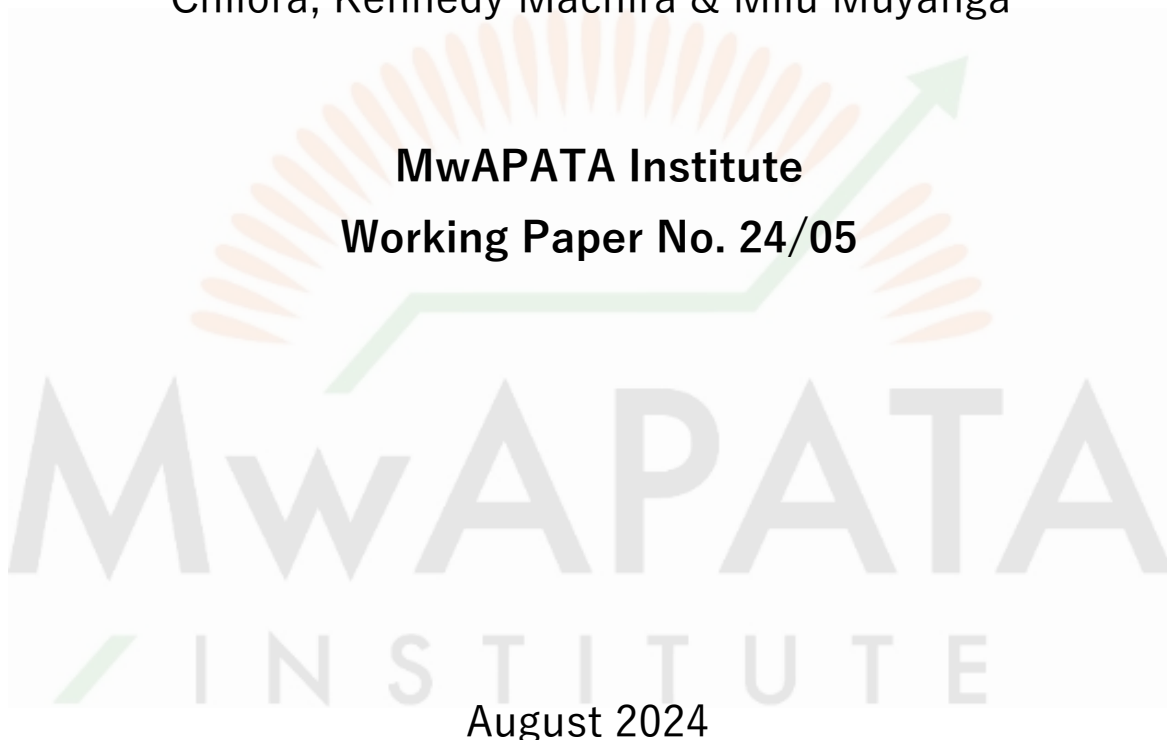


What Promotes Gender Equity in Land Rental Markets? Evidence from Malawi

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Executive Summary

There is renewed interest in understanding the links between land reforms, land markets and poverty reduction in sub-Saharan Africa. Land rental markets play an important role in African agricultural and structural transformation. When women secure land rights, they participate in land rental markets, thereby improving household food security and income diversification and alleviating poverty. Applying a three-fold extended Kitagawa - Oaxaca-Blinder decomposition approach to a two-wave panel data from Malawi, the study investigated the inequities between male and female-headed households in land rental market participation in sub-Saharan Africa. Using the amount of land rented in, overall results show that land market participation is decreasing despite tenure security-enhancing land reforms enacted in 2016. Further, the results reaffirm that gender disparities in land market participation still remain in Malawi, and rental market participation is higher among male-headed households, but the gap is on the decline. The gains in literacy levels among female household heads are responsible for the reduction in disparities. Additionally, access to credit and households from mixed societies (practice both matrilineal and patrilineal land tenure systems) are some of the factors that influence women's participation in land rental markets. Policy interventions that address the negative influence of inheritance customs, increase the literacy levels of women and improve women's access to credit will promote women's participation in land rental markets.

1. Introduction

Rural land markets provide an avenue through which groups that have limited access, for example, youth and women, gain access to land (Abay et al., 2021; Ricker-Gilbert & Chamberlin, 2018; Wineman & Liverpool-Tasie, 2017) (Abay et al.; Ricker-Gilbert & Chamberlin, 2008; Wineman et al., 2017). Potentially, land markets improve gender equity by allowing female-headed households to access land outside non-market channels, such as inheritance (Lastarria-Cornhiel, 2009). Welfare gains are recorded for those who rent in the land (Chamberlin & Ricker-Gilbert, 2016). On the other hand, there are productivity gains by transferring land from less productive to more productive households (Holden et al., 2010). Land rental markets play an important role in the agricultural and structural transformation of Africa, Malawi inclusive (Acampora et al., 2022; Ricker - Gilbert et al., 2019). Empirical studies from around the world have shown that land rental markets enhance agricultural efficiency and transform the economy from subsistence agriculture to more productive, rapid and sustainable growth (Rahman, 2010; Tesfay, 2020). Agricultural transformation is achieved when land use rights are transferred from unproductive and inefficient farmers to productive and efficient farmers. Studies have also shown that when women secure land rights, they participate in land rental markets thereby improving household food security and income diversification and alleviating poverty (Namubiru-Mwaura, 2014; Rapsomanikis, 2015)

Literature has shown that land market transactions in SSA are both formal¹ and informal and land rentals and sales markets are found within formal and customary land tenure systems (Chamberlin & Ricker-Gilbert, 2016; Holden et al., 2010; Ricker-Gilbert et al., 2021). In developing countries, like Malawi formal land markets rarely work as such land is acquired through informal processes such as inheritance from parents/relations, private donations and informal purchase e.g. “pinyolo²” (Jayne et al., 2021). Throughout SSA, land is recognized under various tenure regimes which include freehold, leasehold

¹ Land market is formal when land right transfer through purchase is done in respect with national laws and regulations governing land transfer rights.

² land used as collateral or pledging land in exchange for cash

(private), and customary (traditional) tenure system (Alden Wily, 2018). In the region land transactions are popular on customary tenure systems where land rights are tenuous or ambiguous and customary land tenure alone accounts for 78% of the landholding in Africa. (Holden & Otsuka, 2014) postulated that land transactions (both land rentals and sales markets) in SSA are affected and driven by risks, shocks and liquidity constraints (Holden & Otsuka, 2014). Despite the importance of informal land markets that operate outside of a statutory legal framework, these markets are not well understood and are often overlooked in political discourse (Chimhowu & Woodhouse, 2006; Wineman & Liverpool-Tasie, 2017).

Although markets for farmland are growing within the traditional tenure systems in Sub-Saharan Africa (SSA), there is evidence that this growth is uneven (Ricker-Gilbert & Chamberlin, 2018). For instance, Wineman & Liverpool-Tasie, (2017) found that female-headed households remain marginalized in terms of land market participation in Tanzania. Studies on gender market participation suggest that gender differences in resource endowment and its effects on the returns result in disparities in market participation between male and female farmers (Gebre et al., 2021; Marennya et al., 2017).

One of the key drivers of vibrant land markets is tenure security. Tenure insecurity and weak enforcement of property rights increase the risk of losing land when it is rented out. This discourages potential landlords from participating in rental markets (Besley & Ghatak, 2010). The imperfections in the land rental markets are more likely to disproportionately affect female landowners since they normally have weaker property rights (Menon et al., 2017). Land titles can be an efficient mechanism to correct this kind of distortion (Holden et al., 2011). (Xu & Du (2022) analyzed tenure insecurity, gender, low-cost land certification and land rental market in participation in Ethiopia and results showed that land certification initially enhanced land rental market participation of (potential) tenant and landlord households, especially those that are headed by females.

Although there have been studies on the effects of titling/certification on tenure security and how the resultant security status affect land rental markets. Gaps remain on

whether it can contribute to equitable participation of women in land markets. It is important to understand that improving land rights might have differing outcomes, and also depend on the initial security of the landholding. The socially embedded nature of customary rights means the land rights of many women depend on social entitlements that can be eroded due to reforms that make land rights marketable. This result into a de facto transfer of a greater share of rights to (typically) male title holders, a case in point being the Kenyan tenure reform (Meinzen-Dick & Mwangi, 2009).

This study seeks to make a contribution to literature on gender inclusive land reforms and their impact on market-based land access by comparing market participation of gender groups between 2016 (year reforms were enacted) and 2019 (post-Customary land Act enactment) in Malawi. In so doing provide insights on whether the disparity is worsened or reducing and the drivers behind the observed trend. We hypothesize that improved tenure security emanating from the reforms will encourage more households to either rent in or rent out land. Proportionately more female-headed households who otherwise would be more insecure are expected to get involved thereby reducing the gender gap. Considering the renewed impetus on land reforms in sub-Saharan Africa (SSA), the results from this study informs policymakers of the consequences of reforms and whether the reform programs alone are adequate or need to be complemented by initiatives in sectors to achieve structural transformation of the agriculture sector.

2. Materials and methods

2.1 Data sources

The study predominantly utilizes panel data from the Integrated Household Panel Survey, 2016 and 2019. In 2019 the fourth round of the Integrated Household Panel Survey (IHPS 4) was implemented targeting a national sample of 2508 households that were interviewed in 2016 and that could be traced back to the third cross-sectional survey (IHPS3) in 2011 but were interviewed again in 2013. A balanced panel of 1177 was extracted and used in this study.

2.2 Analytical techniques

We used a three-fold extended Kitagawa - Oaxaca-Blinder decomposition approach to examine how gender differences in access to resources and returns from the mobilization of the resources contribute to the gender gap in land market participation (Kröger & Hartmann, 2021). The decomposition is done to explain the average gender gap in the quantities of land rented in between male and female-headed households. The outcome measure was the amount of land rented in. This was calculated using IHSP data from 2016 and 2019. The longitudinal nature of the variable means that a panel data B-O decomposition is applicable using “xtoaxaca” Stata command. The standard linear regression equation modelling for the relationship between the outcome variable (Y) and a set of predictors (X) for two comparable groups of a household is given as

$$Y_{ig} = \beta_g X_{ig} + \varepsilon_{ig}; E(\varepsilon_{ig}) = 0 \quad (1)$$

where Y is the natural log of the value of the outcome variable, g represents the gender group, such as male or female group, X_{ig} is a vector of average values of observable characteristics, B_g is a vector of coefficient estimates for gender g (including an intercept), and ε_{ig} is the gender-specific random error term assumed to be independently and identically distributed with mean zero and variance σ^2 . The rationale behind the B-O decomposition approach is therefore to show how much of the average quantity (land area rented) gap exists between two groups (e.g., male and female groups). Following Jann (2008), the mean gender gap of the amount of land used by two groups can be written as:

$$Gap = \bar{Y}_m - \bar{Y}_f = \underbrace{\{(X_m - X_f)\beta_f\}}_{\text{Endowment effect (E)}} + \underbrace{\{X_f(\beta_m - \beta_f)\}}_{\text{Coefficient effect (C)}} + \underbrace{\{(X_m - X_f)(\beta_m - \beta_f)\}}_{\text{Interaction effect (CE)}} = E + C + CE \quad (2)$$

Where \bar{Y}_m and \bar{Y}_f denote the average value of the amount of land rented out or rented in by male and female headed households, X is a vector of average values of observable characteristics and is a vector of coefficient estimates for male or female group. Equation (2) is a ‘threefold’ decomposition where the mean gender gap is divided into three components. The first component is the portion of the gap that is due to the gender differences in observable characteristics (called the “endowment effect”). The second component, the “structural or return effect”, is the part of the gap emanating from differences in the coefficients of the observable characteristics, and third, the “interaction effect”, is the portion of gap attributable to the joint effects of both observable characteristics and their estimated coefficients. Thus, gender differences in the amount of land rented can be explained by these three factors.

Using panel data, we can also estimate β from a panel regression model. Since the panel regressions model has a time-constant individual error term, a decomposition using panel regression models must take empirical group differences in these time-constant, unobserved variables into account (Kröger & Hartmann, 2021). Thereby, the time constant individual error terms U_i become part of the decomposition of group-level differences.

$$Y_t^l = X_t^l B_t^l + u^l + \varepsilon_t^l \quad (3)$$

Taking the time-constant error terms into account adds the differences in the expectation of u^l as a fourth component U to the decomposition. This component is not time-dependent. It only comprises differences between groups in the time-constant error terms.

$$U = [E(u^m) - E(u^f)] \quad (4)$$

Accordingly, a decomposition using panel regression models attributes parts of the differences between groups to unobserved factors that do not change within the period of observation.

3. Results

3.1 Socio-demographic characteristics of the participants

A total of 1,177 households were part of this study, and their socio-demographics are shown in Table 1. Out of these, 316 [26.8%] were female-headed in 2016 while slightly more 343 [29.1%] were in the same category in 2019. About 60% of the household heads were 45 years old or younger in both years 61.7% in 2016 and 59.1% in 2019. Only about 15% had completed secondary education (Form 4). The majority had 5 or more 55.9% and 62.3% in 2016 and 2019 respectively. Not many participated in land rental markets, about 2% rented out and 11% rented in land. Less than 1% [2] were landless but most [46%] owned land parcels of less than half of a hectare. A considerable proportion of the households kept livestock including chickens and goats in their kitchen/houses, about 48%. A reduction in the number benefiting from the farm input subsidies was observed from 336 in 2016 to 167 in 2019 representing a 17.8%-point decrease. Access to credit was limited at about 27%, most (>90%) had access to crop extension. Incidents of weather and other natural shocks affected households to varying degrees in the two periods. Up to 44.2% [520] of the households experienced drought conditions in 2016 but the proportion reduced to 33.8% [398] in 2019, incidences of crop pests were worse in 2019 affecting 505 [42.9%] up from 201 [17%] in 2016. The distribution of gender-disaggregated responses for socio-demographics is presented in Table 1A.

Table 1: Socio-Demographic Characteristics of the Study Population

	2016		2019	
	<i>N</i>	%	<i>N</i>	%
Overall sample (n)	1,177	100	1,177	100
<i>Sex</i>				
Male	861	73.2	834	70.9
Female	316	26.8	343	29.1
<i>Age group of respondents</i>				
Under 25	67	5.7	37	3.1
25-35	366	31.1	312	26.5
36-45	293	24.9	347	29.5
Above 45	451	38.3	481	40.9

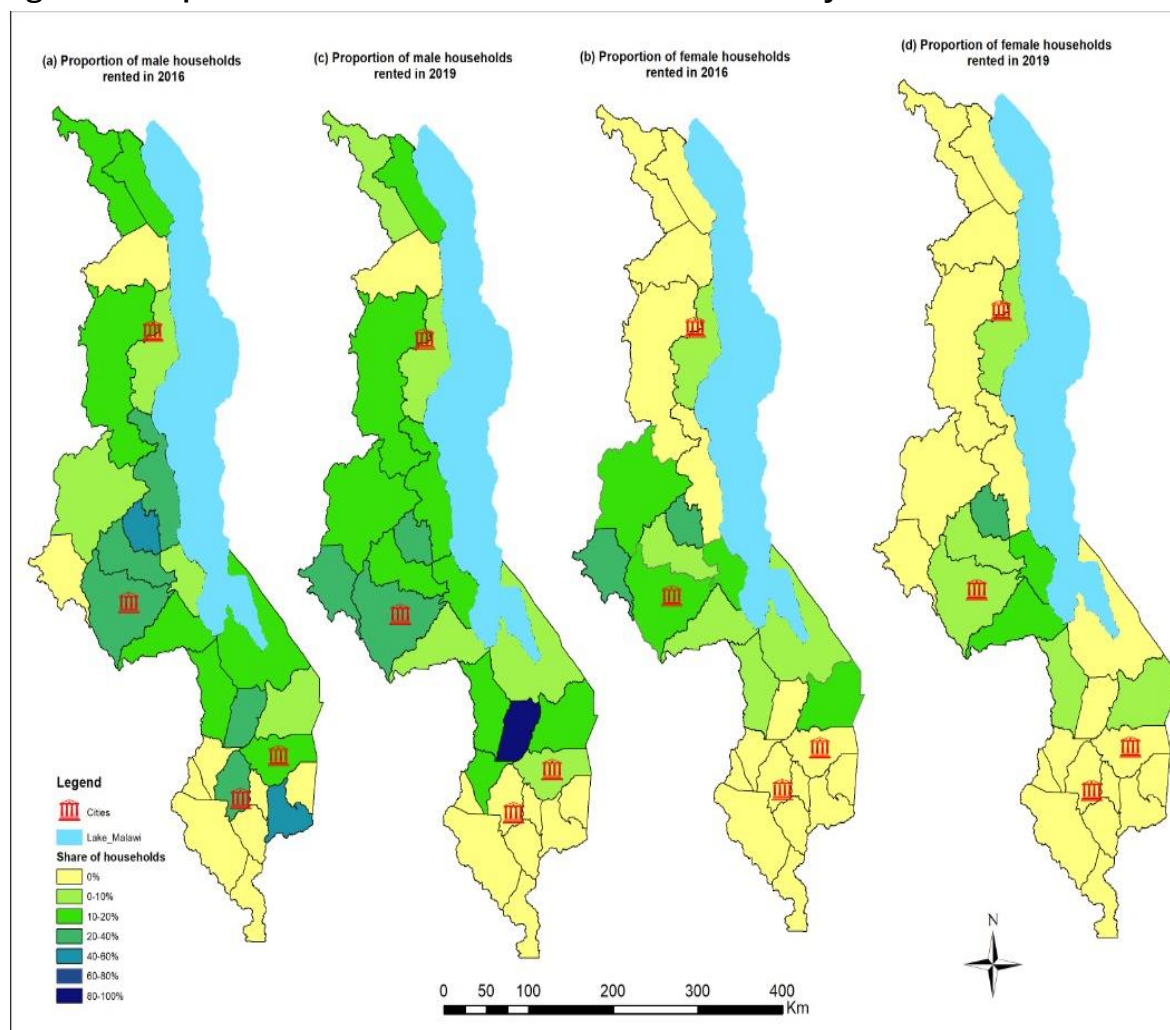
<i>Education</i>				
No formal education	136	11.6	167	14.2
Incomplete primary school	569	48.3	522	44.4
Complete primary school	145	12.3	171	14.5
Incomplete secondary school	144	12.2	137	11.6
Complete secondary school	183	15.5	180	15.3
<i>Household membership</i>				
1-4	519	44.1	444	37.7
5-7	517	43.9	563	47.8
8+	141	12	170	13.2
<i>Land rental market</i>				
Rented out	17	1.7	21	2.1
Rented in	112	11.5	107	10.7
<i>Land size</i>				
Landless	2	0.2	2	0.2
less than 0.5ha	446	45.7	458	45.8
0.5ha -1 ha	304	31.2	327	32.7
1ha - 5ha	205	21	197	19.7
5ha -18ha	18	1.9	15	1.5
<i>Asset Value (MK, Million)</i>				
None	108	9.2	56	4.8
Less than 0.1	1044	88.7	1093	92.9
0.1 – 1	22	1.9	25	2.1
1-5	3	0.3	3	0.3
<i>FISP Beneficiary (yes)</i>	336	34.5	167	16.7
<i>Region</i>				
North	136	11.6	141	12.0
Central	512	43.5	494	42.0
South	529	44.9	542	46.1
<i>Livestock ownership (yes)</i>	571	48.5	561	47.7
<i>Access to credit (yes)</i>	318	27	309	26.3
<i>Extension (yes)</i>				
Crop extension	725	95	497	91.5
Animal extension	142	18.6	153	28.2
<i>Shocks</i>				
Droughts	520	44.2	398	33.8
Floods	183	15.6	338	28.7
Crop & Pests	201	17	505	42.9
Irregular rains	806	68.5	603	51.2

Source: Author's analysis of Household Integrated Surveys (IHS) datasets

3.2 Land rental market participation and its determinants

Secure women's access to, use of and control over land and property rights is crucial for women's economic empowerment and increasing productivity and agricultural commercialization. When women secure land rights, they participate in land rental markets thereby improving household food security and income diversification and alleviating poverty. Levels and degrees of participation in land rental markets vary across Malawi.

Figure 1 shows how farm households participate in land rental markets by gender in 2016 and 2019. Results shows that high-level of land market participation is reported among male-headed households than female-headed households. Most male and female-headed households from Central region rented-in land more than those from Northern and Southern Region. It is worth noting that female-headed households from Northern region (Chitipa, Karonga, Mzimba, Nkhatabay districts) and Southern Region (Balaka, Blantyre, Chikwawa, Chiradzulu, Mulanje, Neno, Nsanje, Phalombe and Thyolo districts) did not participate in land rental markets at all.

Figure 1: Proportion of Households That Rented in Land by Gender

Source: Author's analysis of Household Integrated Surveys (IHS) datasets

As mentioned in the methods section, mixed-level logit regression is used to examine the influence of gender and other variables on household land rental market participation. The results are presented in Table 2. We estimated a pooled model, and men and women models separately to investigate the gender effects on the probability of household participation in the land rental markets. If a household did not participate in the rental markets i.e., autarchic the outcome is zero (0) while the lessee was assigned a value of one (1). The model is significant at a 1% level, showing that the explanatory variables taken together explain the land market position of households. In the pooled sample estimation, we included the sex of the household head as gender indicator variable. The results reaffirm that the gender of the household head significantly influences

participation as a lessee i.e., rent in land but its effect on being a lessor was found to be insignificant.

The age of the household head carries a negative coefficient and was significant in the overall model and male only but insignificant in the female only model. This implies that older male farmers have a lower probability of participating in rent markets. Similarly, more educated male farmers were more likely to rent in land compared to otherwise. The relationship between market participation and livestock ownership was found to be positive among male household heads. Livestock is a proxy of the wealth status of an individual, households with livestock are generally considered well off than those without. Relatively wealthy households are more likely to afford inputs and thus be able to demand more land. Strangely, male households with more land had a higher probability of rent in land than those with smaller farms.

Access to credit, agricultural or otherwise boosts the ability of the household to pay rental fees and purchase the required inputs. A positive and significant relationship was observed in both the male and female models. Marriage systems also significantly affected participation in rental markets for both male and female heads. The marriage systems were measured at three levels depending on the dominant system in the location of the farm households. Households were residents of a patrilineal, matrilineal or mixed society. The results showed that those residents in mixed societies i.e., at 30% of the population practice the less dominant marriage system had a higher probability of rent in land for both gender groups.

Despite the shocks being insignificant influencers in the overall and male only models, irregular rainfall had a positive effect on the decision to rent in land among female decision-makers. The result suggests that more land is demanded in this category of farmers to offset the reduced farm output arising from irregular rainfall. Likewise, land certificates and other forms of title documents did not significantly the probability to rent in land.

Table 2: Factors Influencing Land Market Participation by Gender of Decision-Maker

<i>Variables</i>	<i>Overall</i>	<i>Lessee</i>	
		<i>Male only</i>	<i>Female only</i>
Age	-0.266*** (0.091)	-0.254** (0.105)	-0.159 (0.207)
Education	0.173*** (0.065)	0.184*** (0.071)	0.212 (0.204)
Livestock ownership	0.489*** (0.173)	0.508*** (0.195)	0.520 (0.420)
Family size	0.097 (0.121)	0.111 (0.136)	0.154 (0.290)
Landholding size	0.317*** (0.097)	0.298*** (0.107)	0.311 (0.273)
Access to credit	0.495*** (0.163)	0.401** (0.183)	1.052*** (0.404)
FISP beneficiary	-0.042 (0.183)	-0.019 (0.201)	-0.377 (0.486)
Asset value	0.158 (0.290)	0.113 (0.298)	0.701 (1.494)
Land title	0.109 (0.454)	0.080 (0.508)	0.406 (1.097)
Drought	0.136 (0.170)	0.0700 (0.190)	0.288 (0.423)
Floods	-0.092 (0.202)	-0.0132 (0.230)	0.176 (0.466)
Crop pests	-0.109 (0.183)	-0.121 (0.202)	-0.258 (0.467)
Irregular rains	-0.0301 (0.168)	-0.190 (0.184)	0.925* (0.505)
Patrilineal		-0.259 (0.356)	-1.498 (1.280)
Mixed		0.593*** (0.201)	0.861* (0.497)
Density	0.000573 (0.000475)	-4.17e-06 (0.000684)	-0.00102 (0.00184)
City	-1.404 (1.026)	-0.375 (1.496)	1.044 (4.176)
Sex	-0.394* (0.214)		
Constant	-3.049*** (1.024)	-2.894** (1.147)	-5.626** (2.828)
<i>Observations</i>	<i>1,603</i>	<i>1,176</i>	<i>427</i>

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Author's analysis of Household Integrated Surveys (IHS) datasets

3.3 Gender disparities in land rental market participation

To better understand the disparities between male and female-headed households in participation in land rental markets, we utilize the extended Kitagawa-Oaxaca-Blinder Decomposition (Kröger & Hartmann, 2021). We compare the net land rented in among male and female decision-makers to quantify the gap between the two gender groups. Table 3 shows that the mean land rented for female-headed households was 0.046 acres in 2016, declining to 0.039 acres in 2019. In the same period, the average for male-headed households moved from 0.16 acres to 0.12 acres.

Although the amount of land rented in has declined for both gender groups in among males a steeper decline [25%] was observed compared to females [17%]. Consequently, the difference between the two group means which constitute the gender gap narrowed from 0.11 acres in 2016 to 0.08 in 2019. The differences in our control variables explain 67.6% of the net land rented in gap in 2016 and 32% in 2019. Differences between the gender groups in terms of the proportion that has never been to school accounted for 40.8%.

Table 3: Results of Blinder-Oaxaca Decomposition Net Land Rented in by Households

		2016			2019			Change		
	Male	0.160***			0.120***					
	Female	0.046			0.039					
	Difference	0.115			0.08			-0.034		
		[0.033]			[0.021]			[0.014]		
	Endowments	0.17***						0.051*		
		(67.6%)			0.017			-25.8%		
		[0.031]			[0.036]			[0.024]		
	Coefficients	-0.012			0.005			-0.19*		
		[0.051]			[0.030]			96.52%		
								[0.095]		
	Interaction	0.100			0.030			-0.056***		
		[0.080]			[0.059]			28.5%		
								[0.017]		
	RE	-0.006			-0.008			-0.001		
		[0.026]			[0.031]			[0.006]		
		<i>Endowments</i>	<i>Coefficients</i>	<i>Interaction</i>	<i>Endowments</i>	<i>Coefficients</i>	<i>Interaction</i>	<i>Endowments</i>	<i>Coefficients</i>	<i>Interaction</i>
		<i>effect</i>	<i>effect</i>	<i>effect</i>	<i>effect</i>	<i>effect</i>	<i>effect</i>	<i>effect</i>	<i>effect</i>	<i>effect</i>
Age	2=25-35	0.000	0.013	0.000	-0.007	0.016	0.003	-0.002	0.006	-0.005
		[-0.004]	[-0.042]	[-0.009]	[-0.012]	[-0.037]	[-0.014]	[-0.003]	[-0.067]	[-0.006]
	3=36-45	0.009	-0.014	-0.012	-0.008	-0.005	-0.004	-0.001	0.001	0.000
		[-0.013]	[-0.017]	[-0.019]	[-0.028]	[-0.018]	[-0.023]	[-0.002]	[-0.031]	[-0.002]
	4=Above 45	-0.002	-0.094	0.024	0.024	0.028	-0.009	-0.001	0.107***	0.008
		[-0.017]	[-0.076]	[-0.024]	[-0.031]	[-0.083]	[-0.027]	[-0.004]	[-0.032]	[-0.007]
Education	0=No formal education	0.102***	-0.006	0.004	0.003	-0.011	0.006	0.061***	-0.101***	0.000
		[-0.015]	[-0.007]	[-0.004]	[-0.008]	[-0.011]	[-0.006]	[-0.012]	[-0.011]	[-0.009]
	2= Complete primary school	0.002	0.001	0.000	-0.002	0.017*	0.005	0.002	0.017	-0.002
		[-0.005]	[-0.017]	[-0.005]	[-0.004]	[-0.007]	[-0.005]	[-0.002]	[-0.019]	[-0.002]

	3= Incomplete secondary school	-0.002 [-0.007]	0.003 [-0.005]	0.005 [-0.007]	0.002 [-0.010]	-0.001 [-0.003]	-0.003 [-0.011]	-0.001 [-0.001]	-0.009 [-0.013]	0.001 [-0.001]
	4= Complete secondary school	0.016*** [-0.005]	0.006 [-0.003]	0.015 [-0.011]	0.022 [-0.026]	-0.004 [-0.004]	-0.016 [-0.02]	0.002 [-0.002]	-0.038* [-0.017]	0.000 [-0.002]
Livestock ownership	1=Yes	0.010 [-0.011]	-0.017 [-0.03]	-0.008 [-0.016]	0.011 [-0.008]	0.006 [-0.027]	0.003 [-0.011]	0.001 [-0.002]	0.036 [-0.051]	-0.001 [-0.001]
Landholding size	1= less than 0.5ha	-0.168 [-0.136]	-1.037 [-0.794]	0.16 [-0.13]	-0.124 [-0.098]	-1.049 [-0.764]	0.126 [-0.104]	0.005 [-0.038]	-0.004 [-0.079]	-0.002 [-0.006]
	2=0.5ha -1 ha	-0.154 [-0.095]	-0.757 [-0.565]	0.142 [-0.088]	-0.140 [-0.088]	-0.761 [-0.49]	0.138 [-0.088]	0.007 [-0.055]	-0.001 [-0.087]	0.000 [-0.005]
	3=1ha - 5ha	0.302 [-0.161]	-0.220 [-0.246]	-0.243 [-0.158]	0.217* [-0.108]	-0.234 [-0.248]	-0.204 [-0.115]	-0.023 [-0.059]	-0.043* [-0.018]	0.007 [-0.006]
	4=5ha -18ha	0.041 [-0.027]	0.000 [0.000]	0.000 [0.000]	0.008 [-0.009]	0.000 [.]	0.000 [0.000]	0.000 [-0.013]	-0.033* [-0.017]	0.000 [-0.007]
Credit access	1=Yes	0.001 [-0.001]	0.000 [-0.025]	0.000 [-0.002]	0.003 [-0.003]	-0.003 [-0.031]	-0.001 [-0.006]	0.001 [-0.002]	-0.002 [-0.062]	0.001 [-0.003]
Marriage system	1=Patrilineal	-0.001 [-0.002]	0.010 [-0.009]	0.001 [-0.002]	0.000 [-0.002]	-0.008 [-0.009]	0.000 [-0.004]	0.000 [-0.001]	-0.020 [-0.014]	0.001 [-0.003]
	3=Mixed	0.005 [-0.009]	0.047 [-0.034]	0.009 [-0.005]	0.002 [-0.002]	-0.008 [-0.012]	-0.001 [-0.001]	-0.002 [-0.002]	-0.067 [-0.041]	0.002 [-0.001]
City resident	1=Yes	0.007 [-0.004]	-0.001 [-0.018]	0.000 [-0.003]	0.005 [-0.004]	0.017 [-0.016]	-0.005 [-0.004]	0.001 [-0.003]	0.012 [-0.022]	-0.002 [-0.002]
Land title	1=Yes	0.000 [-0.003]	0.070 [-0.342]	0.001 [-0.003]	0.000 [-0.001]	-0.021 [-0.039]	0.000 [-0.001]	0.000 [-0.001]	-0.092 [-0.371]	0.000 [-0.002]

Source: Author's analysis of Household Integrated Surveys (IHS) datasets

4. Conclusion and policy lessons

Land markets have rapidly increased over the decades due to rising in rural population densities where off-farm employment opportunities are scarce coupled with land policy reforms especially well-defined land tenure and social security rights (Holden & Otsuka, 2014; Jayne et al., 2014). Land market transactions in SSA are both formal and informal and land rentals and sales markets are found within formal and customary land tenure systems (Chamberlin & Ricker-Gilbert, 2016; Holden et al., 2010; Ricker-Gilbert et al., 2021). Over the years, land markets have proven to contribute to increased farm production and technical efficiency gains by transferring land from relatively less productive households to more productive households (Chamberlin & Ricker-Gilbert, 2016; Holden et al., 2010; Holden & Otsuka, 2014).

Ironically, women constitute a majority of farmers in SSA contributing 60-80% of the agricultural labour force (Mukhopadhyay & Pieri, 1999; Palacios-Lopez et al., 2017) but their levels of participation in rental markets is disproportionately low (Lunduka et al., 2008; Mukhopadhyay & Pieri, 1999; Stiem-Bhatia et al., 2019). Ultimately, the weak participation of female farmers on land markets entails that the promise of improved household welfare that from land market transactions eludes this gender group.

Key questions remain on what sort of policy interventions would achieve more equitable participation although the factors that encourage or discourage participation on land rental markets have been widely documented (Abay et al., 2021; Bizimana, 2011; Hou et al., 2017; Ricker - Gilbert et al., 2019). This study was carried out to address this knowledge gap by analyzing market participation amongst Malawian farmers and how it has evolved over time. The Malawi case offers a unique opportunity as the country's Land Acts were reformed in 2016. The reforms such as certification of customary land were enacted in order to improve land tenure security (Benjamin, 2020; Zuka, 2019). Empirical evidence shows that tenure security enhances land rental market participation (Chamberlin & Ricker-Gilbert, 2016;

Lunduka et al., 2008; Ricker - Gilbert et al., 2019). Therefore, a longitudinal study of the pre and post-reform period in Malawi gives insight on land reforms can achieve more balanced participation in land markets.

The findings from this study show that land market participation is decreasing despite tenure security-enhancing land reforms enacted in 2016. Much as the percentage point change of lessee has changed by 1%, in terms of the average amount of land rented in, a 55% decline has been observed from 0.11 acres in 2016 to 0.08 acres in 2019. Age of the household head, education, landholding size, access to credit and prevalent marriage system were found to significantly influence market participation for lessee. However, access to credit and marriage systems were the only factors that universally affected both gender groups. This result implies that *'one size fits all'* policy intervention aimed at promoting market participation is less desirable but tailor-made solutions addressing specific bottlenecks face by a gender group.

The decline in levels of participation in both gender groups in the post-reform period is contrary to previous studies (Besley, 1995; Feder & Feeny, 1991; Holden et al., 2011) and concerning. It entails that the envisaged benefits of reforms have not manifested, and households still have a lower propensity to venture onto markets. This can be attributed to two reasons. First, one of the key changes expected to improve tenure security and promote market participation is the conversion of customary land to individual property rights through the issuance of land certificates. By 2019, only about 3% of study participants had title documents suggesting sluggish implementation of the reforms. Second, as Lunduka et al. (2008) observes, the movement from communal rights to individualized property rights does not necessarily translate into more secure tenure. For example, in patrilocal societies, women often obtain usufruct rights to family land but do not possess inheritance rights (Lastarria-Cornhiel et al., 2014).

Although land certificates confer ownership of land their immovability means that inheritance rules still have a huge influence on how secure landowners feel thereby limiting their propensity to participate in markets. The significance of the “type of marriage system” supports this notion. Members of households in areas where mixed marriage systems are practiced i.e., matrimonial and patrimonial systems are both dominant were more likely to participate in markets than otherwise. Using land reforms to promote rental market participation will thus require effective implementation complemented by laws that address the negative influence of inheritance customs.

Although the post-reform period has seen a decline in participation in rental markets the gap between the gender group has reduced. The results from Extended B-O decomposition carried out in this study show that out of the socio-demographics, farm traits and institution factors tested only changes to levels of education significantly contributed to the more equitable participation of female-headed households. Declining levels of illiteracy amongst female-headed households, as shown by the endowment effect, results in the gap closing while the coefficient effect which accounts for differences in outcomes between the gender groups despite having the same level of endowments contributed to a widening gap. This entails that female-headed households face inherent factors that limit participation in rental markets despite having the same level of endowment. Policy intervention to address these gender-specific constraints is vital to achieving a more balanced participation

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