



# Responsible Land Governance: Towards an Evidence Based Approach

ANNUAL WORLD BANK CONFERENCE ON LAND AND POVERTY  
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## **A Critical Assessment of Urban Land Leasehold System in Ethiopia**

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## ABSTRACT

The land management and governance system can be the underlying cause for materializing the opportunity or face the challenge of rapid urbanization. The urban land lease policy of Ethiopia is considered the most influential factor that determine whether there exists unhealthy, haphazard and unbalanced investment environment in the cities. Since land is constitutionally stated owned, it lays the foundation for acquiring 'land use right' through auction or negotiation. The paper critically reviews the policy and its institutional arrangement. It quantitatively analyzed the fundamental factors that drive the value of land developers place on urban land for investment using the land auctions data obtained from Addis Ababa City Administration. Base price, plot size, location and grade and auction period have significant effect on land value in the city. Plot use type and developers' capital have mixed effect. Our findings suggest that the implementation of the land lease policy still requires reexamination of constraints and opportunities with the aim of devising appropriate measures and strategies for action towards sustainable urbanization. The institutional mechanism should be designed to provide 'appropriate' incentive for developers and accountability for bureaucrats. It should also help to facilitate cities to transition from dependence on revenue from land sale to modern taxation, and consider the capability of the rural citizens, who are expected to displace as urbanization progresses, to access the opportunities and their entitlements for integration into cities throughout the urbanization process.

**Key Words:** Urban land lease policy, Developers' willingness to Pay, Land Auction, OLS estimation



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## 1. INTRODUCTION

Ethiopia's transition to a market oriented economy began with the installation of the new Government in 1991 and the introduction of an economic development agenda aimed at achieving macroeconomic stabilization and growth. In this development agenda, investment has been considered as an engine of growth and generates economic benefit. Since then major policy and institutional reforms have been established to promote investment in the country.

A critical step is the ratification of the constitution in 1995 which holds that all land in Ethiopia falls under government ownership but provides for 'use rights' to individuals, groups (communal holdings), and private entities. It separates the right to use land from the ownership of the land, which allowed the state to continue to own the land (means of production) while creating a tradable claim on land, the 'use right'. Following this, various policies are formulated that aim to promote investment and urban development. Among these, the Urban Land Development and Management Policy and Strategy formulated in 2013, proclamation No. 818/2014 that establish the foundation for urban landholding registration, proclamation 455/2005 that guides the expropriation of land holdings for public purposes and payment of compensation and proclamation No. 721/2011 that serves as a directive for urban lands lease holding are the key institutional arrangement that have direct implication for promoting private sector investment in Ethiopia. These reforms affirm that no land can be obtained or transferred other than on a leasehold basis. They also issue the authority to sell land and determine the terms of redevelopment to the nine Regional Governments and two city administrations.

A number of studies have been made on the land lease policy in Ethiopia (Zelalem Yirga (2014); World Bank (2014); Zemen (2013); Belachew (2010); Bacry Yusuf (2009); Alebel and Genanew (2007a; 2007b). The studies revealed that the effect of such reforms are of interesting issue for policy makers, development partners, scholars and the private sector. On one side of the argument, since the reforms, there has been substantial improvements in Addis Ababa, capital city and seat of African Union and other international organization. The city, which has been characterized by dilapidated structures, congestion, environmental related problems and poor urban image, shortage of and low quality infrastructure, and basic services, is now in better conditions than ten years ago. The study by the World Bank revealed that land leasing becomes the major sources of revenue for infrastructure development for cities in Ethiopia. Besides, unlike the period before ten years, during which the city has increasingly been expanding haphazardly, its development has started to be implemented with well-prepared plan and well-coordinated manner. On the



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other side of the argument, there are well observed shortcomings since the experience shows that the reforms give little concern for sustainable expansion possibilities and only adds inefficiencies in land utilization. For instance, the lease value is not reflected in the payments for the duration of the lease. Corruption, non-transparency and unfairness have reigned in the system and, created a means of exploiting the system by a few urban speculators and brokers. The revenue from land is less than the true value of land due to absence of market oriented land lease transfer mechanism and the lease system is exposed to speculation. The lease policy not only restricts the right to transfer use right but also that it is not linked with the urban development strategy of the country.

More importantly, the urban land lease policy ignores the demand side of urban land management, which is an essential element in promoting investment, and thereby, enhancing the contribution of cities for economic growth. There is a marked gap between the demand for basic services and the supply of those amenities by the City Administration to keep pace with the expectations emanating from the scale of change the City undergoes. Moreover, urban land for investment has emerged as a key bottleneck. Evidence revealed that many investors, who got discouraged or cancelled their investment plans in Addis Ababa, attribute their attrition largely to the lack of access to industrial land. The demand for investment land in Addis Ababa has been quite big and did not show improvement. A survey report by the Foreign Investment Advisory Service (2001), for instance, indicated that the costs of acquiring an appropriate piece of land in the City are prohibitive. Based on a recent administrative data, it is estimated that about 6000 investors are in a waiting list requesting land for investment as of June 2016. This does not only discourage private investment (and thereby employment opportunities for the many unemployed and educated youth) but also that when coupled with the limited supply of land, it has created distortions in the land and rental market and price hike. The study by the World Bank group on urbanization in Ethiopia revealed that access to jobs, infrastructure and services, and housing are the three key gaps for urbanization failing to meet the demands of growing numbers of urban residents. In sum, the land lease policy is considered the most influential factor for the unhealthy, haphazard and unbalanced investment environment in the City.

The implication is that the limitations of the land lease policy still requires reexamination of constraints and opportunities with the aim of devising appropriate measures and strategies for action. To this end, the paper analyzed both the supply and demand side of the land lease policy in Ethiopia. With the aim of understanding the supply side of land governance for investment, the paper tries to critically review the land lease policy, its institutional arrangement as well as governance system. Since pricing of land is the



key component of an appropriate incentive for balanced and coordinated investment and understanding the demand side of investment, the paper quantitatively analyzed the fundamental importance of the value the investors place on land characteristics. The studies by Zelalem Yirga (2014); World Bank (2014); Zemen (2013); Belachew (2010); Bacry Yusuf (2009) are made based on qualitative analyses. Even if the findings and conclusions from such studies are open to debate since they are based on qualitative information which are subject to individual judgments, they are important since they pose important questions that need to be addressed quantitatively. The only exception is the study made by Alebel and Genanew (2007) who used urban land auction data. However, their study covers only for the period 1994/95 and 2002/03. Our study also fills such gap.

## 2. ORGANIZATION OF THE REPORT

Including the introduction section the paper is into six sections. The next section discusses a review of the literature on urban land management. Section four discusses the methodology used in this study including the data and estimation techniques. Section five discusses the result on the performance of the land lease system in the study areas and the key factors that determine the value of land in urban Ethiopia, taking Addis Ababa, the capital city of the country, as a case study. Finally, section six concludes.

## 3. LITERATURE REVIEW

### 3.1. URBAN LAND POLICY AND MANAGEMENT

Land holds a unique and pivotal position in social, political, environmental and economic theory. It is of central importance to country's urbanization, economic growth and social stability. Land not only stands at the center of human culture and institutions, it is also required directly or indirectly in the production of all goods and services. Land's uniqueness stems from its fixed supply and immobility. Therefore, the nature of property right towards land is very crucial in the process of economic growth and poverty reduction. Deininger, et al (2003) argues that well defined and secure land rights are critical to provide incentives for investment and sustainable resource management, facilitate the low cost transfer of land and credit access as the rural non-farm economy develops. It is, therefore, essential to briefly discuss urban land policy since its property right crucially determines mode of its management and administration.





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Land Policy describes an official statement by a government of its intentions and plans regarding the conservation, use, and allocation of land, but does not have the force of law". It expresses political choices concerning the distribution of power and interests in land between the state and its citizens as well as determines rights of access to and use of land related resources. Land policy commonly aims to achieve equity, enhances investment, attain assurance of developers or investors, and may consider cultural as well as environmental sustainability. Aesthetic value also considers in land policy formulation. Thus, land policy not only promotes security and social stability but also serves as a bases for economic development. The realization of land policy objectives requires different institutional arrangements that facilitates land administration activities, land information management as well as facilitating organization and management. Both theoretical and empirical evidences revealed that urban land policy is a complex undertaking and not only vary by country but also that such policy must involve a large number of policies instruments, carefully designed to be mutually supportive (Doebelej, 1987). The debate on urban land policy fundamentally originates whether or not it should be private or public ownership. Deininger and Chamorro (2002) stated that even if the principle of private ownership is considered to be largely valid, experience has shown negative consequences of unrestricted private ownership of land. As a result, public land ownership, as opposed to private freeholds, became popular, for example, in many former socialist countries, especially in the 1960s and 1970s (Hong and Bourassa, 2003; Nega, 2005). On the other hand, experience has repeatedly shown that in many countries state ownership of land has conducive to mismanagement, underutilization of resources, and corruption (Deininger, 2003). The implication is that urban land epitomizes the classic conflict between equity and efficiency.

One of the unique features of land is that demand is the sole determinant of land value. Given the type of property rights, this feature of land influences the efficient management of the land through its effect on the value of land, the price paid annually for the exclusive right (a monopoly) to use a certain location, piece of land or other natural resource. Changes in land rent and land taxes have no impact on the supply of land, because the land supply is fixed and cannot be significantly expanded. Since land is fixed in supply, as more land is demanded by people, the rent will increase proportionally. Land rent results from the desire made by everyone who lives within a community to use land.

Economic rent is the only source of revenue that could be taken for community purposes without having any negative effect on the productive potential of the economy. When a community captures land rent for public purposes, both efficiency and equity are realized. Sale of land or land rights has the advantage of



producing revenue quickly and being easier to administer than betterment taxes, land re-adjustment schemes, or universal property taxation. For example, the study by the World Bank revealed that many cities in China have financed half or more of their very high urban infrastructure investment levels directly from land leasing, while borrowing against the value of land on their balance sheets to finance much of the remainder (George E. Peterson, 2006). The same study also indicated that since land is publicly owned in Ethiopia, 'land leasing has become the single largest source of municipal revenue in Ethiopia, overtaking the traditionally largest source of revenue, the local fee and tax items covered in Regional Tariff Proclamations' in Ethiopia (George E. Peterson, 2006). The study shows that the revenue from land lease ranges from 21% to 45% of total revenue of the cities under study and 77% to 145% of their total capital spending. Though the cities more than double land-leasing revenue in 2004-2005, leasing has introduced an unprecedented degree of volatility in their own-source revenues. However, the study also indicated that use of land leasing as source of revenue can also introduces a new set of risks that can profoundly affect fiscal management. The cities are unable to obtain revenue growth from other sources, which risks their future recurrent budgets from other sources.

Many factors contribute to the value of land. Physical attributes of land are one of the key factors that contribute to land value. These include quality of location, lot size, topography, access to basic social services and infrastructures, environmental features such as absence of bad smells, noise, etc. The regulation that governs land management and administration such as the type and amount of taxation, zoning and building laws, planning and restrictions are also key determinant of land value. The social factors include population growth or decline, changes in family sizes, typical ages, and attitudes toward law and order, prestige and education levels. The economic forces include value and income levels, growth and new construction, vacancy and availability of land. It is the influences of these forces, expressed independently and in relationship to one another that help the people and the assessor measure value of land.

### 3.2. LAND LEASE SYSTEM IN URBAN ETHIOPIA

In Ethiopia, land is constitutionally state owned. The Constitution provides that the right of ownership of all rural and urban land is exclusively vested in the State and in the peoples of Ethiopia. As a result, land can be acquired through lease hold system. There are various arguments for adopting land lease system. Some of the key advantages of this system include it is advantageous for achieving efficient land use planning; and encourages investors and investment since when the price of land is to be paid in a form of a





lease rent, the initial investment will be small and it gives the investor additional capital to invest on construction. It is also advantageous since it gives the possibility to reclaim land from leaseholders when it is required for other purposes. In the leasehold system, it is certainly less expensive and easier to take land back than when it is in private ownership. Besides, appropriation of future land price increases by the public and distributing it to society is easier under lease hold system. One of the advantages of retaining land in public ownership is to have the increase in land values accrue to the community at large and make it easier to allocate land to other uses at some time in the future. When a municipality grants the use of land under a leasehold system, it reserves the right to claim substantial proportion of future increments in the capital value of land at the end or in the middle of the contract.

As stated above, in Ethiopia, land is constitutionally states owned, and developers have the right to use the land that they acquire through lease holding. A number of proclamations and regulations have been formulated that determines the value of urban land and to facilitate investment in business, residential and other uses. A number of studies have been made on the land lease policy in Ethiopia (Zelalem Yirga (2014); Zemen (2013); Belachew (2010); Bacry Yusuf (2009); Alebel and Genanew (2007a; 2007b). Zelalem (2014) conducted a review of the various proclamations related to urban land lease policy in Ethiopia. Based on a review of the different land lease regulations, the author tried to identify gaps, inconsistencies and ambiguities in the urban land lease regulations as well as the constraints and challenges that impede their effective implementations. Yusuf (2009) conducted a study on the land lease policy in Addis Ababa, the study by Belachew focuses on urban land policy in Addis Ababa and Amhara regional state. The study by Bacry Yusuf et al (2009) qualitatively evaluates the performance of the urban land management system and identifying issues and problems underlying the gap between supply and demand. The study is made based on review of concepts and policy documents. Similar study is also conducted by Zemen (2013) focuses on the land transaction aspect of the land tenure system in Ethiopia based on review of documents. These studies are made using qualitative information and review of documents. However, even if the findings and conclusions from such studies are open to debate since they are based on qualitative information which are subject to individual judgments, they are important since they pose important questions that need to be addressed quantitatively. A more rigorous quantitative studies on the urban land lease system in Ethiopia is made by Alebel and Genanew (2007a; 2007b). They



used the land lease auction data to analyze investors' willingness to pay for a plot of land in Addis Ababa for the period 1994/95 – 2002/03.

In order to realize the constitutional article, the government of Ethiopia formulated various proclamations related to urban land use. Proclamation No. 80/1993 is the first proclamation related to urban land lease system enacted in Ethiopia since the reform 1991. Following this, the country has enacted Proclamations 271/2002; and 721/2011 in 2002 and 2011, respectively. These proclamations can be cited as the *Urban Lands Lease Holding Proclamation* No. 80/1993, 271/2002; and 721/2011, respectively<sup>1</sup>. These different proclamations are not only constitutionally founded, they have also social and economic goals that are expected to be achieved through their effective implementation. At the heart of these proclamations sustainable rapid economic growth through appropriate land administration that is efficient and responsive to the growing demand for land resource as well as good governance that requires efficient, effective, equitable and well-functioning land and land property markets are key concepts. The proclamations aim to realize robust free market economy and building of transparent and accountable land administration system that ensures the rights and obligations of the lessor and the lessee. These objectives are expected to be realized through the role of the proclamations in enhancing investment (economic growth), improvement in housing and infrastructure (equity) through revenue collection (capital mobilization), regulated expansion and/or restrict the informal expansion of cities (social objective).

Accordingly, the lease policy states that the right to use urban land by lease is permitted to realize the common interest and development of the people. In this regard, the lease policy is expected to address the development challenges in urban Ethiopia. Evidences revealed that the key challenges in urban Ethiopia include, among others, lack of affordable and decent houses, unemployment, infrastructure such as water supply and sanitation, and poor waste management. According to the World Bank study, the fundamental causes for these development problems in urban areas of Ethiopia are land management, governance and municipal finance (World Bank, 2015).

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<sup>1</sup> The proclamations are applicable to all urban centers within Ethiopia with little difference for Addis Ababa.



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In relation to realizing good governance, the lease system is expected to be implemented through adherence to transparency and accountability so as to address the prevailing problems of corruption and ensure impartiality in the lease tender and land delivery system. One of the most important aspects of the lease policy is that priority should be given to the interest of public and urban centers in the urban land delivery system so as to ensure rapid urban development and equitable benefits of citizens.

The effective implementation of the regulations is directly related to the key features of these regulations which can be explained from the contents of the regulations. Each regulations explicitly defines the scope of application, property rights related to transfer, mortgaging, compensation, and associated duties, ways of acquiring new development land, manner of fixing rates and modalities of lease fee payment, and duration of lease period. As stated in the proclamation 721/2014, grace period is determined based on the type of development or service of plot of land as well as the conclusion of the lease contract and completion of construction period. The same regulation also clearly indicated that a lessee may transfer his leasehold right or use it as collateral or capital contribution to the extent of the lease amount already paid. He can transfer prior to commencement or half completion of construction. However, the period of urban land lease shall vary depending on the level of urban development and sector of development activity or the type of service. For instance, residential plots have 99 years of lease period, 70 years for industry, 60 years for commercial use but business like urban agriculture has only 15 years of lease period. 15 years for urban agriculture. However, the lease period may be renewed upon expiry on the bases of the prevailing benchmark lease price and other requirements. Once the developer wins, he/she is expected to pay a down payment not less than 5% and the remaining balance during the lease payment period which takes into consideration the payback period of the investment. The remaining balance of the lease amount shall be paid on the bases of equal annual installment during the payment term. Interest shall be paid on the remaining balance as per the prevailing interest rate on loan offered by commercial bank of Ethiopia. Penalty fee will be imposed for failure to pay the annual payment based on the Bank's defaulting debtor



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While the rationale for adopting the different proclamations is constitutionally founded, and have common social and economic objectives, each regulation has its own specific problems the regulation intends to address. Review of the Proclamation No. 80/1993, indicates that the regulation is being applied only to urban land permitted to be held by lease. Since the proclamation was not applicable to an urban land held by other means prior thereto, it created ambiguity. Because it allowed the co-existence of the land acquired by permit or informally prior to the proclamation, on the one hand, and formally acquired through leasehold systems. This problem has been addressed by proclamation No. 272/2002, which declared that any urban land held by the permit system, the lease-hold system, or by any other means prior thereto should be under lease system. Besides, the proclamation is also intended to meet the ever increasing demand for land, reduce unfair allocation of land and control illegal settlements that have been prevailed in urban areas of the country. Proclamation No. 721/2011 has emphasized that any urban land which has not been under leasehold system shall be permitted to be held only by lease system. The proclamation also addressed issues that are not covered in the previous two land lease regulations. These issues include failure to push permit holders to make annual rent payments for use rights, the absence of formalizing informal tenure, and consolidation of the permit and leasehold tenure systems. The intent is to create uniformity of the informal settlement of the old possessions with the new, consolidated leasehold system. The new proclamation clearly states that lease payments are provided when informal land settlements are unified with old possessions and are merged with newly leased lands. The effect of transfer of land right or the status of a landholding, in the event of the above two situations, is a “lease benchmark price<sup>2</sup>”

In sum, a critical examination of the policy and institutional arrangement of the land acquisition system for investment revealed that at least three main modes of access to land for business purposes are practiced in urban Ethiopia (Proclamation No 721/2011; Regulation No.14/2004; Regulation No.4/1994; Regulation No.3/1994). These include rent from private source, lease hold and public allotment. There are both advantages and shortcomings of each options. For instance, while the land rental market is characterized

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<sup>2</sup> The lease benchmark price is defined as the threshold price determined by taking into account the cost of infrastructural development, demolition cost as well as compensation to be paid to displaced persons in case of built up areas and other relevant factors



by very expensive prices and uncertain contracts, the main problem with lease hold arrangement is that the land supplied for bid is very limited, and hence is quite competitive and expensive for investors. There are also implementation problems in transferring to lessees. Even if public allotment has an advantage of being quite cheap, cities have quite limited land that they can allot. It is thus uncertain as it takes a long time to decide whether an applicant gets land or not, usually up to 2 years.

Given the skyrocketed land prices in options 1 and 2, Ethiopia uses land as a key instrument and incentive to attract investments by providing free or subsidized land access (option 3). Private leasing of land or premise (option 1) is extremely expensive and unregulated. Rental cost constitutes a large part of firms' costs, which renders them uncompetitive. Leasing from private providers also creates a big uncertainty because the landlords frequently increase rental price or force the tenants to leave the premises giving several reasons. There is also uncertainty about the legality of the lease/rent. Price setting is up to the land lord. Landlords often force the tenants to pay down payment for extended period of time, which reduces the working capital available for the investors. There appears no efficient contractual arrangement that binds both the supplier and customer. More importantly, the private rental is not an option for many manufacturing activities that require large tracts of land.

On the other hand, lease-hold system suffers from corruption and lack of transparency. The size of land that is available in each tender is very small in comparison to the demand. The limited land supply coupled with discretionary power of government officials to restrict, tighten or widen access to land creates a large rent; thus, attract more speculators into the bid. The administration is not able to differentiate the speculators from the genuine investors. The bid process is largely dominated by the speculators, which tend to increasingly bid with high prices, which crowds out the genuine investors. The speculators retain the land for some time and resell the use right of the land at even higher prices. This has proven to be discouraging to the genuine investors and the productive sectors. According to World Bank (2012) study land allocation is the second most area of corruption in Ethiopia following customs services. The most corrupt activity in the land sector occurs at the implementation stage suggesting that the level of corruption is influenced by the way policy and legislation are formulated and enforced.





#### 4. METHODOLOGY

##### 4.1. DATA

We used data from the land transactions made through tender in Addis Ababa for the period between 2013/14 and 2016/17. The Addis Ababa city administration has supplied land through 24 rounds of bid during this period. The data on all rounds of auctions are made available from the Land Bank and Transfer Office of the city administration. It is responsible to run auctions of plots of land prepared for different development activities in expansion and renewal areas by registering in the bank. The office provides information on completed land lease transactions and new land lease listings to the public through its website on a regular basis. While the office provides basic information about the plots of land available for auction, bidders are required to reveal their personal information including their full name, residence and nationality using the bid form prepared by the office when they applied for the tender. The tender contains basic information about the plot including area code, location of the plot (both sub city and wereda), area size in square meter, type of plot use, minimum building requirement, and benchmark price per meter square in Ethiopian Birr, lease payment completion period and lease period. Bidders offer price per square meter, initial down payment in percent and total lease price of the plot they bid for.

More than 3000 plots were auctioned between round 5 and round 24 during the period between 2013/14 and 2016/17, for which the information is available in the office's website. Compared to the number of auctions between 1994/95 and 2002/03, during which the city administration made available more than 7000 plots of land for auction in 43 rounds of auction (Alebel and Genanew, 2007), the city administration auctioned less than half number of plots with in the last 19 rounds of auctions.

In addition to the land transaction data, we used relevant official policy and regulation documents from the Addis Ababa municipality and federal offices as secondary sources. We mainly review the land lease holding regulations. Moreover, other relevant data are extracted from the recent land lease implantation and land market report of the city Administration.

##### 4.2. ESTIMATION

The data contains a good set of variables to estimate a multivariate econometric model that enable us to understand the relative strengths of the characteristic variables on the bidders decision to offer for a particular plot of land. For each land lease transaction, the Land Bank and Transfer Office of the city





administration maintains detailed information on the plots of land tendered for bid. The office made available the plot/area code with its basic information during tender announcement and also after the announcement of the winner for each round with names of the first and second winners and their respective offered prices. Therefore, before we run the regression, we link the information available for each area code before and after the tender using ‘area code’ as unique variable. Thus, for each area code in each bid round, we have information on base price, winning price for first and second rank bidders, plot size in meter square, plot location, plot grade, land use type, capital requirement for construction, minimum down payment, grace period, lease period, name of first winning bidder, and name of second winning bidder. Accordingly, over the study period, the city administration supplied 3038 plots of land for auction distributed all over the ten sub cities. Of these, 67% of the plots are sold at their respective round bid time when they are tendered, and the rest could not be leased out at the time when they are tendered.<sup>3</sup> This will enable us to conduct detail quantitative analyses using descriptive and econometric analyses to understand the key feature of land market and the key determinates of price of land in Addis Ababa city.

We examine the determinants of land value in Addis Ababa using the econometric model specified in equation one below. Our dataset enables us to estimate the equation using the Ordinary Least Squares (OLS) method.

$$MUP_i = \alpha_i + \sum_{j=1}^J \beta_{ij} \cdot S_{ij} + \varepsilon_i \dots\dots\dots 1$$

Where  $MUP_i$  is the markup of the price offered by bidder  $i$  over the bench mark or floor price of the specific plot he/she is competing,  $\alpha$  and  $\beta$  are parameters of the model,  $S_{ij}$  is a set of  $j$  auction plot characteristic/explanatory variables (as specified in the table 1), and  $\varepsilon_i$  is prediction errors. Yuming and Stephen (2001) used a similar OLS specification in their study to analyze government land auctions in Hong Kong to detect economic profits that land developers are able to earn on their land acquisitions. They used OLS regression, among others, to regress abnormal returns of land developers against auction site characteristics.

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<sup>3</sup> There could be various reason for the cancellation of a tender. Perhaps, it could be that the number of bidders per plot is less than three, in which case the tender should be cancelled or lack of information. According to the urban land leasehold policy, a bid should be cancelled if less than three bidders participated in the round of tender. Lack of information which could be due to affordability, residents’ perception on the high competitiveness of the land auction market in city or speculation on the land price by the so called ‘middle men’.



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We measure value of land using a markup price of a plot of land per square meter. The markup price of a plot of land is the difference between the winning price, which is the price of a plot per meter square provided by the winner and the bench mark price. As stated previously, the bench mark price is determined by the city administration. One of the key parameters that the municipality uses to determine the bench mark price for a plot of land per meter square is plot grade. The city administration ranks plots based on their location, access to infrastructure, and numbers of stories per building, development cost of the area and land use. It is, therefore, important to analyze whether or not developers/bidders consider plot grade when they determine plot value. Based on the lease policy, the bench mark price is updated at least every two years to reflect current condition. See Table 1 for the definition and measurement for the variables included in the estimation. The interpretation of the results from the quantitative data is enriched by supplementing with the qualitative information gathered from key informants from policy making, and private domestic investment.

INSERT TABLE 1

## 5. STUDY RESULTS

### 5.1. THE PERFORMANCE OF LAND AUCTION IN URBAN ETHIOPIA

As stated in the lease holding of urban land regulation, city administration or regional states release public land for private developers through allotment or the auction of land leases. Each regional state can establish appropriate body which has the power to administer, develop urban land and advertise lease tender. The Land Banking and Transfer Office of Addis Ababa city administration is mandated to transfer plots of land through tender or allotment. The office first demarcates all plots of land not possessed by anybody, demarcates, issues uniform parcel number and keeps proper information in digital and plan format about the plots before the auction. Besides, it protects the plot until the land is transferred to the beneficiary. The office is also responsible to run auction of plots of land prepared for different development activities in expansion and renewal areas by registering in the bank. It also prepares the land lease bid offer form, which a bidder should buy from the office, fill and submit it to the office during the tender period. The form contains four sections in addition to its heading and bid round number. In the first section, bidders are expected to fill their personal



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information including their full name, residence and nationality. In the second section, basic information of the plot is described including area code, location of the plot (both sub city and wereda), area size in square meter, type of plot use, minimum building requirement, and benchmark price per meter square in Ethiopian Birr, lease payment completion period and lease period. The third section of the form is left for bidders to fill their offers for the plot of land they bid for including price per square meter, initial down payment in percent and total lease price of the plot. The prices should be filled both in figure and words so as to avoid any confusions during writing. In the last section, bidders should indicate whether or not they have attached bid bond and any other documents such as official delegation, if needed. After the winner is announced based on highest price offered per square meter and percentage of down payment; the office concludes lease contract with the winner; hands over the land, and collects lease payment based on the lease contract from the winner.

Plots of land are released for auction openly at the government's benchmark or floor price and the bidders submit their offer for a particular site in a closed envelope. The auctions are open to all interested developers and there are no restrictions on the eligibility of bidders. Each auction site has specific land use parameters to be made public through media and to be posted on the City's bi-weekly newspaper Addis Lisan. The location (sub city), type of development, floor price, lease period, lease payment period, lease grace period, etc. for each auction site are made accessible to the bidders. Land auctions in the City, therefore, can be characterized as common value auctions in that the developers' valuations of the sites are based on the same land use parameters and the same underlying market conditions.

Currently government auction floor prices in Addis Ababa are set based on the development condition of the specific site. This condition gives weights to the topography of the site (slope, soil type and texture/morphology, bearing capacity, hydrology, etc.), its existing and planned engineering and economic infrastructures (road, drainage, sewerage, electricity, transportation and communication, water, business area, etc.), its access to social and administrative infrastructures (health, education, police stations, fire-extinguishing, stations, sport and recreation, worship place, green areas, etc.), housing condition (function, typology and condition, etc. of the house), and urban plan of the city (land use and function, and building blocks). Moreover, the floor price of a specific plot in the city depends whether the plot is in the Central Business District (CBD): areas with access to transport and communication that attract more people and



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socio-economic activities, Zone of Transition (TRZ): areas in between the CBD and SUR, and Suburban and Urban-Rural Fringes (SUR): areas that are good for residence. Accordingly, plots in the city are graded in 5 levels and the auction floor price of a plot in the city is set as in Table 1 (See Appendices).

According to the lease hold regulation, in addition to the bench mark price, the tender should at least contain information on plot size, land use type, grace period and minimum capital requirement. These are determined by the city administration. Grace period is determined based on the type of development or service of plot of land as well as the conclusion of the lease contract and completion of construction period. The completion of the construction period is from one to two years depending on the size of the construction. This can be extended up to two years for small and to five years for large construction projects. The lessee has the right to transfer or pledging the leasehold. He/she can use it as collateral or capital contribution to the extent of the lease amount already paid. He/she has also the right to transfer prior to the commencement or half completion of construction. Moreover, based on the regulation, period of urban land lease varies depending on the level of urban development and sector of development activity or the type of service. It will be 99 years for residential housing, science and technology, research; 15 years for urban agriculture. However, in Addis Ababa, the lease period is 90 for social, 70 years for industry, 60 years for commerce and others. Even if the city administration sets the minimum amount of the down payment and includes in the bid announcement, bidders should also state the amount of the down payment since it is also one of the key criteria for selection of the winner. The regulation states that the amount of down payment may not be less than 10% of the total lease amount of urban land. While the offered price per plot of land per meter by the winner accounts 80% of the total score, the down payment accounts 20%. The lease period may be renewed upon expiry on the bases of the prevailing benchmark lease price and other requirements. Once the bidder wins, after the end of the grace period, he/she has to pay the remaining amount within the specified payment period, which takes into consideration the payback period of the investment. Based on the regulation, the remaining balance of the lease amount should be paid on the bases of equal annual installment during the payment term. Otherwise, the winner will be forced to pay including the interest on the remaining balance as per the prevailing interest rate on loan offered by



commercial bank of Ethiopia. Penalty fee will be imposed for failure to pay the annual payment based on the Bank's defaulting debtor.

While the city administration presented more than 3000 plots of land over the period between December 2013/14 and October 2016/17, it transferred a total land size of 1,070,528 M2, divided in to 2621 number of plots, through auction for the same period. Of the total number of plots already transferred, 50% and 41% is allocated for mixed and residential use through auctions, respectively. While about 8% allocated for business, the rest allocated for different purposes (Figure 1 and Figure 2). Though mixed use accounts half of the total plot size supplied for auction, the average size per plot is largest for social use (2487.143 meter square per plot), followed by plot used for business development (746.1 meter square per plot). When we look at the trends in number of plots supplied over the bid round from 5 to 24, our result shows that the highest number of plots is supplied during round 7, 13 and 20. The number of plots supplied for auction are 242 in round 7; 238 and 230 in round 13 and 20, respectively (Figure 3). The smallest number of plots auctioned is observed in round 12, 16 and 18, during which below 100 plots were auctioned.

INSERT FIGURE 1

INSERT FIGURE 2

INSERT FIGURE 3

When we look into the distribution of number of plots by location<sup>4</sup>, the largest land size supplied for auction is from Bole sub city, followed by Akaki Kaliti, during the period from December 2013/14 to October 2016/17, during which the city administration has supplied land through 19 number of bid round (Figure 4). Table 2 also shows the distribution of plots of land available for auction in each of the ten sub cities, which also takes similar pattern over all rounds of bids. The number of plots is highest in Bole sub city, followed by Akaki kaliti sub city. Small number of plots are supplied from Arada and Kirkos sub cities where only 2 and 6 number of plots are supplied over the last 19 rounds of bid respectively (Figure 5).

INSERT FIGURE 4

INSERT FIGURE 5

INSERT TABLE 2

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<sup>4</sup> Addis Ababa city administration is currently divided in to ten sub cities. Each sub city is divided into weredas/districts, which are the lowest administrative structure of the city.





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While the trend in land supplied for auction and leased shows similar trends, there is no substantial change in supply of number of plots of land though there size of land generally decreases in recent rounds (Figure 6). Whether this creates the capacity of the city to supply insufficient serviced land or due to a decline in land stock for auction is an important issue since it may induce informal development due to high unmet demand. On the other hand, the information on size of land supplied for auction and leased of the city shows that not all land supplied by the city is leased in round 7 and 12. Figure 7 and 8 show the land size and number of plots available for auction and actually sold in each round, respectively.

INSERT FIGURE 6

INSERT FIGURE 7

INSERT FIGURE 8

Figure 9 shows the ratio of number of plots available for auction to number of plots actually sold over all bid round in the city between 2006 to 2009 E.C. While about 97% of the plots available for auction in all round are actually sold, disaggregating this result by bid round revealed different story. About 37% and 39% of the plots available for auction in round 7 and 12 are actually sold, respectively. The same result was also obtained by Alebel and Genanew (2007) who conducted the performance of the land auction market for the city. Their study found that only 15 percent of the available plots were sold each year. It seems that the land auction market is performing better in terms of market clearing over the last one decade compared to the market over the period 1994/95 and 2002/03. When we look into the service type for which the land is supplied for auction in these two rounds, one can see that 55% and 77% of the land supplied for auction were for mixed use. See table 3. Figure 6 also shows the trends in supplied land for auction and land size leased in each round. However one cannot conclude from such trends since the number of bidders for a particular plot of land matters a lot for insufficiency of supplying serviced land. In this regard, a study made by Alebel and Genanew (2003) revealed that the average number of bidders per plot were 14 and it has been increasing over the period 1999/00 to 2002/03. The same study, however, shows that the ratio of the number of bidders to number of available plots varies by type of plot use. The study made by the World Bank shows that number of bidders for a plot of land ranges from 10 to 12.

INSERT 5 – 9

INSERT TABLE 3





## 5.2. LAND PRICE DEVELOPMENT

The above discussion focuses on the supply side of the land auction market in Addis Ababa. However, in economic sense, the most important indicator is the trends in the price of land, which shows the efficiency/inefficiency of the land management system in the city. In this regard, the evidence shows that trends in real price of land per meter square shows a general increase (figure 10) though the median base price shows a modest decreasing trend (figure 11). In real term, the median price of a plot of land per square meter is Birr 8,357.38. It generally increased from Birr 8,481.42 in bid round five in 2013/14 E.C to Birr 12,348.03 in bid round number twenty four in October 2016/17<sup>5</sup>. Table 4 shows the nominal average price per square meter of a plot of land in the city. The median base price or floor price for the plot of land has shown a slight decline from Birr 154.28 in bid round five to Birr 138.13 in bid number twenty four. Figure 10 shows the real and nominal average price for a plot of land per meter square in the city over the auction period. Figure 11 shows the trend in real base price per plot of land over the period between December 2013/14 and October 2016/17.

INSERT TABLE 4

INSERT FIGURE 10

INSERT FIGURE 11

A detail investigation of the price of plot of land in the different location of the city revealed that the most expensive plot is located in Addis Ketema sub-city compared to other parts of the city. As it can be seen from figure 12, the median price for a plot of land is Birr 150,500 per meter square. The second most expensive location is Lideta sub city where the median price for a meter square plot of land is Birr 63,600. Perhaps, the expensiveness of a plot of land could be due to the fact that these two locations are relatively most developed and central part of the city compared to other places. It could also be perhaps due to the fact that the number of plots available for auction is very small. Only 6 and 13 plots of lands are made available for auction in Lideta and Addis Ketema over the 19 rounds of bid, respectively. The lowest price is observed in Akakai Kaliti, where the median price for a plot of land is Birr 9,012.25 per meter square. Higher proportions of the plots are made available for auctions in Bole sub city, where about 43% of the plots are made available for auction over the period between 2013/14 and 2016/17. Akaki Kaliti, Yeka and Kolfe sub cities are the second, third and fourth locations in terms of proportions of plots of land auctioned. About 27%, 13% and 10% of the plots of land are made available for auction over the same period in these

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<sup>5</sup> Birr is the name for Ethiopian currency. Currently, one Birr is about USD \$23



sub cities, respectively. See figure 13. The median price for a square meter of plot of land is Birr 11,318 in Bole, Birr 9,012.25 in Akaki Kaliti, Birr 12,231 in Yeka and Birr 16,251 in Kolfe sub city. Figure 14 shows trends for median price of plot per square meter in five locations of the city over the study period between December 2013/14 and October 2016/17. Overall, price increases were most pronounced in the central parts of the city and less pronounced in the southern parts of the city.

INSERT FIGURE 12

INSERT FIGURE 13

INSERT FIGURE 14

While location and number of plots available have crucial role in the price of a plot of land, the type of plot use also determines its price. Our study also investigated the price for a plot of land by disaggregating in to its different uses. As stated previously the city administration made available plots of lands for mixed use, residential, business and other uses such as school, health as well as for apartment uses. It seems that the unconditional average price of plot of land varies by land use type. Figure 15 shows the trends in real median price of plot of land for the different use of plot of land over the study period.

As it can be seen from the figure the real median price for mixed use plot per square meter increased from Birr 5902.3 in bid round five in 2013/14 to Birr 10,184.6 in bid round 24 in 2016/17. Similarly, the real median price of plot per square meter for business and residential use increased from Birr 4573.9 and Birr 9,063.8 to Birr 6,123.5 and Birr 15,276 over the same period, respectively. Real median price for plot of land for different use has generally increased in response to the rising demand, more competitive allocation procedures and higher development cost in Addis Ababa city. Over the study period, the lowest increase is observed for business use plots, followed by residential use. Higher increment is observed for mixed use plots. Our study revealed that from 2013/14 to 2016/17, the prices for mixed, business and residential use rose by 73%, 34% and 69%, respectively. It seems that the price of plot of land for business use fluctuates more frequently compared to price of plot of land for mixed use though the price for the later exhibits steeper. Table 5 shows the nominal average price for plot of land by use type in the city for the period between December 2013/14 and October 2016/17. Table 6 shows detail information on the winning and markup prices of plot of land per meter square, and area size allocated by different use of plot of land for all bid round.



INSERT FIGURE 15

INSERT TABLE 5

### 5.3. MARKUP PRICE OF PLOT OF LAND

This section describes the variation in the auction land markup prices offered by bidders over the period between December 2013/14 and October 2016/17 or from auction round 5 to 24 against certain characteristics of the land auction market in the city. We calculated markup price as the difference between the amount bidders offered for a plot of land and the floor price of the plot. This is the revealed value for a plot of land offered by developers. As it can be seen from Table 6 the mean markup price of plot of land per M<sup>2</sup> offered for plots that are made available for the different purposes is Birr 13,825.17, with standard deviation of Birr 16,425.21 and very high range between the minimum Birr 330 and the maximum of Birr 353,965 offer.

INSERT TABLE 6

However, this figure varies by type of land use and plot grade. Table 7 and 8 shows the markup price per square meter of plot of land by plot use type and plot grade. Mixed use plots have a median markup price of Birr 11,411.95 whilst the markup price for residential and business use plots is Birr 11,948 and 10,994.5, respectively. It looks that there is high variation in the price of plots used for business compared to plots for mixed and residential use. While the price variation among value of plots used for business is Birr 56,123.15, it is 8,065.55 and 6,164.38 for mixed and residential use, respectively. The result shows that there is high competition for mixed and residential use plots compared to plots for business use.

INSERT TABLE 7

The mean markup price offered by bidders for the different plot grades is shown in Table 8. Grade III<sub>2</sub> plots is the highest value, which has a median price of Birr 15,932, with standard deviation of Birr 10,811.5. The average markup price for Grade III<sub>4</sub> plots, on the other hand, is the lowest (Birr 10,909). Moreover, the highest difference between the minimum and maximum offer is observed for Grade III<sub>2</sub> plots (Birr 58,400) while a lowest range (Birr 36,621) is observed for Grade III<sub>3</sub>.

INSERT TABLE 8



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In order to understand whether or not there is variation in the value of land across the different location of the city, we have also examined the markup price for a plot of land in each sub city (Table 9). More than 98 percent of the plots available for auction comes from five sub cities including Akaki - Kaliti, Yeka, Nifas – Silik, Kolfe and Bole. The table shows that markup price for a plot of land is highest in Nifas – Silk, followed by Kolfe. The corresponding markup price in these sub cities is Birr 16,597.5 and 16,362. In Nifas – Silk, the markup price ranges from a minimum of Birr 3300.99 to Birr 61,701 whereas in Kolfe it ranges from a minimum of Birr 3301 to Birr 48,626 per square meter. The lowest markup price is observed in Akaki – Kaliti sub city where a plot of land is valued at a median price of 8,805.2, with a standard deviation of Birr 3,479.95.

INSERT TABLE 9

Figure 16 and 17 shows trends in markup price across the different number of auction rounds and the different use of plot of land in Addis Ababa. As it can be seen from figure 16, markup price variation is observed over the different period of auctions. Though the figure does not show a steady increase in markup price of a plot of land over the different auction periods, it generally increased from the fifth auction round to the twenty - fourth round. Likewise, markup price for a plot of land not only vary by use of plot of land but also that it varied over the auction period within similar use of plot of land (Figure 17).

INSERT FIGURE 16

INSERT FIGURE 17

In general, the above description suggests that the auction land markup price offered by bidders varies across the different characteristics of the auction land. In particular, it varies across the types of use of the plot, plot grades and plot location. The description also suggests that there is a marked difference between the minimum and maximum markup price that bidders are offering for a plot.

### 5.4. DRIVING FACTORS OF LAND VALUE

As stated in the introductory section, the city manages the land as means of revenue so as to provide basic services including municipal services, infrastructure development such as road, electricity, water and sanitation supply, sewerage and wastewater treatment as well as affordable houses to the poor through the



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low cost housing program. Whether or not the city manages the land in an efficient way is one of the key policy questions that requires evidence based information to decision makers. This means that it is essential to investigate whether the city administration allocates land through the lease system creates inefficiency or not. The competitiveness of bidding at the auctions and hence the price land developers offer for a particular site in an auction is individual and is affected by observed and unobserved characteristics of the site. This section describes the key determinants of markup price for a plot of land in Addis Ababa. We used the regression model specified in section 3 for estimating its determinants. Multivariate analysis can give better information and greater insight into the factors that affect bidders' willingness to offer for auction plot. The final results of the multivariate analysis are presented based on the Ordinary Least Square regression model. Such a presentation helps to examine whether or not there is a systematic relationship between developers' willingness to pay, as measured by their markup price, on the one side, and the characteristics of the auctioned plot of land, on the other side. The estimation results are presented in Table 10 and 11.

Table 10 presents the descriptive statistics for the variables included in the regression. As it can be seen from the table the mean markup price for a plot of land per square meter is Birr 13,825.2 with a standard deviation of 16,425.2. The mean winning price and base price per square meter of plot of land is 13,409.9 and 217.9, respectively. The average size of a plot of land available for auction is 408.4 meter square. While bidders are required to deposit 15.8 percent of the bid amount they offer for the plot of land they are willing to bid, the winners offered on average 16.1 percent of the winning price. While winners are required to complete the total amount of the lease within 34 years, the mean average of grace period for the winner to be relieved from starting to pay the lease is two years. The average lease period for the plot of land is 76 years, with a minimum and maximum lease period of 60 and 99 years, respectively. Bidders are required to demonstrate on average Birr 466,001.5 as their investment or development capacity for the plot of land they bid. This ranges from a minimum of Birr 12,376.8 and maximum amount of Birr 1,820,000.

INSERT TABLE 10

Our model estimated the determinants of markup price for a plot of land on 2036 number plots of observations and their associated characteristics. Table 11 shows the OLS regression result. The result of the R-square shows that the explanatory variables are able to explain 60 percent of the key factors that bidders consider when they decide to determine the value of plot of land they bid for, which is the markup





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price for the plot of land. Our result shows that assuming all factors being constant, plot of land has high value in the city regardless of its characteristic features as it can be seen from the coefficient of the constant term, which is positive and statistically highly significant at least at 1%. The floor price is found to have significant and positive effect on the markup price for a plot of land, indicating that the higher the value for the base price the higher for the markup price, suggesting that the determination of the base price should be given due consideration as it affects the markup price. In this case the city administration takes into consideration certain parameters such as plot grade, last auction price per meter square, access to basic services, etc when determining the floor price for a plot of land available for auction. However, whether it reflects the objective of the administration to provide land, which may vary from investment oriented to distributional or poverty reducing oriented targets when supplying the land for auction. Our result also shows that land value has been found to have an increasing trend from time to time. The coefficient for bid round is found to have positive and significant (at least at 1% probability level) effect on the markup price for a plot of land in the city. Our descriptive result also shows similar result. The same is true for size of plot of land available for auction. Area size has positive and significant effect at least at 1% significance level on the markup price. We looked at whether or not the size of plot of land will have an inverted U shape effect by including the square of area size in the regression. As it can be seen from the table, though size has still positive effect on markup price, the degree of its effect declines as the size increases. The square of plot size has a modest effect at 5% significance level. This suggests the need to give due consideration in determining the size of the plot of land available for auction as at certain point the value for land provided by bidders may not reflect the actual or equilibrium price. It looks that location of plot of land has significant effect (at least at 5% significance level) in Addis Ketema, Lideta and Arada sub cities. These sub cities are located in the central and most developed part of the city where access to basic social services and infrastructure are well developed. The other locations such as Akaki Kaliti, Bole and Yeka has not significant effect on the markup price of plot of land. Most of the expansion areas of the city physical area is made in these sub cities, and, thus, plots of land are made available from these expansion parts of the sub cities. The result on plot grade indicates that compared to grade six plots, all plots except grade two plots have significantly higher markup value in the city. However, plots with grade four have more value than other grades compared to grade six plots. The OLS estimation result shows that the coefficients for dummies for plot use type have the same positive sign for mixed use, residential use and business use. However, none of the variables are found to have significant effect on markup price in our model. That is bidders decision to offer for auction land is not importantly affected whether or not the auction plot is for mixed, residential or business use or other uses. Finally, the available auction price data on down payment





and capital have no statistically significant effect on markup price in Addis Ababa at least at 10% significance level for the auction rounds from 5<sup>th</sup> to twenty – fourth or over the period between December 2006 and October 2009 E.C.

#### INSERT TABLE 11

### 6. SUMMARY AND CONCLUSION

Ethiopia recently experiences rapid urbanization rate. This can be an opportunity or a challenge, depending on how well the country manages urbanization. The land management and governance system can be the underlying cause for materializing the opportunity or face the challenge. In this regard, since land is constitutionally state owned, one can only acquire land use right and cannot own it. The land lease policy of the country is considered the most influential factor that determine whether or not there exists unhealthy, haphazard and unbalanced investment environment in the cities. It lays the foundation for providing land use right for investment or any other development through auction or negotiation. To this end, the paper critically reviews the land lease policy and its institutional arrangement. Specifically, since understanding the demand side of any investment is crucial, the paper quantitatively analyzed the fundamental factors that drive the value of land developers place on urban land for investment. The land auctions data obtained from the Land Bank and Transfer office of Addis Ababa City Administration for the period between 2013 and 2016/17 is descriptively and econometrically analyzed.

The study identified serious gaps in the enforcement that include reliance on unpublished and easily changed directives, lack of real system to record rights and restrictions, ignorance of the master plan particularly green areas and roads in favor of private use. Our empirical result revealed that base price, plot size and grade, time of auction and residential use have significant and positive effect on land value in the city. Plots located in southern expansion part of the city have lower value compared to central and other part of the city. On the other hand, capital, which is theoretically an important factor for investment, has only modest effect. Land use type has mixed effect, depending on the type of land use. Moreover, plot location has no statistically significant effect on land value. Our study also revealed that the auction land markup price offered by investors varies across the different



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characteristics of the auction land. In particular, it varies across the types of investment sector the plot is meant for, plot grades, its distance from the main center and its access to basic services. The description also suggests that there is a marked difference between the minimum and maximum markup price that investors are offering for a plot. Moreover, the auction land markup price offer by bidders has mixed effect. It has negative sign but positive sign when the plot size reaches certain size. The sign of the coefficient for bench mark/ floor price variable is positive and significant, indicating that developers are willing to offer more for the plots with higher site value. Plot use type has also mixed effect. Plots with residential use have higher value compared to mixed or business use plots. The results imply that even if domestic investors are more willing to provide higher value for plot of land that can fit with land size for productive investment, they are investing in less productive sector (that generates less employment) such as real estate. This suggests that the lease policy need to create incentives for domestic investors who are willing to invest in productive sector such as the manufacturing since this is the policy priority of the government. In this study, we also argue that the land scarcity in urban Ethiopia, especially Addis Ababa is triggered by inefficiencies in the land markets, particularly in the lease-hold system Ethiopia is implementing.

The result of the coefficient of the variable bench mark price has important implication. Based on the leasehold regulation, a bench mark price is determined on the bases of each urban center in accordance with regulations issued by the respective regions and city administration. It is updated at least every two years to reflect current condition. Our result shows that there is significant difference in markup price of plot of land from round to round. Given that more than one rounds of bid are tendered in one year, there is little justification to update the markup price at least once in two years. On the other hand, the benchmark price is also found to have significant positive effect in markup price of plot of land. These two results suggest that the municipality is not earning revenue from land whose value is determined based on market. The other important implication arises from the result on the coefficient of the variable for grace period. Grace period is determined based on the type of development or service of plot of land as well as the conclusion of the lease contract and completion of construction period. Our result shows that grace period has negative sign and significant effect on markup price. This means that plots that have designed for development/service that requires longer construction period or the longer for the conclusion of lease contract the less the markup price. This implies that if developers assume that the contract conclusion period is longer due to lack of transparency or corruption, then they attach lower value to minimize the transaction cost due to unnecessary delay in contract conclusion. It means that the municipality loses revenue due to corruption.



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Overall our findings suggest that the implementation of the land lease policy still requires reexamination of constraints and opportunities with the aim of devising appropriate measures and strategies for action towards sustainable urbanization. The country is experiencing one of the fastest urbanization rate during the last decade. In this regard, appropriate institutional mechanisms to provide ‘appropriate’ incentive for domestic investment, governance system for accountability not only in the determination of land use type and in land sales revenue utilization need to be in place. It should also recalibrate to help facilitate cities to transition from dependence on revenue from land sale to modern taxation. Besides, in addition to clarifying their property rights on land assets, it should consider the capability of the rural citizens, who are expected to displace as urbanization progresses, to access the opportunities and their entitlements for integration into cities throughout the urbanization process.

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Table 1: definition of variables included in the regression

Variable	Definition
<b>Markup price</b>	This variable is defined as the amount investors/ bidders offered for a plot minus the floor price of the plot. This difference is considered in this analysis as the willingness to pay of the bidder/ investor for the auction plot
<b>Floor/bench mark price</b>	Base price in Birr per meter square of plot of land determined by the city administration. The floor price of the plot at the time of the auction, as a measure of the value of the site
<b>Plot size</b>	Auction plot size in M <sup>2</sup>
<b>Plot size square</b>	The square of plot size
<b>Down Payment</b>	Down payment in percent offered by bidders
<b>Grace period</b>	Time frame in year that a lessee is relieved from payment after effecting the advance lease payment and before the commencement of the annual lease payment. Grace period is determined based on the type of development or service of plot of land as well as the conclusion of the lease contract and completion of construction period.
<b>Lease period</b>	Period of urban land lease in years
<b>Capital</b>	The amount of capital and/or loan capacity of the bidder as registered by the city government during the auction
<b>Land use type</b>	Dummy for Mixed Use Plot: 1 if plot is for mixed use and 0 if otherwise Dummy for Business Use Plot: 1 if plot is for business use and 0 if otherwise Dummy for Residential Use: 1 if plot is for residential Use and 0 if otherwise
<b>Plot Grade</b>	We used two variables which are included in two separate model estimations. In the first estimation, we create land grade categorical variable that characterize the land grade into three categories as per the classification of the city administration. We give 1 for plots with better development condition, 2 for middle and 3 for relatively poor condition.  In the second estimation, we create four dummy variables by re-categorizing the six categories of the city administration into five grades. 1 if plot grade is III <sub>4</sub> , otherwise zero; 1 if III <sub>3</sub> , otherwise zero; 1 if plot grade is III <sub>2</sub> and otherwise zero; 1 if plot grade II <sub>2</sub> and otherwise zero; 1 if plot grade is I <sub>5</sub> otherwise zero and 1 if plot grade is III <sub>1</sub> and otherwise zero. Plot grade III <sub>1</sub> is the comparison group.
<b>Plot Location</b>	Measure the location of the plot in the city. The city is administratively divided in to ten sub cities. We created dummy for each of the sub cities. Kirkos sub city is the comparative sub city for location effect on land value.
<b>Bid round</b>	Bid Round number 5 to 24





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Table 2: Mean areas supplied for auction by sub city in AA for all round

Sub city	No of plots	min	max	mean	Median	sd
Akaki	809	145	1664	379.5	272.0	268.2
Yeka	326	104	2714	492.2	465.0	377.7
Nifas Silk	159	150	7803	644.6	366.0	888.6
Addis Ketema	17	150	2120	569.2	343.0	564.8
Kolfe	289	131	1555	258.4	206.0	132.5
Bole	988	142	1717	395.1	345.0	257.3
Gulele	15	182	554	302.5	230.0	138.9
Lideta	10	567	3078	1472.9	1069.0	914.3
Arada	2	744	750	747.0	747.0	4.2
Kirkos	6	579	1354	836.8	625.0	358.3
Total	2621	104	7803	408.4	305.0	362.9

Table 3: distribution of plots for different use over bid round from 5 to 24 in Addis Ababa

Bid round	variable	Mixed use	Business	Residential	Social	Apartment	Total
5	Freq	25	21	58	0	4	108
	row %	23.15	19.44	53.7	0	3.7	100
	Column %	1.9	10.14	5.38	0	28.57	4.12
6	Freq	17	9	107	0	0	133
	row %	12.78	6.77	80.45	0	0	100
	Column %	1.29	4.35	9.92	0	0	5.07
7	Freq	133	0	109	0	0	242
	row %	54.96	0	45.04	0	0	100
	Column %	10.12	0	10.1	0	0	9.23
8	Freq	101	0	59	0	0	160
	row %	63.13	0	36.88	0	0	100
	Column %	7.69	0	5.47	0	0	6.1
11	Freq	103	4	43	1	0	151
	row %	68.21	2.65	28.48	0.66	0	100
	Column %	7.84	1.93	3.99	14.29	0	5.76
12	Freq	71	4	17	0	0	92
	row %	77.17	4.35	18.48	0	0	100
	Column %	5.4	1.93	1.58	0	0	3.51
13	Freq	20	31	174	3	10	238
	row %	8.4	13.03	73.11	1.26	4.2	100
	Column %	1.52	14.98	16.13	42.86	71.43	9.08
14	Freq	34	3	142	0	0	179
	row %	18.99	1.68	79.33	0	0	100
	Column %	2.59	1.45	13.16	0	0	6.83



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<b>15</b>	Freq	45	4	107	0	0	156
	row %	28.85	2.56	68.59	0	0	100
	Column %	3.42	1.93	9.92	0	0	5.95
<b>16</b>	Freq	26	0	64	0	0	90
	row %	28.89	0	71.11	0	0	100
	Column %	1.98	0	5.93	0	0	3.43
<b>17</b>	Freq	98	11	0	1	0	110
	row %	89.09	10	0	0.91	0	100
	Column %	7.46	5.31	0	14.29	0	4.2
<b>18</b>	Freq	35	3	57	0	0	95
	row %	36.84	3.16	60	0	0	100
	Column %	2.66	1.45	5.28	0	0	3.62
<b>19</b>	Freq	79	4	60	0	0	143
	row %	55.24	2.8	41.96	0	0	100
	Column %	6.01	1.93	5.56	0	0	5.46
<b>20</b>	Freq	188	40	2	0	0	230
	row %	81.74	17.39	0.87	0	0	100
	Column %	14.31	19.32	0.19	0	0	8.78
<b>21</b>	Freq	72	10	41	1	0	124
	row %	58.06	8.06	33.06	0.81	0	100
	Column %	5.48	4.83	3.8	14.29	0	4.73
<b>22</b>	Freq	116	12	0	1	0	129
	row %	89.92	9.3	0	0.78	0	100
	Column %	8.83	5.8	0	14.29	0	4.92
<b>23</b>	Freq	90	24	10	0	0	124
	row %	72.58	19.35	8.06	0	0	100
	Column %	6.85	11.59	0.93	0	0	4.73
<b>24</b>	Freq	61	27	29	0	0	117
	row %	52.14	23.08	24.79	0	0	100
	Column %	4.64	13.04	2.69	0	0	4.46
<b>Total</b>	Freq	1,314	207	1,079	7	14	2,621
	row %	50.13	7.9	41.17	0.27	0.53	100
	Column %	100	100	100	100	100	100



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Table 4: Average plot price, plot size and base price for auctioned plot of land in Addis Ababa city

Variable	N	min	max	mean	p50	sd
Plot price/m2_win	2375	521	355500	13491.2	11220.0	15482.8
Area size in m2	2621	104	7803	408.4	305.0	362.9
Plot Markup price/m2	2036	330	353965	13825.2	11602.5	16425.2
Base Price	2621	132	1535	217.9489	191	111.8409

Table 5: Price of plot of land per meter square in Addis Ababa by plot use type (Nominal price, Birr/M2)

Plot use type	N	min	max	mean	p50	sd
Mixed use	1017	521	101500	12692.81	11619	8096.136
Business use	136	1316.99	355500	25976.6	11185.5	56411.07
Residential use	873	2550	48925	13748.74	12155	6174.979
Social use	4	3599.99	66000	28800	22800	27859.77
Apartment	4	4667	8000	5706.25	5079	1549.238
Total	2034	521	355500	14052.15	11837.75	16511.06



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Table 6: Trends in winning price, plot size auctioned and markup price of mixed, business and residential use plots per meter square

Bid round	Variable name	Plots for Mixed Use			Plots for Business Use			Plots for Residential Use		
		N	p50	sd	N	p50	sd	N	p50	sd
5	Plot price/m2_win	24.0	7307.0	7547.6	16.0	5662.5	2399.4	16.0	5662.5	2399.4
	Area size in m2	25.0	500.0	244.8	21.0	622.8	354.4	21.0	622.8	354.4
	Plot Markup price/m2	24.0	7008.0	7379.6	16.0	5471.5	2400.0	16.0	5471.5	2400.0
6	Plot price/m2_win	15.0	7103.0	3029.6	4.0	4304.3	2202.6	4.0	4304.3	2202.6
	Area size in m2	17.0	570.0	191.2	9.0	635.0	48.4	9.0	635.0	48.4
	Plot Markup price/m2	15.0	6912.0	3029.6	4.0	4113.3	2202.6	4.0	4113.3	2202.6
7	Plot price/m2_win	56.0	6055.5	2547.6						
	Area size in m2	133.0	299.0	559.7						
	Plot Markup price/m2	58.0	5938.5	2536.8						
8	Plot price/m2_win	23.0	10111.0	4032.9						
	Area size in m2	101.0	175.0	313.7						
	Plot Markup price/m2	23.0	9812.0	4042.4						
11	Plot price/m2_win	98.0	5000.5	7462.5	4.0	8630.5	148315.6	4.0	8630.5	148315.6
	Area size in m2	103.0	584.0	291.4	4.0	1354.0	1249.4	4.0	1354.0	1249.4
	Plot Markup price/m2	98.0	4809.5	7445.4	4.0	8385.5	147785.8	4.0	8385.5	147785.8
12	Plot price/m2_win	15.0	7802.0	3776.3	4.0	6503.0	29681.9	4.0	6503.0	29681.9
	Area size in m2	71.0	552.0	251.0	4.0	691.5	724.2	4.0	691.5	724.2
	Plot Markup price/m2	15.0	7585.0	3763.2	4.0	6312.0	29310.3	4.0	6312.0	29310.3
13	Plot price/m2_win	0.0	.	.	2.0	10352.5	1700.6	2.0	10352.5	1700.6
	Area size in m2	20.0	250.0	62.6	31.0	1200.0	395.4	31.0	1200.0	395.4
	Plot Markup price/m2	0.0	.	.	2.0	10161.5	1700.6	2.0	10161.5	1700.6
14	Plot price/m2_win	33.0	12559.7	6229.0	3.0	9501.0	1981.4	3.0	9501.0	1981.4
	Area size in m2	34.0	474.5	129.4	3.0	889.0	223.6	3.0	889.0	223.6
	Plot Markup price/m2	33.0	12368.7	6234.9	3.0	9310.0	1981.4	3.0	9310.0	1981.4
15	Plot price/m2_win	41.0	9369.0	3648.7	2.0	23118.5	129.4	2.0	23118.5	129.4
	Area size in m2	45.0	458.0	362.0	4.0	505.0	319.9	4.0	505.0	319.9
	Plot Markup price/m2	41.0	9178.0	3595.7	2.0	22873.5	205.8	2.0	22873.5	205.8
16	Plot price/m2_win	25.0	7700.0	2247.6						
	Area size in m2	26.0	539.5	127.6						
	Plot Markup price/m2	25.0	7483.0	2246.3						
17	Plot price/m2_win	90.0	9910.5	3944.4	11.0	18800.0	6036.5	11.0	18800.0	6036.5



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	Area size in m2	98.0	307.5	118.4	11.0	1406.0	341.1	11.0	1406.0	341.1
	Plot Markup price/m2	90.0	9719.5	3944.4	11.0	18609.0	6036.5	11.0	18609.0	6036.5
<b>18</b>	Plot price/m2_win	34.0	14452.5	6098.3	3.0	25660.0	4365.0	3.0	25660.0	4365.0
	Area size in m2	35.0	364.0	210.6	3.0	508.0	68.2	3.0	508.0	68.2
	Plot Markup price/m2	34.0	14261.5	6079.1	3.0	25469.0	4365.0	3.0	25469.0	4365.0
<b>19</b>	Plot price/m2_win	76.0	13109.8	12149.7	4.0	19412.5	6524.7	4.0	19412.5	6524.7
	Area size in m2	79.0	396.0	342.5	4.0	1255.0	470.3	4.0	1255.0	470.3
	Plot Markup price/m2	76.0	12901.8	12107.5	4.0	19221.5	6524.7	4.0	19221.5	6524.7
<b>20</b>	Plot price/m2_win	163.0	13120.0	5224.0	27.0	12156.0	4509.9	27.0	12156.0	4509.9
	Area size in m2	188.0	450.0	257.2	40.0	347.5	674.7	40.0	347.5	674.7
	Plot Markup price/m2	163.0	12929.0	5223.5	27.0	11965.0	4509.9	27.0	11965.0	4509.9
<b>21</b>	Plot price/m2_win	72.0	16075.0	10353.8	10.0	11958.0	2861.8	10.0	11958.0	2861.8
	Area size in m2	72.0	724.5	412.4	10.0	363.0	535.4	10.0	363.0	535.4
	Plot Markup price/m2	72.0	15830.0	10339.7	10.0	11767.0	2861.8	10.0	11767.0	2861.8
<b>22</b>	Plot price/m2_win	111.0	13119.0	3383.7	12.0	12750.0	2505.6	12.0	12750.0	2505.6
	Area size in m2	116.0	448.0	132.0	12.0	833.5	361.0	12.0	833.5	361.0
	Plot Markup price/m2	111.0	12928.0	3383.7	12.0	12559.0	2505.6	12.0	12559.0	2505.6
<b>23</b>	Plot price/m2_win	84.0	13942.0	7171.6	7.0	5012.0	3291.3	7.0	5012.0	3291.3
	Area size in m2	90.0	340.5	200.9	24.0	343.0	255.2	24.0	343.0	255.2
	Plot Markup price/m2	84.0	13751.0	7155.3	7.0	4821.0	3291.3	7.0	4821.0	3291.3
<b>24</b>	Plot price/m2_win	57.0	16000.0	13822.7	27.0	9620.0	103068.3	27.0	9620.0	103068.3
	Area size in m2	61.0	234.0	208.1	27.0	349.0	328.3	27.0	349.0	328.3
	Plot Markup price/m2	57.0	15783.0	13729.2	27.0	9429.0	102553.1	27.0	9429.0	102553.1
<b>Total</b>	Plot price/m2_win	1017.0	11619.0	8096.1	136.0	11185.5	56411.1	136.0	11185.5	56411.1
	Area size in m2	1314.0	400.0	318.4	207.0	508.0	538.9	207.0	508.0	538.9
	Plot Markup price/m2	1019.0	11412.0	8065.5	136.0	10994.5	56123.2	136.0	10994.5	56123.2





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Table 7: Average auction plot markup price by land use type

Land Use type	No of plot	minimum	maximum	Mean	Median markup price	std. Dev
Mixed use	1019	330	100691	12471.31	11411.95	8065.547
Business	136	1125.99	353965	25688.06	10994.5	56123.15
Residential	873	2359	48626	13529.51	11948	6164.382
social	4	3300.99	64465	28219	22555	27,318.01
Apartment	4	4476	7809	5515.25	4888	1549.238
Total	2036	330	353965	13825.17	11602.5	16425.21

Table 8: Markup price for a plot of land by plot grade in Addis Ababa

Plot grade	Number of plot	Minimum	Maximum	Mean	Median markup price	std.Dev
III <sub>4</sub>	1388	330	42,309	11620.63	10,909	5595.96
III <sub>3</sub>	401	4329	40,950	13883.66	12,128.67	6806.15
III <sub>2</sub>	214	3300.99	61701	18144.83	15,932	10811.49
Others	27	8845	353965	92068.52	50,115	104900.8

Table 9: Average markup price of plot of land in Addis Ababa by location

Sub city	N	min	max	mean	p50	sd
Akaki	653	330.21	22126	9095.707	8,805.22	3479.951
Yeka	206	2255	42309	13702.57	12,809	6474.808
Nifas Silk	150	3300.99	61701	19937.36	16,597.5	11229.81
Addis Ketema	13	6434	353965	143362.4	148,965	132158.6
Kolfe	284	3301	48626	16687.67	16,362	7048.725
Bole	701	330	54945	12724.79	12,130	5804.625
Gulele	15	4898	26883	13602.82	12399	7074.937
Lideta	6	29397	85065	59645.33	62365	18735.65
Arada	2	32708	33673.89	33190.95	33190.95	682.9878
Kirkos	6	17191	100691	40637.83	27521	31162.8

Table 10: Descriptive statistics of variables included in the regression

Variable	Definition	Obs	Mean	Std. Dev.	Min	Max
Markup price	Plot value measured using the difference between winning price and base price of plot per square meter	2036	13825.2	16425.2	330	353965



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<b>Winning price</b>	Winning price per square meter	2451	13409.9	15259.8	522	355501
<b>Base price</b>	Floor price per square meter	2621	217.9	111.8	132	1535
<b>Round</b>	bid round number	2962	14.1	5.7	5	24
<b>Plot size</b>	Size of the plot in square meter	2621	408.4	362.9	104	7803
<b>Down payment</b>	minimum requirement for down payment	2621	15.8	5.0	.2	20
<b>Grace period</b>	Grace period for down payment to start in year	2621	2.0	0.0	2	4
<b>Payment period</b>	Lease Payment Completion Period in year	2621	34.1	4.9	10	40
<b>Lease period</b>	lease period in year	2621	76.1	19.2	60	99
<b>Capital</b>	capital	2617	466001.5	846286.9	12376.8	1820000
<b>Scity1</b>	Dummy for Akaki kaliti sub city	3038	0.3	0.4	0	1
<b>scity2</b>	Dummy for Yeka Sub city	3038	0.1	0.3	0	1
<b>scity3</b>	Dummy for Nifas Silk lafto sub city	3038	0.1	0.2	0	1
<b>scity4</b>	Dummy for Addis Ketema sub city	3038	0.0	0.1	0	1
<b>scity5</b>	Dummy for Kolfe Keraniyo sub city	3038	0.1	0.3	0	1
<b>scity6</b>	Dummy for Bole sub city	3038	0.4	0.5	0	1
<b>scity7</b>	Dummy for Gulele sub city	3038	0.0	0.1	0	1
<b>scity8</b>	Dummy for Lideta sub city	3038	0.0	0.1	0	1
<b>scity9</b>	Dummy for Arada sub city	3038	0.0	0.0	0	1
<b>areagradecode1</b>	Dummy for plot grade one	3038	0.6	0.5	0	1
<b>areagradecode2</b>	Dummy for plot grade two	3038	0.1	0.3	0	1
<b>areagradecode3</b>	Dummy for plot grade three	3038	0.0	0.0	0	1
<b>areagradecode4</b>	Dummy for ploy grade four	3038	0.1	0.3	0	1
<b>areagradecode5</b>	Dummy for plot grade five	3038	0.0	0.1	0	1
<b>Areagradecode 6</b>	Dummy for plot grade six	3038	0.0	0.1	0	1
<b>Service type code1</b>	Dummy for mixed use plots	3038	0.4	0.5	0	1
<b>Service type code2</b>	Dummy for business use plots	3038	0.1	0.3	0	1
<b>Service type codee3</b>	Dummy for residential use plots	3038	0.4	0.5	0	1



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**Table 11: Determinants of land value in Addis Ababa (Dependent variable: plot Markup price/meter square)**

Variable	Model one		Model Two	
	Coefficient/ P value	Marginal effect	Coefficient (P value)	Marginal effect
Floor price per square meter	0.003 0.0000	0.003 0.0000		
Bid round	0.057 0.0000	0.057 0.0000	0.055 0.0000	0.055 0.0000
Plot size	-0.000 0.0002	-0.000 0.0002	-0.001 0.0000	-0.001 0.0000
Plot size square	0.000 0.0222	0.000 0.0222	0.000 0.0472	0.000 0.0472
Down payment	-0.025 0.0000	-0.025 0.0000	-0.026 0.0000	-0.026 0.0000
Grace period	-4.857 0.0370	-4.857 0.0370	-3.482 0.0333	-3.482 0.0333
Lease Payment Completion Period in year	-0.113 0.0199	-0.113 0.0199	-0.079 0.0183	-0.079 0.0183
Capital	-0.000 0.9001	-0.000 0.9001	0.000 0.0455	0.000 0.0455
Yeka sub city	0.670 0.0000	0.670 0.0000	0.634 0.0000	0.634 0.0000
Nifas Silk sub city	0.833 0.0000	0.833 0.0000	0.778 0.0000	0.778 0.0000
Addis Ketema sub city	-0.691 0.0111	-0.691 0.0111	1.133 0.0135	1.133 0.0135
Kolfe sub city	0.475 0.0000	0.475 0.0000	0.391 0.0000	0.391 0.0000
Bole sub city	0.537 0.0000	0.537 0.0000	0.512 0.0000	0.512 0.0000
Gulele sub city	0.412 0.0000	0.412 0.0000	0.385 0.0001	0.385 0.0001
Lideta sub city	-0.634 0.0068	-0.634 0.0068	-0.145 0.7686	-0.145 0.7686
Arada sub city	-0.347 0.0284	-0.347 0.0284	0.023 0.9622	0.023 0.9622
Area grade	-0.052 0.0183	-0.052 0.0183		
Dummy for Mixed use plot	0.050 0.8308	0.050 0.8308	-0.175 0.2935	-0.175 0.2935
Dummy for Business use plot	0.289 0.2348	0.289 0.2348	0.039 0.8183	0.039 0.8183
Dummy for residential use plot	0.593 0.0867	0.593 0.0867	0.406 0.1745	0.406 0.1745
Dummy for grade one plot			-0.453 -0.453	-0.453 -0.453



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			0.0228	0.0228
Dummy for grade two plot			-0.421	-0.421
			0.0234	0.0234
Dummy for grade four plot			-0.203	-0.203
			0.2541	0.2541
Dummy for grade five plot			1.135	1.135
			0.0645	0.0645
Constant	12.172	12.172	12.829	12.829
	0.0000	0.0000	0.0000	0.0000
Number of observation	2030		2036	
R squared	0.5960		0.5620	

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Figure 1: Distribution of plots auctioned by Plot use type for the period  
Dec. 2006 to Octobe 2009 E.C

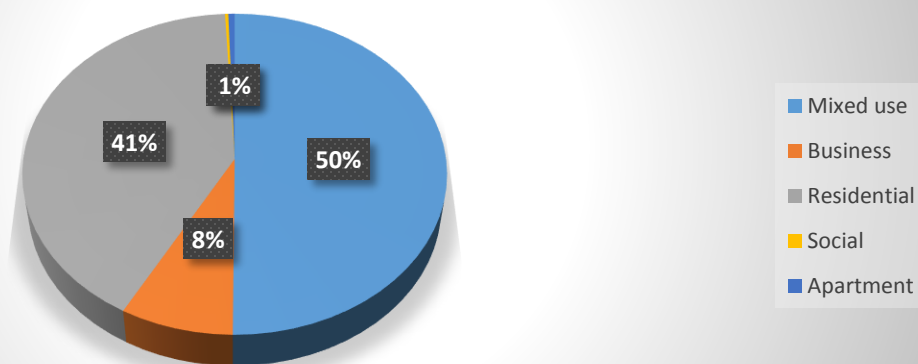
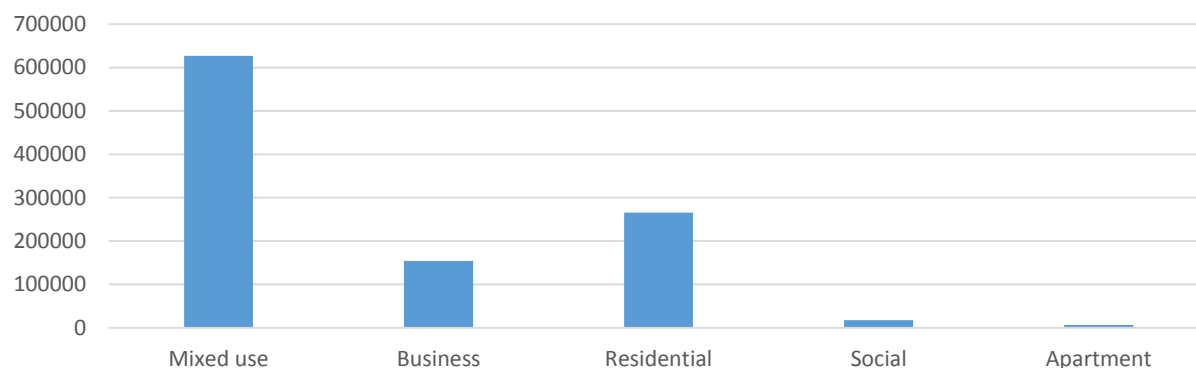


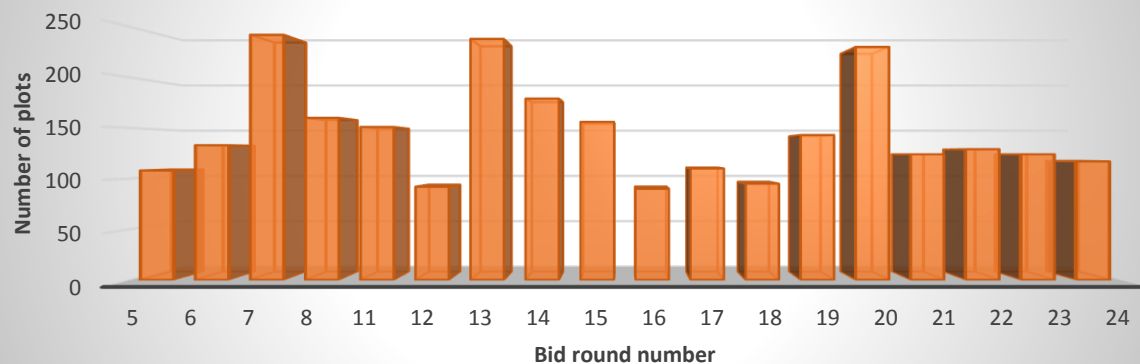
Figure 2: Land size in M2 supplied for auction by different use of  
plots



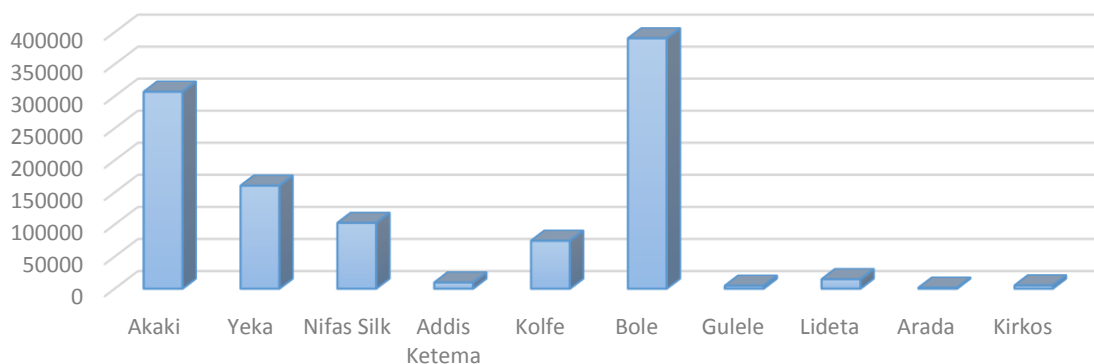




**Figure 3: Distribution of number of plots auctioned between round 5 to 24 in Addis Ababa**



**Figure 4: Distribution of land size (M2) auctioned for different purpose by location for the period Dec 2006 to October 2009 E.C**



**Figure 5: Number of plots auctioned by location in AA for the period Dec. 2006 to October 2009 E.C**

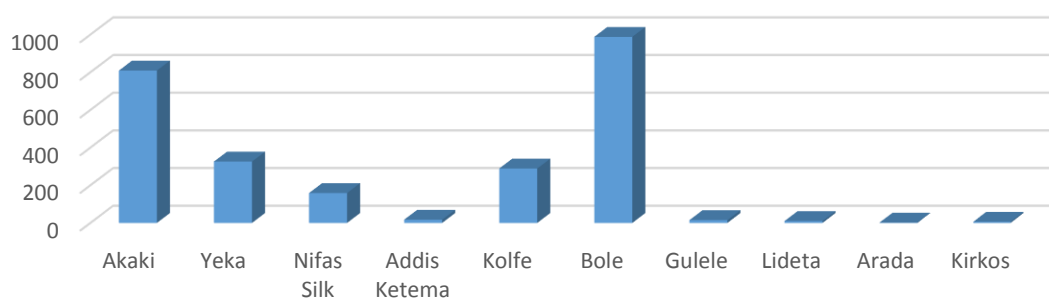




Figure 6: Area size in meter square auctioned between bid round 5 and 24

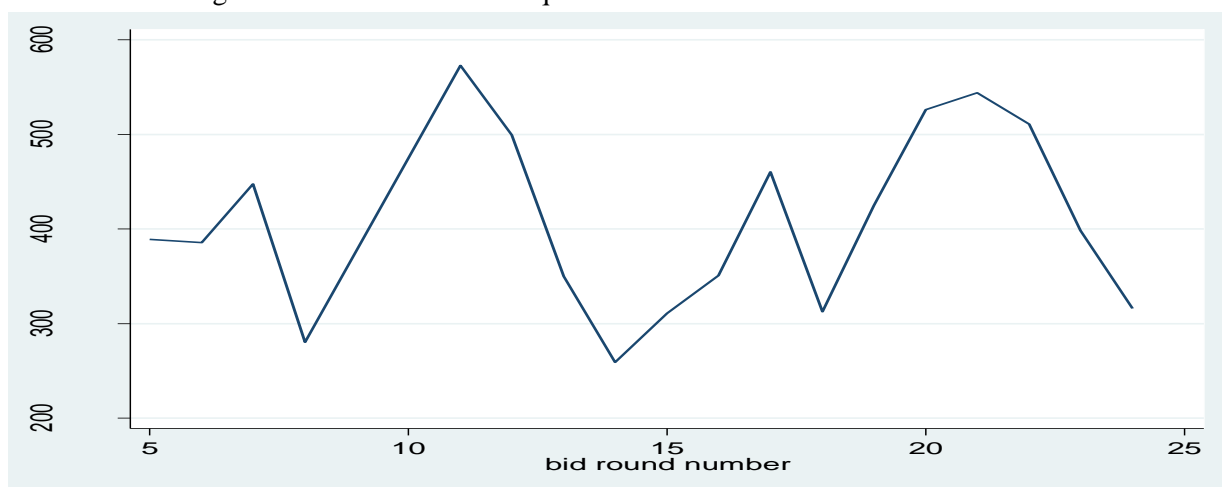


Figure 7: trends in land size auctioned and leased in AA for the period Dec 2006 to October 2009 E.C

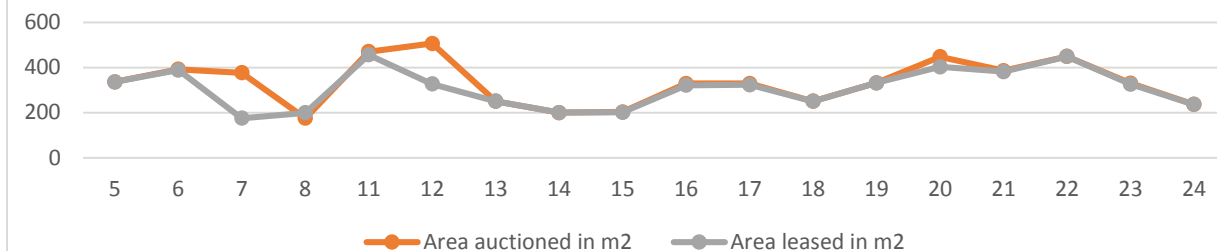


Figure 8: Trends in Number of plots available for auction and leased over all round of bid

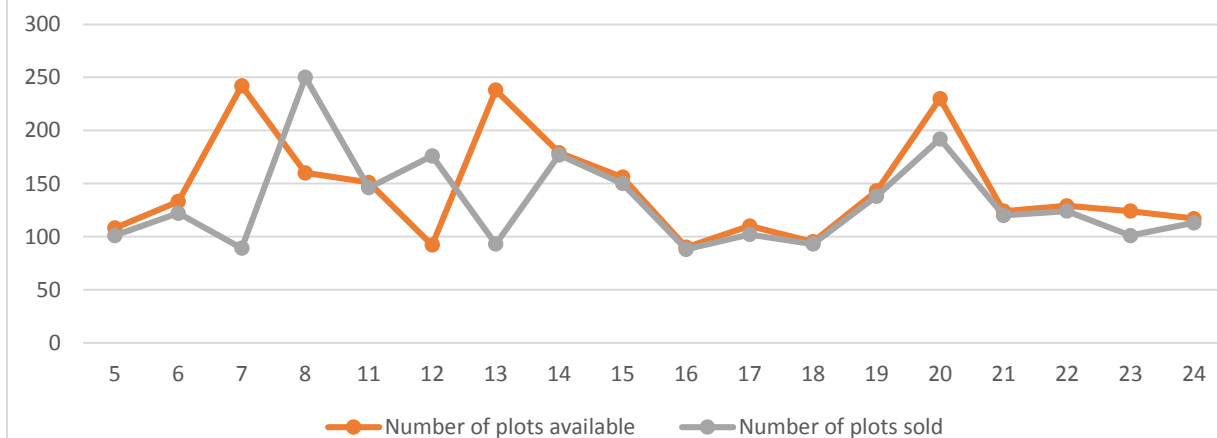




figure 9: Trends in ratio of plots available and actually sold over all bid round in Addis Ababa

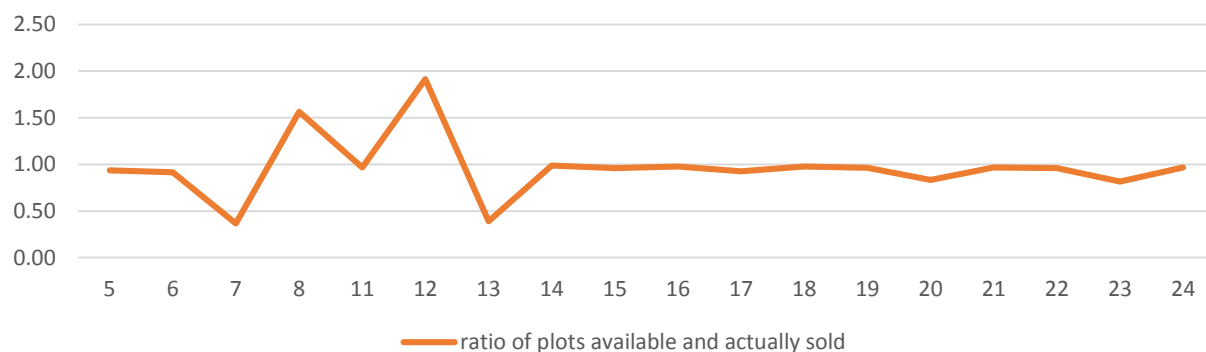


Figure 10: Trends in auctioned land price in Addis Ababa



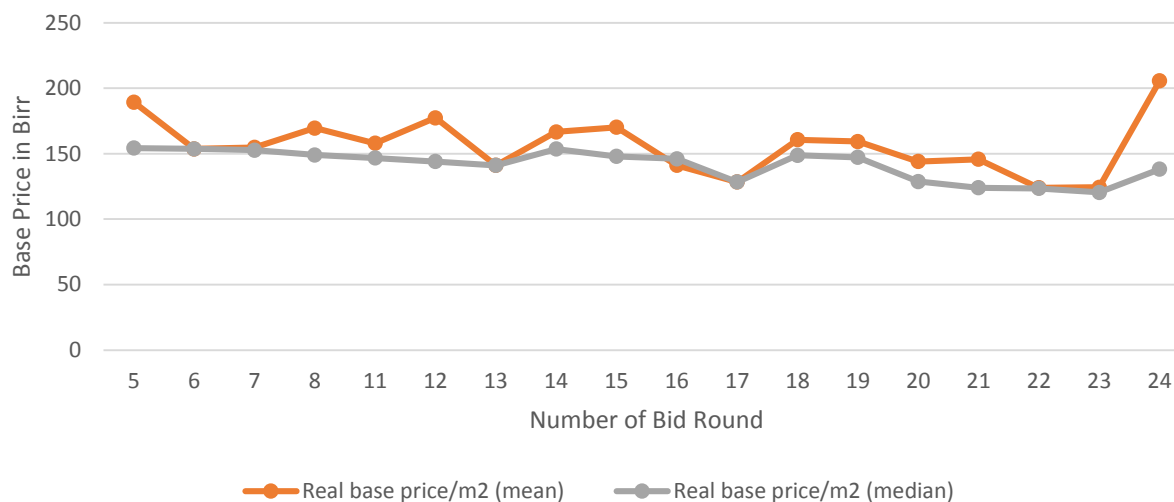


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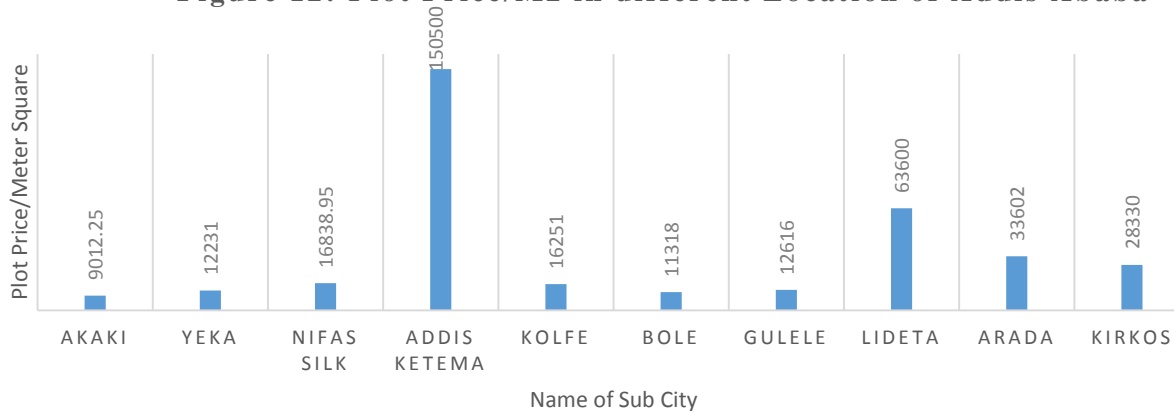
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**Figure 11: Trends in Real Base Price of Plot of land in Addis Ababa for the Period Dec 2006 Oct. 2009 E.C.**



**Figure 12: Plot Price/M2 in different Location of Addis Ababa**





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Figure 13: Distribution of Plots available for auction over 19 bid round

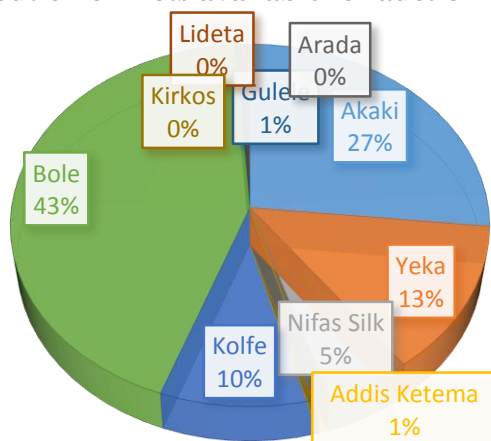
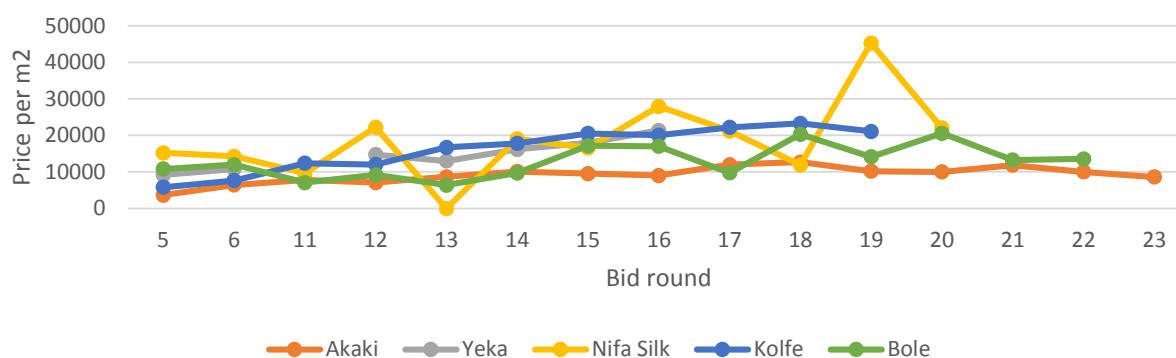


Figure 14: Trends in median nominal price for plot of land over all bid rounds by location







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Figure 15: Trends in median real plot price by land use type over bid round in Addis Ababa city

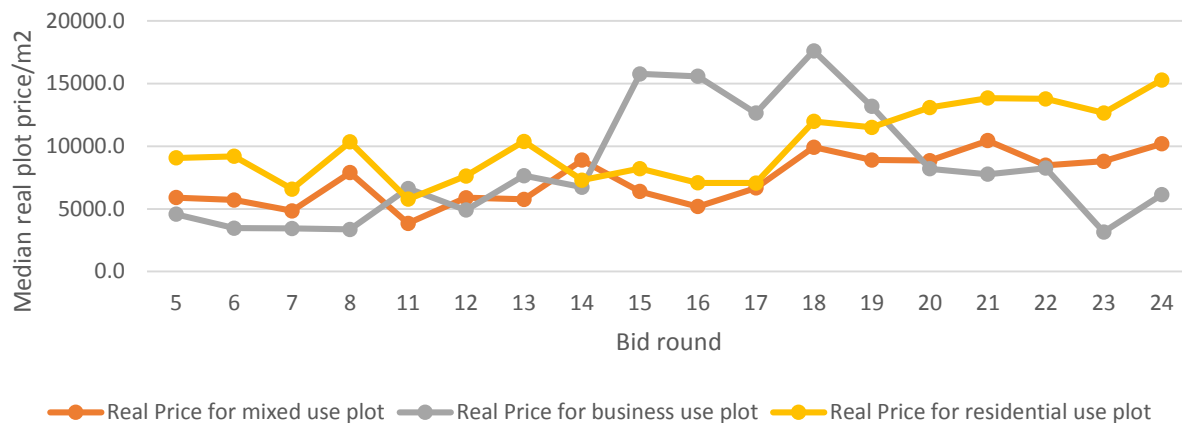
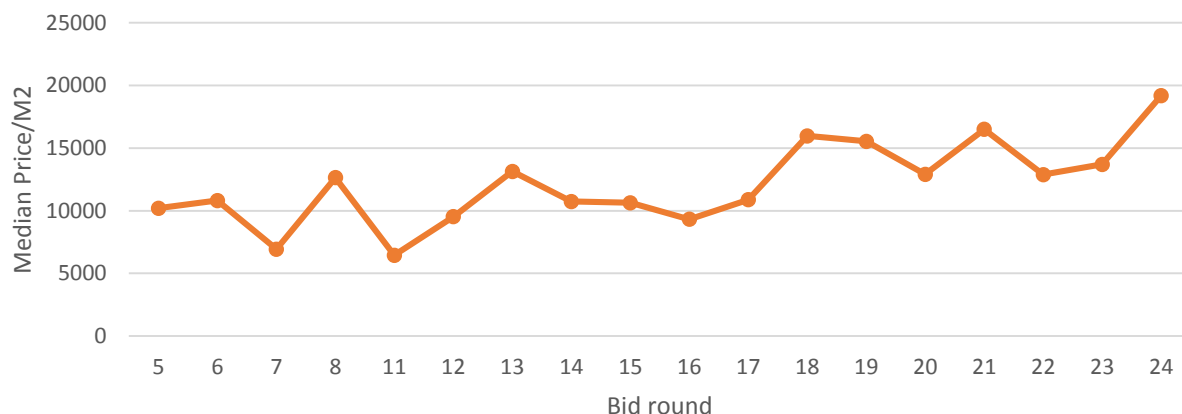


Figure 16: Trends in Median Markup price in Addis Ababa





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Figure 17: Trends in Markup price by use of plot of land in Addis Ababa over the period 2006 to 2009 E.C

