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Dynamics of Off-Farm Employment in Sub-Saharan Africa

A Gender Perspective

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Abstract

Off-farm income constitutes a significant share of the household livelihood portfolios across Sub-Saharan Africa. Yet, the determinants and dynamics of individuals' participation in off-farm employment activities have not received adequate attention due to the weaknesses in individual-level data collection and the lack of longitudinal studies. This paper uses national panel household survey data from Ethiopia, Malawi, Nigeria, Tanzania, and Uganda; provides empirical evidence on individual-level off-farm (wage and self) employment participation rates; analyzes the extent and drivers of entry into off-farm employment and continued employment; and conducts the analysis by gender and rural/urban location. A significant share of the rural and urban working-age individual population is found to participate in off-farm employment, ranging at the national level from 34 percent in Ethiopia to 58 percent in Malawi. Men participate in wage and self-employment to a significantly greater extent compared with women across time as well as within and across countries, apart from women's participation in non-farm enterprises being more common in Nigeria and Tanzania. The population weighted cross-country gender difference in off-farm employment stands at 9 percentage points, but this has declined over time in most countries. A substantial share of the population, amounting to about 39 million individuals across the five countries, is estimated to have entered and exited employment between 2010 and 2016, pointing to the dynamic nature of off-farm employment. Drivers of entry into off-farm employment and continued employment are country- and gender-specific, with demographic factors, occurrence of shocks, and job characteristics emerging as the most important determinants.

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Dynamics of Off-Farm Employment in Sub-Saharan Africa: A Gender Perspective

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1. Introduction

Income from off-farm employment[2] constitutes a significant share of the household livelihood portfolios across Sub-Saharan Africa (SSA) (Davis et al., 2017). It contributes to economic growth, poverty reduction and income smoothing (van den Berg and Kumbi, 2006; Bezu et al., 2012; Fox and Sohnesen, 2016) and can enable investments on the farm (Adjognon et al., 2017; Ayenew et al., 2017; Dedehouanou et al., 2018). It is further promoted to economically empower women by increasing their share over total household income (Buvinić and Furst-Nichols, 2014). However, access to qualitative employment is often confined to relatively better-off households (Alobo Loison, 2015), and within households, considerable heterogeneity exists with women and young people being disadvantaged in accessing employment (Hertz et al., 2008; Fox et al., 2016; Yeboah and Jayne, 2018). The ensuing implications for economic development depend on the prospect of entry into off-farm employment as well as the ability to remain employed (Bezu and Barrett, 2012).

While off-farm employment has received extensive attention in the existing literature, there are some important research gaps and methodological shortcomings. First, most studies look at household-level participation in off-farm employment, and not at individual-level. As women and youth are assumed to be disproportionally disadvantaged in both quantity and quality of employment, age and gender disaggregated data are a must to study the inclusiveness of off-farm employment. Second, most studies focus on settings where off-farm employment opportunities suddenly increased. Drawing general conclusions from these studies would lead to an overestimation of the importance of off-farm employment in more remote areas. Moreover, specific case studies do not allow to analyze linkages and influential factors from a broader perspective. Third, the available evidence is mainly informed by cross-sectional data. Such data cannot be used to investigate dynamics over time (e.g. entry into or exit from off-farm employment) and are likely to be prone to causal estimation issues. Fourth, while non-farm entrepreneurship in SSA has been elaborately investigated, the evidence regarding wage employment and rural labor markets is seriously lacking.

[2] Off-farm employment is defined as all economic activities that take place outside the agricultural household, hence excluding on-farm self-employment activities but including off-farm salaried and casual wage employment, and off-farm self-employment.

This paper aims to investigate off-farm employment decisions of men and women in SSA. We contribute to the literature in three main ways. First, by using the nationally-representative longitudinal household survey data generated as part of the World Bank Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) initiative, we provide recent empirical evidence on off-farm employment participation rates that is representative for five countries in SSA, namely Ethiopia, Malawi, Nigeria, Tanzania and Uganda. The unit record data are at individual-level, and consist of multiple panel rounds, whereby individuals were tracked over time. Second, we focus both on off-farm wage and self-employment and provide much needed evidence on labor markets. Third, we analyze the drivers of entry into employment and continued employment. This allows us to unravel the dynamics behind off-farm employment, and to understand why people enter or exit off-farm employment, taking gender differences into account.

The rest of the paper is structured as follows. First, we review the literature on off-farm employment in SSA, followed by an explanation of the data collection and construction of variables. Next, we report off-farm employment participation rates and job characteristics, followed by an analysis of entry into and exit from off-farm employment. We end by summarizing the main findings and outlining research and policy implications.

2. Background

Off-farm employment comprises both being wage employed outside the farm-household (i.e. off-farm wage employment) and running a non-farm enterprise (NFE) (i.e. off-farm self-employment). We specifically consider off-farm activities and do not call it the non-farm economy, since off-farm wage employment can still take place in the agricultural sector. For example, a growing share of workers in SSA are employed on large-scale plantations (Van den Broeck and Maertens, 2016). The main difference between off- and on-farm activities is that workers are required to leave their household farm. Particularly for women, this is not always straightforward due to social norms and limited transportation possibilities (Fox, 2016; Slavchevska et al., 2016), hence our focus on off-farm activities. We take both wage and self-employment into account, because their fundamental differences in terms of start-up investments, job security and flexibility will help to better explain the drivers of entry into off-farm employment and continued off-farm employment.

Participation rates in off-farm employment in SSA do not only vary substantially across countries but also within countries. Recent data are provided by Davis et al. (2017) but their analysis is at the household-level and for rural areas. According to their estimates, on average, 18 percent is engaged in agricultural wage employment, 15 percent in non-farm wage employment and 34 percent in non-farm self-employment. McCullough (2017) reports individual participation rates in wage and self-employment across different sectors for rural and urban areas. The author finds that within rural areas the bulk of wage labor takes place in the agricultural sector, while the services sector is the most important sector in urban areas. Off-farm wage employment is less common than self-employment in rural areas for all sectors while in urban areas this depends on the type of sector and country. In general, men tend to participate more in off-farm activities (particularly in wage employment) since off-farm employment opportunities are more limited for women (Nix et al., 2016). However, other studies focused on West Africa have documented that rural non-farm entrepreneurship is more common among women than men (Rijkers and Costa, 2012; Ackah, 2013). Due to the ongoing structural transformation in SSA caused by globalization, income growth, population increase and urbanization, off-farm employment opportunities are assumed to evolve rapidly (Reardon et al., 2007). This has been demonstrated by Yeboah and Jayne (2018), who show that the share of labor force engaged in farming has experienced a sharp decline since 2000 in SSA, and that off-farm employment is expanding rapidly.

Men and women enter off-farm employment either out of necessity (push factors) or opportunity (pull factors) (Haggblade et al., 2010). The literature has defined push factors as negative factors that force households and individuals to seek supplementary income sources outside the farm while pull factors are defined as positive factors that attract people into off-farm employment to improve their welfare (Alobo Loison, 2015). Given that self-employment in agriculture is a high-risk, seasonal activity with a large underemployment rate and that rural labor markets are underdeveloped (McCullough, 2017), it is often argued that push factors play a more important role than pull factors in SSA.

Push factors entail different forms of shocks, lack of agricultural productive assets and social factors. Both idiosyncratic shocks (e.g. death or illness of a household member) and covariate shocks (e.g. extreme weather events, sudden price increases) might push people into off-farm employment to mitigate farm income losses (Kijima et al., 2006). Households who are constrained

in terms of landholdings and livestock may move out of agriculture to be able to earn an income. This is especially the case for young people, who are often underemployed on the own household-farm (Bezu and Holden, 2014).

Pull factors are characterized by available markets and opportunities, infrastructural facilities and supportive institutions (Ali and Peerlings, 2012). Human capital (especially educational level) largely determines the ability to enter high-skilled off-farm employment (Essers, 2017). Initial non-productive asset holdings, access to credit and savings and a larger social network might induce people to make the transition towards (high-return) off-farm employment (Bezu and Barrett, 2012). The ongoing rural-urban migration in SSA has attracted a large share of the rural population to pursue employment in large cities and towns (de Brauw et al., 2014).

Once men and women enter the off-farm labor market, job characteristics and demographic factors determine whether they will remain employed. Insecure and unstable jobs in the informal sector are particularly a concern for women and youth (Fox et al., 2016). Casual wage jobs are typically short-term, seasonal activities, which are not likely to lead to continued employment (Oya, 2013). NFEs are more stable and more likely to operate continuously during the whole year, especially in urban areas (Nagler and Naudé, 2017). However, low profitability, lack of finance, idiosyncratic labor shocks and unreliable supplies cause NFEs to stop operating. For women, it has been extensively documented that marital status and fertility reduce the likelihood to continue employment (de Jong et al., 2017).

3. Data

3.1. Data collection and sample

We use the national, longitudinal and multi-topic household survey data from Ethiopia, Malawi, Nigeria, Tanzania and Uganda, generated as part of the World Bank Living Standards Measurement Study (LSMS-ISA) initiative.[3] The analysis relies on two survey rounds from

[3] The World Bank LSMS-ISA initiative provides financial and technical support to national statistical offices in the design, implementation, analysis and dissemination of national, longitudinal, multi-topic household surveys with a strong focus on agriculture. Our study uses the data from the Ethiopia Socioeconomic Survey (ESS), the Malawi

Malawi (2010 and 2013), Nigeria (2013 and 2016), and Tanzania (2011 and 2013); three survey rounds from Ethiopia (2012, 2014 and 2016); and four survey rounds from Uganda (2010, 2011, 2012 and 2014).[4] Significant effort has been devoted to make the LSMS-ISA-supported surveys comparable across countries but some questions are adapted to the specific local context. Particularly important for our analysis are that the data are collected at the individual-level; that the sampled households and individuals are tracked over time, and that the multi-topic questionnaire instruments include extensive modules on labor in off-farm wage employment as well as household non-farm enterprises. The questionnaire package also includes a community questionnaire administered at the enumeration area (EA) level, collecting data on services, infrastructure, and institutions from a focus group of community leaders.

We use two different samples for our analysis. In the first part we focus on cross-sectional participation rates in off-farm employment. For each survey round the sample consists of household members[5] aged 15-64, which is in line with the conventional working-age range. We exclude persons who are currently enrolled in school. In the second part we focus on the dynamic nature of off-farm employment and construct panel data sets that consist of household members aged 15-64 throughout the panel rounds. We retain individuals for which we have at least two observations over time to be able to investigate dynamics.[6]

Integrated Household Panel Survey (IHPS), the Nigeria General Household Survey Panel (GHS Panel), the Tanzania National Panel Survey (TZNPS), and the Uganda National Panel Survey (UNPS).

[4] The 2010 survey round in Nigeria, and the survey rounds in Niger were not considered because the distinction between wage and self-employment cannot be made. In the case of Tanzania, the 2008 survey round was not considered because the definition of wage employment was not comparable to the definition used in the later rounds.

[5] Household membership is defined as having spent at least six months (three in case of Tanzania) in the household during the past 12 months.

[6] To correct for potential attrition bias, we run a logit model with a binary dependent variable taking the value of one if the individual appears in the sample at least twice. We control for variables at individual-level (age, gender, education level, current school enrollment, marital status, relation to household head and employment status) and at the household-level (household size, dependency ratio, wealth index (a factor analysis-based index of household dwelling attributes and durable asset ownership) and participation in farm activities). Baseline enumeration area fixed effects are also included in the specification. We predict the probability of non-attrition for each individual and calculate the attrition weight as the inverse of this probability. To make the sample nationally representative, we use the sampling weights calculated by the national statistical offices and multiply it with the attrition weight. We winsorize the weights at the top 1 percent level to minimize the effects of potential outliers.

3.2. Construction of variables

The main variable of interest in this paper is the participation in off-farm employment, including wage and self-employment. We define off-farm wage employment as any labor that a person did during the past 12 months in exchange for remuneration (either in cash or in kind) paid by somebody else than the household. Off-farm wage employment can take place in the agricultural sector (e.g. hired to work on a farm that does not belong to the household) or in the industrial or services sector.[7] We distinguish between two types of wage employment: 1) a main or secondary wage job, and 2) wage employment that is rather used as a last-resort source of income, such as casual labor and employment in a national social safety net program, where poor people exchange their labor for cash or other inputs.[8] The exact phrasing of the question differs somewhat across countries; some countries (e.g. Ethiopia and Malawi) pay specific attention to casual labor while others do not.[9] An overview of the exact phrasing of the questions for the different countries is provided in Table A **1** in the Appendix.

We define off-farm self-employment as either being the owner or manager of a household's non-farm enterprise or as a worker in this enterprise during the past 12 months. We consider workers also as self-employed because they get paid by or share the earnings with other household members, and not by somebody outside the household. Non-farm enterprises belong to the industrial or services sector. It is possible that they do not operate the whole year round but that they are only a couple of months in operation. Similar to wage employment, the phrasing of the questions differs across countries. Differences relate particularly to the definition of ownership and management, and to the number of workers. Table A **1** in the Appendix provides an overview of the survey questions for self-employment as well.

In addition, we consider the intensity of off-farm employment. People are not always year-round employed, due to a lack of availability of full-time jobs, but also because off-farm employment

[7]Agriculture includes primary agricultural, livestock, fishery and forestry production; industry includes manufacturing, mining, construction, and public utilities; and services includes wholesale and retail trade, transport and communication, finance and business services, and community, social, personal and government services.
[8] Employment in social safety net programs is assumed to take place in industry as it often entails public works. The largest social protection program in SSA is the Productive Safety Net Program in Ethiopia (Gilligan et al., 2009).
[9] Based on our fieldwork experience, we assume that ganyu labor in Malawi and temporary labor in Ethiopia takes place in agriculture for both men and women in rural areas, in industry for urban men and in services for urban women.

might be an income supplementation strategy next to on-farm self-employment. Following Quiñones et al. (2009) we define a person to be full-year employed if (s)he works at least 10 months during the past 12 months and to be full-time employed if (s)he works at least 35 hours per week during an average working week. This results in four classes: 1) full-year/full-time employed, 2) full-year/part-time employed, 3) part-year/full-time employed (so-called seasonal employment), and 4) part-year/part-time employed (so-called casual employment). The Nigeria GHS-Panel, Tanzania NPS and Uganda NPS questionnaires do not ask questions on the hours worked in non-farm enterprises, so for these countries we only distinguish full-year and part-year employment.

Finally, we construct a variable that captures the dynamic nature of off-farm employment status over time. Based on the employment status in each round of data collection, we consider people to be either never employed, to drop out of employment, to start with employment or to continue with employment. In the case of Ethiopia and Uganda, where we have more than two panel survey rounds at our disposal, we compute this variable based on the last two survey rounds.

4. Off-farm employment: Who participates in which jobs?[10]

4.1. Participation rates

Figure 1 and Table 1 present participation rates in off-farm employment across gender and space for Ethiopia, Malawi, Nigeria, Tanzania and Uganda. The share of the working-age population that is involved in off-farm employment is quite high and cannot be considered as negligible. In the latest survey round this is 34 percent in Ethiopia, 40 percent in Uganda, 47 percent in Nigeria, 52 percent in Tanzania and 58 percent in Malawi, which corresponds to a cross-country weighted overall share of 44 percent. These shares imply that approximately 68 million people are off-farm employed across these five countries (Figure 2). Off-farm employment rates are consistently higher in urban areas (ranging from 53 percent in Uganda to 73 percent in Malawi) than in rural areas (ranging from 24 percent in Ethiopia to 54 percent in Malawi), which is not surprising given

[10] Unless otherwise stated, the country-specific differences in the estimates that are reported in this section by gender, age category, rural/urban location, and time are statistically significant at least at the 10 percent level, as reported in Tables 1-3.

that self-employment in agriculture is still the dominant activity in rural areas. Yet, about 36 percent or 38 million people living in rural areas across these five countries are involved in off-farm employment.

[Figure 1 here]

Even over the (short) time horizon that the longitudinal LSMS-ISA data currently inform, we find evidence for the ongoing structural transformation in Africa and the resulting job creation in off-farm employment activities (Reardon et al., 2007). We observe significant increases in off-farm employment rates in some countries; specifically, in Ethiopia (from 26 percent in 2012 to 34 percent in 2016),[11] Malawi (from 51 percent in 2010 to 58 percent in 2013), and Tanzania (from 49 percent in 2011 to 52 percent in 2013). In other countries the employment rates have decreased over time; from 50 percent in 2013 to 47 percent in 2016 in Nigeria, and from 55 percent in 2010 to 40 percent in 2014 in Uganda.[12] The decreasing trend in Nigeria has been documented before and is due to a combination of renewed investments in the agricultural sector and a declining oil-sector-driven economy (Kwame Yeboah and Jayne, 2018). The national trends are similar in both rural and urban areas, although it remains country-specific whether the pace of change in employment rates is higher in rural areas (Tanzania and Uganda) or in urban areas (Ethiopia, Malawi and Nigeria).

[Figure 2 here]

We find that women are less likely to participate in off-farm employment, and this difference is consistent over time, and across and within countries. The gender difference in off-farm employment in the latest survey round stands at 4 percentage points (pp) in Nigeria, 12 pp in Ethiopia, 14 pp in Tanzania, 18 pp in Malawi, and 19 pp in Uganda, which corresponds to a cross-country weighted gender gap of 9 pp. If women have the same probability to participate in off-farm employment as men, about 7.8 million women would be employed in addition to the 33 million that are currently employed. The number of 'missing women' in off-farm employment is

[11] In 2012, the ESS was representative only for the rural and small towns, while in 2014 and 2016, an urban stratum was incorporated into the survey design, ensuring that the survey is representative at the national-level. The surge in off-farm employment rates from 2012 to 2016 may, therefore, be in part due to expanded spatial coverage of the ESS sample, as the off-farm employment rate in 2014 was 35 percent, which stagnated between 2014 and 2016.

[12] The observed decline in Uganda is driven specifically by the decline in off-farm self-employment. There are otherwise no changes in the UNPS survey design, including the household questionnaire instrument.

thus substantial across these five countries. The gender gap is significantly higher in urban areas (ranging from 8 pp in Nigeria to 26 pp in Malawi) than in rural areas (ranging from 1 pp in Nigeria to 16 pp in Malawi). This might be caused by a higher gender gap in earnings in urban areas than rural areas, due to a larger job heterogeneity in urban areas (Nordman et al., 2016). In the case of Uganda, the gender gap is similar across rural and urban areas.

[Table 1 here]

In line with studies on the increasing labor market participation of women in developing countries (Gaddis and Klasen, 2014), we find that the gender gap in off-farm employment participation has decreased over time in some countries. The annual percentage change in reducing the gender gap stands at 7.3 percent in Malawi, 11.1 percent in Nigeria, and 13.2 percent in Tanzania. We do not find a reduction over time in the gender gap in Ethiopia, and the gender gap in Uganda increased with 1.4 percent annually. In rural areas, the gender gap has been reduced in all countries except Uganda (ranging from 3.9 percent in Ethiopia to 27.8 percent in Nigeria). In urban areas, the gender gap has been reduced in Malawi (6.9 percent), Tanzania (1.1 percent) and Uganda (3.4 percent), and has increased over time in Ethiopia (1.6 percent) and Nigeria (8.3 percent).

Table 1 also presents the age-disaggregated participation rates in off-farm employment across gender and space for the five countries. Following Yeboah and Jayne (2018), we define following age categories: 1) people aged 15-24 (‘youth’), 2) people aged 25-34 (‘young adults’) – as the African Union uses the 15-35-year range to classify youth, and 3) people aged 35-64 (‘adults’). In line with the literature on youth unemployment in SSA (Fox et al., 2016), we find that participation rates in the latest survey round are lowest for adolescents (aged 15-24) and range from 20 percent in Nigeria to 45 percent in Malawi. However, we find that young adults (aged 25-34) are more likely to be off-farm employed than adults (aged 35-64) in Ethiopia (40 percent versus 35 percent), Malawi (64 percent versus 60 percent), Tanzania (60 percent versus 57 percent) and Uganda (44 percent versus 42 percent). Only in Nigeria adults are more likely to be off-farm employed (61 percent) than young adults (47 percent). This is in line with other studies that point to the importance of off-farm employment for young people in SSA (Yeboah and Jayne, 2018). However, this trend is mainly driven by higher employment rates among young adults in rural areas, as in urban areas adults are consistently more likely to be off-farm employed. The gender

gap remains robust across age categories except for young adults in (rural) Nigeria, where women are more likely to be off-farm employed than men.

4.2. Characteristics of off-farm employment

Although job creation in the off-farm sector is important, it does not contribute to economic development if jobs are of lower quality than on-farm self-employment, or to women's economic empowerment if women end up in more unstable and less remunerative jobs than men. To get a more nuanced view on job "quality," we assess the type (wage or self-employment), sector (agriculture, industry or services), duration (full-year or part-year) and frequency (full-time or part-time) of off-farm employment.

There are profound differences in prevalence of wage and self-employment across and within countries (Table 2). Across countries, women are consistently less likely to participate in off-farm wage employment than men in the latest survey round. The gender difference stands at 6 percent for women and 13 percent for men in Ethiopia, 6 percent for women and 21 percent for men in Malawi, 8 percent for women and 17 percent for men in Nigeria, 24 percent for women and 41 percent for men in Tanzania, and 17 percent for women and 37 percent for men in Uganda. Given that economic transformation is often associated with an expanding share of wage employees in the labor force, the higher likelihood of men to access wage employment might not only indicate a gender gap in participation but also a gap in employment quality (La Porta and Schleifer, 2014).

[Table 2 here]

However, we observe that the gender gap in off-farm wage employment participation has decreased over time in most countries. The annual percentage change in reducing the gender gap stands at 11.4 percent in Tanzania, 7.0 percent in Malawi, and 6.1 percent in Nigeria. On the other hand, the gender gap did annually increase in Ethiopia with 20.0 percent and in Uganda with 2.6 percent. In rural areas, the gender gap has been reduced in all countries (ranging from 2.5 percent

in Uganda to 13.2 percent in Tanzania), while in urban areas, the gender gap has increased over time in Uganda (10.5 percent).

Next to having a main or secondary wage job, women and men also engage in casual wage labor or employment in a social safety net program. Casual wage labor is explicitly mentioned in the Ethiopia ESS and Malawi IHPS questionnaires, where it constitutes an important source of off-farm employment. According to the latest survey round, 4 percent of women and 11 percent of men in Ethiopia and 27 percent of women and 33 percent of men in Malawi participate in casual labor. This implies that people in Malawi participate more in casual wage labor (i.e. ganyu) than in main wage employment, and that this difference is higher for women (21 percentage points) than for men (12 percentage points). Given that ganyu is used as a last-resort income source rather than a regular source of income, the gender gap might indicate that women's entry into employment is rather driven through push factors than pull factors, which might hamper their contribution to economic development and empowerment (Oya, 2013). Casual labor is more common in rural areas than in urban areas in Malawi, but similar across rural and urban areas in Ethiopia. Employment in a social safety net program is in general negligible across countries. It is somewhat common in rural Ethiopia, where 3 percent of women and 6 percent of men participate, and in Malawi where 7 percent of women and 5 percent of men participate. While these rates have remained the same over time in Ethiopia, we notice a sharp increase in Malawi, especially for women living in urban areas.

The gender gap in self-employment is smaller than in wage employment. Depending on the country, men are more likely to participate than women (21 percent versus 18 percent in Malawi), whether there is no difference (18 percent in Ethiopia, and 16 percent in Uganda), or whether women are more likely to participate (39 percent versus 35 percent in Nigeria, and 26 percent versus 25 percent in Tanzania). The higher prevalence of women's ownership of NFEs in Nigeria is in line with other studies in rural West-Africa (Ackah, 2013). These trends are similar over time, and across rural and urban areas. For men, participation in wage employment is more common than in self-employment, except in Nigeria. For women, participation in self-employment is more

common than in wage employment in Ethiopia, Nigeria and urban Tanzania, while wage employment is more common in rural areas in Malawi and Tanzania.

Conditional on being wage or self-employed, there is considerable heterogeneity in the sectorial composition across and within countries (Table 2). Within rural areas, the agricultural sector provides most of the off-farm wage employment in Uganda (79 percent for women and 64 percent for men) and Tanzania (79 percent for women and 54 percent for men). The services sector, on the other hand, provides the bulk of the off-farm wage jobs in rural Ethiopia, Malawi and Nigeria, and in all urban areas. However, we need to note that in rural Ethiopia and Malawi the share of wage employment in agriculture strongly increases when casual wage labor is taken into account. In general, the sectorial composition of off-farm employment does not change much over time, except for rural Ethiopia and Nigeria where importance of agricultural employment declined while this increased for women in rural Tanzania.

We also observe important gender differences in sector of employment. Concerning wage employment, women are more likely to be employed in agriculture than men in Tanzania (59 percent versus 38 percent) and Uganda (69 percent versus 55 percent), while men are more likely to be employed in services than women in Tanzania (37 percent versus 36 percent) and Uganda (35 percent versus 26 percent). In Ethiopia, Malawi and Nigeria these roles are reversed; women are more likely to participate in services and less likely in agricultural wage employment. Across the five countries men are more likely to participate in industrial wage employment (ranging from 10 percent in Uganda to 27 percent in Ethiopia) than women (ranging from 8 percent in Malawi to 22 percent in Ethiopia). Given that agricultural wage employment is often associated with informal, low-remunerative jobs, women's higher share involved in these activities might exacerbate the gender gap (Oya, 2013). However, Van den Broeck and Maertens (2017) document how women's work in large-scale agricultural companies in SSA might still empower them, as this is often their only means to earn an own source of income. Gender differences in sectoral composition are smaller for self-employment, with the majority of NFEs being active in services. Women are less likely to work in industry than men in Tanzania (11 percent versus 13 percent),

while women are less likely to work in services in Ethiopia (66 percent versus 69 percent) and Malawi (67 percent versus 69 percent).

Table 3 presents the intensity (i.e. number of jobs, duration and frequency) of off-farm employment across gender and space for the five countries. It is not common that people combine several off-farm jobs – whether jobs are combined during the same period (often part-time or casual jobs) or whether jobs follow consecutively (often part-year or seasonal jobs). In general, men combine more jobs (ranging from 1.07 in Nigeria to 1.20 in Malawi) than women (ranging from 1.04 in Nigeria to 1.20 in Malawi), and combining multiple jobs is more common in rural areas than urban areas.

[Table 3 here]

Full-year/full-time employment is more common among men than women, and this gender gap is consistent over time, across and within countries, and across wage[13] and self-employment. Another consistent difference is that full-year/full-time employment is more common in urban areas than rural areas. However, there is large heterogeneity across countries in intensity of employment. In Ethiopia, full-year and full-time employment is mostly common for wage employment and urban self-employment. In Malawi, rural and urban self-employment is strongly characterized by part-year/full-time employment while wage employment is rather a full-year/full-time activity. Nigeria has the largest rates for full-time employment - nearly all the wage employment is full-year while self-employment is more likely to be part-year. Tanzania and Uganda are quite similar in terms of intensity, where self-employment is mostly a full-year activity and wage employment is rather a part-year/part-time activity, especially in rural areas. Note that in the countries with highest prevalence of part-year/part-time wage employment (Tanzania and Uganda) the dominant sector is agriculture, confirming that agricultural wage employment entails often casual work.

5. Dynamics of off-farm employment

5.1. Entry and exit rates

[13] Wage employment refers here to main wage employment, and not to casual or social safety net labor.

We now turn to the dynamics of off-farm employment and investigate the stability of these jobs. Table 4 shows the rates of people who entered and exited off-farm employment and who were never or always employed over time. The share of people who are continuously off-farm employed is quite low across countries. It ranges from 16 percent in Ethiopia, 31 percent in Uganda, 32 percent in Nigeria and Tanzania, to 33 percent in Malawi. This implies that off-farm employment is characterized by unstable jobs, which might hamper its potential for contributing to economic development. A large share of the population switches employment status over time; 20 percent in Nigeria, 28 percent in Ethiopia, 29 percent in Uganda, 31 percent in Tanzania, and 35 percent in Malawi, corresponding to a cross-country weighted overall share of 25 percent. The total number of people that either entered or exited off-farm employment between 2010 and 2016 in these five countries amount up to about 39 million. This is a huge demographic shift that can only be revealed by relying on panel surveys that track individuals over time. Entry rates are higher than exit rates in almost all countries; e.g. Malawi (22 percent versus 13 percent), Nigeria (11 percent versus 9 percent), Tanzania (19 percent versus 12 percent) and Uganda (15 percent versus 14 percent). Only in Ethiopia exit rates are higher than entry rates (18 percent versus 10 percent). Overall, the stability of off-farm employment is higher in urban areas than in rural areas, with higher rates of continued employment and lower rates of entry and exit. This is associated with the higher prevalence of full-year/full-time employment in urban areas.

[Table 4 here]

The gender gap also plays a major role in the dynamics of off-farm employment. Women are less likely to continue employment than men in most countries, which is linked to the lower quality of jobs in which women participate. The gender gap stands at 7 pp in Ethiopia, 14 pp in Uganda, 15 pp in Tanzania, and 21 pp in Malawi. Nigeria is an exception where women are slightly more likely to continue employment (33 percent) than men (31 percent). This is probably due to the relatively high stability of (female owned) NFEs (Nagler and Naudé, 2017). The gender gap is consistently higher in urban areas (ranging from 1 pp in Nigeria to 33 pp in Malawi) than in rural areas (ranging from 7 pp in Ethiopia to 18 pp in Malawi). Entry rates are higher for women than for men in Malawi and Tanzania, while exit rates are higher for women in Malawi and Uganda.

Those who are never off-farm employed or exit employment are usually on-farm employed (Table A **3** in the Appendix). The share of people that did not participate in off-farm employment in the

last two survey rounds but who are involved in on-farm activities (including crop and livestock production), ranges in rural areas from 90 percent in Nigeria to 100 percent in Ethiopia, and in urban areas from 34 percent in Nigeria to 99 percent in Ethiopia. The share of people that exited off-farm employment and returned to / started with on-farm employment ranges in rural areas from 84 percent in Nigeria to 100 percent in Ethiopia, and in urban areas from 27 percent in Nigeria to 95 percent in Ethiopia. Consistently across and within countries, women are less likely to be on-farm employed than men.

5.2. Econometric models

We analyze two econometric models to investigate people's decisions to start or continue with off-farm employment. We study the probability of being employed in the last panel round, conditional on the employment status in the previous round. We estimate a separate logit model on two subsamples: those who were not employed in the previous round and those who were. The models take the following form:

$$P\left(y_{i,t+1} = 1 \mid y_{i,t} = 0\right) = f(X_{i,t}) \quad (1)$$

$$P\left(y_{i,t+1} = 1 \mid y_{i,t} = 1\right) = f(X_{i,t}, E_{i,t}) \quad (2)$$

where y is the employment status of individual i in year t, X a vector of individual, household and community characteristics and E a vector of job characteristics. The first model assesses the determinants of starting employment and explains why some people enter employment while others are never employed. The second model assesses the determinants of continued employment and explains why some people remain employed while others drop out of employment.

In line with the literature on determinants of employment, we include independent variables at individual-level (age, relation to household head, marital status and education), household-level (household size, dependency ratio, wealth, landholdings and livestock units), and community-level (distance to nearest road and market). X also includes regional fixed effects. Further, we are interested in the effects of covariate and idiosyncratic shocks, and include dichotomous variables identifying whether the household recently faced a death or serious illness of a household member, extreme weather events (floods and droughts) and a sudden increase in food prices. The

independent variables are described and summarized in Table A **2** in the Appendix. For the drivers of continued employment, we include job characteristics as well, including type of employment (regular wage employment, casual wage employment or self-employment), sector (agriculture, industry or services), and intensity (full-year and full-time employment). To avoid problems of reverse causality, all characteristics in *X* and *E* are lagged by one time period. For countries with more than two panel rounds, we use the latest available round for *t+1*. We estimate these models for men and women separately across rural and urban areas and take sampling weights into account to derive nationally representative data.

5.3. Drivers of entry into off-farm employment

Table 5 presents the drivers of entry into off-farm employment for rural areas. In general, we find that these drivers are mostly country- and gender-specific with few universal determinants, making it difficult to draw generalized conclusions. We find a comparative advantage of young adults (aged 25-34) over youth (aged 15-24) to enter in case of Ugandan men. In contrast, women aged 15-24 in Ethiopia are most likely to start with employment. Passing the threshold of 35 years old reduces the probability to take up employment for men in Malawi and Tanzania. Female household heads in Malawi are more likely to enter employment while male heads in Uganda are less likely to enter than other household members. Marital status reduces the probability of entry into employment for women in all countries (although only significant in Tanzania) while it increases this probability for men (although only significant in Uganda). This suggests that getting married has opposite effects on men's and women's entry into off-farm activities. Education drives the transition into employment only in Tanzania and for women in Ethiopia, suggesting that most of the jobs in other countries are low-skilled. Larger households decrease the likelihood to start employment for women in Nigeria and Uganda, but a higher child dependency ratio stimulates especially women in Ethiopia, Malawi and Nigeria to take up employment.[14] This is not in line with most studies on fertility and female labor supply, but it is in line with Heath (2017), who finds that fertility increases female labor supply in urban Ghana. Having young children might induce

[14] The child dependency ratio is defined as number of household members younger than age 10 over the number of members ages 10 and above. We also tried a different specification where dependents are younger than 15, but this gave similar results.

women to seek employment outside the household-farm to complement household income, as they are often responsible for child raising. Wealth is positively associated with starting employment in Ethiopia and Nigeria but negatively for women in Malawi, suggesting a necessity to seek employment rather than an opportunity. The gender difference for Malawi might lead to increased inequality if women end up in lowly remunerative, insecure jobs. Shocks (particularly the death or illness of a household member) pushes men in Malawi and women in Ethiopia and Uganda to enter employment. This illustrates how off-farm employment can be used as a coping strategy to idiosyncratic shocks. The insignificant effect of unexpected rainfall shocks implies that households do not make major short-term adjustments in off-farm engagement due to extreme weather events, which has been documented by Rijkers and Söderbom (2013) and Mathenge and Tschirley (2015).

[Table 5 here]

Table 6 presents the drivers of entry into off-farm employment for urban areas. Compared to rural areas, we observe some interesting differences. Unlike rural areas, wealth is negatively associated with the transition into employment (particularly for men in Nigeria and Tanzania), suggesting negative push factors in these transitions. Shocks matter more in urban areas: while in Nigeria the death or illness of a household member induces men to take up employment, in Ethiopia and Tanzania this reduces the likelihood of men's entry into employment. Also, extreme weather events and sudden price increases reduce this likelihood, particularly for men.

[Table 6 here]

5.4. Drivers of continued off-farm employment

Table 7 presents the drivers of continued off-farm employment in rural areas. Mid-aged men and women have higher chances of continued employment (particularly in Malawi, Nigeria and Uganda), although the differences with the reference group of 15-24-year-olds are not always significant. Household heads and their spouses are more likely to remain employed in Malawi, Nigeria and Tanzania. While being married is conducive for men's continued employment in Ethiopia and Malawi, it causes women to drop out of employment in Malawi and Tanzania. Education does not have a major influence on stability of employment, again suggesting that most of the off-farm jobs do not require a higher degree. Larger households decrease the likelihood to

continue with employment for both men and women in Ethiopia and Malawi while child dependency ratio does not alter this probability. Continued employment is associated with better living standards and non-productive assets, with a larger effect for men in Malawi, Nigeria and Tanzania. This suggests that men's rural off-farm employment is more remunerative, which might lead to increased gender inequality (Rijkers and Costa, 2012). Productive assets, such as landholdings (in Malawi and Uganda) and livestock (in Nigeria and Uganda), induce a transition towards on-farm employment. However, for women in Uganda the ownership of livestock increases the probability to remain employed. The effects of shocks are highly dependent on the country and differ across gender, suggesting that men and women within the same household respond differently to shocks. The death or illness of a household member stimulates continued employment for men in Malawi while it has a negative effect for men in Ethiopia. Extreme weather events, such as droughts and floods, stimulate women in Malawi to continue employment. Price shocks do not affect people's transition out of employment.

[Table 7 here]

Further, job characteristics matter for off-farm employment stability. Self-employees are more likely to continue employment in Ethiopia and Nigeria, and this holds for both men and women. This points to profitable NFEs with high survival and low exit rates, which has been documented by Nagler and Naudé (2017) for Nigeria. In Malawi and Uganda self-employees or wage employees are equally likely to continue, while self-employees in Tanzania are more likely to drop out. Remarkably, casual wage labor or employment in a social safety net program does not lead to higher exit rates than main wage employment. Employment in industry (for men and women in Ethiopia, men in Tanzania and women in Uganda) and in services (for men and women in Ethiopia, men and women in Uganda, and women in Nigeria and Tanzania) is more likely to be continued than employment in agriculture. This reaffirms the casual and informal nature of agricultural wage employment (Oya, 2013). Being full-year employed has a positive influence on remaining employed in Nigeria and Tanzania, and for men in Ethiopia and Malawi. However, it does not have an effect for women in Ethiopia and Malawi, nor for men and women in Uganda. Full-time employment is particularly important for women in Malawi to stay employed, but not for Malawian men nor for Ethiopians.

Table 8 presents the drivers of continued off-farm employment in urban areas. Compared to rural areas, we observe that 15-24-year-olds are much less likely to continue employment. This is particularly the case in Nigeria, and for women in Ethiopia, Malawi and Tanzania. This suggests that (female) youth's unstable employment is more problematic in urban areas than rural areas. Education plays a more important role in ensuring continued employment, but the effect is still quite limited. Surprisingly, wealth is not associated with stable employment (even the opposite effect in Ethiopia) while landholdings stimulate continued employment for men in Nigeria and women in Tanzania. Shocks do not influence people's transitions out of employment, suggesting that off-farm employment in urban areas is not used as a risk reduction strategy but rather as a stable source of income. Only in Ethiopia extreme weather events cause men to drop out of employment. Unlike rural areas, self-employment is not necessarily more conducive for stable employment than wage employment (it is even worse for women in Malawi and Tanzania), indicating that wage employment in urban areas offers more job security than wage employment in rural areas. Employment in industry and services leads to more stability for men in Ethiopia, and women in Tanzania. Surprisingly, men's work in services in Nigeria leads to an exit from employment. Being full-year employed has a positive influence on remaining employed for women in Ethiopia, Tanzania and Uganda, and for men in Nigeria and Tanzania, while full-time employment does not result in more stability.

[Table 8 here]

6. Conclusion

This paper provides recent empirical evidence for women's and men's participation in off-farm employment across five countries that represent 40 percent of the total population in Sub-Saharan Africa and investigates the drivers of entry into and continued participation in off-farm employment. We use the national, longitudinal and multi-topic household survey data from Ethiopia, Malawi, Nigeria, Tanzania and Uganda, generated as part of the World Bank Living Standards Measurement Study (LSMS-ISA) initiative. Since these surveys include extensive questionnaire modules on off-farm wage and employment; solicit individual-level data; track individuals over time; and allow for cross-country comparable analyses, they are particularly well-suited to investigate the nature, dynamics, and drivers of off-farm employment, with a strong focus

on gender. As such, the resulting analyses are a prerequisite for understanding determinants of individual-level participation in off-farm employment, which is concealed by using household-level data.

We find that a significant share of the rural and urban population in these countries participates in off-farm employment with a cross-country weighted participation rate of 44 percent, and the national rates ranging from 34 percent in Ethiopia to 58 percent in Malawi. Yet, women are consistently less likely to participate, with a cross-country weighted gender gap of 9 percentage points, and the national estimates of the gender gap ranging from 4 percentage points in Nigeria to 19 percentage points in Uganda. In addition, women are less likely to access wage employment; to work in higher-productivity sectors; and to be full-year/full-time employed. Gender differences are highest in Malawi, Tanzania and Uganda but low in Nigeria, where female non-farm entrepreneurship is more common. The gender gap in job quality is more pronounced in urban areas than in rural areas. However, in most countries the gender inequality in accessing (qualitative) off-farm employment is observed to have declined between 2010 and 2016.

We document that a substantial share of the population, amounting to about 39 million individuals across the countries of interest, switched employment status between 2010 and 2016, pointing to the dynamic (and unstable) nature of off-farm employment. Women are less likely to continue employment than men in all countries except in Nigeria. Drivers of entry into employment and continued employment are mostly country- and gender-specific, with occurrence of shocks and demographic factors as most important determinants. Differences between men and women relate mostly to household composition, with a positive effect of child dependency ratio on women's entry into employment, and wealth, which is negatively correlated with women's entry into employment and positively with men's continued employment in rural areas. Part-year work in the agricultural sector leads to a higher exit rate while self-employment is more conducive for stability in rural Ethiopia and Nigeria, but not in urban areas or in other countries.

Our findings imply that off-farm employment is not a negligible activity and that development policies and programs should pay more attention to these jobs, especially in rural areas. To improve the inclusiveness of employment towards women, it is paramount that gender-specific employment policies and programs are designed and implemented. For participation rates to increase steadily over time, these policies and programs should focus on keeping people employed as well. From a

perspective of promoting the inclusiveness of off-farm employment opportunities in rural areas, the role of agricultural wage employment should be thought through more critically. At least in the case of Malawi and Tanzania, the gender gap in employment rates have declined most rapidly over time among the five countries of interest, and the uptake in women's entry into agricultural wage employment is shown to have contributed to this change. However, the overall gender gap is smallest in Nigeria due to the ubiquitous presence of (stable) women's non-farm enterprises, implying that in this case promotion of off-farm self-employment might lead to higher inclusiveness. Finally, there are only a handful of determinants that explain entry into and continued participation in off-farm employment on a cross-country basis, pointing to the high heterogeneity within the region, and the need to design country-specific policies and programs. Future research should extend our analytical framework to the analysis of off-farm wage and self-employment labor inputs and earnings to further qualify the observed gender differences and to delve deeper into the role of off-farm employment activities in Africa's structural transformation.

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TABLES

Table 1. *Overview of participation in off-farm employment across gender, age, countries, space and time.*

	National						Rural						Urban					
	Total	Women	Men	Total	Women	Men	Total	Women	Men	Total	Women	Men	Total	Women	Men	Total	Women	Men
Ethiopia	2014			2016			2014			2016			2014			2016		
Off-farm employed	0.35	0.27	0.42 ***	0.34	0.28	0.40 ***	0.34	0.27	0.42 ***	0.24	0.19	0.30 ***	0.61	0.57	0.66	0.64	0.56	0.73 ***
15-24 yrs	0.24	0.21	0.28 **	0.25	0.26	0.25 **	0.24	0.21	0.28 ***	0.18	0.18	0.18 ***	0.42	0.43	0.39	0.47	0.44	0.52
25-34 yrs	0.42	0.35	0.52 ***	0.40	0.32	0.50 ***	0.42	0.34	0.52 ***	0.28	0.21	0.38 ***	0.69	0.65	0.75	0.68	0.60	0.78 ***
35-64 yrs	0.36	0.25	0.46 ***	0.35	0.27	0.43 ***	0.35	0.25	0.46 ***	0.25	0.18	0.32 ***	0.67	0.59	0.74 **	0.70	0.61	0.79 ***
Malawi	2010			2013			2010			2013			2010			2013		
Off-farm employed	0.51	0.41	0.64 ***	0.58	0.49	0.67 ***	0.49	0.39	0.60 ***	0.54	0.47	0.63 ***	0.65	0.47	0.83 ***	0.73	0.60	0.86 ***
15-24 yrs	0.43	0.37	0.53 ***	0.45	0.41	0.51 ***	0.43	0.36	0.52 ***	0.43	0.40	0.48 ***	0.47	0.39	0.59 **	0.58	0.45	0.73 ***
25-34 yrs	0.58	0.45	0.72 ***	0.64	0.55	0.76 ***	0.54	0.43	0.67 ***	0.61	0.53	0.72 ***	0.70	0.53	0.89 ***	0.74	0.62	0.89 ***
35-64 yrs	0.52	0.40	0.64 ***	0.60	0.50	0.70 ***	0.49	0.39	0.59 ***	0.56	0.47	0.66 ***	0.72	0.45	0.91 ***	0.81	0.69	0.91 ***
Nigeria	2013			2016			2013			2016			2013			2016		
Off-farm employed	0.50	0.48	0.54 ***	0.47	0.45	0.49 ***	0.41	0.39	0.45 ***	0.39	0.38	0.39 ***	0.66	0.63	0.69 **	0.60	0.57	0.65 ***
15-24 yrs	0.24	0.27	0.19 ***	0.20	0.19	0.21 ***	0.19	0.23	0.16 ***	0.17	0.19	0.16 ***	0.32	0.38	0.27 **	0.25	0.20	0.30 ***
25-34 yrs	0.49	0.47	0.53 **	0.47	0.48	0.44 **	0.42	0.42	0.43 ***	0.40	0.43	0.34 ***	0.60	0.56	0.67 **	0.57	0.55	0.59 **
35-64 yrs	0.62	0.56	0.68 ***	0.61	0.56	0.67 ***	0.51	0.45	0.58 ***	0.49	0.45	0.55 ***	0.80	0.75	0.85 ***	0.79	0.73	0.84 ***
Tanzania	2011			2013			2011			2013			2011			2013		
Off-farm employed	0.49	0.40	0.59 ***	0.52	0.45	0.59 ***	0.42	0.34	0.52 ***	0.45	0.40	0.52 ***	0.64	0.54	0.77 ***	0.66	0.56	0.78 ***
15-24 yrs	0.33	0.26	0.41 ***	0.38	0.33	0.44 ***	0.30	0.22	0.38 ***	0.35	0.29	0.40 ***	0.41	0.35	0.49 ***	0.48	0.41	0.56 ***
25-34 yrs	0.57	0.45	0.71 ***	0.60	0.51	0.69 ***	0.49	0.37	0.62 ***	0.52	0.45	0.60 ***	0.73	0.59	0.89 ***	0.73	0.62	0.87 ***
35-64 yrs	0.54	0.46	0.63 ***	0.57	0.49	0.65 ***	0.47	0.40	0.55 ***	0.50	0.44	0.57 ***	0.75	0.65	0.86 ***	0.74	0.64	0.85 ***
Uganda	2012			2014			2012			2014			2012			2014		
Off-farm employed	0.51	0.42	0.62 ***	0.40	0.31	0.50 ***	0.47	0.37	0.58 ***	0.36	0.27	0.46 ***	0.69	0.63	0.77 ***	0.53	0.44	0.63 ***
15-24 yrs	0.40	0.31	0.51 ***	0.30	0.22	0.39 ***	0.38	0.28	0.48 ***	0.25	0.18	0.32 ***	0.54	0.46	0.68 **	0.45	0.34	0.60 ***
25-34 yrs	0.58	0.46	0.73 ***	0.44	0.35	0.57 ***	0.55	0.42	0.71 ***	0.40	0.29	0.54 ***	0.71	0.62	0.82 ***	0.54	0.47	0.63 ***
35-64 yrs	0.53	0.46	0.61 ***	0.43	0.34	0.53 ***	0.47	0.39	0.56 ***	0.39	0.30	0.49 ***	0.75	0.73	0.77 ***	0.56	0.48	0.65 ***

Population statistics are corrected using sampling weights. Significant differences across gender are indicated with * (p<0.1), ** (p<0.05) and *** (p<0.01).

Table 2. *Type and sectors of off-farm employment across gender, countries, space and time.*

	National				Rural				Urban			
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Ethiopia	2014		2016		2014		2016		2014		2016	
Self-employed	0.13	0.13	0.18	0.17	0.13	0.12	0.13	0.13	0.44	0.39	0.34	0.32
Industry	0.41	0.41	0.30	0.27 **	0.41	0.42	0.30	0.27 **	0.34	0.27 **	0.31	0.29 **
Services	0.54	0.54	0.66	0.69 **	0.54	0.54	0.66	0.69 *	0.62	0.66	0.67	0.69
Wage employed	0.02	0.07 ***	0.06	0.13 ***	0.02	0.07 ***	0.01	0.05 ***	0.13	0.31 ***	0.22	0.39 ***
Agriculture	0.27	0.18	0.07	0.10	0.28	0.18	0.08	0.17	0.12	0.13	0.07	0.08
Industry	0.07	0.21 **	0.22	0.27 **	0.07	0.21 **	0.25	0.34 **	0.11	0.27 **	0.22	0.25 **
Services	0.66	0.61	0.71	0.62 **	0.65	0.61	0.66	0.49	0.77	0.60 ***	0.72	0.67 ***
Casual wage employed	0.13	0.27 ***	0.04	0.11 ***	0.13	0.27 ***	0.04	0.11 ***	0.08	0.13	0.04	0.12 ***
Safety net employed	0.03	0.05 **	0.02	0.05 ***	0.03	0.05 **	0.03	0.06 ***	0.02	0.00 **	0.00	0.00 **
Malawi	2010		2013		2010		2013		2010		2013	
Self-employed	0.12	0.15 ***	0.18	0.21 ***	0.10	0.13 ***	0.15	0.19 ***	0.22	0.26	0.34	0.30 **
Industry	0.32	0.32 **	0.32	0.29 **	0.40	0.41 **	0.39	0.35 **	0.12	0.14 **	0.14	0.15 **
Services	0.67	0.66 **	0.67	0.69 **	0.58	0.57 *	0.59	0.63 ***	0.88	0.86	0.85	0.85
Wage employed	0.05	0.24 ***	0.06	0.21 ***	0.04	0.19 ***	0.04	0.16 ***	0.14	0.46 ***	0.15	0.45 ***
Agriculture	0.10	0.21 **	0.12	0.18 **	0.16	0.31 **	0.18	0.28 **	0.01	0.02	0.03	0.03
Industry	0.13	0.22 **	0.08	0.18 ***	0.15	0.21 **	0.06	0.15 ***	0.11	0.24 **	0.11	0.23 **
Services	0.77	0.57 ***	0.80	0.64 ***	0.69	0.47 ***	0.75	0.57 ***	0.88	0.74 **	0.86	0.74 *
Casual wage employed	0.26	0.32 ***	0.27	0.33 ***	0.28	0.34 ***	0.30	0.35 ***	0.14	0.22 ***	0.15	0.26 ***
Safety net employed	0.01	0.01 ***	0.07	0.05 ***	0.01	0.02 ***	0.07	0.06 *	0.00	0.00 **	0.08	0.01 **
Nigeria	2013		2016		2013		2016		2013		2016	
Self-employed	0.41	0.40 ***	0.39	0.35 ***	0.36	0.35 ***	0.35	0.31 ***	0.50	0.47 **	0.46	0.43 **
Wage employed	0.08	0.19 ***	0.08	0.17 ***	0.04	0.13 ***	0.04	0.11 ***	0.16	0.29 ***	0.13	0.26 ***
Agriculture	0.07	0.08 ***	0.02	0.04 *	0.16	0.11 ***	0.03	0.05 ***	0.03	0.06	0.01	0.03
Industry	0.08	0.15 ***	0.11	0.31 ***	0.06	0.16 ***	0.10	0.27 ***	0.08	0.15 **	0.11	0.34 ***
Services	0.85	0.77 ***	0.87	0.65 ***	0.78	0.73 ***	0.88	0.68 ***	0.89	0.79 ***	0.87	0.63 ***
Safety net employed	0.00	0.00 ***	0.00	0.00 ***	0.00	0.00 *	0.00	0.00 *	0.00	0.00 **	0.00	0.00 **
Tanzania	2011		2013		2011		2013		2011		2013	
Self-employed	0.24	0.24	0.26	0.25 ***	0.19	0.21	0.21	0.20 ***	0.35	0.34	0.36	0.35 **
Industry	0.13	0.20 ***	0.11	0.13 ***	0.15	0.15 **	0.12	0.13 **	0.11	0.28 ***	0.10	0.13 **
Services	0.87	0.78 ***	0.89	0.87 ***	0.85	0.82 ***	0.87	0.86 ***	0.89	0.70 ***	0.90	0.87 **
Wage employed	0.19	0.41 ***	0.24	0.41 ***	0.18	0.37 ***	0.24	0.38 ***	0.23	0.53 ***	0.25	0.51 ***
Agriculture	0.48	0.38 ***	0.59	0.38 ***	0.69	0.56 ***	0.79	0.54 ***	0.08	0.07	0.14	0.09 **
Industry	0.07	0.14 ***	0.06	0.24 ***	0.04	0.10 ***	0.04	0.22 ***	0.12	0.22 ***	0.08	0.28 ***
Services	0.45	0.47 ***	0.36	0.37 ***	0.27	0.34 ***	0.17	0.24 ***	0.79	0.71 **	0.77	0.62 ***
Safety net employed	0.00	0.01 ***	0.00	0.01 **	0.00	0.01 ***	0.00	0.01 **	0.00	0.00 **	0.00	0.00 **
Uganda	2012		2014		2012		2014		2012		2014	
Self-employed	0.25	0.27 ***	0.16	0.16 ***	0.23	0.26 *	0.14	0.15 *	0.36	0.32 **	0.23	0.19 **
Industry	0.17	0.15 ***	0.10	0.10 ***	0.18	0.16 **	0.13	0.12 **	0.11	0.08 **	0.04	0.06 *
Services	0.81	0.82 ***	0.89	0.90 ***	0.80	0.80 ***	0.87	0.88 ***	0.89	0.92 **	0.95	0.94 *
Wage employed	0.20	0.39 ***	0.17	0.37 ***	0.17	0.37 ***	0.14	0.33 ***	0.30	0.49 ***	0.24	0.47 ***
Agriculture	0.70	0.51 ***	0.69	0.55 ***	0.77	0.58 ***	0.79	0.64 ***	0.34	0.19 **	0.35	0.23 ***
Industry	0.05	0.12 ***	0.05	0.10 ***	0.03	0.12 ***	0.05	0.09 ***	0.12	0.16 ***	0.06	0.14 ***
Services	0.25	0.37 ***	0.26	0.35 ***	0.20	0.31 ***	0.16	0.27 ***	0.54	0.65 **	0.59	0.62 **

Population statistics are corrected using sampling weights. Significant differences across gender are indicated with * ($p<0.1$), ** ($p<0.05$) and *** ($p<0.01$). Sector of employment is conditional on being employed.

Table 3. *Intensity of off-farm employment across gender, countries, space and time.*

	National				Rural				Urban			
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Ethiopia	2014		2016		2014		2016		2014		2016	
# Jobs (Cond. on empl.)	1.14	1.20 ***	1.08	1.16 ***	1.14	1.20 ***	1.08	1.17 ***	1.15	1.30 ***	1.08	1.15 ***
Self-employment												
Full-year/Full-time	0.24	0.26	0.32	0.38 **	0.24	0.25	0.15	0.18	0.38	0.48	0.51	0.62 ***
Full-year/Part-time	0.08	0.05	0.12	0.11	0.08	0.05	0.08	0.08	0.09	0.15 **	0.15	0.15 **
Part-year/Full-time	0.04	0.06	0.05	0.06	0.04	0.06	0.05	0.07	0.07	0.08	0.05	0.04
Part-year/Part-time	0.64	0.63	0.51	0.45 **	0.64	0.64	0.72	0.67	0.46	0.29 ***	0.29	0.18 ***
Wage employment												
Full-year/Full-time	0.28	0.21	0.50	0.48	0.26	0.19	0.40	0.29	0.54	0.58	0.52	0.55
Full-year/Part-time	0.21	0.17	0.07	0.07	0.21	0.18	0.13	0.10	0.17	0.16	0.06	0.05
Part-year/Full-time	0.20	0.36 **	0.28	0.32 **	0.21	0.37 **	0.25	0.39 **	0.15	0.17	0.28	0.29
Part-year/Part-time	0.31	0.26	0.15	0.14	0.32	0.27	0.22	0.22	0.14	0.09	0.14	0.11
Malawi	2010		2013		2010		2013		2010		2013	
# Jobs (Cond. on empl.)	1.09	1.16 ***	1.20	1.20 ***	1.09	1.16 ***	1.20	1.21 ***	1.08	1.16 ***	1.21	1.19 ***
Self-employment												
Full-year/Full-time	0.05	0.10 **	0.13	0.16 **	0.04	0.08	0.08	0.10	0.08	0.16 **	0.25	0.34 *
Full-year/Part-time	0.20	0.19	0.09	0.17 ***	0.19	0.15	0.08	0.17 ***	0.22	0.29 **	0.10	0.18 **
Part-year/Full-time	0.10	0.13	0.55	0.51	0.11	0.15	0.60	0.55	0.07	0.09	0.44	0.39
Part-year/Part-time	0.66	0.58 **	0.23	0.15 ***	0.66	0.63	0.24	0.18 **	0.63	0.47 **	0.21	0.09 ***
Wage employment												
Full-year/Full-time	0.34	0.42 *	0.38	0.53 ***	0.26	0.35	0.29	0.48 ***	0.44	0.55 *	0.51	0.60 *
Full-year/Part-time	0.12	0.19 *	0.08	0.08 *	0.16	0.22	0.09	0.09	0.07	0.14	0.07	0.05
Part-year/Full-time	0.30	0.25 **	0.31	0.28 **	0.24	0.24 **	0.30	0.26 **	0.39	0.26	0.32	0.31
Part-year/Part-time	0.24	0.14 **	0.22	0.11 **	0.34	0.19 ***	0.31	0.16 **	0.10	0.06	0.10	0.04
Nigeria	2013		2016		2013		2016		2013		2016	
# Jobs (Cond. on empl.)	1.03	1.09 ***	1.04	1.07 ***	1.02	1.08 ***	1.02	1.06 ***	1.04	1.10 ***	1.05	1.08 **
Self-employment												
Full-year/Full-time	0.53	0.52 **	0.02	0.04 **	0.57	0.50 ***	0.02	0.02 ***	0.48	0.55 **	0.03	0.05 **
Full-year/Part-time			0.57	0.56 ***			0.53	0.53 ***			0.61	0.59 **
Part-year/Full-time	0.47	0.48 ***	0.01	0.00	0.43	0.50 ***	0.01	0.01	0.52	0.45 **	0.00	0.00
Part-year/Part-time			0.40	0.40 ***			0.44	0.44 **			0.35	0.35 ***
Wage employment												
Full-year/Full-time	0.82	0.86 ***	0.82	0.84 ***	0.85	0.86 ***	0.77	0.80 ***	0.81	0.86 ***	0.85	0.87 ***
Full-year/Part-time	0.09	0.07 *	0.11	0.11 *	0.08	0.05 **	0.17	0.15 **	0.09	0.07 **	0.07	0.08 **
Part-year/Full-time	0.09	0.07 **	0.05	0.04 **	0.06	0.06 ***	0.03	0.04 ***	0.10	0.07 **	0.06	0.04 **
Part-year/Part-time	0.00	0.01 ***	0.02	0.01 *	0.01	0.02 ***	0.02	0.01 ***	0.00	0.00 ***	0.02	0.00 ***
Tanzania	2011		2013		2011		2013		2011		2013	
# Jobs (Cond. on empl.)	1.12	1.19 ***	1.12	1.16 ***	1.15	1.21 ***	1.14	1.18 **	1.07	1.17 ***	1.10	1.13 **
Self-employment												
Full-year	0.48	0.52 *	0.65	0.71 ***	0.40	0.47 *	0.58	0.62 *	0.58	0.62 **	0.75	0.84 ***
Part-year	0.52	0.48 *	0.35	0.29 ***	0.60	0.53 *	0.42	0.38 *	0.42	0.38 **	0.25	0.16 ***
Wage employment												
Full-year/Full-time	0.21	0.27 ***	0.19	0.29 ***	0.08	0.13 ***	0.09	0.16 ***	0.45	0.51 ***	0.41	0.52 ***
Full-year/Part-time	0.03	0.03 *	0.03	0.04 *	0.03	0.03 **	0.03	0.04 **	0.03	0.04 **	0.02	0.03 **
Part-year/Full-time	0.33	0.45 ***	0.35	0.41 ***	0.32	0.51 ***	0.31	0.44 ***	0.35	0.33 **	0.45	0.35 ***
Part-year/Part-time	0.43	0.25 ***	0.43	0.27 ***	0.57	0.32 ***	0.57	0.36 ***	0.17	0.12 ***	0.12	0.10 ***
Uganda	2012		2014		2012		2014		2012		2014	
# Jobs (Cond. on empl.)	1.16	1.14 ***	1.16	1.14 ***	1.18	1.15 **	1.19	1.16 **	1.08	1.11 **	1.10	1.10 **
Self-employment												
Full-year	0.71	0.75 ***	0.81	0.81 ***	0.71	0.74 *	0.76	0.77 *	0.70	0.78 **	0.89	0.92 **
Part-year	0.29	0.25 ***	0.19	0.19 ***	0.29	0.26 *	0.24	0.23 *	0.30	0.22 **	0.11	0.08 **
Wage employment												
Full-year/Full-time	0.27	0.49 ***	0.27	0.36 ***	0.18	0.42 ***	0.14	0.29 ***	0.43	0.69 ***	0.46	0.48 ***
Full-year/Part-time	0.15	0.10 *	0.15	0.17 *	0.16	0.11 **	0.18	0.18 **	0.14	0.08 **	0.11	0.15 **
Part-year/Full-time	0.22	0.19 ***	0.20	0.21 ***	0.21	0.21 ***	0.16	0.21 *	0.24	0.14 ***	0.26	0.21 ***
Part-year/Part-time	0.36	0.22 ***	0.38	0.26 ***	0.45	0.26 ***	0.52	0.32 ***	0.19	0.10 ***	0.17	0.15 ***

Population statistics are corrected using sampling weights. Significant differences across gender are indicated with * ($p<0.1$), ** ($p<0.05$) and *** ($p<0.01$). Full-year indicates working at least 10 months during the past 12 months and full-time indicates working at least 35 hours per week during an average working week.

Table 4. *Rates of off-farm employment dynamics across countries and gender.*

	National			Rural			Urban		
	Total	Women	Men	Total	Women	Men	Total	Women	Men
Ethiopia									
Never	0.56	0.64	0.47 ***	0.57	0.65	0.48 ***	0.23	0.28	0.18 **
Exit	0.18	0.15	0.21 ***	0.18	0.15	0.21 ***	0.12	0.13	0.12
Entry	0.10	0.08	0.12 ***	0.10	0.08	0.12 ***	0.12	0.13	0.12
Continue	0.16	0.13	0.20 ***	0.15	0.12	0.19 ***	0.52	0.47	0.59 ***
Malawi									
Never	0.32	0.37	0.25 ***	0.33	0.38	0.27 ***	0.25	0.33	0.17 ***
Exit	0.13	0.14	0.11 **	0.14	0.15	0.13 *	0.08	0.11	0.06 **
Entry	0.22	0.25	0.19 ***	0.23	0.24	0.21 ***	0.20	0.27	0.14 ***
Continue	0.33	0.23	0.44 ***	0.30	0.22	0.40 ***	0.47	0.30	0.63 ***
Nigeria									
Never	0.47	0.46	0.48 ***	0.54	0.53	0.55 ***	0.35	0.34	0.36 ***
Exit	0.09	0.09	0.09 **	0.09	0.08	0.09 *	0.11	0.11	0.10 **
Entry	0.11	0.12	0.11 ***	0.11	0.11	0.11 ***	0.13	0.13	0.12 ***
Continue	0.32	0.33	0.31 ***	0.26	0.28	0.25 **	0.42	0.42	0.43 ***
Tanzania									
Never	0.38	0.44	0.31 ***	0.42	0.48	0.35 ***	0.29	0.35	0.22 ***
Exit	0.12	0.12	0.12 **	0.13	0.12	0.14 **	0.09	0.12	0.06 ***
Entry	0.19	0.20	0.17 **	0.20	0.20	0.19 ***	0.17	0.19	0.14 ***
Continue	0.32	0.24	0.39 ***	0.25	0.19	0.32 ***	0.45	0.35	0.58 ***
Uganda									
Never	0.40	0.47	0.32 ***	0.44	0.51	0.36 ***	0.27	0.33	0.20 ***
Exit	0.14	0.15	0.14 **	0.15	0.15	0.15 **	0.13	0.14	0.13 ***
Entry	0.15	0.14	0.16 **	0.15	0.14	0.16 **	0.15	0.15	0.15 ***
Continue	0.31	0.24	0.38 ***	0.27	0.20	0.34 ***	0.45	0.38	0.53 ***

Population statistics are corrected using sampling weights. Significant differences across gender are indicated with * ($p<0.1$), ** ($p<0.05$) and *** ($p<0.01$).

Table 5. *Drivers of entry into off-farm employment across gender and countries for rural areas.*

	Ethiopia		Malawi		Nigeria		Tanzania		Uganda	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Aged 25-34 *(ref. 15-24)*	-0.080 **	-0.007	0.055	-0.070	0.051	0.036	0.046	0.034	0.083	0.215 ***
	(0.033)	(0.042)	(0.040)	(0.057)	(0.033)	(0.036)	(0.034)	(0.046)	(0.061)	(0.079)
Aged 35-64	-0.055	-0.016	-0.003	-0.110 *	0.006	-0.035	0.014	-0.122 **	0.064	0.099
	(0.035)	(0.061)	(0.045)	(0.063)	(0.037)	(0.052)	(0.036)	(0.053)	(0.070)	(0.092)
Household head/spouse	0.012	0.036	0.144 **	0.106	0.065	0.059	0.025	0.090 *	-0.063	-0.175 *
	(0.030)	(0.053)	(0.065)	(0.122)	(0.055)	(0.073)	(0.041)	(0.054)	(0.070)	(0.105)
Married	-0.027	0.089	-0.040	0.025	-0.014	0.057	-0.075 **	-0.025	-0.005	0.158 *
	(0.037)	(0.087)	(0.049)	(0.129)	(0.042)	(0.081)	(0.033)	(0.045)	(0.055)	(0.086)
Education	0.007 **	0.007	0.004	0.000	0.000	0.004	0.014 ***	0.013 ***	0.007	0.009
	(0.003)	(0.005)	(0.014)	(0.008)	(0.003)	(0.003)	(0.004)	(0.005)	(0.006)	(0.007)
Enrolled in school	-0.026	-0.093 **	-0.058	-0.122 *	-0.024	-0.030	-0.140 **	-0.119 **	0.023	0.014
	(0.050)	(0.045)	(0.110)	(0.069)	(0.038)	(0.033)	(0.058)	(0.052)	(0.110)	(0.092)
Household size	-0.003	-0.007	0.000	-0.007	-0.008 **	0.000	-0.001	-0.006	-0.021 ***	0.004
	(0.006)	(0.007)	(0.008)	(0.008)	(0.004)	(0.003)	(0.005)	(0.005)	(0.008)	(0.009)
Dependency ratio	0.056 ***	-0.020	0.065 **	0.092 **	0.047 **	0.051 *	0.013	0.063	0.019	0.013
	(0.018)	(0.034)	(0.028)	(0.045)	(0.023)	(0.029)	(0.032)	(0.042)	(0.036)	(0.052)
Wealth	0.046 *	0.031	-0.069 **	-0.002	0.034 ***	0.031 **	-0.037	-0.017	-0.023	0.004
	(0.026)	(0.042)	(0.030)	(0.026)	(0.013)	(0.014)	(0.025)	(0.030)	(0.029)	(0.038)
Landholdings	-0.006	-0.016	-0.053 **	-0.118 ***	-0.007	-0.004	-0.006	-0.005	-0.012	-0.012
	(0.007)	(0.012)	(0.025)	(0.028)	(0.011)	(0.010)	(0.004)	(0.004)	(0.020)	(0.018)
Livestock	-0.006	-0.008 *	-0.007	-0.026	-0.004	0.000	-0.015 ***	-0.004	-0.008 *	-0.029 ***
	(0.004)	(0.005)	(0.011)	(0.025)	(0.003)	(0.003)	(0.004)	(0.003)	(0.005)	(0.011)
Shock: Death/illness	0.075 ***	0.006	0.036	0.133 ***	0.040	0.031	-0.024	0.029	0.153 ***	-0.067
	(0.027)	(0.044)	(0.045)	(0.046)	(0.031)	(0.035)	(0.040)	(0.049)	(0.057)	(0.102)
Shock: Drought/flood	0.037	-0.046	0.027	-0.053	-0.047	0.047	0.004	0.009	-0.022	-0.091 *
	(0.033)	(0.055)	(0.035)	(0.039)	(0.030)	(0.046)	(0.031)	(0.043)	(0.039)	(0.048)
Shock: Price	-0.038	-0.030	0.008	0.054	-0.019	0.043	-0.032	-0.015		
	(0.037)	(0.045)	(0.035)	(0.039)	(0.038)	(0.047)	(0.030)	(0.035)		
Distance road	-0.001	0.002 **	-0.002	0.000	0.000	-0.001	-0.001	-0.001	-0.007 **	-0.004
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.003)
Distance market	0.000	0.000	-0.001	-0.001	0.000	0.000	0.000	0.000	0.001	0.000
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Region dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2,084	1,516	1,677	1,104	2,410	2,119	2,250	1,642	759	515

Average marginal effects are derived from logit models. Standard errors are reported between parentheses. Regressions are corrected with sampling weights. Significant effects are indicated with * ($p<0.1$), ** ($p<0.05$) and *** ($p<0.01$). Variables are lagged with one time period and described in Table A2.

Table 6. *Drivers of entry into off-farm employment across gender and countries for urban areas.*

	Ethiopia		Malawi		Nigeria		Tanzania		Uganda	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Aged 25-34 *(ref. 15-24)*	0.046	0.084	-0.018	0.049	0.107	0.068	0.212 ***	0.171 **	-0.031	0.162
	(0.107)	(0.112)	(0.043)	(0.084)	(0.065)	(0.057)	(0.050)	(0.070)	(0.137)	(0.156)
Aged 35-64	-0.260 **	0.055	0.053	0.043	0.155 **	0.078	0.036	-0.091	0.050	-0.222
	(0.104)	(0.129)	(0.071)	(0.112)	(0.072)	(0.117)	(0.053)	(0.114)	(0.114)	(0.188)
Household head/spouse	0.107	0.200 **	-0.006	0.020	0.033	0.450 ***	0.000	0.040	0.051	-0.091
	(0.151)	(0.085)	(0.097)	(0.178)	(0.087)	(0.150)	(0.060)	(0.143)	(0.167)	(0.236)
Married	0.092		0.047	-0.065	0.078	-0.436 **	-0.002	-0.132	0.114	0.148
	(0.135)		(0.118)	(0.164)	(0.078)	(0.180)	(0.055)	(0.133)	(0.145)	(0.169)
Education	-0.002	0.019 **	0.010	0.008	0.010 *	0.002	0.013 **	0.010	0.004	0.000
	(0.010)	(0.008)	(0.012)	(0.008)	(0.005)	(0.007)	(0.006)	(0.009)	(0.013)	(0.012)
Enrolled in school	-0.032	-0.070	-0.149	-0.184 **	0.006	-0.023	-0.054	-0.153 *	0.246	-0.250 **
	(0.132)	(0.107)	(0.117)	(0.091)	(0.059)	(0.052)	(0.059)	(0.079)	(0.194)	(0.115)
Household size	-0.029	-0.061 **	0.004	-0.016	-0.020 ***	-0.003	-0.007	-0.012	0.013	-0.016
	(0.027)	(0.025)	(0.009)	(0.011)	(0.008)	(0.010)	(0.008)	(0.009)	(0.013)	(0.013)
Dependency ratio	0.001	-0.223 ***	0.086	0.282 **	0.045	0.078	-0.068	-0.098	-0.016	-0.113
	(0.106)	(0.069)	(0.061)	(0.129)	(0.047)	(0.069)	(0.052)	(0.088)	(0.106)	(0.137)
Wealth	-0.005	-0.094	-0.021	-0.016	-0.024	-0.092 **	-0.006	-0.059 **	0.012	0.007
	(0.053)	(0.086)	(0.020)	(0.020)	(0.026)	(0.037)	(0.017)	(0.027)	(0.051)	(0.058)
Landholdings	0.025	0.023	-0.076 *	-0.003	0.024	0.002	-0.003	0.005	-0.072	0.013
	(0.044)	(0.020)	(0.045)	(0.053)	(0.015)	(0.009)	(0.007)	(0.008)	(0.055)	(0.014)
Livestock	-0.003	0.005	0.010 *	0.015	-0.017	-0.128 ***	-0.011 *	0.001	-0.003	-0.004
	(0.025)	(0.032)	(0.005)	(0.025)	(0.019)	(0.035)	(0.006)	(0.007)	(0.014)	(0.011)
Shock: Death/illness	-0.066	-0.308 ***	-0.033	0.051	-0.032	0.106 **	0.054	-0.182 **	0.000	-0.170
	(0.165)	(0.086)	(0.083)	(0.061)	(0.060)	(0.046)	(0.045)	(0.075)	(0.178)	(0.104)
Shock: Drought/flood		-0.203	-0.026	0.117	-0.281 ***	0.224 *	0.000	-0.129 **	-0.165	-0.027
		(0.172)	(0.076)	(0.086)	(0.101)	(0.118)	(0.042)	(0.055)	(0.123)	(0.122)
Shock: Price	0.020	-0.268 ***	-0.046	-0.099 *	-0.015	0.006	0.040	0.021		
	(0.103)	(0.102)	(0.049)	(0.056)	(0.080)	(0.128)	(0.051)	(0.057)		
Distance road	-0.006 *	-0.006 *	-0.003	-0.001	-0.009	0.016 ***	-0.002	0.002	0.002	-0.018
	(0.003)	(0.003)	(0.005)	(0.005)	(0.005)	(0.006)	(0.002)	(0.001)	(0.008)	(0.012)
Distance market	0.000	0.001	0.015 ***	0.006	0.000	-0.001 *	0.000	0.000	0.001	-0.004
	(0.001)	(0.001)	(0.004)	(0.005)	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
Region dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	147	94	565	306	687	567	998	580	159	107

Average marginal effects are derived from logit models. Standard errors are reported between parentheses. Regressions are corrected with sampling weights. Significant effects are indicated with * ($p<0.1$), ** ($p<0.05$) and *** ($p<0.01$). Variables are lagged with one time period and described in Table A2.

Table 7. *Drivers of continued off-farm employment across gender and countries for rural areas.*

	Ethiopia		Malawi		Nigeria		Tanzania		Uganda	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Aged 25-34 *(ref. 15-24)*	0.075	0.056	0.032	0.101 **	0.089 **	0.083	0.055	0.007	0.151 **	0.022
	(0.054)	(0.069)	(0.046)	(0.045)	(0.041)	(0.051)	(0.058)	(0.042)	(0.068)	(0.103)
Aged 35-64	0.055	0.032	-0.056	0.080 *	0.063	0.112 *	0.055	-0.029	0.157 **	0.051
	(0.059)	(0.077)	(0.049)	(0.043)	(0.042)	(0.059)	(0.057)	(0.047)	(0.078)	(0.102)
Household head/spouse	-0.005	0.085	0.242 ***	-0.047	0.143 ***	0.173 ***	0.119 **	0.181 ***	-0.052	0.183
	(0.065)	(0.070)	(0.076)	(0.085)	(0.048)	(0.049)	(0.050)	(0.043)	(0.087)	(0.123)
Married	-0.028	0.108 *	-0.099 *	0.151 **	-0.005	0.049	-0.110 ***	-0.053 *	-0.076	0.013
	(0.047)	(0.064)	(0.054)	(0.064)	(0.040)	(0.045)	(0.040)	(0.029)	(0.061)	(0.104)
Education	0.008	0.000	-0.006	-0.006	-0.006	0.006 *	0.011 **	0.004	-0.002	0.008
	(0.008)	(0.006)	(0.017)	(0.008)	(0.004)	(0.004)	(0.006)	(0.005)	(0.008)	(0.008)
Enrolled in school	0.057	0.129	0.167	0.132 *	-0.108 *	-0.016	0.165	-0.126	-0.228	0.069
	(0.096)	(0.083)	(0.134)	(0.073)	(0.064)	(0.049)	(0.126)	(0.098)	(0.172)	(0.138)
Household size	-0.014 *	-0.026 **	0.004	-0.017 *	0.005	-0.004	0.001	-0.004	-0.017	-0.005
	(0.008)	(0.010)	(0.010)	(0.010)	(0.004)	(0.004)	(0.007)	(0.005)	(0.011)	(0.008)
Dependency ratio	-0.014	0.055	0.019	0.026	0.053 *	0.011	0.004	-0.008	0.026	-0.074
	(0.033)	(0.038)	(0.034)	(0.036)	(0.032)	(0.024)	(0.037)	(0.029)	(0.049)	(0.056)
Wealth	0.097 **	0.040	-0.018	0.066 **	0.025	0.038 **	0.066 *	0.137 ***	0.031	0.055
	(0.048)	(0.042)	(0.043)	(0.029)	(0.019)	(0.017)	(0.034)	(0.032)	(0.046)	(0.035)
Landholdings	-0.007	-0.003	-0.063 *	-0.068 ***	-0.005	-0.017 **	-0.010	-0.003	-0.028 **	-0.021 *
	(0.014)	(0.017)	(0.034)	(0.024)	(0.010)	(0.008)	(0.006)	(0.004)	(0.014)	(0.011)
Livestock	-0.011 *	-0.003	-0.005	-0.024 *	-0.015 **	-0.010 ***	0.001	-0.003	0.028 *	-0.013 ***
	(0.006)	(0.005)	(0.005)	(0.013)	(0.006)	(0.002)	(0.002)	(0.003)	(0.015)	(0.003)
Shock: Death/illness	0.007	-0.129 ***	0.061	0.077 *	-0.031	-0.004	0.058	0.052	0.128	-0.053
	(0.064)	(0.049)	(0.045)	(0.039)	(0.034)	(0.034)	(0.046)	(0.037)	(0.095)	(0.086)
Shock: Drought/flood	0.011	-0.043	0.098 **	0.021	-0.004	-0.003	-0.012	0.011	-0.091	0.084
	(0.045)	(0.062)	(0.040)	(0.034)	(0.033)	(0.032)	(0.041)	(0.033)	(0.056)	(0.064)
Shock: Price	-0.013	0.034	0.002	-0.013	0.015	-0.007	-0.036	-0.029		
	(0.054)	(0.053)	(0.043)	(0.031)	(0.045)	(0.036)	(0.042)	(0.031)		
Distance road	0.000	0.003 **	0.000	-0.004 **	0.001	0.001	0.000	0.000	-0.001	0.001
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)
Distance market	0.001	0.000	0.000	0.001	-0.001 **	0.000	0.000	-0.001 *	0.000	0.001
	(0.001)	(0.000)	(0.002)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Self-employment *(ref. wage)*	0.169 ***	0.154 ***	0.002	-0.009	0.224 ***	0.181 ***	-0.123 **	-0.070 *	0.048	0.040
	(0.040)	(0.046)	(0.068)	(0.047)	(0.057)	(0.037)	(0.056)	(0.036)	(0.064)	(0.054)
Casual/safety net employment	-0.067	-0.009	-0.035	0.009						
	(0.053)	(0.064)	(0.076)	(0.038)						
Sector: Industry *(ref. agriculture)*	0.149 ***	0.215 ***	0.070	0.007	-0.084	0.066	0.107	0.140 ***	0.156 **	0.011
	(0.049)	(0.052)	(0.066)	(0.048)	(0.111)	(0.075)	(0.069)	(0.052)	(0.067)	(0.051)
Sector: Services	0.257 ***	0.214 ***	0.073	-0.015	0.204 ***	0.072	0.190 ***	-0.009	0.202 ***	0.160 ***
	(0.045)	(0.046)	(0.057)	(0.044)	(0.071)	(0.054)	(0.060)	(0.036)	(0.059)	(0.055)
Full-year employed *(ref. part-year)*	0.073	0.138 *	-0.049	0.125 **	0.067 **	0.123 ***	0.152 ***	0.132 ***	-0.004	-0.026
	(0.076)	(0.074)	(0.080)	(0.055)	(0.030)	(0.029)	(0.043)	(0.041)	(0.065)	(0.056)
Full-time employed *(ref. part-time)*	-0.078	-0.044	0.236 **	0.051						
	(0.076)	(0.070)	(0.096)	(0.059)						
Region dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	1,014	1,194	906	1,199	1,504	1,256	991	1,393	492	538

Average marginal effects are derived from logit models. Standard errors are reported between parentheses. Regressions are corrected with sampling weights. Significant effects are indicated with * (p<0.1), ** (p<0.05) and *** (p<0.01). Variables are lagged with one time period and described in Table A2.

Table 8. *Drivers of continued off-farm employment across gender and countries for urban areas.*

	Ethiopia		Malawi		Nigeria		Tanzania		Uganda	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Aged 25-34 *(ref. 15-24)*	-0.016	-0.176	0.098 *	-0.033	0.143 **	0.134 **	0.127 **	0.005	0.038	-0.004
	(0.114)	(0.138)	(0.053)	(0.061)	(0.068)	(0.055)	(0.056)	(0.048)	(0.137)	(0.094)
Aged 35-64	0.228 **	-0.125	0.000	-0.108	0.156 **	0.180 **	0.127 *	-0.084	0.008	-0.056
	(0.115)	(0.147)	(0.042)	(0.084)	(0.076)	(0.085)	(0.066)	(0.068)	(0.143)	(0.086)
Household head/spouse	0.146	0.274 **	0.267 ***	0.101	0.163 **	0.249 ***	-0.116 *	0.203 ***	0.027	0.183
	(0.115)	(0.117)	(0.097)	(0.084)	(0.081)	(0.069)	(0.070)	(0.054)	(0.105)	(0.134)
Married	0.028		-0.199 *	0.001	0.049	-0.078	-0.072 *	-0.039	-0.029	-0.038
	(0.111)		(0.104)	(0.043)	(0.073)	(0.074)	(0.042)	(0.049)	(0.071)	(0.112)
Education	0.017	0.011	-0.001	0.000	0.003	0.005	0.004	0.020 ***	0.007	0.005
	(0.011)	(0.013)	(0.006)	(0.007)	(0.005)	(0.005)	(0.006)	(0.006)	(0.009)	(0.009)
Enrolled in school	0.112	-0.114	-0.077	-0.100	0.006	-0.086	-0.083	-0.017	0.041	-0.182
	(0.130)	(0.135)	(0.083)	(0.096)	(0.091)	(0.053)	(0.142)	(0.077)	(0.156)	(0.142)
Household size	-0.028	0.004	0.007	-0.004	-0.008	-0.009	-0.017 **	-0.005	-0.027 **	0.012
	(0.018)	(0.020)	(0.012)	(0.009)	(0.007)	(0.008)	(0.008)	(0.006)	(0.011)	(0.012)
Dependency ratio	0.044	0.048	0.016	0.031	0.044	0.129 ***	0.020	0.058	0.011	0.033
	(0.073)	(0.060)	(0.041)	(0.042)	(0.057)	(0.050)	(0.050)	(0.055)	(0.077)	(0.050)
Wealth	-0.081 **	-0.108 **	0.017	0.002	-0.003	-0.020	0.008	0.003	0.003	0.014
	(0.037)	(0.054)	(0.015)	(0.015)	(0.029)	(0.026)	(0.027)	(0.020)	(0.038)	(0.033)
Landholdings	0.017	0.039	0.003	-0.004	-0.016	0.033 ***	0.014 *	-0.003	-0.007	0.004
	(0.042)	(0.024)	(0.064)	(0.032)	(0.025)	(0.011)	(0.007)	(0.007)	(0.029)	(0.015)
Livestock	-0.017	-0.011	-0.011	0.025	-0.002 ***	-0.014	-0.037 **	-0.003	-0.005	0.001
	(0.015)	(0.012)	(0.020)	(0.024)	(0.001)	(0.018)	(0.015)	(0.008)	(0.008)	(0.008)
Shock: Death/illness	0.024	-0.074	0.046	0.052	0.000	0.074	0.053	-0.004	0.100	0.106
	(0.121)	(0.069)	(0.070)	(0.070)	(0.060)	(0.064)	(0.051)	(0.038)	(0.235)	(0.152)
Shock: Drought/flood		-0.312 ***	-0.007	0.009	0.049	-0.079	-0.075	-0.021	-0.038	0.023
		(0.117)	(0.060)	(0.042)	(0.109)	(0.093)	(0.050)	(0.031)	(0.104)	(0.071)
Shock: Price	0.054	0.037	-0.001	0.046	-0.031	0.034	-0.036	0.030		
	(0.132)	(0.123)	(0.039)	(0.052)	(0.086)	(0.102)	(0.047)	(0.040)		
Distance road	0.007 ***	0.000	-0.004	-0.004	0.004	-0.009 ***	-0.002	-0.003 *	-0.005	-0.004
	(0.002)	(0.002)	(0.004)	(0.005)	(0.003)	(0.002)	(0.002)	(0.001)	(0.009)	(0.004)
Distance market	0.000	0.000	0.008 ***	0.004	0.000	0.000	0.000	0.000	0.005 **	0.000
	(0.001)	(0.001)	(0.003)	(0.003)	(0.000)	(0.000)	(0.001)	(0.001)	(0.002)	(0.001)
Self-employment *(ref. wage)*	0.060	0.031	-0.115 **	0.004	0.015	0.016	-0.139 ***	-0.007	-0.005	0.021
	(0.124)	(0.126)	(0.050)	(0.042)	(0.120)	(0.056)	(0.051)	(0.032)	(0.108)	(0.076)
Casual/safety net employment	0.011	-0.241 ***	-0.053	0.050						
	(0.100)	(0.092)	(0.051)	(0.066)						
Sector: Industry *(ref. agriculture)*	0.129	0.221 *	0.016	0.043	-0.136	0.021	0.162 *	0.021	-0.098	0.072
	(0.119)	(0.127)	(0.076)	(0.063)	(0.187)	(0.070)	(0.088)	(0.064)	(0.088)	(0.089)
Sector: Services	0.147	0.152 *	-0.038	0.009	-0.007	-0.153 ***	0.168 **	-0.027	0.083	0.089
	(0.114)	(0.090)	(0.084)	(0.052)	(0.113)	(0.056)	(0.081)	(0.056)	(0.081)	(0.081)
Full-year employed *(ref. part-year)*	0.165	0.020	0.011	0.078	0.005	0.135 ***	0.235 ***	0.062 *	0.210 **	-0.038
	(0.118)	(0.080)	(0.049)	(0.058)	(0.041)	(0.046)	(0.039)	(0.036)	(0.095)	(0.071)
Full-time employed *(ref. part-time)*	0.072	0.154	0.014	0.029						
	(0.115)	(0.115)	(0.063)	(0.046)						
Region dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	243	222	383	623	847	803	794	1,038	223	250

Average marginal effects are derived from logit models. Standard errors are reported between parentheses. Regressions are corrected with sampling weights. Significant effects are indicated with * (p<0.1), ** (p<0.05) and *** (p<0.01). Variables are lagged with one time period and described in Table A2.

FIGURES

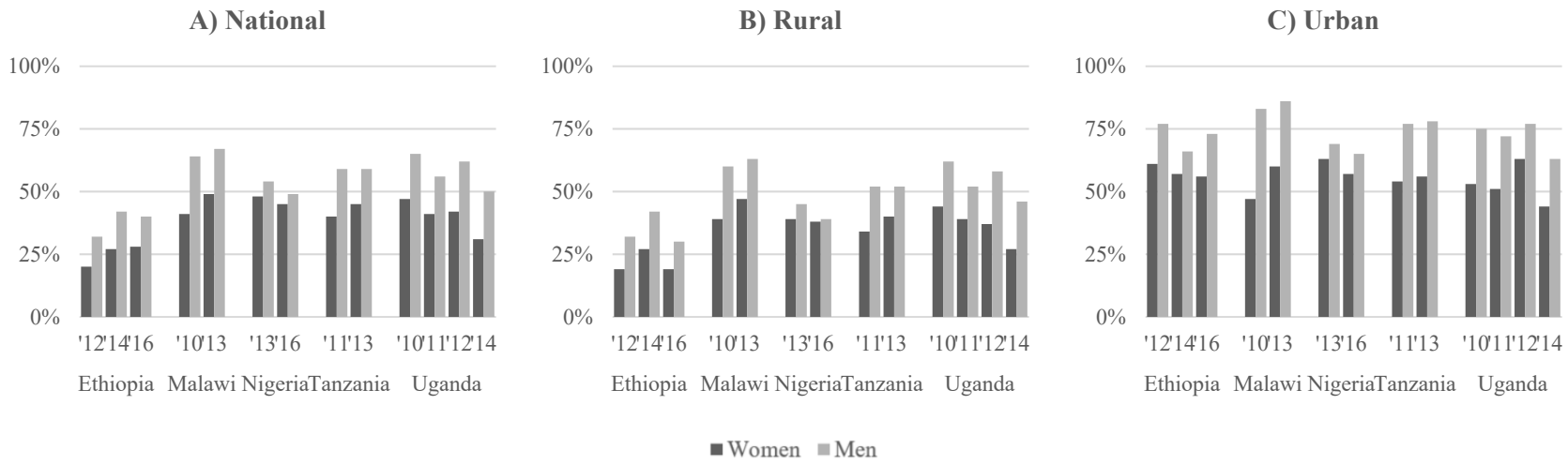

Figure 1. *Participation rate in off-farm employment across gender, countries and time: a) National level, b) Rural areas, c) Urban areas. Population statistics are corrected with sampling weights.*

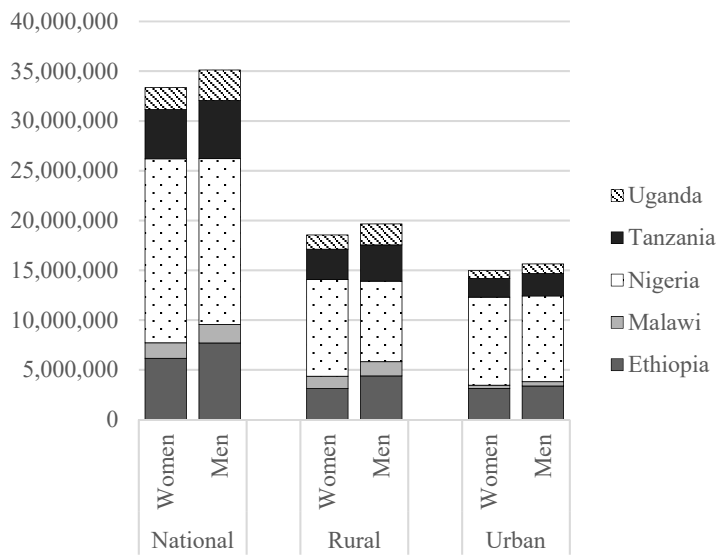

Figure 2. *Total estimates of people participating in off-farm employment across gender, countries and time. Population statistics are corrected with sampling weights.*

APPENDIX

Table A 1. *Overview of survey questions on off-farm wage and self-employment across countries.*

	Ethiopia	Malawi	Nigeria	Tanzania	Uganda
Off-farm wage employment *(from labor module)*	Main job, second job, casual labor, employed by PSNP	Main job, second job, casual labor (ganyu), employed by PWP	Main job, second job, employed by NAPEP or Fadama	Main job, second job, employed by food/cash/ inputs-for-work program	Main job and second job (last seven days), main job and second job (last 12 months)
Self-employment in NFE *(from NFE module)*	Up to two owners, up to five workers	Up to two owners, up to two managers, up to four workers	Up to two managers, up to two owners, up to six workers	Up to two managers, up to two owners, up to six workers	Up to two owners/managers, up to five workers

NFE = non-farm enterprise; PSNP = Productive Safety Net Program; PWP = Public Works Program; NAPEP = National Poverty Eradication Program.

Table A 2. *Summary statistics of independent variables.*

	Ethiopia		Malawi		Nigeria		Tanzania		Uganda	
Rural	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Youth (aged 15-24)	0.16	0.24	0.27	0.29	0.23	0.34	0.30	0.35	0.19	0.23
Young adult (aged 25-34)	0.32	0.28	0.33	0.30	0.27	0.23	0.26	0.24	0.26	0.25
Adult (aged 35-64)	0.52	0.49	0.40	0.42	0.50	0.43	0.44	0.41	0.55	0.52
Household head/spouse	0.82	0.66	0.82	0.70	0.67	0.45	0.73	0.58	0.83	0.72
Married	0.84	0.94	0.69	0.68	0.63	0.46	0.53	0.48	0.69	0.71
Education (years)	1.52	3.44	0.52	1.05	4.25	6.53	4.53	5.04	4.18	6.02
Enrollment in school	0.05	0.10	0.05	0.11	0.09	0.15	0.05	0.07	0.02	0.07
Household size	5.67	6.05	5.58	5.77	7.65	7.89	6.29	6.43	6.10	6.35
Child dependency ratio[a]	0.49	0.46	0.61	0.53	0.42	0.40	0.55	0.48	0.58	0.52
Wealth index[b]	-0.49	-0.45	-0.32	-0.29	-0.18	-0.17	-0.48	-0.45	-0.26	-0.21
Landholdings (ha)	1.54	1.75	0.74	0.77	0.88	0.95	2.68	2.92	1.01	1.08
Livestock units[c]	3.35	3.84	0.41	0.41	1.65	1.75	3.02	3.78	1.45	1.63
Shock: death/illness	0.23	0.22	0.23	0.23	0.10	0.10	0.15	0.15	0.07	0.07
Shock: drought/flood	0.27	0.27	0.40	0.41	0.09	0.09	0.41	0.44	0.30	0.30
Shock: price increase	0.32	0.31	0.93	0.93	0.18	0.15	0.50	0.50		
Distance nearest road (km)	14.26	14.56	10.01	9.97	7.53	7.29	21.22	21.20	8.52	8.83
Distance nearest market (km)	64.46	63.40	25.85	26.18	69.27	68.20	76.31	78.24	31.17	31.88
Observations	3,098	2,710	2,583	2,303	3,914	3,375	3,241	3,035	1,251	1,053
Urban										
Youth (aged 15-24)	0.16	0.22	0.26	0.28	0.25	0.35	0.31	0.33	0.21	0.23
Young adult (aged 25-34)	0.35	0.22	0.44	0.33	0.30	0.23	0.32	0.29	0.30	0.31
Adult (aged 35-64)	0.49	0.56	0.30	0.39	0.45	0.42	0.37	0.38	0.48	0.46
Household head/spouse	0.80	0.73	0.77	0.67	0.59	0.46	0.67	0.60	0.80	0.67
Married	0.74	0.93	0.65	0.59	0.52	0.42	0.40	0.41	0.60	0.59
Education (years)	4.82	7.93	1.27	1.82	8.27	9.64	6.14	6.46	7.10	8.24
Enrollment in school	0.05	0.08	0.10	0.15	0.11	0.15	0.08	0.10	0.04	0.09
Household size	4.84	5.26	5.40	5.33	6.45	6.48	5.20	5.24	5.07	5.26
Child dependency ratio[a]	0.35	0.34	0.52	0.41	0.33	0.31	0.38	0.32	0.46	0.42
Wealth index[b]	0.57	0.60	0.87	0.86	0.80	0.81	0.70	0.74	0.89	0.93
Landholdings (ha)	0.21	0.27	0.22	0.22	0.16	0.14	1.27	1.38	0.38	0.50
Livestock units[c]	1.14	1.45	0.15	0.13	0.45	0.31	0.60	0.76	0.57	0.62
Shock: death/illness	0.36	0.36	0.25	0.23	0.07	0.05	0.14	0.12	0.05	0.05
Shock: drought/flood	0.12	0.12	0.14	0.14	0.02	0.02	0.32	0.34	0.10	0.10
Shock: price increase	0.32	0.27	0.86	0.85	0.10	0.11	0.55	0.54		
Distance nearest road (km)	14.31	14.97	1.94	2.00	2.25	2.27	5.06	4.78	2.29	2.98
Distance nearest market (km)	68.33	72.57	6.34	6.63	53.38	51.74	40.07	39.51	20.49	18.61
Observations	390	316	948	929	1,534	1,370	1,792	1,618	382	357

Summary statistics are corrected with sampling weights. [a]Defined as number of household members younger than ten over number of members aged 10 and above. [b]Based on a factor analysis of dwelling attributes and durable assets. [c]Calculated according to FAO conversion units for livestock in Africa.

Table A 3. *Overview of on-farm employment rates for those who were never off-farm employed or exited off-farm employment*

	National				Rural				Urban			
	Total	Women	Men		Total	Women	Men		Total	Women	Men	
Ethiopia												
Never	1.00	1.00	1.00		1.00	1.00	1.00		0.99	0.99	1.00	
Exit	0.99	0.99	1.00		1.00	0.99	1.00		0.95	0.97	0.92	
Malawi												
Never	0.88	0.87	0.89		0.94	0.93	0.96	**	0.50	0.51	0.47	
Exit	0.89	0.87	0.93	**	0.93	0.91	0.95	**	0.58	0.54	0.64	
Nigeria												
Never	0.75	0.76	0.74		0.90	0.90	0.90	**	0.34	0.38	0.30	**
Exit	0.60	0.57	0.64	*	0.84	0.84	0.84	**	0.27	0.24	0.31	
Tanzania												
Never	0.87	0.85	0.90	***	0.97	0.96	0.98	***	0.56	0.53	0.60	**
Exit	0.86	0.82	0.91	***	0.96	0.95	0.97	**	0.55	0.53	0.58	
Uganda												
Never	0.89	0.88	0.91	**	0.94	0.93	0.96	*	0.58	0.56	0.62	**
Exit	0.87	0.86	0.89	***	0.96	0.95	0.97	**	0.50	0.43	0.56	

Population statistics are corrected using sampling weights. Significant differences across gender are indicated with * ($p<0.1$), ** ($p<0.05$) and *** ($p<0.01$).