of informal and unserviced settlements, provides for upgrading and regularisation of such settlements by their inhabitants through Community-Based Organisations (CBOs) and Non-Governmental Organisations (NGOs) with the government playing a facilitating role (URT, 2000).

Similarly, the principal legislation such as the Land Act No. 4 of 1999 Section 57 spells out the criteria for declaring a scheme (URT, 1999). These include, (i) habitation of dwellings of their own construction, (ii) lack of apparent lawful titles, (iii) existence of customary land law in the area, (iv) substantial development of the area, (v) Likelihood of the area to be declared a planning area, (vi) substantial number of well established and settled people in the area in a substantial period of time, and (vii) substantial self-housing and business investments in the area. Section 60 of the Act lists the contents of regularisation schemes to include:

- A survey, adjudication and recording of the interests in land claimed by those persons occupying land in the regularisation area;
- A readjustment of the boundaries of plots of land;
- A framework for the better planning and layout of the land including the pooling, sharing and redistribution of rights in land;
- Involvement of the local authorities having jurisdiction in the regularisation area in the implementation of the scheme;
- Involvement of the people whose land is the subject of the scheme of regularisation in the implementation of the scheme;
- Assessment and payment of any compensation that may be payable in connection with the implementation of the scheme; and
- A budget for the scheme.

Furthermore, section 23 of the Urban Planning Act No.8 (2007) recognises informal settlements as planning areas and endeavours to regularise and prepare regularisation schemes of these settlements. Furthermore, the document outlining the guidelines and procedures for implementation of schemes of regularisation in Tanzania (2008) highlights the process of the preparation of regularisation schemes, contents and outputs. Commenting on regularisation undertakings and its associated challenges in Tanzania, Zakayo et al. (2018) argue that regularisation projects should be viewed as owned by the local communities and coordinated by government. However, the central role of local or neighborhood leaders in regularisation has been ignored and not considered important. As such, after the completion of the land regularisation leaders do not mobilise local communities to construct roads set aside for public use, apply for title deeds, find permits for home improvements or proper waste disposal sites. Thus, the desired community development objectives of land regularisation are not truly realised.

As highlighted earlier, different programmes have been implemented to address the issue of informal settlement formation and development in

Tanzania. These include slum clearance (from 1960s to 1970s) which aimed to upgrade informal settlements and improve urban environments so as to rid Dar es Salaam's 'eyesores' of squatter settlements by improving housing for the poor. The government implemented its slum clearance and redevelopment policy by developing high-quality formal buildings on cleared sites (Kyessi, 1997; URT, 2000; World Bank, 2002). This approach removed residents of informal settlements and placed them on the urban periphery with limited access to employment and public services. Following the failures of the slum clearance programmes of the 1960s and 1970s, the squatter upgrading programme was implemented in the late 1970s and early 1980s, largely aimed at improving network infrastructure. Overall, the approach was closest to a multi-sectoral typology, which was largely subsidised by the state. The projects actively involved the communities and gave responsibility for scheme management and subsequent operation and maintenance to the beneficiary community (World Bank, 2002). The implementation of these projects considered community members in planning, designing and construction of infrastructure facilities and community labour was used during construction. The involvement of communities in decision-making and helping to provide what is required in their respective communities, and the provision of affordable solutions seemed to be accepted. One major aspect to note is the fact that the government recognised the need to improve shelter, basic services in slums and squatter settlements and the importance of security of tenure as opposed to evictions (World Bank, 2002).

Sites and Services Projects, whose implementation started from 1972, was famous from the 1970s–1990s. Primarily, the programme aimed to provide basic infrastructure and services together with community facilities in new informal areas. The programme also focused on the resettlement of households which resided in hazardous and flood prone areas, particularly in river valleys. A World Bank study in the Sites and Services areas of Dar es Salaam found that five years after the project completion date, only 48.3% of the plots that were developed had occupants in them, 22% had not reached occupiable conditions and 26.6% had not been developed. At the end of the extensive programme around 3,000 plots (which were allocated between 1979 and 1983) were totally undeveloped in 1988 (URT, 1992). Due to these dissatisfying results, this project was discontinued in the early 1990s.

From the early 2000s onwards, regularisation of informal settlements gained prominence primarily because it incorporated tenure improvements to residents. The approach also came into effect following the enactment of the Land Acts No. 4 and 5 of 1999. The Acts provide for the adoption of regularisation of informal settlements with the emphasis of titling properties and plots. With the exception of Dar es Salaam and Mwanza, which received financial assistance from the central government and donor funding, the other five urban local authorities of Dodoma, Moshi, Tanga, Iringa and Morogoro implemented similar programmes using their own budgets (Kyessi & Sakijege, 2014). In the beginning, all these approaches were implemented by the Ministry of Lands or local authorities within which informal settlements were located. The biggest challenge faced by the programme was the failure in meeting the objectives of the projects in terms of regularising land in all of

Dar es Salaam's unplanned areas. Further, the sustainability of these projects was severely hampered if donors withdrew, or when the country's priority in the fiscal year was not on land. Additionally, during the implementation of regularisation projects, communities received little involvement and the completion of such projects was achieved at the lowest standards. There is growing evidence that suggests that community-led regularisation projects are likely to be more sustainable and successful at driving socio-economic upliftment in informal settlements.

4. Conceptual Base

Literature provides ideas on regularisation by emphasing the economic dimension and implications of urban illegality. De Soto's approach has stressed the significant impact that comprehensive regularisation programs could have on the broader urban economy by linking the growing informal extra-legal economy into the formal economy (De Soto, 2000; Bourbeau 2001). Moreover, De Soto argues that such public policies can be instrumental in reducing social poverty. In De Soto's view, small informal businesses and precarious shanty homes are essentially economic assets; 'dead capital' that should be revived by the official legal system and turned into liquid capital so people could gain access to formal credit, invest in their homes and businesses, and thus reinvigorate the economy as a whole (De Soto, 2000; Fernandes, 2002). Fernandes (2002) argues that de Soto has failed to consider the essential gender and environmental implications of land legalisation. He proposes the preparation of new tenure policies to integrate four main factors: legal instruments that create effective rights; socially oriented urban planning laws; political-institutional agencies and mechanisms for democratic urban management; and inclusionary macro-socioeconomic policies. The search for innovative legal-political solutions also includes the incorporation of a long-neglected gender dimension and a clear attempt to minimise the impacts that such policies have on the land market.

In line with the theoretical perspectives of De Soto (2000), Kyessi and Tumpale (2014) argue that regularisation is supposed to provide a number of benefits that property owners do not have access to when operating in the informal sector. First, it makes people accountable through integration of all property systems under one formal property law (De Soto, 2000). Secondly, regularisation makes assets fungible by transforming assets from being in a less accessible condition to one that is more accessible. Thirdly, it protects transactions since all property records (titles, securities and contracts that describe the economically significant aspects of assets) are protected. Additionally, regularisation safeguards the interest of governments since the government receives economic benefits including a broader tax base and information to inform policy decision making. The expanded tax base that accompanies regularisation can be used to provide much needed public goods and services, including: education, health care, and systems of social insurance and welfare (Kyessi & Tumpale, 2014).

Emanating from the foregoing literature, the conceptual underpinnings of this study hinges on the sustainability concept whereby the three dimensions for regularisation processes emerge. These include cost-effectiveness (economic production and viability) as Jones (2017) provides, replicability, and access to and use of public spaces through a multi-level stakeholder approach (Hurni, 1997). In this case, regularisation projects are expected, among other things, to embrace land uses with long-lasting utlilisation, safeguard public interests, and share project costs in order to alleviate poverty and minimise the effects of informality in unplanned settlements. Zakayo et al. (2018) provide that land regularisation and community development are interlinked in such a way that land regularisation aims to ensure access to social services such as roads, waste disposal points, health and education facilities, open spaces and the right of occupancy. When such projects are successful during their pilot phases, they ought to be scaled-up to other informal settlements, and planning and implementation strategies should also be transferrable. This study takes onboard capacity building of local communities as one of the key conceptual attributes that underlines the essence of regularisation. On this aspect, Magigi (2013) argues that if communities are aware of the process and outputs of regularisation they can ensure that urban land is properly managed and efficiently utilised for increased productivity and sustainable use. Moreover, designation of land for vital public uses, including access to areas designated for various land uses, including social services, is necessary. This is due to the fact that public and outdoor spaces are critical for supporting social and economic activities in regularised settlements which usually diminish as a result of the densification process (Sliuzas, 2004). Based on the above, the study intends to investigate the challenges, potentials and the importance of community-led land regularisation in Tanzanian informal settlements.

5. Methods and Data

The study applied a multiple case study approach whereby qualitative methods were used to collect data from three selected informal settlements; Ibungilo and Isamilo in Mwanza city, and Magengeni in Dar es Salaam city. The selection of these settlements is based on the fact that regularisation has taken place and land occupiers have started experiencing some physical and structural changes to their properties. Further, the case studies selected represent both the state-led/top-down approach to regularisation as well as more community-oriented approaches to regularisation. Before the commencement of fieldwork, an extensive literature review was carried out in order to underscore national procedures for undertaking regularisation exercises and what is expected from them. During fieldwork, discussions were held with key informants who included Ward Executive Officers (WEOs); Mtaa Executive Officers or chairpersons; and Mwanza City Council officials who carried out regularisation in the selected settlements in Mwanza. In addition, staff members of the Applied Geodesy Consultancy Company which carried out the more community-led regularisation in Dar es Salaam were involved. Members of the Regularisation Committees in each settlement were also interviewed. Thereafter, interviews were conducted with 180 land occupiers (households), 60 households from each settlement, who were

purposefully selected with the intention of learning from real life experiences of the regularisation exercises which took place. Interviews were grouped into relevant themes emanating from research questions to form a detailed set of findings. The main themes related to the motives of regularisation, how regularisation projects were acquired under a community-led regularisation approach, and the emerging challenges and opportunities of regularisation projects. The results were presented in the form of texts, tables and figures. The empirical evidence was equally triangulated with the existing literature on the links between regularisation and social, economic and spatial aspects. This allowed the findings and the subsequent conclusions to be articulated within the existing body of knowledge on regularisation.

6. Findings and Discussion

6.1 The Need for Regularisation

Generally, the push to undertake regularisation projects in the study settlements was driven by the unaffordable charges which individuals who want to survey and title their plots would pay if they execute the project individually. The majority of land occupiers in the informal settlements, most of whom are low-income earners, could not afford the cost. Therefore, the implementation of the regularisation programme was an opportunity to pool their limited individual resources and bargain for a lower regularization cost. Asserting the foregoing, the Chairperson of Magengeni Mtaa noted:

"Generally, apart from huge sums charged, individual-led regularisation have had limited success. Each one struggled on his/her own; someone could spend as much as TZS 4 million; 5 million or even 6 million [equivalent to US$1,739 – $2,609], *the majority could not afford this".*

(Chairperson, Magengeni Mtaa, 2018)

Unlike Isamilo and Ibungilo settlements in Mwanza City whereby residents showed an interest in regularisation back in 2015, the decision to regularise Magengeni settlement in Dar es Salaam was largely driven by the central government. The Minister for Lands, Housing and Human Settlements Development declared that all informal settlements in Dar es Salaam and other urban centres in the country will be regularised. The government's decision to regularise all informal settlements in all urban areas was made as he spoke in the Tanzania's Land Surveyors' Conference and first Annual General Meeting in 2016. Speaking at the Ministry of Lands, Housing and Human Settlements Development (MLLHSD) the Minister noted:

"…85% of all land in the country is not surveyed and the majority of people continue living in unplanned settlements. The government is losing revenue because the largest part of land being unsurveyed…"

(Minister for Lands, 2016)

A quarter of interviewed residents (45 out of 180) in three settlements noted that they wish to regularise their settlement in order to get title deeds which could enhance tenure security and enable them to use their property as collateral to access funds to improve their economic and social well-being.

"We bought land at a cost and others inherited from their fathers but we cannot use it besides own occupation and renting out some spaces. In planned areas where people have title deeds, they have turned their papers into cash through mortgaging and they have intensified business and other activities. They are economically stronger than we are. We also expect to improve our economic condition when we get the deeds".

(Interview with community members, 2018/2019)

From the Minister's speech it is noted that, on the one hand, residents understand the outcome of tenure security resulting from the issuance of certificates of occupancy. On the other hand, they express their concerns and reservations on the obligation to pay tax and even an increase of tax over time, following the formal recognition and registration of their properties.

6.2 Acquisition of Projects Under a Community-led Regularisation Approach

In all the three settlements the bottom-up regularisation approach involved a number of actors from the local community level to the government level. In Magengeni settlement a private consultancy firm, the Applied Geodesy Consultancy, directly contacted the community and held discussions with Mtaa leaders on the need for regularisation and how to carry it out in the settlement. Thereafter, the firm approached the ward level leaders (WEO and Ward Councilor) and finally the Temeke Municipal Council to get approval and permission to undertake the exercise in the settlement. After getting the permission by the Municipal Director, the firm submitted a copy of the permit to the Ward Development Committee (WDC) and to the Mtaa leaders. The permit autonomised the firm to carry out regularisation which included conducting public meetings, entering into agreements on cost, establishing Mtaa Regularisation Committees, selecting committee members, opening bank accounts, and execution of the project. The approach in Dar es Salaam slightly differs from the one adopted in Mwanza city in 2015 whereby communities in Ibungilo and Isamilo Mtaas led to initiation to the City Council requesting the Council to regularise their settlement. The City Council approved the request and advised communities to wait for the finalisation of the Mwanza City Master Plan, which was being finalised by 2015. This stagnated the initiation and implementation of regularisation projects in areas which were determined to be regularised. As a result, land occupiers perceived it as a laxity of the City Council to effectively manage and implement community projects.

Concerning the initiation of regularisation projects in the three study areas, we observe two main drawbacks. First, although both are termed community-led regularisation projects, there is a difference particularly regarding project initiation in the Magengeni area. In this area, the consent to undertake the project was granted on the understanding that it is was a community-led project. Secondly, the procedures that the private planning firm used to execute the project differed from the official protocols issued by Municipalities. For instance, normally private consulting firms are required to consult with respective Municipalities so as to get their endorsement on areas that have to be regularised. After the consultation, the firm has to get

approval from the residents in the area, including land occupiers. Through public meetings, information is circulated to all residents and once this is done the firm notifies the Municipality about the resolution of the community. Finally, the firm submits the documents to the Mtaa leaders and a copy to the WDC for records. Commenting on the failure of private consultants not complying to the procedures of regularisation process, residents admitted the disappearance of such firms after being paid part of their regularisation charges. This trend has forced the government both at central and local levels to closely follow-up and monitor regularisation projects implemented by private consultancies. In this case, local governments require consultants to submit progress reports and outputs as per contracts which are later sent to the ministry for records.

6.3 Challenges of Regularisation

6.3.1 Property Demarcation and Accessibility in Hilly and Densely Built Areas

The hilly and rocky nature of Mwanza city, and particularly the Ibungilo and Isamilo settlements, coupled with the small plot sizes in all three settlements was the main challenge during the cadastral survey to demarcate plot boundaries. This is due to significant housing densities and the lack of land for public use. Whatever is left unbuilt comprises of rocky areas which cannot be used for active recreation or similar uses (see Figure 1). Some of the beacons were installed on rocks while others were mounted on existing facilities such as septic tanks or soak away pits. Also, due to excessive densities and the hilly nature of the settlements' terrain, the access roads reserved do not provide convenient circulation of people, many run against the contour alignment leading to sharp gradients.

Figure 1: Land Demarcation at Isamilo and Ibungilo Informal Settlements

Source: Fieldwork at Ibungilo and Isamilo, 2019

6.3.2 Private Land Rights, Land for Public Uses and Land Use Planning

In Ibungilo and Isamilo settlements, land for public uses, including areas for social services such as a local market and nursery schools were set aside by residents. This was established through collective engagement and negotiations augmented by a strong role played by local (Mtaa) leaders collaborative planning (Kyessi, 2007). Additionally, land was reserved for technical infrastructure services, including road networks and the provision of simplified sewerage systems (which have been provided in some of the housing areas such as in Kigogo, Mirongo and some parts of Mabatini). In this regard, some structures which fell on the land set aside for public uses have been earmarked for demolition (see Figure 2). Some residents have taken initiatives to improve their toilets ready for the upcoming simplified sewerage project that was expected to be implemented from mid 2019 (Figure 3).

Figure 2. Land reserved for a 4m road with Part of Building to be Demolished

Figure 3. Toilet to be connected to a sewer

Source: Fieldwork at Ibungilo and Isamilo, 2019

As noted earlier, in the two settlements of Ibungilo and Isamilo, which have quite small plots of 20m x 20m or less, Mtaa leaders have displayed an unquestionable ability and power to convince land occupiers to contribute land required for public uses. In contrast, residents at Magengeni settlement and many densely built informal settlements in Dar es Salaam focus on private uses and disregard or downplay public rights and needs during regularisation. In this regard, many are not willing to offer part of their land for public use. Where attempts are made to negotiate with landowners they often demand too much compensation. In other cases, agreements may be reached for land occupiers to contribute part of their land for public use, but during implementation problems and disputes arise, again leading to protracted litigations. This is particularly prevalent on land for road networks because neighbouring land occupiers are obliged to surrender some of their land at will for such public use without compensation. As such, the public continues to labour under the same problems that existed before the regularisation processes, even after the completion of such projects. These failures are partly contributed by the local institutions, especially the Mtaa Regularisation Committees and leaders, which do not control and regulate the provisions and proposals made in the regularisation plans and reports. Therefore, it is not only important to identify areas for public use but most important is to earmark such areas.

In cases where residents fail to provide land for public use contrary to the provisions of the Land Regulations for 2001, planning authorities are obliged to liaise with communities and landowners to surrender part of their land for future provision of infrastructure and other community facilities, such as school plots, markets, roads, areas for water tanks and any other public land. In practice, institutions responsible for carrying out regularisation exercises usually identify property owners with their individual properties, but they do not negotiate land for other public uses. These include areas for open spaces, accessibility, health care and education facilities, to mention a few. In negotiating public spaces within informal settlements, planning entities (public or private) facilitate communities by emphasising the importance of access to such spaces (e.g. waste deposits points, health and education facilities) in community development. However, a critical role is played by local leaders and members of the planning committee in their areas of jurisdiction. In this regard, landowners are convinced to share part of their land. In cases where landowners agree to give away part of their land, regularised neighbourhoods become vibrant, and accessible to all community members.

6.3.2 The Non-harmonised Cost of Regularisation

Costs that land occupiers are required to pay consultants varied despite the fact that various informal settlers do not have the same income or social status. In Isamilo and Ibungilo settlements, which are located next to each other, the amount which was charged was TZS 150,000 and 200,000 (nearly US $65 and US $87) per plot respectively. In Magengeni the cost was TZS 250,000 (about US $109). The regularisation guidelines allow communities

and consultants to agree on the charges after considering the socio-economic characteristics of residents. Despite this provision, landowners in Ibungilo settlement were not satisfied because they paid more than their Isamilo counterparts. Their complaints appear genuine since initially the cost per each land parcel in Isamilo settlement was agreed to be TZS 200,000; but the residents made a special request to Mwanza City Council (MCC) to reduce the charge and it was granted. Upon the acceptance of the cost reduction, their counterparts in Ibungilo settlement also requested the City Council reduce the cost from TZS 150,000 to 200,000, but the MCC declined to reduce by arguing that a consensus had already been reached. Residents lamented on the double standard and they associated the behaviour with corruption by urban professionals. Moreover, the government of Tanzania has been proactive about monitoring the cost charged in the regularisation programmes. In July 2018, the Minister for Lands mentioned while officiating the draft of the Dar es Salaam Master Plan (2018-2038) to stakeholders, and declared TZS 250,000 as the indicative cost for regularising a plot. Before the Minister's declaration, private firms were charging between TZS 500,000 to TZS 800,000 (equivalent to US $217 and US $348) per plot. The quote below elaborates:

"…regularisation exercises shall be supervised by District Land Officers instead of Ward Councilors and Sub-ward leaders. Each landowner shall contribute TZS 250,000 per plot and not TZS 500,000 or 800,000… After an investigation I have realised that that the actual cost does not exceed TZS 250,000 to plan and survey a single plot. Private companies should compete through a formal tendering procedure at district levels…"

(Minister for Lands, 2018)

Eight months later (April 2019), the Minister made another announcement on the indicative cost when he met private planning and surveying firms carrying out regularisation activities. He lowered the earlier figure to only TZS 150,000 per plot. As reported by a newspaper article below, according to the Minister, this decision emanated from the slow pace of regularisation exercises. Only a few landowners in urban areas have regularised their properties since the commencement of the exercise. He added that most landowners could not afford to pay TZS 250,000.

"…from now, the cost for regularising one plot will not exceed TZS 150,000 per plot. Firms which shall not comply with this will be punished including being deregistered… the regularisation exercise has been very slow and we have discovered that only 30% of informal settlements in urban areas has been regularised since the exercise started. This has been attributed to low incomes of the majority of people who cannot afford the cost…"

(Global Publishers, 2019)

Residents have repeatedly complained about the high costs charged for regularisation. For instance, during interviews in Magengeni settlement in March 2019, about 58% of the interviewees proposed that the cost of regularisation should be lowered, while about 3% proposed that it should be waived completely. The rest (31%) had no problems with the current cost. It is important to note that these are also costs related to supervision of the regularisation exercise by the Mtaa Regularisation Committee which usually

gets 5% of the regularisation cost per plot. In addition, individual landowners are required to pay charges related to title deed processing and issuance.

In this study we argue that the costs charged in Isamilo and Ibungilo settlements were higher than in Magengeni settlement due to the fact that the consultant involved in the Magengeni settlement was a public entity; the MCC, who used public equipment at no fee and professionals who are paid salaries by the state. Besides, the public consultant is not subjected to income tax or other fees. On the other hand, the private firms are required to pay income tax to the Tanzania Revenue Authority (TRA), some amount to the professional bodies, annual fees to the Business Registration and Licensing Authority (BRELA) and the local authority. In reality, regularisation projects are practically expensive in terms of what landowners contribute as opposed to the idea of assisting poor people owning properties in informal settlements. For instance, landowners at Tandala (Makete) in Tanzania had to pay only TZS 200,000 (US $87) for a residential plot, TZS 250,000 (US $109) for a residential cum commercial plot and TZS 300,000 (US $131) for a commercial plot. At Tuelewane (Morogoro) and Indundilanga (Njombe), property owners were required to pay TZS 120,000 (US $52) and TZS 350,000 (US $152) respectively for planning and surveying in addition to statutory fees and charges for titles (Kusiluka & Chiwambo, 2018). A recent regularisation project undertaken in Makongo Juu in Dar es Salaam shows that a landowner of a plot measuring 1,000m2 was required to pay a premium of TZS 875,000 (around US $380) to have a land title while owners of a similar plot size in Kimara had to pay TZS 375,000 (US $163) per plot (Kironde, 2019).

6.3.4 Prolonged Delays in Completing Regularisation Processes

Regularisation projects in the two settlements in Mwanza began in early 2018 and mid 2018 in the Magenegeni settlement. At the time of this study in March 2019, more than a year later, the projects were yet to be completed. In some Mtaas, especially in Ibungilo, land parcels with disputes had not been served and thus the project had not been completed. The time which these regularisation projects has taken is not in line with what is provided for in the regularisation guidelines or contracts between the community and the consultant; which was stated to be six months. In addition, delays in the approval of the survey plans resulted in the late issuance of title deeds for the regularised areas. Although the process of land regularisation and formalisation in Isamilo was completed in April 2019, households are not yet informed when they will get their land titles. Furthermore, residents and Mtaa leaders expressed concerns on the delays noting a lack of activity of the MCC and Applied Geodesy Consultancy Company after collecting money from residents in accordance with the agreements made. As a result, some of respondents interpreted regularisation as a strategy to generate revenues of the city council and for individual benefits.

6.4 Opportunities Arising from Regularisation

6.4.1 Increased Land Value

Generally, land value has increased in the settlements soon after carrying out regularisation. Before regularisation, land prices in Isamilo and Ibungilo were relatively low. For instance, for a small plot measuring 5m x 5m the selling price was between TZS 30,000 and TZS 35,000 (US $13.20 and $13.35) in 2000 and 2004 respectively. For medium sized plots measuring 35m x 35m the selling price was about TZS 100,000 to TZS 150,000 (US $43.86 to $65.80) for the years 2000 and 2004 respectively. By the year 2009 it had shot up to TZS 500,000 (US $219.30). At present, after regularisation, the price of medium size plots measuring 25m x 30m had increased to TZS 4-7 million (US $1,754 - $3,070) depending on the size and location of a plot; some are now being sold up to TZS 30,000,000 (US $13,158). In addition, rent in the area has also gone up. For instance, respondents claimed that between 2010 and 2015, i.e. before regularisation, a room was rented for TZS 10,000 (US $4.40) per month. Currently, the same room size is rented at between TZS 15,000 and TZS 30,000 (nearly US $6.60 and $13.20) per month. These rental charges exclude water and electricity bills. Regularisation is among the factors that have influenced changes in land and housing value even though the regularisation processes were still ongoing in the settlements. In this regard, 30% of the 40 households interviewed in Isamilo and Ibungilo mentioned that regularisation has contributed to the increase in land value. Also, locational advantages i.e. raised hills, proximity to the Central Business District (CBD), public services such as MCC offices, Kirumba Mwaloni and Nyamanoro markets, Sekou Toure and Makongoro hospitals, good scenery of Lake Victoria and proximity to other areas within the city were ranked high and considered important drivers for increased land value. These findings suggest that the real estate market (land and housing) is thriving in regularised settlements because of the services that are in the provision pipeline. To real estate managers, the increase in land and housing prices and rents may also imply speculation in order to be supplied when market prices become more stable.

6.4.2 Increased Tenure Security

Land regularisation has increased security of tenure and confidence of residents to own and invest in land. Though not all people in the regularised settlements have received their land titles yet, they still feel more secure on, and confident with their land than before regularisation of the settlements. Interviews with households who own land in the settlements revealed high expectations on land. Some are expected to make improvements to their building structures and build new houses, while others believe that land values will further increase. Furthermore, new and permanent business enterprises are increasingly coming into the settlements and many believe that once they get titles they will identify themselves as rightful landowners and no more evictions will be effected, as stressed by the quotation below:

"…I have confidence in further developing my land after the regularisation. Before it we were uncertain whether we would continue living in this area.

We were told and some notices of eviction were on the way. Now it is no longer the case…" (Interview with community members, 2019)

Regarding the quotation, land occupiers and developers stated the economic externalities resulting from investments on their land. These include getting a sustainable and regular income through renting out commericial spaces and also running their own businesses. Profit from these premises can eventually help land occupiers fulfil different family and development obligations such as paying for their children's schooling needs, attending to domestic expenses, accessing healthcare services and advancing in real estate investments for more income generating opportunities. Before regularisation, people were hesitant to invest on land due to threats of eviction. Additionally, conversations around land security (after regularisation) were aired out by Mtaa leaders. For instance, during interviews with the Chairperson of Isamilo North Mtaa he noted that now people are happier than before regularization:

"…It was very difficult to visit and talk to them on land matters before regularisation because in the past the government wanted to evict people from these areas. Some started thinking of selling their land and some built just inferior houses. After regularisation, things have turned upside down and no one is willing to sell his/her land… If you would come a few months before regularisation, you could not get people to respond to your interviews…The Mwanza City Council has really heard our voices and made a positive response". (Isamilo North Mtaa, 2019)

The majority of the residents from Ibungilo and Isamilo knew the importance of land titles and perceived the regularisation exercise as a vehicle to purely enhance tenure security, and did not recognise its value as a vehicle for economic advancement and prosperity.

6.4.3 Provision of Land for Technical and Social Services

As discussed earlier and also presented on Figure 3, residents in Ibungilo and Isamilo settlements willingly provided their land for the simplified sewerage system project. The provision of land for public use including land for public utilities following regularisation has, in turn, attracted Mwanza Urban Water and Sanitation Authority (MWAUWASA), the European Investment Bank (EIB) and French Agency for Development (AFD) to provide support to extend the project in the two settlements which already operates in Kigogo, Mirongo and parts of Mabatini wards in Mwanza city. Moreover, local markets and nursery schools will be provided in the settlements as land for such uses has already been reserved through the regularisation process.

6.4.4 Resources Mobilisation from Stakeholders

In regularisation projects in Dar es Salaam and Mwanza cities, varying resources were necessary for a successful implementation. In Magengeni settlement, the surveying firm, namely the Applied Geodesy Consultancy, collaborated with the Mtaa leadership to initiate the process. In addition, the firm secured the permission from the planning authority and the Temeke Municipal Council to carry out the regularisation exercise in the settlement. Moreover, the firm mobilised and conducted public meetings to introduce the

project to residents, and to identify land rights in preparation of the layout plan of the settlement. In Ibungilo and Isamilo settlements these activities, except the acquisition of a permit, were carried out by the planning authority; the MCC. Financial resources in the two cities were solicited from the community under the facilitation of Mtaa leaders and the respective Regularisation Committees. Owing to limited resource capacities of the public sector, community self-financing regularisation projects have increasingly been popular. The pooling together of resources of communities has facilitated the implementation of regularisation projects both in Dar es Salaam and Mwanza cities. While human resources fast-tracked the technical procedures, material and social needs; financial resources facilitated financing of the projects. It is important to note the investment that community stakeholders extended towards the regularisation exercise, which demonstrates aspects of the sustainability of community-led approaches to informal settlement regularisation.

6.4.5 Increased Government Revenue

Regularisation projects enable governments to collect more revenues in the form of land tax. This is largely seen as beneficial as it enables government to reinvest collected taxes into the regularised communities (where they would not have received revenue from before). This provides opportunities to improve urban services in these communities and further support the upliftment of these areas. However, many are skeptical about the government's intentions behind the regularisation programmes and believe that they are driven primarily to increase revenue. Improving security of tenure by issuing titles to individual land occupiers in informal settlements appears to be a secondary issue. Therefore, the emphasis does not seem to be on land use, planning and regularisation standards (WAT-Human Settlements Trust, 2010; Kironde, 2019). Kironde (2019) argues that the current Ministry of Land's interest seems to be collecting land tax to boost government revenue from land, particularly in cities and other urban centers. This is supported by the speech made by the Ministry of Lands outlined earlier in the findings section. Further, a study carried out in 2019 on formalisation of properties in informal settlements, land rent ranged from TZS 1,200 to 12,000 (US $0.53 to $5.30) per year, while property tax in a surveyed plot was expected to increase from TZS 10,000 to TZS 30,000 (US $4.40 to $13.16) per year (WAT-Human Settlements Trust, 2010). While these amounts may seem nominal, they are a serious challenge to landowners in regularised settlements. In this regard, most landowners are unable to meet the land tax requirements of government as it is even difficult for them to cover their basic costs of living.

6.4.6 Creating Awareness for Regularisation

The projects studied created significant awareness on regularisation processes and what is expected from them. This awareness was created through public meetings in study settlements. In particular, the meetings were intended to help people understand and internalise the importance of land holders having certificates of rights of occupancy. In these meetings, Mtaa leaders, especially the chairperson and consultants, play a vital role in mobilising land holders

to commit themselves to the regularisation exercise. As a result of public meetings and the resultant awareness, there was a better understanding of regularisation and its importance. This in turn helped soften land holders to donate part of their land for public uses. Further, this helps to build a familiarity and acceptance of regularisation in other informal settlements.

7. Conclusion

The evidence from regularised settlements in Dar es Salaam and Mwanza cities have shown that land regularisation can be an important tool for controlling urban areas which have developed outside the planning framework. Moreover, regularisation is an indispensable tool for increasing land value and ensuring tenure security of people who live in informal settlements. One of the privileges which households have gained from the regularisation project is the increased recognition of their rights to occupy and live in the settlements and thus the creation of opportunities for further investments (through security of tenure).

Despite the benefits accrued, there are still some challenges that the city/planning authorities or urban land professionals are facing. Although location is crucial to attract land value, the sites on which the informal settlements in Mwanza city are located is quite challenging, particularly in terms of access which creates challenges for the provision of basic services. On the other hand, Ibungilo and Isamilo settlements are located in prime areas with close proximity to the city centre's amenities and services. But due to the land form, land values in the two areas do not match this strategic location in the urban continuum. Also, the investment of inhabitants in building has not attracted a significant rent gap to attract other competing land uses typical in the areas close to the CBDs in Tanzanian cities. Similar to regularisation of favelas in Rio, title deeds in Isamilo, Ibungilo and Magengeni settlements are not associated with a notable increase in land value, since titles have not been issued. But, regularisation has enhanced tenure security in the respective settlements.

Finally, regularisation projects currently being carried out in the country have not addressed the issue of access to land for public use or provision of public services. Indeed, a broader notion of property rights that includes not only the rights of the owner/private sector but also the rights of the community or public is being overlooked (Blanco, 2011). The reality in Dar es Salaam and Mwanza has shown that in most cases private rights to land are largely secured and safeguarded at the expense of public rights to land. This undermines the fundamentals of urban land use planning and the role of the state as the prime custodian/promoter of public interests. Although the government has instituted regularisation guidelines which, among other things, advocate for public or communal areas such as education and healthcare facilities, open spaces and road network systems; effective implementation and follow-up have not been practiced. It is, therefore, important to undertake serious monitoring and evaluation procedures in order to strike a balance between public and private rights on land.

8. References

Blanco, A.G. (2011). Discourses of land alienation and natural property rights: Land entrepreneurialism and informal settlements in Bogotá, Colombia. *Planning Theory*, *11*, pp.20-43. Doi:10.1177/1473095211403124.

Bourbeau, H. (2001). Property wrongs: How weak ideas gain strong appeal in the world of development economics. *Foreign Policy*, pp.78-79.

Brown-Luthango, M., Reyes, E. & Gubevu, M. (2016). Informal settlement upgrading and safety: experiences from Cape Town, South Africa. *Journal of Housing and the Built Environment*, *32*(3), pp.1-23.

Dar es Salaam City Council (DCC). (2004). Dar es Salaam City Profile. Government Printer, Dar es Salaam.

Dar es Salaam City Council (DCC). (2008). Action Plan for upgrading unplanned and unserviced settlements in Dar es Salaam. Dar es Salaam City Council, Dar es Salaam.

de Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the west and fails everywhere else*. New York: Basic Books.

Duminy, J. (2011). *Literature Survey: Informality and Planning.* African Centre for Cities, University of Cape Town, South Africa.

Durand-Lasserve, A. & Selod, H. (2007). *The Formalisation of Urban Land Tenure in Developing Countries*. Paper presented at the World Bank's 2007 Urban Research Symposium, May 14-16, Washington DC.

Durand-Lasserve, A. & Ndiaye, S. (2008). The Social and Economic Impact of Land Titling Programmes in Dakar. Nairobi: UN-HABITAT.

Fernandes, E. (2002). *Regularising informal settlements in Brazil: legalisation, security of tenure and city management*. Paper presented at the ESF/N-Aerus Annual Workshop 23-26 May, Brussels.

Fernandes, E. (2011). *Regularisation of Informal Settlements in Latin America*. Cambridge: Lincoln Institute of Land Policy.

Global Publishers. (2019). *The Government Reduces Land Costs*. Global Publishers. [Online]. Available at: https://globalpublishers.co.tz/serikali-yashusha-gharama-za-urasimishaji-ardhi/.

Guevara, N.K.A. (2014). Informality and Formalization of Informal Settlements at the Turn of the Third Millennium: Practices and Challenges in Urban Planning. *Journal of Studies in Social Sciences*, *9*(2), pp.247-299.

Hurni, H. (1997). Concepts of sustainable land management. *ITC Journal*, *3*(4), pp.210-215.

Jones, P. (2017). Formalizing the Informal: Understanding the Position of Informal Settlements and Slums in Sustainable Urbanization Policies and Strategies in Bandung, Indonesia. *Sustainability,* 9, pp.1-27. Doi: 10.3390/su9081436

Kagawa, A. & Turkstra, J. (2002). The process of urban land tenure formalization in Peru. In: Payne, G. (ed), *Land, rights and innovations: Improving tenure security for the urban poor*. London: ITDG Publishing.

Kironde, J.M.L. (2019). Community-Based Settlements Regularisation: Lessons for Scaling up from Makongo Juu Informal Settlement, Dar es Salaam, Tanzania. *Current Urban Studies,* 7, pp.170-192

Kusiluka, M.M. & Chiwambo, D. M. (2018). Assessing land titles application and uptake in regularised informal settlements in Tanzania, *International Journal of Urban Sustainable Development, 10*(3), pp.279-291. DOI: 10.1080/19463138.2018.1536661

Kyessi, A.G. (1997). *Shelter Development in Tanzania: Urban Development Policy Considerations.* Paper Presented at a National Workshop on Urban Development Policy for Tanzania, Held at Dar es Salaam, Tanzania, 12-14 May 1997.

Kyessi, A.G. (2002). Community participation in urban infrastructure provision: Servicing informal settlements in Dar es Salaam, Tanzania. PhD Thesis. SPRING, Dortmund. University of Dortmund

Kyessi, A.G. (2007). Participatory Planning in Regularisation of Informal Settlements in Mwanza, Tanzania. In: Stojkov, B. and Cavrić, B. (Eds) Territorium. Institute for Spatial Planning at the Faculty of Geography, University of Belgrade

Kyessi, A. & Sakijege, T. (2014). Formalizing Property Rights in Informal Settlements and its Implications on Poverty Reduction: The Case of Dar es Salaam, Tanzania. *Journal of Business and Economics,* Academic Star Publishing Company, 5(12), pp. 2353-2371.

Magigi, W. & Majani, B.B.K. (2006). *Housing Themselves in Informal Settlements: A Challenge to Community Growth Processes, Land Vulnerability and Poverty Reduction in Tanzania.* 5th FIG Regional Conference Accra, Ghana, March 8-11, 2006.

Magigi, W. (2013). Community Involvement in Informal Settlements Upgrading: Evidence from Dar Es Salaam Metropolitan City, Tanzania. *Research on Humanities and Social Sciences, 3*(12), pp.75-89.

Midheme, E.P.O. (2007). State- vs. community-led land tenure regularisation in Tanzania. The case of Dar es Salaam City. Unpublished MSc. Thesis Eschede: International Institute for Geo-Information Science and Earth Observation. Twente, The Netherlands

Minister for Lands. (2016). Keynote Address. In proceedings of Tanzania Land Surveying Conference. 2nd & 3rd November, 2016. Dar es Salaam.

Payne, G., Durand-Lasserve, A. & Rakodi, C. (2009). The limits of land titling and home ownership. *Environment and Urbanization, 21*(2), pp.443–462.

Perlman, J. E. (2016). The formalization of informal real estate transactions in Rio's favelas. In E. L. Birch, S. Chattaraj, & S. M. Wachter (Eds.), *Slums: How informal real estate markets work*. Philadelphia, PA: University of Pennsylvania Press. pp.58-82.

Sliuzas, R. (2004). *Managing Urban Informal Settlements: A Study Using Geo-Information in Dar es Salaam, Tanzania*. PhD Thesis, University of Utrecht, The Netherlands

Varley, A. (2016). Property titles and the urban poor: from informality to displacement? *Planning Theory & Practice, 18*(3), pp.385-404.

WAT-Human Settlements Trust. (2010). Documentation of Regularisation Experience in Informal Settlements in Kinondoni Municipality in Dar es Salaam. Experience from Hanna Nassif. WAT-Human Settlements Trust, Dar es Salaam.

World Bank (2002). *IPEA Urban Research Symposium: Land Development, Urban Policy and Poverty Reduction*, Brasilia, Brazil, April 4-6.

World Bank (2000). *Cities in Transition*. Washington, DC: The World Bank.

UN DESA (2018). The 2018 Revision of the World Urbanization Prospects, the Population Division of the United Nations Department of Economic and Social Affairs.

United Nations (2014). *World Urbanization Prospects*. New York: United Nations.

United Nations (2016). *The World Cities in 2016*. New York: United Nations.

UN-Habitat (2010). *Citywide Action Plan for Upgrading Unplanned and Unserviced Settlements in Dar es Salaam*. Nairobi: UN-HABITAT.

UN-Habitat (2012). *Global campaign for secure tenure: A tool for advocating the provision of adequate shelter for the urban poor*. Nairobi: UN-HABITAT.

UN-Habitat (2016). Fit-For-Purpose Land Administration Guiding Principles for Country Implementation. Nairobi: UN-HABITAT.

United Republic of Tanzania (URT). (1995) National Land Policy. Government Printer, Dar es Salaam.

United Republic of Tanzania (URT). (1999). The National Land Act No.4. Dar es Salaam, Government Printer

United Republic of Tanzania (URT). (2000). National Human Settlements Development Policy. Government Printer, Dar es Salaam.

United Republic of Tanzania (URT). (2013). Dar es Salaam Master Plan - Draft Report. Dar es Salaam

Zakayo, E., Mhache, E.P. & Wakuru, M. (2018). Land Regularization and Community Development Nexus in Cities of Sub-Saharan Africa: A Critical Review with Urban Growth and Development Perspectives. *International Journal of Scientific Research and Management*. *6*(2), pp.1-12. DOI: 10.18535/ijsrm/v6i2.g01

Acknowledgement

The UK Department for International Development (DFID) through the Research for Evidence Division (RED) which funded the Urban Land Nexus and Inclusive Urbanisation Project.

Journal of African Real Estate Research

Volume 5, Issue 1

www.journals.uct.ac.za/index.php/JARER/index

Understanding the Bases and Approaches of Mortgage Valuation in Ethiopia

Habtamu Bishaw Asres [1], Hans Lind [2], and Belachew Yirsaw Alemu [3]

[1, 3] Institute of Land Administration, Bahir Dar University, Ethiopia.
[2] School of Architecture & Built Environment, KTH Royal Institute of Technology, Sweden.

To cite this article: Asres, H.B., Lind, H. & Alemu, B.Y. (2020). Understanding the Bases and Approaches of Mortgage Valuation in Ethiopia. *Journal of African Real Estate Research, 5*(1), pp.55-76. DOI: 10.15641/jarer.v5i1.856.

Abstract

In Ethiopia there is no mortgage valuation framework or a regulatory valuation institution. Due to this, financial institutions may value mortgage securities without any clear and consistent basis; resulting in confusion among experts and parties dependent on valuations for their business. Further, there is no previous empirical evidence on how banks or financial institutions value mortgage securities. This study is therefore intended to examine the practice of mortgage valuation adopted by Ethiopian banks by looking at valuation bases and their corresponding approaches. To meet this objective the researchers adopted a qualitative research approach where primary data were collected using key informant interviews from experienced valuers at four Ethiopian banks. The collected data were analysed and interpreted using clustering and the data were categorised into relevant themes. The study found that banks undertake mortgage valuation without any valuation basis, and they consider the cost approach as the only recognised valuation approach. Moreover, property valuers do not have sufficient professional competence in valuation and have no discretion to choose the appropriate valuation approaches. Based on the findings of this research, it is suggested that banks apply market value as a basis of valuation. The market value basis is compatible with the property market context of Ethiopia and international practices. The constitution of Ethiopia also supports it. Furthermore, banks should also adopt either the income, market or cost approaches depending on the nature and type of properties. But the cost approach can be applied as a check and balance on the reasonableness of the value determined using another approach and in cases where the two approaches are inappropriate. Valuers should also be able to use their discretion in selecting valuation approaches. These can be realised by establishing an independent national institution responsible for valuation regulation and certification.

Keywords: Valuation Bases; Valuation Approaches; Mortgage Valuation; Ethiopia

[1] bishawh@gmail.com
[2] hanslin@kth.se
[3] belachew.y02@gmail.com

1. Introduction

In many countries a significant part of investment in real estate is carried out through secured lending where real property is taken as a collateral security (Kalynichenko, 2017). An extensive study by Nguyen and Qian (2012) which examined data from 43 countries indicated that 73% of loans from financial institutions required collateral. The major concern of lenders while advancing credit is how they will get their money back and this implies that the engagement between lenders and borrowers is accompanied by a certain level of risk (Karumba & Wafula, 2012). Due to this risk, borrowers assure the performance of their obligation by offering security on their property, charging the debt primarily on the property (Foote & Murphy, 2007). The valuation of mortgaged security is therefore an important part of the mortgage lending process both at the commencement of the loan and during the life of the loan (RICS, 2018). To this end, it is an important endeavor to determine the degree by which the value of an asset exceeds the loan in providing the margin of asset cover and to increase the certainty that the asset being taken as a guarantee will cover losses in the case of loan default (EMF, 2009; Babawale, 2012; Udoekanem, 2017). Therefore, if valuation is accurate, borrowers would be encouraged to base their investment decision on the estimated value (Aliyu, 2017). On the contrary, inaccurate valuation erodes confidence in the operation of the property market. It could also lead to misallocation of resources and distortions in the property market in the long-run (Adegoke, 2016). To get appropriate valuation results, the valuation of properties should be supported by a recognised basis of valuation (TEGoVA, 2016). This is because the valuation basis guides the valuation result (Crosby & Hughes, 2011). Moreover, the valuation basis must be appropriate for the purpose of valuation since the basis of value may influence or dictate valuers' selection of valuation approaches, inputs and assumptions and the ultimate outcome of the valuation exercise (IVSC, 2017). For mortgage valuation, market value is the appropriate basis although there are circumstances which may require other bases (Crosby & Hughes, 2011; Bowcock, 2015; RICS, 2017a). The income, market and cost approaches of valuation may provide market value, but the selection process considers the appropriate basis of value, respective strength and weakness of each approach, the nature of the asset and the availability of reliable information needed to apply the approach (IVSC, 2017).

In Ethiopia there is no valuation framework stating the bases and approaches of mortgage valuations. There is also no national regulatory institution responsible for valuation. As a result, there is a possibility that banks may manipulate valuation exercises to suit their institutional interest, for instance by under-valuing a property. This means due to the absence of valuation framework, regulatory institution and qualified external valuers, banks may value properties in a way that satisfies the banks' need only, while valuation considers the interests of both parties. This contradicts the mortgage valuation practice in many countries in which mortgage securities are valued based on national or international valuation standards by certified valuers (Adair et al., 2003). In the absence of valuation framework, there is also a possibility of inaccurate opinions of value estimates which has significant consequences.

For instance, if the mortgaged property is undervalued, firms or household's investment potential is meaningfully affected. This is because the value of the property determines the loan amount (Aluko, 2007). On the other hand, if the mortgaged property is overvalued, banks may not be able to adeqauetly recover their loan in the case of default.

Due to the above, there is a need for a real property valuation framework stating the bases and approaches of valuation that is compatible to the real property market of Ethiopia. However, there is a severe lack of research on mortgage valuation that could support the development of such a framework. In order to start defining a framework for property valuation in Ethiopia, a logical starting point would be to gain an understanding of the various mortgage valuation practices that are currently employed by financial institutions in the country. The valuation basis and approach used by valuers should form the central aspect of any guiding framework for real estate valuation. Therefore, this paper aims to examine the bases and approaches of mortgage valuation in commercial banks in Ethiopia. Based on the findings, appropriate bases and approaches that could be part of the framework is suggested. To achieve this objective, a qualitative research approach was used. The research was based on primary data collected from four experienced bank valuers from four of Ethiopia's main commercial banks. The valuers were selected purposively based on their valuation experience. The collected data were analysed by clustering the data into themes.

Mortgage valuation plays a crucial role in the overall financial system (Oyedeji & Sodiya, 2016). Its reliability and accuracy are therefore critically important for borrowers, financial institutions and other stakeholders. For borrowers, it is a guarantee for accessing finance since credit is often provided based on the value of a property. For financial institutions, it reduces the risk in the case of a loan default. Therefore, this study is important as it will contribute to the development of a valuation framework for Ethiopia that is coherent and makes use of the most appropriate mortgage valuation bases and approaches.

The paper is structured into five parts. The second part of the paper reviews the existing literature pertaining to mortgage valuation, the various processes relating to valuation and how the practice of mortgage valuation is carried out in Ethiopia. The third part of the paper provides an outline of the methodological approach adopted for this study. This is followed by the findings section which presents the data, analysis of the findings and provides a discussion of the findings. Finally, the fifth part of the paper provides a brief summary of the study and puts forward some implications of this research.

2. Literature Review

2.1 Valuation Basis

"Basis of valuation is a statement of the fundamental terms upon which a hypothetical exchange is assumed to take place" (RICS, 2008: 1). The valuation basis describes the nature of the assumed transaction, the

relationship and motivation of the parties and the extent to which the asset is exposed to the market (RICS, 2008). It is an important premise on which the reported value of an asset is established (IVSC, 2017). On the other hand, the "*valuation approach is the fundamental way in which, considering the available evidence, the valuer considers how to determine the value of the subject property"* (TEGoVA, 2016,: 310). Sometimes, the valuation basis and valuation approach are taken as the same, but the latter is the way to reach specific values depending on the chosen valuation basis (RICS, 2008; IVSC, 2013; TEGoVA, 2016). It means the basis of valuation guides the result of valuation and not vice versa (Crosby & Hughes, 2011). As a result, the valuation assignment for any purpose should be supported by a recognised basis of valuation (TEGoVA, 2016). The common valuation bases in the valuation literature are market value (MV), mortgage lending value (MLV), investment value (IV), and fair value (FV) (see Table 1). However, they are not mutually exclusive (RICS, 2008). For instance, in active real estate markets the market value of the property may be the same as the investment value or the fair value (Frics, 2019). For mortgage valuation, MV and MLV are usually applied (Bienert & Brunauer, 2007; TEGoVA, 2016). However, the use of MLV is restricted in Europe since it has recognition in the EU regulation (TEGoVA, 2016). A brief description of the two bases (MV and MLV) are described in the subsections followed.

Table 1. Comparison of the Typical Valuation Bases

Basis of Valuation	**Description**	**Advantage**	**Limitations**
Market Value (MV)	Most probable price that would be achieved in a hypothetical exchange in a free and open market.	Provides objective results, it conforms to value in exchange, accurate in most markets.	Tracks bubbles, provides a snapshot value at the valuation date.
Mortgage Lending Value (MLV)	It is a value at risk approach to manage the risk exposure of credit institutions taking into account special safety requirements.	Provides long-term sustainable value, does not track price bubbles.	It is subjective, does not confirm to any known economic concepts of value, requires high-level of valuation skill.
Investment Value (IV)	Indicates the benefits that a person or an entity enjoys from ownership of an asset.	It conforms to value in use and is a better measurement for investment decisions.	Provides a snapshot value at the valuation date, there are various investment values for a property, it is subjective.

Fair Value (FV)	Indicates the price that would be reasonably agreed between two specific parties from the exchange of an asset.	It measures and reports assets and liabilities on the basis of their actual or estimated prices.	The asset is not necessarily exposed to the wider market.

2.1.1 Market Value (MV)

In most cases, the basis of mortgage valuation is market value (MV). MV is recognised as a typical valuation basis for mortgage valuation in the International Valuation Standard (IVS) and other regional and national valuation standards including the Royal Institution of Chartered Surveyors (RICS), The European Group of Valuers' Association (TEGoVA), (RICS, 2008; IVSC, 2013; TEGoVA, 2016). It has a long-established definition in the valuation literature where:

"*It is the estimated amount for which the property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after proper marketing where in the parties had each acted knowledgeably, prudently and without being under compulsion"*

(IVSC, 2017:18)

It is the main valuation basis for mortgage valuation in both established and emerging economies including Brazil, UK, Nigeria, Kenya and US (Aluko, 2007; Babawal & Omirin, 2012; RICS, 2017b). It is also most widely implemented in Anglo-American countries (Bienert & Brunauer, 2007) and in many European countries (Adair et al., 2003). MV as a basis of value is therefore compatible in cross-border financing activities (Bienert & Brunauer, 2007). The supremacy of MV as a basis of value is due to its objectivity; it is not subject to different interpretations (Crosby & Hughes, 2011).

Although MV is considered to be the most appropriate basis of mortgage valuation, some studies comment its shortcomings in certain circumstances. For instance, Lind (1998) argues the concept of MV is difficult to apply for unique and complex properties in 'thin' markets. The market evidence in such cases might be so weak, and the implications of competing theories so different, that an expert might not even be prepared to make a statement about the MV. Crosby et al. (2000) argue that MV does not last beyond the date of valuation and it gives no information regarding events during the timeframe of the loan in the future. Moreover, Crosby and Hughes (2011) also claim its inadequacy as it goes hand-in-hand with increased bank lending and inflated prices during an economic crisis. In cases where MV is unsuitable the application of other valuation bases is suggested. Valuation bases that are suggested to provide lenders with tools for more informed and prudent in such circumstances are IV and MLV (Crosby & Hughes, 2011; Bowcock, 2015; RICS, 2017a).

2.1.2 Mortgage Lending Value

"MLV is the value of immovable property as determined by a prudent assessment of the future marketability of the property taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property"
(TEGoVA, 2016:42)

MLV is based on sustainability, avoidance of any speculation, traceability, standardisation and marketability (Bienert & Brunauer, 2007). It takes into account the future value of the mortgaged property in that, among other things, it can be applied through the entire period of the loan (Gordon, 2015). In stable markets MLV and MV are indistinguishable (TEGoVA, 2016). However, in volatile markets there is a marked difference between the two bases. However, there is no simple enduring ratio between the two (TEGoVA, 2016). Moreover, MV and MLV have significant differences during instances of economic crisis. MV goes hand-in-hand with increased bank lending and inflated property prices (Crosby & Hughes, 2011), while MLV provides sustainable value for a longer period of time (TEGoVA, 2016) (see Figure 1). MLV as a basis of value is recognised in Europe under the European capital requirement regulation (CRR) (TEGoVA, 2016). This is supported by a study by Bienert and Brunauer (2007), who found that in Germany and German speaking countries it is the dominant basis.

MLV does not have its own economic basis (it is neither value in exchange nor value in use) to apply, it is rather based on the concept of MV (Crosby & Hughes, 2011). Thus, it is incapable of giving objective valuation outcomes because of the different interpretations which can be applied to each element of its definition (Crosby et al., 2000). However, Crosby and Hughes (2011) argue the possibility of adopting and applying it by preparing workshop manuals with a required set of inputs based on consistent schedules of data and rule of thumb adjustments. Although MLV is applied in Europe, it is not standardised or recognised by the IVSC.

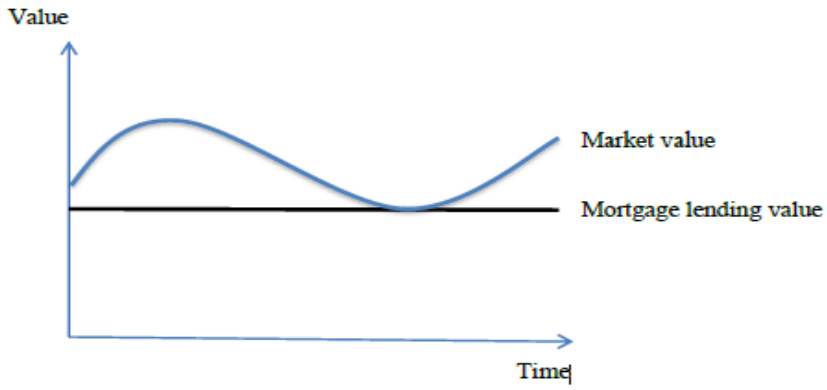


Figure 1. MV and MLV in Times of Economic Crisis

Source: (Anop, 2015)

2.2 Valuation Approaches

The valuation approach is the way to reach specific values depending on the chosen valuation basis by considering the available evidence (RICS, 2008; IVSC, 2013; TEGoVA, 2016). Sometimes it is assumed that valuation approaches are similar to valuation basis. But valuation bases are the fundamental premises on which the reported values are based (IVSC, 2017). Valuations are required for different interests in various types of assets for different purposes. Therefore, the valuation approach in one case may well be inappropriate in another and so on, over time (RICS, 2017b). As a result, three conventional valuation approaches are recognised in the valuation literature. These are market approach, cost approach and income approach (TEGoVA, 2016; IVSC, 2017). These valuation approaches may be suitable to mortgage valuation, if based on appropriately analysed market-derived data (IVSC, 2017). The theoretical basis of these approaches dates back to 1920 when Alfred Marshall combined the supply-cost theory with demand-price theory as a basis of value (Moore, 2014). The market, income and cost approaches are based on the economic principles of price equilibrium, anticipation of benefits and substitution respectively (IVSC, 2017). The market approach assumes the value of the real estate is based on the views of the typical buyer and seller of the property (Miller & Geltner, 2004). The income approach assumes the value of property is based on the typical investor‘s yield requirements, current financing possibilities, and the property risks (Miller & Geltner, 2004). Market approach, on the other hand, is based on comparing the subject property with other identical or similar assets for which price information is available (Parker, 2016). Under the income approach, the value of an asset is determined by reference to the value of income, cash flow or cost savings generated by the asset (IVSC, 2017). Conversely, the cost approach assumes the value of the property is inherent in the cost to create the property based on land acquisition and building cost less wear and tear and depreciation (Miller & Geltner, 2004). Therefore, the value of the property in this approach is determined by considering the market value of the site and the improvements separately, and then adding them (Adetiloye & Eke, 2014).

Like valuation bases discussed above, valuation approaches are not mutually exclusive and one can use more than one approach for cross-verification-which is strongly encouraged, particularly where valuation inputs are limited (Parker, 2016). In cases where the valuer has a high degree of confidence in the accuracy and reliability of a single approach, they are not required to use more than one approach of valuation (IVSC, 2017). Theoretically, all the three approaches may be used for developing and supporting an indication of value for mortgage purposes. However, the replacement cost approach is largely considered to be unsuitable for mortgage since mortgage is an investment in the market and it lacks the capacity to reflect the fundamentals of investment uncertainty for mortgages (Aluko, 2007; Aro-Gordon, 2015). However, it can be used when there is no comparable property transaction in the market or when it is difficult to get definite income for the subject property (IVSC, 2017). Thus, the cost approach is mostly used as a check on the reasonableness of the value determined using another valuation approach

(Aluko, 2007; IVSC, 2017). This is because the cost approach is based on the perception that the value of the property is inherent in the cost of creating the property (Miller & Geltner, 2004). It is however, suitable for the valuation of specialised properties that have insufficient evidence to use the two approaches (Mooya, 2016). Such a specialised property where the cost approach might be used occurs when there is no transaction evidence or evidence of recent sales transactions (Adair et al., 2003; RICS, 2017a). In using the cost approach the valuer should have a good knowledge of construction costs or unit rates of construction (Onyejiaka et al., 2015).

The market approach is the most widely used and accepted to determine value for various purposes, including mortgage valuation. However, results will depend on the talent of the valuer to find reliable adjustment factors (Schulz, 2003). When a valuer's judgment is applied consistently, it may be both logical and rational; leading to an assessment of value that is transparently supported (Parker, 2016). The income approach is appropriate in cases where yields can be established easily (TEGoVA, 2016). Both the market and income approaches are the most recommended approaches for mortgage valuation (Aluko, 2007). In this regard, Aro-Gordon (2015) argued that using the income approach for the purposes of mortgage valuation is compelling, not discretionary. However, in selecting the approaches, the valuer is responsible, depending on their knowledge and experience (without neglecting the countries' legal framework), for choosing which approach to deploy in carrying out the valuation (Mohamad et al., 2015). In many European countries, including: Finland, France, Norway, Sweden and the UK, cost approach is used only for specialised properties (Adair et al., 2003; RICS, 2017a). In other European countries like Germany, Switzerland, Spain, Belgium and Portugal, cost approach is more widely used. However, it is usually used in tandem with other approaches, with the valuation being a weighted average of the two outcomes (Adair et al., 2003). In Nigeria it is used commonly for mortgage lending purpose (Aluko, 2007; Chukwuemeka & Osmond, 2014). The reason for its use in the Nigerian context is due to the challenges of getting appropriate yield rates in the market (Chukwuemeka & Osmond, 2014).

2.3 Mortgage Evaluation in Ethiopia

Modern banking in Ethiopia started in the beginning of the 20th century since the establishment of the bank of Abyssnia in 1906 (Seyoum & Bessie, 2018). The provision of mortgage loans has been one of the main functions of commercial banks in Ethiopia. But there is no well-known empirical study on how mortgage valuation in Ethiopia is practiced. Presently, there is no mortgage valuation framework or regulatory institution to oversee mortgage valuation. The national bank of Ethiopia (NBE); which has the power to license, supervise and regulate the operations of commercial banks, does not have a clear policy concerning mortgage valuation. It simply forces banks to undertake valuations without any guideline or framework (NBE, 2010). Moreover, the responsible ministry for urban land administration and management in Ethiopia, the Ministry of Urban Development and Construction, does not have any power and duty in mortgage valuation

(FDRE, 2018). According to a newspaper article by Getachew (2017), the Ethiopian bankers' association has prepared and distributed a real property valuation manual to banks to apply similar procedures of mortgage valuation to all banks in 2014. However, the actual mortgage valuation practice still lacks uniformity and consistency.

Commercial banks in Ethiopia recognise the cost approach as the suitable mortgage valuation approach to the Ethiopian real estate market. For instance, the valuation manual of the Commercial Bank of Ethiopia (CBE) states that it adopts the cost approach due to its suitability for the property market in terms of availability of relevant comparative databases in Ethiopia (CBE, 2016). However, as highlighted by the literature above this approach of valuation is largely seen as unsuitable for mortgage valuations. The credit policy of the bank on the other hand, stipulates that the bank may use either of the three approaches as they see appropriate (CBE, 2013). The valuation manual of Dashen Bank also states that the bank adopts a combination of the cost approach and income approach. This combination is said to help them cope with varying market values (Dashen_Bank, 2014).

It is thus clear that in the absence of any guiding framework, there is no consistency in the way in which mortgage valuation is carried out by banks in Ethiopia. Developing a guiding framework is necessary to providing reliable and accurate valuations. This has significant economic benefits for various parties and is central to a functioning and efficient real estate market. Such a framework should seek to align international standards with the established skills and practices of valuation practitioners in Ethiopia. Therefore, to help define a framework for mortgage valuation it is necessary to understand the various valuation practices, particularly the bases and approaches of valuation adopted by banks in Ethiopia. This is the main focus of this study. The methodological approach is outlined below.

3. Methodology

In Ethiopia, there is no theoretical and empirical literature pertaining to mortgage valuation. Despite the fact that mortgage valuation is important for economic development, it is surprising that no empirical research has been conducted on this topic. As a result, the researchers believe that this paper is the first and can become a base for further studies.

The study followed a qualitative research approach where the researchers seek to understand the phenomenon from experienced valuers from selected commercial banks in Ethiopia (Yegidis et al., 2011). The target population is all 17 commercial banks which provide mortgage credit for households and firms. The study employed semi-structured interviews for the primary sources of data. Secondary data was collected from valuation laws, national and international valuation standards, reports, valuation manuals, credit policy documents, books and other empirical works. The reason for undertaking interviews was to get more information in greater depth and to get an opportunity to restructure questions based on the reaction of the interviewees. The collected data were analysed and interpreted using clustering and

categorising the data into relevant themes. Banks in Ethiopia use similar procedures of mortgage valuation where they adopt the working manual from the most experienced bank; the Commercial Bank of Ethiopia (CBE). Four banks were selected purposively based on their banking experience. Accordingly, the Commercial Bank of Ethiopia, Awash Bank, Dashen Bank and Abay Bank were selected. The number of valuers in each bank is few and they depend on the valuation manuals prepared by the bank. As a result, one valuer from each bank is supposed to be able to provide adequate information. So, from each bank one experienced valuer was selected. To increase the reliability of the information from the interviewees, the interviews were conducted by preparing similar standardised questions for the participants and were administered to them separately as suggested by Conway et al. (1995). The researcher carried out all of the interviews. All four of the selected valuers are qualified civil engineers with no formal valuation degrees. Before they were hired as valuers by the banks, they were employed as engineers in other sectors. However, the key informants were trained to perform valuations by their respective banks after they joined the bank and all of them have since acquired more than 5 years of work experience in mortgage valuation.

Concerning the background of sampled banks, CBE is a state-owned bank established in August 1942. The bank has an asset value of ETB 711.96 billion (USD 24.6 billion) as of June 30, 2019. Today it has nearly 1,500 branches across the country with more than 37,000 permanent employees and more than 22,000 outsourced jobs (CBE, 2020). The bank dominates the financial market in terms of assets, deposits, bank branches and total banking work force. Awash Bank is the first private bank in Ethiopia established in February 1995. Its total assets reached ETB 74.6 billion (USD 2.6 billion) as of June 30, 2019. It has over 430 branches (Awash Bank, 2019). Dashen Bank was established in January 1996. The bank has total assets of ETB 56.2 billion (USD 1.94 billion) as of July 2019. It has a total number of 413 branches. The bank has 6,129 permanent and 3,604 outsourced employees (Dashen Bank, 2019). Finally, Abay bank started operating in November 2010. The bank's asset worth is ETB 15 billion (USD 516.6 million) as of June 30, 2019. Today the bank has over 220 branches (Abay Bank, 2019).

4. Findings and Discussion

In Ethiopia there is no valuation framework, regulatory institutions and professional valuation firms. As a result, commercial banks undertake mortgage valuation without basis although MV is appropriate. Commercial banks adhere to the cost approach for all types of mortgage securities. In using the cost approach, the way of estimating depreciation and land value is not scientific. This may be due to the fact that valuers in banks are engineers without valuation degrees. The mortgage valuation system in Ethiopia contradicts the valuation practice in many countries where reliable valuation results can be produced only by a valuation professional that adheres to international standards and professional practice (Babawal & Omirin, 2012; Parker, 2016; TEGoVA, 2016). In the following subsections the bases and approaches of valuation implemented in Ethiopian banks is discussed. Based

on the discussion, an appropriate basis and approaches of mortgage valuation is suggested.

4.1 Basis of Valuation Implemented in Banks

The basis of valuation is an important determinant of value where it dictates the entire valuation result (Crosby & Hughes, 2011). TEGoVA (2016) recommends that valuation assignments for any purpose should be supported by a recognised basis of valuation. However, in Ethiopia there is no specific mortgage valuation framework or independent institution that outlines the use of a valuation basis. As a result, it is argued that banks undertake mortgage valuation depending on institutional interests without valuation basis. Hence, valuation practices in Ethiopia do not adequately consider the interests of both parties, and banks act in their own best interest and the expense of potential borrowers. A research respondent explained that the main purpose of valuations by banks is not to estimate the market value of properties, but rather to ensure the banks can get their money back in case of default. In this case the amount of loan given to borrowers is not based on the value of the property but on securing the bank from risk as much as possible. Thus, properties are routinely under-valued which limits the borrowing potential of households and businesses using properties as collateral to secure a loan. This may have a significant effect on the investment and financing potential of borrowers. Although the interviewed valuers claimed that valuations follow a specific valuation basis, there is a number of valuation bases used in the mortgage valuation system of banks. Three valuers explained the basis of valuation adopted is replacement while another valuer claimed they adopted MV as their valuation basis. But there is no valuation basis called replacement cost in the valuation literature and replacement cost/cost approach is in fact a valuation method.

The argument of replacement cost as a recognised basis by valuers is not strange, since valuers in mortgage valuation are engineers who do not have valuation degrees. The respondents also confirmed that other valuers employed in banks in Ethiopia are civil engineers too. Naturally, civil engineers may be good in determining the cost of production for buildings, but they may not be familiar with market value concepts. So, from engineers without valuation degrees, reliable and accurate valuation may not be expected. Moreover, valuers explicitly depend on the valuation guidelines for the entire valuation. The guidelines describe how valuation is done using the cost approach. The valuation guideline may influence valuer's perception about the valuation basis. As a result, they may assume that cost replacement is a basis of valuation, which was the case for the interviewed valuers. Again, this alludes to the possibility that the valuers are not properly trained in the exercise they have been tasked with. The absence of a valuation basis may also be the result of there being no valuation standard or valuation framework in the real property valuation system. This is because valuation bases can be obtained from either valuation standards or defined by statute, regulation or other documents (IVSC, 2013). The practice of valuation in banks is also against the suggestion by TEGoVA (2016), which states that valuation assignments should be carried out in accordance with the national or

international valuation standards, by knowledgeable, skilled and experienced valuers under the strict supervision of a qualified valuer.

In the absence of a valuation basis banks estimate the mortgage security depending on their interests as suggested above. Due to the lack of formal training on mortgage valuation, there is also a possibility of valuers producing a wrong opinion of value. This can cause confusion and misunderstanding among users and experts of valuation which decreases the investment potential of households and firms (Aro-Gordon, 2015).

4.2 Valuation Approaches Practiced in Banks

Interviews conducted on commercial banks revealed that they undertake mortgage valuation using the cost approach independent of the type and nature of properties. This was confirmed by all the interviewed valuers. Although the valuation manuals and credit policies of banks stipulate the use of income and market approaches, valuers claim this is not the case in actual practice. Valuers also argued that the cost approach is adopted due to its suitability to the property market in terms of availability of relevant comparative data, the difficulty in updating rental rates of buildings, and the lack of stability in the Ethiopian property market. This contradicts the literature where the income approach is the most appropriate for mortgage valuation in these contexts (Aluko, 2007). Further, it is questioned whether the valuers (who are engineers and are unlikely to have expert insight into property markets) have sufficient knowledge and experience to claim that the cost approach is the most appropriate.

According to interviewed valuers, if the relevant data required to use market and income approaches is obtained, they are not applicable since the Federal Democratic Republic of Ethiopia (FDRE) constitution prohibits land as being mortgaged. The valuers' argument stems from article 40 sub article 3 of the constitution which states that the right to ownership of land is exclusively vested in the state and in the peoples of Ethiopia (FDRE, 1995). From this, valuers perceive that property owners are granted the right to improvements on the land, but are not given ownership rights to the land itself. However, the same article of the constitution provides joint ownership of land to the state and nations, nationalities and peoples of Ethiopia (FDRE, 1995). This indicates that the economic value of land is shared between the state and property owners. Although valuers argued land is not qualified as a mortgage security, they also include location value in property valuation by assuming land value and location value are different. The researcher argues that it is irrational to assume land value and location value are different where land value is the contribution of location in terms of accessibility and availability of infrastructure (LILP, 2016).

Regarding sales of real properties, the market approach is practiced in Ethiopia. One valuer contends that the actual transaction price of real property in cities does not indicate market value since it is higher due to the role of brokers in the transaction. Another valuer supports this statement by explaining that actual sales price in urban Ethiopia has skyrocketed due to the

role of brokers. The interviewed valuer further believes that the direct sales price of real properties does not indicate the actual market value. It is true that brokers have a significant role in property sales in Ethiopia, but their role is limited in searching for potential properties in the market and simplifying the process of buying and selling. Brokers may suggest the price of the property based on their understanding of the property market, however, it is a suggestion and not a valuation. The final sales price of properties is agreed between the seller and buyer and they may accept the suggestion of brokers or not. This is an indication that the sales price of properties is based on the open market. But valuers are disregarding the market approach as a scientific and appropriate strategy for mortgage valuation. The valuers argument also contradicts current mainstream theories of value which is based on the neoclassical theory of value which claims value is determined by the intersection of demand and supply (Jaffe & Lusht, 2003).

Estimating the market value using the cost approach involves carrying out the following process: estimating the value of the site as though it is vacant; estimating the cost to produce the improvements, subtracting depreciation, and finally adding the site value at its highest and best use (Adetiloye & Eke, 2014). Since the land of the subject property is already developed, the valuer has to estimate the land value by using the market approach while the cost of building a structure with identical characteristics is valued by first calculating the replacement cost of a new structure, and second by downward adjustments due to physical or functional deterioration (Schulz, 2003). Banks in Ethiopia estimate property value by adding building value and land value. The specific procedures of estimation of building and land is presented in the subsections followed.

4.2.1 Building Estimation

According to the interviewed valuers, banks undertake building valuations using a bill of quantities and the square metre methods. The bill of quantities method is used for calculating the project cost of a building under construction or for newly constructed buildings, while the square metre method is used for estimating the cost of buildings where construction is completed. Estimation of building costs by a bill of quantities calculates the price of each physical item of the building in the market and adds the indirect costs related to the construction. Under the square metre method, the size of the building (in m^2) is multiplied by a rate per-square metre to get to a value for the construction cost. For both types of ratings, unit cost rates are given in the valuation manuals of banks even if the unit rate varies among banks. The unit rate for the building is based on the building grade which considers the quality of buildings. The unit cost rates are given as ranges of values to allow the valuer to employ his/her expert judgment for the intrinsic features of the specific property. When looking at a glance, the way of estimation of building value seems rational. This is because unit cost rates are prepared based on the type of construction materials used. But banks do not take the unit cost rates from reliable sources such as responsible government institutions; including municipalities, the Ministry of Urban Development and the Central Statistics Authority. It might be due to the lack of a

standardised valuation system and the absence of a legal framework for mortgage valuation. The researchers argue that if banks take arbitrary unit cost rates by themselves, the value of the building could rely on a non-scientific value which is likely to misrepresent the value of a given property.

In valuations using the cost approach, depreciation adjustments are considered for the wear and tear of the building from different sources (IVSC, 2017). Typically, there are three causes of depreciation of a building. These are physical deterioration, functional obsolescence and economic obsolescence (Onyejiaka et al., 2015). The responses from interviewed valuers indicates that depreciation is most commonly calculated by considering the physical condition of the property (physical deterioration). This suggests that banks typically do not consider the loss in utility and value due to a reduction in the desirability of the property (functional obsolescence) and a loss in value caused by negative influences outside of the subject property that are generally beyond the control of the subject property owner (external obsolescence). Without considering the appropriate depreciation causes it makes it difficult to reach an accurate building value. It is suggested that this also links back to the lack of formal training of the valuers who may lack the necessary skills and insight to make interpretations about properties or real estate markets that go beyond merely calculating values.

4.2.2 Land Valuation

In Ethiopia, urban land is governed by a lease system[1]. However, there are also plots of land legally acquired before the urban centres entered into the lease system. These are called 'old possession' plots and are treated differently. Although the market approach is common for land value estimation, there are also other methods, including the allocation and the development methods (Appraisal Institute, 2013). According to the interviewed valuers, the methods of land valuation adopted by banks is not from the recognised methods but is rather based on the unit price rate of land prepared by each bank. The comprehensive list of the unit price rates of each neighbourhood in each city is described in the valuation manual of the banks. Valuers claim that the unit price rate is developed by an in-depth study of the market depending on the rank of cities/towns and the land grade of a specific city. However, in practice the unit price rate of land is determined by very simplistic methods; the distance from a main road. Other land value determinant factors are not incorporated.

In summary, using the cost replacement approach of valuation is inadequate in reflecting marketability of a mortgaged property, it is typically used for assets that have no comparable properties, sales or rental transaction evidence, but where current construction cost rates are available (Aro-Gordon, 2015). It also contradicts the literature where the income approach is largely considered the most appropriate for mortgage valuation (Aluko, 2007). However, adopting the cost approach for every property is not compatible to the existing tenure system of urban Ethiopia. This is because

[1]It is a land tenure system by which the the right of use of urban land is acquired under a contract of a definite period.

real properties in Ethiopia are sold and purchased on the open market. The researcher believes the actual transaction price can provide a rational value rather than simply taking the cost of production and an arbitrary land value. In cases where the cost approach is suitable, the unit price rate of land and the cost rates of building is obtained from reliable publications. Moreover, the existing lease price can be taken as a rational value for land value estimation. This is because the lease price of land is based on competitive auction sale as stipulated under article 7 sub article 2 of the lease proclamation (FDRE, 2011). Moreover, the actual transferred plots in each neighbourhood can be obtained from municipalities. Thus, the way of valuation by banks is problematic in three primary ways. First, it adopts only one approach of valuation without considering the nature of the asset, the market condition and the availability of reliable information needed for accurate valuations. Second, the method of land value estimation and deprecation is not scientific. Third, the valuation assignment is carried out by engineers, who are unlikely to have the necessary insight and understanding of property markets to make accurate and reliable valuations.

4.3 Market Value as an Appropriate Mortagage Valuation Basis for Ethiopia

The appropriate basis of mortgage valuation in Ethiopia can be viewed from the property market context of Ethiopia, the international compatibility of the basis and the legal framework of Ethiopia. The MV approach is compatible with the property market context of Ethiopia. Though there is no mortgage valuation framework in Ethiopia, the FDRE constitution provides joint ownership of land to the state and peoples of Ethiopia. This enables property owners to mortgage their land, making MV an appropriate basis for this too. Alternatively, the MLV approach has the potential to be applied. However, this approach has challenges in Ethiopia because its calculations are dependent on a dynamic property market. In addition to this, the MLV approach requires that valuers have a good understanding of the property market and a high-level of property valuation skills. Moreover, it is exposed to different interpretations since it not grounded in any unique economic theory. Crosby and Hughes (2011) suggest the suitability of the MLV approach for banks if provided with a workshop manual. However, in Ethiopia getting the requisite capitalisation rates and professional and qualified valuers makes it difficult to adopt. In the following subsections the justifications of MV as an appropriate basis for mortgage valuation is explained.

4.3.1 Property Market Context

It is believed that the context of the property market influences the valuation basis (TEGoVA, 2016; IVSC, 2017). In Ethiopia, real property sales transactions are based on the market approach and brokers have a role in the sales price determination depending on their experience and observations in prior sales transactions. Although brokers possess a general tendency to inflate prices, with an overall intention of benefiting from the commission calculated as a percentage of the sales value, they are not the ones that fix price, as explained in the previous section. This means the sales price of

properties is based on the interaction between demand and supply. According to the current mainstream theory of value, the sales price of properties explains the true value of properties (Jaffe & Lusht, 2003). Therefore, for banks, considering the sales price is a rational option and should give preference over simply taking the cost of a building and an arbitrary land valuation.

In Ethiopia, the sales price of small houses in the center of cities are high due to their location and accessibility to various services. This is an indication that the value of land influences the total property price significantly (Asres, 2019). However, banks fail to consider this fact. Rather, they do not consider the appropriate value of land by arguing that land is not qualified as a mortgage as they believe all land to be owned by the state. According to Ambaye (2013), the estimated value of properties for mortgage lending by banks in Ethiopia is on average around 10-20% of the actual sale price. The difference between the sales value and the mortgage value of the property in this case is extremely large, and this raises the question of the rationality of the system. Therefore, banks in Ethiopia can use MV as a basis of mortgage valuation as it is actually practiced based on the sales transaction in the real estate market. Aluko (2007) also suggested that mortgage valuation should be done with the same principles of sales price. Policy makers in valuation should also consider the actual practice in the property market. This is because considering the actual practice is key for its success as it enables points of references to triangulate valuations (McAuslan, 1987). Parker (2016) also suggests that the valuation practice is strictly tied to practices and customs related to the economic activity of countries. Therefore, valuation practices should arise from (and be developed within) national contexts in relation to legislative, administrative and fiscal regulations, and more generally to the economic and social setting of a region.

The second justification of MV as an appropriate basis of mortgage valuation for the context of the Ethiopian property market is because of the accessibility of property data. There is a wealth of property-related data accruing from rental markets for both residential and commercial properties. Normally, market rent is used to indicate the amount for which a property may be let, or for which a let property may be re-let when the existing lease terminates (RICS, 2008). In Ethiopia, annual rental values have been used to determine the property tax since the imposition of the first property tax proclamation in 1945. Furthermore, renting is the main form of housing tenancy in Ethiopian cities. This means there is a possibility of getting suitable data from the rental market to make accurate valuations (Goodfellow, 2015). In this way the MV approach is an satisfactory candidate for mortgage valuation basis in Ethiopia.

4.3.2 International Compatability

Since the legal structure, economic development and socio-political context of countries vary, the choice of specific valuation bases, approaches, techniques and standards differ from country to country (Adair et al., 2003). However, the exponential growth of globalisation in business has reduced the significance of independent national property valuation standards (Parker,

2016). Therefore, the standards of property valuations in various countries have to harmonise with each other, and to do that there must be a strong, single benchmark of common standards to which states can reference (Parker, 2016). This is because valuation is the foundation for lending decisions, financial reporting of multinational companies across border property investment, securitisation of real estate and so forth (Babawal & Omirin, 2012). In this regard, international valuation standards and other national and regional standards adopt MV as an appropriate basis for mortgage valuation (RICS, 2008). Furthermore, it is the main valuation basis for mortgage valuation in both established and emerging economies including Brazil, UK, Nigeria, Kenya and US (Babawal & Omirin, 2012; RICS, 2017b). Therefore, the basis of mortgage valuation can be adopted from international experience. In this regard MV can be also an appropriate basis for mortgage valuation in Ethiopia.

4.3.3 Mortgaging Land Under the Constitution of the Federal Democratic Republic of Ethiopia

In Ethiopia the FDRE Constitution is the supreme law that other laws must subscribe to. The constitution under article 40 sub article 3 recognises the joint ownership of land to nations, nationalities and peoples of Ethiopia and the state (FDRE, 1995). This indicates that the constitution does not prohibit land from being taken as a mortgage security. Nevertheless, valuers argued that land is not qualified as a mortgage security. However, they take into account land value in mortgage valuation assignments anyway, although to a much lower degree. The belief that land does not qualify as a mortgage security is a flawed understanding of valuation for a number of reasons. First, banks include land value in mortgage valuations by assuming land value and location value are different. But their assumption is not reasonable as discussed in section (see section 3.3). Further, the way of estimating land value is not standardised. Second, in sales and purchase transactions it is the land which is actually transacted (as discussed in section 4.3.2). If the constitution denied the economic value of land as valuers claim, property owners should only be able to sell the improvements or buildings. But, in practice they are selling the property. If we accept valuers' claims that land is not valid for mortgage security, a large percentage from the sales price in the case of sales transaction should be given to municipalities (since land is the property of the state, municipalities should take the share of the land value from the total price of the property). From this simple logic, one can understand the constitution does not prohibit the value of land to property owners.

5. Conclusion

This study examined mortgage valuation bases and approaches practiced by commercial banks in Ethiopia. The research findings revealed that banks undertake mortgage valuation without any consistent valuation basis. Moreover, banks adopt the cost approach as the only appropriate valuation approach for all mortgage securities. Banks persist with the cost approach even when conventional valuation practices require other approaches. The

practice of valuation without a clear valuation basis and the blind use of the cost approach may be due to the absence of independent regulatory institution for mortgage valuation and an absence of a valuation framework. The employment of engineers without valuation degrees may also contribute to the haphazard manner in which mortgage valuation is practiced in Ethiopian banks. In Mortgage valuation practices administered by banks, valuers have no discretion on the selection of appropriate valuation approaches. In using the cost replacement approach, the way of estimating depreciation and land value are not logical or rational. First, the sources of depreciation from functional and economic obsolescence are not taken into account in the depreciation calculations. Second, valuers failed to adopt any recognised land value estimation techniques, rather they are based on arbitrary unit price of land. Third, valuers did not consider available sources of data for building and land value estimation from various government institutions. The outcome is that mortgage valuations lack any clear science, even when using a recognised valuation approach such as the cost approach.

The property valuation system in Ethiopia can be improved by creating an independent institution for valuation regulation and policy making. In designing real property valuation policy, the various contextual and practical settings on the ground should be considered so that the economic value of land is included in the mortgage valuation, among others. Furthermore, policy makers should develop property valuation standards which cover bases and approaches of valuation. In this regard, the appropriate basis for mortgage valuation for the real property market system of Ethiopia should be MV as it is compatible with international standards, it conforms to the constitution and the practices and market context of Ethiopia can support its implementation. The market and income approaches of valuation are also compatible to the MV basis. As a result, they can be applied predominantly, but the cost approach can be used as an alternative approach when data is insufficient in the market. In any case, the specific choice of the valuation approach should left for the judgment of the valuer who is expected to use their experience and knowledge of the real estate market to make the appropriate choice (within the given legal framework).

6. References

Abay Bank. (2019). Abay Bank Annual Financial Report for the Year 2018/19. Addis Ababa, Ethiopia: Abay Bank.

Adair, A., Downie, M.L., McGreal, S. & Vos, G. (2003). *European Valuation Practice: Theory and Techniques*. London, UK: E & FN Spon.

Adegoke, O.J. (2016). Effects of Valuation Variance and Inaccuracy on Nigerian Commercial Property Market an Empirical Study. *Journal of Property Investment &Finance, 34(3),* pp.276-292. DOI: 10.1108/JPIF-08-2014-0056.

Adetiloye, K.A. & Eke, P.O. (2014). A Review ofReal Estate Valuation and Optimal Pricing Techniques. *Asian Economic and Financial Review, 4*(12), pp.1878-1893.

Aliyu, B.A. (2017). *Factors Influencing Mortgage Valuation Inaccuracy of Residential Property Market within Kaduna Metropolis (Nigeria).* Masters dissertation. Faculty of Geoinformation and Real Estate, Universiti Teknologi Malaysia.

Aluko, B.T. (2007). Implications of the Current Trend in Mortgage Valuation Practice in Nigeria. *International Journalof Strategic Property Mnagement, 11*(1), pp.17-31.

Ambaye, D.W. (2013). *Land Rights and Expropriation in Ethiopia*. PhD dissertation. Royal Institute of Technology (KTH), Sweden.

Anop, S. (2015). *Comparison of Valuation and Lending Policies in Germany and Sweden*. School of Architecture and the Built Environment (ABE), Royal Institute of technology (KTH), Sweden.

Appraisal Institute. (2013). *The Appraisal of Real Estate* (14th ed.). Chicago: American Institute of Real Estate Appraisers.

Aro-Gordon, S. (2015). *Rethinking Valuation Methodology for Sustainable Mortgage Financing: A Nigerian Perspective.* In proceedings of the International Conference on Global Economic Growth and Sustainability. Mysuru, India.

Asres, H.B. (2019). Real Property Valuation in Expropriation in Ethiopia; Bases, Approaches and Procedures. *African Journal of Land Policy and Geospatial Sciences, 3*(2), pp.40-51.

Awash Bank. (2019). Awash Bank Annual Financial Report of the Year 2018/19. Addis Ababa: Awash Bank.

Babawal, K.G. & Omirin, M. (2012). An Assessment of the Relative Impact of Factors Influencing Inaccuracy in Valuation. *International Journal of Housing Markets and Analysis*, *5*(2), pp.145-160. DOI: 10.1108/17538271211225904.

Babawale, G.K. (2012). Valuers' Liability in Mortgage Valuation. *Khazar Journal of Humanities and Social Sciences, 30*(1), pp.49-55.

Bienert, S. & Brunauer, W. (2007). The Mortgage Lending Value: Prospects for Development within Europe. *Journal of Property Investment & Finance, 25*(6), pp.542-578. DOI: 10.1108/14635780710829289.

Bowcock, P. (2015). A Discussion Paper on Valuations for Mortgage and the Level of House Prices. *International Journal of Housing Markets and Analysis, 8*(1), pp.27-35. DOI: https://doi.org/10.1108/IJHMA-07-2014-0024.

CBE. (2013). *Commercial Bank of Ethiopia Credit Process Procedure*. Addis Ababa: Commercial Bank of Ethiopia.

CBE. (2016). *Commercial Bank of Ethiopia Real Property Valuation Manual.* Addis Ababa: Commercial Bank of Ethiopia.

CBE. (2020). Commercial Bank of Ethiopia Home Page. [Online]. Available at: http://www.combanketh.et/Aboutus/Companyprofile.Aspx Retrieved: March 14, 2020

Chukwuemeka, E. & Osmond, I.C. (2014). Challenges of Mortgage Valuation in Port Harcourt, Nigeria. *Issues in Business Management and Economics, 2*(4), pp.74-79.

Conway, J.M., Jako, R.A. & Goodman, D.F. (1995). A Meta-Analysis of Interrater and Internal Consistency Reliability of Selection Interviews. *Journal of Applied Psychology, 80* (5), pp. 565-579.

Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). United States: SAGE Publications Ltd.

Crosby, N., French, N. & Oughton, M. (2000). Bank Lending Valuations on Commercial Property. Does European Mortgage Lending Value Add Any Thing to the Process? *Journal of Property Investment & Finance, 18*(1), pp.66-83.

Crosby, N. & Hughes, C. (2011). The Basis of Valuations for Secured Commercial Property Lending in the Uk. *Journal of European Real Estate Research, 4*(3), pp.225-242. DOI: 10.1108/17539261111183425.

Dashen Bank. (2014). *Dashen Bank Real Property Valuation Procedure Manual*. Addis Ababa: Dashen Bank.

Dashen Bank. (2019). *Dashen Bank Annual Financial Report for the Budget Year 2018/19*. Addis Ababa: Dashen Bank

EMF. (2009). *European Mortgage Federation Study on the Valuation of Property for Lending Purposes*. Brusells: European Mortgage Federation (EMF).

FDRE. (1995). *Constitution of the Federal Democratic Republic of Ethiopia, Proclamation Number1/1995*. Addis Ababa: Federal Negarit Gazeta.

FDRE. (2011). *Urban Lands Lease Holding Proclamation*. Addis Ababa: Federal Negarit Gazeta.

FDRE. (2018). *A Proclamation to Provide for the Definition of the Powers and Duties of the Excutive Organs of the Federal Democratic Republic of Ethiopia, Proclamation Number 1097/2018*. Addis Ababa: Federal Negarit Gazette.

Foote, B.E. & Murphy, E.V. (2007). *Mortgages, Fundamentals, Issues and Perspectives*. New York: Nova Science Publishers, Inc.

Getachew, G. (2017). Ethiopia: Bankers Association Issues Manual for Consistent Valuations, *Addis Fortune*.

Goodfellow, T. (2015). *Taxing the Urban Boom: Property Taxation and Land Leasing in Kigali and Addis Ababa*. Brighton: Institute of Development Studies.

Gordon, S.A. (2015). *Rethinking Valuation Methodology for Sustainable Mortgage Financing: A Nigerian Perspective*. In proceedings of the International Conference on Global Economic Growth and Sustainability : Challenges and Prospects. Mysuru, India.

IVSC. (2013). *International Valuation Standards*. London: International Valuation standard Council (IVSC).

IVSC. (2017). International Valuation Standards. London: International Valuation standard Council (IVSC)..

Jaffe, A.J. & Lusht, K.M. (2003). The History of Value Theory. *Research Issues in Real Estate, 9*.

Kalynichenko. (2017). Methodological Principles for the Valuation of the Mortgage Real Estate. *Technology Audit and Production Reserves, 6/5*(38), pp.25-29.. DOI: 10.15587/2312-8372.2017.119668.

Karumba, M. & Wafula, M. (2012). *Collateral Lending: Are There Alternatives?* Kenya Bankers Association: Centre for Research on Financial Markets and Policy.

LILP. (2016). *Land and the City*. In proceedings of the 2014 Land Policy Conference. Cambridge, Massachusetts.

Lind, H. (1998). The Definition of Market Value: Criteria for Judging Proposed Definitions and an Analysis of Three Controversial Components. *Journal of Property Valuation & Investment, 16*(2), pp.159-174.

McAuslan, P. (1987). Land Policy: A Framework for Analysis and Action. *Journal of African Law, 31* (1/2), pp.185-206.

Miller, N.G. & Geltner, D.M. (2004). Real Estate Principles for the New Economy. *Journal of Real Estate Literature, 12(3)*.

Mohamad, J., Ismail, S., Abrhman, R. & Ismail, A.R. (2015). *Valuers' Perception on the Current Practice of Heritage Property Valuation in Malaysia*. In proceedings of the Annual Pacific-Rim Real Estate Society Conference. Kuala Lampur, Malaysia.

Moore, J.W. (2014). A History of Appraisal Theory and Practice ; Looking Back from Iaao's 75th Year. *Journal of Property Tax Assessment & Administration, 6*(3), pp.23-50.

Mooya, M.M. (2016). *Real Estate Valuation Theory: A Critical Appraisal*. Berlin: Springer.

NBE. (2010). *Bank Risk Management Guidelines*. Addis Ababa: National Bank of Ethiopia (NBE).

Nguyen, H. & Qian, R. (2012). *The Cross-Country Magnitude and Determinants of Collateral Borrowing*. Policy Research Working Paper 6001. Washington, DC: The World Bank.

Nwuba, C.C., Egwuatu, U.S. & Salawu, B.M. (2015). Clients' Means of Influence on Mortgage Valuation in Nigeria. *Journal of Property Management, 33*(4), pp.367-385. DOI: 10.1108/PM-03-2014-0016.

Onyejiaka, J.C., Oladejo, E.I. & Emoh, F.I. (2015). Challenges of Using the Cost Method of Valuation in Valuation Practice: A Case Study of Selected Residential and Commercial Properties in Awka and Onitsha, Anambra State, Nigeria. *International Journal of Civil Engineering, Construction and Estate Management, 3*(2), pp.16-35.

Oyedeji, J.O. & Sodiya, A.K. (2016). Forms of Mortgage Valuation Inaccuracies and Implication on Real Estate Development Finance in Nigeria. *Covenant Journal of Research in the Built Environment (CJRBE), 4*(1), pp.86-114.

Parker, D. (2016). *International Valuation Standards: A Guide to the Valuation of Real Property Assets*. Oxford: John Wiley & Sons, Ltd.

RICS. (2008). *Valuation Standrd 6th Edition* (6th ed.). Royal Institution of Chartered Surveyors: London.

RICS. (2017a). *Valuation: Global Standards 2017 Uk National Supplement*. Royal Institution of Chartered Surveyors: London.

RICS. (2017b). *Valuation Global Standards:Incorporating the International Valuation Standards*. Royal Institution of Chartered Surveyors: London.

RICS. (2018). *Bank Lending Valuations and Mortgage Lending Value*. Royal Institution of Chartered Surveyors: London.

Schulz, R. (2003). *Valuation of Properties and Economic Models of Real Estate Markets.* PhD dissertation, University of Berlin.

Seyoum, M. & Bessie, S. (2018). The Impact of National Bank of Ethiopia's 27% Bond Purchase Directive on Credit Performance and Profitability of Private Banks. *Research Journal of Finance and Accounting*, *9*(9), pp.41-50.

Singh, K. (2007). *Quantitative Social Research Methods* (1st ed.). New York: SAGE Publications Ltd.

TEGoVA. (2016). *European Valuation Standards* (8th ed.). Belgium.

Udoekanem, N.B. (2017). Valuation of Urban Commercial Properties in Nigeria for Secured Lending: Issues and Developments. *International Journal of Built Environment and Sustainability, 5(1)*, pp.68-77. DOI: 10.11113/ijbes.v5.n1.247.

Yegidis, B.L., Weinbach, R.W. & Myers, L.L. (2011). *Research Methods for Social Workers* (7th ed.). Pearson.

7. Acknowledgement

The authors would like to thank the Government of Ethiopia and the German Academic Exchange Services (DAAD) for providing the scholarship for the doctoral programme on which this article is based. Authors also grateful to thank bank valuers for their helpful suggestions and comments.

Journal of African Real Estate Research

Volume 5, Issue 1

www.journals.uct.ac.za/index.php/JARER/index

Market Rent Determinants of Residential Apartments in Addis Ababa, Ethiopia

Masresha Belete [1], and Mesfin Yilma [2]

[1] Woldia University, Ethiopia.

[2] The Ethiopian Institute of Architecture, Building Construction and City Development, Addis Ababa University, Ethiopia.

To cite this article: Belete, M. & Yilma, M. (2020). Market Rent Determinants of Residential Apartments in Addis Ababa, Ethiopia. *Journal of African Real Estate Research, 5*(1), pp.77-97. DOI: 10.15641/jarer.v5i1.848.

Abstract

Rapid urbanisation and population growth increase the demand for housing. Given its importance to human wellbeing, the right to housing is recognised in international, regional and domestic legislation. The rental housing sector is the major form of housing tenure in Ethiopia. Given financial constraints, Ethiopian tenants tend to rent instead of buying property. However, there are no well-developed procedures that guide how rental value is determined in Ethiopia. As such, the purpose of this study is to identify monthly rent determinant variables of residential apartments in Ethiopia. Substantial empirical results from different countries indicate that rental value is a result of the combined contribution of the integrated components: property, amenities, and externalities. For this study, a multiple regression model was used for 164 samples taken from three purposefully selected case study areas in Addis Ababa (CMC, Jemo and Kazanchis). The regression results indicate that nine significant variables were determinant variables of monthly rent at a 95% confidence interval. This study may contribute decisive information for Ethiopian property managers, real estate developers, income tax assessors, real property owners, lending institutions and other interested real estate professionals. It allows these stakeholders to more accurately estimate the monthly rental value and market value of properties for their business evaluation.

Keywords: Determinant Variables; Market Rent; Residential Apartments; Addis Ababa; Ethiopia

[1] belete_masresha@yahoo.com

1. Introduction

Real estate is a heterogeneous product meaning that age, building design, and especially location differences give each property distinctive characteristics. The term real estate refers to land and the immobile or permanent fixtures attached to the land. Its location is unique for each property. The immobile nature of the property yields the heterogeneous aspect of the real estate space and the asset market (Ling & Archer, 2018). The unique nature of real property and the asymmetry of market information complicate the real estate valuation process, and clients often need professional valuers (Wyatt, 2013). Developing a reliable and accurate valuation system helps to create stability and efficiency in property markets through increased knowledge and understanding. In particular, rental valuation is important as renting is becoming an increasingly popular form of tenure due to the rising, and often inaccessible, cost of buying residential property (Belachew, 2013).

Wickramaarachchi describes the rental housing market as imperfect and inefficient. This is because housing products are long-lasting, fixed on a given site, heterogeneous, and controlled by extensive governmental regulation (Wickramaarachchi, 2017). Furthermore, reviews of substantial empirical studies in different countries indicate that rental value is a result of the combined contribution of integrated components: property, amenities, and externalities. Understanding these integrated components of residential rental values is important for functioning property markets as well as for government institutions when deciding which services would provide the optimal value to businesses and society. Furthermore, they have received very little attention in the context of Ethiopia (Belachew, 2013).

Like the rest of Africa, Ethiopia is currently urbanising at a rapid rate. Addis Ababa, the nation's capital, is home to approximately 3.5 million people (Tolon, 2008). Since 1991, Addis Ababa has been characterised by rapid economic and population growth (Keller & Mukudi-Omwami, 2017). This creates pressures on the supply and demand for housing which governments alone cannot wholly respond to. In order for market-oriented strategies to meet this growing need for housing; and for the supply of housing to be efficient, effective and just, it is important to understand the dynamic components of urban property markets in Ethiopia. Given that between 70-80% of Addis Ababa's population is living below the poverty line (Tolon, 2008); housing purchase is not a realistic option for the majority of the city's urban population. Thus, central to delivering an effective and efficient rental real estate market that can supply the housing needs of Addis Ababa is developing an understanding of the components/determinants that support rental values. Presently, this is an area that has received very little research in Ethiopia. To this end, the study aims to identify monthly rent determinant variables in Addis Ababa. The study developed a simple rent estimation model for residential apartments in Addis Ababa. This was achieved by including a number of variables and using regression analysis in order to examine the role of independent variables on the dependent variable (monthly rent) in Ethiopia.

In terms of contribution, this paper provides real estate developers in Addis Ababa with rent determinants that can help align the supply and demand of housing. It is also likely to help developers optimise their developments as they have a better understanding of a property's value. Additionally, tenants will also benefit from having a clear understanding of rental values. Local government in Addis Ababa could also benefit from a tax collection perspective. Currently, there is no rational and well-developed valuation method to estimate value for tax purposes. Further, governments will benefit by having better tools to decide how to provide urban services in an optimal manner. Finally, other organisations like financial institutions and insurance companies may use this study as the basis in the estimation of monthly incomes for residential apartments in Addis Ababa. When the real estate owners apply to financial institutions for loans for property, financial institutions can easily estimate the amount of debt to issue borrowers using this model.

2. Theoretical and Empirical Reviews

2.1 The Concept, Definition and Rent of Real Property

The term property refers to things owned by someone. In English law, a property may be a personal property or real property. Personal properties are those that could be moved or detached easily from place to place without detraction of its physical feature whereas, real property refers to land, permanent improvements, and buildings which are commonly termed as real estate (Blackledge, 2009). Some scholars detach the meaning of real property and real estate. According to those scholars, real property refers to the right related to real estate, and real estate refers to the physical, tangible thing (Ling & Archer, 2018). The right over land may extend beneath and above the surface of the earth, and so real property includes the right to use the land accordingly. The coverage of the right may vary depending on the country's law of real property. For instance, minerals below the surface of the land may be owned by the owner of the land and are real properties in some countries (Hinkel, 2008). However, in Ethiopia, every natural resource belongs to the state and the land possessor, therefore, the owner has no right to use the natural resources (FDRE Constitution, 1995).

The real property market is characterised by heterogeneous products, immovable products, localised markets, segmented markets and high transaction costs (Ling & Archer, 2018). Housing real property is a multi-dimensional product differentiated into a bundle of attributes with varying quality, quantity, and hence, value (Wickramaarachchi, 2017). These and other features of the real property market make the market inefficient and complicate the determination of the rental value of the real property. Consequently, information about rental values is blurred, and it is often difficult to ascertain what an appropriate amount is for the use of a landlord's land. It is difficult to ascertain a true value that should be paid for the use of land. Accordingly, landlords tend to set a higher asking price– and the tenant sets a lower asking price– before settling on an agreed amount.

Foremost, rental values may also be needed for different reasons other than the aforementioned purpose. Estimating rental value may, for instance, may

be needed to grant a new lease; assess the market rent of a letting unit as part of an investment valuation or lease renewal, either by agreement on by third-party determination; rent review under an existing lease; and assessment of investment worth (Sayce et al., 2006). In order for rental markets to work effectively and efficiently, understanding the value of a property, and the value of its use through rent is crucial. Thus, having a guiding framework that helps tenants and landlords realise a fair rental price is an important element of a functioning rental housing market.

2.2 Market Rent Determinant Variables of Residential Properties

H Rent for real estate may be administered by market rent or contractual rent. Contractual rents are determined by the contract of the parties and obliged for prescribed periods and conditions in the contract. As a result, the contractual rents agreed in the past may not reflect the current market rent determined by market interactions of supply and demand. The contractual rents may be less or more than the market rent for different reasons. First, market rent may have been increased or decreased in the current market environment. Second, the relationship or agreement with the lessor and the lessee could be a factor allowing for the market rent to be higher or lower than the contractual rent. Third, the lessee may have committed to carrying out improvements to the premises. Thus, the difference between market rent and contractual rent may be affected by one or more of the aforementioned reasons (Shapiro, Mackmin & Sams, 2013).

The second extensively used type of rent is market rent. Market rent could be defined in different ways. Archer and Ling (2018: 195) define market rent as "the rental income the property would most probably command if placed for lease on the open market as of the effective date of the appraisal". This definition suggests that some factors that affect contractual rent may not affect market rent. However, the most comprehensive definition is offered by Wyatt (2013: 58): "market rent is the estimated amount for which a property, or space within a property, should lease on the date of valuation between a willing lessor and a willing lessee on appropriate lease terms, in an arms-length transaction, after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion".

Sirmans and Benjamin (1991), working with a similar definition, suggest that market rent is determined by a bundle of amenities and facilities, property-specific factors and locational factors. Additionally, the rental value is affected by the duration of contractual agreements, the payment mode (in advance or at the end of the period), premiums, freedoms and other variables like sharing of maintenance, insurance, and utility costs. According to Scarrett (2008), the most common physical factors increasing rental value are location, topology, accessibility, geology and other aspects such as exposure to sun, wind and flooding. Furthermore, rental values are affected by other, less material, variables. These could include negotiable elements in the contractual agreement, variations in terms of total length, rent reviews and payment frequency (Baum, Mackmin & Nunnington, 2011). Furthermore, the length of the lease; presence and wording of rent review clauses; provisions

regarding repair, alterations, and improvements; provisions for alienation and parting with possession; user clauses; service charge provisions (in the case of a multi-let property); and many onerous provisions such as 'keep open' clauses, play a significant role in the determination of the rental values of residential properties (Sayce et al., 2006).

There have been a number of studies that have explored rent determinants across the world. For instance, Gitahi (2002), studying the Kenyan residential real estate market, identifies some rent determining variables and indicates that the rent for residential property is highly dependent on the number of bedrooms and the size (area in m2) of the main house. These variables are established as significant variables from Gitahi's regression results of rent, he also identifies the title, number of reception rooms, location and number of bathrooms as the independent variables (Gitahi, 2001). Da Cunha Pereira (2017) studied the relationship between Portugual's rental market and housing market. He revealed that the rent and the price of real estate has a positive relationship. The study indicates that an increase in house price will result in an increase in the demand for renting, and thus increasing rent prices. This suggests that the increment of the house price is indirectly a rent determining factor in the Portuguese residential real estate market. The implications state that as the demand for real estate increases, the price of real estate increases. Consequently, housing prices and rentals are directly related. The variables that increase the price of real estate indirectly affects monthly rentals. According to Da Cunha Pereira (2017), the increment in real estate price has an indirect impact on the increment of the rental value.

A study conducted in Ethiopia indicates that there are important relationships between house prices and interest rates as well as GDP and the level of money supply. This study indicates that interest rates have the most significant effect on house prices followed by GDP and the level of money supply (Karoki, 2013). Another study in Sri Lanka indicates that the distance to a university and the floor area per person are key variables in rental values. Furthermore, freely available water, freely available electricity, attached bathroom, and neighborhood characteristics (less congestion and privacy) are highly significant to rental values as second-order factors. Finally, the study suggests that the distance to bus routes, distance to a junction, tiled floors, and a roof with a ceiling were third-order factors in rental values (Wickramaarachchi, 2007). Similarly, a study conducted in Ghana classifies the main factors of rent determination as: location, availability of facilities (toilet and bathroom), availability of amenities (water and electricity) and proximity to the workplace. The result of the study indicates that the impact of the locational characteristics of residential rental prices is statistically significant. The impact of apartment characteristics such as the number of bedrooms, the availability of amenities and availability of facilities are also statistically significant. The sharing of apartment facilities also has a noteworthy impact on residential rental prices. The proximity of an apartment to the place of work is the top priority of most households in considering renting (Amenyah & Fletcher, 2013).

Ajilowo and Olujimi (2010), studying Akure in Nigeria, suggest that relationships exist among infrastructural facilities (electricity, water, access roads, toilets, kitchens, drainage channels, wall-fences, waste disposal facilities, day-watch security services, and night watch-security services) in residential properties. These facilities and relationships are key in the determination of the rental value of properties in Akure. Ajilowo and Olujimi use multiple regression models to determine the interrelationships between each of the isolated infrastructures mentioned above. These act as their independent variables while rental values of the residential properties are their dependent variable (Ajilowo & Olujimi, 2010). Most of the determinant variables for rental values are the same across the world. Other less material variables like negotiable elements in the contractual agreement, variations in terms of total length, rent reviews and payment frequency are significant in developed countries while their high significance is not observed in Africa.
Housing rent determinants are diverse and are dependent on many contextual factors, as outlined above. The literature highlights some key factors when looking to model rental price determinants. These studies have been given emphasis due to their locality but also their comparative status. However, given the attention this subject has received internationally, the table below acts to synthesise various studies into a key determinant and thus inform the study. It is broad but key to the overall study.

Table 1: Summary of Reviewed Determinant Variables for Residential Rent Value

Review	Author	Name of Rent Determinant Variables
Theoretical Review	(Brueggeman & Fisher, 2002)	• location, age, quality and condition of premises, access to amenities, parking, better views, swimming pool, and higher floors with elevators.
	Baum, Mackmin & Nunnington, 2011)	• length of terms, rent reviews, payment frequency, liability for repair, insurance, management, and restrictions on use and opening hours.
	(Sayce et. al., 2006)	• service charge provisions, alienation (sublet), provisions regarding repair, alterations, and improvements.
	(Scarrett, 2008)	• location, topology, accessibility, geology, construction, age, condition, layout, and specification affect the value.
	(Wyatt, 2013)	• size, age, condition, external appearance, inflation, household disposable income, consumer spending and retail sales, employment, construction activity, net household formation, and production costs
Empirical Review	(Ajilowo & Olujimi, 2010)	• electricity, water, access road, toilet, kitchen, drainage channel, wall/fence, burglary protection, waste disposal facility, day watch-security services, and night watch-security services.
	(Amenyah & Fletcher, 2013)	• water and electricity supply, availability of facilities (toilet and bathroom).
	(Dabara et al., 2017)	• unemployment/retrenchment, improper tenant selection, neglect in repair/maintenance, and unilateral rent affect the rent.
	(Attakora-amaniampong, Owusu-Sekyere, & Aboagye, 2016)	• Risk of flooding affects rentals and value.

	(Chiarazzo et al., 2014)	• environmental quality (air quality, noise pollution), structural condition, presence of additional bathroom, the presence of a garage, a garden and a terrace increase the price/value.
	(Gavu et al., 2019)	• electricity connection, type of house, property condition, piped water connection, number of bedrooms the most determinants,recreational facilities, storeroom availability, near the place of worship, number of stories are the least determinants
	(Ginbo & Mulatu, 2017)	• green space, attractive landscape, nature and water body, location, type of construction material, roof and toilet type, size of the compound and house mater affect the price.
	(Adegoke, Aluko & Adegoke, 2017)	• condition of the building, number of toilets, and existence of burglar alarm.
	(Odumusu et al., 2015)	• access to road, land size, internal walls, waste disposal services, water source, and sewage infrastructure.
	(Oduwole & Eze, 2013)	• proximity to major access road, number of rooms, number of bathrooms/toilets, size of the apartment, provision of electricity, proximity to the central business district, crime rate, and presence of schools in the neighborhood affect the apartment rent.
	(Oladapo et al., 2019)	• economic conditions, frequent rent review, deteriorating dwelling unit features, and lack of proper budget affect the rent.
	Babalola, Umar, & Sulaiman, 2013)	• age, tenement rate, number of houses built in the university environment, and proximity to the university.

2.3 The Residential Rental Housing Market in Addis Ababa

According to Ajilowo & Olujimi (2010), housing represents the most basic of human needs, and it has a profound impact on the health, welfare, and productivity of individuals. Rapid urbanisation and population growth in developing countries, like in cities such as Addis Ababa, has caused a shortage of housing. The existing housing stock in Addis Ababa is generally of a poor quality, with many settlements being congested and unplanned. According to estimates by the Ministry of Works and Urban Development, the housing deficit in Addis Ababa was about 300,000 units in 2015. Another indicator of the demand for housing was the Government Condominium Lottery of April 2010 which received a total of 485,000 individual entries (The Centre for Affordable Housing Finance in Africa, 2017). The most recent and accurate figures relating to the housing demad in Addis Ababa was an outcome of a joint study with the Central Statistical Authority and the University of Roma, who estimated the demand for housing in Addis Ababa to be 578,547 units in 2010 for a population of 3,327,498 (Abelti & Brazzoduro, 2001). What is even more worrying about increasing deficit is that the problem has worsened between the two censuses surveys of 1994 and 2007. This highlights the critical need to supply housing into the real estate market of Addis Ababa.

The real estate sector has been one of the fastest-growing segments of the Ethiopian economy. The real estate sector grew in real terms by an annual average of 14.1% over a five-year period ending in 2009 (Access Capital, 2010). Although the housing stock supplied by the private real estate sector was still minimal, the sector has significantly grown post-1991 with a focus on high-income households in Addis Ababa. Licensed real estate developers

continuously construct real estate space for tenants and buyers, but a significant challenge is how the rent and sale price for each property is determined. According to Belete (2019), as is the case in most global contexts, the rental value in Ethiopia is affected by different variables. Significant variables affecting rental value include: household income, the structure of the housing unit, household structure, and city/town size (Belete, 2019). The study, analysing the choice of residential property buyers in Addis Ababa, indicates that buyers are willing to pay more for attractive landscapes and accessibility of green space. In addition to those variables, the number of total rooms, number of bedrooms, size of the house, location, types of construction materials, roof and toilet types, and the size of the house determine the demand for rental housing and hence the value of the residential property (Ginbo & Mulatu, 2017). Another study looking at the rental value in the Ethiopian city of Hawasa, notes that this area has differing determinant variables, for example: the number of rooms in the housing unit, the total area occupied by the house, public transport availability, and healthcare availability and housing typology (Hirboro, Batu & Aseffa, 2017). Despite this, rent value determinant variables have not been studied in great detail in Ethiopia. By defining clear market rent determinants for housing in Ethiopian cities like Addis Ababa, this study will support market-oriented strategies to supply urban areas with appropriate housing for their growing populations. The following section provides an outline of the methodological approach adopted to help identify market rent determinants in Addis Ababa.

3. Methodology and Data Collection

The ultimate aim of this study is to examine the statistically significant rent determinant variables of residential apartments in Addis Ababa. In doing so, the researchers assessed the study areas and focused on specific properties. Structured questionnaires were prepared in line with the literature. Data relating to rent and the independent variables were collected, and later, the data was analysed to examine the determinant variables of the rental value of the residential apartments in Addis Ababa. This section further outlines the rationale relating to the site-sampling, data collection and analysis.

3.1 Site Location and Description

Ethiopia has a rapidly increasing urban population, especially in the capital city, Addis Ababa. Addis Ababa occupies a total area of approximately 52,000ha. The city has ten sub-cities and the total population according to the 2007 census was 2,739,551. This population has grown to 3,434,000 within ten years (CSA, 2017). As a result, there is a significant and growing housing deficit. Thus, the state needs to provide adequate real estate assets and real estate space policy in the long-run to respond to this growing deficit.

The selected study areas are Jemo, Kazanchis and CMC . The total area of the study sites is about 450ha (Jemo, 150ha; CMC, 220ha; and Kazanchis, 80ha). The total number of tenanted residents living within all the study area is approximately 2,500 households, of which 1,602 tenants live in CMC, 152 tenants live in Kazanchis, and the remaining 746 tenants live in Jemo. About 42.7% of the tenants in the study area are couples, followed by more than two

family members (33.5%). The rest of the tenants are single (22.1%), and temporarily coupled with others (1.7%). The majority of the tenants (52.2%) occupy middle-income households, and the rest of the tenants are high and low-income tenants, representing 38.4% and 9.4% respectively. The study areas were purposefully selected for a number of reasons. Firstly, the sites are newly emerging, and there is a concentration of newly constructed apartments in these areas and would give a more reliable depiction of the value of apartments coming into the residential real estate market. Secondly, the areas were selected from across Addis Ababa, given their locational effect on residential rental values. There are three site levels set by the government in Addis Ababa. CMC, Kazanchis and Jemo are in the first, second and third level sites respectively and the sites have been chosen to include these differences. Thirdly, there are a large number of completed residential buildings in these areas meaning there is an existing real estate market where apartments are actively being rented and sold.

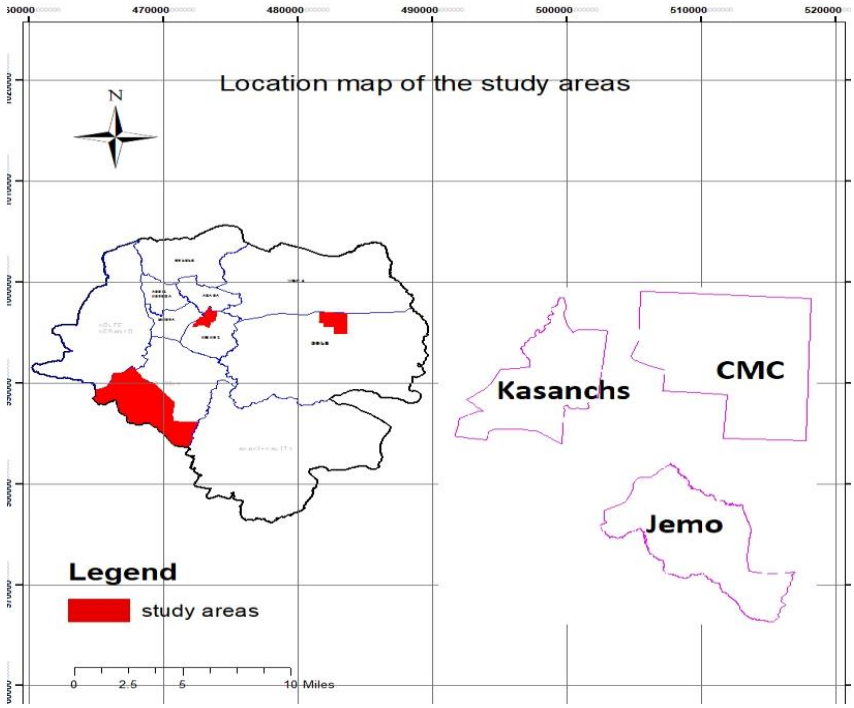


Figure 1: Location of the Case Study Areas in Addis Ababa
Source: Compiled the authors using AutoCAD

3.2 Dependent and Independent Variables

There are many variables that affect monthly rental values for residential properties. As a starting point, this paper has chosen 15 variables to study closely which was guided by the literature review. These independent variables were also selected based on the nature and type of apartments in the study areas. For instance, the type of construction material for wall work has a significant effect on monthly rentals as highlighted by other studies (see Table 1). But the type of construction material is the same (block walling) for all apartments in the case study areas and in this case, it is not considered. Insteadm and external wall finish is considered. Similarly, other variables are excluded based on the type and nature of the property. This will be outlined

later in the paper. The list of independent variables that is provided in Table 2 and is based on the review of literature pertaining to determinant variables for residential properties' rental value.

Table 2: List of Independent Variables

Number	Independent Variable
1	External Wall Finish (EWF)
2	Internal Area of Housing Unit (A)
3	Number of Bathrooms (BA)
4	Number of Bedrooms (NB)
5	Floor Level of the Housing Unit (FL)
6	Access to a Balcony (AB)
7	Access to Road Type (RT)
8	Water Supply (WS)
9	Good Environmental View (GV)
10	Access to a Lift (AL)
11	Security (SC)
12	Access to Parking Area (AP)
13	Site Location (SL)
14	Access to Swimming Pool (SP)
15	Environmental Pollution (PO)

When there are two or more independent variables, the relationship analysis is known as multiple correlations, and the equation describing such a relationship is a multiple regression analysis (Kothari, 2004). The 15 independent variables and the correlation between the dependent and independent variables are explained by a multiple regression model. Cramer (2003: 59) defines multiple regression as "a statistical technique for determining what proportion of the variance of a continuous, preferably normally distributed, variable is associated with, or explained by, two or more other variables, taking into account the associations between those other variables". Henceforth, multiple regressions are used in this study.
The preliminary model is developed as:

$$\textbf{Monthly Rent} = F(C + a1A + a2AB + a3SC + a4AP + a5NB + a6\,RT + a7AL + a8\,EWF + a9SL + a10\,BA + a11GV + a12WS + a13PO + a14\,FL + a15SP + \mu i)$$

Where:
C=Constant
a1-a15= Coefficients
μi=Error term

3.3 Sampling Techniques and Population

The population of the study includes the total number of private residential apartments in Addis Ababa. From the CMC site, there were three types of private apartments identified. The first were high rise apartments constructed by Tsehay Real Estate Plc. These housing units have access to a lift and have relatively better views and security. The second category were housing units constructed by Sunshine Real Estate Plc. These apartments are not high rise and hence have no access to a lift. The last type of housing units were apartments that were constructed by cooperatives and government-organised

individuals. These types of apartments have a total of 16 housing units with five floor levels (ground plus four levels). The second site is Kazanchis. Ayat Real Estate constructed the apartments in this area. From this site, there are medium-rise buildings (ground level plus eight stories), and of these three apartments were included. The last site, Jemo, has low rise apartments (ground level plus four stories) constructed by Nasew Real Estate Plc.

The study areas were selected purposefully, and a detail case study of these areas was conducted. The study selected 164 private rented residential housing units (see breakdown of selected units in Table 3). Since the housing units were different from each other; data was collected carefully to encompass the identified variables. Hence, households were selected to encompass the range of variables in Table 2. For example, varying floor levels, variations in the number of bedroom and bathroom, views, access to parking and type of external wall finish that has relevant variations for which purposefully samples were taken.

Table 3: Breakdown of Selected Housing Units for the Study

Study Area	Number of Units Studied
CMC	106 (53 on each level)
Jemo	32
Kazanchis	26

4. General Description of the Data

4.1 Composition of the Independent Variables

The housing units of residential apartments in the study area have different attributes. Based on these variable determinants, there are generally 15 hypothesised independent variables selected as determinants (See Section 3.2). However, two of the independent variables highlighted in the literature (internal area of the housing unit and floor level of the housing unit) were not included in the regression analysis as they contain too many divergent types. Hence, they have been explained are better explained by a histogram, given their unit measurements. This is discussed below. The 13 independent variables associated with the housing units in the study areas are summarised in Table 4 below.

Table 4: Compositions of Independent Variables for Residential Apartments

Variable Name	Type of Variable	Description	Frequency	Percentage	Subtota1
1. Bedrooms	Interval	Studio	7	4.3%	100%
		One bedroom	20	12.2%	
		Two bedroom	62	37.8%	

		Three bedroom	75	45.7%	
2. Security	Dummy	Secured	34	20.7%	100%
		Not secured	130	79.3%	
3. Site location	Categorical	CMC	106	64.6%	100%
		Kazanchis	32	19.5%	
		Jemo	26	15.9%	
4. Number of bathrooms	Interval	One bathroom	27	16.5%	100%
		Two bathroom	137	83.5%	
5. Access to balcony	Dummy	Access	144	87.8%	100%
		No access	20	12.2%	
6. Parking	Dummy	Access	148	90.2%	100%
		No access	16	9.8%	
7. Elevator	Dummy	Access	54	32.9%	100%
		No access	110	67.1%	
8. Access to road	Categorical	Natual ground	42	25.6%	100%
		Gravel	68	41.5%	
		Asphalt	54	32.9%	
9. Access to Water	Dummy	Sufficient	94	57.3%	100%
		Insufficient	70	42.7%	
10. View	Dummy	Good view	67	40.9%	100%
		No view	97	59.1%	
11. External wall finish	Categorical	Quartz	142	86.6%	100%
		Granite paint	22	13.4	
12. The existence of pollution	Dummy	Pollution	16	9.8%	100%
		No Pollution	148	90.2%	
13. Swimming pool	Dummy	All have no access	164	100%	100%

4.2 Area of the Housing Units

The area of the housing unit was the other variable hypothesised as the determinant variable of the market rent for the residential apartments. The majority of the housing units were within the area of 50m2 and 100m2. The minimum internal area was 27m2 for studios and the maximum area was 171m2 for three bedrooms as indicated below. Due to the fact that the majority of the apartments fell within the same category of size (50-100m2) it was decided to explain this independent variables separately.

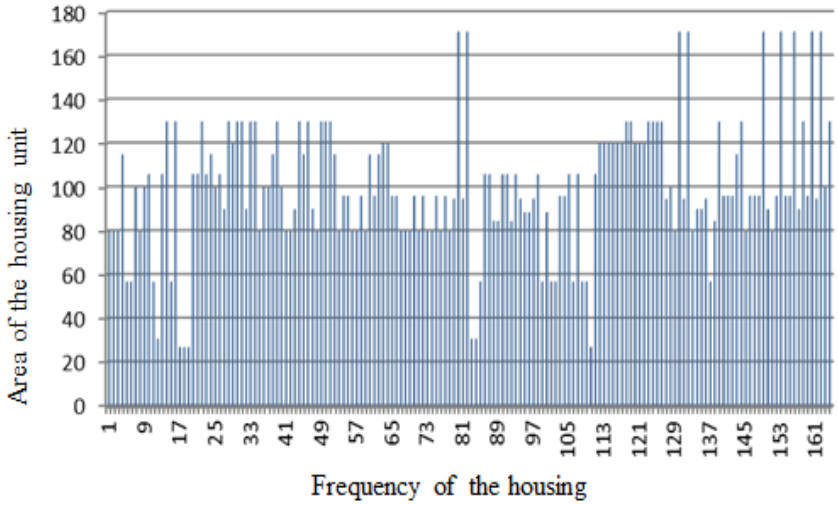


Figure 2: Area of the Housing Unit versus the Number of Housing Unit
Source: Field Survey, 2018

4.3 Floor Level of the Housing Units

The floor level of the housing unit affects the monthly rental value. There is little demand for floor levels above the first floor for commercial shopping units (Wyatt, 2007).On the contrary, scholars of residential property argue that the price and the rental value for highrise apartments increases as the floor level increases due to the number of extrinsic and intrinsic qualities (Larcombe et al., 2019). The floor level has a positive premium on rent as it increases, but this premium diminishes as the level increases over a certain threshold (Chau, Yau, & Cheung, 2011; Wong et al., 2011). In the case study areas, the floor level of the housing units ranges from 1 to 12. Based on the availabilities, this composition is indicated below in Figure 4.

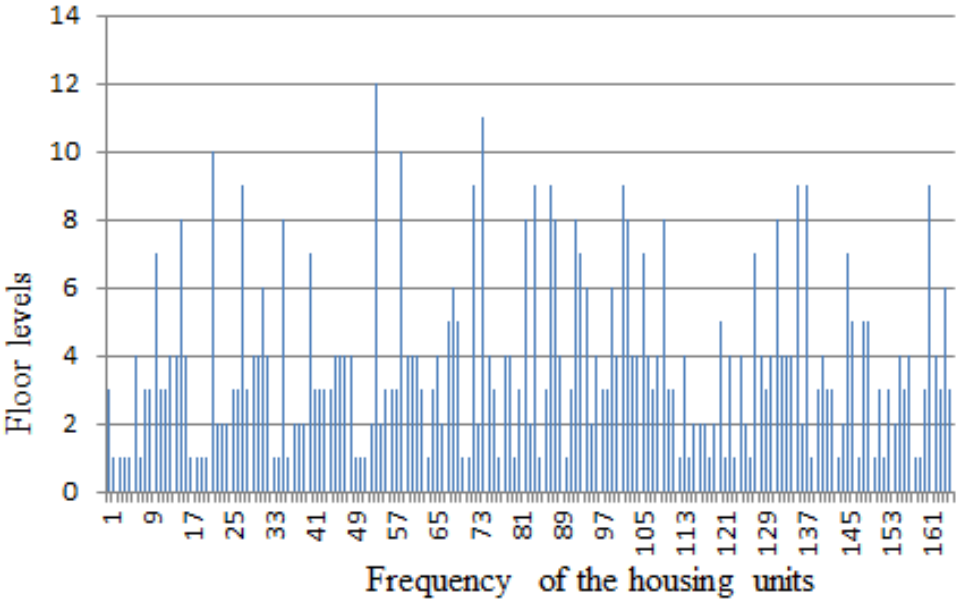


Figure 4: Floor Level Composition of the Housing Units
Source: Field Survey, 2018

5. Data Analysis

According to Pennings, Keman and Kleinnijenhuis (2006), multiple regression analysis should meet the assumption of linear relationships– no multicollinearity, homoscedasticity and no autocorrelation. The study tested all the assumptions of linear regression, and the results of the test indicates as all significant except for the normality test. The result of the normality test (Shapiro Wilk W test) of the data suggests that the data is non-normal. Pennings, Keman and Kleinnijenhuis (2006) argue that non-normal data is generated when study participants fail to respond to specific questions or researchers miss observations. As such, inaccurate data is rejected from the database. Relating this to the current study, some tenants were reluctant to tell the truth about monthly rentals in the structured questionnaires and this created non-normal data distribution. The researchers transformed the data to address this issue. Data transformation is a mechanism of designating specific value to represent missing data using SPSS or SAS statistical tools. Transforming the data, rather than rejecting the incorrect value, helps to reduce the skewness and help to precisely analyse the data (Marczyk, DeMatteo & Festinger, 2005). Hence the data of this study transformed using SPSS and the normality test for the transformed data was completed. The result of the test is indicated in the Table 5 below.

The Shapiro Wilk W test was first developed by Shapiro and Wilk in 1965 (Shapiro & Wilk, 1965). According to this test, there are null and alternative hypothesis which are stated as:
Ho: The sample data are normally distributed
Ha: The sample data are significantly different than a normal population

The test recommends rejecting the null hypothesis when the P-value is less than the selected alpha value (in this case 0.05) and accept the null hypothesis if it is greater than the alpha value. The result of the Shapiro Wilk W test for the transformed data indicates that the data is now normal. The P-value (0.14951), in Table 5, implies that the null hypothesis is accepted, and the alternative hypothesis is rejected, i.e. the data is now normal.

Table 5: Normality Test for Monthly Rents After the Data Transformation

Variable	Obs	W	V	Z	Prob>z
Rent 1	164	0.98556	1.584	1.039	0.14951

The next part of this analysis requires a match of independent and dependent variables; this is indicated in Table 6.

Table 6: Model Summary of Multiple Regression Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.952[a]	.907	.898	.130	1.827

Table 6 specifies how much the independent variables predict the dependent variable. The adjusted R Square value (in this study, 0.898) is the percentage of variation explained by the independent variables that affect the dependent variable. This means the independent variables predict the dependent variables at 89.8% (adjusted R square). The significance level of the model may also explain this inception and it is also very high (0.00 which is less than 5% alpha value) as indicated below in Table 7.

Table 7: Significance of the Model for the Monthly Rent of Residential Apartments (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	24.650	15	1.761	103.739	.000b
	Residual	2.529	149.	.017		
	Total	27.179	164			

The linear regression result in Table 8 indicates that the nine constant variables (area of the apartment, access to a balcony, the security of the compound, access to road, access to a parking area, number of bedrooms, access to lift, type of external wall finish and the location of the site) affect the rental value of residential apartments in the case study areas. The remaining five variables (floor level, access to a bathroom, environmental pollution, good environmental view and sufficient access to water) do not statistically affect the rental value of private apartments in the study areas. Furthermore, the data shows that the rent of upper-level apartments decreases when there is no access to a lift. From the demography, the interest of tenants in upper floor level dwellings decreases as the age and family size increases. As indicated in Table 8, the floor level has a P-value of 0.484, which is greater than 5% of the alpha value and is therefore insignificant for this study and needs further study. The number of bathrooms is another insignificant variable in the case study areas. The result of this study indicates that tenants are not willing to pay for an additional bathroom. As a result, additional bathrooms beyond one has no effect on the monthly rent, i.e. keeping other things constant, the rental value of housing units with one and two bathrooms is the same. Contrary to Chiarazzo et al. (2014), having a good environmental view and the existence of environmental pollution are also insignificant variables for residential apartments, i.e. tenants are not willing to pay more for these attributes. Finally, the swimming pool variable has no variation in the study areas, and therefore its statistical significance could not be tested.

Table 8: Significance of Independent Variables for Residential Apartments

Coefficientsa								
Model		**Unstandardised Coefficients**		**Standardised Coefficients**	**t**	**Sig.**	**95.0% Confidence Interval for B**	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	8.354	.088		95.144	.000**	8.180	8.527

	Floor level	-.004	.006	.022	.702	.484	-.007	.015
	Floor area	.002	.001	.162	2.557	.012*	.001	.004
	Access to balcony	.240	.030	.039	3.326	.000**	-.020	.101
	security of the compound	.361	.067	.384	5.400	.000**	.229	.494
	Parking area	.071	.030	.083	2.347	.020*	.011	.131
	Number of bedroom	.282	.048	.470	5.886	.000**	.188	.377
	Access to road	.135	.039	.285	3.469	.001*	.058	.212
	Access to lift	.196	.047	.241	4.146	.000**	.103	.290
	External wall finish	.106	.031	.133	3.474	.001*	.046	.167
	Environmental pollution	-.056	.047	-.052	-1.176	.242	-.149	.038
	Bathroom	-.008	.051	-.009	-.151	.880	-.108	.093
	Location of the site	-.071	.026	-.132	-2.772	.006*	-.122	-.020
	Sufficient access to water supply	.037	.024	.042	1.523	.130	-.011	.084
	Good environmental view	.027	.025	.029	1.065	.289	-.023	.077

a. Dependent Variable: Transformed Monthly Rent (Source: Field Survey, 2018)

Notes:

* *= Second level significant variables*

** *= First level significant variables*

Based on the regression result of the data in Table 8, the theoretical model indicated under Section 3.2 of the methodology could be re-written by excluding insignificant variables as:

Monthly Rent = F (C + A + AB + SC + AP + NB + RT + AL + EWF + SL)

Where:
C=Constant

Table 9. Updated List of Independent Variables

Number	Independent Variable
1	External Wall Finish (EWF)
2	Internal Area of Housing Unit (A)
3	Number of Bedrooms (NB)
4	Access to a Balcony (AB)
5	Access to Road Type (RT)
6	Access to a Lift (AL)
7	Security (SC)
8	Access to Parking Area (AP)
9	Site Location (SL)

As mentioned earlier, to reduce the skewness of the data, the original data has been is transformed. Therefore, the model with the constant and the coefficients can be re-written as:

Log (Monthly Rent) = (8.354 + 0.002*A + 0.024*AB + 0.361*SC+0.071*AP+ 0.282*NB + 0.135*RT + 0.196*AL + 0.106*EWF + (-0.071) SL

This model, therefore, suggests that as the area increases by one unit, the rent increase by (0.2%). Furthermore, with access to a balcony, parking area, lift, and security in the compound, the rent increases by 2.4%, 28.2%, 19.6%, and 7.1% respectively. Keeping other variables constant, the monthly rent of an apartment with a balcony increases by 2.4%. Similarly, the rent of an apartment unit that has a common parking area in the compound is greater than an apartment that has no access to the parking area by 28.2%. The security of the compound is defined in terms of a fence and guard. The monthly rent of an apartment that has fence and guard exceed those without by 36.1 %. For road type, the access to gravel road increases the monthly rent of private residential apartments by 13.5%, whereas natural ground roads decrease rents by 13.5% from the asphalt road alternative. The monthly rent of apartments with two-bedrooms decreases by 28.2% from a three-bedroom apartment. Furthermore, the rent of a two-bedroom apartment increases by 28.2% from a one-bedroom dwelling. Similarly, the monthly rent of a studio decreases by 28.2 % from a single bedroom rental. The monthly rent of the apartments with aluminum plaster external wall finishes increase by 10.6% compared to quartz external wall types.

The last determinant variable is the location of the site. Location is represented as categorical data, with a total of three categories. The researchers use a weighted effect coding method for this analysis. A weighted effect coding method is a mechanism of representing categorical variables with different weights other than the dummy coding. As the criteria for dummy coding assigns 0 and 1, the criteria for weighted effect coding requires the sum of the code to equal zero (Nieuwenhuis, Grotenhuis & Pelzer, 2017). The result of this coding associates the second and third element and hence Kazanchis which is represented as 0 is the reference. Based on this categorical coding of results the average monthly rent of apartments at Jemo site is 7% lower than the Kazanchis (negative coefficient) whereas Kazanchis site is 7% lower than the CMC site.

6. Conclusion

Urbanisation and population growth create pressures on the supply and demand for housing which governments alone cannot respond to. As a consequence, private real estate developers play a critical role in supplying residential housing units in areas like Addis Ababa that are rapidly urbanising. Given many urban dwellers in Addis Ababa cannot afford to own houses, the rental market is key to easing the ever-growing demand for housing stock. Thus, market-oriented approaches for supplying rental housing to the real estate market needs to be supported. This study aims to contribute to delivering an effective and efficient rental real estate market by identifying the rental determinant variables of residential apartments in Addis Ababa, Ethiopia.

Market rent of residential apartments is affected by different factors. The determinant variables are property-specific factors and environmental factors such as a bundle of amenities and facilities, property-specific factors and locational factors. The identification of these determinants is important for governmental and non-governmental actors: property managers, real estate developers, income tax assessors, real property owners, lending institutions and other interested real estate professionals. This type of information allows stakeholders to estimate monthly rental values and the market value of property more efficiently. Hence, this study provides a model for estimating monthly rental incomes for a range of actors related to residential apartments in Addis Ababa.

This study purposefully studied 164 apartment housing units across three selected case study areas in Addis Ababa. Based on the literature review, 15 independent variables were identified based on their impact on monthly rent values. These variables were analysed through multiple regression analysis. The regression results indicate that nine variables affect the rental value of residential apartments in the case study areas. These nine determinants were further categorised into first level rent determinants and second-level rent determinants. The first-level factors include the number of bedrooms, access to a balcony, the security of the compound, and access to a lift. These had the most significant impact on the rental value. The second-level factors are access to a road, access to a parking area, area of the apartment, type of external wall finish, and the location of the site. The study found that the floor level and number the of bathrooms in the housing units did not impact the rental price. Additionally, good environmental view, access to a swimming pool, environmental pollution and access to water supply did not impact rent determinant variables in this study, and needs further study for those variables. Understanding these variables will help real estate developers optimally supply the housing market with units that provide the most value to tenants.

7. References

Abelti, G., Brazzoduro, M. & Gebremedhin, B. (2001). *Housing conditions and demand for housing in urban Ethiopia: In-depth studies from the 1994 population and housing census in Ethiopia.* Addis Ababa: Central Statistic Authority & National Research Council.

Access Capital. (2010). Ethiopian real estate sector report, Investing in Ethiopia. [Online]. Available at: www.ethioconstruction.net/sites/default/files/Law.

Adegoke, O.J., Aluko, B.T. & Adegoke, B.F. Determinants of Market Value of Residential Properties in Ibadan. *Journal of Economics and Sustainable Development, 8*(4), pp.178-188.

Ajilowo, J. & Olujimi, B. (2010). Analysis of the Relationships of Infrastructural Facilities in the Determination of Rental Values of Residential Properties in Akure, Nigeria. *Arts and Social Sciences*

Journal, (ASSJ-10), pp.1-11.

Amenyah, I.D. & Fletcher, E.A. (2013). Factors Determining Residential Rental Prices. *Asian Economic and Financial Review Journal*, *3*(1), pp.39-50.

Archer, W. & Ling, D. (2012). *Real Estate Principles. A Value Approach*. McGraw-Hill Higher Education.

Attakora-amaniampong, E., Owusu-Sekyere, E. & Aboagye, D. (2016). Urban Floods and Residential Rental Values Nexus in Kumasi, Ghana. *Ghana Journal of Development Studies, 13*(2), pp.176-194.

Babalola, S.J., Umar, A.I., & Sulaiman, L.A. (2013). An Economic Analysis of Determinants of House Rents in the University Environment. *European Scientific Journal, 9*(19), pp.99-111.

Baum, A., Mackmin, D. & Nunnington, D. (2011). *The Income Approach to Property Valuation* (Sixth edition). United Kingdom: Elsevier Ltd.

Belachew, T.M. (2013). Housing Tenure in Ethiopia, Empirical Study on Private Residential Tenancy in Bahir Dar City. In proceedings of FIG Working Week, May 6-10. Abuja, Nigeria.

Blackledge, M. (2016). *Introducing Property Valuation.* London: Taylor & Francis.

Brueggeman,W.B. & Fisher, J.D. (2002). *Real Estate Finance and Investments* (11th eds). United States: McGraw-Hill.

Chiarazzo, V., Coppola, P., Ibeas Portilla, Á. & Ottomanelli, M. (2014). The Effects of Environmental Quality on Residential Choice Location, *Procedia - Social and Behavioral Sciences, 162*, pp.178-187.

Cramer, D. (2003). *Advanced Quantitative Data Analysis*. United Kongdom: McGraw-Hill Education.

da Cunha Pereira, S.M. (2017). *Exploring the Relationship between Residential Rents and House Prices in the Portuguese Residential Real Estate Market In Portuguese*. Masters dissertation, Faculty of Economics, University of Porto.

Dabara, D.I., Anthony, A.I., Olusegun, O.J., Eleojo, A.G. & Michael, A.O. (2017). Rent Default Factors in Residential Properties in Osogbo Metropolis Osun State, Nigeria. *International Journal of Business and Management Studies, 6*(1), pp.61-68.

Durbin, J. & Watson, G.S. (1971). Testing for serial correlation in least square regression. III. *Biometrika, 58*(1), pp.1-19.

FDRE Constitution. (1995). *Constitution of the Federal Democratic Republic of Ethiopia*. Proclamation No.1, 1st Year, Addis Ababa - 21st August, 1995).

Gavu, E.K., Gruehn, D., Schulte, K.W. & Asante, L.A. (2019). Stakeholders' Perception of Residential Rental Value Determinants. *Journal of African Real Estate Research, 4*(1), pp.42-70. DOI: 10.15641/jarer.v4i1.704.

Ginbo, T & Mulatu, D.W. (2017). Residential Pricing in Ethiopia: Do Urban

Green Amenities Influence House Buyers' Decision? In proceedings of the 15th International Conference on Ethiopian Economy. July 20 - 22, Addis Ababa. pp.1-24.

Gitari, B. (2001). *Valuation of up-market Residential properties in Nairobi-Kenya*. MA dissertation, Department of Land Development, University of Nairobi.

Hinkel, F. (2012). *Essentials of Practical Real Estate Law* (5th eds). United States: Delmar Learning.

Karoki, W.R. (2013). *Determinants of Residential Real Estate Prices in Kenya.* MBA dissertation, University of Nairobi.

Keller, E.J. & Mukudi-Omwami, E. (2017). Rapid urban expansion and the challenge of pro-poor housing in Addis Ababa, Ethiopia, *Africa Review*, *9*(2), pp.173-185. DOI: 10.1080/09744053.2017.1329809.

Kothari, C (2004). *Research Methodology, Method, and Techniques* (2nd eds). India: New Age International Ltd.

Larcombe, D.L., van Etten, E., Logan, A., Prescott, S.L. & Horwitz, P. (2019). High-Rise Apartments and Urban Mental Health – Historical and Contemporary Views. *Challenges*, *10*(34), pp.1-15. DOI: /10.3390/challe10020034.

Marczyk, G., DeMatteo, D. (2005). *Essentials of Research Design and Methodology*. United States: Wiley & Sons.

Odumosu, J.O., Popoola, N.I., Ogungbenro, M.T. & Falana, F.F. (2015). Empirical Model for Determination of Rent within M.I. Wushishi Housing Estate, Minna, Niger State. *American Journal of Economics*, 5(5), pp.449-457.

Oduwole, H. & Eze, H. (2013). A Hedonic Pricing Model on Factors that Influence Residential Apartment Rent in Abuja Satellite Towns. *Mathematical Theory and Modeling*, *3*(12), pp.65-74.

Pennings, P., Keman, H. & Kleinnijenhuis, J. (2006). *Doing Research in Political Science: An introduction to comparative methods and statistics.*London: SAGE Publications.

Sayce, S. & Smith, J. (2006). *Real Estate Appraisal: From Value to Worth*. Oxford: Blackwell Publishing Ltd.

Scarrett, D. (2008). *Property Valuation: The Five Method*s (2nd eds). New York: Routledge.

Shapiro, S.S. & Wilk, M.B.(1965). An Analysis of Variance Test for Normality (Complete Samples). *Biometrika*, *52*(3), pp.591-611.

Sirmans, S. & Benjamin, B. (1991). Determinants of Market Rent. *The Journal of Real Estate Research*, *6*(3), pp.457-379.

Tolon, U.W. (2008). Comparison of Urban Upgrading Projects on Development Cooperation in Ethiopia. Masters dissertation, Polytechnic University of Catalonia.

Wickramarachchi, N. (2007). Determinants of Rental Value for Residential Properties: A Landowner's Perspective for boarding homes. *Built-*

environment: Sri Lanka, *12*(1), pp.1-22.

Wong, S., Chau, K.W., Yau, Y. & Cheung, A.K.C. (2011). Property Price Gradients: The Vertical Dimension. *Journal of Housing and the Built Environment*, *26*(1), pp.33-45. DOI: 10.1007/s10901-010-9203-8.

Wyatt, P. (2013). *Property Valuation*. London: John Wiley & Sons.

Wyatt, P. (2007). *Property Valuation in an economic context*. . London: John Wiley & Sons.