

# Gender Gaps in Property Ownership in Sub-Saharan Africa

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## Abstract

Women's ownership, use, and control over property matter for their well-being and agency and can influence outcomes for the second generation—women's daughters and sons. Additionally, gender gaps in property ownership induce allocative inefficiencies and foregone economic output, thus having economywide implications. This paper uses data for 28 countries in Sub-Saharan Africa to shine a spotlight on gaps between men and women in land and housing (property) ownership and analyze patterns across and within countries. The results indicate that men are about

three times as likely as women to claim sole ownership over property. Gender gaps are smaller if joint ownership is taken into consideration, but still materially disadvantage women. Men are significantly more likely to own property than women even after controlling for a host of other factors. This paper is an important step toward a better understanding of gender gaps in property ownership in Africa and outlines an agenda for future data collection and analytic efforts.

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# Gender Gaps in Property Ownership in Sub-Saharan Africa\*

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## 1. Introduction

Across Africa<sup>1</sup> there are profound differences between men and women in ownership, use and control over assets and wealth. Gender gaps emerge prominently in ownership of land and housing property, which are important assets for the poor in Africa and the primary means to store wealth in rural communities. Estimates in this paper – based on data representing more than three-quarters of Africa’s population – suggest that just under 13 percent of African women (aged 20-49 years) claim sole ownership of land, compared with 36 percent of African men. The gender gap is smaller if one considers joint ownership, but even then, it remains significant: 38 percent of African women report owning any land (alone or jointly), compared with 51 percent of African men. A similar picture emerges for housing ownership.

Why is it important that in most African countries land and housing property and, by extension, overall wealth are disproportionately concentrated in the hands of men? First, women’s ownership, use and control over resources matter for their well-being and agency (Grown et al 2005). Married women’s rights to marital property and other assets can be linked to their bargaining position within the family. Many models of household behavior, such as cooperative bargaining models proposed by Manser and Brown (1980) and McElroy and Horney (1981), predict that bargaining power within marriage depends on the husband’s and wife’s ‘outside options’, e.g. their expected utility if the union were to end. These outside options depend, among other factors, on who in the family owns the household’s property, and the rules and norms that shape the division of assets and other family resources upon divorce (Lundberg and Pollak 1996; Lundberg et al 1997; Fafchamps and Quisumbing 2005).<sup>2</sup> Empirical studies from Africa show that a more egalitarian distribution of assets between husband and wife correlates with the wife’s participation in decision making (e.g. Oduro et al 2012 for Ghana), which is an indicator of agency (Kabeer 1999). Similar evidence is available from Asia: Beegle et al (2001) find that asset ownership among Indonesian women is associated with an elevated probability of women seeking pre-natal care or giving birth in a hospital or clinic. Studies from India show that legislative changes under the Hindu Succession Act, which strengthened women’s inheritance rights, positively impacted measures of female empowerment (i.e. education and health outcomes). These effects were even larger for the ‘second generation’, i.e. daughters born to women themselves affected by the reforms (Deininger et al 2013, 2014).

Women’s ownership, use and control over assets are of particular importance in the case of marriage dissolution through widowhood or divorce. In many parts of Africa widows and their orphaned children are at risk of being dispossessed from their property by the relatives of the deceased husband (Peterman 2012; Deere and Doss 2006; Lambert and Rossi 2016). A recent report by Human Rights Watch (HRW 2017) documents several cases of Zimbabwean widows being evicted from their marital home after the death of their husbands and left with no assets and income sources to support themselves and their children (see also Economist 2017) and similar case studies exist for other parts of Africa (e.g. Ntozi 1997; Okuro 2008). Dillon and Voena (2017) show that, in communities with weak inheritance rights for widows, concerns over eviction deter land investments even among currently married women.

A second argument concerns gender differences in the use of productive resources and the income derived from them, which may affect development outcomes among children. As discussed in World Bank

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<sup>1</sup> Throughout this paper, Africa refers to Sub-Saharan Africa.

<sup>2</sup> Cooperative bargaining models assume that household behavior is Pareto efficient, i.e. whatever decision the household takes, no alternative decision would have been preferred by all its members (Chiappori 1988, 1992). Non-cooperative models relax the assumption of Pareto-efficiency (Lundberg and Pollak 1994, 1996).

(2011), many studies find that an increase in women's control over the household's resources leads to greater investment in child human capital. In Côte d'Ivoire, for example, Duflo and Udry (2004) show that an increase in production of crops grown by women correlates with shifts in household spending towards food. Similarly, Doss (2005) finds that women's share of farmland in Ghana is positively related to the share of the household's budget devoted to food items. Outside of Africa, assets and income in the hands of women have been shown to be associated with greater spending on health, education and children's goods (e.g. Thomas 1997; Quisumbing and de la Brière 2000) and improvements in development outcomes and well-being among children (e.g. Thomas 1990; Allendorf 2007; Qian 2008; Luke and Munshi 2011; Menon et al 2014).<sup>3</sup>

Finally, gender differences in the ownership of land and other productive assets can induce allocative inefficiencies and foregone economic output (O'Sullivan 2017). Goldstein and Udry (2008) show that Ghanaian women underinvest in land fertility due to tenure insecurity, which causes a loss of output for the household as a whole. These microeconomic inefficiencies may be intensified if gender gaps in the ownership of land and other immovable property, due to their dual function as collateral, reinforce gender gaps in access to credit and other productive inputs (World Bank 2011).

Yet even though women's ownership, use and control over property matter on many dimensions, there are serious data limitations in documenting asset ownership along gender lines. Household surveys, the primary data source for information on the possession and use of assets, traditionally collect this type of data for the household as a single unit, thereby obscuring intra-household differences. Over the past decade, several studies have used specialized surveys to collect individual-level asset data for countries in Africa. This literature, which is summarized in section 2.2 of this paper, documents sizable gender gaps in asset ownership in Africa, including in Ghana (Deere et al 2013), Kwa-Zulu Natal, South Africa (Jacobs et al 2011) and Uganda (Kes et al 2011; Kilic and Moylan 2016). The studies also provide rich data on different asset classes (e.g. housing, land, livestock, durables, financial assets, etc.) and different types of ownership and use rights. However, the large number of countries without any data and differences in methodology underlying each study impede broader comparative analysis and limit the conclusions that can be drawn for the continent at large.

Data from the Demographic and Health Survey (DHS) program allow for a wider assessment of men's and women's ownership of land and housing property across many countries in Africa. Recent rounds of the DHS project (starting in 2010) collect data on ownership of land and housing from adult men and women. Unlike many other survey programs, DHSs interview eligible respondents personally about their ownership of land and housing property, and do not use proxy respondents to provide information on other household member's behalf, which renders the DHSs particularly suitable for the analysis of gender gaps. Doss et al (2015) use the DHS data to provide estimates of land ownership by women and men for eight countries in Africa. Similar to the results in this paper, they show that in all countries in their sample fewer women than men report sole ownership of land, while gender gaps in sole and joint ownership combined are smaller but in the majority of countries still favor men. By now, many additional DHS data sets with information on men's and women's property ownership are available for African countries (i.e. 27 (28) countries for land (housing)), which merits taking a fresh look at what these data tell us about gender

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<sup>3</sup> Some studies do not support this notion. Akresh et al (2016) find that (conditional) cash transfers given to women in rural Burkina Faso improve routine health checkups of children by a similar magnitude as transfers given to men.

inequality. Moreover, this paper – to the best of our knowledge – is the first to explore in detail descriptive patterns and correlates of gender gaps in property ownership within and across countries in Africa.

While empirical studies show that land and housing property are the most important components of wealth for most African families (de Magalhaes and Santaaulalia-Llopis 2015), they are also the forms of wealth most closely tied to geography. Own land has a central role in rural areas, as the main place to live and produce, but is less relevant in towns and cities where most jobs are outside of agriculture and housing can be rented. In urban areas, housing and residential land play a larger role than agricultural land, but even though city dwellers tend to earn more than their rural compatriots, they are often less likely to own a home.<sup>4</sup> This reflects partly that land is relatively scarce in urban areas, leading to high-priced real estate, but also better access to financial services, as an alternative means to store wealth. Because of this, some caution must be exercised in comparing ownership of land and housing property across rural and urban areas. We revert to this issue in section 3.4, where we show that the wealth gradient of gender gaps in property ownership echoes rural-urban differences, and in section 4, where we distinguish between urban and rural areas in the multivariate analysis.

The remainder of this paper is structured as follows. Section 2 reviews the theoretical and empirical literature on how property is acquired in Africa and the constraints that women often face relative to men. This includes a discussion of how, in some countries, legal provisions discriminate between men and women, and constrain women's property ownership. Section 3 describes the data sources and presents descriptive statistics on gender gaps in land and housing ownership, first showing Africa-wide estimates and then exploring patterns across and within countries. Section 4 pools the individual-level unit record data for different countries to assess country-region, household- and individual-level factors that are associated with women's and men's property ownership in a multivariate framework. Section 5 concludes.

## **2. Literature review**

### **2.1 Women's pathways to property ownership**

This section discusses several pathways through which women obtain ownership of land and housing property, and the constraints they encounter relative to men. We focus on life events, particularly marriage and inheritance, which are the most common channels for both women and men to acquire property throughout Africa. In Ghana, 59 percent of agricultural parcels and 45 percent of housing lots are reported to be inherited or received as a gift; where the latter includes early inheritances received at marriage (Deere et al 2013). This highlights the salience of life events for land acquisition even in a country where land markets are fairly developed by regional standards. Besides life events, the section also discusses, although in less detail, other channels through which individuals obtain property. This includes market purchases, allocations from village authorities, government programs, etc. Within each of these channels gender gaps can emerge from an interaction between households, markets and institutions (World Bank 2011).

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<sup>4</sup> Rates of home ownership tend to be lower in urban than rural areas. See Pendall et al (2016) for the United States, Eurostat (2015) for European Union countries, and Sato et al (2011) for China.

We begin with the first pathway, marriage, by reviewing how basic institutional rights to property ownership often depend on a woman’s marital status.<sup>5</sup> As shown in Figure 1, based on the 2016 Women, Business and the Law (WBL) database, married women face legal restrictions on property ownership in 10 out of 46 African countries for which we have data (left panel), while unmarried women typically have the same rights as unmarried men (right panel).<sup>6</sup> This demonstrates that, from a legal perspective, discriminatory provisions often do not apply to all women but to married women in particular, whose legal status changes, sometimes profoundly, upon marriage (Hallward-Driemeier and Hasan 2013).

**Figure 1: Married men and women often do not have the same property rights**



*Note:* Shows number of countries (48 in total). Data not available for Somalia and Niger. *Source:* WBL 2016.

Today’s property rights of women in marriage often have historical roots. British common law was particularly unfavorable to women, owing to the doctrine of ‘couverture’, whereby a woman’s legal status was subsumed by her husband upon marriage. Roman and Islamic legal traditions generally allowed married women to retain their legal personality (Deere and Doss 2006). Nowadays, women’s and men’s ability to own property during marriage and after its dissolution is governed by marital property regimes. The most common regimes are (i) full community of property, which considers all assets as joint property of the couple, (ii) partial community of property, which considers assets acquired during marriage as joint property but allows spouses to retain assets brought into the marriage, and (iii) separation of property, where all property is individually owned. Overall, women are expected to fare better under community property regimes, which recognize women’s role in the accumulation of marital property through child-rearing and other unpaid work, than under separation of property regimes, which reinforce gender gaps in economic and labor market opportunities (Deere and Doss 2006; Deere et al 2013).

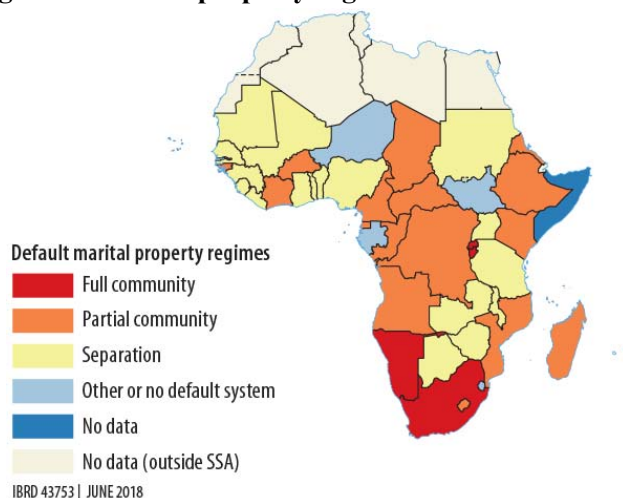
Figure 2 shows default marital property regimes across Africa, defined here as the rules that govern property rights in monogamous marriages unless the spouses agreed on a different regime prior to entering

<sup>5</sup> Marriage rates are high in Africa, with approximately 80 percent of the male and female population being married by their early thirties. For men, these rates remain high until well into old age, while for women they start to decline in their mid-thirties (Djuikom and van de Walle 2018).

<sup>6</sup> For example, DRC’s family law (Code de la Famille) specifies that married women must obtain authorization from their husbands for legal actions (Art. 448) and that the management of joint and individual property is presumed to be entrusted to the husband (Art. 490).

marriage (for example via a prenuptial contract).<sup>7</sup> Community property regimes are mainly found in Portuguese-speaking countries and in parts of Central and Southern Africa. Separation of property is the default regime in many former British colonies in West and East Africa and some former French colonies in West Africa. In many countries, separation of property is also the default regime for polygamous marriages (Hallward-Driemeier and Hasan 2013).

**Figure 2: Marital property regimes differ across Africa**



Source: WBL 2016.

While marital property regimes regulate asset ownership between spouses, the act of marriage itself often involves interfamilial transfers. Marriage payments, a common characteristic of planned or arranged marriages, can be broadly categorized as bride price (from the groom’s family to that of the bride’s) or dowry (from the bride’s family to the bride and her groom). Dowry payments are not common in Africa, but bride prices are deeply engrained in customary laws across the region (Anderson 2007; Corno et al 2017). While there is some evidence that bride price payments are declining, particularly in urban areas, they remain widely practiced in many countries. In Ghana, where data are available from the 2014 DHS, 80 percent of married women aged 15-49 years report that a bride price was negotiated and paid at least partially for their marriage. This propensity is even higher among women living in rural areas, women with no education and those in the poorest quintile (Ghana Statistical Service et al 2015).

There is little empirical evidence how bride prices affect gender property gaps, but there are reasons to believe that they are not a primary driver of gender gaps in land and housing ownership. First, in patrilineal societies, bride prices are traditionally paid by the groom’s extended lineage, particularly his father, grandfather, and paternal uncle, and received by the bride’s father and other male kinsmen, who then decide which males of the family can use the bride price in support of their own marriage payments (Goody and Tambiah 1973; Edlund and Lagerlöf 2006; Anderson 2007; Ashraf et al 2015).<sup>8</sup> While there is anecdotal evidence of female relatives of the bride (e.g. her mother, grandmother or aunts) receiving some form of payment, the majority of these transfers appears to be exchanged between males of both families. Second,

<sup>7</sup> Within a single country, the marital property regime can vary by region, ethnicity, religion, etc. The graph shows the default regime applying to most of the population. Customary law is taken into consideration only if it has been codified (World Bank 2015).

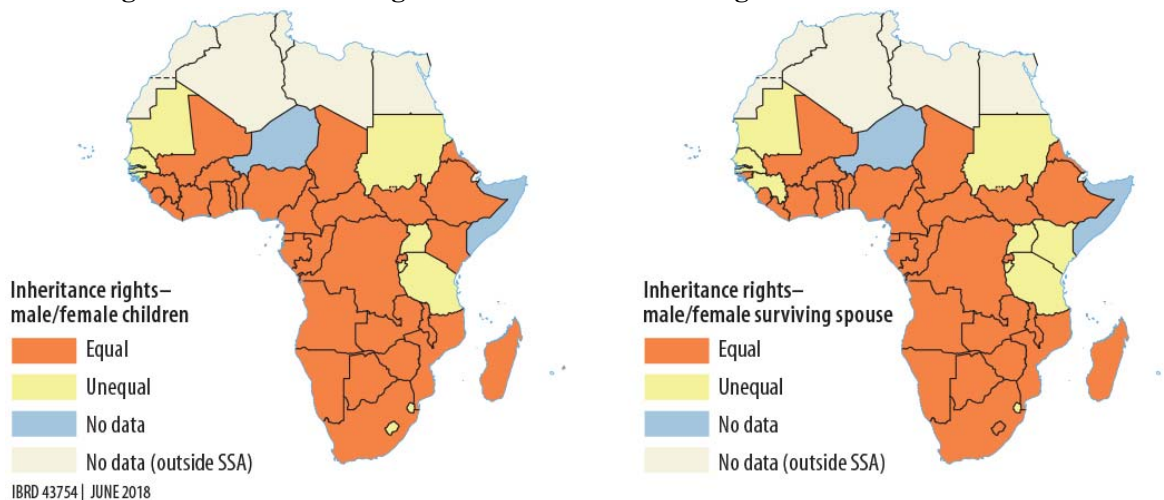
<sup>8</sup> Studies from southern Africa further point to the recent evolution of bride prices from an inter-lineage to an inter-generational transfer, where prospective husbands are increasingly required to fund bride prices themselves (Ansell 2001; Anderson 2007).



studies covering different ethnic groups in Africa suggest that bride prices are mostly paid in terms of livestock and sometimes cash, food items or consumer goods, but rarely involve immovable assets (e.g. Goldschmidt 1974; Ansell 2001; Dekker and Hoogeveen 2002; Anderson 2007; Corno and Voena 2016; Hudson and Matfess 2017). A possible reason is that bride price payments are often made over an extended period of time and ultimately distributed among various family members, to be used, as described above, for subsequent marriage payments of the bride’s male kin. This favors using items that are partitionable, and easy to transfer. Gendered patterns of land and housing ownership may hence be less affected than other classes of assets.

A yet more salient life event for property acquisition is inheritance. Slavchevska et al (2017) show that inheritance is the principal mechanisms through which men and women obtain ownership of agricultural plots in Ethiopia, Malawi, Niger, and Uganda, though men are more likely to inherit land than women. Statutory inheritance laws contain several provisions that play a role for gender gaps in property ownership, such as stipulations regarding the partibility of inheritance and the degree of testamentary freedom. They also interact with matrimonial regimes – for example, inheritance rights for widows are particularly relevant under separation of property regimes, where women cannot automatically claim ownership of their deceased husband’s estate (Deere and Doss 2006; Hallward-Driemeier and Hasan 2013). Figure 3 hones in on two key aspects of inheritance regimes – the extent to which the legal code provides for equal treatment of male and female children (left panel) and of male and female surviving spouses (right panel), respectively. In most countries the legal code does not discriminate based on gender but there are several exceptions.

**Figure 3: Inheritance rights continue to disadvantage women in some countries**



Source: WBL 2016.

Over the past two decades, many African countries have implemented reforms to strengthen women’s statutory rights over land and other property (e.g. Odeny 2013 on Kenya; Ali et al 2014 on Rwanda). However, this shift towards greater gender equality in the formal legal code does not necessarily extend to customary traditions. Some scholars have argued that customary rights of women have deteriorated due to a diminishing role of marriage, land pressure and other demographic forces (e.g. Kes et al 2011). Women’s property rights in Africa are shaped by legal pluralism, which includes vestiges of colonial, modern constitutional, customary and religious laws, often leading to conflicting legal provisions and overlapping

jurisdictions (Meinzen-Dick and Pradhan 2002; Deere and Doss 2006). According to the Women's Economic Empowerment Database for Africa (Hallward-Driemeier and Hasan 2013), about half of the countries in Africa formally enshrine recognition of customary law in their constitutions, while the remaining countries acknowledge it implicitly in subordinate statutes, such as marriage and inheritance laws. Among countries providing constitutional recognition of customary law, one-third exempt it from the non-discrimination clause on gender (Hallward-Driemeier and Hasan 2013). Customary and religious laws, which can differ from one community to another, are not always discriminatory against women but tend to embody and buttress traditional social norms about women's role in society. In particular, customary law often grants land ownership to men in their role as the head of the family, while married women only receive secondary rights through their husbands, fathers, or other male family members (Deere and Doss 2006; Kes et al 2011). Likewise, Islamic religious law allocates only one-eighth of the estate to a widow if the husband leaves children, which is to be further shared among co-wives in the case of a polygamous marriage (Lambert et al 2017).

How relevant is customary law vis-à-vis formal (codified) sources of law in the realm of property rights in Africa? And, as a related question, is customary law amenable to legal reforms and policy actions? There is some evidence from West Africa that customary law is more important for property ownership than formal sources of law. Bubb (2013), for example, shows that de facto property rights in land are very similar along the border between Ghana and Côte d'Ivoire, despite very different formal property regimes. Similarly, Doss et al (2014a) argue that in cases where traditional norms conflict with national laws, the former often prevail and are enforced by the community. But there is also evidence that legislative reforms can have a tangible impact on paternal decisions about bequests. La Ferrara and Milazzo (2017) show that Ghana's 1985 intestate succession act, which increased (for matrilineal groups) the amount of land that fathers can bequest to their sons, induced a substitution of land inheritance for human capital investment among boys (see Oduro 2010 for qualitative evidence on the same legislative reform). Likewise, impact evaluation evidence suggests that land registration programs (e.g. land titling or certification), especially if they promote joint registration of both spouses, can improve land ownership and tenure security among women and reduce gender gaps when coupled with a conducive legislative framework (O'Sullivan 2017; Ali et al 2014; Goldstein et al 2015). However, most impact evaluations explore short-term effects, typically over a 1-3 year period, and hence cannot show whether these changes in women's tenure security are maintained in the long-run.

Finally, women may be disadvantaged in market-based forms of property acquisition, primarily because of gender gaps in economic opportunities and earnings. While female labor force participation is comparatively high in many African countries, significant gender gaps are seen in some countries (especially the broader Sahel region) and women are typically less likely than men to work outside agriculture and hold wage jobs (Filmer and Fox 2014; Dieterich et al 2016). Within a specific sector (such as agriculture or non-farm household enterprises), women often have lower levels of productivity and earnings than men (O'Sullivan et al 2014; Nagler and Naude 2017). Together, these forces imply that women earn and control a smaller share of household income than men and are hence disadvantaged in accumulating savings for property investment (Oduro et al 2010). Moreover, women may face disproportionate barriers in access to financial products commonly used to finance land and housing acquisitions, especially savings accounts and mortgages. Data from the 2014 Global Financial Inclusion Database (Findex), for example, show that across Africa, men are more likely than women to have a bank account (39 vs. 30 percent) though this gender gap varies across countries in the region. In Senegal and

Sudan, for example, men are twice as likely as women to have an account, while in other countries (e.g. South Africa and Ghana) gender gaps are not significant (Demirguc-Kunt et al 2015; World Bank 2017). Even though gender gaps in economic opportunities probably only play a limited role for male and female property ownership today – given the predominance of life events – they may assume greater importance in the future as property markets become more efficient through better secured property rights.

## **2.2 Empirical evidence on gender gaps in property ownership in Africa**

An emerging empirical literature documents gender gaps in asset ownership in Africa, including two recent overview articles: Doss et al (2015) present a comprehensive review of the literature on gender gaps in land ownership in Africa, while Doss et al (2017) survey recent data collection initiatives gathering data on assets at the individual level and describe the methodological issues that arise and best-practice standards (see also Doss et al 2008, 2013).

A sub-strand of this broader literature are studies that explore explicitly intra-household differences in asset ownership, use and control to estimate, among other things, prevalence rates for women and men (e.g. Jacobs et al 2011; Kes et al 2011; Deere et al 2013; Kilic and Moylan 2016). These studies have several common elements. First, they extend beyond land to include housing, consumer durables, livestock and other types of assets. Second, the studies measure and triangulate different types of ownership and use rights – such as reported ownership, documented ownership, economic ownership and rights to bequeath, sell, rent out, use as collateral and invest in the asset (Kilic and Moylan 2016; Doss et al 2017). Third, the underlying data are collected by interviewing multiple respondents per household (typically one adult male and one adult female). As we will discuss further in the next section, this approach of soliciting data on asset ownership, while operationally demanding, avoids potential biases from the use of proxy respondents (Doss et al 2008, 2017; Kilic and Moylan 2016).

The Gender Land and Asset Survey (Jacobs et al 2011; Kes et al 2011) was conducted in three locations in South Africa and Uganda in 2009. Across all three sites, women are found to be less likely to claim ownership of land and housing than men. Joint ownership of immovable assets (land, housing) is prevalent in all study locations, particularly for women, but does not always carry significant advantages (compared with non-ownership) in terms of decision-making (Jacobs and Kes 2015). The study further documents that reported ownership (based on an individual's perception) often does not go in hand with formal documentation. It should be noted though that due to the limited geographic coverage of the data, the estimates are not nationally representative.

The Gender Asset Gap Project collected nationally (or, in one case, state-level) representative data on a broad range of assets in Ghana, Ecuador and Karnataka, India, in 2010. As shown in Deere et al (2013), married women hold 19 percent of couple wealth in Ghana, which is less than in Ecuador but more than in Karnataka, India. These gender wealth gaps are largely driven by immovable assets – agricultural land, the principal residence and other real estate, which in Ghana are often owned individually by men. This reinforces the notion that land and housing property are an important driver of the overall distribution of wealth in developing countries. The study also suggests that inheritance norms explain much of the gender gap in asset ownership – as 45 percent of survey respondents in Ghana reported that inheritance practices favored men (see also Oduro et al 2010).

Whereas the above studies sought to quantify the gender gap in asset ownership for different countries and settings, Kilic and Moylan (2016) focus on methodological aspects of data collection. The study is based on a survey experiment in Uganda, with data collection spanning urban and rural strata of all four regions as well as the capital Kampala. Measured rates of male and female asset ownership are compared across five treatment arms, which differed in terms of respondent selection, interviewing modalities and questionnaire design. The study confirms the notion of significant gender gaps in reported ownership of land and housing property but also highlights the complexities in soliciting such information through household surveys. Among the findings are that female respondents are more likely to identify themselves as owners of housing property when subjected to a questionnaire with a sole focus on the respondents' personal ownership (*vis-à-vis* questionnaires focusing both on respondents' but also other household members' ownership). Moreover, males and females who do not self-report as asset owners are often identified as such by other family members. This draws attention to proxy respondent biases and intra-household inconsistencies in the perception of which family members own land, housing and other types of assets (also highlighted in Jacobs and Kes 2015).

Turning to cross-country comparative work, Doss et al (2015) review the existing literature and data sources to summarize current knowledge and provide new empirical evidence on women's ownership and management of land in Africa and gender inequalities. Consistent with the results in this paper, the authors document significant gender gaps in land ownership based on DHS data for eight countries. The study also highlights data deficiencies for assessing gender gaps in land ownership, particularly the lack of data for many African countries and insufficient standardization of concepts, indicators and methodologies. It shows further that even though the magnitude of the gender gap is sensitive to methodological choices and varies across countries in Africa, the pattern that women are less likely to own land than men is highly consistent.

This paper updates and extends the analysis in Doss et al (2015) by providing a comparative analysis of gender gaps in property ownership across Africa. The study improves on the existing literature in three ways. First, DHS data with individual-level information on ownership of land and housing are now available for many additional countries, covering 76 percent of the African population. The current data hence provide a much broader perspective for the continent at large. Second, the focus on data sets collected under one survey program (*i.e.* the DHS) allows using a consistent methodology, which is important to draw meaningful cross-country comparisons. Third, the paper explores macro- and micro-patterns of property ownership of men and women, thus analyzing a richer set of correlations than the existing literature. The next section starts with a description of the data sources we use.

### **3. Descriptive patterns of gender gaps in the ownership of land and housing**

#### **3.1 Data sources and methodology**

Most household surveys gather data on asset ownership for the household as a whole (“does this household own any...”) from a single respondent, often the person deemed to be the ‘most knowledgeable household member’ or the ‘head of the household’. However, to assess gender gaps in asset ownership it is necessary to have data on which individuals within the household own the asset (Kilic and Moylan 2016; Doss et al 2008, 2017).

More recently, some survey programs have started gathering data on intra-household patterns of ownership and use rights for selected assets. This includes surveys conducted under the Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) initiative, which include a series of questions about which members of the household (co-)own each of the household’s plots and non-agricultural household enterprise, and their participation in various aspects of decision-making. LSMS-ISA data have stimulated a rich empirical literature on gender inequality in African agriculture (e.g. O’Sullivan et al 2014; Kilic et al 2015), including differences in land ownership between males and females (e.g. Doss et al 2015; de la O Campos et al 2015; Slavchevska et al 2017).

An alternative data source to study gender gaps in property ownership is the DHS program, where surveys conducted under the 6<sup>th</sup> and 7<sup>th</sup> rounds (from 2010 onwards) include the questions (a) “do you own any land either alone or jointly with someone else?” and (b) “do you own this or any other house either alone or jointly with someone else?” in the women’s and men’s questionnaires. For the analysis in this paper, DHS have a couple of advantages over the LSMS-ISA data. First, as of June 2017, when we completed the analysis, DHS questions on individual land (housing) ownership were available for 27 (28) African countries<sup>9</sup> (see Table A1, appendix), compared with just 8 countries covered by the LSMS-ISA program. Second, DHS surveys collect information on intra-household ownership of land and housing, which both fall under the category of immovable property. Conversely, LSMS-ISA surveys (apart from the recent IHS4 2016/17 in Malawi) focus on intra-household ownership and decision making in terms of agricultural land, livestock and non-farm enterprises – which are important assets but accumulated through rather different channels and hence difficult to synthesize into a single narrative. Third, DHSs generally field individual-level survey modules (i.e. the women’s and men’s questionnaires) to all ‘eligible’<sup>10</sup> women and men personally, and do not use proxy respondents. Due to the sensitive nature of some of the topics covered (e.g. fertility preferences, family planning, domestic violence) DHS protocols specify that respondents (esp. husbands and wives) should be interviewed separately from each other and in private (ICF International 2012). This differs from LSMS-ISA surveys, which typically seek to interview the most knowledgeable household member for each plot or non-agricultural household enterprise but frequently resort to other household members as proxies (see Doss et al 2017 for self- vs. proxy response rates for LSMS-ISA surveys).<sup>11</sup> Asking individuals directly about their ownership rights over assets is generally assumed to best capture their personal perceptions and avoid biases from proxy respondents (Doss et al 2017). We hence rely on the DHS for the analysis of gender gaps in this paper.<sup>12</sup>

Besides these advantages, it is important to acknowledge that there are dimensions of property ownership on which the DHS data cannot provide answers. First, the DHS data only capture the incidence of men and women owning any land and/or housing, and do not provide information on the monetary value of these assets. Second, ownership itself is a complicated context in societies shaped by legal pluralism and informal claims to property. As discussed in Schlager and Ostrom (1992), property rights can be described

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<sup>9</sup> The Liberia DHS includes the questions on housing, but not on land.

<sup>10</sup> For most DHS, ‘eligible’ denotes all sampled men and women within a certain age range, typically 15-49 years (though some DHS chose wider age ranges for male respondents or only interview ever-married women). In our sample, the Kenya DHS uses a different eligibility criterion by fielding certain questions (including those on individual asset ownership) to a random sub-sample of households and respondents within households (KNBS et al 2015).

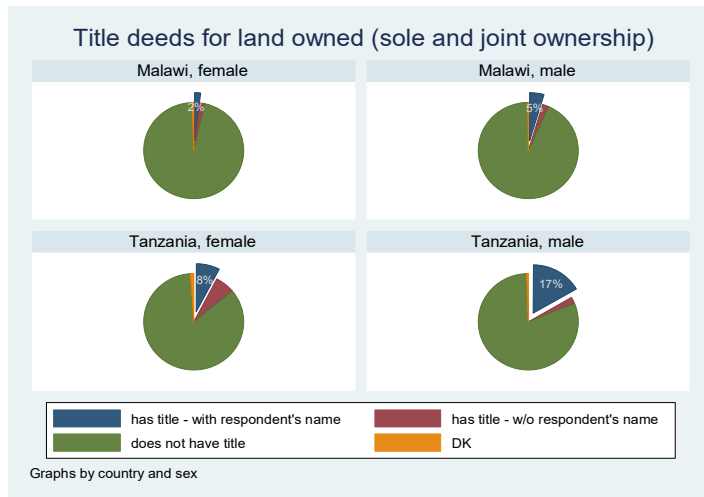
<sup>11</sup> Interviewing multiple respondents per household often requires several visits to the household and increases the implementation cost of the household survey. This explains why most surveys solicit individual-level information for different household members from a single (proxy) respondent.

<sup>12</sup> For those countries (Senegal, Zimbabwe) where data are available for more multiple years, we use the latest available survey. Because of the small number of countries with multiple surveys, we do not analyze changes in ownership over time.

along a continuum, which ranges from authorized user to claimant, proprietor and ultimately owner. In this spirit, Kilic and Moylan (2016) distinguish between reported owners, economic owners, documented owners and holder of various bundles of rights. These different ownership and use rights do not necessarily fall together (Slavchevska et al 2017; Doss et al 2017). In many parts of Africa, village chiefs, kinship groups and extended families engage in specific aspects of property transactions. For example, land allocations within the family and heirship may be within the purview of senior male family members whereas sales and/or alienations outside of the lineage require the permission of village chiefs or elders (Pande and Udry 2005; Doss et al 2015). Based on data for Senegal, Lambert et al (2014) show that even though 17 percent of women inherited some land from their parents, only 2 percent have land to bequest to their heirs, suggesting that women’s land ownership rights are often revocable. This is further complicated by cross-country differences in land tenure systems, with some African countries recognizing individual property rights and others vesting land ownership in the state (granting only individual use rights) or recognizing multiple systems (Slavchevska et al 2017). The DHS questions capture a concept closest to that of reported ownership (sometimes described as perception-based ownership) but cannot distinguish between different forms of ownership or provide information about the security of ownership. Moreover, even though the DHS are fairly standardized, regional differences in tenure systems may affect the interpretation of questions about individual ownership.<sup>13</sup>

Across Africa, reported property ownership is much more prevalent than documented ownership, though relatively more men than women hold registered deeds and other types of formal documentation. This can be illustrated for Malawi and Tanzania, where the DHS (under the 7<sup>th</sup> round) collect additional data on title deeds (Figure 4).

**Figure 4: Female landowners are less likely to hold title deeds**



*Note:* Only women and men who report sole or joint land ownership. *Source:* DHS.

In Malawi, less than 2 percent of women reporting to own land have title deeds registered in their name, compared with 5 percent of men. These numbers are higher in Tanzania, but male landowners remain twice as likely as women to have a title deed in their name (17 vs. 8 percent). Similar evidence is reported for

<sup>13</sup> Likewise, because the DHS data ask about land and housing in general and do not refer to specific assets (e.g. a specific parcel of land, or a specific residential unit) they do not allow ‘reconciling’ intra-household discrepancies in perceptions about ownership (see Doss et al 2017 for a discussion).

parts of Uganda (Doss et al 2014a), where 69 (58) percent of men (women) report themselves as landowners, but only 52 (20) percent have some form of documentation. This shows that even when women report to own land, they often have lower tenure security than men.<sup>14</sup> On the other hand, the Uganda study also illustrates that male and female landowners, even without documentation, often feel reasonably secure about their land rights. Similarly, Slavchevska et al (2017) show that tenure security is reasonably high in Uganda, Tanzania and Malawi – but much less so in Nigeria. Moreover, many studies have shown reported ownership to be correlated with indicators of agency and decision-making power (e.g. Beegle et al 2001; Oduro et al 2012; Swaminathan et al 2012; Doss et al 2014b), which suggests that despite the above caveats reported ownership is a meaningful concept to explore.

This paper reports on two different concepts of reported ownership, depending on whether a respondent owns property alone or jointly with someone else, typically (but not always) his/her spouse. The DHS questions on individual property ownership provide four response categories – (1) “alone only”, (2) “jointly only”, (3) “both alone and jointly”, and (4) “does not own”. In the analysis, the category ‘sole ownership’ combines options (1) and (3), while the category ‘sole and joint’ combines options (1), (2) and (3). As discussed earlier, joint ownership of property is common across many African countries, and gender gaps are generally smaller than in sole ownership. There are reasons to expect that joint ownership rights may be weaker than individual ownership rights. Joint property ownership does not necessarily mean that men and women have equal rights, and women may be disadvantaged in decision-making when their interests do not align with those of their husbands (Agarwal 2003; Doss et al 2014b; Jacobs and Kes 2015). For example, analysis of LSMS-ISA data for Tanzania cited in Slavchevska et al (2017) reveals that of all plots that are owned jointly, 68 percent can be sold by both owners, 23 percent by the male owner alone and just 1 percent by the female owner alone. On the other hand, joint ownership may be preferable in contexts where women face high social cost in obtaining sole ownership rights (Jackson 2003). There is also no clear policy path for advancing sole property ownership for married men and women, given that housing property is typically non-partible, while land property is partible only to a certain degree.<sup>15</sup> Given these considerations, the main indicator used in this paper is sole and joint ownership combined. However, sole ownership is often reported separately, where this is thought to provide further insights. In the interest of parsimony, land and housing ownership is often combined into a single indicator of property ownership, which equals unity if a woman or man owns land and/or housing, and zero otherwise. Separate statistics on land and housing ownership at the country-level are reported in Table A2 (appendix).

The descriptive analysis in the remainder of section 3 focus on the absolute gender gap, that is the percentage point difference between the share of men and women aged 20 to 49 years who report owning property.<sup>16</sup> Women’s property ownership ought to be compared to men’s property ownership to understand the degree of gender inequality and to separate gender gaps in ownership from low levels of property ownership per se. However, an exclusive focus on these gender gaps has the drawback that it does not provide information on the incidence of male and female property ownership. For example, two countries with the same absolute gender gap in property ownership (say, 10 percentage points) may have very different shares of men and women owning property (say, 20 and 10 percent in country A vs. 70 and 80

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<sup>14</sup> There are, however, exceptions to this norm. Slavchevska et al (2017) report that in Ethiopia, 58 percent of plots owned solely by women have a certificate under the owner’s name, compared with 46 percent of male owned plots.

<sup>15</sup> Agricultural land is typically partible, but land fragmentation is a concern. Even though small farms, on average, are farmed more intensively in environments with little mechanization and achieve higher levels of productivity, very small land holdings do not generate enough revenue to cover subsistence needs (Ali and Deininger 2015).

<sup>16</sup> We focus on the age bracket 20 to 49 years to abstract from adolescence and exclude young adults living with their parents.

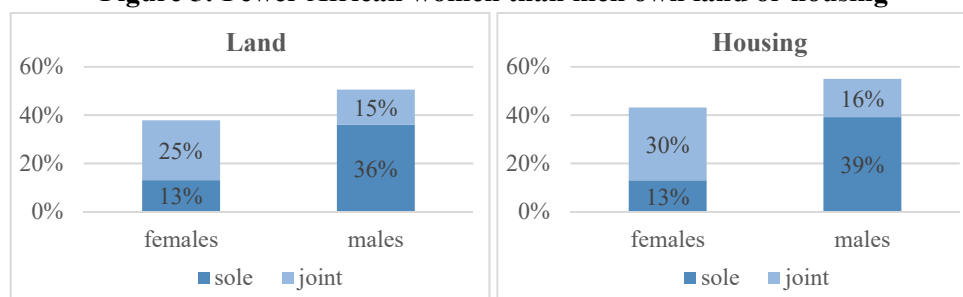
percent in country B). A related consideration is whether to report absolute or relative gaps. Relative gaps are measured as the percent (*not percentage points*) difference in the incidence of property ownership between men and women. In the example above, relative gender gaps are larger in country A, where men are twice as likely to own property than women, compared with country B, where male ownership is just 14 percent higher than female ownership. While relative gender gaps have the advantage of normalizing for differences in the incidence of female (or alternatively, male) ownership (the denominator), they can be imprecisely estimated in cases where female ownership is low and are – as the percent difference of an indicator itself reported in percent – less intuitive. For these reasons, we focus on absolute gender gaps, but present complementary statistics on levels of male and female property ownership in Table A2 (appendix). Besides the DHS data, this paper draws on the following country-level databases:

- (1) The *Women Business and the Law* (WBL) program provides data on laws and regulations constraining women’s property ownership and economic opportunities (World Bank 2015). This paper draws on the 2012 and 2016 versions of the WBL data.
- (2) The *2015 Revision of World Population Projections*, with country-level data on male and female population by age group (for 2012), is used to derive population-weighted averages across African countries (UN DESA 2015).<sup>17</sup>
- (3) The *World Development Indicators* (WDI) provide additional country-level variables, e.g. on GDP per capita, labor force participation rates, etc. (World Bank 2016).

### 3.2 Africa-wide estimates

The analysis of DHS data reveals the extent of gender inequality in property ownership. Only 13 percent of women aged 20-49 years report sole ownership of land, compared with 36 percent of men (Figure 5). The gender gap declines if joint ownership is added to the equation, which is more commonly reported by women than men, but remains significant. 38 percent of African women report owning any land (sole or jointly), compared with 51 percent of African men. The gender gap is similar for housing, with 13 percent of women claiming sole ownership compared with 39 percent of men. This gap, too, shrinks if joint ownership is included (43 percent of women vs. 55 percent of men).

**Figure 5: Fewer African women than men own land or housing**



Note: Data for 27 (land) / 28 (housing) countries from 2010-16. Population aged 20-49 years. Source: DHS.

Extrapolating these estimates to the region at large (Table 1) shows that this gender gap translate into 38 (44) million fewer women than men claiming sole ownership of land (housing) property (in the age

<sup>17</sup> DHS weights sum to the survey sample size (and not to the country’s population). Combining DHSs from multiple countries requires the use of external population projections (here, country-level estimates from UN DESA 2015).



group 20 to 49 years). The gender gap declines to 21 (20) million if joint property ownership is included – but still disadvantages millions of African women.

**Table 1: Gender gaps translate into millions of disadvantaged women in Africa**

		Ownership						Population	
		(rates, in percent)			(number of people, in million)			(aged 20-49, in million)	
		Female	Male	Gap	Female	Male	Gap	Female	Male
Land	Sole	13.1%	36.0%	<b>22.9%</b>	21.8	60.0	<b>38.1</b>	167.3	166.6
	Sole and joint	37.8%	50.6%	<b>12.8%</b>	63.2	84.2	<b>21.0</b>		
Housing	Sole	12.9%	39.2%	<b>26.2%</b>	21.6	65.3	<b>43.6</b>		
	Sole and joint	43.1%	55.0%	<b>11.9%</b>	72.1	91.6	<b>19.5</b>		

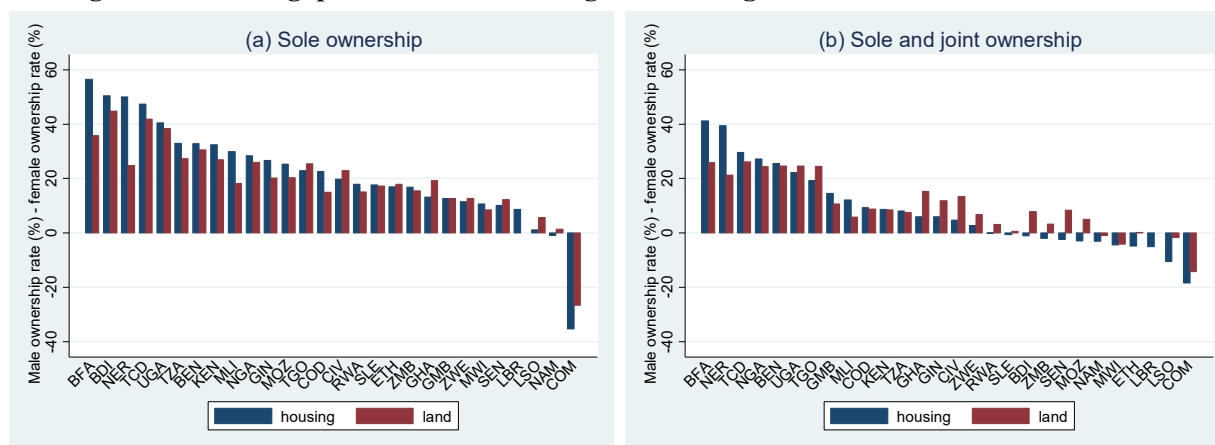
*Notes:* Africa-wide extrapolations based on DHS data for 27 (land) / 28 (housing) countries from 2010-16 and population estimates for 2012. Population 20-49 years. Mean gender gaps applied to countries with missing data.

*Source:* DHS and UN-DESA (2015).

### 3.3 Patterns across countries

Women’s disadvantaged position is widespread and systematic. Figure 6 shows the percentage point difference between men and women in the incidence of land and housing ownership at the country level (a positive value indicating that more men than women own the asset). In all but two countries (Namibia and the Comoros), women are less likely than men to claim sole ownership over land and housing property (panel a). In some West African countries, such as Burkina Faso, Niger and Mali, gender inequality in housing is even larger than gender inequality in land. Gender gaps are more nuanced if one combines sole and joint ownership and a few countries (e.g. Lesotho, Liberia, Ethiopia) even show a female advantage for housing (panel b). But even if joint ownership is taken into consideration, men are considerably more likely to own land and housing in most countries in Africa.

**Figure 6: Gender gaps in land and housing disadvantage women in most African countries**



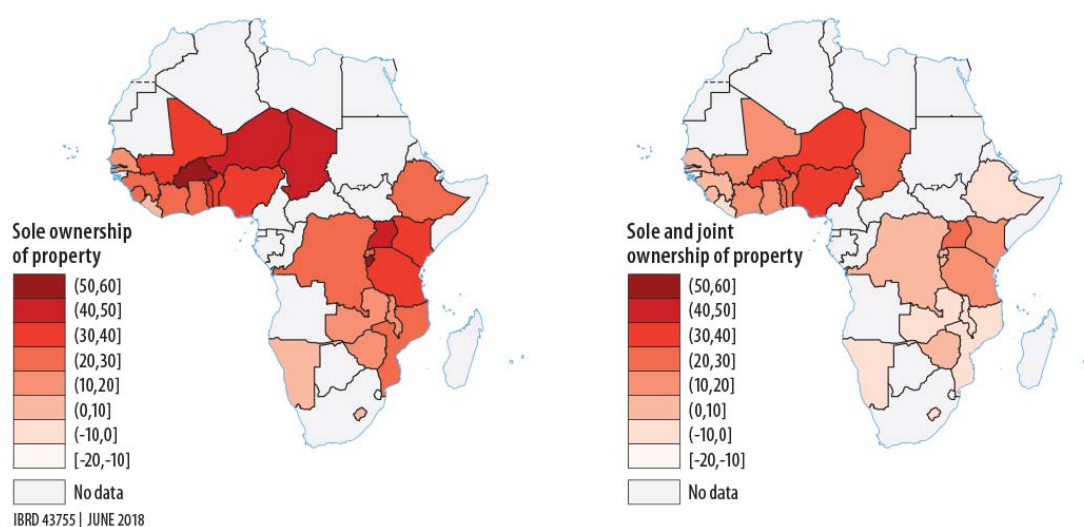
*Note:* Data for 27 (land) / 28 (housing) countries from 2010-16. Population aged 20-49 years. *Source:* DHS.

The results also show that, at least at the country level, gender gaps in the ownership of land and housing often go together (i.e. there is a correlation between the blue and red bars). The bivariate correlation between the (absolute) gender gap in sole ownership of land and housing across countries is 0.94; it is 0.90 for sole and joint ownership combined. In other words, in countries where women are less likely than men to own land, they are also less likely than men to own housing, and vice versa. One explanation is that in rural areas land and housing is often a considered as a combined asset (Kes et al 2011). Another one is that

acquisitions of both assets are governed by similar formal and informal laws and regulations. In what follows we collapse information on both variables into a single indicator of property ownership, which equals unity if a woman or man owns land and/or housing (the sole vs. joint ownership distinction is maintained).<sup>18</sup>

Most countries with relatively small (or sometimes even reverse) gender gaps in property ownership, such as Lesotho, Malawi, Namibia and Zimbabwe, are in Southern Africa, which suggests a geographic dimension. The largest gender gaps in property ownership are found in West Africa (see Figure 7).<sup>19</sup> Gender gaps are somewhat smaller in East Africa and much smaller in Southern Africa, especially when joint ownership is taken into consideration. Countries in the Southeast, such as Malawi or Mozambique, even though typically considered part of East Africa, look more like Southern African countries in terms of the magnitude of their gender gaps. This picture does not change materially if we look at relative gender gaps, which are less affected by cross-country differences in the incidence of ownership per se.

**Figure 7: Gender gaps in property ownership are largest in West Africa**



Note: Data for 27 countries from 2010-16 (excludes Comoros). A positive (negative) value indicates that more (fewer) men than women own property. Population aged 20-49 years. Source: DHS.

Are gender gaps in property ownership smaller in countries with higher levels of income? Perhaps surprisingly, there is only a weak correlation between log GDP per capita and the gender gap in property ownership (Figure 8), at least for the levels of income found within this sample of African countries.<sup>20</sup> This is consistent with the observation that legal and economic rights of women across African countries are not strongly linked to income (Hallward-Driemeier and Hasan 2013), and suggests that economic growth in isolation may not necessarily reduce gender inequalities in this area.<sup>21</sup>

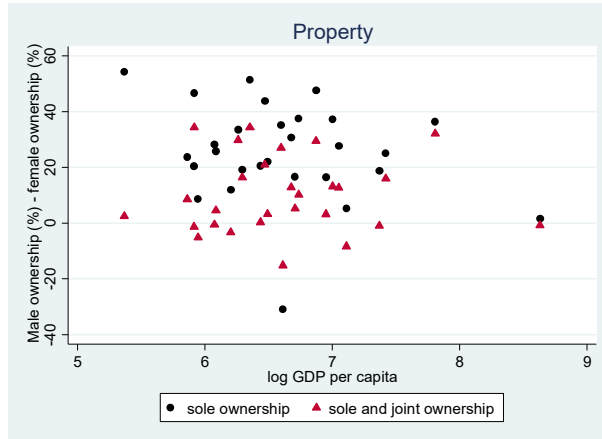
<sup>18</sup> In Liberia, where the DHS does not collect data on land, property ownership reflects housing ownership.

<sup>19</sup> This may partly reflect the extent of polygamy in this part of Africa (Lambert et al 2014). For example, Peterman (2012) shows that co-wives in polygamous unions rarely inherit assets after their spouse's death.

<sup>20</sup> In our sample, GDP per capita varies between \$214 (Burundi) and \$5,609 (Namibia), measured in constant 2010 US\$.

<sup>21</sup> Since there are only few countries to date with multiple DHS collecting individual-level data on land and housing ownership, we cannot test if *changes* in GDP per capita are related to *changes* in gender property gaps.

**Figure 8: Gender gaps in property ownership are not closely related to GDP per capita**

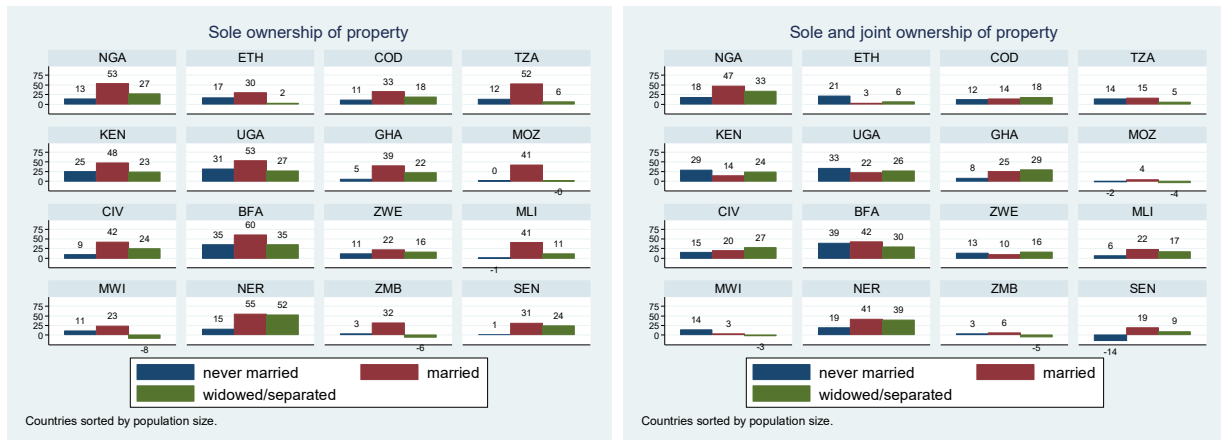


*Note:* Data for 28 countries from 2010-16. Population aged 20-49 years. GDP per capita in constant 2010 US\$.  
*Source:* DHS and WDI.

### 3.4 Patterns within countries

As discussed in section 2.1, property acquisition is often related to life events, especially inheritance and marriage. Figure 9 shows, for the 16 most populous countries, gender gaps in property ownership by marital status.<sup>22</sup> In all countries, gender inequality in sole property ownership is largest for the married population. These gaps among married men and women tend to decline if joint ownership is included, but remain above 40 percentage points in the West African countries Niger, Nigeria and Burkina Faso. There are no distinct pan-African patterns for other demographic groups. In Ghana, Mali, Mozambique and Zambia, gender gaps for the never-married population are small, whereas in Burkina Faso, Kenya and Uganda they amount to 25 percentage points or even higher. The latter group of countries (and Niger) also have large gender gaps for the population currently widowed/separated.

**Figure 9: Gender gaps in property ownership are linked to marital status**



*Note:* Data for 16 most populous countries from 2010-16. Population aged 20-49 years. *Source:* DHS.

<sup>22</sup> Co-habiting is combined with married. Divorced is combined with widowed/separated.

It is important to note though that an analysis based on current marital status only captures women as widowed or separated who can ‘afford’ to live on their own. Evidence from West Africa shows that widowed or separated women of reproductive age often remarry, and that only those women who can afford living without a husband remain single (van de Walle 2013; Milazzo and van de Walle 2017; Lambert et al 2017). In addition, DHS sample sizes of some countries do not allow to disaggregate between women who are widowed vs those who are separated or divorced, even though there are potentially important differences between divorce and widowhood (Lambert et al 2017; Djuikom and van de Walle 2018). The DHS for Zambia and Nigeria provide additional information by asking all ever-widowed women (including those who remarried) whether they inherited property from their late husbands. 46 percent of Zambian and 50 percent of Nigerian ever-widowed women report that most the deceased’s property was appropriated by their late husband’s family and/or children.<sup>23</sup> Similar results are reported in Peterman (2012) for additional countries, based on earlier rounds of DHSs. This highlights the precarious situation of widows in many African countries, beyond what can be discerned from a breakdown by current marital status. The analysis is further limited by the fact that DHSs only interview women and men aged 15-49 years, leaving no data on older widows and widowers (i.e. 50+ years). Moreover, given gender differences in life expectancy and spousal age gaps, widowhood is significantly more prevalent for women than for men in our sample. This also implies that gender gaps by marital status (as in Figure 9) are based on uneven proportions of the male vs. female population, and should be interpreted with some caution.

Another demographic cut is between male- and female-headed households, although the concept of ‘headship’ is often not well-defined in household surveys.<sup>24</sup> Since there are comparatively few adult men residing in female headed households, we compare women’s ownership (and not gender gaps) across the two groups.<sup>25</sup>

**Figure 10: Women’s property ownership in male- and female-headed households**



Note: Data for 27 countries from 2010-16 (excludes Comoros). Population aged 20-49 years. Source: DHS.

Figure 10 shows the share of women owning property, depending on whether they live in a male- or female-headed households. In Eastern, Central and Southern Africa, women in female-headed households

<sup>23</sup> These estimates are based on all ever-widowed women included in the survey, irrespectively of age.

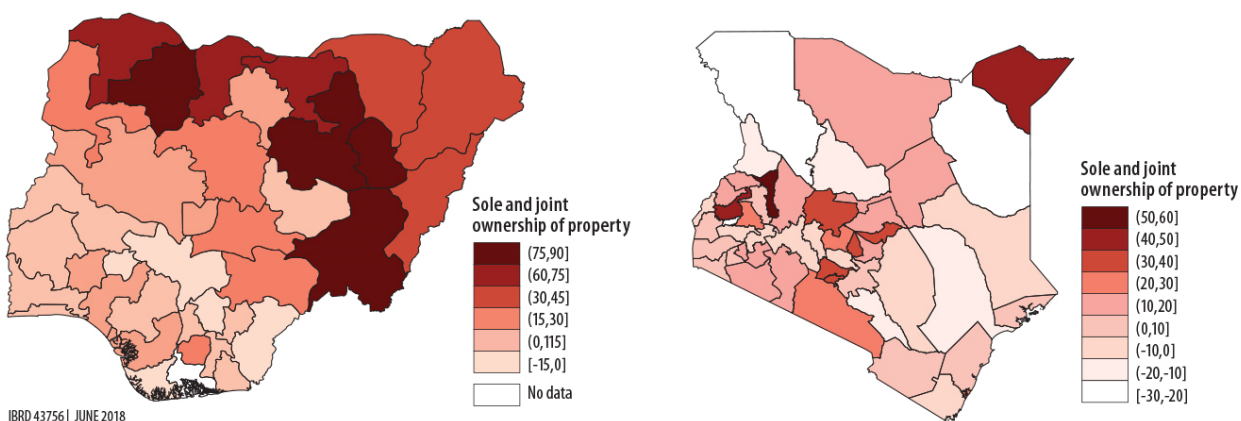
<sup>24</sup> See Grown (2010; 2014) for a discussion.

<sup>25</sup> The share of men (20-49 years) residing in female-headed households ranges from 2 percent in Mali to 32 percent in the Comoros, with a population-weighted average of 9 percent. The share of women residing in female-headed households ranges from 8 percent in Mali to 54 percent in Namibia, with a weighted average of 24 percent (see Table A3).

are typically more likely to report sole property ownership than women living in male-headed households, though the latter are somewhat more likely to report joint ownership. This mirrors results in O’Sullivan et al (2014) based on data for six African countries that agricultural plots managed by women are concentrated in female-headed households, whereas jointly-managed plots (and plots managed by men) are more often found in male-headed households. One explanation is that most female-headed households do not contain any adult men, who would otherwise co-own property. These patterns, however, do not hold for West Africa, where even women in female-headed households have a low propensity to own land on their own (comparable to women in male-headed households). In most countries, women are slightly more likely to report any ownership (sole or joint) if they live in male-headed households.

Given the importance of customary and religious laws for property rights, we would expect to find geographic fault lines even within countries. Figure 11 shows gender gaps in property ownership at the state-level for Nigeria and at the county-level for Kenya. Both countries have well-documented regional disparities and a salience of ethnic, linguistic and religious heterogeneity (Alesina et al 2003; World Bank 2009, 2018; Langer and Stewart 2015). In Nigeria, gender gaps are much larger in the north, particularly the north east, than in the south (where gender gaps sometimes even favor women). In Kenya, there is significant county-by-county variation, but no clear overall geographic pattern.<sup>26</sup>

**Figure 11: Gender gaps in property ownership vary geographically within countries**

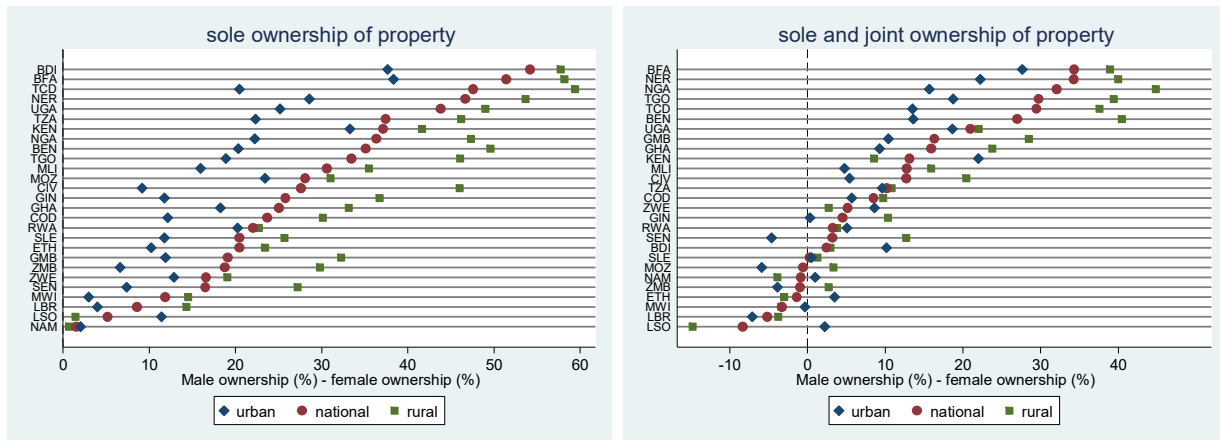


Note: First-tier administrative divisions (36 states in Nigeria, 47 counties in Kenya). Population aged 20-49 years. Source: DHS.

How are gender gaps shaped by urbanization? Though we lack panel data or repeated cross sections to explore trends over time, we can compare gender gaps between urban and rural areas. As noted in the introduction, land and housing ownership is generally less common in urban than in rural areas, and this may affect the magnitude of gaps between men and women. Figure 12 plots gender gaps in property ownership by country, separately for rural and urban areas. Gender gaps in sole ownership are almost always larger in rural than in urban areas. This pattern holds for the most part, though less pronounced, also for gender gaps in sole and joint ownership, except in countries where these gaps are small or favoring women. This, however, does *not* mean that women are more likely to own property if they live in urban areas. It rather reflects that urban men are much *less* likely to own property than their rural counterparts.

<sup>26</sup> Somewhat surprisingly, gender gaps in property ownership are comparatively small in northern Kenya, but this may reflect the prevalence of nomadic, pastoralist tribes in these areas.

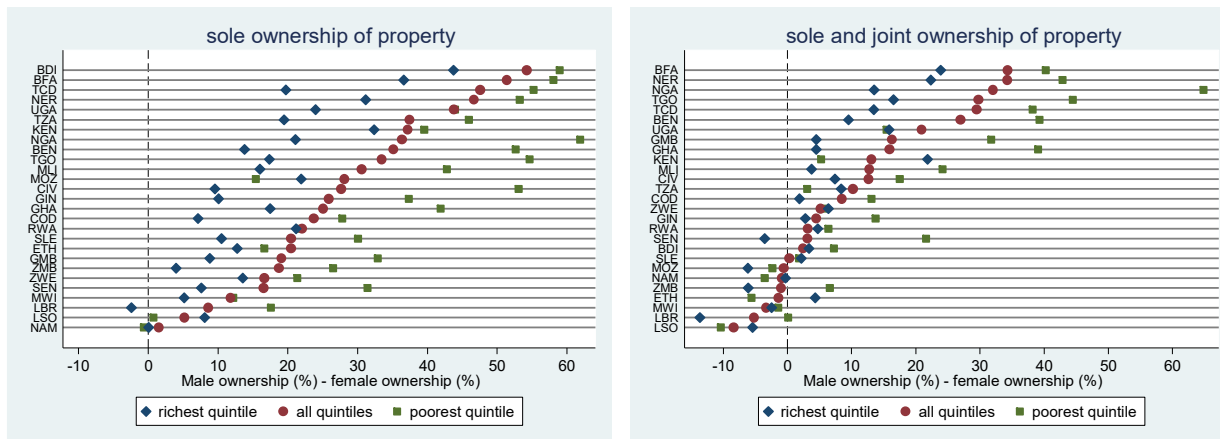
**Figure 12: Gender gaps in property ownership are larger in rural than in urban areas**



Note: Data for 27 countries from 2010-16 (excluding Comoros). Population aged 20-49 years. Source: DHS.

To further investigate distributional patterns, we estimate gender gaps by quintile, using the DHS wealth index.<sup>27</sup> As shown in Figure 13, gender gaps in property ownership are in most countries larger for the poorest than for the richest quintile. This income gradient holds for both ownership concepts, but it is more pronounced for sole ownership.

**Figure 13: At national level, gender gaps in property ownership are larger for the poorest quintile**

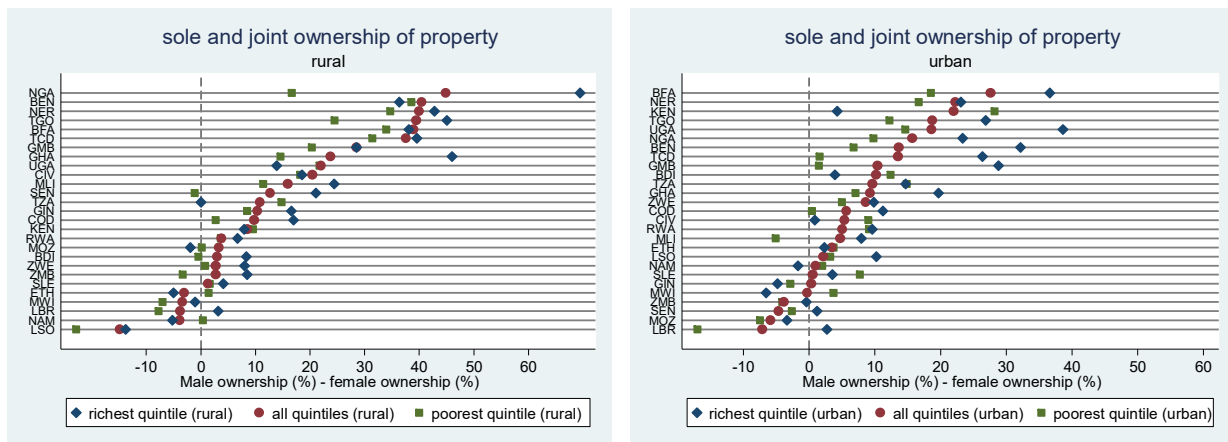


Note: Data for 27 countries from 2010-16 (excluding Comoros). Population aged 20-49 years. Source: DHS.

Differences in gender gaps along the distribution reflect to a considerable degree rural-urban differences. The poorest quintile is more likely to live in rural areas, where, as shown in Figure 12, gender gaps in property ownership are larger than in urban areas. If we compare quintiles within rural and urban areas, the pattern highlighted in Figure 13 reverses, as shown in Figure 14. If anything, gender gaps in property ownership tend to be *smaller* for the poorest rural quintile than for the richest rural quintile, and *smaller* for the poorest urban quintile than for the richest urban quintile. However, the income gradient (i.e. the horizontal distance between green and blue diamonds) is smaller within urban and rural areas.

<sup>27</sup> Unlike the analysis in this paper, this is a household-level wealth index, which does not account for intra-household differences. It should also be noted that the DHS wealth index is a relative measure of wealth (at the country-level) – wealth quintiles cannot be directly compared across countries.

**Figure 14: But within rural and urban areas, gender gaps are often *smaller* for the poorest quintile**



Note: Data for 27 countries from 2010-16 (excluding Comoros). Population aged 20-49 years. Source: DHS.

A potential explanation for this reversal is that, urban-rural compositional effects aside, property ownership is related to wealth. As poor men and women often do not own any property, there is less room for gender gaps. However, to better disentangle inter-correlated factors the next sections turn to the multivariate analysis of male and female property ownership.

#### 4. Multivariate analysis of women’s and men’s property ownership

##### 4.1 Model specification

This section investigates what factors are statistically associated with individual property ownership in a multivariate regression framework.<sup>28</sup> This has the advantage that, unlike with the descriptive statistics in the previous section, we can control for confounding factors. For example, despite recent gains in girls’ school enrollments, adult women still have lower levels of education than men in most African countries. Regression analysis allows us to isolate the gender gap, holding other factors (such as education, age, marital status) constant. In addition, regression analysis is a useful way to summarize the relationship between various explanatory variables and our outcome of interest, male and female property ownership.

The regressions use a sample of all individuals –women and men – for whom data on property ownership were collected. We then repeated the analysis using the DHS’s ‘couple sample’, that is men and women who were both interviewed, lived in the same household and who named each other as a spouse. This excludes households where a married couple was not interviewed because there was no married couple in the household or for other reasons. Comparing husbands and wives across the sample allows us to focus more explicitly on intra-household bargaining and abstract from some of the demographic factors described in the previous section. Results from both samples are qualitatively similar. We only describe the results that draw on the sample of all women and men.

We estimate the following model:

$$Y_{irc} = \beta G_{irc} + \gamma X_{irc} + \zeta W_c + \epsilon \quad (1)$$

<sup>28</sup> The analysis cannot identify causality, even though most explanatory variables plausibly contribute to property ownership.

where  $Y_{irc}$  is a dummy variable indicating if the individual  $i$  (living in region  $r$  of country  $c$ ) owns any property (land or housing) either alone or jointly.  $G_{irc}$  is the variable indicating whether the individual is male or female and  $X_{irc}$  is vector of individual and household characteristics. These include age, years of education, number of children, household size, and the household wealth quintile within the country. Finally,  $W_c$  is a vector of country-level controls. This includes data on economic development (GDP per capita), and the ratio of female to male labor force participation rates from the WDI. In addition, we explore the role of gender discrimination in the country's legal system by controlling for the marital property regime,<sup>29</sup> whether married men and women have equal rights to owning property<sup>30</sup> and if men and women have equal inheritance rights.<sup>31</sup> The data on legal systems are obtained from the WBL database introduced in section 2.1.<sup>32</sup>

The baseline model is run as an ordinary least squares (OLS), but we run an additional model with country-region fixed effects.<sup>33</sup> The fixed effects model allows controlling for time-invariant unobservable characteristics of the country-region (based on sub-national regional variable included in the DHS data, often first-tier administrative regions), but forces us to drop all other country-level variables. We also ran the regressions with country fixed effects (not reported here) and the results are qualitatively similar.

As discussed earlier, gender gaps in property are strongly influenced by the urban-rural makeup of the sample, with gender gaps generally being much larger in rural than urban areas. We therefore run the regressions separately for urban and rural areas. Each of the regressions is run on all individuals and separately for men and women, to allow for gender-specific correlations. Finally, we also investigate individual ownership of land and housing separately (results not shown but available on request). All standard errors are clustered at the country-region level.

## 4.2 Results

The results of our analysis of what factors are correlated with women's and men's ownership of property are presented in Tables 2 and 3. One of the key findings is that even after controlling for various individual, household and country-level characteristics men on average are significantly more likely to own property than women. This finding confirms the results in the previous section, and is robust to changes in specifications and across rural and urban areas. Men are 6 to 15 percent more likely to own property than women. In rural areas, this disparity in the likelihood to own property is larger (~15 percent) than in urban areas (~8 percent), in line with the descriptive statistics in the previous section. This finding holds also

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<sup>29</sup> Marital property regime refers to a system of property ownership between spouses that guides on how property acquired during and before marriage is managed, inherited and divided at the end of marriage. As discussed in section 2.1, countries have one of the three types of property regimes – separation, full community and partial community of property (see also Figure 2).

<sup>30</sup> The dummy variable for 'equal rights' is set to unity when there is no legal restriction on married women or men owning property based on gender (see left panel of Figure 1).

<sup>31</sup> The 'equal inheritance rights' dummy is set to unity if both sons and daughters, and surviving male and female spouse are treated equally in the country's inheritance laws (i.e. combining the left and right panels of Figure 3 into a single variable). We do not include inheritance rights of sons and daughters and surviving spouses separately, because there is a high degree of overlap between the two.

<sup>32</sup> We use the 2012 (and not 2016) version of the WBL in this section, because it is closer in timing to most DHS data sets (though where 2012 data are missing we resort to 2016). Two countries (Niger and the Comoros) are missing information on at least one explanatory variable in both WBL versions and hence drop out of the OLS specification.

<sup>33</sup> Even though our outcome variable is binary, we estimate a linear probability model. Non-linear models (i.e. logit, probit) are more difficult to estimate with fixed effects (Greene 2004). In addition, the linear probability model eases interpretation, as the coefficients do not need to be transformed to obtain marginal effects.



when we investigate the correlates of land and housing ownership separately and also holds for the couple sample, where we only compare husbands and wives.

More years of education are associated with higher chances of owning property for men in both rural and urban areas and women in urban areas in the baseline OLS specification. The impact is insignificant in rural areas for both men and women, when we introduce country-region fixed effects. The probability of owning property increases significantly up to 40-76 years of age for both men and women and then declines. In urban areas individuals witness increases in the probability of ownership until later in life (63-76 years) as compared to rural areas where the probability starts to decline earlier (40-45 years of age).

Women who work (in any sector) have greater chances of owning property than non-working women, and the point estimates suggest that this probability is highest for women working in agriculture, a reflection of land ownership. Married or co-habiting women have better chances of owning property than women who are currently not in a union. Individuals living in households with more members have lower chances of owning property in rural areas, which may partly capture the effects of polygamy. In urban areas, the fixed effects model indicates a positive significant impact of household size on ownership of assets, but it is insignificant in the baseline OLS model. Higher number of children, controlling for other factors, is associated with higher chances of an individual owning property in both rural and urban areas.

Individuals living in households belonging to wealthier quintiles of the population have lower chances of property ownership. Better-off households may prefer higher quality and more expensive property, particularly for housing, and hence not always own property but rent it, whereas poorer households might have smaller and less expensive property. Since our data does not capture the value of the property, but only the incidence of property ownership, we are not able to differentiate on this aspect. In addition, wealthier households are less likely to own agricultural land, which may also be partly captured by the wealth variable.

Turning to the impact of legal discrimination, women are more likely to own property if they live in a country with full or partial community of marital property as compared to a country with separation of property. This confirms the expectation that women fare better under community property regimes. Interestingly, even men have higher chances of owning property under community of property. These effects are stronger in urban areas, perhaps a reflection that formal property regimes are often not enforced in rural areas, where informal customary and religious norms prevail. Countries where married men and women have equal rights for property ownership also have significantly higher chances of both men and women owning property. Not having any legal discrimination by sex in inheritance rights (among children and among surviving spouse) has no significant impact on the probability of owning property. Together, these results suggest that progressive legislation may benefit property ownership of women (and surprisingly, also of men), but further research would be needed to confirm these findings, disentangle specific mechanisms and explore their impact on gender gaps in property ownership.

Finally, living in a country with higher per capita GDP is associated with lower chances of owning property, except for men in urban areas. Higher female labor force participation relative to men does not seem to have any significant impact on chances of owning property for women, but is related to an increase in men's chances of owning property in rural areas.

**Table 2: Associations of individual property ownership, OLS**

	(1) All	Rural (2) Men	(3) Women	(4) All	Urban (5) Men	(6) Women
Male	0.151*** (0.021)			0.076*** (0.011)		
Years of Education	0.007*** (0.001)	0.010*** (0.002)	-0.001 (0.001)	0.006*** (0.001)	0.007*** (0.001)	0.004*** (0.001)
Age	0.025*** (0.002)	0.019*** (0.003)	0.032*** (0.001)	0.008*** (0.002)	0.001 (0.002)	0.015*** (0.002)
Age Squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	0.000 (0.000)	0.000*** (0.000)	-0.000*** (0.000)
<i>Work Reference Category: Not Working</i>						
Professional	0.030** (0.012)	0.017 (0.015)	0.090*** (0.017)	0.087*** (0.008)	0.084*** (0.010)	0.103*** (0.013)
Agriculture	0.118*** (0.012)	0.108*** (0.013)	0.137*** (0.012)	0.173*** (0.012)	0.186*** (0.017)	0.162*** (0.012)
Services	-0.024* (0.013)	-0.050*** (0.016)	0.101*** (0.016)	0.020*** (0.007)	0.006 (0.009)	0.067*** (0.011)
Manual	0.030** (0.013)	-0.009 (0.022)	0.090*** (0.015)	0.027*** (0.008)	0.019 (0.014)	0.036*** (0.010)
<i>Marital Status Reference Category: Never in union</i>						
Married	0.361*** (0.018)	0.358*** (0.024)	0.374*** (0.012)	0.204*** (0.011)	0.201*** (0.012)	0.217*** (0.013)
Living with partner	0.314*** (0.019)	0.306*** (0.025)	0.326*** (0.015)	0.151*** (0.016)	0.144*** (0.018)	0.175*** (0.016)
Widowed	0.363*** (0.015)	0.374*** (0.019)	0.288*** (0.018)	0.180*** (0.013)	0.182*** (0.014)	0.164*** (0.031)
Divorced	0.252*** (0.029)	0.258*** (0.035)	0.220*** (0.019)	0.071*** (0.014)	0.072*** (0.016)	0.090*** (0.021)
No longer living together/separated	0.175*** (0.022)	0.154*** (0.029)	0.217*** (0.016)	0.025** (0.010)	0.004 (0.010)	0.103*** (0.019)
Size of Household	-0.009*** (0.001)	-0.009*** (0.002)	-0.009*** (0.001)	-0.000 (0.001)	0.001 (0.001)	-0.001 (0.001)
Number of Children	0.008*** (0.002)	0.008** (0.003)	0.010*** (0.001)	0.017*** (0.002)	0.013*** (0.003)	0.024*** (0.002)
<i>Wealth Reference Category: Lowest Wealth Decile</i>						
Second Wealth Decile	-0.013 (0.008)	-0.015 (0.011)	-0.009 (0.006)	-0.032*** (0.012)	-0.036** (0.015)	-0.025* (0.015)
Third Wealth Decile	-0.030** (0.012)	-0.026 (0.017)	-0.036*** (0.009)	-0.067*** (0.013)	-0.067*** (0.016)	-0.066*** (0.014)
Fourth Wealth Decile	-0.047*** (0.014)	-0.040** (0.019)	-0.064*** (0.014)	-0.138*** (0.014)	-0.142*** (0.018)	-0.130*** (0.016)
Top Wealth Decile	-0.080*** (0.019)	-0.075*** (0.023)	-0.099*** (0.017)	-0.145*** (0.015)	-0.148*** (0.019)	-0.139*** (0.016)
<i>Marital Regime Reference Category: Full Community of Property</i>						
Partial community of property	0.056** (0.022)	0.066** (0.028)	0.039* (0.022)	0.052** (0.026)	0.050 (0.035)	0.052** (0.025)
Separation of property	-0.060*** (0.021)	-0.079*** (0.026)	-0.006 (0.017)	-0.116*** (0.017)	-0.119*** (0.024)	-0.099*** (0.017)
Equal Rights to Married Men and Women	0.081*** (0.025)	0.090** (0.036)	0.017 (0.022)	0.173*** (0.033)	0.163*** (0.040)	0.178*** (0.034)
Equal Inheritance Rights	-0.006 (0.028)	0.003 (0.036)	-0.029 (0.018)	-0.031 (0.021)	-0.014 (0.025)	-0.060*** (0.021)
Log of GDP per capita (current US\$)	-0.076*** (0.021)	-0.082*** (0.031)	-0.039*** (0.014)	-0.030** (0.015)	-0.028 (0.020)	-0.029** (0.014)
Female to Male Labor Force Participation Rate (%)	0.002* (0.001)	0.004** (0.002)	-0.001 (0.001)	0.001 (0.001)	0.002 (0.001)	-0.001 (0.001)
Constant	0.034 (0.191)	-0.028 (0.296)	0.085 (0.118)	0.022 (0.172)	0.011 (0.232)	0.143 (0.150)
Observations	276,759	183,319	93,440	160,818	105,253	55,565

Notes: Standard errors in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Source: DHS.

**Table 3: Associations of individual property ownership, fixed effects**

	Rural			Urban		
	(1) All	(2) Men	(3) Women	(4) All	(5) Men	(6) Women
Male	0.141*** (0.021)			0.060*** (0.011)		
Number of Years of Education	0.002*** (0.001)	0.001 (0.001)	-0.000 (0.000)	0.005*** (0.001)	0.005*** (0.001)	0.003*** (0.001)
Age	0.023*** (0.001)	0.016*** (0.002)	0.034*** (0.001)	0.008*** (0.001)	0.003 (0.002)	0.016*** (0.002)
Age Squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	0.000 (0.000)	0.000*** (0.000)	-0.000*** (0.000)
<i>Work Reference Category: Not Working</i>						
Professional	0.038*** (0.010)	0.031*** (0.011)	0.062*** (0.015)	0.079*** (0.007)	0.077*** (0.008)	0.089*** (0.012)
Agriculture	0.104*** (0.010)	0.080*** (0.008)	0.118*** (0.012)	0.150*** (0.010)	0.160*** (0.013)	0.136*** (0.011)
Services	0.005 (0.009)	0.000 (0.008)	0.076*** (0.013)	0.028*** (0.005)	0.019*** (0.005)	0.057*** (0.009)
Manual	0.041*** (0.009)	0.020 (0.013)	0.079*** (0.013)	0.032*** (0.006)	0.032*** (0.007)	0.034*** (0.009)
<i>Marital Status Reference Category: Never in union</i>						
Married	0.372*** (0.016)	0.379*** (0.020)	0.369*** (0.012)	0.193*** (0.010)	0.195*** (0.011)	0.201*** (0.012)
Living with partner	0.333*** (0.016)	0.328*** (0.022)	0.343*** (0.013)	0.147*** (0.013)	0.144*** (0.014)	0.172*** (0.014)
Widowed	0.365*** (0.014)	0.377*** (0.018)	0.307*** (0.017)	0.158*** (0.012)	0.167*** (0.013)	0.137*** (0.030)
Divorced	0.223*** (0.023)	0.220*** (0.028)	0.212*** (0.015)	0.056*** (0.011)	0.061*** (0.013)	0.062*** (0.018)
No longer living together/separated	0.164*** (0.019)	0.141*** (0.025)	0.222*** (0.015)	0.016* (0.009)	-0.002 (0.009)	0.099*** (0.018)
Size of Household	-0.006*** (0.001)	-0.004*** (0.001)	-0.007*** (0.001)	0.001 (0.001)	0.002** (0.001)	0.001 (0.001)
Number of Children	0.005*** (0.001)	0.005*** (0.002)	0.006*** (0.001)	0.012*** (0.002)	0.007*** (0.002)	0.019*** (0.002)
<i>Wealth Reference Category: Lowest Wealth Decile</i>						
Second Wealth Decile	-0.011** (0.005)	-0.012* (0.006)	-0.007* (0.004)	-0.036*** (0.010)	-0.040*** (0.012)	-0.026* (0.014)
Third Wealth Decile	-0.025*** (0.006)	-0.023*** (0.009)	-0.025*** (0.005)	-0.051*** (0.011)	-0.055*** (0.014)	-0.051*** (0.013)
Fourth Wealth Decile	-0.046*** (0.008)	-0.040*** (0.010)	-0.054*** (0.007)	-0.095*** (0.012)	-0.099*** (0.015)	-0.091*** (0.014)
Top Wealth Decile	-0.072*** (0.018)	-0.066*** (0.020)	-0.076*** (0.016)	-0.094*** (0.013)	-0.097*** (0.017)	-0.090*** (0.015)
Constant	-0.241*** (0.025)	-0.124*** (0.033)	-0.275*** (0.020)	-0.066** (0.029)	0.016 (0.031)	-0.106*** (0.036)
Country-Region Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	309,504	204,097	105,407	177,357	115,914	61,443

Notes: Standard errors in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Source: DHS.

## 5. Conclusion

Using the latest DHS data from 28 African countries, this paper investigates the extent of gender gaps in the incidence of property ownership (land and housing) and the factors associated with these gaps. We find that there is substantial variation in gender gaps across countries, but in almost all African countries

men are more likely to own property than women. Even after controlling for demographic and other factors a substantial gender gap in ownership persists. The disadvantage in property ownership experienced by women reflects a variety of factors, most importantly discriminatory norms and laws with respect to inheritance and marital regimes. Lower ownership among women also limits their bargaining power within marriage and fallback options on dissolution of marriage or on death of the husband.

The DHS data on ownership of land and housing at the individual-level are a substantial improvement over previous rounds, where such data were collected only at the household-level, and have allowed us to explore descriptive patterns of male and female property ownership. But information only on the incidence of ownership is restrictive in determining the causes and consequences of gender property gaps. Data on modes of acquisition of property, different notions of ownership and rights over assets, and value of assets are needed to improve our understanding about gender gaps. Information on how assets are acquired by both men and women would help in understanding where the gaps originate from and why these persist. Data on various notions of ownership – perceived, legal and rights-based – would provide for a better understanding of what asset ownership means for the individual and to explore the concept of joint ownership. Individuals might not be legal owners of property, but still enjoy decision-making power over how the property is used or to whom it is bequeathed. Incidence data, being of binary nature, also restricts the analysis of inequality in asset ownership and polarization. Data on the value of assets owned would be useful to assess differences between men and women in property wealth. Emerging best-practice standards (e.g. Doss et al 2008, 2013, 2017) for the collection of individual-level data on ownership, use and control of assets are an important milestone towards advancing this data collection and analytic agenda.

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## Appendix

**Table A1: List of DHSs included in this paper**

<b>Country</b>	<b>Year</b>	<b>Comments</b>
1. Benin	2011-12	
2. Burkina Faso	2010	
3. Burundi	2010	
4. Chad	2014-15	
5. Comoros	2012	
6. Côte d'Ivoire	2011-12	
7. Congo, Dem. Rep.	2013-14	
8. Ethiopia	2011	
9. Gambia, The	2013	
10. Ghana	2014	
11. Guinea	2012	
12. Kenya	2014	
13. Lesotho	2014	
14. Liberia	2013	Housing only.
15. Malawi	2015-16	
16. Mali	2012-13	
17. Mozambique	2011	
18. Namibia	2013	
19. Niger	2012	
20. Nigeria	2013	
21. Rwanda	2014-15	
22. Senegal	2015	
23. Sierra Leone	2013	
24. Tanzania	2015-16	
25. Togo	2013-14	
26. Uganda	2011	
27. Zambia	2013-14	
28. Zimbabwe	2015	

**Table A2: Male and female ownership of housing and land**

	National								Urban								Rural							
	Housing				Land				Housing				Land				Housing				Land			
	Sole		Sole and joint		Sole		Sole and joint		Sole		Sole and joint		Sole		Sole and joint		Sole		Sole and joint		Sole		Sole and joint	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Benin	8.9	41.7	22.2	47.8	10.2	40.7	21.5	46.2	8.2	25.2	18.5	28.9	9.1	26.1	17.0	29.3	9.4	57.8	25.4	66.1	11.2	54.9	25.3	62.5
Burkina Faso	7.9	64.4	36.0	77.2	14.2	50.0	36.0	61.9	4.8	41.9	26.0	53.2	4.2	23.2	15.0	27.3	8.9	74.3	39.5	87.8	17.6	61.8	43.3	77.2
Burundi	14.9	65.3	73.9	72.9	13.9	58.6	67.7	75.5	8.2	34.5	37.0	39.2	9.2	38.2	38.6	53.0	15.7	71.2	78.1	79.3	14.4	62.5	71.0	79.8
Chad	14.8	62.1	41.4	71.0	20.9	62.7	42.8	68.9	13.6	25.9	31.6	38.0	16.9	34.0	29.6	40.1	15.1	77.3	44.3	84.9	22.1	74.8	46.8	81.1
Comoros	58.4	23.0	76.2	57.7	46.8	20.3	65.4	51.2	49.9	19.0	71.4	48.2	40.0	14.3	60.0	38.7	62.7	25.3	78.6	63.1	50.3	23.7	68.2	58.4
Côte d'Ivoire	11.8	31.5	34.4	39.2	10.6	33.5	29.4	42.7	9.9	12.7	20.4	17.4	6.8	12.9	14.1	19.7	13.6	50.1	47.8	60.7	14.3	53.9	44.1	65.4
Congo, Dem. Rep.	14.0	36.6	44.7	54.0	14.4	29.3	40.3	49.1	7.5	17.9	23.8	28.8	7.1	14.2	17.5	23.4	17.9	47.4	57.1	68.5	18.8	38.0	53.8	63.8
Ethiopia	15.8	32.8	70.5	65.6	14.4	32.3	61.3	61.5	10.4	18.4	37.5	40.1	6.9	15.5	22.9	26.6	17.4	37.0	80.6	73.2	16.7	37.2	72.9	71.7
Gambia, The	8.3	20.9	25.5	40.1	6.1	18.8	22.2	32.9	6.9	11.8	21.1	28.5	6.4	15.7	21.9	28.3	10.0	37.1	31.2	60.8	5.8	24.4	22.7	41.2
Ghana	9.5	22.7	22.3	28.3	14.2	33.4	26.1	41.4	7.2	13.0	17.1	17.1	13.0	28.9	24.7	34.1	12.3	34.4	28.6	41.6	15.6	38.7	27.8	50.1
Guinea	13.9	40.5	43.3	49.2	12.6	32.8	31.8	43.7	7.1	17.3	24.4	23.7	6.5	15.4	18.0	20.9	17.4	56.2	53.3	66.5	15.8	44.6	39.1	59.2
Kenya	13.9	46.3	50.4	59.0	12.4	39.3	46.1	54.5	8.6	34.7	29.2	43.0	8.5	36.5	28.2	48.1	17.9	57.2	66.1	73.8	15.3	42.0	59.4	60.6
Liberia	13.9	22.4	37.8	32.6					10.5	14.5	28.2	21.0					18.7	33.0	51.7	47.9				
Lesotho	11.4	12.6	44.4	33.9	8.8	14.4	34.1	32.3	8.4	15.3	31.0	31.6	8.8	18.4	33.2	37.3	13.2	10.9	52.6	35.3	8.7	12.1	34.7	29.3
Mali	15.4	45.2	53.9	66.1	14.7	32.9	43.7	49.5	15.9	26.8	39.0	40.1	11.5	20.8	26.5	27.4	15.2	51.4	58.5	74.8	15.7	37.0	48.9	56.8
Malawi	44.9	55.5	69.9	65.4	45.9	54.4	67.7	63.5	24.3	22.2	36.6	32.4	20.0	24.8	29.3	33.1	49.5	63.8	77.5	73.6	51.8	61.8	76.4	71.1
Mozambique	20.4	45.7	75.7	72.8	18.1	38.4	61.5	66.5	16.8	38.3	61.0	53.7	14.0	24.9	44.4	36.7	22.2	50.0	83.3	83.9	20.1	46.2	70.2	83.8
Namibia	26.0	25.1	37.6	34.6	17.0	18.4	25.7	24.9	26.3	26.9	38.1	37.4	14.4	18.9	22.1	26.5	25.5	22.2	36.8	30.3	20.7	17.6	30.9	22.3
Niger	18.4	68.5	40.6	80.0	23.1	47.9	37.5	58.7	13.1	36.6	26.4	45.0	11.0	24.9	19.2	32.4	19.6	78.8	43.7	91.4	25.8	55.3	41.5	67.3
Nigeria	7.7	36.0	20.2	47.4	8.2	34.2	16.9	41.3	7.2	20.2	18.7	27.7	7.2	25.9	16.4	32.3	8.0	48.2	21.3	62.6	8.9	40.7	17.3	48.4
Rwanda	10.2	28.1	61.0	60.9	11.7	26.8	56.2	59.3	6.3	18.5	37.7	35.7	7.6	20.9	31.3	36.7	11.1	30.9	66.5	68.3	12.7	28.6	62.1	65.8
Senegal	2.5	12.6	19.7	17.3	5.4	17.6	11.9	20.2	3.5	9.2	18.4	13.1	4.7	9.0	9.4	12.0	1.6	16.7	21.0	22.2	6.0	27.8	14.2	29.9
Sierra Leone	11.9	29.5	46.0	45.3	10.4	27.7	42.1	42.6	6.5	14.4	24.0	22.7	6.8	14.5	23.5	22.3	14.6	38.0	57.3	58.1	12.3	35.1	51.6	54.1
Togo	5.6	28.5	12.3	31.5	6.9	32.3	11.2	35.8	4.6	13.1	7.8	15.7	6.4	21.5	9.0	25.0	6.5	41.9	16.1	45.2	7.4	41.7	13.1	45.1
Tanzania	10.9	43.8	46.1	54.3	11.0	38.3	40.3	47.9	8.1	25.3	28.7	34.8	7.4	23.3	20.0	30.1	12.5	54.5	55.9	65.5	13.0	46.9	51.8	58.2
Uganda	18.3	58.8	54.0	76.2	17.2	55.5	47.3	72.0	11.1	29.3	28.2	43.7	15.2	37.2	32.6	52.7	20.1	66.9	60.5	85.0	17.8	60.5	51.0	77.3
Zambia	18.6	35.4	55.3	53.1	13.6	29.1	39.7	42.9	12.5	16.8	31.9	25.9	8.1	13.0	19.4	19.3	23.7	51.9	75.0	77.3	18.2	43.4	56.7	63.9
Zimbabwe	9.2	20.7	45.0	47.7	6.8	19.5	37.3	44.1	8.1	14.4	27.0	29.3	4.3	13.6	17.5	27.8	10.0	24.8	57.1	59.7	8.4	23.4	50.5	54.7

Note: Women and men aged 20-49 years. Data for 28 countries from 2010-16. Source: DHS.

**Table A3: Share of male and female population residing in female-headed households**

	<b>% of male population</b>	<b>% of female population</b>
Benin	6.6	19.8
Burkina Faso	3.2	8.9
Burundi	7.6	23.9
Chad	6.6	19.4
Comoros	31.9	39.2
Côte d'Ivoire	7.3	20.5
Congo, Dem. Rep.	8.2	24.3
Ethiopia	10.4	23.4
Gambia, The	20.2	22.9
Ghana	8.0	38.4
Guinea	10.2	15.2
Kenya	11.2	36.0
Liberia	20.2	41.1
Lesotho	21.1	33.1
Mali	2.2	7.6
Malawi	9.9	28.6
Mozambique	17.4	35.6
Namibia	23.4	54.5
Niger	3.8	13.2
Nigeria	6.4	16.6
Rwanda	11.9	30.2
Senegal	23.9	31.2
Sierra Leone	19.3	27.8
Togo	8.0	25.8
Tanzania	11.5	24.0
Uganda	8.8	30.2
Zambia	11.0	25.6
Zimbabwe	19.3	42.7
<b>Population-weighted average</b>	<b>9.4</b>	<b>24.1</b>
<b>Unweighted average</b>	<b>12.5</b>	<b>27.1</b>