

# Headship and Poverty in Africa

Caitlin Brown and Dominique van de Walle<sup>1</sup>

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**Abstract:** Standard welfare and poverty comparisons between female-headed households (FHHs) and male-headed households (MHHs) have largely ignored two confounding factors: marital status (influencing access to markets and services) and heterogeneity in household demographics such as size (with bearing on economies of scale in consumption). Both influence welfare and are correlated with gender of headship. Even a modest adjustment for economies of scale changes the poverty comparisons in Africa, with FHHs faring significantly worse overall in East, Central, and Southern Africa. Marital status also matters. The households of female heads are poorer than MHHs except when the female head is married. Taking the head's marital status and the household's demographics into account is critical to the association between female headship and welfare outcomes.

**Keywords:** Female-headed households, gender, poverty, economies of scale, Africa, marital status

**JEL codes:** I31, I32, J12, J16

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<sup>1</sup> Brown is with the School of Public Policy, Central European University and van de Walle is with the Center for Global Development, Washington DC. The authors are grateful to the World Bank's Strategic Research Program for funding assistance. The findings, interpretations and conclusions of this paper are those of the authors, and should not be attributed to the World Bank. Helpful comments were received from Sylvie Lambert, Martin Ravallion and seminar participants at CSAE 2019.

## 1. Introduction

The gender of the household head has been a prominent focal point in two branches of the literature on poverty and development. The first is in the literature on the ‘feminization of poverty,’ where one often encounters the view that female-headed households (FHHs) are the poorest of the poor.<sup>2</sup> This has carried weight in policy. The characteristics of heads, and in particular gender, have frequently been used as proxies for household welfare and for targeting poor households.<sup>3</sup>

The second branch comprises quantitative poverty assessments (PAs) carried out by both the international development institutions and researchers that compare poverty across male-headed households (MHHs) and FHHs. Using per capita consumption or income as the indicator of well-being, PAs often report, to their stated surprise, that FHHs are not in fact poorer. More recently World Bank authors (Munoz-Boudet et al. 2018) make a case for stopping use of the concept completely in poverty analysis, with some even advocating for abandoning questions on headship in household surveys.

This paper asks whether gender of headship is a useful lens on household-level poverty and for understanding the family in particular. Sub-Saharan Africa (SSA) is an obvious region to focus on for this purpose. Both the prevalence of female headship and the population shares living in such households have been rising in SSA during the last three decades (Milazzo and van de Walle 2017). Recent data indicate that FHHs account for some 23 to 26 percent of the continent’s households and 18 to 21% of its population.<sup>4</sup>

The main aim of the paper is to make poverty comparisons for female- versus MHHs in the SSA context using consistent measurement methods across multiple countries and accounting for the unique characteristics that make FHHs potentially vulnerable to poverty, including marital status and demographics. While many of the issues we emphasize have been noted before, our aim is to bring the key points together and document these issues more widely in a systematic, comparable, and consistent way where possible across the entire SSA region.

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<sup>2</sup> See the review and references in Chant (2003, 2008).

<sup>3</sup> For example, Grosh et al. (2008) provides an overview of targeting methods in developing countries that use gender of the head. Also see Del Ninno and Mills (2015) and Karlan and Thuysbaert (2019).

<sup>4</sup> The lower percentages are calculated by the authors based on recent consumption surveys (discussed below) for 43 countries and the higher ones are based on the most recent Demographic and Health Surveys for 35 countries (Milazzo and van de Walle 2017).

The answer to whether headship is meaningful is clearly context specific and we restrict our analysis and conclusions to SSA. The concept of the household head is a familiar and meaningful one in many cultures. In SSA, household members typically have no problem in identifying the head. African households often have vertically and horizontally complex structures, and differ significantly from Western notions of what constitutes a household. How household members relate to the head and to one another may be vital to understanding various issues of policy relevance. In general, household organization matters to welfare, in particular for intra-household inequality and hence individual poverty. Female headship is one aspect of this.

The most common and culturally expected household type in SSA is one with a married male head. Special circumstances underlie cases where an adult male is not perceived as the head. A female head is typically the result of an unusual situation such as a marital dissolution or a household lacking an adult male. The ability of FHHs to flourish in gender unequal societies depends very critically on why they are female-headed. Marital status of the head is a potentially important confounding factor. We argue that this is a predictable feature of the African family that results in female headship and is correlated with poverty, with implications for (inter alia) social protection.

For both men and women, a change in marital status is a common precursor of headship. For African men, it is almost exclusively marriage. By contrast, a large share of FHHs are formed as the result of a marital shock — divorce, abandonment or widowhood. If prior to the shock the husband was the primary bread-winner or the means through which livelihood opportunities were acquired, the newly formed FHH may be much worse off, particularly when it contains dependents. On the other hand, married FHHs who have remitting migrant husbands or adult children may have higher standards of living than MHHs who do not have remitting household members. A similar outcome can occur for women with non-resident polygamous husbands or whose education, incomes, or prevailing social mores allow them to choose to live independently as heads of their own households.

Such foundational factors result in FHHs tending to be smaller in size and distinctive in their demographic composition. Given their formation process, a majority of FHHs lack a male adult member, such that they are also disproportionately affected by gender-related inequalities and deprivations that face women in the African context. The loss of a male connection to local economic and social institutions can be debilitating to an African household's livelihood, as

women's integration into the economy is often dependent on the presence of men and the ties that bind them to each other. This difference in the demographics of the family—notably in household size—is another potentially important confounding factor given the existence of economies of scale in consumption whereby two people can live more cheaply together than apart.

The paper expands upon existing work in several ways. Firstly, we provide a comprehensive empirical study of an entire region that examines poverty outcomes using the same methods and measurement conventions and nationally representative data across countries. We disaggregate the key indicator of self-reported headship to focus on various sub-groups of FHHs and to test whether generalizations become acceptable as well as useful. The poverty of FHHs is compared to that of MHHs in the aggregate and separately by urban/rural sector, by categories of the head's marital status, and by whether the household contains an adult male member.

The analysis begins with the commonly-used household consumption per capita as our benchmark indicator of welfare. Given that FHHs are typically smaller in size, we probe into the robustness of our results to different assumptions about scale economies and household demographic structure. Regression analysis is used to investigate differences in household-level poverty measures between FHHs and MHHs further controlling for the head's characteristics, particularly marital status, age, and education.

Two sources of household consumption survey compilations are used. The first is harmonized data (from the World Bank's *PovcalNet* database) from recent surveys for 43 countries in the region, representing a large portion of the continent's population. The second is the World Bank's Living Standards and Measurement Study (LSMS-ISA) household-level consumption surveys, with additional details on access to remittances.

Across SSA, FHHs are found in aggregate to be *better-off* than MHHs when household per capita expenditure is used as the living standards indicator. However, we find important variation in the relative welfare of FHHs both within and across sub-regions: for example, while FHHs have consistently lower poverty rates than MHHs in West Africa, the converse is true in Southern Africa.

Explicitly acknowledging FHHs' distinguishing characteristics affects poverty comparisons. Allowing for even modest economies of scale in consumption results in FHHs

being worse off on average in East and Central Africa. MHHs retain higher poverty rates on average only in West Africa, although the size of the difference is much diminished. Regressions of per capita consumption reveal that once controls for household size are added, female headship is associated with significantly lower average expenditures. A further highly relevant correlate of poverty is the head's marital status: among households with married heads, those with a female head are found to have lower poverty rates, while FHHs with heads in all other marital status categories are worse off than MHHs. Importantly, the latter account for 80 percent of all female heads.

Considering only the gender of the head is insufficient for informing anti-poverty policy. However, there are predictable features of the African family that result in female headship and are correlated with poverty with implications for effective policy-making. Intelligent comparisons between FHHs and MHHs that consider both demographic size and composition, as well as the factors leading to household formation can help to better understand poverty and to devise and target effective anti-poverty policies at the household-level.

On its own, headship does not provide a useful window on individual-level welfare as needed for investigating gender and intra-household differences in welfare. The two approaches — individual and household — are not interchangeable: they have distinctive objectives and aim to answer different questions. Here, we abstract from comparisons within households and focus solely on comparisons between households.

The next section discusses the relevant literature. Section 3 describes the data and what they tell us about the current prevalence and characteristics of FHHs. Section 4 turns to poverty comparisons between FHHs and MHHs using household per capita expenditures, the most commonly used welfare indicator for such comparisons. Section 5 investigates how alternative assumptions about scale economies affect the results, while Section 6 examines how allowing for the heterogeneity among FHHs further elucidates poverty comparisons. Section 7 concludes.

## **2. The literature**

Concerned about gendered poverty but lacking data on individual living standards, policymakers and analysts have long focused on the gender of the household head as a way to overcome the data problem. In many assessments of poverty for developing countries, this may be the only way gender is considered. An extensive literature debates whether FHHs are more

economically deprived than MHHs; however, little cross-country consensus has emerged. Some studies argue that FHHs are on average poorer than MHHs (DeGraff and Bilborrow 1993; Barros et al. 1997; Buvinić and Gupta 1997; Chant 1997b, 2008). Others dispute this finding (Appleton 1996; Lampietti and Stalker 2000; Quisumbing et al. 2001; Munoz-Boudet et al. 2018).

Studies that focus on Africa are similarly divided in their conclusions. In South Africa, the evidence of relative disadvantage for FHHs is unambiguous (Rogan 2013; Posel and Rogan 2012). Appleton (1996) finds that FHHs in Uganda are not poorer on average, with households headed by more educated women and recipients of remittances appearing to drive the results. Yet, widow-headed Ugandan households are shown to be the most impoverished. Oginni et al. (2013) argues that FHHs in Nigeria have a lower likelihood of poverty in terms of household wealth. Lampietti and Stalker's review of World Bank poverty assessments finds FHHs to be poorer in 10 of 21 sub-Saharan African country assessments reviewed. Quisumbing et al. (2001) find only FHHs in Ghana to be poorer out of the 10 countries studied (6 of which are in sub-Saharan Africa).

In some quarters, an outcome of the often contradictory results has been to dismiss the gender of head as not useful for poverty comparisons. Yet, insufficient attention has typically been paid to how such welfare comparisons across demographic groups are made. This paper contends that with a little more care to take context and the confounding attributes that make FHHs particularly prone to poverty into account, headship can be useful for identifying poor households.

Just like MHHs, FHHs are heterogeneous both within and across geographic areas. A large share are formed as the result of a marital shock that is likely to be much more economically catastrophic for women than for men in SSA. The vast majority of African men spend their adult lives married: while 80% of men in their early 80s remain married, by that age over 80% of women are widows (Djuikom and van de Walle 2018). Remarriage after divorce and widowhood is significantly lower for women, although West Africa is an exception.

Other defining attributes of FHHs can yield inconsistent comparisons with MHHs. Prominent among these is household size and demographic composition. Demographics typically do not favor FHHs, who tend to have fewer working age adults and higher dependency ratios. Women heads are frequently the household's sole caregiver and earner. Consequently, they can

be expected to face a disproportionate work burden and pronounced time poverty (Buvinic and Gupta 1997; Quisumbing et al. 2001). In South Africa, Rogan (2013) argues that much of the disadvantage faced stems from a relative lack of economically active male adults, the generally lower earnings of women if they find work, and higher dependency ratios.

The demographic differences between male- and female-headed households have implications for how poverty should be assessed for these households. Indeed, the use of non-comparable measures of living standards and/or benchmarks for judging deprivation partly accounts for the lack of consensus concerning the relative well-being of FHHs.<sup>5</sup> Given that FHHs have fewer household members on average, per capita poverty measures tend to understate their poverty. In various cases, making allowance for scale economies has reversed conclusions about the poverty comparison (Lanjouw and Ravallion 1995, Drèze and Srinivasan 1997, for India; Fuwa 2000, for Panama; van de Walle 2013, for Mali).<sup>6</sup> This paper compares poverty rates between FHHs and MHHs (on average and across different types of households) using both standard per-capita-based measures as well as measures adjusted for potential scale economies in consumption.

In combination with household demographic composition, the head's marital status is likely to be essential for determining outcomes for FHHs. Given that men are frequently the gatekeepers of women's access to legal rights and productive assets such as land, and together with the well-documented legal and socio-economic handicaps women face relative to men in African societies, the shock of a marriage dissolution is often more calamitous for women. Indeed, households headed by widows, divorced or separated, and single women are frequently found to be disadvantaged compared to their male-headed counterparts; see, for example, Horrell and Krishnan (2007), van de Walle (2013), and Djuikom and van de Walle (2018).<sup>7</sup>

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<sup>5</sup> The sensitivity of results to methods is reasonably well-recognized in the academic literature (Louat, van der Gaag, and Grosh 1993; Haddad et al. 1996; Quisumbing et al. 2001).

<sup>6</sup> The different demographic composition of FHHs can be corrected to account for the different consumption needs of adults and children by using adult equivalent scale-adjusted poverty measures. However, the use of an equivalent scale implies knowledge of the consumption needs of different household members (usually based on actual consumption data from household surveys), which may differ significantly across countries and not accurately reflect actual biological needs (Quisumbing et al. 2001).

<sup>7</sup> Similar results are found for Bangladesh (Joshi 2005); India (Drèze and Srinivasan 1997) and Vietnam (Klasen et al. 2015).

On the other hand, FHHs may have greater access to transfers and remittances from non-resident family members; for example, migrant husbands or sons. FHHs who receive transfers from a male member are consistently found to be as well-off (in terms of consumption or income) as MHHs, and substantially better off than other FHHs (Buvinić and Gupta 1997; Lampietti and Stalker 2000; Horrell and Krishnan 2007). However, not all married female heads receive contributions from migrant partners. Facing all the constraints that are inherent in their gender, they can be among the poorest (Kennedy and Haddad (1994) for Kenya). In some of the predominantly Muslim countries in West Africa, a share of polygamous wives head their own households while being financially supported by a non-co-resident husband. In evaluating the welfare of FHHs, it is therefore crucial to account for the specific process of family formation and dissolution that originated the household (Haddad et al. 1996; Joshi 2005).

Regional context, reflecting local socio-economic norms and institutions, is also important. Much of the existing literature has focused on outcomes for FHHs in one particular country, region, or cluster of villages. Yet, we might expect the welfare associated with different types of FHHs to vary across countries and even regions. For example, in some countries, notably, predominantly Muslim cultures, remarriage after divorce and widowhood is encouraged and aided by custom. In others, remarriage is discouraged, and widows and divorcees are ostracized and discriminated against (Sossou 2002; Peterman 2012; Milazzo and van de Walle forthcoming).

Inheritance and legal systems accord women few rights other than through their fathers and husbands, or other male relatives. As has been emphasized for Africa, women access resources and visibility through marriage (Fafchamps and Quisumbing 2002, 2005a, 2005b). Gender inequalities may be vastly exacerbated upon the loss of a male adult—usually a husband. For example, following widowhood or divorce, women often lose economic support and protection, including labor assistance, labor earnings, access to land and other productive inputs that are conditional on marriage, and sometimes housing (Gray and Kevane 1999; Torkelsson 2007). The well-being of FHHs is thus likely to vary across countries according to the degree to which women are discriminated against in their access to education, land, and credit, and stigmatized due to cultural norms and violence.

FHHs, and in particular those without a resident male adult, may also face differences in their access to productive assets. Considerable gender inequalities have been documented by an



enormous body of scholarly work for Africa. Relative to men, African women tend to have lower human capital endowments, lower earnings, less command over public goods and services, fewer political and legal rights, and more stringent constraints on mobility and socially acceptable activities (Kevane 2004; Djuikom and van de Walle 2018). One might readily expect that as heads, women will have a harder time supporting their households' livelihoods and be less resilient to household-level shocks.

One consequence of higher dependency ratios and fewer working-age adults in FHHs is that agricultural production becomes harder. The main source of livelihoods in rural Africa continues to be farming, with women constituting approximately 40% of the agricultural labor force (Palacios-Lopez et al. 2017). FHHs are found on average to have fewer productive assets including land and livestock and lower access to extension services, and to be less likely to adopt new technologies (Doss 2001; Doss and Morris 2001; Tiruneh et al. 2001; Chirwa 2005; Torkelsson and Tassew 2008; Croppenselt et al. 2013; Ragasa et al. 2013; Ndiritu et al. 2014; Doss et al. 2015).

Furthermore, a literature has found that ~~female-owned or female-managed~~ plots are less productive than those owned or managed by men (Udry et al. 1995; Udry 1996; Peterman et al. 2011). Several studies conclude that lower levels of inputs and resource endowments explain the disadvantage associated with female farmers (Quisumbing 1996; Peterman et al. 2010; Ali et al. 2016). Bezabih and Holden (2006) and Holden and Bezabih (2008) argue that women plot owners in Ethiopia (all of whom reside in FHHs) have lower productivity in part because they must rent out the land due to insufficient access to labor. Weak bargaining power in the land lease market hinders female owners' ability to screen tenants, enforce contracts, and frequently forces them to rent to relatives who are inefficient land-users. Goldstein and Udry (2008) links the lower productivity of land farmed by women in Ghana to lesser fallow periods. The latter are connected to insecure land rights that are associated with women's less central role in village social and political networks.

Studies using detailed information on agricultural plot-level data demonstrate that the gender differentials in plot productivity are attributable to inferior inputs, specifically in regards to land and crop cultivation, as well as to lower returns to endowments for women farmers (Aguilar et al. 2015; Kilic et al. 2015; Oseni et al. 2015; Slavchevska 2015; De La O Campos et al. 2016; Marennya et al. 2017). These studies also highlight the lack of access female plot

managers have to household male labor, relative to male plot owners. Aguilar et al. (2015), for example, finds that the productivity gap between male and female plot managers is driven primarily by non-married women, while Kilic et al. (2015) and Slavchevska (2015) show that the use of household adult male labor inputs is key in explaining much of the difference.

Where studies have been able to compare productivity between male and female farmers, while making the distinction between female managed plots in MHHs versus those in FHHs, it has been clear that female farmers in FHHs do far worse than those in MHHs (Croppenstedt et al. 2013). Torkelsson and Tassew (2008) show that women in MHHs in Ethiopia have greater access to land, labor, and financial resources relative to women who head their own households. Some evidence points to greater constraints for rural households not containing a male adult (Kossoudji and Mueller 1983; Croppenstedt et al. 2013). However, the presence of a male adult may be a constraint in itself: in the admittedly different context of urban South Africa, Posel (2001), for example, finds that only 20% of male adults in FHHs were employed, and that FHHs with unemployed male adults were much more likely to be found in the bottom of the expenditure distribution. This paper aims to understand these issues further by disaggregating FHHs where possible by the presence of male adults.

A further issue in the literature regards the different definitions of headship across studies and how best to define headship (Rosenhouse 1989; Handa 1994; Kishor and Neitzel 1996; Ayad et al. 1997; Bruce and Lloyd 1997; Buvinic and Gupta 1997; Chant 1997a, 1997b, 2008; Quisumbing et al. 2001; Milazzo and van de Walle 2017). One view is that it should be economic based and focus on the individual bringing the most economic resources into the household. This has several drawbacks, including that it requires strong assumptions and that data do not typically allow for its implementation. Most pertinently, the value of women's non-market work and contributions to the household's care and resources are habitually left unmeasured in standard surveys.

Another practice, which we adopt here, is to rely on self-reported headship status. Naturally, the latter may not be consistently defined across or even within countries since it is at the discretion of survey respondents. However, one might argue that this is equally true of many routinely collected variables such as labor status, years of education, age, household size, religion, marital status, etc., that nonetheless prove to be useful in analysis. What is important is that the household itself judges an individual to be the agreed head. Why it does so is likely to be

quite subjective, but nevertheless offers valuable information which may be crucial to understanding household dynamics and welfare. Furthermore, in rigidly male-dominant societies, and/or in places, such as SSA, where polygamy is widespread and/or multiple generations live together, knowing who is identified as head and understanding household organization can be essential to understanding intra-household allocation and other outcomes. Of course, delineating a head in no way determines which household members are chosen to be survey respondents.

Our judgement is that it is preferable to rely on people's views than to impose our own. While we report findings at the country-level and account for potential differences in how households define headship between countries where possible, we acknowledge that our results may hide cultural and other differences in how headship is reported.

A subset of the literature has debated whether headship is a useful variable on which to disaggregate and anchor analysis (Munoz-Boudet et al. 2018). The focus on headship has to some degree been an artifact of available data and poverty measurement practices that are almost exclusively household-level. In the absence of individual-level indicators of welfare, as well as the difficulties associated with collecting such data, analysts interested in gender differentials have used the gender of the head as a proxy. This paper takes the view that using household headship is suitable for some, but not all, questions. Specifically, we argue that it can be helpful for examining household welfare differentials but not gender differences in individual welfare per se. Furthermore, the advantage of such household-level comparisons is conditional on taking into account the head's marital status and the household's demographics, both of which are critical to the association between female headship and outcomes.

### **3. Data and descriptive statistics**

We use the latest available household consumption surveys for as many African countries as possible. These are drawn from two key sources. For poverty comparisons, the primary source is the World Bank's *PovcalNet* database of harmonized consumption surveys, covering 43 countries and accounting for some 84% of Africa's current population.<sup>8</sup> [Appendix Table A1](#) lists countries and survey years. The consumption data are spatially deflated and converted to real (country CPI adjusted) 2011 PPP. Our base poverty calculations use consumption per capita as

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<sup>8</sup> The database was compiled by the World Bank for the purpose of making poverty comparisons across countries.

the welfare indicator and the World Bank's international poverty line of \$1.90 at 2011 PPP (Ferreira et al. 2016).<sup>9</sup>

As the harmonized database contains a limited set of variables, we also briefly draw on the most recent (at the time of writing) LSMS-ISA surveys for 9 countries with more detailed information on demographics and remittances.<sup>10</sup> Five countries are in West Africa, while the rest are in East Africa.<sup>11</sup> We use these data to examine the receipt of remittances and to examine the sensitivity of our results to more detailed data on demographics.

As noted earlier, we rely on self-reported headship to determine whether a household is female- or male-headed. Using the *PovcalNet* database, Table 1 shows the prevalence of FHHs and shares of the population living in FHHs by country and across sub-regions, as well as by urban and rural areas. Overall, 23% of households are headed by women, accounting for 18% of SSA's population. There is pronounced variability across regions: Southern Africa has the highest proportion with 43% of its population residing in FHHs, and West Africa the lowest with 13%. On average, a larger share of households are female-headed in urban than in rural areas, at 26% and 22% respectively. This holds across all regions (and in most countries) with the exception of Southern Africa, where women head a larger share of rural households (49% versus 35%). These numbers are generally consistent with counts from the Demographic and Health Surveys (Milazzo and van de Walle 2017).

Given that FHHs are often formed as a result of a marital dissolution, and that remarriage rates for widows and divorcees are typically lower for women, one expects clear differences in the marital status of male and female heads. Table 2 shows the prevalence of FHHs by categories defined according to the head's marital status. An overwhelming majority of heads who are divorced or widowed are female (71% and 85% respectively on average). In contrast, only a small share of married heads are female, with the proportion being larger for those married polygamously than monogamously (19% and 6% respectively), reflecting the fact that in some countries it is common for one or more wives to live separately from their polygynous husbands.

Marital status is unevenly distributed across heads by gender (Table A3). While 83% of male heads are married, this is true only for 24% of female heads; most of the difference is made

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<sup>9</sup> This line updates the \$1.25 a day line set by Ravallion et. al (2009).

<sup>10</sup> As both the prevalence and attributes of female headship tend to vary across regions, these data cannot be used to draw Africa-wide conclusions; rather, we use them to explore aspects not adequately covered in the larger database.

<sup>11</sup> Table A2 lists countries and survey dates.

up of widows and divorcees which describes 64% of female but only 4% of male heads. About the same share are never married (8% of female and 7% of male heads); and 4% and 5%, respectively, report living together in an informal union with a partner. In all cases, these averages hide substantial heterogeneity across countries and genders.

The striking differences in marital status are suggestive of large demographic differences between the two household groups. Tables 3 and 4 provide descriptive statistics for key attributes related to the head and demographic composition for rural and urban households, as well as for FHHs with and without an adult (defined as older than 18) male member using the *PovcalNet* dataset and the LSMS-ISA surveys, respectively.<sup>12</sup> As noted in the previous section, the presence of a male adult can have substantial implications for the well-being of FHHs; for example, men of working age may be better able to access more remunerative and better outside employment than women; they can help on the family farm or enterprise or simply provide better connections to economic livelihoods. Alternatively, the absence of a male adult may indicate that a female head has a remitting migrant husband.

Table 3 reveals that across the continent, a majority of FHHs — 69% in rural and 64% in urban areas — do not contain a resident male adult. Across regions, this ranges from 54% to 76% for rural FHHs in Southern and Central Africa respectively. Overall, female heads tend to be older, less educated, and to head significantly smaller households (3.9 members for FHHs versus 5.4 for MHHs in rural areas and 4.6 versus 3.8 members in urban areas) with higher dependency ratios, with the gap in attributes typically smaller in urban than in rural areas. Among them, those with a male adult member are also headed by older women who are more likely to be widowed but less likely to be divorced. In addition, they are significantly larger in size but have lower dependency ratios relative to those without an adult male. This holds across sectors and most regions.

The LSMS data in Table 4 provides more detail on household composition, although for far fewer countries. FHHs are found to have larger proportions of female members (and in particular, older ones). As seen before, those without a male adult are substantially smaller in size than those with a male adult (roughly 3 household members versus 5). Importantly, this translates into the highest dependency ratio for the former (1.5 in rural and 1.0 in urban areas)

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<sup>12</sup> Note that due to the different samples, means vary between the Tables 3 and 4. Table A5 gives average values for the same variables as in Table 3 by region.

and the lowest for the latter (0.79 in rural and 0.56 in urban), with MHHs somewhere in between (1.17). FHHs are also far more likely to contain potentially disadvantaged members, such as widows (present in almost 60% of FHHs in rural areas and more than 40% in urban areas), or disabled adults (present in 13% and 15% of rural and urban households respectively).

Practically all male heads (93% in rural and 82% in urban areas) live with a spouse, while this is the case for relatively few FHHs (6% of all FHHs in rural areas, and 5% in urban areas). Female heads are also less likely to co-habit with other relatives, such as sons or daughters: 76% of MHHs in rural areas include the son of the head while only 50% of FHHs do (and only 30% of FHHs without a male adult). Interestingly, FHHs with an adult male are more likely to contain a son and/or a daughter relative to FHHs without an adult male, highlighting the demographic disadvantage FHHs with no male adult face.

Finally, the LSMS data also provide some insights on the receipt of remittances across households. Table 5 considers how access to remittances varies by the head's gender and marital status for rural and urban households, as well as how the presence of a male adult among FHHs matters. FHHs, whether their heads are married or unmarried (never or formerly married), are significantly more likely to be recipients of remittances than are MHHs. Among them, we see that those with married heads and no resident male adult are most likely to receive remittances, while married heads co-habiting with a male adult in urban areas are the least likely to do so.

#### 4. Poverty comparisons using household per capita expenditures

We begin by calculating Foster-Greer-Thorbecke (FGT) poverty measures using per capita household consumption (Foster et al. 1984). For country  $j$ , the FGT measures are given by:

$$P_{\alpha,j} = \frac{1}{n_j} \sum_{\forall i \text{ with } y_{ij} \leq z} \left( \frac{z - y_{ij}}{z} \right)^\alpha \quad (\alpha = 0, 1, 2)$$

where  $y_{ij}$  is per capita expenditures for household  $i$  in country  $j$ ,  $z$  is the poverty line, and  $n_j$  the total number of households. For  $\alpha = 0$ , the poverty measure is the headcount index ( $q_j/n_j$  where

$q_j$  is the number of households for which  $y_{ij} \leq z$ ), and  $\alpha = 1$  and  $\alpha = 2$  give the poverty gap and squared poverty gap indices, respectively.<sup>13</sup>

Table 6 provides the three poverty measures for female- and male-headed households by country and subregions, along with the differences between them (FHH minus MHH, so that a positive value indicates a higher poverty rate for FHHs). In the aggregate, Africa's FHHs have a *lower* incidence of poverty across all three FGT measures based on per capita expenditures as the living standards indicator. This is true across all regions except Southern Africa, where FHHs are significantly poorer than their male counterparts.<sup>14</sup> There are some pronounced differences within regions: in East Africa, Ethiopian MHHs are significantly poorer, while the converse is true for Kenya, Malawi, and Mauritius. Within West Africa, MHHs are poorer in every country excluding Cabo Verde, and statistically significantly so in most.

We also consider differences in poverty rates (FHH minus MHH) by the head's marital status and rural-urban location (Table 7; Table A6 in the [Appendix](#) provides results by country).<sup>15</sup> As seen earlier, despite some important sub-regional exceptions, MHHs are poorer than FHHs overall with headcount indices that are 7.9 and 3.3 percentage points higher in continent-wide rural and urban areas, respectively. However, this conclusion is more nuanced when we disaggregate households by the head's marital status. Among those with never-married, divorced or widowed heads, FHHs (accounting for 75% of all FHHs), have a significantly higher incidence of poverty than their male counterparts. Indeed, the only marital status group for which households headed by men fare worse is that of married heads.<sup>16</sup> The same is found across sectors and regions (though the gender differences for never married, divorced and widowed heads are insignificant on average for rural West Africa and for the never-married in urban Southern Africa). As discussed in Section 5, households headed by married men are also likely to be larger and to thus have their poverty exaggerated by the per capita welfare indicator if there are economies of scale in consumption.

Poverty rates among FHHs by the head's marital status and the presence of a male adult are given in the bottom panel of Table 7. The numbers represent FHHs with a male adult minus

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<sup>13</sup> Higher values for  $\alpha$  place greater emphasis on the incomes of the poorest among the poor (Foster et al. 1984).

<sup>14</sup> This accords with earlier findings by Rogan (2013) and Posel and Rogan (2012).

<sup>15</sup> Comparisons between FHHs and MHHs within marital status categories are qualitatively similar when using the poverty gap or squared poverty gap index.

<sup>16</sup> MHHs with heads in informal unions (i.e., living with a partner) in rural areas have higher poverty rates than their female-headed counterparts; in urban areas there is no significant difference overall.

FHHs without a male adult differences in the headcount indices. Across almost all regions, sectors, and marital status categories, FHHs with no male adult have higher poverty rates. This result may well be due to the use of per capita consumption and the fact that these are on average smaller households.

Among FHHs, those with married heads have significantly lower poverty rates than those with divorced or widowed heads, but higher poverty rates than households with never married heads (accounting for 8% of all FHHs) (Table A7). The latter are likely to include better educated and economically independent women who have chosen to delay marriage, and as a result, have smaller-sized households: 40% (17%) of never-married heads have at least secondary education and 2.8 (3.7) household members on average in urban (rural) areas.

Poverty rates between the different types of households are also likely to differ over the lifecycle of the head. Figure 1 plots poverty rates for households with married and unmarried female heads with and without an adult male, with all MHHs included as a benchmark. Among households with young heads across regions, married FHHs with a male adult have the highest poverty rates — in Central Africa this continues to be the case up to heads aged 55, while in West Africa, poverty rates for MHHs overtake them from age 25 onwards (and the lowest in Southern Africa). The differences between the households appear to converge as heads age in East Africa, yet they increase in Southern and West Africa. Notably, there seems to be no clear pattern to how the welfare of these categories of FHHs evolve relative to both each other and to MHHs as the head ages. Age, of course, is highly correlated with household demographics. As we will see in Section 6, once household size and composition are taken into account, the head's age has little independent impact on household-level poverty.

## **5. Accounting for economies of scale**

In the previous section, we found that using per capita consumption as the welfare indicator, FHHs have lower poverty rates than MHHs, and that this seems to be in part driven by households with a married female head. However, it is also the case that FHHs are smaller on average (see Tables 3 and 4). As long as two or more people can live more cheaply together than apart — that is, there are some economies of scale in consumption — a welfare measure based on per capita consumption will tend to overestimate the poverty of larger households. Here, we test the sensitivity of our results to how household size is accounted for.



To allow for economies of scale in consumption we use equivalent consumption per single person, as measured by:

$$y_{ij}^e(\theta) = \frac{y_{ij}}{n_{ij}^\theta}$$

where  $n_{ij}$  is the number of individuals in household  $i$  in country  $j$  and  $\theta$  represents economies of scale in consumption,  $\theta \in (0,1]$ . Following Ravallion (2015), we also rescale the poverty line:

$$z(\theta) = z(1)\bar{n}^\theta$$

where  $\bar{n}$  equals the average household size for the country and  $z(1)$  is the per capita poverty line. For each value of  $\theta$ , households with  $y_{ij}^e(\theta)$  less than or equal to  $z(\theta)$  are considered poor. Note that a lower  $\theta$  puts a higher weight on economies of scale. At one extreme, setting  $\theta = 1$  (e.g. household size) assumes that all goods are strictly private; while at the other extreme  $\theta = 0$  assumes that consumption goods are fully public such that an additional household member does not deplete resources for others. On setting  $\theta = 0.5$  we obtain the “square-root scale” that is used by the OECD (2011). Among households with the same per capita expenditure, the lower the  $\theta$ , the better-off larger households will appear to be relative to smaller households.

The difficulty is in agreeing to what allowance for scale economies is acceptable. To avoid somewhat arbitrary decisions about  $\theta$ , we consider how poverty rates for MHHs and FHHs contrast for the whole range of possible  $\theta$  values.<sup>17</sup> Figure 2 displays the results by sub-region. For East and Central Africa, a value of  $\theta$  only slightly below one leads to a reversal of the poverty ranking with higher average poverty rates for FHHs. In Southern Africa, the finding that FHHs are poorer is robust to any choice of  $\theta$ . The  $\theta$  at which FHHs have a higher rate of poverty than MHHs varies by region, from 0.95 in East Africa to 0.15 in West Africa. In other words, perceptions about male- versus female-headed household poverty comparisons are highly susceptible to assumptions about how household size is treated. Only a modest emphasis on economies of scale is needed in East and Central Africa for FHHs to be proclaimed poorer than MHHs; conversely, in West Africa economies of scale need to be very large for the comparison to be reversed.

These differences are apparent across the expenditure distribution. The first column of Figure 3 shows the CDFs for average (unscaled) monthly per capita expenditure for MHHs and

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<sup>17</sup> See [Appendix Table A8](#) for differences in poverty rates for values of  $\theta$  in increments of 0.1 by country.

FHHs; the international poverty line is given by the vertical line. For West and Central Africa, FHHs first-order dominate up to the international poverty line. For East and Southern Africa, the comparison is ambiguous below the poverty line. With  $\theta = 0.5$  (the square-root scale) the CDFs for FHHs are much closer to those for MHHs for each of the regions, particularly for households below the poverty line. While MHHs are still poorer on average than FHHs up to the poverty line, this seems to be driven primarily by West Africa. A key takeaway here is that economies of scale substantially affect poverty comparisons between male- and female-headed households. Any honest attempt to compare households by headship cannot simply ignore them.

## 6. Accounting for household composition and attributes of the head

Household size is not the only substantially differing attribute between male- and female-headed households, as shown in Tables 3 and 4. We next delve more deeply into heterogeneities between households to examine how accounting for demographic composition and some key attributes of the head, in addition to household size, alters differences in the welfare indicator and hence poverty comparisons between FHHs and MHHs. We use log household consumption per person as the dependent variable but we control for log household size as a regressor. Thus, our regressions are equivalent to using  $\ln y_{ij}^e(\theta)$  as the dependent variable (also including log household size as a regressor); all that changes is the interpretation of the coefficient on log household size.<sup>18</sup>

Table 8 shows the estimated coefficients on an indicator for whether a household has a woman at its head from a series of regressions of log household per capita expenditures on all households. The coefficients thus indicate how the per capita consumption of FHHs changes relative to that of MHHs as various household characteristics are successively taken into account. A first regression series compares MHHs to all FHHs, while the second distinguishes between FHHs containing a male adult or not.

Unconditionally and taken as a group, Africa's FHHs have 10 percent higher per capita expenditures on average than MHHs in rural areas. Once country fixed effects are added such that comparisons are strictly within country, the disparity drops to 4 percent underlining the fact

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<sup>18</sup> Noting that we can re-write the regression  $\ln y_{ij}^e(\theta) = \beta \ln n_{ij} + \varepsilon_{ij}$  as  $\ln(y_{ij}/n_{ij}) = (\beta + \theta - 1) \ln n_{ij} + \varepsilon_{ij}$ .

that the 43 countries in the database have varying levels of living, social norms, religions, geographic diversity and so on. That heterogeneity is likely to be highly correlated with the average income, education, and empowerment of women, and relatedly with the heterogeneity among FHHs across countries. For example, FHHs by choice are more likely to form and to be more numerous in richer countries. This will tend to bring up the consumption of FHHs.

Controlling next for the household's size radically reverses this picture to a highly significant 13 percent deficit for FHHs. For urban areas, FHHs are deemed to have lower per capita consumption than MHHs unconditionally (the difference is 3 percent), a gap that rises to 17 percent with country fixed effects and controlling for household size. These results further emphasize the importance of accounting for economies of scale when making comparisons between households with male versus female heads, as discussed in Section 5. The regression coefficient on log household size hovers around -0.40 for both urban and rural areas which translates into a  $\theta$  of at least 0.60 under the identifying assumption that the size of the household matters only via scale economies.

Further adding the household's demographic (age and gender) composition has little effect on the deficit, while controls for the head's marital status reduce the gap to 8 percentage points favoring MHHs in both rural and urban areas. Widowhood has the most negative effect, reducing per capita expenditures by 12 percent in rural and 11 percent in urban areas. Divorce and never having been married have a somewhat lower dampening effect on living standards, although nonetheless significant, particularly in urban areas. Finally, adding the head's age and education results in a 5 percent deficit in per capita consumption in rural areas, and a 1 percent deficit in urban areas. All these coefficients are statistically significant at over the 1% level.

The next set of coefficients in Table 8 reveals how the FHH aggregate obscures two quite disparate groups. Unconditionally, in rural areas both FHHs with and without a male adult have higher household per capita consumption expenditures than MHHs, with FHHs with no male faring better than those with a male adult with a per capita consumption gap of 12 percentage points. In urban areas, FHHs with no male also appear to be the best off with a positive gap of 7 percent; however, those with a male adult have substantially lower per capita expenditures (17 percent) than MHHs. In Table 7 we saw that among FHHs, headcount indices based on per capita expenditures were in fact higher for those who did not comprise a male adult. The apparent discrepancy between the differences in poverty rates reported in Table 7 and the

differences in per capita consumption just discussed, is due to the fact that although mean per capita consumption is higher for FHHs with no male (Table 8), inequality among these households is also higher, reflecting a mix of richer households receiving remittances from an absent male and poorer ones headed, say, by elderly widows. This results in higher (unconditional) poverty rates for this group as seen in Table 7.

This overall picture is quite radically altered once country fixed effects are added and differences in household size between the groups are taken into account. As with FHHs as a whole, we find that both FHHs with and without a male adult now have lower per capita expenditures than MHHs (across urban and rural areas). However, the ranking among them has reversed with FHHs with no male faring worse than FHHs with a male adult. Indeed, FHHs with no male adult have roughly 10 percent less on average in terms of per capita expenditures than FHHs with a male adult.

Controlling for demographic composition further explains the gap between the FHHs but increases the difference between FHHs with a male adult and MHHs. Adding controls for the head's marital status, age, and education brings the difference between FHHs with no male adult and MHHs to 8 percent in rural and 5 percent in urban areas in favor of MHHs. Interestingly, we find that once we have accounted for all these differences in key attributes, FHHs with a male adult fare *better* than MHHs in terms of per capita expenditures in both rural (2 percent) and urban (4 percent) areas.

These results highlight quite dramatically the importance of considering at minimum household size, the presence of a male adult and marital status in determining how FHHs and MHHs compare with respect to living standards in SSA. The head's education also accounts for a significant difference. Comparisons that do not allow for the pronounced disparities in these characteristics are likely to be meaningless if the aim is to obtain welfare-consistent poverty measures.

## **7. Conclusions**

Increases in the prevalence of female-headed households in sub-Saharan Africa have been accompanied by a debate on whether these types of households should be targeted in anti-poverty policy. This paper aims to consolidate existing literature on the welfare of FHHs and provide a nuanced contribution to this debate for the region. Our approach emphasizes some key

conceptual problems in comparing poverty by headship, specifically the attributes of FHHS that may be expected to specifically disadvantage them.

We confirm that FHHs are a heterogeneous group, with household welfare often a result of how the household was formed. On average, when using household per capita consumption as the welfare indicator as is common, Africa's FHHs have lower poverty rates than MHHs. Yet, even then this is not true across all countries, or regions. Nor is it the case once one relaxes the implausible assumption that there are no economies of scale in consumption. Poverty comparisons by gender of headship are extremely sensitive to this widespread assumption which distorts conclusions by exaggerating the poverty of large households and underestimates that of small households. MHHs are significantly larger than FHHS. Accounting for the head's marital status and the demographic composition of households further alters the comparison of well-being.

We find that FHHs in Southern Africa tend to be poorer than MHHs even when we use of per capita consumption. This is likewise true for Central and East Africa once we take into consideration a modest allowance for the economies of scale that larger households face. Across SSA, never-married, divorced, and widowed female heads in particular are in households that are poorer on average than their male-headed counterparts. Married female heads are more likely to receive remittances than MHHs, likely driving the relatively higher standards of living than other types of households.

The presence of a male adult is also shown to be relevant for the well-being of FHHs, but with important heterogeneities and sensitivities to the use of the per capita welfare indicator: FHHs with a male adult who are typically larger fare better on average than the smaller FHHs without a male adult unconditionally. However, this ranking is fully explained and reversed by differences in household size and demographic composition.

While some types of female-headed households are better off than the average male-headed household, many, including those headed by widows or divorcees, are among the poorest. We conclude that in the Africa context, anti-poverty policies concerned with reaching poor and vulnerable households should make use of headship gender in conjunction with the head's marital status and the household's demographic size and composition.

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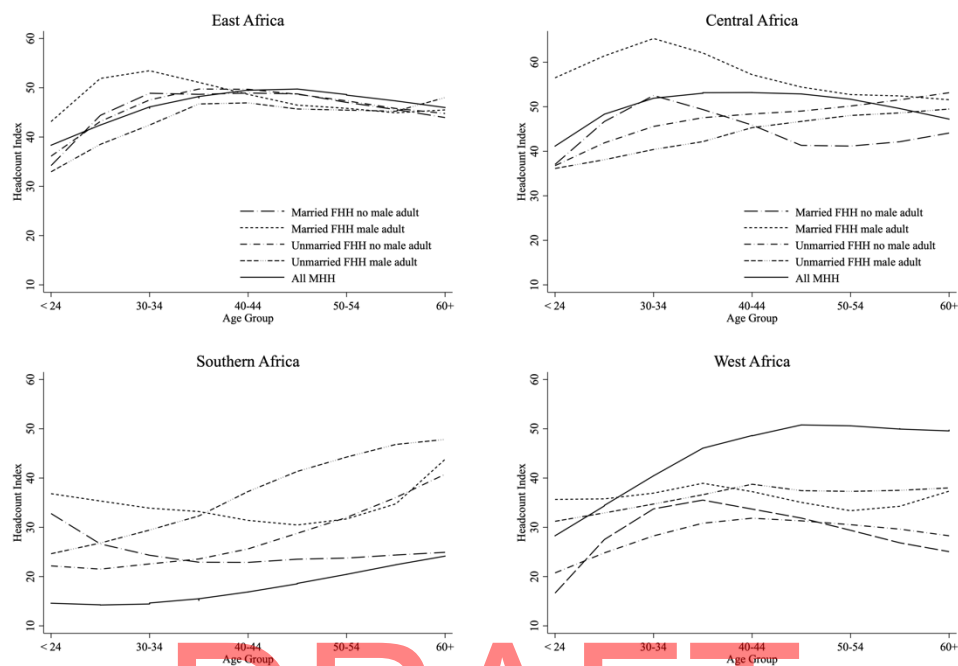
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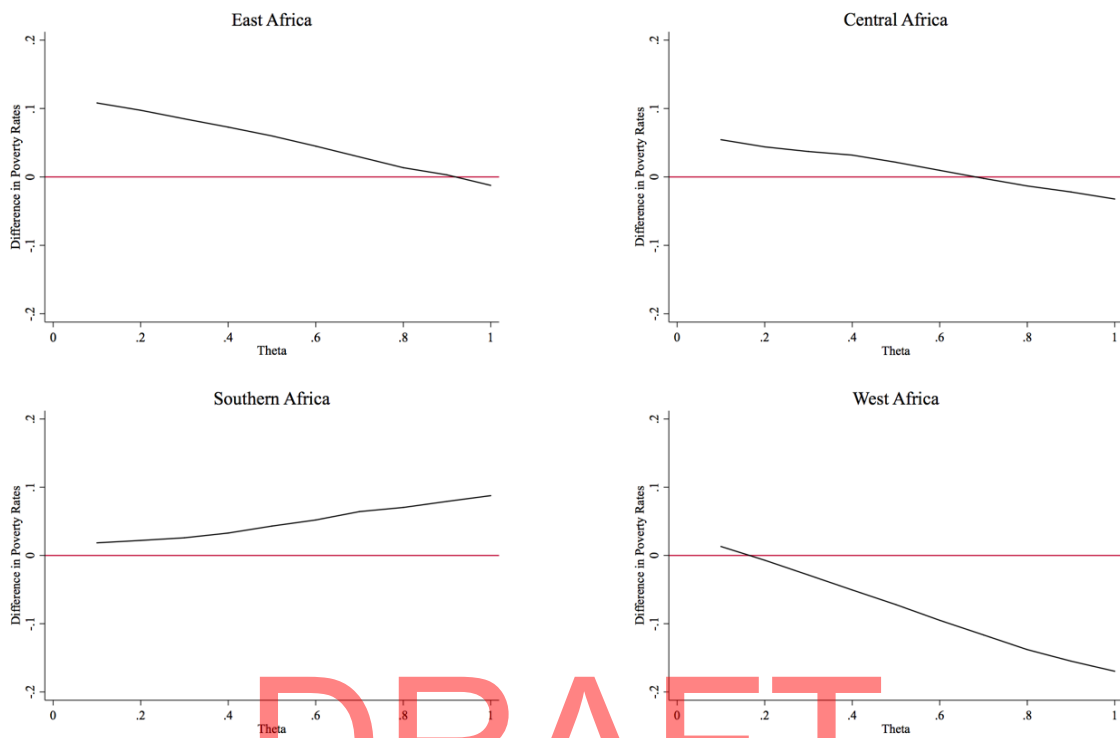
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**Figure 1: Poverty rates by age and presence of male adult in FHHs compared to all MHHs by region**



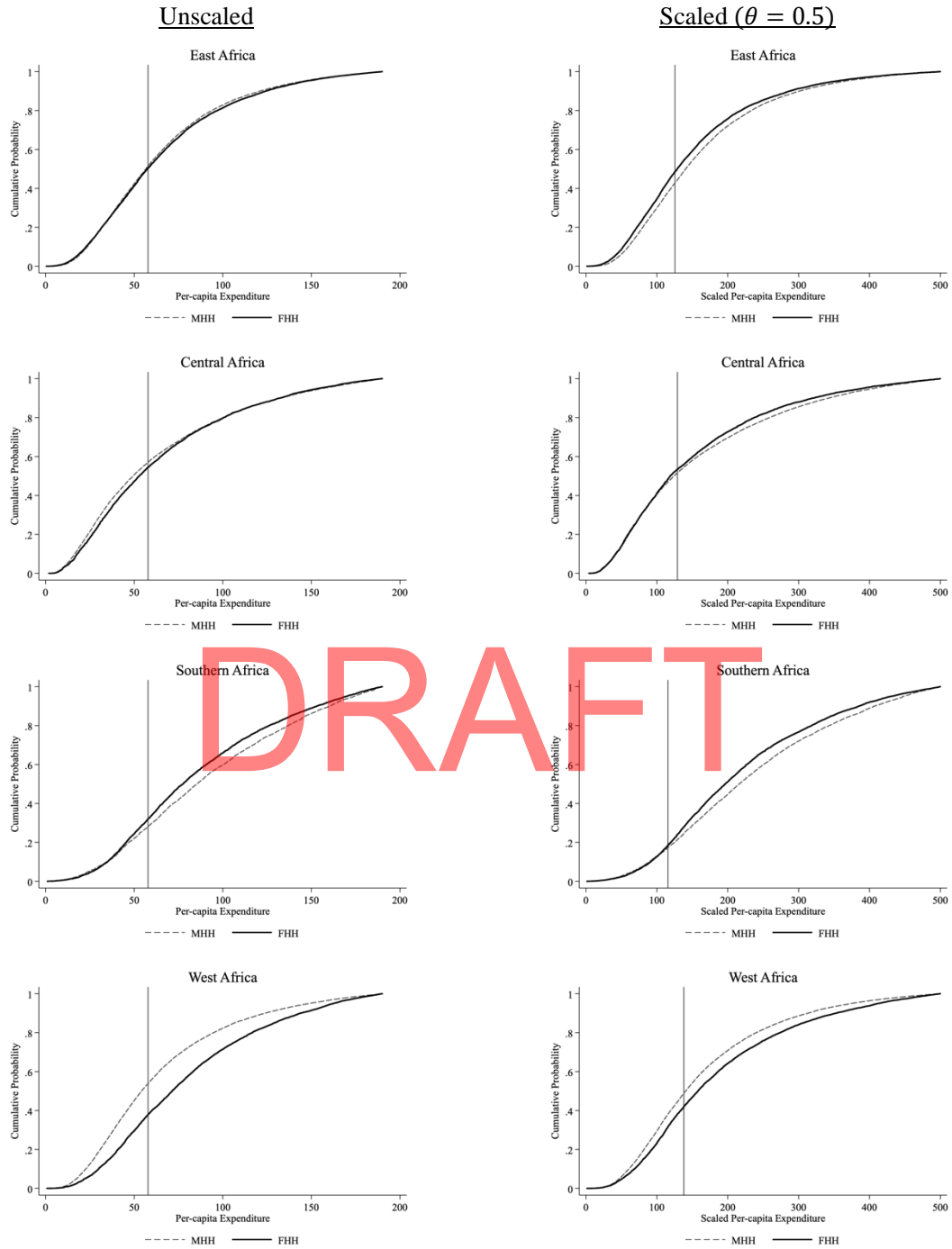
Note: Data are from the PovcalNet harmonized database. MHH and FHH refer to male- and female-headed households, respectively. The figure plots the headcount index by the head's age group for married and unmarried female heads and by whether a male adult resides in the household. Adult is defined as 18 years or older. Unmarried includes divorced, widowed or never married. The solid line delineates the headcount index for all MHHs. Statistics are population weighted. Lowess is used to construct the lines.

**Figure 2: Differences in poverty rates between FHHs and MHHs adjusted for economies of scale by region**



Note: Data are from the PovcalNet harmonized database. The figure plots the difference in the headcount index between FHHs and MHHs adjusted for a complete array of potential economies of scale. A positive difference implies higher poverty for FHHs. Statistics are population weighted.

**Figure 3: Household expenditure CDFs for FHHs and MHHs by region**



Note: Data are from the PovcalNet harmonized database. The first column shows the CDFs for per capita household expenditure for FHHs and MHHs by region. The vertical line denotes the monthly international poverty line in 2011 PPP (57.73 USD). The second column shows the equivalent figure but accounting for Square root of household size economies of scale. CDFs are population weighted.

**Table 1: Prevalence of FHHs by region and sector**

Region	All		Rural		Urban	
	Share of households	Share of population	Share of households	Share of population	Share of households	Share of population
<b>East Africa</b>						
Burundi	0.196	0.156	0.193	0.152	0.260	0.209
Comoros	0.218	0.174	0.214	0.169	0.228	0.187
Ethiopia	0.249	0.179	0.217	0.153	0.368	0.309
Kenya	0.289	0.263	0.309	0.274	0.231	0.223
Madagascar	0.193	0.149	0.184	0.140	0.224	0.183
Malawi	0.240	0.198	0.252	0.207	0.177	0.151
Mauritius	0.212	0.167	-	-	-	-
Mozambique	0.295	0.242	0.287	0.226	0.313	0.279
Rwanda	0.277	0.225	0.280	0.225	0.257	0.223
Seychelles	0.565	0.581	0.565	0.582	0.566	0.579
Tanzania	0.247	0.197	0.243	0.187	0.256	0.224
Uganda	0.310	0.271	0.299	0.258	0.338	0.316
Zambia	0.235	0.198	0.238	0.194	0.230	0.205
Total	0.259	0.209	0.249	0.198	0.291	0.253
<b>Central Africa</b>						
Angola	0.233	0.184	0.231	0.172	0.235	0.194
Cameroon	0.256	0.209	0.258	0.196	0.254	0.235
Central Afr. Rep.	0.218	0.188	0.184	0.145	0.286	0.260
Chad	0.208	0.156	0.201	0.146	0.239	0.204
Congo, Dem. Rep.	0.197	0.157	0.188	0.137	0.215	0.190
Congo, Rep.	0.254	0.215	0.253	0.191	0.255	0.227
Gabon	0.266	0.267	0.252	0.227	0.270	0.277
Sao Tome & Pri.	0.382	0.366	0.336	0.335	0.428	0.395
Sudan	0.106	0.081	0.111	0.083	0.097	0.077
Total	0.199	0.155	0.191	0.138	0.212	0.182
<b>Southern Africa</b>						
Botswana	0.456	0.501	0.462	0.512	0.452	0.493
Lesotho	0.371	0.345	0.359	0.336	0.409	0.383
Namibia	0.573	0.559	0.549	0.534	0.605	0.599
South Africa	0.393	0.429	0.496	0.536	0.343	0.361
Swaziland	0.464	0.495	0.516	0.532	0.375	0.379
Total	0.401	0.434	0.489	0.522	0.353	0.372
<b>West Africa</b>						
Benin	0.232	0.170	0.219	0.150	0.247	0.198
Burkina Faso	0.133	0.082	0.121	0.068	0.162	0.134
Cabo Verde	0.455	0.455	0.506	0.495	0.421	0.424
Cote d'Ivoire	0.184	0.146	0.150	0.099	0.228	0.200
Gambia, The	0.148	0.122	0.086	0.063	0.207	0.203
Ghana	0.295	0.233	0.270	0.199	0.328	0.288
Guinea	0.132	0.105	0.111	0.079	0.177	0.158
Guinea-Bissau	0.231	0.195	0.180	0.149	0.297	0.266
Liberia	0.269	0.257	0.256	0.238	0.299	0.300
Mali	0.105	0.063	0.097	0.051	0.130	0.108
Mauritania	0.302	0.265	0.330	0.273	0.273	0.257
Niger	0.109	0.074	0.097	0.060	0.161	0.139
Nigeria	0.158	0.102	0.138	0.086	0.190	0.132
Senegal	0.274	0.243	0.183	0.155	0.368	0.359
Sierra Leone	0.266	0.259	0.252	0.235	0.287	0.297
Togo	0.218	0.170	0.211	0.150	0.227	0.202
Total	0.177	0.127	0.154	0.101	0.215	0.175
Africa	0.230	0.183	0.216	0.166	0.255	0.219

Note: Data are from the PovcalNet harmonized database. The table shows shares of all households that are female headed, and shares of the population living in FHHs by country nationally, and by rural and urban locations. The rural/urban variable is missing for Mauritius. Statistics are weighted by household size for all columns excluding the second, which is weighted by population.

**Table 2: Share of female heads among all heads in different marital status categories**

Region	Never married	Married, monogamous	Married, polygamous	Living together	Divorced or separated	Widowed
<b>East Africa</b>						
Burundi	0.396	0.027	0.048	-	0.656	0.842
Comoros	0.493	0.081	0.029	-	0.836	0.927
Ethiopia	0.312	0.085	-	0.245	0.808	0.880
Kenya	0.116	0.251	0.111	0.631	0.742	0.895
Madagascar	0.581	0.017	0.075	-	0.789	0.808
Malawi	0.263	0.036	0.094	-	0.829	0.887
Mauritius	0.384	0.028	-	-	0.633	0.858
Mozambique	0.414	0.094	0.333	0.063	0.812	0.880
Rwanda	0.435	0.006	0.135	0.030	0.847	0.930
Seychelles	0.727	0.383	-	0.487	0.699	0.854
Tanzania	0.371	0.036	0.243	0.134	0.680	0.867
Uganda	0.278	0.078	0.444	0.668	-	0.904
Zambia	0.400	0.038	0.585	0.806	0.718	0.893
Total	0.208	0.064	0.320	0.337	0.775	0.882
<b>Central Africa</b>						
Angola	0.647	0.023	-	0.025	0.838	0.870
Cameroon	0.316	0.066	0.226	0.036	0.577	0.880
Central Afr. Rep.	0.273	0.041	0.158	0.107	0.632	0.816
Chad	0.112	0.106	-	0.210	0.719	0.880
Congo, Dem. Rep.	0.313	0.032	0.189	0.100	0.712	0.829
Congo, Rep.	0.380	0.020	0.238	0.043	0.707	0.879
Gabon	0.459	0.040	0.106	0.097	0.710	0.850
Sao Tome & Pri.	0.648	0.203	-	0.146	0.788	0.788
Sudan	0.087	0.050	-	-	0.828	0.827
Total	0.338	0.045	0.186	0.057	0.721	0.844
<b>Southern Africa</b>						
Botswana	0.197	0.322	-	0.607	0.826	0.572
Lesotho	0.472	0.093	0.105	0.396	0.402	0.816
Namibia	-	0.810	-	0.757	0.411	0.097
Swaziland	0.547	0.294	-	0.247	0.576	0.894
Total	0.311	0.371	0.105	0.637	0.539	0.617
<b>West Africa</b>						
Benin	0.166	0.710	0.016	-	0.584	0.848
Burkina Faso	0.174	0.043	0.083	-	0.482	0.876
Cape Verde	0.724	0.219	-	0.206	0.765	0.892
Cote d'Ivoire	0.223	0.070	-	-	0.564	0.792
Gambia, The	0.098	0.100	-	-	0.667	0.855
Ghana	0.245	0.122	0.002	0.275	0.694	0.832
Guinea	0.146	0.056	0.076	0.285	0.622	0.874
Guinea-Bissau	0.433	0.092	0.081	-	0.553	0.879
Liberia	0.470	0.125	0.246	0.144	0.581	0.836
Mauritania	0.202	0.166	0.131	-	0.842	0.924
Niger	0.183	0.024	0.027	-	0.635	0.947
Nigeria	-	0.050	0.214	0.416	0.548	0.836
Senegal	0.179	0.130	0.250	-	0.777	0.878
Sierra Leone	0.309	0.149	0.163	0.428	0.638	0.901
Togo	0.183	0.071	0.199	-	0.560	0.843
Total	0.238	0.062	0.094	0.273	0.601	0.844
<b>Africa</b>	<b>0.241</b>	<b>0.061</b>	<b>0.186</b>	<b>0.185</b>	<b>0.699</b>	<b>0.855</b>
<b>Share of households</b>	<b>0.074</b>	<b>0.637</b>	<b>0.067</b>	<b>0.051</b>	<b>0.056</b>	<b>0.15</b>

Note: Data are from the PovcalNet harmonized database. The table shows proportions of households with a female head among all households classified by their head's marital status. For example, 39.6% of all never married heads in Burundi are female. Marital status is missing for Mali and South Africa. Blank cells indicate that the category was missing for the country in the database. Statistics are household weighted.

**Table 3: Household descriptive statistics by sector and gender of head**

	Rural				Urban			
	MHH	FHH	FHH		MHH	FHH	FHH	
			No adult male	Adult male			No adult male	Adult male
Share of households	0.784	0.216	0.685	0.315	0.745	0.255	0.643	0.357
<i>Head characteristics</i>								
Age	44.40	49.29	48.33	51.38	43.20	46.43	44.26	50.36
No education	0.407	0.559	0.564	0.548	0.141	0.281	0.276	0.291
At least primary	0.385	0.251	0.249	0.256	0.739	0.557	0.575	0.525
At least secondary	0.172	0.068	0.073	0.059	0.410	0.231	0.251	0.195
Single	0.060	0.061	0.064	0.054	0.094	0.118	0.145	0.065
Married, monogamous	0.774	0.179	0.172	0.195	0.739	0.184	0.184	0.186
Married, polygamous	0.079	0.068	0.059	0.089	0.049	0.040	0.031	0.057
Living together	0.046	0.042	0.041	0.043	0.07	0.048	0.051	0.041
Divorced or separated	0.019	0.169	0.192	0.114	0.028	0.204	0.220	0.172
Widowed	0.021	0.482	0.472	0.505	0.021	0.406	0.370	0.479
<i>Household demographics</i>								
Household size	5.384	3.901	3.219	5.383	4.571	3.771	2.852	5.426
Dependency ratio	1.058	1.225	1.456	0.790	0.720	0.811	0.963	0.563
One adult	0.071	0.181	0.264	0.002	0.137	0.213	0.330	0.003
One adult + children	0.018	0.338	0.492	0.005	0.013	0.232	0.357	0.005
Two adults + children	0.482	0.187	0.136	0.298	0.385	0.158	0.140	0.191
N	174,405	56,468	36,328	20,140	135,437	54,242	33,476	20,766

Note: Data are from the PovcalNet harmonized database. The table shows averages over all countries for key household attributes by gender of the head. The last two columns of each sector group divide FHHs into whether an adult male resides in the household or not. No education indicates never attended school. Dependency ratio is defined as the number of members aged 0 to 14 and 65 and older divided by the number aged 15 to 64 years. One adult indicates that the household is composed solely of the head. Adults are defined as 18 years or older. Children are members 14 years and younger. Statistics are household weighted.



**Table 4: Household demographic composition by sector and gender of head**

	Rural				Urban			
	MHH	FHH	FHH		MHH	FHH	FHH	
			No adult male	Adult male			No adult male	Adult male
Total share of households	0.80	0.20	0.55	0.45	0.74	0.26	0.61	0.39
<i>Head characteristics</i>								
Age	47.16	53.00	53.02	52.96	46.17	49.88	48.40	52.21
At least primary education	0.34	0.16	0.17	0.14	0.74	0.48	0.50	0.46
At least secondary education	0.16	0.05	0.06	0.05	0.45	0.23	0.23	0.24
<i>Marital status</i>								
Married	0.91	0.19	0.17	0.22	0.81	0.18	0.16	0.21
Living together	0.04	0.03	0.03	0.02	0.04	0.02	0.02	0.02
Divorced/separated	0.02	0.19	0.22	0.15	0.03	0.23	0.24	0.20
Widowed	0.02	0.57	0.55	0.61	0.03	0.44	0.39	0.52
Never married	0.02	0.04	0.05	0.02	0.09	0.14	0.19	0.05
<i>Household demographics</i>								
Household size	6.14	3.88	2.96	5.03	5.04	3.47	2.53	4.91
Dependency ratio	1.17	1.15	1.50	0.83	0.80	0.75	0.86	0.60
Share 0 to 14 years:	0.42	0.34	0.36	0.30	0.32	0.25	0.27	0.23
Share 15 to 64 years: Female	0.25	0.35	0.40	0.30	0.25	0.48	0.56	0.36
Male	0.27	0.14	-	0.32	0.36	0.13	-	0.33
Share 65 yrs & older: Female	0.02	0.14	0.21	0.06	0.01	0.12	0.16	0.05
Male	0.04	0.00	-	0.01	0.04	0.00	-	0.00
<i>Members include at least one:</i>								
Widow	0.09	0.57	0.53	0.61	0.11	0.43	0.36	0.53
Disabled adult	0.08	0.14	0.15	0.12	0.07	0.16	0.18	0.13
Orphan	0.02	0.03	0.02	0.03	0.01	0.02	0.02	0.03
<i>Relatives of head in h'hold</i>								
Spouse	0.93	0.06	0.00	0.12	0.82	0.05	0.00	0.11
Daughter	0.71	0.46	0.41	0.53	0.60	0.44	0.37	0.55
Son	0.76	0.50	0.28	0.77	0.63	0.40	0.18	0.76
Mother	0.06	0.02	0.02	0.02	0.03	0.02	0.01	0.02
Father	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sister	0.02	0.02	0.02	0.01	0.03	0.04	0.00	0.06
Brother	0.03	0.02	0.00	0.04	0.04	0.03	0.05	0.04
Son/daughter-in-law	0.02	0.03	0.01	0.06	0.02	0.01	0.00	0.02
N	23,268	5,407	3,142	2,265	11,730	3,590	2,014	1,576

Note: Data are from the LSMS surveys. The table shows average values of characteristics of households and their heads by household types. The last two columns divide FHHs into whether an adult male (18 years of age or older) resides in the household. The living together category is only available for Burkina Faso, Ghana, and Tanzania. Dependency ratio is the number of household members aged 0 to 14 and 65 and older divided by the number aged 15 to 64 years. Demographic shares refer to the number of household members in each category divided by household size. Disabled adult indicates a disabled member 15 years or over. Orphans are defined as aged 15 years or younger and reports both parents as deceased or unknown/missing. Household members with missing values for age or who have been absent for more than 11 months are excluded. Statistics are household weighted.

**Table 5: Access to remittances by head's gender and marital status**

<i>All households (married male heads is omitted category)</i>	All	Rural	Urban
Not married male head	0.02* (1.87)	0.01 (0.58)	0.02 (1.60)
Not married female head	0.12*** (15.08)	0.12*** (12.53)	0.12*** (7.93)
Married female head	0.19*** (9.87)	0.19*** (8.51)	0.17*** (4.98)
N	38842	25582	13260
<i>Female-headed households (not married, no male omitted)</i>	All	Rural	Urban
Not married, male adult	-0.04*** (-2.64)	-0.02 (-1.23)	-0.06** (-2.17)
Married, male adult	-0.07*** (-2.79)	-0.05 (-1.46)	-0.11*** (-2.97)
Married, no male adult	0.10*** (3.26)	0.09*** (2.63)	0.12** (2.20)
N	7359	4553	2806

Note: Data are from the LSMS surveys. The table shows regression coefficients for whether or not the household receives remittances. Urban is controlled for in the All column, and regressions include country fixed effects. Male adult is defined as any male over 18 years of age residing in the household. The base for All households is married male-headed households. The base for FHH is not married with no male adult. Not married includes all other marital status categories of the head. Robust standard errors and population weights are used. t-statistics in parentheses. \* prob.<.10 \*\* prob.<.05 \*\*\* prob.<.01

**Table 6: Household poverty measures by gender of head and FHH minus MHH differences**

Region	Headcount Index			Poverty Gap Index			Squared Poverty Gap Index		
	FHH	MHH	Diff	FHH	MHH	Diff	FHH	MHH	Diff
<b>East Africa</b>									
Burundi	0.769	0.778	-0.009	0.310	0.332	-0.023**	0.152	0.167	-0.015**
Comoros	0.138	0.134	0.004	0.041	0.036	0.005	0.018	0.014	0.004
Ethiopia	0.294	0.344	-0.050***	0.078	0.093	-0.016***	0.031	0.038	-0.007**
Kenya	0.357	0.329	0.028**	0.133	0.111	0.022***	0.070	0.053	0.017***
Madagascar	0.815	0.818	-0.003	0.419	0.400	0.019**	0.254	0.233	0.021***
Malawi	0.757	0.697	0.060***	0.375	0.323	0.052***	0.220	0.183	0.037***
Mauritius	0.012	0.004	0.009**	0.003	0.001	0.002**	0.001	0.000	0.001**
Mozambique	0.686	0.692	-0.006	0.317	0.316	0.000	0.184	0.181	0.002
Rwanda	0.609	0.603	0.006	0.243	0.237	0.006	0.124	0.119	0.005
Seychelles	0.006	0.000	0.006	0.001	0.000	0.001	0.000	0.000	0.000
Tanzania	0.511	0.485	0.026	0.154	0.154	-0.000	0.064	0.065	-0.002
Uganda	0.353	0.325	0.027	0.113	0.097	0.015**	0.051	0.041	0.010***
Zambia	0.646	0.644	0.002	0.322	0.314	0.008	0.194	0.186	0.007
Total	0.466	0.478	-0.012**	0.178	0.180	-0.002	0.093	0.092	0.001
<b>Central Africa</b>									
Angola	0.271	0.308	-0.037*	0.088	0.098	-0.010	0.041	0.045	-0.004
Cameroon	0.227	0.310	-0.083***	0.058	0.090	-0.032***	0.020	0.035	-0.015***
Central Afr. Rep.	0.636	0.669	-0.033*	0.325	0.332	-0.008	0.205	0.206	-0.001
Chad	0.341	0.392	-0.051**	0.129	0.157	-0.028**	0.066	0.084	-0.018**
Congo, Dem. Rep.	0.713	0.783	-0.069***	0.344	0.401	-0.057***	0.205	0.247	-0.042***
Congo, Rep.	0.290	0.286	0.003	0.105	0.093	0.012*	0.051	0.042	0.009**
Gabon	0.104	0.071	0.033**	0.027	0.015	0.011***	0.011	0.005	0.005**
Sao Tome & Pri.	0.377	0.317	0.060**	0.103	0.084	0.018*	0.039	0.032	0.008
Sudan	0.168	0.148	0.020	0.043	0.039	0.004	0.018	0.016	0.001
Total	0.488	0.520	-0.032***	0.216	0.242	-0.027***	0.123	0.143	-0.019***
<b>Southern Africa</b>									
Botswana	0.210	0.154	0.056***	0.069	0.047	0.022***	0.032	0.021	0.011***
Lesotho	0.599	0.595	0.004	0.328	0.313	0.015	0.221	0.204	0.017
Namibia	0.207	0.250	-0.043***	0.059	0.076	-0.016***	0.025	0.032	-0.006**
South Africa	0.223	0.122	0.101***	0.065	0.037	0.028***	0.027	0.016	0.011***
Swaziland	0.473	0.369	0.104***	0.194	0.139	0.055***	0.103	0.071	0.032***
Total	0.237	0.150	0.088***	0.075	0.051	0.024***	0.034	0.025	0.009***
<b>West Africa</b>									
Benin	0.390	0.560	-0.170***	0.126	0.203	-0.077***	0.054	0.096	-0.042***
Burkina Faso	0.450	0.562	-0.113***	0.157	0.203	-0.046***	0.073	0.096	-0.023***
Cabo Verde	0.105	0.060	0.045***	0.025	0.013	0.013***	0.010	0.004	0.005***
Cote d'Ivoire	0.264	0.295	-0.031*	0.093	0.105	-0.012	0.048	0.052	-0.004
Gambia, The	0.488	0.735	-0.247***	0.196	0.383	-0.187***	0.105	0.240	-0.135***
Ghana	0.168	0.277	-0.109***	0.047	0.095	-0.049***	0.019	0.047	-0.028***
Guinea	0.317	0.357	-0.040**	0.092	0.105	-0.012	0.039	0.044	-0.005
Guinea-Bissau	0.624	0.682	-0.058***	0.268	0.314	-0.047***	0.149	0.182	-0.034***
Liberia	0.668	0.693	-0.024	0.261	0.288	-0.027*	0.136	0.157	-0.021**
Mali	0.318	0.509	-0.191***	0.085	0.159	-0.075***	0.035	0.067	-0.033***
Mauritania	0.050	0.067	-0.017**	0.013	0.017	-0.004	0.006	0.006	-0.001
Niger	0.427	0.509	-0.082**	0.107	0.142	-0.035***	0.041	0.054	-0.013**
Nigeria	0.370	0.554	-0.184***	0.130	0.228	-0.098***	0.064	0.122	-0.057***
Senegal	0.222	0.430	-0.208***	0.061	0.149	-0.089***	0.024	0.071	-0.047***
Sierra Leone	0.493	0.534	-0.040**	0.151	0.173	-0.022***	0.062	0.075	-0.013***
Togo	0.481	0.554	-0.074***	0.203	0.238	-0.035***	0.111	0.130	-0.019**
Total	0.332	0.502	-0.170***	0.111	0.193	-0.081***	0.053	0.099	-0.046***
<b>Africa</b>	<b>0.396</b>	<b>0.480</b>	<b>-0.085***</b>	<b>0.150</b>	<b>0.192</b>	<b>-0.042***</b>	<b>0.078</b>	<b>0.102</b>	<b>-0.024***</b>

Note: Data are from the PovcalNet harmonized database. Per capita household monthly expenditures in 2011 PPP are used. The poverty line is set at \$1.90 per day. Diff is the difference in means between MHHs and FHHs. A positive value implies that FHHs have a higher average value; e.g. they are poorer per the poverty index. Statistics are population weighted. N = 315,099 for MHH and N = 112,153 for FHH. \* prob.<.10 \*\* prob.<.05 \*\*\* prob.<.01

**Table 7: Differences in the headcount index by sector and head's marital status**

		East Africa	Central Africa	Southern Africa	West Africa	All
<b>Difference: FHH minus MHH</b>						
Rural						
	Never married	0.065***	0.200***	0.079*	0.013	0.066***
	Married	-0.020	-0.041**	-0.162***	-0.156***	-0.077***
	Divorced/widowed	0.058**	0.095***	0.136***	-0.008	0.062***
	All	-0.003	-0.020**	0.050***	-0.174***	-0.079***
	N	79,230	41,625	22,130	88,020	231,005
Urban						
	Never married	0.050***	0.088***	0.002	-0.001	0.053***
	Married	-0.009	-0.039	-0.126***	-0.134***	-0.093***
	Divorced/widowed	0.085***	0.087**	0.084***	0.099***	0.097***
	All	0.020**	0.006	0.061***	-0.071***	-0.033***
	N	59,068	45,522	28,082	57,018	189,690
<b>Difference: FHH Male Adult minus FHH No Male Adult</b>						
Rural						
	Never married	0.030	-0.125	-0.043	-0.048	0.001
	Married	-0.022	-0.173***	-0.086***	-0.115***	-0.078***
	Divorced/widowed	0.031**	-0.056**	-0.147***	-0.107***	-0.014
	All	0.011	-0.100***	-0.086***	-0.116***	-0.028***
	N	20,203	8,435	11,259	16,571	56,468
Urban						
	Never married	-0.037	-0.027	-0.050	-0.052*	-0.036*
	Married	-0.091***	-0.059	-0.056***	-0.020	-0.057***
	Divorced/widowed	-0.003	-0.016	-0.099***	-0.053**	-0.032**
	All	-0.041***	-0.035	-0.055***	-0.048**	-0.037***
	N	17,135	11,245	11,905	16,571	54,242

Note: Data are from the PovcalNet harmonized database. Statistics are differences in average values for the headcount index between FHHs and MHHs by marital status and rural/urban location, and differences among FHHs with and without a male adult by marital status and rural/urban location. "All" refers to all households, regardless of marital status. A positive coefficient implies FHHs have a higher value of the headcount index than MHHs. Divorced includes separated. Heads that report living together with their spouse are treated as a separate (unshown) category, but are included in the All category. \* prob.<.10 \*\* prob.<.05 \*\*\* prob.<.01.

**Table 8: Estimated associations between male and female headship and log household expenditure per capita with various controls**

	Rural						Urban					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Regression 1</i>												
FHH (all)	0.10** *	0.04** *	- 0.13** *	- 0.13** *	- 0.08** *	- 0.05** *	- 0.03** *	- 0.08** *	- 0.17** *	- 0.16** *	- 0.08** *	- 0.01** *
	(23.86)	(9.95)	(-35.82)	(-34.59)	(-15.21)	(-9.21)	(-5.39)	(-17.42)	(-40.06)	(-39.19)	(-14.97)	(-2.68)
N	230,873	198,040	198,040	198,040	182,639	182,417	189,679	157,596	157,596	157,596	137,115	136,966
<i>Regression 2</i>												
FHH, no male adult	0.15** *	0.11** *	- 0.18** *	- 0.16** *	- 0.12** *	- 0.08** *	0.07** *	0.02** *	- 0.21** *	- 0.18** *	- 0.11** *	- 0.05** *
	(27.66)	(23.18)	(-40.07)	(-36.91)	(-20.21)	(-15.16)	(11.11)	(3.95)	(-41.04)	(-33.85)	(-17.78)	(-7.93)
FHH, male adult	0.03** *	- 0.09** *	- 0.06** *	- 0.07** *	- 0.02** *	0.02** *	0.17** *	0.24** *	0.10** *	0.14** *	0.03** *	0.04** *
	(4.87)	(-14.83)	(-10.84)	(-12.25)	(-2.42)	(2.46)	(-24.99)	(-37.13)	(-17.36)	(-23.84)	(-4.86)	(5.72)
N	56,468	46,505	46,505	46,505	41,034	40,992	54,242	43,870	43,870	43,870	36,760	36,709
<i>Controls</i>												
Country f.e.	No	<b>Yes</b>	Yes	Yes	Yes	Yes	No	<b>Yes</b>	Yes	Yes	Yes	Yes
Household size, log	No	No	<b>Yes</b>	Yes	Yes	Yes	No	No	<b>Yes</b>	Yes	Yes	Yes
Demographic composition	No	No	No	<b>Yes</b>	Yes	Yes	No	No	No	<b>Yes</b>	Yes	Yes
Marital status	No	No	No	No	<b>Yes</b>	Yes	No	No	No	No	<b>Yes</b>	Yes
Head age and education	No	No	No	No	No	<b>Yes</b>	No	No	No	No	No	<b>Yes</b>

Note: Data are from the PovcalNet harmonized database. Dependent variable is log household consumption per capita. Coefficients shown are for two separate regressions. Regression 1 is an indicator for whether a household is female-headed or not. Regression 2 is an interaction term of female head and no adult male in the household and an interaction term of female head and adult male residing in the household; t statistics in parentheses. All coefficients are relative to male-headed households. All households are included. All regressions include survey year and month fixed effects. Marital status categories are never married, divorced or separated and widowed (with married the omitted category). Household composition is share 0 to 14 years of age and share 65 and older (share 15 to 64 is the omitted category). Head age is included as head age and head age squared. Education of the head is an indicator equal to 1 if the head has at least primary education and an indicator equal to 1 if the head has at least secondary education. Robust standard errors and population weights are used. t-statistics in parentheses. \* prob.<.10 \*\* prob.<.05 \*\*\* prob.<.01