

Property Rights and Owner Occupied Housing Investment: Evidence from Urban Ethiopia

1-Introduction

Provision of individualized land titling as a means of reducing poverty and promoting private investment is increasingly receiving attention by policy makers in developing economies (Deininger, 2003). However, despite this increasing interest, there are researchers who express concerns as to the lack of independent evidence as to whether land titling is the best approach to achieve social and economic development goals (Payne *et al.*, 2008; Mooya, and Cloete, 2010).

There is no agreement about the effects of secure property rights. Some of the studies investigating the relationship, report a positive effect of secure property rights on investment (Banerjee *et al.*, 2002; Alston *et al.*, 1999; Field 2005), while others, conclude securing land rights do not really improve investment (Jacoby and Minten, 2005).

We contribute to the literature by empirically investigating the relationship between property rights and investment in urban Ethiopia. We deal with causality problems and endogeneity by making use of a natural quasi-experiment, and the use of propensity score matching to test our results.

2-Methodology

This study makes use of a natural quasi-experimental design in Addis Ababa, the capital of Ethiopia. The opportunity to conduct a natural quasi-experiment emerged when the city Administration of Addis Ababa decided to entitle informal property in two phases based on the directive issued in 2004 by the Bureau of Works and Urban Development, Addis Ababa.

The directive was designed to legalize informal property. Informal settlements in the city of Addis are known as “*chereka bet*” –literally meaning ‘house built during the night’. The decision to entitle occupants was primarily based on the year a plot was occupied, and if the construction of the building confirmed to city planning requirements. The first group examined consists of landholdings occupied before 1996 and the second group, those occupied from 1996 to 2004. Households belonging to the first phase have received their land titles (this is our treatment group) and the second group is waiting for intervention (this is our control group).

We collected data in 2014 from 400 random households: 210 in the treatment and 190 in the control group. The sample was selected randomly from the database at the respective sub city land management and administration offices. The questionnaire made use of earlier works by Field (2005) and Galiani and Shadrodsky (2010). They were adapted to match an Ethiopian urban housing context.

Statistical analysis: Propensity score matching

The results in Table 1 suggest that land titling has a positive effect on investment. The challenge in establishing causal inference from titling programs is that it typically faces the problem that formal property rights are endogenous (Galiani and Schedoveskey, 2010). The allocation of property rights across households is usually influenced by subject characteristics. Hence, it cannot be assumed that the treatment and control group are equivalent, and as such comparing the two groups may yield spurious results. A statistical technique to control for selection bias is the propensity score matching (PSM) technique.

The results of the regression analysis can be found in Table 1. To estimate the propensity score we included the covariates year of construction, plot size, number of household members and income.

Table 1: Logistic regression analysis (*predicting likelihood of household to be in treatment group*)

	Coefficient	Std. Err.	z-value	P> z
Year house was constructed	-0.01026	0.00706	-1.45	0.147
Plot size (squared meter)	-0.00208	0.00080	-2.60	0.009
#house hold members	0.143679	0.04785	3.00	0.003
Income	0.000177	0.00005	3.52	0.000
Constant	19.60013	14.02809	1.40	0.162

The propensity score is used to form matched sets of treated and untreated participants (Rosenbaum and Rubin, 1983a). So, households in the treatment and control group are matched that have the same predicted probability to be in the treatment group. In order to form propensity score matched sets we choose the nearest neighborhood matching method (which is the most common method). For the five blocks of matched sets of households that were formed on base of the propensity score, no significant differences were found between the baseline covariates (age, income, education, family size). Hence we did not find an indication that our propensity score model was not correctly specified.

Table 2: Propensity Score matching results

Investment Type	Average treatment effect	Std. Err	z-value	P> z
New structure investment	0.133	0.38	3.46	0.001
Housing Improvement investment	0.46	0.52	0.88	0.378
Maintenance and Repair investment	0.77	0.38	2.05	0.040

We find that titled households are more likely to put up new structures than untitled group. The PSM estimation result presented in table 5 shows land titling has a positive, significant effect (average treatment effect = 0.133, $z = 3.46$, $p < 0.001$) on building new structures such as addition of a new story, another room and/or new bed room. On average, the likelihood of treatment group households to invest is higher than control group.

Discussion

The results reflect that investment in owner occupied housing is influenced by changes in security of property rights. The findings from a sample of 400 households from urban Ethiopia provide support for the hypothesis that land and housing rights formalization increases the likelihood of investment in housing. This means that the ability to exercise ownership rights of control, transfer, rent and build structures has a direct effect on investment performance in owner occupied housing. However, the level of influence is more pronounced for the type of investment that requires subdivision plan and building permit. The findings are consistent with the predictions of property rights theory in which ownership rights are hypothesized to enhance investment through expropriation risk reduction, increased possibilities of trade of land, and increase credit financing opportunity.

The findings are also in line with results from studies in urban Latin American, that urban land formalization is a significant predictor of housing improvement. In a much cited study from Peru, Field (2005) found that residential investment rose more than two-thirds after titling took place. Furthermore, in the study in a low-income suburb of Buenos Aires, Argentina, Galiani and Shadrofsky (2010), Van Gelder (2009) conclude that securing property rights significantly increases investment levels.

The results shed important light on the hotly debated topic of property rights formalization especially from an urban African perspective. There are scholars (De Soto, 2000) who insist on the benefits of individualized property rights within neoliberal framework, and others (Payne *et al.*, 2008, 2009) who claim that individual land formalization is not the only mechanism to promote security of land rights. In this research the influence of formalization operates through security of investments. It is noted that a modest increase in investment makes a difference in the lives of the households. The true effect of titling may even be possibly greater since the control group is a group that is waiting to be titled. While they wait, they do so anticipating land titling will occur and thus invest in their homes. Another factor that plays a role is the common lack of resources in Ethiopia, although land titling offers protection, not all households have resources to invest in this manner.

The moderate effect of property rights improvement on investment, perhaps, has to do with lack of contextual factors that are necessary to make the potential of property rights interventions a success. The following five contextual factors are relevant: 1) collateral based credit supply, 2) household willingness to engage in credit markets 3) household credit information 4) households affordability of titling cost 5) Institutional quality of land administration systems.

Conclusion

Overall, it is concluded that urban land reform in Ethiopia has a positive impact on household investment decisions. Based on the results of this study, a number of issues call for the attention of researchers and practitioners. Donors, and land administration officials could use these findings when implementing land formalization projects. In order to optimize the effects of formalization projects potential constraints preventing maximization of reform need

to be tackled simultaneously. If the primary objective of land and building formalization is to encourage capital accumulation by enhancing land market and promoting investment, then Governments need to carry out deliberate interventions to address contextual issues. For instance, making efforts to stimulate greater housing finance opportunities along with land reform initiatives may have a potential to enhance more investment. Also, strengthening land governance institutions would help change the perception of households about the perceived corruption in land dealings. As an implication for researchers, since this study demonstrated modest effect of property rights on investment, researchers are advised to be careful in methodology selection as land reform impacts are quite complex to study, particularly in Sub-Saharan African land relations.

The study has demonstrated the effect of property formalization on owner occupied housing investment in urban Ethiopia. Future studies may wish to test the cost effectiveness, and sustainability of land and building formalization interventions. Evidence on these constructs is limited. Moreover, investigating social outcomes of such land titling projects would illuminate our understanding considering wider opposition from scholars who discourage individualized property rights.