Preferences for land sales legalization and land values in Ethiopia

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ABSTRACT

This study investigates attitudes towards legalizing land sales and Willingness to Accept (WTA) sales prices and compensation prices for land among smallholder households in the southern highlands of Ethiopia. Household panel data from 2007 and 2012 are used. The large majority of the sample prefers land sales to remain illegal, and the resistance to legalizing land sales increased from 2007 to 2012. While resistance against land sales was strongest among the most land poor in 2007, the relatively more land rich had become more negative towards legalizing land sales in 2012. Younger age and more education were not associated with a more positive attitude towards legalizing land sales. In the same period, perceived median real land values increased sharply but also exhibit substantial local variation with higher land values in areas with better market access. Stated minimum land sales prices increased with farm size in 2012. The substantial increase in perceived land values, high economic growth and outmigration of youth have yet to persuade the rural population in southern Ethiopia to open the land sales market.

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1. Introduction

With the sharp increase in demand for land, following the global food, energy and financial crisis that developed in 2007–2008, land sales markets in Africa rapidly captured global attention (Deininger and Byerlee, 2012; Cotula, 2009). Should Africa make its abundant land resources available for international investors or should African countries continue to restrict such access and reserve the land for the local poor to grow their own food? There is a fear that large land deals are a threat to the food security of the poor and vulnerable, while such deals may also be an opportunity for Africa to develop its agricultural sector and produce food and energy crops for export (Cotula, 2009). Ethiopia is one of the countries that have received attention as sources of land for international investors, while land access is increasingly difficult for rural households in the densely populated highlands of Ethiopia, where land sales are strictly prohibited and smallholders only are allowed to rent out part of their land for brief periods. What are the local smallholders' perceptions of land sales and how do they value their land? Land sales have been prohibited in Ethiopia since the radical land reform in 1975, and the restricted land use rights resemble those of agricultural households in China and Vietnam.

We examine factors associated with the preferences for land sales legalization among male and female household members in a rural sample of households in the southern highlands of Ethiopia. We also assess whether smallholder households potentially were willing to sell their land if land sales were legalized and the factors that affect or are correlated with this willingness and their stated Willingness to Accept (WTA) selling prices. As a check for reliability of the stated WTA prices households were also asked about what they considered a fair minimum compensation price in case their land was expropriated for public purpose. Ethiopia has laws that regulate such compensations. While one may question the reliability of such hypothetical valuations, an argument in favor of its reliability is that households in this case are asked to assess a resource they know very well and is their main source of livelihood. A comparison of the distribution of the WTA selling and WTA compensation prices also give a basis for judging the reliability of the stated minimum WTA selling prices.

The country has undertaken new land reforms since the late 1990s that include strengthening individual land rights and allowing land renting, while land sales and mortgaging land remain illegal. One might believe that the next natural step after strengthening individual land rights through land registration and certification would be to allow land sales given the continued population growth and declining farm sizes on one side and strong economic growth with new employment opportunities outside agriculture on the other. Allowing land sales could enable farmers to exit agriculture and use the capital from the sale of their farms to begin a new livelihood somewhere else. We use household panel

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data from 2007 and 2012 in Southern Ethiopia, where outmigration has expanded and most households had received land certificates by 2007 (Bezu and Holden, 2014a,b).

Ethiopia is a country in which land has represented the safety net and access to land has been a constitutional right for all since the radical land reform in 1975. Recent development has made it impossible to continue to provide this constitutional right, and land's function as a safety net is fast eroding due to rapid population growth and land fragmentation. Youth are increasingly landless, and non-farm employment opportunities are increasingly necessary (Bezu and Holden, 2014a). A high level of economic growth contributes to facilitating this transformation, and an important policy question concerns whether the prohibition of land sales is beneficial for development and the poor or ties them to the land and makes their transition more difficult. Possible reasons for continued prohibition include; (a) land is formally owned by the state; (b) there is a fear that permitting land sales will lead to distressed land sales and the migration of desperate individuals to the towns and cities where slums will develop and social problems will be exacerbated; and (c) the removal of the prohibition will lead to a return of a more in-egalitarian land distribution and the poor will suffer. While this is a large and complex question, we explore the changes in rural household attitudes and perceptions from 2007 to 2012 regarding the continuation of the prohibition of land sales.

Land issues are politically sensitive in Ethiopia and have been at the heart of political conflicts and reforms. The recent successful land registration and certification reform (Deininger et al., 2008, 2011; Holden et al., 2009, 2011), however, appears to have made land a less sensitive topic and subject to more open discussions. This is, to our knowledge, the first study that asks direct questions concerning attitudes towards land sales and willingness to accept prices if land sales were to be made legal in Ethiopia. We anticipated that asking about land sales would trigger protest responses or reluctance to answer because land sales are illegal. We therefore also investigated the land valuation question from another perspective to determine whether this would generate fewer protest responses among the responding households. We asked households what they perceived as a minimum acceptable compensation payment in the event that their farms were to be expropriated for public purposes. Such expropriations are occurring and may be less controversial than asking for a selling price for land. By assessing the difference in responses to these two approaches, our aim is to obtain a better understanding of the resistance to land sales and how individuals actually value the land to which they have perpetual user rights. We assess these by: a comparing mean WTA selling and compensation prices, b assessing factors associated with willingness to state such prices, and c comparing the distributions of land sales and compensation prices and how these have changed from 2007 to 2012.

2. Conceptual framework and hypotheses

De Soto (2000) has argued that the formalization of land rights is essential to achieve economic development and is the basis for establishing land markets that are linked to financial markets that can make the "dead capital of the poor alive". The credit and land sales link is also one of the three pillars in the neoclassical theory of land rights for the promotion of investment, economic growth and development. However, the recent financial crisis has also demonstrated that the link between property rights and financial markets can also represent the Achilles' heel of the economy, creating larger fluctuations and less economic stability unless careful regulation of financial markets is ensured.

There are several reasons for resisting the legalization of land sales. A common fear has been that the land sales market leads to a more skewed land distribution due to distress sales by the poor, who lose their land at times when they occupy a weak bargaining position and therefore obtain a poor price (Holden et al., 2008). This could be related to covariate shocks in agriculture or economic crises or recessions when indebted landowners may be forced to sell their properties. The land sales market is not a level playing field but is often subject to political control by the elite, and land sales may not transfer land to more efficient land users (Binswanger et al., 1995). In-egalitarian land distributions may also be associated with inefficiencies in rural economies and weak economic growth (Binswanger and Deininger, 1997). This also implies that land values are separated from agricultural land productivity where land sales markets are legal. This separation is obvious in areas experiencing urban expansion, where land values tend to increase sharply and are substantially above the agricultural value. However, land values are also often higher in rural areas because of policies that may favor the elite such as land investment representing a tax shelter or the provision of credit subsidies to large landowners. Expectations of a future increase in land values can also cause short-term land values to increase. All of these factors may imply that land sales do not necessarily lead to the transfer of land to more productive users, and small farmers may be rationed out of the land sales market despite that they may be more efficient than large landowners.

There are few good empirical studies of the effect of land sales on land distribution. Studies in Kenya and Uganda did not find that land sales resulted in more skewed land distributions in the 1990s (Holden et al., 2008).

Historically exploitative tenancy systems may be another reason for radical reforms and the prohibition of land sales in certain countries, such as in China, Vietnam and Ethiopia, where radical land reforms were implemented and created highly egalitarian land distributions intended to protect individuals from such exploitation (Holden et al., 2013). However, this radical approach prevented the users of the land from owning it themselves, and tenure insecurity emerged from land redistributions that were imposed to provide land to new households and maintain the egalitarian land distribution (Deininger and Jin, 2006; Holden and Yohannes, 2002).

High dependence on agricultural land for livelihood can be another reason for resistance to land sales. If the household perceives no or highly uncertain alternative livelihood options, risk aversion contributes to explaining such resistance. Economic development and the diversification of the economy should reduce the dependence on agriculture for livelihood and reduce resistance to land sales. Households and persons who perceive investment opportunities outside agriculture may also believe that the land could be a source of capital for such investments in new livelihood opportunities outside agriculture. Households that are more cash crop oriented may therefore also be more willing to accept land sales as they are better integrated into the market economy. It is also possible that husbands are more cash crop oriented than their wives who have more responsibility for providing and preparing the food for the family and this may result in a gender difference in attitudes towards allowing land sales and in stated willingness to sell land and in valuation of the land.

We use a Willingness-to-Accept (WTA) approach in this study and this may by itself imply that the land prices are on the high side as WTA prices typically are found to be higher than Willingness-to-Pay (WTP) prices for the same good (Horowitz and McConnell, 2003).

Repeated redistributions of land to ensure equitable access to land for all households and prohibiting the sale and mortgaging of land since 1975 contributed to individual households' land rights remaining weak and insecure (Rahmato, 1984; Holden and Yohannes, 2002; Deininger and Jin, 2006). The more recent land registration and certification reform with simultaneous provision

of more secure legal rights, in combination with joint certification of husbands and wives, provide stronger individual land rights and this may also be followed by a stronger demand also for the right to sell land.

Based on this brief literature review, we seek to test the following hypotheses:

H1. Men are more willing to allow land sales than women (women may be more concerned with family food security through subsistence production).

H2. Better market access and cash cropping are associated with greater interest in allowing land sales and higher land values.

H3. Land scarcity/poverty is associated with more aversion towards allowing land sales and higher land values.

H4. Land certification has contributed to reduced resistance against land sales and increasing land values.

H5. Young people are more willing to open for land sales than older people.

H6. Education is associated with higher willingness to accept land sales and higher land values.

The findings regarding these hypotheses should be of substantial relevance for the future land policies in Ethiopia and possibly other countries where land sales have recently come into focus, especially related to large land deals and permitting the involvement of international investors through long-term land leases or sales. Ethiopia is one of the countries that permitted long-term leases for large areas of land, despite that land scarcity is an increasing problem in the Ethiopian highlands.

3. Methods

3.1. Survey areas and data

Four areas in the Oromia and SNNP regions of Ethiopia were selected for this study. The areas were chosen to capture important variations in farming systems and socio-cultural and economic conditions. Sashemene is a market center in Oromia Region where town development is associated with urban expansion and the transformation of rural land to urban land. Agriculture is primarily ox-plough based. Arsi Negelle is also located in Oromia Region and has good market access and relatively large farm sizes. Holden and Yohannes (2002) identified this area as having high tenure insecurity. Combine harvesters have recently been introduced in this area as an indicator of potentially important technological change. Wondo Genet in Sidama Zone in SNNP Region is a cash crop producing area with irrigation where sugar cane, chat and coffee are important cash crops but farm sizes are small. Wollaita in SNNP Region is a densely populated, subsistence-oriented perennial crop area more remotely located from markets. Poverty is severe, and youth outmigration has increased in recent years (Bezu and Holden, 2014a). In Sashemene and Arsi Negelle, Oromo is the dominant ethnic group and most households are Muslims. The dominant ethnic group in Wondo Genet is the Sidama, while the dominant ethnic group in Wollaita is the Wollaita, and both of these groups are mostly Protestant.

The Oromia and SNNP regions each have their own land proclamations (OR, 2002, 2007; SNNPR, 2003, 2007), but these are consistent with the federal land proclamations (FRLAUP, 1997, 2005). The regional land proclamations made the necessary preparations for joint land registration and the certification of husbands and wives to strengthen land rights in general and female land rights in particular (Holden and Bezu, 2014).

The survey instruments for 2007 and 2012 included a question posed to the head of the household concerning the minimum acceptable compensation value for the household's land if local authorities take it for public purposes. This was followed by a question concerning whether the household head would consider selling the land if it became legal to sell and a good price were offered. They could respond yes, no, or only if the household faced a desperate situation. This was followed by a question regarding what the minimum acceptable price would be were the household willing to sell the land now. Respondents were informed that the price should exclude the value of the house and other buildings on the land.

The survey also contained a specific instrument that was administered separately to husbands and wives of households (and to single male and female household heads). This component included knowledge of the law, perceptions and preference questions, including the preference question for legalization of land sales (see Appendix A). We therefore assessed also how this preference question affected the willingness to sell and give sales and compensation prices for the land as well as the actual prices given.

3.2. Estimation and identification strategy

Individual panel data are used to assess individual attitudes towards land sales. Household panel data are used based on the responses from heads of households (typically the husband for married couples) to analyze factors associated with willingness to estimate land values and factors related to the stated minimum acceptable land sales and compensation values for land. The illegal nature of land sales may generate greater reluctance to respond to the land sale questions, and we therefore included individual attitude models and hypothetical response models for whether they could consider to sell their land if land sales were legalized and they got a good price for their land. The land sale willingness question also had three response options; see Appendix A for the question formulations. A dummy variable was constructed, equal to one if willing to sell, including willing to sell in a distress situation. The econometric models for preferences towards legalizing land sales by gender and willingness to give a compensation value and willingness to sell land if legalized are specified as linear probability models below and are used to assess some of the hypotheses.

Preference for land sales remaining illegal by men and women:

$$P(P_{it}^M) = c_0^M + c_1^M P_{it}^F + c_2^M M_v + c_3^M F_v + c_4^M D_t^{2012}$$
$$+ c_5^M F_v \times D_t^{2012} + c_6^M C_{it}^L + c_7^M \overline{C_{it}^L} + c_8^M X_{it} + c_9^M \overline{X}_i + \varepsilon_{it}^M \qquad (1)$$

$$P(P_{it}^F) = c_0^F + c_1^F P_{it}^M + c_2^F M_v + c_3^F F_v + c_4^F D_t^{2012} + c_5^F F_v \times D_t^{2012}$$
$$+ c_6^F C_{it}^L + c_7^F \overline{C_{it}^L} + c_8^F X_{it} + c_9^F \overline{X}_i + \varepsilon_{it}^F \qquad (2)$$

Willingness to sell land if legal:

$$P(\text{WTS}_{it}) = \begin{pmatrix} s_0 + s_1 P_{it}^M + s_2 P_{it}^F + s_3 M_v + s_4 F_v + s_5 D_t^{2012} + s_6 F_v \times D_t^{2012} \\ + s_7 C_{it}^L + s_8 \overline{C_{it}^L} + s_9 X_{it} + s_{10} \overline{X}_i + s_{11} \left(\widehat{\varepsilon}_{it}^M \right)^2 + s_{12} \left(\widehat{\varepsilon}_{it}^F \right)^2 + \varepsilon_{it}^s \end{pmatrix} \qquad (3)$$

Willingness to give a compensation value:

$$P(C_{it}^{\text{WTA0}}) = \begin{pmatrix} c_0 + c_1 P_{it}^M + c_2 P_{it}^F + c_3 M_v + c_4 F_v + c_5 D_t^{2012} + c_6 F_v \times D_t^{2012} \\ + c_7 C_{it}^L + c_8 \overline{C_{it}^L} + c_9 X_{it} + c_{10} \overline{X}_i + c_{11} \left(\widehat{\varepsilon}_{it}^M \right)^2 + c_{12} \left(\widehat{\varepsilon}_{it}^F \right)^2 + \varepsilon_{it}^c \end{pmatrix} \qquad (4)$$

Minimum willingness to accept selling price for land per ha if legal:

$$\text{WTA}_{it}^{\text{LS}} \big|_{\text{WTA}^{\text{LS}}_0} = \begin{pmatrix} a_0 + a_1 P_{it}^M + a_2 P_{it}^F + a_3 M_v + a_4 F_v + a_5 D_t^{2012} + a_6 F_v \times D_t^{2012} \\ + a_7 C_{it}^L + a_8 \overline{C_{it}^L} + a_9 X_{it} + a_{10} \overline{X}_i + a_{11} \left(\widehat{\varepsilon}_{it}^M \right)^2 + a_{12} \left(\widehat{\varepsilon}_{it}^F \right)^2 + \xi_{it}^{\text{LS}} \end{pmatrix} \qquad (5)$$

Minimum willingness to accept compensation price for land per ha:

$$WTA_{it}^C|_{WTA^C 0} = \begin{pmatrix} b_0 + b_1 P_{it}^M + b_2 P_{it}^F + b_3 M_v + b_4 F_v + b_5 D_t^{2012} + b_6 F_v * D_t^{2012} \\ + b_7 C_{it}^L + b_8 \overline{C_{it}^L} + b_9 X_{it} + b_{10} \overline{X}_{it} + b_{11} \left(\widehat{\varepsilon_{it}^M}\right)^2 + b_{12} \left(\widehat{\varepsilon_{it}^F}\right)^2 + \varepsilon_{it}^C \end{pmatrix}$$

(6)

Almost the same set of explanatory variables and controls are used in the six models. P^M and P^F denote the two dummy variables for the male and female respondents being opposed to legalizing land sales. Observations are for household/person i in year t. The F_v variable represents different agricultural conditions captured by district dummy variables. We investigate potential factors associated with such resistance and how it has changed from 2007 to 2012 across communities by also including district × year (dummy for year = 2012) interactions to identify spatiotemporal variations. This variation is used to explore the importance of variation in market access, cash cropping and land certification. In addition the M_v variable captures the village location in relation to markets and is represented by a peri-urban dummy variable. The baseline district is Sashemene. The C^L variable captures land tenure information including whether the household has received a land certificate, a dummy for household head's name as the only name on the land certificate, a dummy for participation in land reform meetings, whether it has experienced land border disputes and whether it has witnesses that can confirm its land borders (indicators of tenure security).

X_{it} represents additional household and farm characteristics that are time varying and may affect preferences for legalizing land sales, willingness to provide a compensation value for land, or propose a sale value for land. These characteristics include farm size per capita (wealth indicator), a female head dummy, a polygamous household dummy variable, the age of the household head, male and female labor force in the household (wealth/human capital indicator), education of household head (wealth/human capital indicator), and household size. $\overline{C_{it}^L}$ and $\overline{X_{it}}$ are vectors of means for time-varying land tenure, household and farm characteristics that are used to control for time-invariant unobserved heterogeneity instead of household fixed effects, which cannot be applied in these limited dependent variable models due to the incidental parameter problem (Mundlak, 1978; Chamberlain, 1984).

We now discuss how we aim to test the stated hypotheses. The study is exploratory as not much research has been carried out on willingness to sell land in countries where this is prohibited and various psychological and political factors may be at play that can lead to omitted variable bias. We also recognize that a number of variables are endogenous and testing of hypotheses in such a setting requires a cautious approach where the results only point to tentative conclusions regarding the tests of the hypotheses.

Hypothesis H1 stated that men are more willing to allow land sales than women (women may be more concerned with family food security through subsistence production). The descriptive statistics and the first two econometric models assess whether men and women have different opinions about legalizing land sales and factors associated with these. They also assess the extent to which the preferences of the husbands and their wives are correlated on this issue.

Hypothesis H2 stated that better market access and cash cropping are associated with greater interest in allowing land sales and higher land values. This is explored through the spatiotemporal variables. If areas with better market access and more cash cropping have persons more in favor of allowing land sales, this supports the hypothesis. Likewise, a trend over time with declining reluctance to legalizing land sales and higher land values point in direction of economic development reducing resistance against land sales markets.

Hypothesis H3 that land scarcity/poverty is associated with more aversion towards allowing land sales and higher land values is assessed by using farm size per capita and interacting it with the year = 2012 dummy variable while controlling for time-invariant variation with the Mundlak–Chamberlain approach. District dummies are used to control for variation in land quality and other agro-ecological and socio-economic conditions. We are able to assess whether there is a shift from 2007 to 2012 in how land scarcity is associated with preferences and land values.

Hypothesis H4 that land certification has contributed to reduced resistance against land sales and increasing land values is assessed by including a dummy for households having a land certificate while controlling for time-invariant variation with the Mundlak–Chamberlain approach. Controls for tenure insecurity are included based on dummies for experience of border disputes and households having witnesses to confirm their plot borders. A dummy for only the husband's name on the land certificate was also included to assess whether this can reveal a gender difference in preferences and whether it affects stated land values.

Hypothesis H5 stated that young people are more willing to open for land sales than older people. We have included the age of the head of household and a dummy for household heads younger than 45 years and interacted these to assess whether the slope is different for young and older household heads. The time-invariant control for age of household head was also invoked as a control.

Hypothesis H6 stated that education is associated with higher willingness to accept land sales and higher land values. The education of head of household was included to test for this with the same control for time-invariant variation as for the other variables.

Additional controls for endogeneity were included in Eqs. (3)–(6). Preferences for not legalizing land sales are endogenous and a control function approach was used (Wooldridge, 2010). Error terms from probit model versions of the preferences of men and women including community dummies as additional instruments, were generated. These were included in linear and squared forms in the subsequent models (Eqs. (3)–(6)). This identification strategy (non-linear approach) should reduce the endogeneity bias (more details on the robustness assessment is available from the authors upon request).

Attrition bias related to reluctance to give land sales values and compensation values were controlled for by use of inverse probability weights based on willingness to sell land if land sales were legalized in the land sales model and willingness to state a minimum compensation value for land in the compensation value model.

The models with minimum WTA selling prices for land for those willing to sell land if land sales were legal and minimum compensation values for land are truncated tobit models while the other models are linear probability models. In all models we use cluster-robust standard errors with clustering at the community level.

3.3. Reliability and external validity

While the reliability of hypothetical values given in contingent valuation surveys has been questioned such critical comments to a large extent relate to the nature of the goods valued (public or environmental goods where it is often the non-use value that is estimated (Diamond and Hausman, 1994). The private land of households that we have asked them to value is much more like a private good, although strictly according to the Ethiopian law, the land is owned by the state and households only have user rights into perpetuity as long as they stay on and use the land. This makes it very clear, however, that it is use values (source of livelihood) and not non-use values that are estimated.

Minimum acceptable compensation values were used as a quality check of the stated willingness to sell responses and factors associated with land sales and compensation values. Good correspondence between stated land sales and compensation values give reason to trust the results as meaningful. Willingness to accept prices are generally found to be higher that willingness to sell prices for various reasons (Horowitz and McConnell, 2003). It is therefore not surprising that the land values we find are on the high side. Sensible analytical findings after having imposed a number of controls further strengthen the belief that the study reveals new useful insights about an understudied topic. Some of the findings are surprising and at the same time of high policy relevance although one may question the external validity of the findings. The large variability in agro-ecological conditions and degree of market integration in the study areas point towards external validity for findings that were robust across this variability, and may hold for other areas with similar conditions within Ethiopia. One of the authors have access to household panel data from another region in Ethiopia (Tigray) where a similar level of aversion to opening for land sales is prevalent.

4. Descriptive statistics

Table 1 gives an overview of the stated willingness to sell land by year based on the question "If it became legal to sell land, would you consider selling for a good price?" with the responses; No, Yes, and Only if desperate. This question was asked to the same panel of households in 2007 and 2012 and Table shows a change in the response distribution in this period. The share stating that they would not be willing to sell increased from 63.5% in 2007 to 87.2% in 2012. The share stating that they only would sell if they came into a desperate situation declined from 3.5 to 0.3%, indicating that distress sales is not considered to be an important option. In the following analysis, we therefore simplify the analysis by creating one dummy variable for not willing/willing to sell land if it were legalized.

Table 2 gives an overview of the minimum sales value and share of respondents giving such values by respondent category if not willing/willing to sell and by year. The two tables reveal some additional interesting insights in terms of change from 2007 to 2012. The share stating that they would be willing to sell declined overall. Those giving a minimum land value among those stating that they would not be willing to sell, gave a substantially higher value than those willing to sell in 2012 while this was not the case in 2007. The share willing to give a price has also declining from 69 to 35% in this group from 2007 to 2012. This may illustrate an increasing resistance towards legalizing land sales in this subsample. We do not see the same pattern among those stating that they would be willing to sell if land sales were legalized, however, this group declined in share of the sample from 2007 to 2012. For comparison, we have also included the response rates and minimum compensation values in Table 2 for the same sub-categories of households. We do not see the same trends in response rates and land compensation values as the response rates increased slightly from 2007 to 2012 and minimum acceptable compensation values were not very different from minimum sales values for those not willing vs. willing to sell their land if sales were legalized.

Tables 2 and 3 present minimum median WTA compensation prices per ha and minimum median WTA selling prices per ha by district and year. Table 2 presents this separately for those not willing to sell (but still willing to give such a price) and for those willing to sell. Table 3 lumps together all those willing to state a price. The prices are in millions of inflation-adjusted Ethiopian Birr (EB), using June 2006 as the base. Median values are preferred because of some very high outlier responses.

Table 3 presents minimum median WTA compensation prices per ha and minimum median WTA selling prices for land by district and year. We observe a sharp increase in real WTA compensation and selling prices from 2007 to 2012, especially in Sashemene, which is a market center. The average changes in median compensation and sales prices are computed without compound interest over the five-year period. They illustrate the substantial variation across areas. The difference between Sashemene and Wondo Genet in the change over time is particularly striking and surprising. Figs. 1 and 2 further illustrate the differences in WTA (log) selling prices across districts and years. Wondo Genet had higher prices than the other locations in 2007 but did not experience the same increase in land values as the other areas during the period 2007–2012. Fig. 3 indicates that the distributions of minimum WTA selling prices and minimum WTA compensation prices are similar in both years. We observe a substantial increase in both types of prices from 2007 to 2012 after correcting for inflation.

We may wonder how large these land values are compared to the official compensation rates offered in Ethiopia and to land values in other countries where land markets are operating. The following back-of-the-envelope calculation of the compensation value should correspond to the crop output value of a normal crop for seven years based on the compensation rules that were introduced in 2006. If we assume that the crop is teff, having an average yield of 1300 kg/ha, and the price of teff in 2006 is 6.4 EB/kg, we obtain a compensation value of 0.058 mEB/ha, which is substantially below the reported land values, even in Wollaita, in 2007. This official compensation value is approximately 6933 US$/ha. The median compensation values that farmers demanded according to Table above ranged from 8690 to 54,048 US$/ha in 2007 and from 53,333 to 160,000 US$/ha in 2012 (in 2006 dollars).

A study that assesses land valuation and land compensation practices in Ethiopia (ELAP, 2012) using a sample of 352 households whose land was expropriated (in the Amhara, Tigray, Oromia and SNNP regions), found that 272 households had been compensated and the remaining 80 had not. Of those compensated, 247 were compensated in cash, 17 compensated with substitute land and 8 compensated with land and cash. One of the reasons for not compensating households even after their land has already been taken is the disagreement with the compensation price. It is reported as a main reason by 60% of households not compensated in SNNP and 36% in Oromia. More than 90% of the interviewed compensated households reported that they were not satisfied with the compensation they received. Of those who were compensated, only 8% in SNNP and 3% in Oromia reported that they were satisfied with the compensation. Average compensation paid in cash in mEB/ha were 0.183 (Amhara), 0.015 (Oromia), 0.011 (SNNP) and 0.014 (Tigray), with an overall average of 0.060. These are very low values compared to the minimum WTA selling and compensation values in our study.

De Groote (2014) reported land values in the range of 800–3000 US$/ha in Kenya, well below the abovementioned Ethiopian values. With an average maize yield of 1500 kg/ha, the value of the crop is estimated at 375 US$/ha, with a range of 250–625 US$/ha. Our study area in Ethiopia is in the high potential southern highlands, and irrigated cash crops can yield high returns. We observe, however, that the largest increase in land values was recorded in the rain-fed area experiencing urban expansion (Sashemene). Clearly, factors other than agricultural land productivity are driving these increases in WTA land valuations.

Table 4 provides an overview by district and year of the share of husbands and wives preferring that land sales remain illegal. Surprisingly, we observe that the share of respondents opposed to legalizing land sales increased in all districts from 2007 to 2012 and the rates are similar for men and women.

Table 1
Distribution of responses regarding willingness to sell land by year.

Year	Dummy used for WTSell if legal/Row%	If it became legal to sell land, would you consider selling for a good price?				Total (N), %
		No	Yes	Only if desperate	Missing	
2007	0	396	0	0	0	396
	%	100	0	0	0	100
	1	0	154	22	52	228
	%	0	67.5	9.7	22.8	100
	Total	396	154	22	52	624
	%	**63.5**	24.7	3.5	8.3	100
2012	0	545	0	0	0	545
	%	100	0	0	0	100
	1	0	68	2	10	80
	%	0	85.0	2.5	12.5	100
	Total	545	68	2	10	625
	%	**87.2**	10.9	0.3	1.6	100

Source: Own survey data.

Table 2
Minimum median WTA compensation and selling prices by willingness to sell and year.

	WTSell if legal	2007		2012	
		Min. WTA compensation value, mEB/ha	Min. WTA sale value, mEB/ha	Min. WTA compensation value, mEB/ha	Min. WTA sale value, mEB/ha
Value mEB/ha	No	0.11	**0.11**	0.45	**0.74**
n (giving price)		205	274	317	192
N (not WTSell)		396	396	545	545
n/N (not WTSell)		0.52	**0.69**	0.58	**0.35**
Value mEB/ha	Yes	0.10	**0.10**	0.45	**0.38**
n (giving price)		133	150	69	69
N (WTSell)		176	176	70	70
n/N (WTSell)		0.76	**0.85**	0.99	**0.99**
Value mEB/ha	Total	0.11	0.11	0.45	0.67
n (giving price)		338	424	386	261
N (Total)		624	624	625	625
n/N (giving price)		0.54	0.68	0.62	0.42
Missing responses		0	52	0	10

Source: Own survey data.

Table 3
Land availability and land values per ha in 2007 and 2012 by district.

District	Stats	2007		2012		% change/year	
		Compen-sation value, mEB/ha	WTA sales price, mEB/ha	Compen-sation value, mEB/ha	WTA sales price, mEB/ha	Compen-sation value	WTA sales price
Sashemene	Median	0.099	0.098	0.896	1.344	161	254
	N	73	120	62	53		
Arsi	Median	0.105	0.115	0.448	0.739	65	109
Negelle	N	64	103	55	20		
Wondo	Median	0.454	0.454	0.800	0.605	15	7
Genet	N	55	55	93	50		
Wollaita	Median	0.073	0.073	0.269	0.448	54	103
	N	146	146	176	138		
Total	Median	0.106	0.106	0.448	0.672	65	107
	N	338	424	386	261		

Note: Land values are in 2006 EB. The exchange rate was 8.4 EB/US$ in June 2006. mEB = million Ethiopian Birr. The% change per year in minimum median WTA compensation prices and WTA sales prices is the average change per year from 2007 to 2012 without compounding.

Table 4
Share of respondents who think that land sales should be illegal, by gender, district and year.

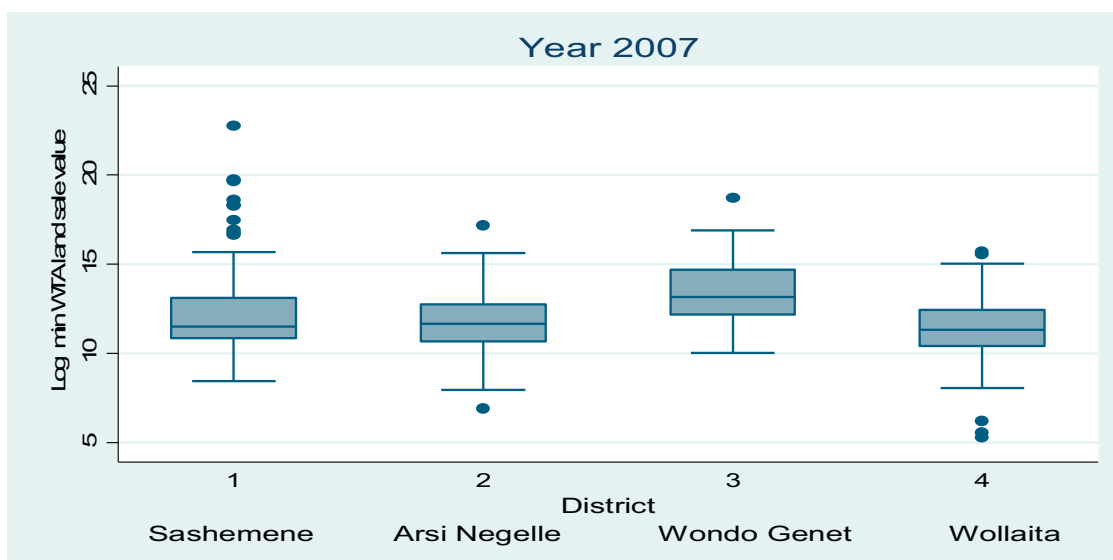| District		2007		2012	
		Men	Women	Men	Women
Sashemene	Share	0.70	0.61	0.88	0.90
	N	152	152	136	136
Arsi	Share	0.86	0.77	0.93	0.96
Negelle	N	153	153	143	143
Wondo	Share	0.75	0.79	0.83	0.88
Genet	N	114	114	141	141
Wollaita	Share	0.78	0.80	0.95	0.90
	N	205	205	205	205
Total	Share	0.77	0.74	0.90	0.91

Source: Own survey data.

Fig. 1. Land sale value distributions (log-transformed) by district in 2007.
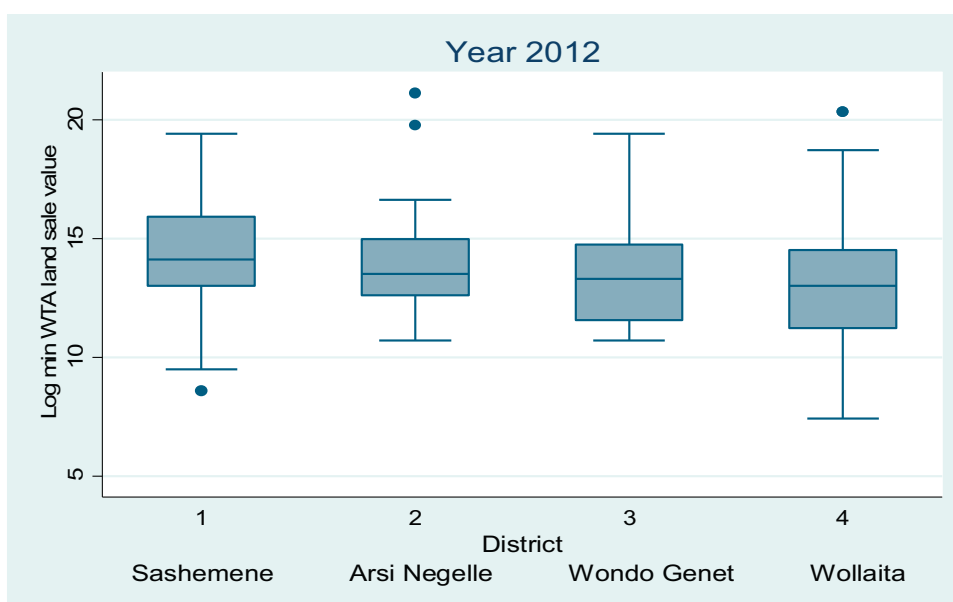

Fig. 2. Land sale value distributions (log-transformed) by district in 2012.

Table 5
Means by district for key variables.

	Sashemene		Arsi Negelle		Wondo Genet		Wollaita	
	Mean	N	Mean	N	Mean	N	Mean	N
Border dispute experience, dummy	0.242	281	0.257	292	0.294	180	0.273	396
Border witnesses for land, number	0.875	281	0.850	294	0.937	190	0.860	400
Has land certificate	0.802	283	0.867	293	0.263	224	0.771	397
Husband's name on certificate only	0.153	288	0.095	296	0.018	255	0.088	410
Participated in land reform meetings	0.787	287	0.799	294	0.655	194	0.725	400
Peri-urban dummy	0.403	288	0.243	296	0.757	255	0	410
Polygamous hh, dummy	0.229	288	0.199	296	0.121	248	0.115	410
Female headed hh, dummy	0.092	283	0.153	288	0.108	232	0.131	406
Age of household head	44.3	288	45.8	296	54.9	255	48.0	410
Education of household head	3.226	288	4.149	296	3.949	255	3.498	410
Male work force	1.695	266	1.883	264	2.061	196	1.916	407
Female work force	1.654	266	1.857	265	1.761	197	1.821	407
Household size	7.24	284	7.31	287	6.62	239	6.68	407
Farm size per capita, sq. meters	1903	285	2209	288	722	237	983	407

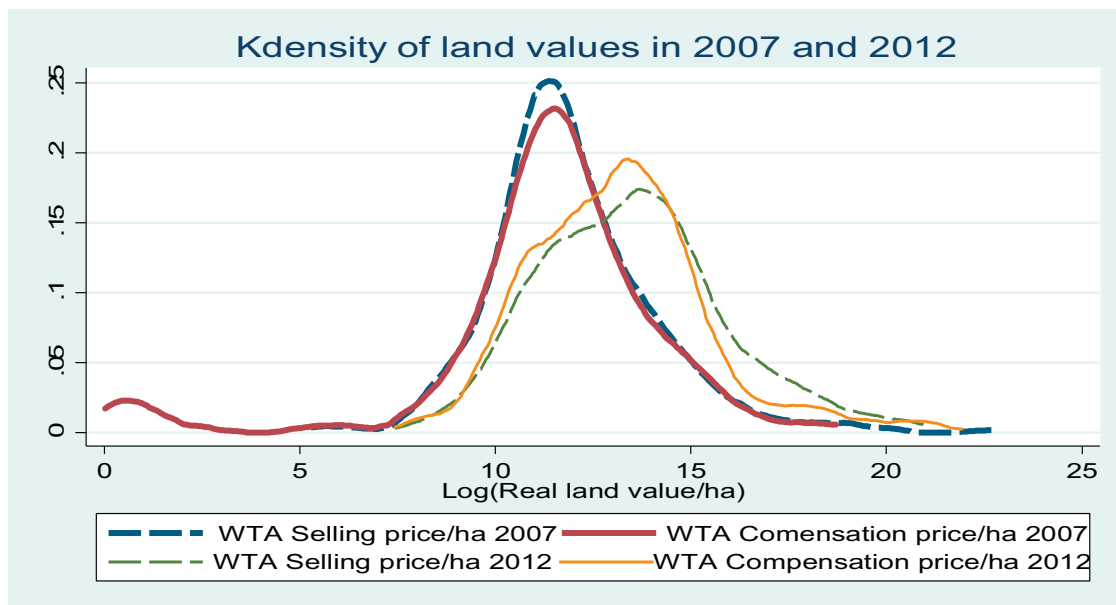*Note*: The table gives the means for 2007 and 2012.

Fig. 3. Real WTA selling prices and WTA compensation prices for land per ha in 2007 and 2012.

Table 5 presents an overview of the means of other relevant variables by district. The Table includes household characteristics, farm size per capita, a dummy variable for whether a household experienced land border disputes in the past (an indicator of tenure insecurity), and the number of witnesses households have who can confirm the boundaries of their land (an indicator of the quality of the land registration process and of tenure security related to encroachment by neighbors).

We observe that approximately one-quarter of households had experienced land border disputes. Holden and Tefera (2008) found such disputes to have been very common before land registration and certification but that, through improved border demarcation, the reform contributed to reducing the number of such disputes. Whether households have a land certificate and whether only the name of the husband appears on the land certificate are represented by two dummy variables. Wondo Genet has the lowest share with land certificates. This district is a pilot district where modern tools for land registration and certification have been employed, and this is one reason for the delay in the distribution of certificates there. The large majority of households with land certificates have received a joint certificate. Certain husbands only have their own names listed on the certificates, with the highest share (15.3%) of such households being located in Shashemene. Another dummy variable identifies whether someone from the household participated in land reform meetings regarding the land registration and certification process. In this case Wondo Genet, where more modern tools were employed, also had the lowest participation share. Certain communities are identified as peri-urban and exposed to urban expansion using a separate dummy variable. We observe that more households in Sashemene are located in such areas, while none of the households in Wollaita fall under this category. The highest share of polygamous households is observed in Sashemene and Arsi Negelle, where Muslims dominate, but polygamy is also common in Wondo Genet and Wollaita, where Protestants dominate. Female-headed households constitute between 9 and 15% of the sample in the four areas. The means of the household composition variables and age of the household head do not exhibit substantial variation across districts.

To assess how land poverty is associated with attitudes towards legalization of land sales we run non-parametric regressions by year and gender in Fig. 4. While willingness to legalize land sales increased with farm size for husbands in 2007 this has changed dramatically by 2012 when a much higher share of both husbands and wives appear to be against legalization of land sales for all farm sizes.

5. Results and discussion

5.1. Preferences for legalizing land sales among men and women

The two first models in Table 6 show factors related to preferences for legalization of land sales for men and women. The dependent variable was equal to one if they preferred not to legalize land sales and zero if they preferred legalization. Consistent with Fig. 4 men show a highly significant upward shift from 2007 to 2012 when they were 20% more likely to prefer land sales to be illegal. From a significant (at 1% level) negative slope for farm size per capita in 2007 the interaction variable between year and farm size per capita is significant (at 5% level) and with a positive sign and thereby almost eliminating the negative slope in 2012. Furthermore, we see that the preferences of husbands and wives are strongly positively related. On the other hand, for households where only the husband's name is on the land certificate husbands have a 7.7% higher likelihood to prefer to legalize land sales while wives have a 6.7% higher likelihood to prefer land sales to remain illegal. Larger male labor force and larger household size was associated with women being less likely to prefer legalization of land sales. The land may be more important for meeting subsistence needs for households with larger family sizes and where there is sufficient male labor to produce on the land. In 2007 the opposition against legalizing land sales among men was not lower in Wondo Genet which is a cash crop producing area where also modern land certification has been introduced by a project funded by USAID. The strongest preference for legalizing land sales was in Sashemene, which is a market center. However, by 2012 these differences across districts had been reduced. There was less significant local variation in among women than among men across districts. Overall, there were small differences between men and women in the share of households that preferred legalization of land sales and the preferences of husbands and wives were strongly positively correlated.
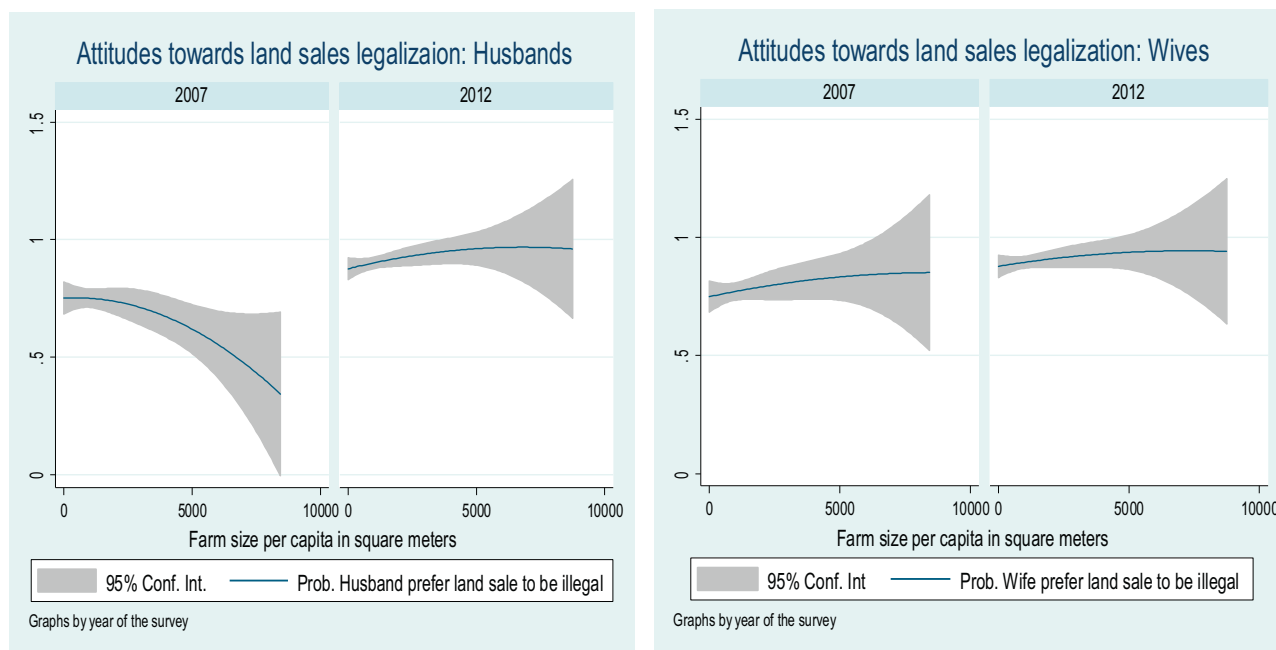
Fig. 4. Attitudes towards land sales legalization for husbands and wives by survey year and farm size per capita.

Table 6
Linear probability models for preference for land sales being illegal, for willingness to sell land if land sale were legal and an acceptable price were offered (P(WTSell if legal)) and willingness to provide compensation value for land (P(comp. value >0)).

	Male pref. for land sale	Female pref. for land sale	P(WTSell if legal)	P(comp. value > 0)
Year dummy, 2012 = 1	0.200****	0.000	0.000	0.000
Farm size per capita	−0.312***	0.178	0.550****	0.063
Year = 2012 × farm size per capita	0.277**	0.014	−0.567****	0.169
Husband prefers land sales to be illegal		0.292****	0.169	0.126
Wife prefers land sales to be illegal	0.305****		−0.429	−1.080****
Error male preference			−0.291	0.122
Error female preference			0.341	1.140****
Error squared male preference			−0.200	−0.077
Error squared female preference			−0.017	0.201
Border dispute experience, dummy	−0.028	−0.007	0.006	0.007
Border witnesses for land, number	0.025	−0.019	0.028	−0.054
Has land certificate	0.038	0.062	0.021	0.046
Husband's name on certificate only	−0.077*	0.067**	0.084	0.147***
Participated in land reform meetings	0.019	−0.035	0.019	−0.017
Female headed hh, dummy	−0.020	−0.046	−0.146	0.105
Polygamous hh, dummy	−0.002	−0.021	−0.064*	−0.010
Young household head(<45 years)	−0.184	−0.029	−0.118	0.045
Age of household head	0.000	−0.002	−0.002	−0.002
Age of young household head	0.005	0.000	0.002	−0.001
Female work force	0.003	−0.007	−0.005	−0.002
Male work force	0.000	0.018**	0.022*	0.044****
Education of hh head	0.003	0.002	−0.002	0.008*
Household size	−0.007	0.015***	−0.006	0.011
Peri-urban dummy	0.047	0.012	0.005	−0.149***
District dummy variables:Base:Sashemene				
Arsi Negelle	0.152**	0.129**	−0.103	0.039
Wondo Genet	0.245***	0.055	0.282**	0.565****
Wollaita	0.192***	0.013	0.250***	0.274****
Year = 2012 × Arsi Negelle	−0.084	−0.083	−0.053	−0.010
Year = 2012 × Wondo Genet	−0.219**	−0.090	−0.329**	−0.154
Year = 2012 × Wollaita	−0.200***	0.099	−0.232***	0.213**
Constant	0.574***	0.656***	0.180	1.782****
Prob >chi2	0.000	0.000	0.000	0.000
R-squared	0.192	0.163	0.166	0.272
Number of observations	976	976	967	967

Note: Mundlak–Chamberlain approach is used to control for unobserved heterogeneity by including the household level means of time-varying variables (these are dropped from the table to save space). Significance levels: *: 10%, **: 5%, ***: 1%, ****: 0.01%. The table shows marginal effects.

5.2. Willingness to sell land if legalized and provide a compensation value for land

The third model in Table 6 provides the marginal effects estimates for the willingness to sell land were this to become legal and an acceptable price were offered. The likelihood that households were willing to sell land increased with farm size in 2007 while this effect has disappeared by 2012. Polygamous households were 6.4% (significant at the 10% level) less likely to be willing to sell land while households with more male labor were more likely to be willing to sell their land. Households in Wollaita and Wondo Genet were 28 and 25% more likely (significant at the 1 and 5% levels, respectively) to be willing to sell than in Sashemene in 2007 but this difference has almost disappeared in 2012.

The last model in Table 6 assesses factors associated with the willingness to report a compensation value for land if it is taken for public purposes. We see that households in which the wife is opposed to legalizing land sales are less likely to be willing to provide a minimum compensation value for land. The variable is highly significant after controlling for endogeneity with the control function approach. Households with more male labor were more likely to give a compensation value (significant at 0.1% level) and so were more educated household heads but the latter effect was only significant at 10% level. Households in peri-urban areas were 14.9% less likely to be willing to provide a compensation value (significant at the 1% level). This may be because households are more exposed to land expropriations in peri-urban areas and this may be a protest reaction due to such experience. We were told anecdotal stories in Sashemene about households that had been evicted from their land and that received limited compensation such that they became much worse off after they lost their land. Households in Wondo Genet (a cash-cropping area) and Wollaita (a remote and poor area) were more likely to be willing to provide compensation values for their land than households in Sashemene (the baseline district), and these differences were highly significant (at the 0.1% level). The difference had disappeared in the case of Wondo Genet by 2012 but not for Wollaita. We return to discussing our hypotheses in relation to these findings after presenting the truncated tobit models for land sales and land compensation values.

5.3. Truncated tobit models for WTA land sales and compensation values

Table 7 presents WTA land sales price and WTA compensation price models without and with inverse probability weighting (IPW) as a correction for possible attrition bias due to unwillingness to answer the valuation questions. The results indicate that such attrition bias was a problem and we therefore emphasize the models with IPW.

We first look at the WTA Selling Price models. There has been a highly significant increase in the minimum acceptable price from 2007 to 2012 and this price increase is larger for larger farms (significant at 0.1% level) while farm size was not significantly correlated with minimum WTA selling price in 2007. This may indicate that profitability of farming on larger farms has increased. Households that have experienced border disputes had significantly lower WTA selling prices (significant at 0.1% level). They were willing to sell at a price 15% below that of other households. Tenure insecurity therefore seems to still play a role and may be a reason for households to accept lower price offers. There was a weak tendency that WTA selling prices were higher for households with a certificate but where only the name of the husband is stated on the certificate. Age of the household head showed a non-linear relation with WTA selling price as the young head dummy variable was significant and with a negative sign and the young head and age interaction variable was significant and with a positive sign. The age variable

alone was insignificant but had a negative sign. Households with a larger female work force also accepted a lower WTA selling price (significant at 5% level) while being female-headed was not significantly related to the WTA selling price. The district dummies were insignificant except the Wondo Genet interaction with the year dummy was significant and negative, showing that WTA selling prices increased less from 2007 to 2012 in this cash cropping area than in the other areas.

The WTA compensation price results in the last two models in Table 7 show a similar sharp and highly significant increase in the compensation price from 2007 to 2012 as we see for selling prices, but farm size was not significantly associated with this price increase unlike for the WTA selling prices. Polygamous households required a 21% higher minimum acceptable compensation price than other households (significant at 0.1% level) while more educated households also stated much higher compensation prices (significant at 1% level). On the other hand, households with larger family size stated lower minimum compensation prices (significant at 0.1% level). This may be a sign of poverty and poverty being associated with lower minimum WTA compensation prices. The WTA compensation prices were also significantly lower in Wollaita, the area with poorest market access and highest level of poverty.

5.4. Discussion of the hypotheses

Hypothesis H1 stated that *men are more willing to allow land sales than women* (women may be more concerned with family food security through subsistence production). The share of men opposed to legalizing land sales was not significantly lower than that of women. We therefore reject the hypothesis.

Hypothesis H2 stated that *better market access and cash cropping are associated with greater interest in allowing land sales and higher land values*. Wondo Genet is a cash-cropping area. A larger share of the households there was willing to provide sales and compensation values for land but so was also the case in Wollaita, traditionally the most subsistence-oriented area. Among the respondents in Wondo Genet, 83% of the wives and 88% of the husbands preferred land sales to remain illegal in 2012, which is only slightly below the figures for the other areas. We may conclude that there are slightly more households willing to sell land in this cash-cropping area, but there is still a large majority that fears the land sales market. Our findings also revealed that the resistance to legalizing land sales increased during the period from 2007 to 2012 during a period the country experienced strong economic growth. Therefore, it appears that we must reject the first part of the hypothesis. However, there is substantial evidence that better market access and cash cropping are associated with higher land values. However, high land values do not seem to spur the interest in opening for land sales, rather the opposite.

Hypothesis H3 states that *land scarcity/poverty is associated with more aversion towards allowing land sales and higher land values*. Men in the most densely populated areas Wondo Genet and Wollaita were significantly more against legalizing land sales in 2007 but this difference had disappeared by 2012. The analysis also revealed that there had been an interesting shift in how farm size affected attitudes towards legalizing land sales among men from 2007 to 2012. While the preferences of men were according to the hypothesis in 2007 this had changed by 2012. By 2012 WTA land sale values per unit land was decreasing with increasing land scarcity. There are also indications that poverty is associated with lower land values and higher outmigration of youth in Wollaita (Bezu and Holden, 2014a). The findings are therefore inconclusive for the first part of the hypothesis while the second part is rejected.

Hypothesis H4 states that *land certification has contributed to reduced resistance against land sales and increasing land values*. The land certificate variable was not significant in any of the models.

Table 7
Factors associated with stated minimum real land sales values per ha.

	WTA selling price No IPW	WTA selling price With IPW	WTA comp. price No IPW	WTA comp. price With IPW
Year dummy, 2012 = 1	0.752****	1.436****	1.291****	1.628***
Farm size per capita	−0.057	−0.981	−0.370	−0.410
Year = 2012 × Farm size per capita	0.079	3.454****	−0.046	−0.056
Husband prefers land sales to be illegal	0.280	−1.482	−0.507	−1.337
Wife prefers land sales to be illegal	−0.969	−0.944	0.597	0.931
Error male preference	−0.023	0.071*	−0.010	−0.008
Error female preference	−0.014	−0.028	0.007	0.000
Error squared male preference	0.200***	0.101*	0.125*	0.130
Error squared female preference	−0.103	−0.070	0.036	0.042
Border dispute experience, dummy	−0.093**	−0.150****	0.031	0.062
Border witnesses for land, number	−0.240	−0.220	−0.392*	−0.401
Has land certificate	−0.090	0.039	−0.186	−0.072
Husband's name on certificate only	0.075**	0.030*	0.090**	0.093
Participated in land reform meetings	−0.003	0.214	0.258	0.298
Female headed hh, dummy	−0.022	0.064	−0.057	−0.028
Polygamous hh, dummy	0.079	0.070	0.182****	0.213****
Young household head(<45 years)	−1.164**	−1.661*	−0.652	−0.626
Age of household head	−0.831	−0.928	−0.182	−0.316
Age of young household head	0.871**	1.062*	0.556*	0.503
Female work force	−0.206	−0.399**	−0.046	−0.058
Male work force	0.237	0.186	−0.083	−0.117
Education of hh head	0.232**	0.198	0.264**	0.308***
Household size	−0.048	0.588	−1.105****	−1.193****
Peri-urban dummy	0.121**	0.025	−0.133	−0.211
District dummy variables				
Arsi Negelle	−0.105*	−0.281	−0.067	−0.033
Wondo Genet	0.023	0.022	0.094	0.150
Wollaita	−0.450****	−0.251	−0.875	−0.579**
Year = 2012 × Arsi Negelle	0.015	0.016	−0.024****	−0.087
Year = 2012 × Wondo Genet	−0.108****	−0.080****	−0.075	−0.117
Year = 2012 × Wollaita	−0.020	−0.113	0.037	−0.033
Log pseudolikelihood	−1236.0	−10660.2	−1395.5	−2124.7
	582	582	615	615

Note: Truncated tobit models with Mundlak–Chamberlain approach (means of time-varying variables were included but are dropped from the table to save space). Inverse probability weighting (IPW) in the WTA Land sale model is derived from a probit version of the model in Eq. (3), while the IPW in the compensation price model is based on a probit version of the model in Eq. (4). The table presents elasticities. Standard errors (not reported) are cluster robust with clustering at community level. Significance levels: *: 10%, **: 5%, ***: 1%, ****: 0.01%.

Husbands in households with only their own name on the land certificate were more in favor of legalizing land sales while their wives were less in favor of legalizing land sales. Furthermore, households where only the husband's name appeared on the certificate valued their land more highly (significant at 10% only in the land sales model with IPW weighting). This could also be a reverse causality effect: Husbands who valued their land to a greater extent, ensured that only their own names appeared on their land certificate. Therefore, this may not be evidence that land certification has led to increasing land values. The distribution of land certificates was delayed in Wondo Genet where USAID supported parcel-based land certification with modern tools, and the share of households with land certificates was lower in this district than in the other areas. We cannot exclude the possibility that the weaker growth in land values in Wondo Genet is related to these delays in land certification, but this effect could also be confounded with several other factors. There have been ethnic disagreements and administrative changes in Wondo Genet that may have contributed to the lower growth in perceived land values. The strong time trend in land values could also partly be an effect of strengthened individual land rights and land certification, but again, it is difficult to distinguish this from other factors. We conclude that we have very little supportive evidence in favor of this hypothesis.

Hypothesis H5 stated that *young people are more willing to open for land sales than older people*. The parametric regressions gave no significant age effect. The hypothesis is therefore rejected.

Hypothesis H6 stated that *education is associated with higher willingness to accept land sales and higher land values*. Education of household head was not significantly related to preference for legalizing land sales but was positively associated with higher land values and particularly the minimum WTA compensation values. The first part of the hypothesis is therefore rejected while the second part cannot be rejected.

6. Conclusion

While Ethiopia has undertaken a land tenure reform to strengthen individual land use rights, land sales remain illegal in the dominant smallholder agricultural sector. The country has attempted to commercialize agriculture by allowing long-term leases of land to commercial actors that have been allocated large tracts of land, in contrast to the maximum farm size of 2.5 ha in the most recent rural land proclamations that apply to smallholder agriculture. Our study reveals, however, that the state is not the only force preventing land sales in the smallholder sector. The large majority of such households continue to prefer to maintain the status quo, although the constitutional right to own land to produce food sufficient for one's own subsistence can no longer be satisfied in many parts of the densely populated highlands. It is surprising that young and more educated people are equally skeptical to legalizing land sales as older and less educated people. It may also appear surprising that the resistance against legalizing land sales has increased from 2007 to 2012. One may question the external validity of these findings for other parts of Ethiopia. However, the authors have evidence of similar resistance against legalizing land sales in Tigray region.

Ethiopia has a similar land tenure system to those in China and Vietnam and also recently achieved promising economic growth,

indicating that Ethiopia may be able to follow the economic development path of these Asian countries. However, Ethiopia remains far behind. Vietnam and China are also gradually allowing greater market activity in the land sector such as mortgaging of land and, in Vietnam, even land sales. The use of more long-term lease contracts is a natural step in this direction. The land rental restrictions in Ethiopia that only allow smallholders to rent out a maximum of 50% of their land are designed to avoid outmigration and the development of a class of absentee landlords. The egalitarian principles and emphasis on land as a safety net remain politically important. One example is the rule that only landless persons can inherit land. Another regulation implemented in certain regions stipulates that individuals with government jobs cannot own rural land. There is a risk, however, that these strict restrictions also exacerbate rural poverty traps. They may reduce migration in the short run but lead to greater destitute migration in the future. Longer-term leases could facilitate smallholder commercialization and provide landowners with the capital and more flexibility to migrate and begin a different business elsewhere. With sharp increases in land values in urban and peri-urban areas, the following question remains: how should the rent from such land be shared? If land compensation is only paid according to the agricultural production value with traditional crops, the state and potential new users will obtain the additional rent, and how they divide it will depend on the contracts allocating land from the state to new occupants. While this is not an issue when land is taken for public purposes such as the construction of roads, public buildings, etc., the private sector will become increasingly important as a demander of land for business development.

Acknowledgments

Appendix A. Questions 2007 and 2012: To household (head)

37*	If your land were suddenly demanded for public purposes by the kebelle, how much compensation, minimum, would you consider to be a fair compensation for loosing your land? Price without value of your house and other buildings on your land	Birr
38	If it became legal to sell land, would you consider to sell the land if you got a good price? 1 = Yes, 0 = No, 2 = Only if I came in a desperate situation,	Code
39	If you were allowed to sell your land and are willing to sell it, how much would be the minimum acceptable price for you to sell it now? Price without value of your house and other buildings on your land.	Birr

Separate questions to men and women in 2007 and 2012
Perceptions and opinions

S. no	Question	Unit	Answer
4	Land sales should be illegal? 1 = Yes, 0 = No	Code	
5	Land mortgaging should be illegal? 1 = Yes, 0 = No	Code	

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