

# Individual Wealth and Time Use

## Evidence from Cambodia

*Ardina Hasanbasri*

*Talip Kilic*

*Gayatri Koolwal*

*Heather Moylan*



**WORLD BANK GROUP**

Development Economics

Development Data Group

August 2021

## Abstract

A better understanding of how individual wealth and time use are linked—across paid, unpaid, and leisure activities—is important for targeting widespread gender inequalities in time allocation, as well as in accessing economic opportunities. The lack of reliable, individual-level data on asset ownership across different subpopulations, however, has limited discussions of these issues in the literature. Using a unique nationally representative survey from Cambodia, this paper shows that individual wealth, as measured through self-reported ownership of physical and financial assets, is significantly associated with time allocation to different activities. The role of asset ownership in time use is also stronger, particularly among women, vis-à-vis the

competing proxies for socioeconomic status. Ownership of financial accounts, motorized vehicles, and mobile phones—all of which can improve access to networks, markets, and services—is associated with less time in unpaid work, and in some cases greater time in paid work, specifically among women in off-farm jobs. There are also distinct gender differences in how men and women shift their time away from leisure and childcare, highlighting the importance of social norms in choices over time use. The analysis highlights the utility of integrated, intra-household, individual-disaggregated data collection on asset ownership, time use, and employment in lower-income contexts.

---

This paper is a product of the Development Data Group, Development Economics. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at <http://www.worldbank.org/prwp>. The authors may be contacted at [tkilic@worldbank.org](mailto:tkilic@worldbank.org) and [gkoolwal@worldbank.org](mailto:gkoolwal@worldbank.org).

*The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.*

# Individual Wealth and Time Use: Evidence from Cambodia

Ardina Hasanbasri<sup>†</sup>, Talip Kilic<sup>‡</sup>, Gayatri Koolwal<sup>#</sup> and Heather Moylan<sup>\*1</sup>

JEL Codes: C21, C83, D31, J16, J22.

Keywords: Asset Ownership, Wealth, Time Use, Labor, Gender, Household Surveys, Cambodia.

---

<sup>1</sup> <sup>†</sup> University of Michigan and Independent Consultant, Development Data Group (DECDG), World Bank, [ardinah@umich.edu](mailto:ardinah@umich.edu); <sup>‡</sup> DECDG, World Bank, [tkilic@worldbank.org](mailto:tkilic@worldbank.org); <sup>#</sup> Development | Science and Independent Consultant, DECDG, World Bank, [gkoolwal@worldbank.org](mailto:gkoolwal@worldbank.org); <sup>\*</sup> DECDG and Gender Group, World Bank, [hmoylan@worldbank.org](mailto:hmoylan@worldbank.org). The research was funded by the World Bank Living Standards Measurement Study – Plus (LSMS+) program. The authors are grateful for the exceptional professionalism and hard work on the part of the National Institute of Statistics of Cambodia management and survey teams in successfully implementing the 2019-20 Cambodia LSMS+ survey. The authors would like to thank Dalila Figueiredo, Magnus Hattlebakk, Henrike Sternberg, Kimsun Tong, and the seminar participants at the World Bank Development Data Group (DECDG), the 2021 Nordic Conference in Development Economics (NCDE), and the 2021 International Association for Feminist Economics (IAFFE) Conference for their comments.

# 1. Introduction

Across countries, women's total (paid along with unpaid) work burdens are often substantially greater than men's due to disproportionately greater time allocated to unpaid activities (United Nations, 2015) that can in turn hamper women's ability to search for better economic opportunities, earn higher incomes, and seek health and educational investments for themselves and their children (Bauman et al., 2019; Del Boca et al., 2014; Menon et al., 2014). Several factors affect the extent to which men and women allocate time across paid and unpaid work, self-care and leisure. These include gender norms related to time allocation (Heintz et al., 2017; Fafchamps and Quisumbing, 2003; Bittman and Wajcman, 2000); availability of and returns to employment activities (Folbre et al., 2014; Olivetti, 2006); socioeconomic attributes of households and individuals (Goldin and Katz, 2018; Ilahi, 2000); and individual preferences (Donald et al., 2020; Guryan et al., 2008). Our paper aims to zero in on the relatively understudied role of individual asset ownership, as an indicator of individual socioeconomic status, in time allocation decisions of men and women. We examine this question within and across households using new, nationally representative survey data from Cambodia, where individual-level, self-reported data on ownership of a diverse set of assets was collected alongside data on individuals' time use.

Ownership and control over assets, such as residential and non-residential land, financial accounts, mobile phones, vehicles and other durables, is one important dimension of socioeconomic status for which individual-level data have typically been limited, particularly in low- and middle-income countries. Asset ownership and control can affect time use through different channels associated with individual socioeconomic status. Assets can raise productivity and incomes, for example, by widening access to resources such as financial services markets and networks (Doss, 2013; Doss et al., 2020), and by potentially improving individuals' roles in economic decision-making within households (Oduro et al., 2012). These productivity-enhancing channels can increase time allocated to economic activities. Land can act as collateral, for instance, and in the case of agricultural land can allow greater access to extension services; mobile phones can expand access to markets; ownership of vehicles can save on commuting time; and ownership of financial accounts can allow for financing of time-saving inputs.

On the other hand, greater financial security provided by assets such as land/property can reduce the need or desire of individuals to work for an income, particularly in certain sectors such as agriculture, where social norms around land ownership and work are more heavily entrenched. This might lead to increased time in leisure, or in other household work. Ownership and control of assets may also not necessarily release time for other activities. Individuals' time, for example, could be further invested in maintaining the asset in question (Walther, 2018; Das et al., 2014).<sup>2</sup>

Policies targeting property and other ownership rights therefore have important gender implications, in view of resource constraints and social barriers that disproportionately affect women, including restrictive norms around inheritance, marriage, family and work (Agarwal, 1994; Deere and Doss, 2007; Jayachandran, 2015). The extent to which potential benefits associated with asset ownership materialize, however, depends on several factors, including the type, quality and value of the asset, norms around how these assets are managed (Fafchamps et al., 2009; Das et al., 2014), and sectors of economic activity that

---

<sup>2</sup> Walther (2018) shows that men in patrilineal communities spend more time on the type of labor (and thereby, assets) that most improves their future opportunities — namely self-employed agricultural labor as opposed to off-farm wage labor — as compared to their counterparts in matrilineal communities, which determine whether men or women retain land ownership rights upon divorce. Das et al. (2014) examine a sample of households targeted in a randomized ultra-poor program, inclusive of livestock transfers, in northern Bangladesh, and find that women who receive livestock increase their labor allocation on the farm/homestead to maintain these assets.

individuals and their households are engaged in. There is a longstanding literature on how proxies for individual socioeconomic status (or bargaining power, in specific studies), including earnings, age, education, and marital status, affect individuals' labor allocation.<sup>3</sup> Thus far, however, nationally representative studies examining the association between individual-level time use measures and ownership of physical and financial assets — and not only of a specific type, but a diverse set — have been limited. This has in turn hampered a broader understanding of how time use is linked with wealth.

The available studies have focused on the impacts associated with transfer of specific assets and property rights in specific sub-populations. Examples include the randomized trials to show how expanded property rights (see Field, 2007, in a study of an urban land titling program in Peru) and creation of financial accounts (Field et al., 2021, in a study of a cluster of villages in central India) can boost women's labor force participation. Shocks to assets that women bring into marriage has been examined by Brown (2009), in a study of four counties from China, to understand the effects on women-focused expenditures, intra-household allocation of housework, as well as women's leisure time. Wang (2014) also examines the effects of transferring property rights to men and women on time use, consumption and children's health stemming from a 1994 housing reform in China, and documents that property rights transfer to men, as opposed to women, increases women's time devoted to housework.

Beyond the gaps in our understanding of individual wealth and time allocation, a related gap in the literature is the lack of systematic assessments of the estimated relationships between time use measures and the covariates that are commonly used in empirical research as proxies for individual socioeconomic status (or bargaining power, in the context of intra-household analyses). These knowledge gaps are in part due to the weaknesses in the availability and quality of individual-disaggregated survey data collected in large-scale, multi-topic household surveys. These surveys seldom collect individual-disaggregated information on men's and women's asset ownership and time use, together with data on employment and complementary socioeconomic and demographic characteristics. Without such integrated data collection, it is not possible to fill the aforementioned knowledge gaps.

However, even when the data are available, poor data quality can impede development research. For example, in large-scale household surveys, it is common for the data on asset ownership to be either collected at the household-level — even when assets are owned by individuals — or collected at the asset-level, with individual disaggregation to identify owners and right holders, whom would, however, be identified by only one “most knowledgeable” household member. Distortionary effects of proxy respondents have in turn been documented in the measurement of not only men's and women's asset ownership but also employment (Kilic et al. 2021; Kilic et al., 2020), underlining the importance of eliciting self-reported survey data on these topics.<sup>4</sup> Proxy reporting and other measurement challenges on individuals' time allocation have also marred a clear understanding of the varied activities women and men are involved in throughout the day, and how their time is linked with other socioeconomic factors (Floro, 2021).

---

<sup>3</sup> This includes how time in paid and unpaid work is affected by individuals' share of earnings in the household (see Bittman, 2003, using data from the U.S. and Australia, and Sevilla-Sanz et al., 2010, using data from Spain); unearned income from transfers and property (Schultz, 1990); cash transfers (Hasan, 2010, examining a program targeted towards girls' education in the Punjab province of Pakistan); as well as adult household members' age, education, and marital status (see Fengdan et al., 2016, in a study from China).

<sup>4</sup> Evolving approaches to measuring time allocation and effort can also allow for a broader view on the links with asset ownership — Friedman et al. (2021), for example, collect physical activity tracking data from men and women in agriculture in two districts of Malawi, and find, among other results, that women tend to exert more physical effort among couples with larger gender inequalities in the number of plots owned.

Against this background, this paper aims to enhance the understanding of the linkages between individuals' time use and socioeconomic status, proxied by asset ownership, in lower-income contexts. We do so by leveraging the unique data from a nationally-representative survey that was implemented in Cambodia in 2019/20 with the goal of conducting private interviews with the adults in each sampled household to gather self-reported information regarding their time use across paid, unpaid and leisure activities, labor market activities, and personal asset ownership, among other topics. The data allow us to address the knowledge gaps in the literature and offer new evidence on the relationships between men's and women's time use and their socioeconomic status.

Specifically, we provide a comparative assessment of the relationships between individual-level time use measures and a rich set of proxies for socioeconomic status, including a diverse set of physical and financial assets, across residential and non-residential land, livestock, financial accounts, and durables such as mobile phones and vehicles. The analysis is conducted separately across men and women, and both across and within households. Our regressions allow us to discern not only the association of each proxy for individual socioeconomic status with men's and women's time use measures at the national-level, but whether the statistical significance and extent of the association differs across specific sub-populations.

There are five headline findings that reveal a number of stark gender inequalities in time use, as well as relevant channels that appear to be affecting men's and women's time allocation. First, the paper demonstrates higher time spent in unpaid work (nearly three hours per day more) by women, including among those who are employed. Women, particularly those working in agriculture, also spend significantly less time in leisure activities.

Second, the specific classes of asset ownership have large and statistically significant associations with time use measures, but that the associations have a stark gender dimension. While asset owners among women tend to shift their time away from leisure towards paid work, asset owners among men shift their time away from childcare to leisure. The evidence reflects a need to look more closely at social norms and constraints across sectors that may affect how wealth is associated with choices over time use.

Third, asset ownership is documented to have a relatively greater role in explaining time use vis-à-vis competing individual attributes that are candidate proxies for socioeconomic status, such as men's and women's share of household earnings, which on its own has been highlighted as an important determinant of intrahousehold time allocation (Sevilla-Sanz et al., 2010; Bittman, 2003). Understanding nuances of asset ownership is also important. Exclusive as opposed to joint ownership of assets such as mobile phones and land, for example, has a stronger effect on time use, and particularly among women.

Fourth, the analysis shows that understanding the links between time use and socioeconomic status, proxied by asset ownership, requires disaggregated perspectives - not only by ownership of different assets classes but also across different sub-populations. We find that ownership of specific (but not all) assets is associated with less unpaid work for women engaged in off-farm employment, and among those who own financial accounts, mobile phones, and motorized vehicles; mobile phones and vehicles are positively associated with time allocation to paid activities. Underscoring the importance of looking at different types of assets within a particular class, we also demonstrate opposing effects of residential versus non-residential property ownership on time allocation for this group. Residential land ownership, for example, is positively associated with paid activity, but non-residential land ownership is negatively associated with paid work and positively associated with leisure. Among individuals focused in agriculture, on the other hand, and particularly among women, the association between ownership of assets, including land, and time allocation is substantially weaker. Relatedly, in comparison to land ownership, having specific rights

over land – namely, rights to sell and bequeath— has a stronger association with time allocated to paid work among women employed in agriculture.

Fifth, a cross-cutting finding is that the associations is stronger with the use of dichotomous indicators of ownership of and rights to physical and financial assets, as opposed to individuals’ self-reported asset values. And while the data are not set up to examine causal effects, the findings are consistent across different regression specifications that are used to test the robustness of our results. These include household fixed effects regressions that control with household-level unobserved heterogeneity that may jointly impact individual time use and asset ownership.

Overall, the paper provides a comprehensive overview of the associations between individuals’ time use and individual wealth, as measured through newly available data on individual asset ownership. The findings underscore the importance of examining channels by different subpopulations, relevant for the targeting of policies around wealth and labor, and that can be explored further in future survey methodological work and experimentation.

## 2. Country Context and Data

### 2.1 Employment trends in Cambodia

Cambodia has maintained high growth and labor force participation over the last decade, but more needs to be understood about factors associated with underlying gender inequalities in economic opportunities. Cambodia’s annual GDP growth rate is among the highest in East Asia and the Pacific region, and has remained relatively stable at around 7 percent annually, from 2013 to 2019. Labor force participation (LFP) rates were among the highest in the region in 2019, albeit with gender gaps. In 2019, the employment-to-population ratio for men age 15 and older was about 88 percent, compared with 76 percent for women. In 2019, 58 percent of employed women versus 44 percent of employed men were in occupations the ILO has identified as vulnerable, including own-account work (self-employed with no employees) or contributing family work.<sup>5</sup> Furthermore, about three-quarters of the population live in rural areas, but activities have diversified rapidly away from agriculture. Since 2013, the share of employed men in agriculture has fallen from about 48 to 30 percent (and the share in wage and salaried employment increased from 45 to 57 percent). For employed women, the share in agriculture has fallen from 51 to 34 percent between 2013-19, and those in wage or salaried work from 39 to 50 percent.<sup>6</sup>

### 2.2 Cambodia Living Standards Measurement Study-Plus (LSMS+) Survey

The analysis uses data from the Cambodia LSMS+ Survey<sup>7</sup> which was implemented in October 2019-January 2020 by the National Institute of Statistics, with support from the World Bank LSMS+ Program<sup>8</sup>. The

---

<sup>5</sup> ILOSTAT Database, 2020.

<sup>6</sup> The statistics come from World Development Indicators (2019), unless otherwise stated.

<sup>7</sup> The anonymized unit-record data and questionnaires for the Cambodia LSMS+ Survey are publicly available at: <https://microdata.worldbank.org/index.php/catalog/4045>.

<sup>8</sup> The World Bank Living Standards Measurement Study – Plus (LSMS+) program ([www.worldbank.org/lmsplus](http://www.worldbank.org/lmsplus)) works to enhance the availability and quality of intra-household, self-reported, individual-disaggregated survey data collected in low- and middle-income countries on key dimensions of men’s and women’s economic opportunities and welfare. Since 2016, LSMS+ supported

household sample was drawn from the same set of 252 enumeration areas (EAs) that were visited concurrently for the Cambodia Socio-Economic Survey (CSES 2019-20) in the last quarter of 2019.<sup>9</sup> In each of these 252 EAs, six additional households were selected at random from the complete CSES listing of households, amounting to a total Cambodia LSMS+ sample of 1,152 households.<sup>10</sup> Within each household, all adult household members aged 18 years and above were targeted for private interviews that elicited self-reported information on education, health, labor, ownership of and rights to selected physical and financial assets, and 24-hour time use.<sup>11</sup> Survey design and implementation was anchored in the latest international recommendations for individual-disaggregated data collection on these topics. The fieldwork was conducted by 21 field teams, each made up of one male and one female enumerator. This allowed teams to aim, to the best extent possible, for gender matching between the enumerators and respondents, and to conduct at least some of the interviews simultaneously. The self-reporting rate across modules was high: In modules on assets and time use modules, all respondents reported for themselves, while in modules on education, health, and labor, 90 percent of men and 95 percent for women self-reported.

### 2.2.1. Time use module

Survey modules that collect data on daily time use — the more common approach being a recall-based 24-hour time use diary (see Floro, 2021, Seymour et al., 2020, for a discussion)<sup>12</sup> — can complement standard labor survey modules and can provide additional detail on the distribution of time and effort. Time use modules can improve our understanding of (i) how time is allocated, among men and women, across unpaid and paid activities, domestic and care work, and leisure; (ii) the extent of time allocation to simultaneous activities; and (iii) the links between health and time use, including in the form of leisure and rest. The resulting data can shed light on how individuals may respond to policies aimed at raising economic opportunities and mobility (Floro and Komatsu, 2011). Nationally representative, multi-topic household surveys that collect time use information alongside data on labor, wealth, demographics, education, and health, can help reveal the range of factors affecting men’s and women’s time use and in turn provide direct inputs into national policy making around employment, child and elderly care, health seeking, and social well-being.

The Cambodia LSMS+ time use module was structured as a 24-hour time diary, where men and women aged 18 and older were asked to report their activities over the last day. The structure of the module, the list of activities and the implementation protocols drew heavily from the time use module developed as part of the Women’s Empowerment in Agriculture (WEAI) index. The reporting was set up in 15-minute increments across 26 different activity categories, including primary activities as well as secondary activities conducted simultaneously within each interval (Table 1).<sup>13</sup> Broadly, as detailed in Table 1 as well, these activity categories fell into (1) unpaid work (across household chores; collecting firewood/water; and care

---

national household surveys include the Cambodia LSMS+ Survey 2019/20, Ethiopia Socioeconomic Survey (ESS) 2018/19, Malawi Integrated Household Panel Survey (IHPS) 2016, Sudan Labor Market Panel Survey (SLMPS) 2021, and Tanzania National Panel Survey (TZNPS) 2018/19. In each survey, the LSMS+ has supported the respective national statistical office to operationalize the latest international recommendations for individual-disaggregated survey data collection on asset ownership and labor. For more information on survey methods and fieldwork implementation protocols followed by the LSMS+ supported national surveys, please consult Hasanbasri et al. (2021a).

<sup>9</sup> The CSES 2019-20 covers a nationally representative sample of 10,080 households and 1,080 EAs.

<sup>10</sup> In each EA, the Cambodia LSMS+ household sample was selected from the universe of households that did not include the households that had been selected for the CSES 2019/20.

<sup>11</sup> For more information on the survey sampling and methodology, see Hasanbasri et al. (2021b).

<sup>12</sup> See Daum et al. (2019) for an example of smartphone-based real-time time use data collection in a low-income context.

<sup>13</sup> A tabulation of secondary activities, however, did not reveal much information. Common responses were conducting one unpaid activity combined with another (cooking with childcare for example), or leisure with sleep.

of children and adults); (2) economic activities, including agricultural and off-farm work; (3) leisure; (4) traveling (including commuting); (5) schooling; and (6) rest and sleep. When administering the time use module, enumerators first asked the respondent what time they woke up and what time they went to sleep. Then they began guiding respondents throughout their day asking for the first activity they did in the morning, an estimate on how long they engaged in the activity, and whether they were doing anything else at the same time. They repeated these questions until the respondent indicated that they went to bed for the night.<sup>14</sup> All individuals who reported their time use self-reported; there was a relatively small share of eligible individuals (about 8 percent) that did not respond to the module.<sup>15</sup>

### 2.2.2. Asset modules

The Cambodia LSMS+ modules delve into intra-household ownership across different types of assets — and in turn highlight important patterns of ownership and decision-making that can inform policy efforts to expand access to financial services, land, and property rights in general. Self-reported modules included one that elicited parcel-level information on land ownership and rights.<sup>16</sup> The module inquired about both residential and non-residential parcels. Respondents were also asked about personal ownership of financial accounts, including checking or savings accounts at a formal financial institution, microfinance institution, and/or with an informal savings club. The overwhelming majority of financial account owners owned either formal checking or savings accounts. Moreover, the survey included modules that elicited individual-disaggregated information on ownership of large livestock, as well as consumer durables, including mobile phones, computers, bicycles, motorcycles, cars, tuk tuk/rickshaw, tractors. For land, livestock, financial accounts, and mobile phones, respondents were also asked whether a given asset was exclusively owned by the respondent or jointly with other household members (and if so, with whom).

On land in particular, respondents were asked about different types of ownership at the parcel-level: (1) reported; (2) economic (who would control the proceeds if the parcel was sold); and (3) documented (if the respondent had a title or certificate to the land). Rights over land – sell, bequeath, use as collateral, rent out, and make improvements or invest — were asked of landowning respondents as well.<sup>17</sup> In addition, the respondents were asked to identify, in the case of joint ownership, whether permission is needed to exercise rights, and if so, up to three household members and the numbers of male and female non-household members who need to give permission to exercise a given right. Along with rights and ownership, respondents reported on how each parcel was acquired; identified the individuals from whom the asset was inherited or received as a gift, as applicable; and provided the current hypothetical sales value for each asset (inclusive of the construction costs associated with any buildings on residential parcels).

---

<sup>14</sup> The time use module was introduced to each respondent in the following way: *“Now I’d like to ask you about how you spent your time during the past 24 hours. We’ll begin from yesterday morning and continue through to this morning. This will be a detailed accounting. I’m interested in everything you did (i.e. resting, eating, personal care, work inside and outside the home, caring for children, cooking shopping, socializing, etc.) even if it didn’t take you too much time.”*

<sup>15</sup> Specifically, there were 313 out of the 3,938 eligible individuals who did not respond to the time use module.

<sup>16</sup> Parcel is defined as a continuous piece of land which can have more than one plot. The module on land addresses the data needs for both SDG indicators 1.4.2 and 5.a.1 – covering all land owned or accessed via use rights – based on the recommendations put forth by FAO, World Bank and UN-Habitat (2019).

<sup>17</sup> The scope of rights included in the questionnaire was influenced by Schlager and Ostrom’s (1992) theoretical framework which focuses, in the context of natural resources, on issues related to access, withdrawal, management, exclusion and alienation while defining a bundle of rights.

### 3. Descriptive statistics on time use, labor and asset ownership

#### 3.1 Time use

Tables 1 and 2 present summary statistics on time use across the 26 activity categories covered in the survey. Table 1 presents statistics from these categories among respondents reporting any (non-zero) time.<sup>18</sup> Table 2 aggregates the activities into broader categories and provides summary statistics on participation (the extensive margin) in these activities. Since differences across rural and urban areas were not statistically different, only means for the total sample are presented.<sup>19</sup>

Table 1 shows that women spend significantly more time, on average, than men in domestic activities and childcare (among those reporting time in these activities): 86 minutes/day in cooking, compared to 62 minutes/day for men; 66 minutes/day in cleaning, compared to 50 minutes/day for men; and 218 minutes/day in childcare, compared to 121 minutes/day for men. Time allocated to childcare, in particular, reveals wider gender gaps compared to other activities. These differences persist when including those who spend zero time as well (Table 2). Gender differences are particularly stark in overall participation in unpaid work—91 percent of women reported unpaid domestic work at any time in the last 24 hours, compared to 48 percent of men, and 36 percent of women reported spending time in childcare, compared to 17 percent of men. Men spend greater time, on the other hand, in labor activities such as farming and livestock, and the collection of firewood. Men also spent greater time commuting, as well as roughly 20 minutes more per day on average in leisure overall (Table 2). Men are more likely than women to report time in wage work as well (33 percent of men, compared to 21 percent of women), although among those reporting time in any off-farm (wage or non-farm enterprise) work, gender differences in time spent are not significantly different.

---

<sup>18</sup> Not all respondents reported each of these activity categories, as reflected by the variation in observations.

<sup>19</sup> Results available upon request.

**Table 1. Minutes spent in the last 24 hours (main activity), among those reporting nonzero time in each category**

Activity categories:	Among those reporting nonzero time:			
	Women		Men	
	Obs.	Minutes	Obs.	Minutes
(1) Unpaid work				
(1a) Domestic				
Buy food or other items	420	41.1	60	42.2
Cook, prepare food/drink	1492	86.0***	189	61.9***
Clean the house, wash/iron	1242	66.0***	422	50.0***
Household maintenance, improvements	32	113.6	37	189.7
Paying bills, planning household finances	22	58.5	21	58.3
(1b) Water and fuel collection				
Collecting firewood	284	57.3**	152	72.6**
Water collection	39	47.2	41	42.7
(1c) Childcare (for children <17 years)	714	218.2***	283	121.0***
(1d) Elderly care	59	110.6	19	69.4
(2) Off-farm and/or agricultural work <sup>(2)</sup>				
(2a) Wage	432	473.4	605	476.6
(2b) Non-farm enterprise (NFE)	427	426.9	361	410.6
(2c) Agriculture				
Farming	410	236.0***	477	268.9***
Livestock	467	75.9***	448	102.5***
Fishing	46	150.6	147	215.3
Hunting/gathering food	6	109.9	8	111.3
(2d) Making goods (furniture, pottery, baskets, clothing)	38	86.1	5	118.6
(2e) Work for other households for free: exchange labor	33	169.0	33	183.3
(3) Leisure				
Personal care	1822	47.7**	1539	49.5**
Watching TV/listening to radio/reading	980	139.1*	871	147.0*
Exercising	105	54.8	168	60.7
Social or religious activities, hobbies	419	160.1	373	165.4
(4) Traveling and commuting	1117	73.1***	1104	86.4***
(5) School and homework	220	82.0	66	114.9
(6) Sleeping/resting	1976	658.3	1647	657.9
(7) Eating/drinking	1960	75.9	1637	76.3
(8) Other	197	196.2	150	205.7

**Notes:**

(1) Sample includes men and women self-reporting in the LSMS+ time diary module, aged 18 and older. All estimates weighted by household sampling weight.

(2) Significant differences in minutes spent across men and women (separately for full sample and among t>0) are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10

**Table 2. Main activity: share of women and men spending time across categories, and minutes in the last 24 hours**

	Share spending any time (t>0)		Minutes: full sample		Minutes: only those spending any time (t>0)	
	Women (Y/N)	Men (Y/N)	Women	Men	Women	Men
<b>Activity categories:</b>						
(1) Unpaid work	0.91	0.48	209.7***	55.6***	231.2***	116.5***
(1a) Domestic (cook/clean)	0.86	0.34	117.9***	26.2***	136.5***	76.6***
(1b) Water and fuel coll.	0.15	0.11	8.9	7.8	59.4*	72.9*
(1c) Childcare	0.36	0.17	79.4***	20.9***	218.2***	121.0***
(2) Off-farm and/or agr. work <sup>(3)</sup>	0.76	0.89	275.3***	396.0***	363.6***	443.4***
(2a) Wage	0.22	0.37	106.2***	177.6***	473.4	476.6
(2b) NFE	0.22	0.22	93.6	89.0	426.9	410.6
(2c) Agriculture	0.36	0.47	70.4***	124.9***	194.2***	263.2***
(3) Leisure	0.96	0.97	151.2***	171.7***	156.8***	176.2***
(4) Traveling	0.57	0.67	41.6***	57.7***	73.1***	86.4***
(5) School	0.12	0.04	9.6**	5.1**	82.0	114.9
(6) Sleep	1.00	1.00	658.0	658.1	658.3	658.1
(7) Eating/drinking	1.00	1.00	75.1	75.7	75.9	76.3
(8) Other	0.10	0.10	19.4	19.9	196.2	205.7
<b>Number of respondents</b>	<b>1,977</b>	<b>1,648</b>	<b>1,977</b>	<b>1,648</b>		

Notes:

(1) Sample includes men and women self-reporting in the LSMS+ time diary module, aged 18 and older. All estimates weighted by household sampling weight.

(2) Significant differences in minutes spent across men and women (separately for full sample and among t>0) are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10

(3) As seen in Table 1, the time use module also included categories for (a) making goods (furniture, pottery, baskets, clothing), as well as (b) work for other household free of charge as an exchange laborer, but nearly no respondent reported time in these areas.

### 3.2 Labor

Adult individuals are economically active in Cambodia, even women despite having high unpaid work burdens. Table 3 reflects summary statistics as reported in the labor module across agricultural and off-farm activities. The labor module provides employment information as well as the hours worked in the last seven days. Seventy-seven percent of women and 88 percent of men reported being involved in any activity across agricultural and off-farm work, and about 21 percent of women and 27 percent of men reported being involved in more than one activity in the last 7 days (with greater shares in rural areas).<sup>20</sup> Roughly equal shares of men and women (about 45 percent) reported being involved in agriculture; about 16 percent of men and 18 percent of women reported themselves as owners/managers of NFEs; but there were wider gender gaps in wage employment (44 percent of men and 26 percent of women).

<sup>20</sup> Among those in multiple areas of work, the most common combinations were respondents involved in either NFE or wage work along with agriculture (Hasanbasri et al., 2021b).

Among those working, average hours worked in the last 7 days, as reported in the labor module, are also high.<sup>21</sup> Men and women NFE owners/managers worked about 50 hours in the last 7 days, with women working slightly greater hours than men, particularly in rural areas. Within wage work, men and women also worked similar hours (about 47 hours) in the last week. And within agriculture, women worked about 16 hours in the last week, compared to 21 hours for men. On average, across all activities, women worked about 39 hours in the last week, and 45 hours for men, with greater total hours worked in urban areas. Despite long workweeks, however, women's share of total annual household off-farm earnings was significantly less than men's, reflecting important disparities in how women's time is valued. Among those who were working in any off-farm activity, women's share of household earnings was about 44 percent, on average, compared to 51 percent for men — with wider gender gaps in urban areas.<sup>22</sup>

**Table 3. Labor market activities of men and women**

	Total		Urban		Rural	
	Men	Women	Men	Women	Men	Women
<b>Participation (Y=1, N=0)<sup>(2)</sup></b>						
Any activity (across agr. and off-farm work)	0.88***	0.77***	0.86***	0.74***	0.88***	0.78***
Among those working: more than one activity (Y=1, N=0)	0.27***	0.21***	0.18**	0.13**	0.30***	0.23***
Specific activities:						
(A) Any agricultural activity (crops/livestock/fishing)	0.46*	0.43*	0.21**	0.17**	0.55	0.53
(B) Off-farm: owner/manager of NFE	0.16*	0.18*	0.27	0.29	0.12**	0.14**
(C) Off-farm: supporting work in NFE	0.07	0.07	0.11	0.10	0.06	0.05
(D) Off-farm: wage employment	0.44***	0.26***	0.44***	0.28***	0.44***	0.25***
<b>Among those working: hours in the last 7 days</b>						
Agriculture	20.9***	15.5***	22.1***	15.1***	20.7***	15.6***
NFE owner	46.5**	50.1**	52.2	52.8	41.6***	48.2***
NFE supporting work	27.0	29.0	33.6	29.8	22.7	28.4
Main wage employment	46.9	46.7	48.0	48.1	46.5	46.2
Across all activities (all)	45.3***	38.7***	50.5**	46.3**	43.4***	36.1***
Across all activities (just those in multiple activities)	56.2	56.9	64.7	66.5	54.3	55.0
<b>Among those in off-farm (NFE and wage) work: annual earnings</b>						
Share of individual earnings/total HH earned income	0.51***	0.44***	0.48***	0.38***	0.53***	0.47***
<b>Total Observations</b>	<b>1,845</b>	<b>2,093</b>	<b>573</b>	<b>655</b>	<b>1,272</b>	<b>1,438</b>

**Notes:**

(1) Sample includes men and women reporting in the LSMS+ labor module, aged 18 and older. All estimates are weighted using the household sampling weight. Statistically significant differences between men and women are indicated by asterisks (\*\*p<0.01, \*\*\*p<0.05, \* p<0.10).

(2) 442 men respondents and 319 women respondents engaged in more than one activity across (A)-(D).

(3) The results include 188 men and 111 women that reported by proxy.

Figures 1 and 2 shed light on the total work burdens that women with and without an off-farm or agricultural occupation face, compared to men. Figure 1 presents locally weighted regressions of minutes spent in the last 24 hours across unpaid work, agricultural or off-farm work, and leisure by age and occupation as reported in the labor module (NFE work, wage work, agriculture, or not working in these

<sup>21</sup> Average weekly hours worked from the labor module is consistent with average daily hours reported in the time use diary, under the assumption that individuals work similar hours for 5 business days.

<sup>22</sup> Off-farm earnings were calculated by adding annual wage earnings with annual non-farm enterprise earnings collected in the survey.

activities). Figure 1 shows that women, regardless of whether they are in agriculture, off-farm activities, or not in paid work, have a consistently higher burden of unpaid work than men, even when comparing across the same occupation categories.

We also see that unpaid work varies more by occupational group for women than for men, especially by specific age groups. For time spent in childcare, for example, younger women aged 30 or less, and in NFE or agricultural work, spent an average of 75-100 minutes over the last day, compared to about 25 minutes for men in these groups. Among those not in off-farm or agricultural occupations, women spent more than 200 minutes a day, on average, compared to 50 minutes for men. Time spent in domestic activities such as cooking or cleaning also increase with age among those in off-farm or agricultural work, compared to those not in these occupations, where average time spent increases and then falls for older age groups. Unpaid work burdens for men, on the other hand, remain much lower, and relatively flat with age. In addition, Figure 1 shows a general decline in minutes per day spent in agricultural or off-farm activities with age, with a steeper decline in wage and agricultural activities than men. Leisure tends to increase with age for both men and women but is higher for men among younger age groups.

**Figure 1. Time (minutes, last 24 hours) across individuals in different occupation categories**

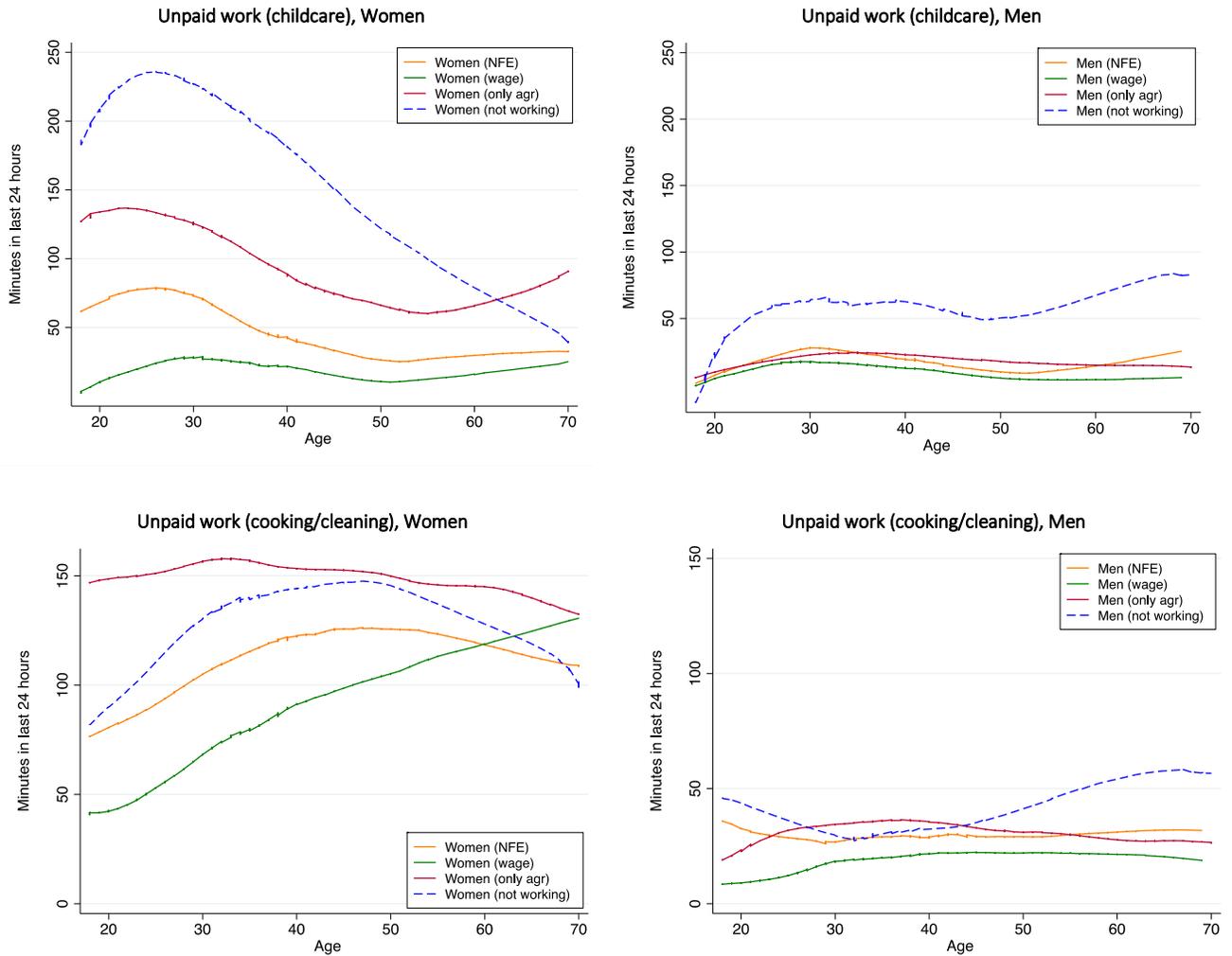
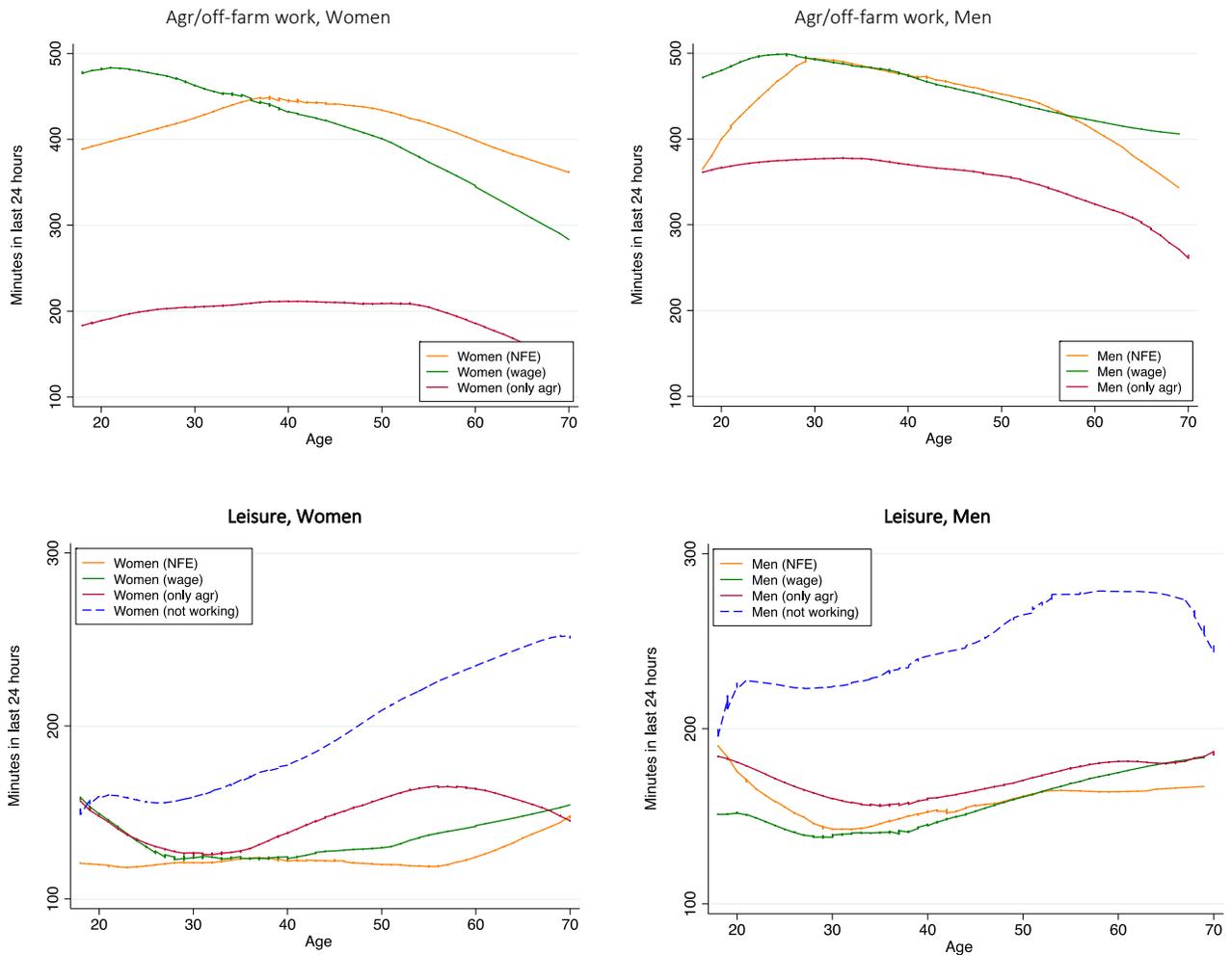


Figure 1 (continued). Time (minutes, last 24 hours) across individuals in different occupation categories



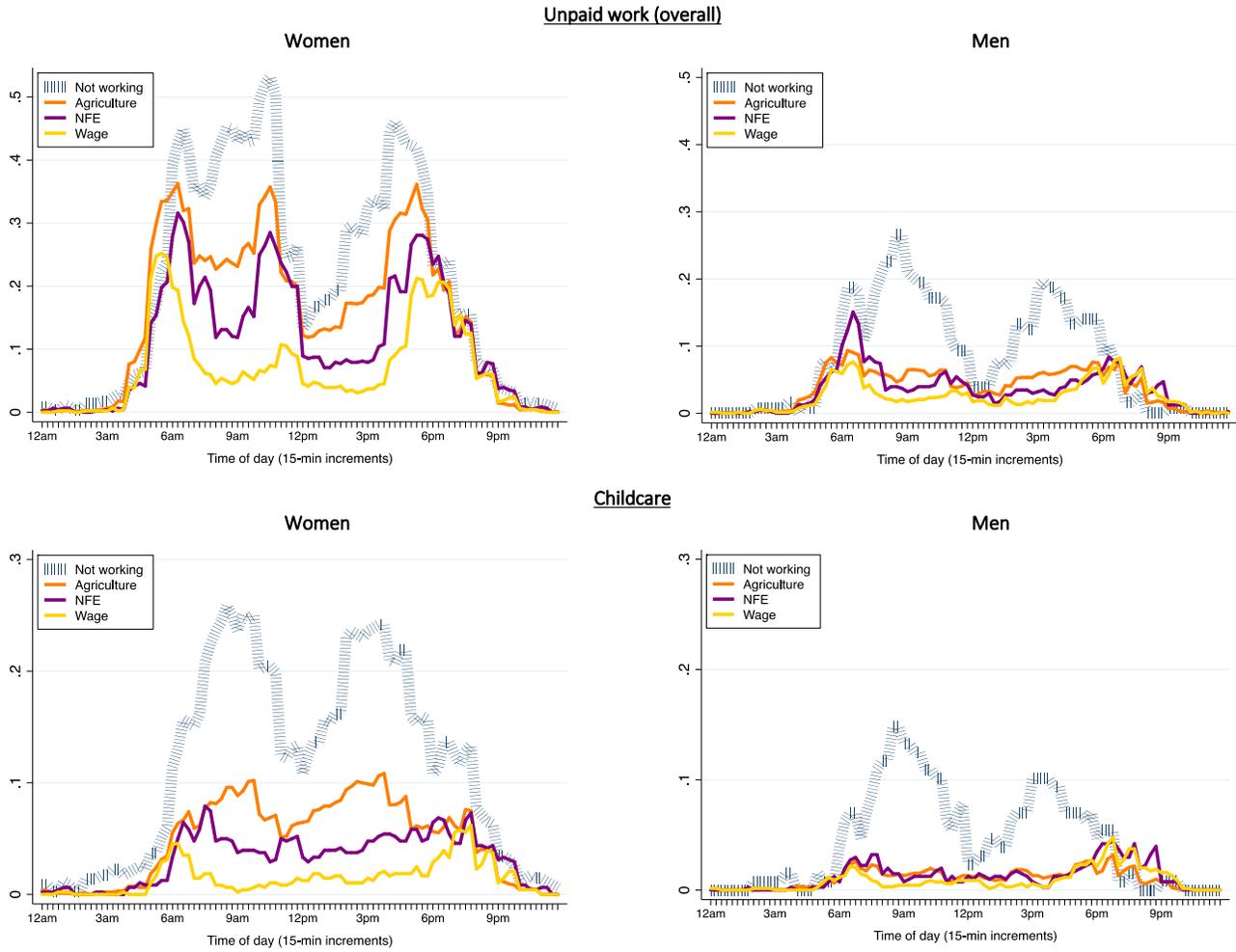
Notes:

(1) Sample includes men and women self-reporting in the time use module, aged 18 and older. Labor categories were taken from reporting in the labor module.

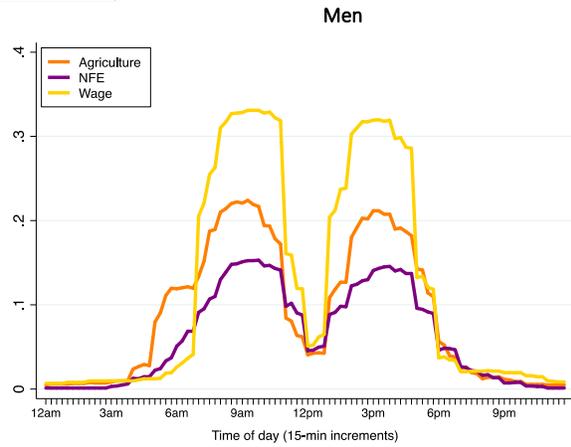
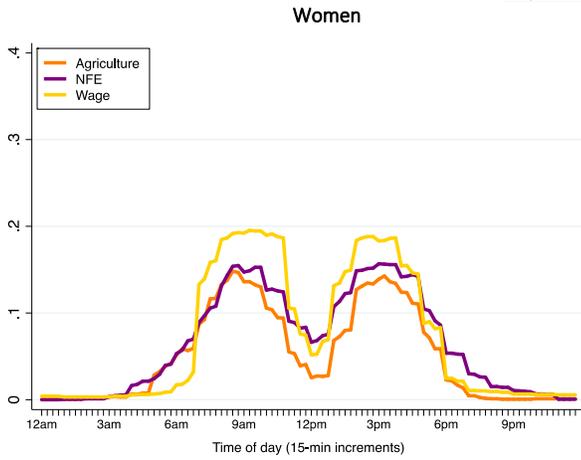
Figure 2 demonstrates the within-day variation in time allocated to unpaid work, childcare, income generating activities leisure, commuting, and leisure.<sup>23</sup> The analysis is presented separately for men and women, and by occupational groups, including those that are not working. We observe a substantially higher incidence of women involved in unpaid activities during working hours, even among those who are working. The incidence of men is greater, on the other hand, in income generating activities during working hours, particularly among wage workers; this incidence also varies much more by type of occupation as compared to women. A greater share of men report leisure time during the morning and evening hours. Roughly equal shares of men and women wage workers spend time in commuting during the morning and evening hours.

<sup>23</sup> The graphs reflected time spent by respondents between Monday-Saturday; time spent on Sunday (a working holiday) was excluded from the graphs to keep the comparison within working days.

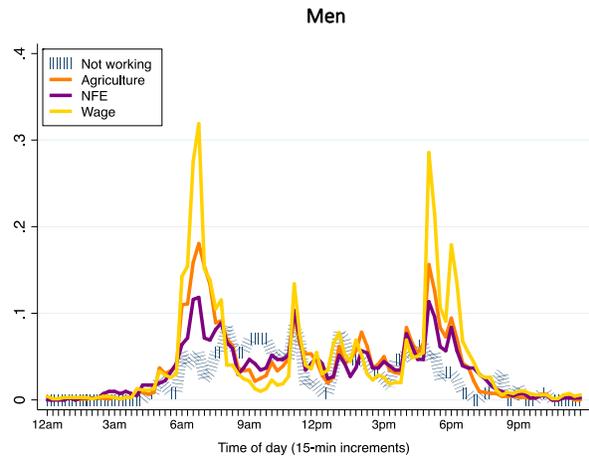
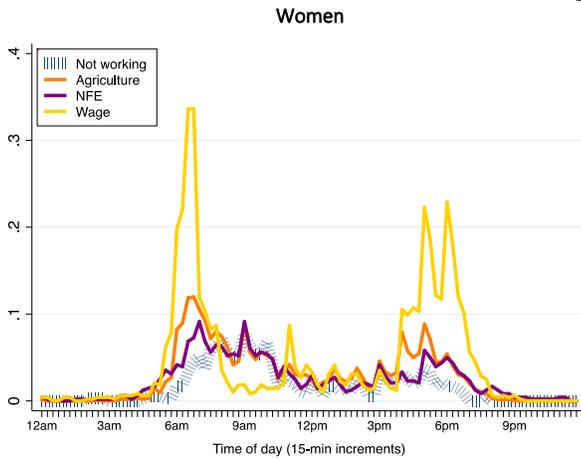
Figure 2. Share of men and women spending time across activities, 15-minute increments, and for different labor categories



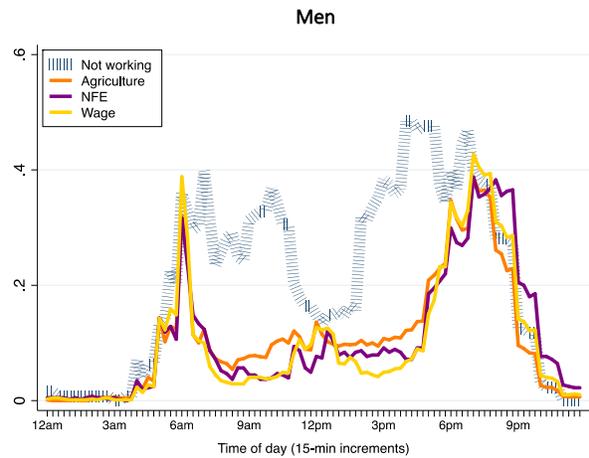
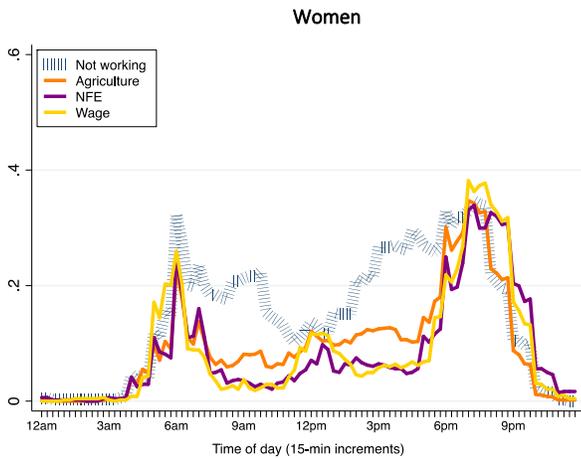
Any off-farm or agricultural activity



Commuting



Leisure



Notes:

- (1) Sample includes men and women self-reporting in the time use module, aged 18 and older. Labor categories were taken from reporting in the labor module.
- (2) The graphs reflected time spent by respondents between Monday-Saturday; time spent on Sunday (a working holiday) was excluded from the graphs to keep the comparison within working days.

### 3.3 Asset ownership among men and women in different occupations

Across men and women in these occupation categories, Table 4 presents the ownership distribution of different types of assets covered in the Cambodia LSMS+, including across exclusive versus joint ownership.<sup>24</sup> Ownership of assets in general varies widely, by class, and women were in general less likely than men to own assets like mobile phones, financial accounts, and motorized vehicles. Mobile phones were owned by 91 percent of men and 77 percent of women, for example, with the widest gender gaps among those not working in any sector. Within these groups, a slightly higher share (47 percent of men and 40 percent of women) owned mobile phones exclusively, although joint ownership of these devices was also substantial. Motorized vehicles were owned by 68 percent of men and 53 percent of women, and only 14 and 12 percent of men and women, respectively, owned a financial account.

Table 4 also shows that respondents who own an NFE are more likely than other groups to have a motorized vehicle, financial accounts and a mobile phone, although women continue to be less likely than men to own these assets. On the other hand, women were significantly more likely than men to own livestock, residential land, as well as (among off-farm workers, and in particular, in wage work) non-residential land. For all assets except for mobile phones, gender differences in ownership tend to be driven by differences in exclusive, as opposed to joint, ownership.

Figure 3 presents, by age and gender, respondents' self-reported valuation of these assets in Cambodian Riel. For all assets, other than financial accounts, respondents were asked "If you were to sell <THIS ASSET> today, how much would you receive for it?" For financial accounts, respondents were asked about the current value of the account. For assets that were jointly owned, the value of the asset owned by the respondent was calculated by dividing the self-reported asset value by the number of reported joint owners. In general, Figure 3 underscores many of the key gender differences observed in ownership. The value of mobile phones and motorized vehicles owned by women tends to be significantly lower than those owned by men. And this holds true across most age groups. For financial accounts, younger women tend to have higher asset values, but this trend reverses among men and women aged 40 and older. For land and livestock, asset values are also similar among younger age groups, but wider gender disparities emerge among older respondents.

---

<sup>24</sup> Exclusive/joint ownership of motorized vehicles was not asked in the survey. In the case of financial accounts, the exclusive/joint distinction was asked, but nearly all respondents reported exclusive ownership.

Table 4. Share of men and women reporting ownership of different assets

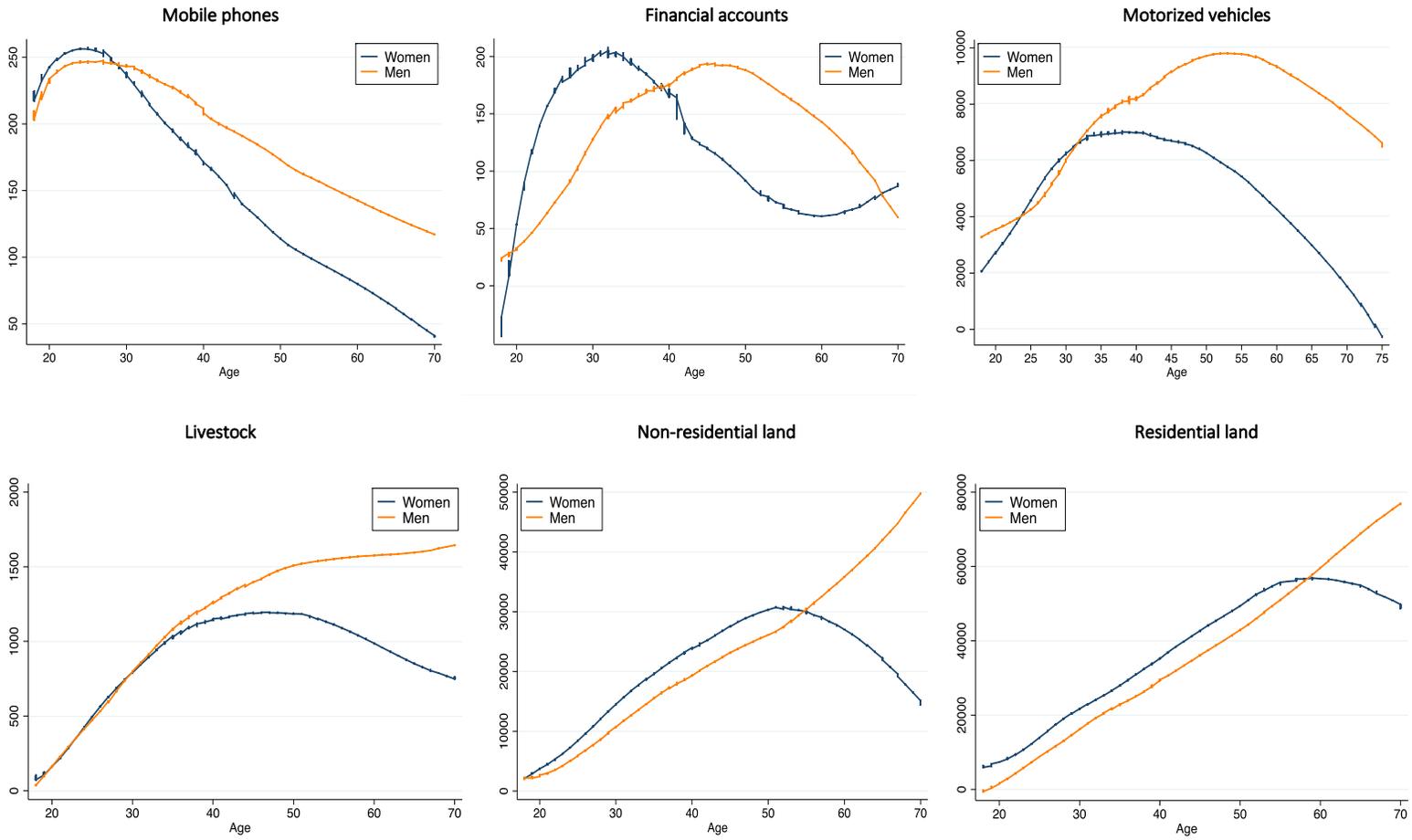
	By work status											
	Full sample		Not working in any sector		Agriculture		NFE (own)		NFE (support)		Wage	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
<b>(A) Mobile phone</b>	0.91***	0.77***	0.83***	0.67***	0.86***	0.73***	0.98***	0.89***	0.93	0.80	0.93***	0.85***
<b>Exclusive</b>	0.47***	0.40***	0.53***	0.37***	0.31*	0.25*	0.62	0.56	0.61	0.47	0.57	0.56
<b>Joint</b>	0.44***	0.37***	0.31	0.31	0.55**	0.48**	0.36	0.34	0.32	0.33	0.35*	0.29*
<b>(B) Financial account</b>	0.14**	0.12**	0.07	0.07	0.06	0.05	0.28**	0.17**	0.19***	0.04***	0.23	0.26
<b>(C) Motorized vehicle</b>	0.68***	0.53***	0.44	0.37	0.69***	0.58***	0.93***	0.70***	0.64	0.60	0.57***	0.46***
<b>(D) Livestock</b>	0.39***	0.42***	0.16	0.18	0.68***	0.76***	0.11*	0.18*	0.17	0.06	0.13	0.14
<b>Exclusive</b>	0.16***	0.21***	0.08	0.09	0.26***	0.35***	0.06	0.08	0.01	0.02	0.06	0.04
<b>Joint</b>	0.23	0.23	0.09	0.09	0.44	0.45	0.06	0.10	0.16*	0.04*	0.08	0.10
<b>(E) Non-residential land</b>	0.56	0.57	0.44	0.42	0.76	0.75	0.44	0.44	0.42*	0.62*	0.33**	0.40**
<b>Exclusive</b>	0.17	0.18	0.18	0.15	0.16	0.17	0.12	0.12	0.17	0.24	0.16**	0.22**
<b>Joint</b>	0.39	0.38	0.26	0.26	0.60	0.59	0.32	0.32	0.25	0.38	0.18	0.18
<b>(F) Residential land</b>	0.75***	0.78***	0.67	0.72	0.86	0.89	0.66*	0.76*	0.77	0.63	0.33	0.40
<b>Exclusive</b>	0.19***	0.22***	0.21	0.25	0.16	0.17	0.13**	0.20**	0.29	0.25	0.16*	0.22*
<b>Joint</b>	0.55	0.55	0.46	0.47	0.71	0.72	0.54	0.57	0.47	0.39	0.18	0.18
<b>Observations</b>	1,845	2,093	228	501	472	635	167	227	46	51	486	359

Notes:

(1) Sample includes men and women self-reporting in the assets module, aged 18 and older. Labor categories were taken from reporting in the labor module.

(2) All estimates are weighted using the household sampling weight. Statistically significant differences between men and women within each category are indicated by asterisks (\*\*p<0.01, \*\*\*p<0.05, \* p<0.10).

Figure 3. Self-reported value of men's and women's assets, Cambodian Riel (1000s), by age



Notes:

(1) Sample includes men and women self-reporting in the time use module, aged 18 and older.

## 4. Empirical analysis

In this section, we examine how the different classes of asset ownership discussed above are associated with men’s and women’s time use, controlling for other individual, household, and geographic factors that can be associated with socioeconomic status and time allocation. While the data are not set up to allow for an understanding of causal effects, the individual-level data collection and self-reporting — as well as additional robustness checks in the analysis — allow for a clearer understanding of the relative associations of these variables with individuals’ time use.

The analysis focuses on key areas of time allocation that individuals are engaged in throughout the day and that specifically relate to tradeoffs in engagement across domestic work, economic opportunities, and individual leisure, as reflected in Table 2. We examine minutes in the last 24 hours spent in (a) unpaid domestic work (cooking and cleaning; excluding childcare); (b) childcare; (c) economic activity in off-farm (wage or NFE) or agricultural work; and (d) leisure.<sup>25</sup> Two main OLS specifications are estimated to better understand the associations of different socioeconomic and demographic variables with time use measures. The standard errors are clustered at the EA-level.

The first specification or model (A) is presented in equation (1a):

$$y_{ijk} = \alpha + \beta_1 R_{ijk}^A + \beta_2 R_{ijk}^O + \gamma H_{jk} + \varphi_1 I_{jk} + \varphi_2 E_{jk} + \delta D_k + \varepsilon_{ijk} \quad (1a)$$

where  $y_{ijk}$  is time in minutes spent in a specific category for individual  $i$  in household  $j$  and district  $k$ .  $R_{ijk}^A$  is a vector reflecting individuals’ ownership of different assets.  $R_{ijk}^O$  reflects a range of individual attributes that are common proxies of socioeconomic status, including age, headship, employment, earnings, and marital status (Table 5).  $H_{jk}$  is a vector of household characteristics;  $I_{jk}$  and  $E_{jk}$  are the fixed effects for interview date and enumerators, respectively;  $D_k$  represents district fixed effects; and  $\varepsilon_{ijk}$  is the error term.

The second specification or model (B) is presented in eq. (1b), which controls for individual-level variables along with household fixed effects  $G_j$ , to try to account for unobserved household-level heterogeneity that may otherwise jointly determine asset ownership and time use:

$$y_{ijk} = \pi + \theta_1 R_{ijk}^A + \theta_2 R_{ijk}^O + \sigma G_j + \tau_{ijk} \quad (1b)$$

Given the links observed earlier on how the relationship between time use and asset ownership is sensitive to individuals’ occupation status, we expand models (A) and (B) by interacting indicators of asset ownership with a set of dummies  $R_{ijk}^L$  on whether respondents are working in agriculture, off-farm work, or not working in either sector. These additional regressions are reflected in equations (2a) and (2b) below:

(2a)

---

<sup>25</sup> In earlier analysis, we also examined effects on traveling and sleep. However, given a key focus on the paper on the links between unpaid and paid work, we focus here on active roles individuals are involved in during the day, and that clearly distinguishable in terms of the work or end product/result. While the links between traveling and motorized vehicle ownership are conceptually clear, for example, we were more interested in this case with how vehicle ownership is linked with engagement in economic opportunities vis-à-vis other distinguishable activities across domestic and leisure time, to better understand the channels where possible.

$$y_{ijk} = \tilde{\alpha} + \tilde{\beta}_1 R_{ijk}^A + \tilde{\beta}_2 R_{ijk}^O + \tilde{\beta}_3 (R_{ijk}^A * R_{ijk}^L) + \tilde{\gamma} H_{jk} + \tilde{\varphi}_1 I_{jk} + \tilde{\varphi}_2 E_{jk} + \tilde{\delta} D_k + \tilde{\varepsilon}_{ijk} \quad (2a)$$

$$y_{ijk} = \tilde{\pi} + \tilde{\theta}_1 R_{ijk}^A + \tilde{\theta}_2 R_{ijk}^O + \tilde{\theta}_3 (R_{ijk}^A * R_{ijk}^L) + \tilde{\sigma} G_j + \tilde{\tau}_{ijk} \quad (2b)$$

As a preview, we see that the effects of most variables are similar across specifications (A) and (B), although the associations of specific labor and assets variables do strengthen under the household fixed effects approach, particularly when examining effects by individual occupation status. While we continue to present the results from the two specifications, we focus on the discussion of findings from equations (1b) and (2b), which inspires more confidence in our ability to capturing unobserved omitted variables that may otherwise obscure our findings.<sup>26</sup>

In later stages of the analysis, to better understand the channels at work, we also examine how nuances of asset ownership — rights to sell/bequeath land or respondents' valuation of the assets they own — also affect time use. The aim, through these different levels of analysis and robustness checks, is to understand more clearly how gender and asset ownership are linked with time use and provide initial directions as to what channels may be at play — particularly among different types of workers — that could be explored in further methodological survey work. Table 5 shows the descriptive statistics for the individual- and household-level covariates included in the analysis, separately for men and women. Seventy-three percent of the sample is in rural areas. While 80 percent have access to electricity, only about a quarter of men and women live in residences with piped water and concrete construction. We see many significant differences across men and women. Women are much less likely to be household heads, and a significantly greater share of women are in the oldest (55+) age category as well as widows. On average, men spend a greater number of months away from the household and have more years of schooling.

---

<sup>26</sup> In the sample, 92 percent of households had more than one member (51 percent had two members, 21 percent had three members, and 20 percent had more than three members).

**Table 5. Averages for explanatory variables, by gender**

	Men (1)	Women (2)
<b><u>Respondent characteristics</u></b>		
HH head	0.64***	0.15***
Age: 18-24	0.23	0.22
Age: 25-34	0.15*	0.13*
Age: 35-44	0.26**	0.24**
Age: 45-54	0.14	0.15
Age: 55+	0.21***	0.26***
Years of schooling	6.54***	4.76***
Worked/ran NFE in last 7 days	0.21	0.22
Worked for wage in last 7 days	0.44***	0.26***
Worked in agr. in last 7 days	0.46*	0.43*
Worked in off-farm (NFE or wage work)*share of household annual off-farm earnings	0.37***	0.25***
Married/non-formal union	0.78***	0.69***
Separated/divorced	0.01***	0.04***
Widowed	0.03***	0.15***
Months member is away	0.72***	0.38***
<b><u>Respondent's children and composition of other HH members</u></b>		
# Boys aged 0-5	0.18***	0.16***
# Boys aged 6-15	0.28***	0.27***
# Boys aged 16+	0.20***	0.23***
# Girls aged 0-5	0.17***	0.16***
# Girls aged 6-15	0.30***	0.29***
# Girls aged 16+	0.24***	0.30***
# other HH members: 65+	0.22***	0.25***
# other HH members: men, 31-64	0.30***	0.78***
# other HH members: women, 31-64	0.92***	0.36***
<b><u>HH characteristics</u></b>		
Rural area (Y=1 N=0)	0.73	0.73
Log of HH size	1.49***	1.45***
HH has electricity	0.85	0.86
HH has piped water	0.26	0.27
Concrete or brick construction	0.26	0.26
<b><u>Respondent's asset ownership</u></b>		
Mobile phone (exclusively owned)	0.47***	0.40***
Mobile phone (jointly owned)	0.44***	0.37***
Financial account	0.14**	0.12**
Motorized vehicle	0.68***	0.53***
Livestock (exclusively owned)	0.16***	0.21***
Livestock (jointly owned)	0.23	0.23
Residential land (reported, exclusively)	0.19**	0.22**
Residential land (reported, joint)	0.55	0.55
Non-residential land (reported, exclusively)	0.17	0.18
Non-residential land (reported, joint)	0.39	0.38
Observations	1,845	2,093

Notes:(1) Estimates weighted by household sampling weight. Significant gender differences are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 .  
(2) Additional fixed effects for district, interview date, and enumerator were included (specification (A)).

## 5. Results

Table 6 presents the selected results from the estimations of equations 1a and 1b, specifically the coefficients for the dichotomous variable that identifies females. In general, the coefficient estimates are not very different across specifications (A) and (B), with some exceptions across occupational categories due, perhaps, to sample size issues. The household fixed effects estimates in specification (B), for example, are somewhat higher than specification (A) for childcare, while the opposite is true concerning domestic (cooking/cleaning) activities, with smaller differences for wage workers.

Apart from the large gender inequalities in time allocation across unpaid, paid, and leisure activities, Table 6 underscores the importance of examining effects by occupation status. We find greater gender inequalities among workers in agriculture and those who are not working. Within agriculture, looking at specification (B), women spend about 78 minutes more in domestic work, and 82 minutes less in work for an income; about 58 minutes more in childcare, as well as about 20 minutes less in leisure time.

Among those that are not working, women spend around an hour and a half less in leisure time per day, and nearly two hours more in childcare. The estimates highlight the importance of differentiating time allocation to unpaid cooking and cleaning versus unpaid childcare. There are larger gender gaps in time allocated to childcare among those that are not working versus larger gender gaps in time allocated to cooking and cleaning among those that are involved in some economic activity. Among off-farm workers, gender differences in unpaid domestic work are higher for those in non-farm enterprises, as well as among those just in supporting roles for childcare activity. Gender gaps are somewhat less, but still substantial, among wage workers, but within this group there are significant gender inequalities in activities for an income as well as leisure.

**Table 6. OLS regressions, and association of gender on time use: full sample and by occupation status**

Coefficients on female dummy variable (female = 1) on minutes spent in the last 24 hours:

	(1) Unpaid: domestic work (cooking/cleaning)			(2) Unpaid: childcare			(3) Off-farm or agr. work			(4) Leisure			Number of indiv.	Number of HH
	Coeff.	T-stat	R-sq.	Coeff.	T-stat	R-sq.	Coeff.	T-stat	R-sq.	Coeff.	T-stat	R-sq.		
<b>Full sample</b>														
Model A	67.5***	[12.69]	0.45	41.2***	[6.60]	0.32	-52.6***	[-4.84]	0.54	-33.2***	[-6.13]	0.45	3,382	1,381
Model B: HH FE	55.1***	[7.53]	0.46	47.4***	[5.77]	0.20	-32.8***	[-2.78]	0.46	-25.6***	[-3.73]	0.14	3,382	1,381
<b>Sub-samples by occupation (from labor module):</b>														
<b>Non-farm enterprise (own/manage)</b>														
Model A	69.6***	[6.59]	0.55	10	[1.17]	0.46	-28.2	[-1.23]	0.52	-18.6*	[-1.73]	0.59	820	471
Model B: HH FE	65.3***	[4.29]	0.48	16.7	[1.63]	0.18	-32.8	[-1.00]	0.22	-5.4	[-0.42]	0.16	820	471
<b>Non-farm enterprise (supporting)</b>														
Model A	68.8***	[7.02]	0.57	24.4**	[2.18]	0.50	-24.4	[-1.03]	0.53	-17	[-1.51]	0.61	816	454
Model B: HH FE	58.7***	[4.78]	0.49	39.5**	[2.52]	0.19	-41.4	[-1.40]	0.30	-8.6	[-0.63]	0.17	816	454
<b>Wage</b>														
Model A	43.7***	[8.15]	0.50	12.4***	[3.05]	0.43	-35.5**	[-2.10]	0.41	-23.6***	[-2.92]	0.57	1,111	733
Model B: HH FE	42.0***	[5.62]	0.44	16.7***	[2.86]	0.18	-21.8	[-1.08]	0.07	-15.1*	[-1.76]	0.07	1,111	733
<b>Agriculture</b>														
Model A	85.6***	[11.88]	0.56	43.8***	[4.87]	0.33	-91.4***	[-5.19]	0.48	-22.4***	[-2.63]	0.49	1,745	913
Model B: HH FE	77.8***	[9.34]	0.57	58.1***	[5.34]	0.19	-82.4***	[-4.47]	0.38	-19.2*	[-1.94]	0.07	1,745	913
<b>Not working in either sector</b>														
Model A	65.5**	[1.98]	0.66	81.4**	[2.00]	0.78	-	-	-	-95.8**	[-2.51]	0.81	426	331
Model B: HH FE	34.7	[0.82]	0.49	110.4***	[2.79]	0.68	-	-	-	-92.7***	[-2.89]	0.59	426	331

Notes: (1) Separate regressions were run with time use categories (1), (2), (3) and (4) as the dependent variable, and for each time use category, OLS regressions with and without household fixed effects. Model A, discussed above, is OLS including individual household, district, and interview controls. Model B includes household fixed effects, as well as individual controls. (2) All estimates weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10

Tables 7 and 8 present the results from the estimations of equations 1a and 1b separately for women and men, respectively, across the same time use categories reported in Table 6. The findings across equations 1a and 1b are overall consistent. In Tables 7 and 9, we see that labor force participation, as opposed to staying at home, has the largest association with time use. For off-farm (wage or NFE) work, the negative association with unpaid work is particularly large. Looking at the household fixed effects estimates for women (Table 7), working in an NFE is associated with roughly 50 minutes less time spent in childcare; for wage workers, the decline is nearly 120 minutes. For women agricultural workers, however, the household fixed effects estimates do not show a significant association with unpaid work. The more muted association of agricultural work, compared to off-farm work, with time use is consistent with other findings discussed in this section. In general, we also find that labor participation has a much stronger association with women's time use as opposed to men's — for example, larger negative effects of off-farm work on unpaid domestic and childcare; and greater effects on off-farm and agricultural activity. The coefficients on other variables are also larger for women as compared to men, including significant negative effects of having a larger share of annual earned income in off-farm activities on unpaid work, particularly domestic (cooking and cleaning) activity; a negative effect of being in an older age group on unpaid work, an increase in domestic work from having other elderly household members, as well as greater increases in unpaid

work from having young children (and, in particular, having boys aged 0-5), as well as children aged 16 and older, relative to having no children.

On assets, we find important differences in how different asset classes are associated with time use and how associations differ for women versus men. Financial account ownership, for example, is associated with a reduction in unpaid domestic work for women. There is a positive association of financial account ownership on women's childcare (household fixed effects results), although as we discuss later on, these effects vary across occupational groups. Ownership of a motorized vehicle is associated with (i) less time in unpaid work for men and women (about 30 minutes less in unpaid work for women, and 20 minutes less for men), and (ii) greater time in off-farm/agricultural activities (looking at the household fixed effects estimates, about 33 minutes for women, and about 83 minutes for men) — potentially by easing access to markets and places of work. For men, joint ownership of residential land is associated with less unpaid domestic work as well. We also see that women's, but not men's, leisure time is negatively associated with ownership of motorized vehicles as well as joint ownership of mobile phones — reflecting important gender differences again in how responsive different dimensions of women's time use may be, relative to men. Another important finding is that while lower time in childcare is associated with specific assets for men (mobile phone and vehicle ownership), all of the declines in unpaid work for women are through unpaid domestic work as opposed to childcare. We therefore see distinct differences in the sensitivity of men's and women's time in areas such as leisure and childcare. Women, in particular, appear to be more likely to shift their time away from leisure, and men away from childcare.

**Table 7. Women: OLS regressions on time use (minutes in last 24 hours)**

	(A) OLS: individual and household controls, along w/ district, interviewer and interview date FE)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)
<b>Respondent characteristics</b>								
HH head	14	9.8	3.3	-25.7*	7.6	-21.1	20.5	-27
Age: 18-24 <sup>(2)</sup>	-15.4	11	-19	-3.8	-32	-55.5*	-27.3	22.9
Age: 25-34 <sup>(2)</sup>	-5.5	3.8	-14.2	-2.4	-31.6*	-32.7	-5.5	18.7
Age: 45-54 <sup>(2)</sup>	-11.5	4.7	-2.4	1.6	-63.3***	0.7	40.7	-6
Age: 55+ <sup>(2)</sup>	-21.5**	-1.3	-48.3***	15.6	-52.7***	-24	24.6	13.7
Years of schooling	0.5	0.9	-0.3	0.4	0.7	-0.9	-2.8	1.2
Worked in off-farm (NFE or wage work)*share of household annual off-farm earnings	-40.1***	-34.2**	107.7***	-20.7**	-58.5***	-19.6	112.6***	-30.4
Worked/ran NFE in last 7 days <sup>(3)</sup>	-20.3***	-65.8***	279.4***	-53.3***	10.4	-49.1**	233.6***	-30.1
Worked for wage in last 7 days <sup>(3)</sup>	-34.8***	-82.0***	275.4***	-37.1***	-48.2***	-117.9***	307.8***	-12.4
Worked in agr. in last 7 days <sup>(3)</sup>	11.6**	-43.5***	97.4***	-14.0*	11.6	-29.3	111.0***	-10
Married/non-formal union	19.4**	38.8***	-25.1	-0.7	13.5	21.5	-6.9	-5.7
Separated/divorced	-15.9	72.6***	-36.2	27.9	-19.4	47.2	-33	25.6
Widowed	-17.4*	25.1	-20.6	46.1**	-18.9	12.9	-22.9	38.5*
Months member is away	4.6*	-10.4***	-9.1*	0.6	8.7***	-8.7**	-19.9**	0.1
<b>Respondent's children and composition of other HH members</b>								
# Boys aged 0-5	-11.4**	94.0***	-30.4***	-24.1***	-27.5**	116.7***	-34.5*	-4.8
# Boys aged 6-15	8.1*	-21.1***	2.1	-2.1	-2	-24.8	-10	6.4
# Boys aged 16+	12.5**	-25.4***	9.2	4.8	15.4*	-20.6	1.7	-2
# Girls aged 0-5	-2.2	65.2***	-16.9	-13.2	0.1	34.7	-11.2	20.8
# Girls aged 6-15	-3.5	-7.4	11.5	0	-10.2	4.5	30.0**	-14.2
# Girls aged 16+	0.7	-13.6*	3.6	6.3	23.2***	-14.7	-23.7	7.6
# other HH members: 65+	3.8	-31.8***	-0.6	11.3	52.2**	18.6	84.4	-43
# other HH members: men, 31-64	-3.5	-18.2**	18.7*	7.9				
# other HH members: women, 31-64	-22.8***	-24.0**	13.4	16.0**	-9.3	29.9	53.5	-21.9
<b>HH characteristics</b>								
Rural area (Y=1 N=0)	-1.8	16	-9.1	3.1				
Log of HH size	-17.0*	90.4***	-16.3	-38.4***				
HH has electricity	20.1***	13.7	-0.3	6.3				
HH has piped water	-2.6	-17.7	-15	12.9				
Concrete or brick construction	9.5	0	-12.5	15.7**				
<b>Respondent's asset ownership</b>								
Mobile phone (exclusively owned)	-10.6	3.9	7.3	5.2	-9.2	13.4	20.5	-13.5
Mobile phone (jointly owned)	3.2	11.5	12.4	-11.7	13.8	30.2	-26.2	-36.8*
Financial account	-14.9**	-8.3	8.1	10	-30.0*	42.7**	-12.1	-15.5
Motorized vehicle	-6.6	-0.9	20.2*	-2.5	-29.3***	-1.8	33.0*	-36.1***
Livestock (exclusively owned)	-2.5	18.4	14.5	-21.0**	9.5	6.8	5.8	-15.3
Livestock (jointly owned)	-6.8	8	2.9	-9.4	-19.1	-14.3	24.1	4.2
Residential land (reported, exclusively)	-3.7	-21.5	13.7	8.1	-4.5	-6.4	41.1	-7.8
Residential land (reported, joint)	-0.4	-18.4	-0.8	11.9	4.5	12	-11	17.7
Non-residential land (reported, exclusively)	-0.8	5.4	6.6	-15.1*	-5.2	85.4*	-24.9	-27.6
Non-residential land (reported, joint)	1.5	-7.1	22.8	-4	-9.9	55.2	44.7	-35.8
Observations	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832
R-squared	0.418	0.453	0.639	0.495	0.328	0.293	0.573	0.263
Number of HHs					1,348	1,348	1,348	1,348

Notes: (1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10. (2) Excluded age category: 35-44. (3) As reported in labor module.

**Table 8. Men: OLS regressions on time use (minutes in last 24 hours)**

	(A) OLS: individual and household controls, along w/ district, interviewer and interview date FE)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)
<b>Respondent characteristics</b>								
HH head	-6.1	-4.2	-20.4	29.4**	-15.3	-0.9	25	17.7
Age: 18-24 <sup>(2)</sup>	12.9*	3.8	-18.9	-13	6.1	19.3	-40.6	13.3
Age: 25-34 <sup>(2)</sup>	8.4	9	0.3	-3.4	-0.9	22.5	19.6	29.4
Age: 45-54 <sup>(2)</sup>	-0.1	1.6	-35.4*	21.3*	2.1	-6.1	-74.7	14.1
Age: 55+ <sup>(2)</sup>	7	11.7**	-81.4***	22.3	-5.9	13.2	26.5	-21.9
Years of schooling	-0.9	-0.8	-0.4	0.6	-1.4	-2	3.3	1.4
Worked in off-farm (NFE or wage work)*share of household annual off-farm earnings	-2.7	7.4	-17.9	3.4	23.5**	8.9	-1.6	0.9
Worked/ran NFE in last 7 days <sup>(3)</sup>	-1.8	-23.6***	209.5***	-52.9***	-13.0*	-15	230.7***	-54.3**
Worked for wage in last 7 days <sup>(3)</sup>	-13.1***	-22.2***	212.7***	-51.0***	-20.2***	-22.3**	259.9***	-33.2*
Worked in agr. in last 7 days <sup>(3)</sup>	-3.8	-9.7**	125.2***	-16.1*	12.7	-21.7**	113.8***	5.3
Married/non-formal union	9.4	16.2*	8.5	-8.7	11.7	14.8	-39.6	-3.5
Separated/divorced	5.9	-10.4	146.2**	-73.6*	-1.5	-10.8	-32.7	14.2
Widowed	26.9	-18	-19.9	26.2	10.6	-26	10.8	30.8
Months member is away	0	-2.1	-4.4	5.1	2.6	-2.1	-5	-1.7
<b>Respondent's children and composition of other HH members</b>								
# Boys aged 0-5	-5.3	21.9***	8.8	-18.7**	-11	35.9**	-12	-11.1
# Boys aged 6-15	3.2	-3.3	1.8	-0.3	-0.1	-6.9	-41.2*	4.8
# Boys aged 16+	0.1	1	15.8	-8.2	5.2	11.2	-39.0**	8.7
# Girls aged 0-5	-3.4	19.9***	-18.2	-10.3	-1.3	3.7	-39.3	-23.8
# Girls aged 6-15	-2.2	3.4	20.6*	-5.1	-4.8	14.5*	82.5***	-5
# Girls aged 16+	1.6	7.2	-20.7*	4.3	12.1*	1.2	-41.7*	21.3
# other HH members: 65+	6.2	-4.6	-18.4	5.4	1.1	15.3	63.9	-46
# other HH members: men, 31-64	-8.6*	1	2.3	15.5	-3.8	-6.6	-21	4.2
# other HH members: women, 31-64	-1.2	-8.3	-9.2	15.9*				
<b>HH characteristics</b>								
Rural area (Y=1 N=0)	-3.2	-1.2	-16.9	17.2				
Log of HH size	-3.4	13.4	10.5	-20.3				
HH has electricity	-2.4	11.7**	1.5	7				
HH has piped water	-3.2	3.4	-2.5	22.7*				
Concrete or brick construction	6.1	-8.2	-16.3	11				
<b>Respondent's asset ownership</b>								
Mobile phone (exclusively owned)	12.6**	-9.9	-7	19.9	17.9**	-32.0*	-18.6	12.2
Mobile phone (jointly owned)	10.7	-9.9	2.6	-12.6	12.3	-26.9*	1.6	-4.6
Financial account	2	7.7	-6.8	20.8*	4	-5.9	-58.1*	-17.5
Motorized vehicle	-2.6	0.7	49.6***	-20.2*	4.4	-19.0**	94.4***	-24.1
Livestock (exclusively owned)	12.3**	-9.4	11	-14.2	-3.1	-1.7	-34.6	-18.7
Livestock (jointly owned)	1.4	-2.1	-11.5	-1.8	9.1	-15	-54.5*	36.4
Residential land (reported, exclusively)	-12.7**	-16.1**	29.6	6.7	-15.5	3.6	14.8	17.7
Residential land (reported, joint)	-7.2	-14.2*	23.9	-7.2	-19.7**	7.6	10.2	24.7
Non-residential land (reported, exclusively)	6.1	6.3	-26.7	4.3	2.5	-25	5.6	-5.6
Non-residential land (reported, joint)	-4	-2	4.8	-6	-4	-34.8	64.3	-20.2
Observations	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
R-squared	0.268	0.297	0.548	0.494	0.12	0.197	0.521	0.153
Number of HHs					1,194	1,194	1,194	1,194

Notes: (1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10. (2) Excluded age category: 35-44. (3) As reported in labor module.

Tables 9 and 10 report the selected results from the estimations of equations 2a and 2b separately for women and men, respectively. Only the coefficients associated with the interactions of occupational groups and asset ownership identifiers are reported.<sup>27</sup> In the interest of brevity, we focus on findings from equation 2b with household fixed effects (i.e. panel B in each table). The conclusions are otherwise qualitatively similar across the different specifications. Overall, the results show that ownership of specific assets has a significant and large association with time use for specific groups (men and women in off-farm work, as well as women who stay at home), and that patterns in time use can vary substantially by the type of asset.

### 5.1. Men and women in off-farm work

A key finding is that among those working for an income, the effects of different types of asset ownership on time use tend to be greatest among those in off-farm activity. For women in off-farm activity (Table 9), ownership of mobile phones, motorized vehicles and financial accounts —all of which can improve access to networks, markets and services — are linked with less time in unpaid domestic work, as well as, for mobile phones and vehicles, greater time in paid work. Looking at Appendix Tables A3-A4, these effects are substantial, relative to other demographic variables we control for, including relative to their share of earnings in the household. For men in off-farm work (Table 10), ownership of motorized vehicles has similar effects, but the association with mobile phones and financial accounts is more limited. The more widespread role of these different assets on women’s time use is interesting, given the substantial gender inequalities in ownership of these specific assets (Table 4).

Furthermore, time use among men and women in off-farm work is more sensitive to land and livestock ownership, and there are opposing effects on time use depending on whether land is non-residential (used primarily for agriculture in the sample) versus residential. Exclusive ownership of non-residential land among men and women in off-farm work, for example, is associated positively with leisure time, less time in paid work, as well as greater time in unpaid domestic work for men. Ownership of residential land, on the other hand, is associated with greater time in paid work among women off-farm workers, along with reductions in leisure, as well as less time in unpaid work among men off-farm workers. Maintenance of non-residential or agricultural land may be one explanation of these effects, if the land is close or adjacent to the respondent’s dwelling, particularly in farming work.

This possibility is revealed in Table 11, which presents the household fixed effects regression coefficients associated with the interaction effects between asset ownership and involvement in both agriculture and off-farm work. We see that the associations between non-residential land ownership and time allocations to unpaid and paid work are strengthened among men and women who are engaged in both off-farm and agricultural work. Livestock ownership among men in off-farm work is also associated with much lower time in paid work but not time use in other areas; this could reflect aspects of more casual economic activities (and, as a result, working hours) within this sector. Table 11 shows that this effect (particularly for exclusive ownership) is maintained among those in agriculture and off-farm work.

Moreover, there are important differences in how men and women trade off their time in other areas with paid work, which may be associated with broader social norms around time allocation. Despite the substantial association of specific assets with reduced unpaid work and greater paid work, for example, women’s time in childcare specifically is largely unaffected, while there are several cases where men’s time in childcare is negatively linked with ownership of assets such as motorized vehicles and residential land. We see similar patterns among women in off-farm work with leisure, where the positive association of

---

<sup>27</sup> The full regression results are presented in Appendix Tables A1-A2.

mobile phone and vehicle ownership on paid work is offset by reductions in leisure, but there are no significant reductions in leisure time for men. This is also the case for residential land, which is associated with less leisure time for women (and greater time in paid work) but a weak negative association with unpaid work (domestic and childcare) for men.

## **5.2. Men and women who are working in agriculture**

Tables 9 and 10 show that there are little or no systematic effects for individuals working in agriculture. The divergence from the off-farm work results indicates that the connection between asset ownership and time use may be substantially related to how individuals by occupation status are able to access and use these assets.

Some nuances to the findings within agriculture are presented in Table 11 and in Table 12, which focuses on the rights to sell/bequeath land instead of just land ownership.<sup>28</sup> Table 11 shows that links between asset ownership and time use exhibit some similar patterns as with the overall off-farm employed sample. However, women and men that are involved in both off-farm work and agriculture (working 44 and 42 hours per week, respectively, in off-farm activities versus 8 and 12 hours per week, respectively, in agriculture) are also expected to be more similar to those that have only off-farm jobs.

Furthermore, Table 12 shows that among women in agriculture, the associations between time use measures and land rights are stronger than the comparable coefficients estimated with the overall land ownership variable. It should be noted that not all landowners possessed rights over their land. Among residential landowners, for example, 17 percent of men and 20 percent of women had exclusive rights to sell or bequeath, and about 54 percent of women and men had joint rights. The remainder of landowners had neither of these rights; these shares were roughly similar for non-residential landowners as well. Table 12 shows, among women in agriculture, a strong positive association of time in paid work with exclusive rights to sell/bequeath residential land, as well as a weak positive association with joint rights over non-residential land. Further exploration would be warranted to understand the causal relationship, and whether the greater link with rights is due to status, and/or that rights more clearly reflect the intensity with which the asset is used for productive work. What the results do highlight, again, is the importance of capturing different dimensions of individual asset ownership and control, including nuances of ownership such as rights, alongside other dimensions of economic activity.

## **5.3. Women who are not working**

The heterogeneity in the association between asset ownership and time use is also reflected among women who are not working. In this group, while financial accounts and motorized vehicles are linked with reductions in time allocated to unpaid (domestic) activities, mobile phone ownership is positively associated with childcare. Joint ownership of residential land is associated with greater time in leisure. Women's leisure time also goes down with ownership of mobile phones, exclusive ownership of livestock, and ownership of vehicles. In general, similar to findings observed with the off-farm work sample, women who own specific non-landed assets appear to have shifted their time away from unpaid domestic work and from leisure, and towards other productive activity (in this case, greater time with children).

---

<sup>28</sup> Nearly all landowners that had exclusive rights to sell also had exclusive rights to bequeath (and similarly for joint rights to sell/bequeath); hence the combination of these rights in construction of the variables in Tables 11-12.

**Table 9. Women: OLS regressions on time use (minutes in last 24 hours), with asset\*work interactions**

	(A) OLS: individual and household controls, along with district, interviewer and interview date fixed effects)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b>Respondent's asset ownership</b>								
<i>Interactions with not working in either agriculture or off-farm work<sup>(2)</sup></i>								
Mobile phone (exclusively owned)	-13.8	54.8**	-	18.5	-0.9	85.8**	-	-22.6
Mobile phone (jointly owned)	-4	90.9***	-	-19.2	17.4	148.9**	-	-66.4*
Financial account	-31.7*	-17.3	-	49	-72.9**	10.9	-	48
Motorized vehicle	6.3	42.7*	-	-31.1**	-31.3*	-3.7	-	-53.8**
Livestock (exclusively owned)	-11	37.5	-	-33	16.6	32.2	-	-58.7*
Livestock (jointly owned)	-49.4***	34.2	-	-15.1	-51.3**	24	-	-7.3
Residential land (reported, exclusively)	-10.4	-29.7	-	12.8	-16.7	4.7	-	-1.2
Residential land (reported, joint)	22.2*	-52.3*	-	62.5***	7.7	29.5	-	71.6**
Non-residential land (reported, exclusively)	4.3	40.6	-	-38.3*	12.7	24.7	-	20.7
Non-residential land (reported, joint)	-9.1	62.3**	-	-10.8	-13.4	-8.6	-	29.4
<i>Interactions with working in agriculture<sup>(2)</sup></i>								
Mobile phone (exclusively owned)	-7.1	-17.6	-27.5	8	1.9	-8.4	8.4	13.5
Mobile phone (jointly owned)	5.7	-15.7	-3.8	8.6	16	-15.2	-38	-32.0*
Financial account	7.2	-17.6	-14.3	11.7	27.4	24.5	-38.1	16.4
Motorized vehicle	-1.1	-3.4	-5.8	2.5	-23.6*	-4	-8.7	1.5
Livestock (exclusively owned)	9.5	19.6	15	-6.5	22.4	23.7	50.3	2.7
Livestock (jointly owned)	7.4	2.8	-13.5	-2.5	-11.2	-7.7	39.6	-3.8
Residential land (reported, exclusively)	-13.7	-18	-23	22.5	1.8	1.4	-114.1	16.6
Residential land (reported, joint)	-23.0**	-16.9	-17.6	8.1	-20.2	25.2	-89.5	0.5
Non-residential land (reported, exclusively)	7.7	-25.9	9.8	0.1	7.4	-15.5	-39.5	17.6
Non-residential land (reported, joint)	11.4	-37.0***	48.6***	4.1	15	-39.8	12.9	10.6
<i>Interactions with being in off-farm work<sup>(2)</sup></i>								
Mobile phone (exclusively owned)	-21.7**	-4.8	87.7***	7.9	-28.4*	-17.8	75.9**	6.6
Mobile phone (jointly owned)	-12.8	0.5	64.0**	-13.9	-12.3	19.7	27.8	9.9
Financial account	-20.1**	-2.3	16.9	1.2	-45.6***	36.7	13.1	-10.5
Motorized vehicle	-16.1**	-15.1	49.8***	10.8	-23.0**	-11.9	56.3**	-30.0**
Livestock (exclusively owned)	-14.8	-23.4	-43.9*	-3.5	-6.8	-42	-61.4	-15
Livestock (jointly owned)	-7.6	-3.9	-18.6	6.3	-6.9	-25.7	-29.8	25.5
Residential land (reported, exclusively)	1.4	-15.9	71.4**	5.3	-6.7	13.4	111.9**	-64.0*
Residential land (reported, joint)	-2.5	-1.3	33.3	6.1	-0.6	33.5	44.4	-52.6
Non-residential land (reported, exclusively)	-11.8	8.8	-27.4	5.5	-1.3	11.5	-76.4**	58.3*
Non-residential land (reported, joint)	1.8	6.1	-35.9	6.4	14.6	-4.7	-29.7	43.9
Observations	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832
R-squared	0.436	0.486	0.655	0.51	0.358	0.346	0.603	0.316
Number of HHs					1,348	1,348	1,348	1,348

Notes: (1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10. (2) As reported in labor module. (3) Full regression results available in Appendix Tables A1-A2.

**Table 10. Men: OLS regressions on time use (minutes in last 24 hours), with asset\*work interactions**

	(A) OLS: individual and household controls, along with district, interviewer and interview date fixed effects)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b>Respondent's asset ownership</b>								
<i>Interactions with working in agriculture<sup>(2)</sup></i>								
Mobile phone (exclusively owned)	22.0***	-8.2	-41.3	12.4	16.4**	-17.1	-34.8	-3
Mobile phone (jointly owned)	16.9**	-16.6	-17.4	-6.1	9.3	-26.4**	-27.1	-2.6
Financial account	4.4	11.4	-39.8	4.6	-16.4*	0.6	-4.3	-25.4
Motorized vehicle	6.6	8.5	15.6	-15.3	12.6*	-5.6	3.7	5.5
Livestock (exclusively owned)	9	11.8	18.6	-33.7**	-13.7	-0.6	50.2*	-23.6
Livestock (jointly owned)	1.1	11.3*	12.5	-12.2	6.9	-8.2	32.8	11.6
Residential land (reported, exclusively)	9.8	-5.6	16.2	-0.6	4.2	-16.9	88.2	76.9*
Residential land (reported, joint)	-4.7	-14.7	16.1	-3.8	6.4	-8	85.3	35
Non-residential land (reported, exclusively)	-17.9*	-9.6	0	4.7	-4.6	-3.5	-96.7*	-13.2
Non-residential land (reported, joint)	-14	-8.3	35.2	-14.3	-5.6	-19.6	22.7	10.6
<i>Interactions with being in off-farm work<sup>(2)</sup></i>								
Mobile phone (exclusively owned)	0.2	-2.2	91.7***	6.3	-6.1	3.6	35.3	19
Mobile phone (jointly owned)	3.4	11.8	60.0**	-4.1	-12.5	13.6	-10.3	15.6
Financial account	4	-0.3	4.4	15.4	11.5	-7.8	-44.7	10.5
Motorized vehicle	-6.7	-22.3***	39.7*	2.7	-15.9*	-50.4***	73.3**	-9.6
Livestock (exclusively owned)	8.7	-10.2	-47.5*	13.8	13.2	16.5	-122.8***	-9.3
Livestock (jointly owned)	3.7	-3.2	-67.5***	21.8	4.6	3.9	-108.4***	29.9
Residential land (reported, exclusively)	-12.9**	-14.3*	34.9	14.7	-14.3*	-21.7*	13.5	-28.7
Residential land (reported, joint)	-6	-13.0*	30.1	-14.2	-23.4*	-22.1	38.6	-28
Non-residential land (reported, exclusively)	8.6	7.7	-34.5	13.4	26.9**	20.5	-46.2	85.2**
Non-residential land (reported, joint)	3.5	13.9*	-45.6**	6.3	23.7*	30.6	-51.8	48.8
Observations	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
R-squared	0.277	0.309	0.564	0.496	0.168	0.227	0.538	0.181
Number of HHs					1,194	1,194	1,194	1,194

Notes: (1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 (2) As reported in labor module. Interactions with not working in either agriculture or off-farm activity were not included for the sample of men, because of the very limited number of men who fell into this category. (3) Full regression results available in Appendix Tables A1-A2.

**Table 11. Women and men, HH FE results: interaction effects for those in multiple activities**

	Women (HH FE regressions; number of respondents = 272)				Men (HH FE regressions; number of respondents = 390)			
	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b><i>In both agriculture and off-farm work</i></b>								
Mobile phone (exclusively owned)	-26.5	-26.2	84.3**	20.1	16.3*	-13.2	0.9	15.1
Mobile phone (jointly owned)	3.7	4.4	-10.2	-22.1	-0.4	-10.2	-19.0	8.4
Financial account	-18.2	61.2*	-25.0	5.9	11.7	-5.6	-67.4	-16.3
Motorized vehicle	-46.5**	-15.9	47.6	-28.5	-1.7	-54.0***	75.5*	-5.6
Livestock (exclusively owned)	15.5	-18.4	-11.1	-12.3	-4.3	11.1	-106.4**	-27.4
Livestock (jointly owned)	-18.1	-33.4	9.8	21.7	15.3	-4.4	-58.5	44.6
Residential land (reported, exclusively)	-4.9	14.7	-2.2	-47.4	-9.5	-24.5	89.9	53.2
Residential land (reported, joint)	-20.9	58.6	-45.0	-52.1	-17.9	-19.9	97.6	15.3
Non-residential land (reported, exclusively)	6.2	-3.9	-115.9*	75.8	39.3**	9.8	-204.0**	75.8
Non-residential land (reported, joint)	29.6	-44.5	-16.8	54.5	35.3**	5.2	-58.9	66.2

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10. (2) As reported in labor module.

**Table 12. Women and men: HH FE regressions on time use (minutes in last 24 hours), with asset\*work interactions, and land rights as opposed to ownership variables**

	Women (HH FE regressions)				Men (HH FE regressions)			
	Unpaid: cook/ clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b><i>Respondent's asset ownership</i></b>								
<b><i>Interactions with not working in either agriculture or off-farm work<sup>(2)</sup></i></b>								
Residential land (exclusive rights to sell/bequeath)	6.3	-30	-	58.8*	-	-	-	-
Residential land (joint rights to sell/bequeath)	-1.1	32	-	108.3***	-	-	-	-
Non-residential land (exclusive rights to sell/bequeath)	22.7	-3.9	-	-45.7	-	-	-	-
Non-residential land (joint rights to sell/bequeath)	-2.4	-47.1	-	-4.4	-	-	-	-
<b><i>Interactions with working in agriculture<sup>(2)</sup></i></b>								
Residential land (exclusive rights to sell/bequeath)	-29.2	-9.5	82.4**	2.7	-13	12.4	45	-34.9
Residential land (joint rights to sell/bequeath)	-4.1	-6.3	-18.6	0.9	-0.2	-8.5	32.5	33.5
Non-residential land (exclusive rights to sell/bequeath)	34.2*	11.9	-52.1	4.2	-12.5	-13.2	15.2	14.1
Non-residential land (joint rights to sell/bequeath)	2.1	1.7	58.7*	-17.9	-17.2	-1.9	27.2	-39.4
<b><i>Interactions with being in off-farm work<sup>(2)</sup></i></b>								
Residential land (exclusive rights to sell/bequeath)	-4.1	-7.9	34.4	23.1	-18.0*	-15.1	14.9	30.9
Residential land (joint rights to sell/bequeath)	25	40.9*	-28.6	-7.6	-9.8	16.9	4.9	-14.1
Non-residential land (exclusive rights to sell/bequeath)	19.4	14.5	-87.5	0	13.5	-17.6	61.4	-75.2*
Non-residential land (joint rights to sell/bequeath)	9.9	-54.4*	10.1	38.5	11.5	-0.6	20.4	1.1
Observations	1,832	1,832	1,832	1,832	1,550	1,550	1,550	1,550
R-squared	0.366	0.347	0.596	0.313	0.157	0.228	0.491	0.161
Number of HHs	1,348	1,348	1,348	1,348	1,194	1,194	1,194	1,194

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10. (2) As reported in labor module. Interactions with not working in either agriculture or off-farm activity were not included for the sample of men, because of the very limited number of men who fell into this category. (3) Full regression results available in Appendix Tables A3 and A4.

## 5.4 Sensitivity checks

We gauge the sensitivity of our findings related to asset ownership by introducing alternative covariates based on respondent's self-reported asset values. Table 13 reports the selected results from three separate household fixed effects regressions that are estimated separately for men and women. We focus on the coefficients associated with (1) respondents' total (logged) value of assets; (2) respondents' share of total asset value; and (3) respondents' value of assets (logged) by separate asset classes.

The findings complement those presented earlier. However, the associations are stronger with dichotomous indicators of asset ownership, as opposed to asset values. Among women in off-farm work, the association between time allocated to paid work and asset value (from mobile phones, in particular) is positive. Conversely, the association between time allocated to unpaid work and asset value (from financial accounts, in particular) is negative. Among men in off-farm work, the value of motorized vehicles owned continues to have a positive association with the allocation of time to unpaid (childcare) and paid work, compared to other assets. Value of livestock holdings is also associated with less time in paid work and greater time in unpaid and leisure activity – though, the latter association is weak. Among men and women in agriculture and among women that are not working, the sign and significance of the coefficients are similar to those presented in Tables 9 and 10.

When looking at the total value of assets the respondent owns — as well as the share of total asset value, we observe similar patterns in how men and women shift their time allocation. Among women in off-farm work, total asset value is associated with greater time in paid work, and less time in leisure. For men in off-farm work, total asset value (as well as their share of household asset value) is negatively associated with time in childcare. For women staying at home, on the other hand, total asset value is associated with greater time in childcare. There are no effects for men and women in agriculture, underscoring the notion that if asset value or wealth is an indicator of status, the links between status and time use are highly dependent on occupation status.

**Table 13. Women and men: OLS HH fixed effects regressions on association of asset values with time use**

	Women: minutes in last 24 hours (OLS HH FE regressions) (obs = 1,832; number of HH = 1,348)				Men: minutes in last 24 hours (OLS HH FE regressions) (obs = 1,550; number of HH = 1,194)			
	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b>(1) Log total asset value</b>								
Log asset value*not working in either agriculture or off-farm work	0.7	5.0***		-1.1	-	-	-	-
Log asset value*in agricultural work	1.3	1.5	1.6	0.5	0.5	-0.7	3.2	1.1
Log asset value*in off-farm work	-1.6	-0.1	5.3*	-3.0**	-0.9	-2.0***	1.9	1.4
R-squared	0.299	0.31	0.587	0.245	0.094	0.152	0.486	0.135
<b>(2) Share of household asset value</b>								
Share of asset value*not working in either agriculture or off-farm work	-0.1	7.2		-6				
Share of asset value*in agricultural work	10.7	-19.8	57.3	15.7	-16.5	-24.1	50.1	9
Share of asset value*in off-farm work	-23.4	15.7	13.9	-4.1	-5.9	-41.6**	49.4	-6
R-squared	0.297	0.284	0.583	0.236	0.094	0.162	0.488	0.133
<b>(3) Log value of assets: asset categories separately</b>								
<i>Interactions with not working in either agriculture or off-farm work<sup>(2)</sup></i>								
Mobile phone	-0.5	9.1***		-2.7	-	-	-	-
Financial accounts	-5.7	0.3		7.1	-	-	-	-
Livestock	-0.7	4.9		-4.3*	-	-	-	-
Motorized vehicles	-1.9*	1.7		-3.3**	-	-	-	-
Non-residential land	-1.1	-3.8		1.2	-	-	-	-
Residential land	1.8*	0.9		3.7**	-	-	-	-
<i>Interactions with working in agriculture<sup>(2)</sup></i>								
Mobile phone	1	-0.2	-3.3	-0.7	1.9***	-2.2**	0.3	0.2
Financial accounts	2.5	2.8	0.1	2.8	-1.5*	0.4	5.1	-4.4
Livestock	1.1	1.8	2.2	0.7	-1.2**	1.3	2.4	-2.8*
Motorized vehicles	-2.3**	-0.9	0.4	-0.1	0.8	-0.5	2.8	0
Non-residential land	1.1	-1	0.2	-0.3	0.2	-1.3*	2	-1.6
Residential land	-0.6	-0.6	2.4	0.4	-0.2	-0.6	0.7	2.7*
<i>Interactions with being in off-farm work<sup>(2)</sup></i>								
Mobile phone	-2.0*	-0.2	4.5	-0.7	-0.9	0.7	-2.4	2.8
Financial accounts	-5.1***	3.3	-0.4	-0.7	1.4*	-1.1	-1.9	0
Livestock	-0.5	-2	-1.2	0.6	1.2*	0.2	-9.9***	2.9*
Motorized vehicles	-1.2	-1.1	4.1**	-2.3***	-0.8	-2.9***	4.6**	-0.4
Non-residential land	1.3	0.3	-3.3	1	0	1	1.2	-0.4
Residential land	-0.5	0.8	-1.8	0.4	-0.1	0.1	2	-2.5**
R-squared	0.331	0.358	0.602	0.278	0.137	0.215	0.411	0.166

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10. (2) As reported in labor module. Interactions with not working in either agriculture or off-farm activity were not included for the sample of men, because of the very limited number of men who fell into this category. (3) Results for OLS specification (A), controlling for household variables, district and interview FE are available in Appendix Table A5.

## 6. Discussion and looking ahead

Using a unique nationally-representative survey data set from Cambodia, this paper discusses how individual wealth is linked with time use. The findings show that ownership of different types of assets are closely associated with men's and women's time use, with significant heterogeneity in associations across sub-populations of men and women belonging to different occupational groups. The association of asset ownership with reduced time in unpaid work and greater time in paid work is particularly strong for women in off-farm work, and among those who own mobile phones, financial accounts, and motorized vehicles — all of which have sizable gender gaps in ownership for the overall sample. Among respondents in agriculture, on the other hand, the links between asset ownership and time use are more scattered, and particularly among women.

While the analysis is not conducted to estimate causal impacts, the regressions that account for both observed and unobserved factors associated with time allocation and asset ownership reveal that covariates related to asset ownership play stronger roles in time use analysis, in particular among women, vis-à-vis the competing proxies for socioeconomic status. The findings also underscore the need to differentiate exclusive versus joint ownership of and rights to a range of physical and financial assets to better understand the channels through which asset ownership may impact time use measures. Overall, the analysis demonstrates the utility of integrated, intra-household, individual-disaggregated data collection on asset ownership, time use and employment in lower-income contexts.

Looking forward, the importance of examining the heterogeneity in the associations between asset ownership and time use is relevant for the design, targeting and evaluations of future interventions that are aimed at improving individuals' asset ownership and control, and thereby the ease with which they can pursue economic opportunities. This is particularly the case when the interventions, including randomized control trials, are localized and focused on specific sub-populations, say, female entrepreneurs. Individuals in off-farm work, for example, may be better able to use mobile phones, financial accounts and vehicles for time-saving services and resources. Choices over time use may also be more rigid in more traditional contexts, including among individuals working in agriculture. In addition, the results point to potential rigidities from a gender perspective since men and women who own specific assets shift their time differently (men away from childcare, for example, and women away from leisure). Among women who are not working, greater control over specific assets may also be associated with a shift across different unpaid activities within the home, for example away from cooking and cleaning and towards time with children. These findings reflect a need to look more closely at social norms and constraints across sectors that may affect how wealth is associated with choices over time use.

## References

- Bauman, Adrian, Michael Bittman, and Jonathan Gershuny. 2019. "A short history of time use research; implications for public health." *BMC Public Health* 19(Suppl 2): 607.
- Bittman, Michael, Paula England, Liana Sayer, Nancy Folbre, and George Matheson. 2003. "When does gender trump money? bargaining and time in household work." *American Journal of Sociology* 109(1): 186-214.
- Bittman, Michael, and Judy Wajcman. "The rush hour: the character of leisure time and gender equity." *Social Forces* 79(1): 165-189.
- Brown, Philip H. 2009. "Dowry and intrahousehold bargaining: evidence from China." *The Journal of Human Resources* 44(1): 25-46.
- Das, Narayan, Rabeya Yasmin, Jinnat Ara, Md. Kamruzzaman, Peter Davis, Julia A. Behrman, Shalini Roy, and Agnes R. Quisumbing. 2013. "How do intrahousehold dynamics change when assets are transferred to women? evidence from BRAC's challenging the frontiers of poverty reduction—targeting the ultra poor program in Bangladesh." IFPRI Discussion Paper 01317.
- Daum, Thomas, Hannes Buchwald, Ansgar Gerlicher, and Regina Birner. 2018. "Smartphone apps as a new method to collect data on smallholder farming systems in the digital age: A case study from Zambia." *Computers and Electronics in Agriculture* 153: 144-150.
- Del Boca, Daniela, Christopher Flinn, and Matthew Wiswall. 2014. "Household choices and child development." *Review of Economic Studies* 81: 137-185.
- Donald, Aletheia, Gayatri Koolwal, Jeannie Annan, Kathryn Falb and Markus Goldstein. 2020. "Measuring women's agency." *Feminist Economics* 26:3: 200-226.
- Doss, Cheryl, Hema Swaminathan, Carmen Diana Deere, J.Y. Suchitra, Abena D. Oduro, and Boaz Anglade. 2020. "Women, assets, and formal savings: a comparative analysis of Ecuador, Ghana and India." *Development Policy Review* 38:180-205.
- Doss, Cheryl, Caitlin Kieran, and Talip Kilic. 2020. "Measuring ownership, control, and use of assets." *Feminist Economics* 26(3): 144-168.
- Doss, Cheryl. 2013. "Intrahousehold bargaining and resource allocation in developing countries." *World Bank Research Observer* 28: 52-78.
- FAO, World Bank and UN-Habitat. 2018. "Measuring individuals' rights to land : an integrated approach to data collection for SDG indicators 1.4.2 and 5.a.1." Washington, DC: World Bank. Retrieved on August 21, 2021 from <https://bit.ly/integrated5a1-142> .
- Fengdan, Shi, Pan Xuhua, Caryn Bruyere, and Maria S. Floro. 2016. "Bargaining power and the household division of labour: Evidence from 2008 China time-use survey." *Asia-Pacific Population Journal*: 63-85.

Field, Erica, Rohini Pande, Natalia Rigol, Simone Schaner, and Charity Troyer Moore. 2021. "On her own account: how strengthening women's financial control impacts labor supply and gender norms." *American Economic Review* 111(7): 2342-2375.

Field, Erica. 2007. "Entitled to work: urban property rights and labor supply in Peru." *Quarterly Journal of Economics* 4(122): 1561-1602.

Floro, Maria S. 2021. "Time allocation and time-use surveys." in *The Routledge Handbook of Feminist Economics* (Günseli Berik and Ebru Kongar, eds.), London.

Floro, Maria S., and Hitomi Komatsu. 2011. "Gender and work in South Africa: what can time-use data reveal?" *Feminist Economics* 17(4): 33-66.

Folbre, Nancy, Janet C. Gornick, Helen Connolly, and Teresa Munzi. 2014. "Women's employment, unpaid work, and economic inequality." In Janet C. Gornick and Markus Jäntti, eds. *Income Inequality: Economic Disparities and the Middle Class in Affluent Countries*. Stanford University Press.

Friedman, Jed, Isis Gaddis, Talip Kilic, Antonio Martuscelli, Amparo Palacios-Lopez and Alberto Zezza. 2021. "The distribution of effort: physical activity, gender roles, and bargaining power in an agrarian setting." World Bank Policy Research Working Paper 9634.

Goldin, Claudia, and Lawrence F. Katz. 2018. "Women working longer: facts and some explanations." In *Women Working Longer: Increased Employment at Older Ages*. Chicago: University of Chicago Press.

Guryan, Jonathan, Erik Hurst, and Melissa Kearney. 2008. "Parental education and parental time with children." *Journal of Economic Perspectives* 22(3): 23-46.

Hasanbasri, Ardina, Talip Kilic, Gayatri Koolwal, and Heather Moylan. 2021a. "LSMS+ program: overview and recommendations for improving individual-disaggregated data on asset ownership and labor outcomes." Washington, DC: World Bank. Retrieved on August 20, 2021 from <https://bit.ly/lmsplusoverview>.

Hasanbasri, Ardina, Talip Kilic, Gayatri Koolwal, and Heather Moylan. 2021b. "LSMS+ program in Cambodia: findings from individual-level data collection on labor and asset ownership." Washington, DC: World Bank. Retrieved on August 20, 2021 from <https://bit.ly/lmspluscambodiareport>.

Heintz, James, Naila Kabeer and Simeen Mahmud. 2018. "Cultural norms, economic incentives and women's labour market behaviour: empirical insights from Bangladesh." *Oxford Development Studies* 46:2: 266-289.

Ilahi, Nadeem. 2000. "The intra-household allocation of time and tasks: what have we learnt from the empirical literature?" World Bank Policy Research Report on Gender and Development, Working Paper Series No. 13.

Jayachandran, Seema. 2015. "The roots of gender inequality in developing countries." *Annual Review of Economics*, 7, pp. 63-88.

Kaaria, Susan, Libor Stloukal, Marya Hillesland, and Leman Yonca Gurbuzer. 2018. "Employment, work and time use in agricultural contexts: what data do we need for gender analysis?" FAO Brief, Rome.

Kilic, Talip, Heather Moylan, and Gayatri Koolwal. 2021. "Getting the (gender-disaggregated) lay of the land: impact of survey respondent selection on measuring land ownership and rights." *World Development* 146. <https://doi.org/10.1016/j.worlddev.2021.105545>.

Menon, Nidhiya, Yana van der Meulen Rodgers, and Huong Nguyen. 2014. "Women's land rights and children's human capital in Vietnam." *World Development* 54: 18-31.

Oduro, Abena D., Louis Boakye-Yiadom, and William Baah-Boateng. 2012. "Asset ownership and egalitarian decision-making among couples: some evidence from Ghana." The Gender Asset Gap Project Working Paper Series. No. 14., Indian Institute of Management, Bangalore.

Olivetti, Claudia. 2006. "Changes in women's hours of market work: the role of returns to experience." *Review of Economic Dynamics* 9: 557-587.

Seymour, Greg, Hazel Malapit, and Agnes Quisumbing. 2020. "Measuring time use in developing country agriculture: evidence from Bangladesh and Uganda." *Feminist Economics* 26(3): 169-199.

Sevilla-Sanz, Almudena, Jose Ignacio Gimenez-Nadal, and Cristina Fernández. 2010. "Gender roles and the division of unpaid work in Spanish households." *Feminist Economics* 16(4): 137-184.

United Nations. 2015. "*The world's women 2015: trends and statistics*." New York, NY: United Nations. Retrieved on August 21, 2021 from <https://bit.ly/worldswomen2015>.

Walther, Selma. 2018. "Noncooperative decision-making in the household: evidence from Malawi." *Journal of Development Economics* 134: 428-42.

Wang, Shing-Yi. 2014. "Property rights and intra-household bargaining." *Journal of Development Economics* 107: 192-201.

## APPENDIX

**Appendix Table A1. Women: OLS regressions on time use (minutes in last 24 hours), with asset\*work interactions**

	(A) OLS: individual and household controls, along with district, interviewer and interview date fixed effects)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)
<b>Respondent characteristics</b>								
HH head	13.9	0.8	8.4	-23.9*	9.1	-27.2	26.6	-28.5*
Age: 18-24 <sup>(2)</sup>	-16.9	4.2	-13.9	-1.6	-23.1	-69.8**	-32	16.1
Age: 25-34 <sup>(2)</sup>	-8.3	3.1	-7.6	-5.9	-25.8	-46.1*	-7.4	13.7
Age: 45-54 <sup>(2)</sup>	-12	1.6	-4.6	4.7	-57.1***	-15.5	35	2.6
Age: 55+ <sup>(2)</sup>	-21.3**	-6.8	-47.1***	17.1	-50.4***	-39	21.1	22.4
Years of schooling	0.6	0.6	-1.7	0.3	0.9	-0.6	-4	0.9
Individual's share of HH annual earned income (in off-farm work)	-38.0***	-32.8**	102.7***	-20.8**	-48.8***	-16.4	88.8***	-28
Worked/ran NFE in last 7 days <sup>(3)</sup>	7.8	-16	196.7***	-61.2***	18.6	-2.9	158.6***	-4.7
Worked for wage in last 7 days <sup>(3)</sup>	-8.5	-32.7*	189.0***	-43.6***	-29.5	-66.8	227.4***	2
Worked in agr. in last 7 days <sup>(3)</sup>	13.8	50.6*	124.7***	-37.3*	-0.6	31.8	213.2***	-24
Married/non-formal union	19.9**	31.9**	-14.9	-1.3	13.1	11	1.9	-5.6
Separated/divorced	-18.1	67.2***	-35.6	30.4	-20.9	37.5	-38.6	23.7
Widowed	-17.5*	35.8**	-15.3	45.3**	-22.8	16.5	-9.8	37.4*
Months member is away	4.7*	-10.4***	-9.6*	0	8.4***	-6.7*	-17.9**	-1.4
<b>Respondent's children and composition of other HH members</b>								
# Boys aged 0-5	-12.0**	85.8***	-24.3**	-20.6**	-30.6**	114.7***	-28.3	-4.7
# Boys aged 6-15	8.1*	-21.2***	4.8	-2.9	0.5	-30.6**	-6.7	5.5
# Boys aged 16+	10.8**	-25.4***	8.5	3.4	15.3*	-20.7	-0.7	-7.3
# Girls aged 0-5	-1.4	64.6***	-14.1	-12.9	-2.1	38.2*	-8.4	14.6
# Girls aged 6-15	-2.9	-8.5	9.7	0.5	-8.5	4	26.9*	-13.1
# Girls aged 16+	1	-15.6**	5.9	4.6	22.6**	-11.9	-21.8	5.5
# other HH members: 65+	3.8	-34.8***	1.1	10.1	42.8*	13	99.8**	-36.2
# other HH members: men, 31-64	-3.2	-17.9**	20.2*	5.7				
# other HH members: women, 31-64	-22.2***	-24.2**	15.9	15.5**	-14.2	29	62.1*	-16.1
<b>HH characteristics</b>								
Rural area (Y=1 N=0)	-1.8	15.5	-4.5	3.3				
Log of HH size	-16.9*	97.1***	-20.2	-39.0***				
HH has electricity	21.5***	14.8	-2.9	5.1				
HH has piped water	-4.4	-10.9	-20.8	9.5				
Concrete or brick construction	9.3	0.9	-14.3	17.7**				
<b>Respondent's asset ownership</b>								
<i>Interactions with not working<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	-13.8	54.8**		18.5	-0.9	85.8**		-22.6
Mobile phone (jointly owned)	-4	90.9***		-19.2	17.4	148.9**		-66.4*
Financial account	-31.7*	-17.3		49	-72.9**	10.9		48
Motorized vehicle	6.3	42.7*		-31.1**	-31.3*	-3.7		-53.8**
Livestock (exclusively owned)	-11	37.5		-33	16.6	32.2		-58.7*
Livestock (jointly owned)	-49.4***	34.2		-15.1	-51.3**	24		-7.3
Residential land (reported, exclusively)	-10.4	-29.7		12.8	-16.7	4.7		-1.2
Residential land (reported, joint)	22.2*	-52.3*		62.5***	7.7	29.5		71.6**
Non-residential land (reported, exclusively)	4.3	40.6		-38.3*	12.7	24.7		20.7
Non-residential land (reported, joint)	-9.1	62.3**		-10.8	-13.4	-8.6		29.4

*Interactions with working in agriculture<sup>(3)</sup>*

Mobile phone (exclusively owned)	-7.1	-17.6	-27.5	8	1.9	-8.4	8.4	13.5
Mobile phone (jointly owned)	5.7	-15.7	-3.8	8.6	16	-15.2	-38	-32.0*
Financial account	7.2	-17.6	-14.3	11.7	27.4	24.5	-38.1	16.4
Motorized vehicle	-1.1	-3.4	-5.8	2.5	-23.6*	-4	-8.7	1.5
Livestock (exclusively owned)	9.5	19.6	15	-6.5	22.4	23.7	50.3	2.7
Livestock (jointly owned)	7.4	2.8	-13.5	-2.5	-11.2	-7.7	39.6	-3.8
Residential land (reported, exclusively)	-13.7	-18	-23	22.5	1.8	1.4	-114.1	16.6
Residential land (reported, joint)	-23.0**	-16.9	-17.6	8.1	-20.2	25.2	-89.5	0.5
Non-residential land (reported, exclusively)	7.7	-25.9	9.8	0.1	7.4	-15.5	-39.5	17.6
Non-residential land (reported, joint)	11.4	-37.0***	48.6***	4.1	15	-39.8	12.9	10.6

*Interactions with being in off-farm work<sup>(3)</sup>*

Mobile phone (exclusively owned)	-21.7**	-4.8	87.7***	7.9	-28.4*	-17.8	75.9**	6.6
Mobile phone (jointly owned)	-12.8	0.5	64.0**	-13.9	-12.3	19.7	27.8	9.9
Financial account	-20.1**	-2.3	16.9	1.2	-45.6***	36.7	13.1	-10.5
Motorized vehicle	-16.1**	-15.1	49.8***	10.8	-23.0**	-11.9	56.3**	-30.0**
Livestock (exclusively owned)	-14.8	-23.4	-43.9*	-3.5	-6.8	-42	-61.4	-15
Livestock (jointly owned)	-7.6	-3.9	-18.6	6.3	-6.9	-25.7	-29.8	25.5
Residential land (reported, exclusively)	1.4	-15.9	71.4**	5.3	-6.7	13.4	111.9**	-64.0*
Residential land (reported, joint)	-2.5	-1.3	33.3	6.1	-0.6	33.5	44.4	-52.6
Non-residential land (reported, exclusively)	-11.8	8.8	-27.4	5.5	-1.3	11.5	-76.4**	58.3*
Non-residential land (reported, joint)	1.8	6.1	-35.9	6.4	14.6	-4.7	-29.7	43.9
Observations	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832
R-squared	0.436	0.486	0.655	0.51	0.358	0.346	0.603	0.316
Number of HHs					1,348	1,348	1,348	1,348

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 . (2) Excluded age category: 35-44. (3) As reported in labor module.

**Appendix Table A2. Men: OLS regressions on time use (minutes in last 24 hours), with asset\*work interactions**

	(A) OLS: individual and household controls, along with district, interviewer and interview date fixed effects)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b>Respondent characteristics</b>								
HH head	-5.3	-7.5	-8.5	33.6**	-18.5	-8.2	-8.4	22.3
Age: 18-24 <sup>(2)</sup>	11.5	2.7	-14.4	-9.7	3.2	9.3	-31.8	13.8
Age: 25-34 <sup>(2)</sup>	7.8	9	-4.2	-0.8	2	15.8	0.3	30.7
Age: 45-54 <sup>(2)</sup>	-0.6	2.3	-35.2*	20.9*	1.4	-5.6	-52.3	21.8
Age: 55+ <sup>(2)</sup>	5.4	12.5**	-76.1***	21.5	-2.8	14.4	-7.9	-21.4
Years of schooling	-0.9	-0.6	-0.9	0.8	-0.8	-2	2.5	1.1
Individual's share of HH annual earned income (in off-farm work)	-3.8	8.8	-12.8	-1	18.4**	15.3	-6.1	-6
Worked/ran NFE in last 7 days <sup>(3)</sup>	0.4	-7.9	156.9***	-63.7***	1.3	5.5	192.7***	-83.2**
Worked for wage in last 7 days <sup>(3)</sup>	-10.8*	-5.7	157.8***	-62.2***	-3.3	-1.1	216.8***	-64.0*
Worked in agr. in last 7 days <sup>(3)</sup>	-18.5*	-0.3	123.9***	6.4	-8.6	18.2	50.5	-31.1
Married/non-formal union	9.3	17.3**	8.8	-14.6	21.7**	15.8	-15.9	-5.3
Separated/divorced	5.2	-13.6	123.5*	-61.3	-2.1	-23.3	-41.7	15.9
Widowed	27.7	-16.6	-34	34.5	23.5**	-19.3	3.6	40.6
Months member is away	-0.1	-2.2	-5.8	6.1*	0.9	-2.9	-2.8	-2.4
<b>Respondent's children and composition of other HH members</b>								
# Boys aged 0-5	-6.3	20.6***	12.3	-19.2**	-8.1	35.0**	5.3	-17.6
# Boys aged 6-15	2.6	-2.6	7.3	-2.2	0.6	-9.1	-28.7	6.1
# Boys aged 16+	-0.2	1	15.9	-8.2	2.3	10.6	-16.5	6.7
# Girls aged 0-5	-4	19.4***	-14	-13.1	3.2	3.3	14.6	-27.6
# Girls aged 6-15	-1.9	4.3	18.9*	-4.7	-1.4	11.8	61.6**	-1.1
# Girls aged 16+	1.8	6.7	-19.2	3.8	16.9**	0.3	-22.3	21.1
# other HH members: 65+	5.5	-6.3	-14.6	6.4	14.2	14.6	62	-43.7
# other HH members: men, 31-64	-8.2*	2.6	-1.5	13.1	0.7	-1.4	-13.8	7.4
# other HH members: women, 31-64	-1.4	-8.6	-9.3	17.4*				
<b>HH characteristics</b>								
Rural area (Y=1 N=0)	-3.2	-4.7	-10.5	20.7	-	-	-	-
Log of HH size	-3.1	13.4	13.2	-22.3	-	-	-	-
HH has electricity	-1.2	11.9**	1.2	9.1	-	-	-	-
HH has piped water	-4.1	4.3	-5.9	25.6*	-	-	-	-
Concrete or brick construction	5.6	-8.1	-19.7	12.6	-	-	-	-
<b>Respondent's asset ownership<sup>(4)</sup></b>								
<i>Interactions with working in agriculture<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	22.0***	-8.2	-41.3	12.4	16.4**	-17.1	-34.8	-3
Mobile phone (jointly owned)	16.9**	-16.6	-17.4	-6.1	9.3	-26.4**	-27.1	-2.6
Financial account	4.4	11.4	-39.8	4.6	-16.4*	0.6	-4.3	-25.4
Motorized vehicle	6.6	8.5	15.6	-15.3	12.6*	-5.6	3.7	5.5
Livestock (exclusively owned)	9	11.8	18.6	-33.7**	-13.7	-0.6	50.2*	-23.6
Livestock (jointly owned)	1.1	11.3*	12.5	-12.2	6.9	-8.2	32.8	11.6
Residential land (reported, exclusively)	9.8	-5.6	16.2	-0.6	4.2	-16.9	88.2	76.9*
Residential land (reported, joint)	-4.7	-14.7	16.1	-3.8	6.4	-8	85.3	35
Non-residential land (reported, exclusively)	-17.9*	-9.6	0	4.7	-4.6	-3.5	-96.7*	-13.2
Non-residential land (reported, joint)	-14	-8.3	35.2	-14.3	-5.6	-19.6	22.7	10.6
<i>Interactions with being in off-farm work<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	0.2	-2.2	91.7***	6.3	-6.1	3.6	35.3	19
Mobile phone (jointly owned)	3.4	11.8	60.0**	-4.1	-12.5	13.6	-10.3	15.6

Financial account	4	-0.3	4.4	15.4	11.5	-7.8	-44.7	10.5
Motorized vehicle	-6.7	-22.3***	39.7*	2.7	-15.9*	-50.4***	73.3**	-9.6
Livestock (exclusively owned)	8.7	-10.2	-47.5*	13.8	13.2	16.5	-122.8***	-9.3
Livestock (jointly owned)	3.7	-3.2	-67.5***	21.8	4.6	3.9	-108.4***	29.9
Residential land (reported, exclusively)	-12.9**	-14.3*	34.9	14.7	-14.3*	-21.7*	13.5	-28.7
Residential land (reported, joint)	-6	-13.0*	30.1	-14.2	-23.4*	-22.1	38.6	-28
Non-residential land (reported, exclusively)	8.6	7.7	-34.5	13.4	26.9**	20.5	-46.2	85.2**
Non-residential land (reported, joint)	3.5	13.9*	-45.6**	6.3	23.7*	30.6	-51.8	48.8
Observations	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
R-squared	0.277	0.309	0.564	0.496	0.168	0.227	0.538	0.181
Number of HHs					1,194	1,194	1,194	1,194

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 . (2) Excluded age category: 35-44. (3) As reported in labor module. (4) Interactions with not working were not included for men, since very few men reported not working in either agriculture or off-farm work.

**Appendix Table A3. Women: OLS regressions on time use (minutes in last 24 hours), with asset\*work interactions, and land rights as opposed to ownership variables**

	(A) OLS: individual and household controls, along with district, interviewer and interview date fixed effects)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)
<b>Respondent characteristics</b>								
HH head	13.4	9	2.1	-29.5**	4.2	-24.1	11.1	-37.9**
Age: 18-24 <sup>(2)</sup>	-16.4	3.9	-8.6	-0.9	-19.8	-56.5*	-42.2	23.2
Age: 25-34 <sup>(2)</sup>	-7.6	2.2	-5.7	-4.8	-27.3	-32.9	-10.4	21.9
Age: 45-54 <sup>(2)</sup>	-11.8	2.1	-5.5	3.8	-59.1***	-16.8	28.9	3.6
Age: 55+ <sup>(2)</sup>	-21.8**	-2.6	-48.4***	15.8	-55.7***	-33.9	29.3	21.7
Years of schooling	0.8	0.5	-1.7	0.4	0.6	-1	-3.1	1.4
Individual's share of HH annual earned income (in off-farm work)	-37.6***	-30.0**	100.0***	-24.1**	-49.8***	-11.8	94.9***	-35.3*
Worked/ran NFE in last 7 days <sup>(3)</sup>	2.2	-20.3	212.8***	-52.3***	14	-2.9	205.6***	-24.5
Worked for wage in last 7 days <sup>(3)</sup>	-14	-36.9**	205.7***	-35.4**	-33.9**	-62.3**	260.2***	-16.8
Worked in agr. in last 7 days <sup>(3)</sup>	7.1	12.9	116.3***	-23.3	-0.1	9.7	105.1***	-10.3
Married/non-formal union	19.2**	33.8**	-17	-1	11.6	12.5	1.2	-6.3
Separated/divorced	-17.6	65.5***	-31.4	32.3	-18.4	36.1	-37.8	30.8
Widowed	-18.7*	35.5**	-15.2	44.0**	-19.7	14.7	-16.8	43.5**
Months member is away	4.8*	-10.1***	-9.3*	0	8.2***	-7.0*	-17.6**	-0.2
<b>Respondent's children and composition of other HH members</b>								
# Boys aged 0-5	-11.7**	88.1***	-25.6**	-22.0***	-28.8**	111.1***	-31.1	-5.2
# Boys aged 6-15	8.2**	-21.5***	4.5	-2.3	-1.2	-31.1**	-7	4.8
# Boys aged 16+	11.4**	-26.7***	9.4	4.9	14.8**	-17.5	3.5	-9.4
# Girls aged 0-5	-0.8	66.7***	-16.9	-13.9*	1.3	32.9	-7.1	14.5
# Girls aged 6-15	-2.4	-8.6	10.8	0.7	-11	7	33.1**	-14.8
# Girls aged 16+	0.8	-14.8*	3.7	5.6	20.8**	-8.9	-13.9	2.1
# other HH members: 65+	3.6	-34.9***	2.2	10.6	39.1*	3.3	123.0***	-43.9
# other HH members: men, 31-64	-4.2	-17.0**	20.6*	4.4				
# other HH members: women, 31-64	-22.4***	-27.7***	19.3	15.5**	-17.3	20.4	73.9**	-18
<b>HH characteristics</b>								
Rural area (Y=1 N=0)	-1.4	13.1	3	1.1				
Log of HH size	-17.8*	97.3***	-20	-38.8***				
HH has electricity	21.2***	14.9	-1	5				
HH has piped water	-3.3	-12.1	-22.2*	12.1				
Concrete or brick construction	10.3*	1.2	-18.4	17.7**				
<b>Respondent's asset ownership</b>								
<i>Interactions with not working<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	-14.8	46.8**		22.7	0.5	88.4***		-12.1
Mobile phone (jointly owned)	-4.5	85.3***		-16.1	17	137.5**		-58.5
Financial account	-30	-20.6		48.4	-74.3**	20		50.7
Motorized vehicle	4.7	48.2**		-33.7**	-31.9*	9		-55.1**
Livestock (exclusively owned)	-11.5	41.9		-37.6	17.6	44		-64.8*
Livestock (jointly owned)	-50.6***	42.4		-17.1	-53.7**	33.5		-17.1
Residential land (exclusive rights to sell/bequeath)	17.7	-51.7		44.4*	6.3	-30		58.8*
Residential land (joint rights to sell/bequeath)	7.8	-42.8		62.0***	-1.1	32		108.3***
Non-residential land (exclusive rights to sell/bequeath)	2	66		-39.8	22.7	-3.9		-45.7
Non-residential land (joint rights to sell/bequeath)	14	31		-5	-2.4	-47.1		-4.4
<i>Interactions with working in agriculture<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	-5.8	-9.9	-26.5	5.8	3.6	-3.2	12.4	13.1
Mobile phone (jointly owned)	5	-12.2	-1.7	6.9	19.8	-12.9	-34.7	-31.4

Financial account	7.7	-18.6	-14.8	10.7	30.4	29.8	-58	18.4
Motorized vehicle	-2.7	-5.1	-4.3	2	-28.7**	-0.4	-22.3	1.5
Livestock (exclusively owned)	11.6	19.4	16.5	-8.1	27.5*	23.3	44.1	9.1
Livestock (jointly owned)	9.2	1.3	-14	-2.7	-10.5	-7.7	32.5	-1.1
Residential land (exclusive rights to sell/bequeath)	-24.0**	-6.1	5	13	-29.2	-9.5	82.4**	2.7
Residential land (joint rights to sell/bequeath)	-11.9	4.6	-14.9	-1.2	-4.1	-6.3	-18.6	0.9
Non-residential land (exclusive rights to sell/bequeath)	17.1	7.3	5.5	-9.6	34.2*	11.9	-52.1	4.2
Non-residential land (joint rights to sell/bequeath)	7.7	-25.8*	54.3***	2.9	2.1	1.7	58.7*	-17.9

*Interactions with being in off-farm work<sup>(3)</sup>*

Mobile phone (exclusively owned)	-20.5**	-4.7	89.7***	7.8	-24.1	-16.7	77.0**	0.8
Mobile phone (jointly owned)	-13.2	1.6	66.1**	-13.7	-13.1	25.2	16.3	-3.6
Financial account	-21.1**	-2.5	23.2	1.7	-46.0***	41.3*	10	-17.2
Motorized vehicle	-17.8**	-13.9	48.6***	10.6	-23.4**	-11.1	52.7**	-33.4***
Livestock (exclusively owned)	-16.8	-21.2	-41.7*	-2	-18.2	-32.8	-52.1	-19.8
Livestock (jointly owned)	-10.2	-1.4	-15.9	9	-10.8	-20.2	-19	23
Residential land (exclusive rights to sell/bequeath)	7.6	-14.7	33.4	-3.2	-4.1	-7.9	34.4	23.1
Residential land (joint rights to sell/bequeath)	0.9	-5	32.1	-6.6	25	40.9*	-28.6	-7.6
Non-residential land (exclusive rights to sell/bequeath)	-1.7	-2.5	2.6	9.2	19.4	14.5	-87.5	0
Non-residential land (joint rights to sell/bequeath)	10.6	12.9	-74.1***	8.2	9.9	-54.4*	10.1	38.5
Observations	1,832	1,832	1,832	1,832	1,832	1,832	1,832	1,832
R-squared	0.435	0.483	0.656	0.508	0.366	0.347	0.596	0.313
Number of HHs					1,348	1,348	1,348	1,348

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 . (2) Excluded age category: 35-44. (3) As reported in labor module.

**Appendix Table A4. Men: OLS regressions on time use (minutes in last 24 hours), with asset\*work interactions, and land rights as opposed to ownership variables**

	(A) OLS: individual and household controls, along with district, interviewer and interview date fixed effects)				(B) OLS: HH fixed effects			
	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure	Unpaid: cook/clean	Unpaid: childcare	Off-farm or agr. activity	Leisure
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b>Respondent characteristics</b>								
HH head	-4	-5.9	-7.1	24.9*	-15.8	-7.8	11	15.7
Age: 18-24 <sup>(2)</sup>	12.8*	5	-21.7	-8.6	9.5	16.8	-20.6	23.4
Age: 25-34 <sup>(2)</sup>	7.5	8.8	-3.4	0	0.2	19.8	15.2	39.8
Age: 45-54 <sup>(2)</sup>	0.4	2.1	-33.4*	21.4*	2.4	-5.4	-56.1	13.8
Age: 55+ <sup>(2)</sup>	5.2	12.0**	-74.4***	22.4	-4.1	14.4	18.6	-22.9
Years of schooling	-0.7	-0.5	-1.1	0.7	-1.4	-2.0*	2.7	1
Individual's share of HH annual earned income (in off-farm work)	-4.3	8.5	-12.5	-1.6	21.1**	17.4	-14.2	3
Worked/ran NFE in last 7 days <sup>(3)</sup>	-2	-12.9*	160.0***	-54.0***	-1.5	3	218.9***	-85.0**
Worked for wage in last 7 days <sup>(3)</sup>	-14.8**	-11	166.4***	-54.9***	-16.0*	-4.3	241.3***	-60.9*
Worked in agr. in last 7 days <sup>(3)</sup>	-20.2***	-10.3	136.3***	6.8	-5.6	3.8	59.1	24.3
Married/non-formal union	11.3	18.5**	7.3	-15.7	17.3*	20.1	-13.5	-5.7
Separated/divorced	10.7	-8.8	106.8	-59.5	-0.1	-19.2	-28.8	4.1
Widowed	37.1**	-11	-50.2	39.5	21.4	-12.7	3.4	26.7
Months member is away	-0.1	-2.2	-6.1	6.2*	2.3	-3.7	-2.5	-2.5
<b>Respondent's children and composition of other HH members</b>								
# Boys aged 0-5	-5.2	21.4***	8.7	-17.7**	-11.1	32.7**	13.5	-14.6
# Boys aged 6-15	2.7	-2.8	6.9	-1.5	0.2	-7.4	-20.9	6.1
# Boys aged 16+	1.2	0.7	13.2	-5.8	4.7	10.5	-26.7	10.9
# Girls aged 0-5	-3.5	19.3***	-16.8	-10.4	-1.4	3.4	-10.2	-25.8
# Girls aged 6-15	-1.7	4.3	19.8*	-4.7	-3.9	9.1	72.7**	-5.3
# Girls aged 16+	2	6.3	-20.5*	5.1	12	-1.3	-21.1	22.4
# other HH members: 65+	5.9	-6.7	-17.1	8	2.8	9.3	93.3	-46.7
# other HH members: men, 31-64	-7.7	3.2	-4.2	15.7	-5.1	-3.1	-12.3	-4.5
# other HH members: women, 31-64	-0.4	-8.6	-11.4	19.2**				
<b>HH characteristics</b>								
Rural area (Y=1 N=0)	-3	-6.1	-9.3	21.5				
Log of HH size	-5.2	12.4	20.5	-27.5				
HH has electricity	-0.5	12.7***	2.3	8.6				
HH has piped water	-6.8	2	-2.2	25.4*				
Concrete or brick construction	5.8	-8.5	-20.3	13.4				
<b>Respondent's asset ownership</b>								
<i>Interactions with working in agriculture<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	23.3***	-6.8	-37.7	11.4	24.8***	-16.9	-4.9	-5.5
Mobile phone (jointly owned)	16.6**	-15.7	-10.4	-11.5	10	-29.0**	14.8	-6.3
Financial account	7	11.7	-39.9	3.2	-5.9	7.3	-1.9	-21
Motorized vehicle	6.4	7.7	20	-16.3	12.1	-6.1	9.4	0
Livestock (exclusively owned)	10.1	13.1	22	-35.8**	-17.7*	-5.6	46.9	-25.2
Livestock (jointly owned)	1.7	13.1*	14.5	-15.5	9.9	-6.8	27.9	-3.2
Residential land (exclusive rights to sell/bequeath)	-21.2	5.2	27.5	-32.4	-13	12.4	45	-34.9
Residential land (joint rights to sell/bequeath)	7.6	-11	-35	28.9	-0.2	-8.5	32.5	33.5
Non-residential land (exclusive rights to sell/bequeath)	-22.2**	-20.8*	6.7	2.3	-12.5	-13.2	15.2	14.1
Non-residential land (joint rights to sell/bequeath)	-21.8**	-2	54.0**	-32.8*	-17.2	-1.9	27.2	-39.4
<i>Interactions with being in off-farm work<sup>(3)</sup></i>								
Mobile phone (exclusively owned)	-2.6	-5.1	98.9***	4.4	-8.3	-0.5	18.4	23.1

Mobile phone (jointly owned)	1.6	8	65.8**	-4.3	-10.3	10.8	-26.2	26.9
Financial account	4.4	-0.5	3.4	18.2	20.8**	-7.1	-62.9*	-3.9
Motorized vehicle	-5.5	-22.6***	36.6	3	-12.7	-50.9***	83.3***	-3.9
Livestock (exclusively owned)	8.3	-11.6	-48.0**	14.1	19	25.2	-157.4***	9.4
Livestock (jointly owned)	5.1	-5.4	-67.9***	24.4*	14.9	4.9	-127.9***	44.4**
Residential land (exclusive rights to sell/bequeath)	-2.8	-10.7	13.1	-6.2	-18.0*	-15.1	14.9	30.9
Residential land (joint rights to sell/bequeath)	-0.4	2.8	21.2	-31.2**	-9.8	16.9	4.9	-14.1
Non-residential land (exclusive rights to sell/bequeath)	8.5	14.3	-30.8	13.3	13.5	-17.6	61.4	-75.2*
Non-residential land (joint rights to sell/bequeath)	1.4	11.5	-52.1***	13.4	11.5	-0.6	20.4	1.1
Observations	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
R-squared	0.288	0.308	0.564	0.497	0.157	0.228	0.491	0.161
Number of HHs					1,194	1,194	1,194	1,194

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 . (2) Excluded age category: 35-44. (3) As reported in labor module. Interactions with not working were not included for men, since very few men reported not working in either agriculture or off-farm work.

**Appendix Table A5. Women and men: OLS regressions controlling for household variables, district and interview FE on association of asset value with time use measures, with asset\*work interactions**

	Women: minutes in last 24 hours (obs = 1,832; number of HH = 1,348)				Men: minutes in last 24 hours (obs = 1,550; number of HH = 1,194)			
	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)	Unpaid: cook/clean (1)	Unpaid: childcare (2)	Off-farm or agr. activity (3)	Leisure (4)
<b>(1) Log total asset value</b>								
Log asset value*not working	0.5	4.5***	-	0.1	-	-	-	-
Log asset value*in agricultural work	0.2	0.1	1.4	0.7	1.1**	-0.5	-0.4	-1.1
Log asset value*in off-farm work	-1.5**	-1.8*	6.1***	0.4	0	-1.1**	2.8*	0.7
R-squared	0.423	0.467	0.657	0.483	0.244	0.292	0.56	0.484
<b>(2) Share of household asset value</b>								
Share of asset value*not working	14.8	24.8	-	32.2*	-	-	-	-
Share of asset value*in agricultural work	3.2	31.9	-4.7	12.1	5.8	-4.9	-23.9	-6.9
Share of asset value*in off-farm work	-3.1	-16.3	41.0*	-8.2	5.2	-14.4**	41.8	0.1
R-squared	0.422	0.455	0.652	0.484	0.243	0.291	0.559	0.484
<b>(3) Log value of assets: asset categories separately</b>								
<i>Interactions with not working<sup>(2)</sup></i>								
Mobile phone	-1.7*	4.8***	-	1.5	-	-	-	-
Financial accounts	-1.7	-2.6	-	5.7**	-	-	-	-
Livestock	-2.4**	3.5	-	-2.6**	-	-	-	-
Motorized vehicles	0.2	3.8**	-	-2.5**	-	-	-	-
Non-residential land	0.4	0.3	-	0.3	-	-	-	-
Residential land	1.6**	-0.9	-	1.7*	-	-	-	-
<i>Interactions with working in agriculture<sup>(2)</sup></i>								
Mobile phone	0.1	-0.9	-1.4	1.1	2.1***	-0.7	-2.9	0.8
Financial accounts	0.3	-1.2	0.4	0.1	-0.5	1	-1.6	-0.4
Livestock	0.8	1.1	0.7	-1	0.5	1.1**	1.5	-2.5**
Motorized vehicles	-0.4	-0.3	-0.3	0.3	0.4	0.4	1.9	-0.9
Non-residential land	0.9*	-1.1	2.2**	-0.3	-1.4***	-0.6*	2.7**	-0.7
Residential land	-0.9	-0.9	0.2	0.7	0.6	-0.5	-1.8	0.7
<i>Interactions with being in off-farm work<sup>(2)</sup></i>								
Mobile phone	-1.9**	-0.3	5.7***	0.1	-0.3	-0.1	4.7**	0.6
Financial accounts	-2.2***	-0.5	1.5	0.7	0.7	-0.1	-0.3	1.4
Livestock	-0.8	-0.8	-0.9	-0.1	0.4	-0.5	-4.2***	1.7**
Motorized vehicles	-1.1**	-1.1	3.4***	0.5	-0.3	-1.3***	1.3	0.2
Non-residential land	0.4	0.3	-2.7**	0.8	0.3	0.8**	-1.7*	0.6
Residential land	0	-0.5	0.5	-0.2	-0.1	-0.2	1.8*	-2.0***
R-squared	0.436	0.491	0.595	0.502	0.278	0.302	0.51	0.492

Notes:(1) Regressions weighted by household sampling weight. Standard errors are clustered at the enumeration area level. Significant effects are indicated by asterisks; \*\*\*p<0.01 \*\*p<0.05 \*p<0.10 . (2) As reported in labor module. Interactions with not working were not included for men, since very few men reported not working in either agriculture or off-farm work.