



**COUNTING  
WOMEN'S  
WORK**

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Counting Women's Work Ghana**

**The Distribution of Paid and Unpaid  
Work among Men and Women in Ghana:  
The National Time Transfer Accounts Approach**

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NATIONAL TRANSFER  
ACCOUNTS



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## **Abstract**

In this study the value and distribution of both paid and unpaid work is estimated, based on time-use survey data for Ghana in 2009. The differences between men and women in performing these activities are highlighted, revealing that there is marked gender specialisation in productive activities: women specialise in household production, whereas men specialise in market production. However, as national accounts are bereft of the time contributions of non-remunerated production – mainly because there is no explicit economic compensation – disaggregating the national production by sex is quite misleading. It also seems to suggest that women's contribution to the national production is significantly lower than men's. However, this study finds evidence of “double shift” – that is, women spending more time than men on productive activities for significant parts of their lives. The research also shows that there are substantial net transfers of household production flowing from adults to children and the elderly, in a seemingly equal proportion. Findings suggest that some key policies to free time for women to increase their participation in paid work include bridging the gender gap regarding access to high-level education, reducing total work load, and strengthening their support systems.

**Keywords:** Paid and unpaid work, gender, lifecycle, time use, Ghana

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## 1. Introduction

Housework such as cooking, cleaning, and care of children and the elderly are fundamental to economic growth, as well as household and societal welfare. Such activities are required to ensure good health for household members. Childcare is needed to secure future supply of labour for production and economic growth. Without these activities, economic growth cannot be sustained. However, members of households who engage in these activities receive no payment. Given that such activities require time, household members who engage in these activities are left with less time for paid work, leisure, learning, and other activities. The distribution of housework among members of a household then, can affect the economic, social, as well as the educational status of household members. Research (e.g. Craig, 2006; and Bianchi, 2000) has shown that distribution of housework is closely related to gender, with females doing more, and hence spending more time on housework, than males.

The percentage of time spent on housework is likely to be correlated with household income; for two reasons. First, high income households can afford to hire help, and hence spend less time engaged in housework themselves. Second, household income can affect the type of technology that is adopted to perform housework. Low income households are less likely to afford capital intensive technology, and hence are more likely to adopt labour intensive technology for housework activities. The poor then spend a longer time engaged in housework than the rich do. Thus, gender inequity in housework may be less pronounced in rich households than in poor households. The extent of the gender inequality in housework distribution may also vary across countries, depending on the level of economic development of the country. Housework technology in developing countries may be more labour and time intensive than that in developed economies. Thus, information on housework distribution between males and females of a given economy can show the extent to which females could be disadvantaged – and can also help determine possible policies to reduce females' time use in housework, and improve their economic empowerment. The purpose of this study is to estimate the amount of time used for paid and unpaid work among males and females in the Ghanaian economy. Data was obtained from the Ghana Living Standards Survey V (2005), and the Ghana Time Use Survey (GTUS) 2009.

### 1.1. Profile of unpaid work

There has been extensive research on the distribution of paid and unpaid work among males and females in the household (Bianchi & Milkie, 2010). While paid work mainly involves economic activity, unpaid work can be an economic activity (when it falls within United Nations System of National Accounts (UNSNA) production sectors) or a non-economic activity (when it

falls outside the UNSNA production sectors, but within the general production sectors) (Hirway, 2015). This means that not all unpaid work is included in the computation of the Gross Domestic Product. Given that women are likely to be engaged in unpaid work, failure to include unpaid work in the computation of GDP would imply a significant underestimation of women's economic contribution to national development, and hence obscure their need for social protection.

Even though women in developing countries are less involved in paid work than men, UNDP data for 2011 show that Sub-Saharan African women are more involved in paid work than women from other developing regions. The Ghanaian Living Standard Survey: 2006, shows that 69 percent of the Ghanaian female working population was involved in paid work, compared to 71 percent of males. However, in addition to paid work, the average Ghanaian woman spends 6.32 hours per day on unpaid work, while her male counterpart spends 4.20 hours a day on unpaid work. This is consistent with earlier research findings that show men have better leisure time than women in terms of length and quality. While men enjoy long periods of uninterrupted leisure time, women's short leisure time is often interrupted by house chores, and especially childcare (Bittman & Wajcman, 2000).

According to the UNDP's 1995 Human Development Report (HDR), the estimated value of unpaid work was about US\$16 billion at the global level: of which US\$11 billion represents the invisible contribution made by women (UNDP, 1995). A number of recommendations were made by the 1995 UNDP's HDR, including taking steps to measure women's unpaid contribution in different sectors, and particularly the production of all goods and services for own household consumption, and caring for children and the elderly. Consequent to this, a key target for policy intervention by the United Nations through its Beijing Platform for Action (BPFA), identified unpaid and invisible women's work. The BPFA called for developing "suitable statistical means to recognize and make visible the full extent of the work of women and all their contributions to the national economy including their contribution in the unremunerated and domestic sectors..." (UN Beijing Declaration Platform for Action, 1995).

Research using Ghanaian data is scanty, but existing literature shows the rigidity of the specialization of housework for women, and paid work for men. For example, Canagrajah and Coulumbe (1999) showed that in Ghanaian child labour, girls are more likely to do house chores while boys work in the labour force, i.e. in paid work. Gyekye (2013) showed that family responsibilities, including house chores, are the major barrier to Ghanaian women's ability to advance in their careers. This implies that the absence of Ghanaian women in managerial positions in the workplace is mainly due to family/housework demands placed on them. In

other words, the greater the family demand and the less help received, the more time women need to spend on housework (Silver & Goldscheider, 1994).

These studies are similar to the various research focused on housework, in that they conclude that women's specialization in housework impedes their ability to attain higher education and earn high wages from paid work. What has not received much attention in the literature, is the market valuation of housework – as well as paid work – and the disaggregation of housework production and consumption according to the age of household members. Such an approach allows for the comparison of paid and unpaid work, as well as the financial vulnerability of males and females. This approach is also able to show the importance of household production – and hence the importance of women's contribution – and the need for policies to enhance women's wellbeing in society.

## **2. Theoretical Perspectives of the distribution of housework by gender**

A number of theoretical perspectives, drawn from both economics and sociology, dominate the literature in explaining the division of work in the household by gender. While most researchers agree that women do more unpaid labour than men, explanations for this diverge. We discuss some of these approaches explaining the allocation of household time between men and women here, with a focus on: the socialist-feminist approaches; the Specialisation Perspective by Becker (1981); the Time Availability Theory; the Economic Bargaining Model or Relative Resources perspective; and the 'Doing Gender' and Gender Attitudes perspectives.

The socialist feminist perspective links industrialisation to the separation of paid and unpaid labour, and the development of the role of 'housewife' – which represents the oppression of women (Barrett & McIntosh, 1982). Socialist feminism combines two feminism theories: Marxist feminism, which argues that unpaid labour is a 'requirement' of capitalism which keeps women oppressed (Wikipedia). The other theory is radical feminism's theory, which argues that the domination of women in unpaid work is simply because the labour distribution is done by men in a patriarchal society (Wikipedia). Allocating housework to women ensures that women are financially dependent on men (Barrett & McIntosh, 1982), and hence, can be controlled by men. These theories however do not explain why men would want women to be oppressed.

Becker (1981), in his theory of allocation of time, considered the household as a small factory. He argued that members of the household divide their time between paid work, housework, and leisure, based on their priorities. Unpaid work is treated as a micro-level phenomenon, without any gender dimension. In this microeconomic model, Becker (1981) argued that a husband's traditional responsibility for breadwinning, and a wife's traditional responsibility for homemaking, arise from the choices and preferences of rational actors who seek to maximise the utility of the household. Should one partner earn more for any given hour spent in market work, this will lead to a specialisation of roles, where one partner invests more time in producing income, and the other will spend more time in non-market work. Thus, if the wife earns more than her husband, the husband will specialise in unpaid work. Becker further argues that women have a biological advantage over men in terms of child rearing and nurturing. It is, therefore, more efficient for them to specialise in tasks that can be readily combined with childcare and nursing. Obviously, Becker's model is unable to explain why women still do more unpaid work in the house than men, dominating other housework activities apart from care.

The third theory, the Time Availability Theory, has as its main premise, that husbands and wives divide household duties based on rational calculation of the limited time they have available to them (Bianchi et al., 2000). Their solutions to domestic sharing evolve, not from ideological concerns or power differentials, but, rather, from practical assessments of available time for domestic work given external constraints. The rational behaviour implied by the theory is that a wife or husband picks up the slack at home for the spouse who works longer hours in her/his paid employment. According to this perspective, paid labour force attachment accounts for the gender gap in housework sharing. This theory suggests that since dual-income married couples face time pressure in both the public and private domain, spouses who spend fewer hours in the paid labour force will spend more time on housework (Bianchi et al., 2000). Accordingly, the spouse who works the most hours in the paid labour force will contribute the least amount of time towards household labour. Conceptualized this way, the time availability theory seems to be gender neutral, in that the spouse, whether male or female, who works the least number of hours in the paid labour force, will be more responsible for housework.

The implication of this theory then is that people choose time for paid work before choosing time for unpaid work. According to the theory, the high involvement of women in housework is caused by their low participation rate in the paid labour force – and not the other way round. Thus the theory fails to be consistent with the reality that the female participation rate in paid work is low because they do not have much time available or left over, after spending time on

unpaid work (Gyekye, 2013). Thus, if women are able to increase their participation in paid work, they may be able to negotiate for less time to be spent on housework.

The Economic Bargaining Model assumes that partners have potentially conflicting interests, contrary to the theories that assume that the household has a single household utility (Brines, 1994). According to this perspective, the allocation of housework reflects power relations between men and women. The level of resources each partner brings to the relationship determines how much labour is completed by each partner. As domestic work is seen as inherently less desirable than paid work, the model suggests that the partner with greater resources will use these resources to avoid engaging in unpaid household work. Thus, higher education and income relative to one's partner translates into more power, and therefore, into the avoidance of domestic tasks. A wife with a higher personal income should then, according to this perspective, do less housework than her husband. A related argument is that women are primarily responsible for domestic work because they are economically dependent on men, and cannot bargain out of domestic work.

A fifth set of arguments that have been put forward, involve the gender perspective. There are two strands: the "Doing Gender" approach, and the Gender Attitudes approach. The former sees housework as a symbolic enactment of gender relations, where wives and husbands display their 'proper' gender roles via the amount of housework they perform. So, for example, wives in female breadwinner households will do more housework than other women to 'prove themselves' a good spouse. Research from this perspective also suggests that women are disadvantaged in the allocation of tasks, contributing disproportionately to routine or 'core' household tasks. Some authors have argued that one reason for this is that the role of wife and mother is displayed through outcomes like having a clean house. The Gender Attitudes of unpaid work on the other hand, places more emphasis on gender ideology and attitudes, suggesting that men and women who hold more egalitarian gender attitudes will distribute unpaid labour more equally (Shelton & John, 1996; and Bianchi et al., 2000). In couples where the gender ideologies of the couples clash, strain and tensions about the division of labour often arise. Conflict between couples, either about domestic labour, or for more general reasons, will almost certainly have an impact on how equally or unequally, domestic work is shared.

Despite the apparent problems with each of the theories discussed above, they may be very useful in helping interpret some of results in this study. The main contribution of the research is to estimate the value and distribution of paid and unpaid work in Ghana. To do so, we use the Ghana Living Standards Survey (GLSS) of 2005 (Ghana Statistical Service, 2006) and the

Ghana Time Use Survey (GTUS) of 2009 (Ghana Statistical Service, 2012), to estimate paid and unpaid productive activities based on gender, respectively. The purpose is to contribute to the research on the gender division of labour and remuneration, by highlighting the differences between men and women in performing these activities.

The rest of this working paper is structured as follows: Section 3 is devoted to the materials and methods, followed by the results, and finally the conclusion.

### **3. Materials and Methods**

#### **3.1. Data**

We use the Ghana Living Standards Survey (GLSS) of 2005 (Ghana Statistical Service, 2006) to estimate the remunerated profiles. This survey only accounts for production activities and earnings in the labour market, without considering household production.<sup>1</sup> Regarding the non-remunerated productive activities, we use micro-data from the Ghana Time Use Survey (GTUS) of 2009 (Ghana Statistical Service, 2012). A representative sample of 4,800 households was randomly selected for the GTUS sample. In each household, all individuals aged 10 years and older were interviewed for a 24-hour activity diary, divided into one-hour slots, which was used as the core instrument to record activities. Respondents were required to divide out simultaneous activities, and were not asked to prioritize a main versus secondary activity. The GTUS also used the revised International Classification of Activities for Time Use Statistics (ICATUS) developed by the United Nations Statistics Division (UNSD), which has 15 main groups of activities.

The data contained two primary anomalies that were fixed before the analysis was done. First, members who did not report any activity were excluded. Second, members who reported less than 22 hours and above 25 hours, were also excluded.<sup>2</sup> It is assumed that the omitted time was non-productive (Donehower, 2014).

#### **3.2. The Economic Lifecycle, NTA and NTTA by Sex**

This study employs the National Transfer Account (NTA) methodology in its analysis, to estimate intergenerational transfers. Recent improvements in the estimation of National Accounts by incorporating the generational dimension have led to the development of the

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<sup>1</sup>Since the reference year for NTA is 2005 and 2009 for NTTA, we inflated all 2005 estimates by growth in per capita GDP.

<sup>2</sup>This constitutes 0.49% and 0.01% of the total sample, respectively.

theory of *economic lifecycle*, which states how people decide to consume taking into account their earnings at each age (United Nations, 2013; and Deaton, 2005). At each age, the consumption and production differ, resulting in a gap which is covered with intergenerational transfers. In other words, the method distributes the national accounts by age, thus allowing estimation of economic exchanges between age groups through government, family, and the market. The government is responsible for making public transfers (e.g. pensions); family is responsible for private transfers (e.g. childcare), and the market is responsible for asset reallocation (e.g. borrowing from the bank). The idea behind the NTA construction is illustrated in Equation (1):

$$\underbrace{C - Y_l}_{\text{Lifecycle deficit}} = \underbrace{Y_A - S}_{\text{Asset-based reallocations}} + \underbrace{\tau_g^i - \tau_g^o}_{\text{Net public transfers}} + \underbrace{\tau_p^i - \tau_p^o}_{\text{Net private transfers}} \quad (1)$$

$\underbrace{\hspace{15em}}_{\text{Age reallocations}}$

where  $C$  is consumption,  $Y_l$  is labour income,  $Y_A$  is asset income,  $S$  is savings, and  $\tau$  is transfers: both public ( $\tau_g$ ) and private ( $\tau_p$ ). Moreover, transfers are subdivided into inflows ( $\tau^i$ ) which are received by individuals, and outflows ( $\tau^o$ ) which are paid by individuals.

The age profiles by sex for each of these magnitudes using micro-data described in the preceding section, are estimated and adjusted to the corresponding National Accounts aggregate.

A possible misguided conclusion becomes apparent, when only market production disaggregated by sex as described above, is considered. Particularly, since the methodology considers the real contributions of men and women appealing only to labour market side of the economy, it could be deceptive to only consider the overall productive activities of individuals outside the market. Thus, we additionally employ the National Time Transfer Accounts (NTTA) methodology (Donehower, 2014) to complement the NTA estimates in order to account for the non-remunerated production side of the economy. This gives a more real estimation of national production. Essentially, we seek to put economic value on the work people do for others, when receiving nothing as economic compensation. These activities include cooking, cleaning, care for household members, home management, etc. For the purpose of this study, we strive to estimate, distinctively, these unpaid productive activities performed by men and women, with the aim of bringing to the fore, their differences both in time and monetary units.

To be able to monetize time, and hence account for unpaid production, it is important to consider these activities as productive: Indeed, this work could equally be performed by a third party/person hired and paid to perform such activities. Like NTA profiles, the NTTA age profiles are estimated using time production and consumption. Since it is impossible to borrow or save time, time production and consumption must be equal, and hence any deficit or surplus generated at any age automatically converts into a transfer (Donehower, 2014).

Time production and consumption are not both directly observed from the time use survey. The dataset identifies time producers, which makes the estimation of the production side of the account a direct one. In contrast, however, consumers of time are unobserved, so we require some assumptions in order to estimate the consumption side. Within the household, time consumption of care and general household management activities have their slightly peculiar assumptions. With respect to the former, we consider child and elderly care activities, and regress production on the number of individuals of each age group, divided into young (under 18) and adult (over 18) populations. Regarding the latter, time is divided evenly between household members. For time consumers from other households, we assume the same age distribution as that of consumers inside the household. In other words, the intra-household and inter-household consumers are assumed to have the same age distribution. We obtain time transfers as the difference between production and consumption. A positive time transfer connotes an outflow, and a negative transfer, an inflow.

In the final stage of the estimation, time use is monetized such that non-monetary and monetary transfers included in the National Accounts system can be made comparable. The third party criterion espoused by Reid (1934) is used to distinguish household production from other activities – that is, whether or not you could pay someone else to do the task for you. This precludes personal care activities such as sleeping, eating, etc. It also precludes leisure activities such as playing soccer, watching television, etc. The reason for ruling out these activities, is that the third parties would benefit in lieu of their hirers (Ironmonger, 1996). The literature identifies two methods to value time use: 1) the opportunity cost method, and 2) the replacement cost method. According to the opportunity cost method, the valuation of an activity in the household is based on the income that would otherwise be received by the person were they doing another activity. The replacement method seeks to assign domestic tasks to the average wage earned by a person who performs the same task in the market. Preference is given generally to the latter over the former, because of seemingly less complexity in the assignment of the market wage to each non-market activity. Conversely, the controversies surrounding the use of the opportunity cost method make it less appropriate, because housework value depends on the person performing the task – albeit if the task is

exactly the same – and it may reproduce the same inequalities observed in the market (Chadeau, 1992).

## 4. Results

This section is divided into two parts: The first analyses the age profiles of household production, and highlights the differences between males and females. In particular, we select some household activities such as cooking, cleaning and laundry, to examine the differences between males and females, in terms of time spent performing them – before we impute wages. In the second part, we convert the time units of household production into monetary units. Here, we compare the market-based NTA results for 2005, inflated to 2009, with NTTA activities, by sex. We also present the lifecycle deficit for each category of gender after imputing wages.

### 4.1. Time Use Profiles

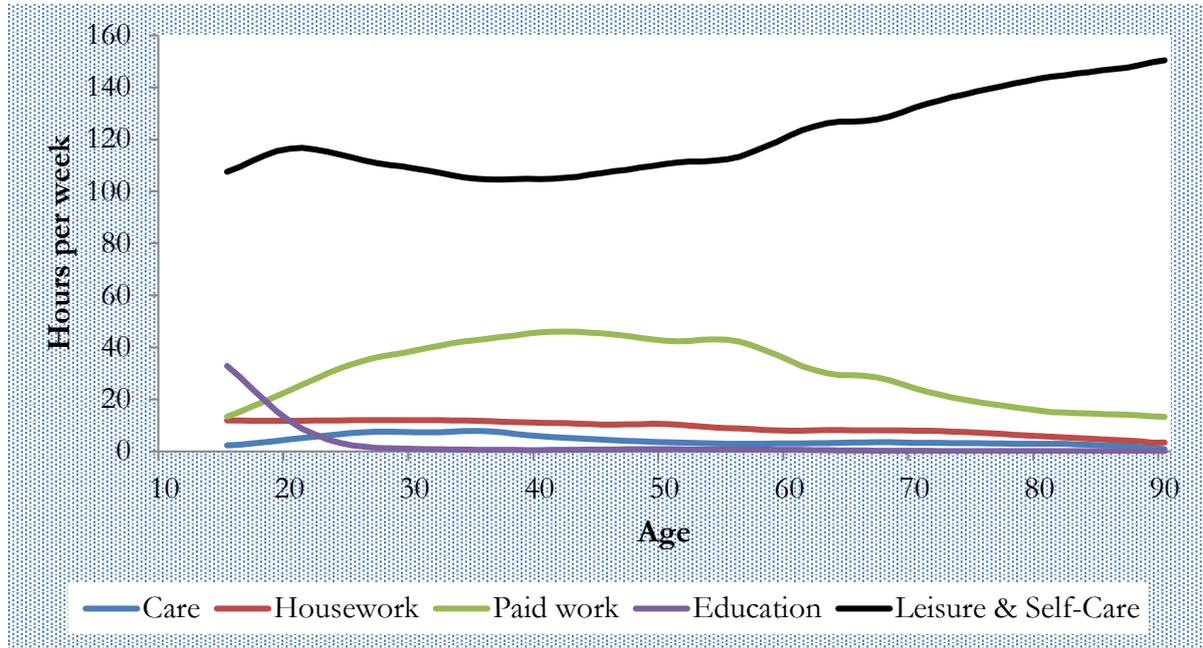
At the outset, we sought to classify activities on which people spend their time, into five categories: (a) care; (b) housework; (c) paid work; (d) education; and (e) leisure and personal care, which includes sleeping, watching television, etc. We present the average time spent per week (168 hours) by people at different ages. We present the average for both sexes in Figure 1. In Figure 2, we present the differences between males and females to accentuate the core motivation for this study.

As shown in Figure 1, the shape for paid work is bumped and consistent with expectation: thus, time spent on paid activities increases gradually, peaks, and falls as age increases. Paid work time rises gradually as one approaches the working age, peaks at 45 years, and only starts falling after age 55. On average, the time spent on paid work for an average Ghanaian in 2009, is 40 hours per week. Interestingly, time spent on paid work falls significantly, to about 10 hours a week, after retirement. Yet it does not fall to zero, even at age 85. This means that the average Ghanaian remains in paid work even at a very advanced age. The possible reason for this phenomenon is the large informal sector in the country that employs more than 80 percent of the population, but which cannot of course provide enough social security for the majority of the workforce. Younger generations may provide some support to the elderly, but they still need to supplement the support they receive by engaging in paid work.

As expected, the amount of time spent on self care and leisure increases with age, in the opposite direction of time spent on paid work. As people grow older, they transfer their paid

work time to time dedicated to leisure and self care. However, they do not leave paid work completely.

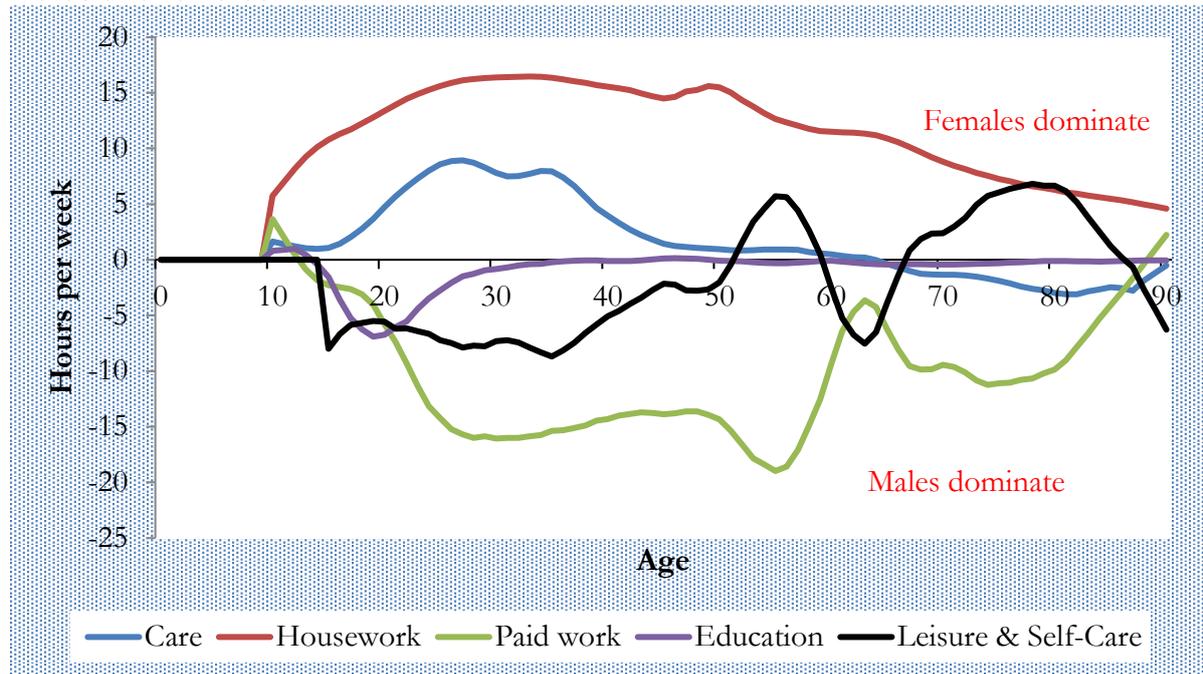
**Figure 1: Average time spent on individual activities by age, both sexes.**



Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

On a comparative level between males and females, Figure 2 indicates that males spend more time on paid work than their female counterparts, at almost every stage of their lives. Males spend more time in education than females while females dominated in the provision of care. However, after age 34, both genders spend no time at all on education – thus resulting in a zero difference between them. Another interesting result in terms of education is that girls mildly dominate boys in time spent on education until age 15, after which males dominate significantly until 34 years old. Yet from that age, the average Ghanaian does not receive formal education. Since students graduate from Basic Education in Ghana around age 15, the results could imply a large drop out of girls from school after they have received basic education, while the average boy pursues education to a high level. Regarding care, males' time spent is surprisingly higher than females' after age 65. A possible explanation could be the significant drop out of males from the labour force after retirement. Such an outcome is consistent with the time-availability theory, in that after retirement, men spend significantly less time on paid work and so are able to have time to spare to engage in housework.

**Figure 2: Differences in average time spent on individual activities by age between males and females.**



Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

Women predominantly engage in housework, devoting 10 hours per week more to these activities than their male counterparts do. In terms of leisure and self-care, men dominate from age 15 to 51 years, and thereafter dominance alternates between both genders. Because women spend more time on other household production activities, it is not surprising that men spend an average of 5 hours on personal care and leisure before age 50. The differences between men and women in time spent on these activities suggests a polarized gender division of labour – with the former specialising and dedicating most of their time to market-based activities, whereas the latter devote their time to household production activities. This finding strongly corroborates the decision to include household production in the analysis, which evidently would provide a comprehensive representation of the economic flows among age groups. This will become clearer in the next section after imputing wages on the time-based activities.

A further decomposition of household production into sub-categories is presented in Table 1. This is intended to provide minute details on which activities individuals dedicate more time to in the home.<sup>3</sup> Among these activities, cooking, child care and house management consume a significant chunk of the time spent on household production. However, in terms of the gender

<sup>3</sup>We present the average for both genders from age 10 to age 90. This is to further highlight the possible differences between males and females in general, and not specifically to particular age groups. We also present the results in both minutes and hours per week, since the average on an hourly basis mostly appeared as a decimal – which would make interpretation somewhat arduous.

differences<sup>4</sup>, cooking, laundry, shopping, cleaning and house management represent the largest share among the activities. This is clearly evident in the Ghanaian situation, where these activities are essentially described as female-oriented. The percentage differences for all the activities suggest that, on average, females spend more time on all activities in the household than males do.

The outcomes here can at least be explained by the Economic Bargaining theory, in that Ghanaian women spend less time on education than men do, and hence are less likely to have high income jobs. Consequently, women are unable to bargain out of domestic work. This is important because it implies that the solution to the inequality in housework between men and women could start with drawing more females into higher education.

The polarization of specialization of work between men and women would be efficient if women were better endowed with the human capital to provide housework relative to men, as suggested in Becker's (1981) model. Several researchers have however shown that such specialization results from nurture rather than nature. Thus, the Ghanaian economy could grow significantly if more women were able to participate in market production, a concept known as a *gender dividend* (Belohlav, 2016). Greater participation in paid work could give women more access to income, and help improve the wellbeing of the youth: as research shows that children benefit more when women are economically empowered (The World Bank, 2012).

**Table 1: Average weekly time spent on household production activities, comparing females to males, age group 10+.**

	Hours per week		Minutes per week		Difference (Female compared to male)		
	Male	Female	Male	Female	Hours	Minutes	%
Cooking	0.50	5.27	30	316	4.77	286	949
Cleaning	0.22	1.06	13	64	0.84	51	383
Laundry	0.18	1.03	11	62	0.86	52	489
House Management	0.36	1.67	22	100	1.31	79	366
Shopping	0.09	0.50	5	30	0.41	24	456
Travel	0.28	0.48	17	29	0.20	12	73
Other domestic jobs	0.57	0.69	34	41	0.12	7	22
Child care	0.80	3.69	48	221	2.88	173	360
Adult care	0.11	0.25	7	15	0.14	8	120

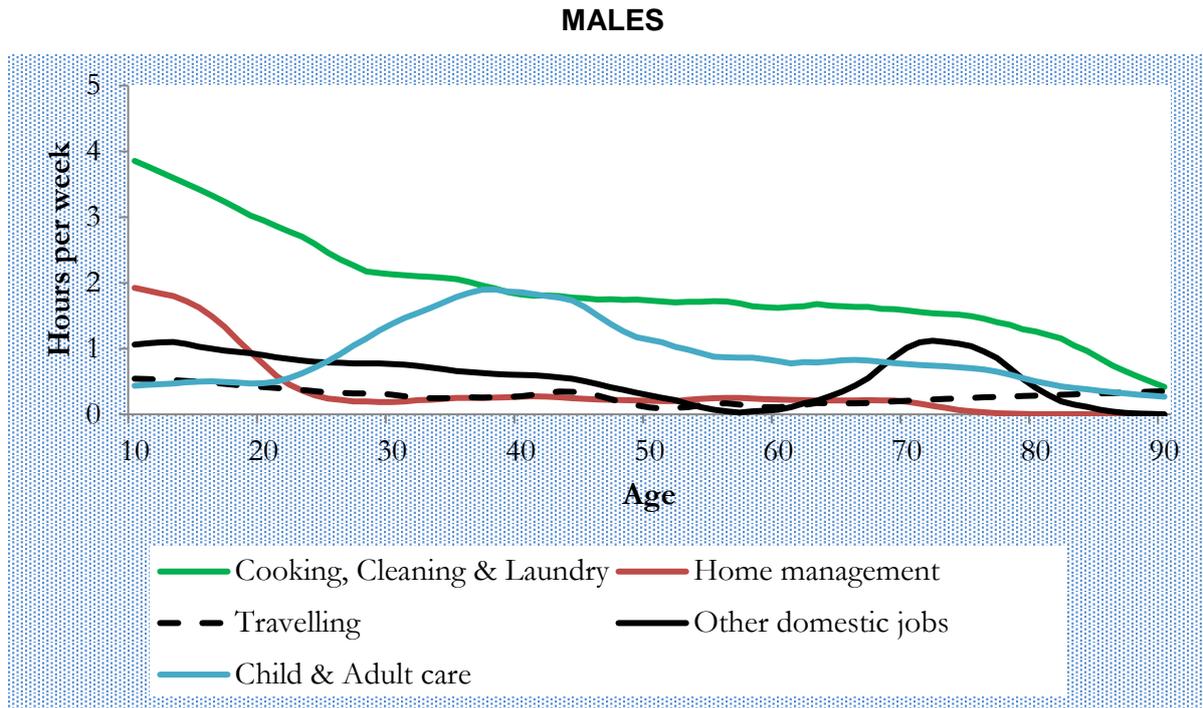
Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

<sup>4</sup>Differences are calculated as Females minus Males. The percentage differences are calculated relative to hours spent by males.

In Figures 3 and 4, we present the distribution of five categories of household production across age. The figures present the distribution of time dedicated to the selected household production activities by age for males and females, respectively. At age 10, boys spend about 4 hours per week cooking, cleaning and doing laundry. However, hours spent on these activities fall progressively as they age, and remain at approximately 2 hours per week after age 28. In contrast, the profile for females on the same activities is humped-shaped, which increases from 8 hours per week at age 10, and peaks when women are in their mid-thirties and they are spending about 15 hours per week cooking, cleaning and doing laundry. Thereafter, it falls gradually to about 4 hours to age 90. A possible reason why the profile on these activities starts falling from the mid-thirties, is because women become mothers and in some cases grandmothers. Hence, such activities can be distributed over the younger family members. Boys spend about half of girls' time performing these activities, but the gap between them increases significantly as they grow older. Cooking, cleaning and laundry, therefore, consume the largest share of the household time for both men and women.

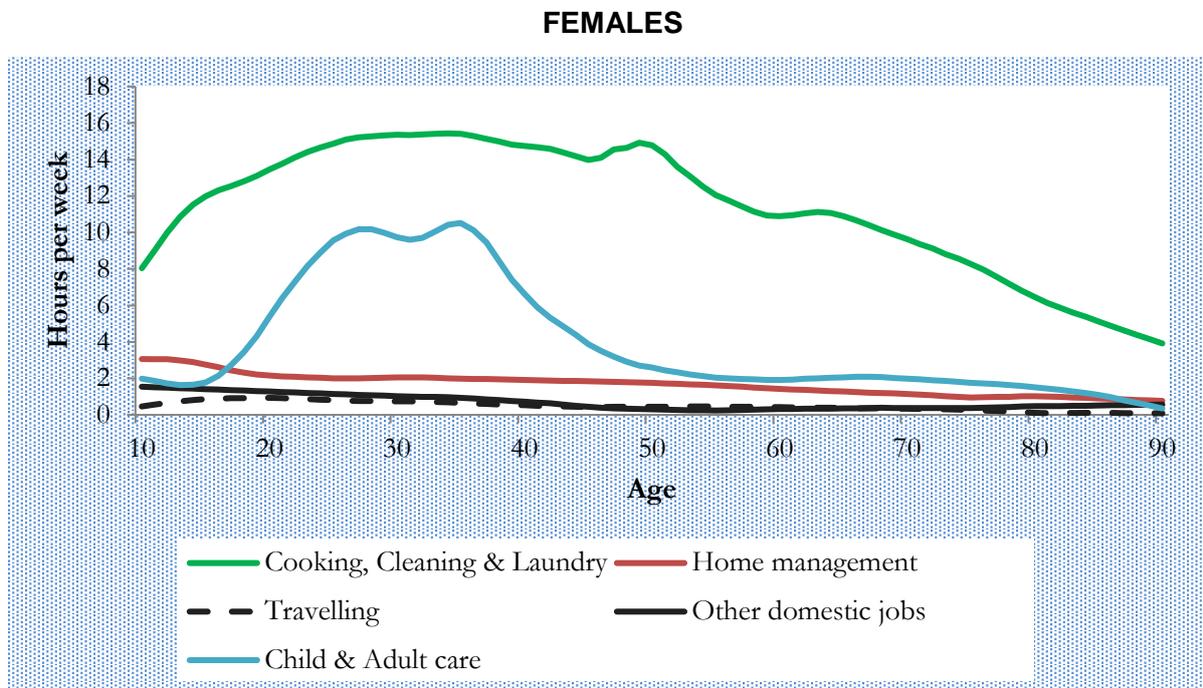
The distribution of the time devoted to the production of care (child and adult) also differs quite significantly between males and females, albeit they are subtly similar in terms of their hump-shape. On average, boys during their teenage years spend about 30 minutes per week producing home care. This increases gradually after age 20, and peaks at age 39, when they are spending about 2 hours per week in the production of care. Contrarily, girls between the ages of 10 and 15 spend 2 hours producing care activities per week. This increases swiftly thereafter, and women seemingly experience two peaks between the ages of 27 and 35. From the profile, it is evident that the bulk of care is concentrated between the ages of 20 and 40, when many women (couples) have young children.

**Figure 3: Average time spent on selected activities of household production by age, males.**



Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

**Figure 4: Average time spent on selected activities of household production by age, females.**



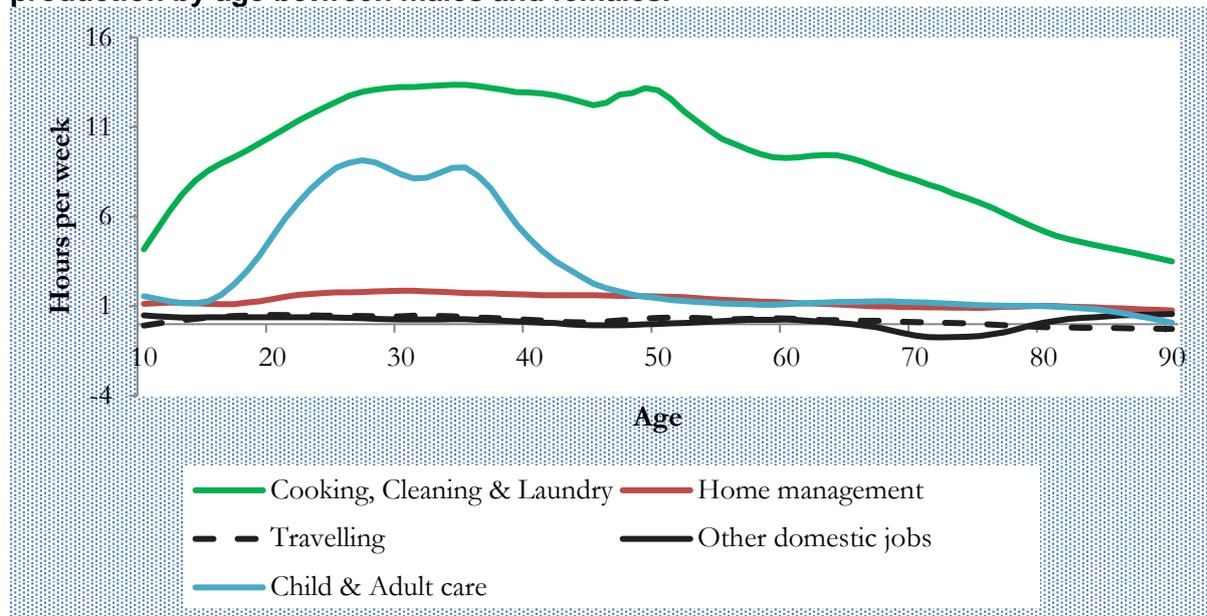
Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

Regarding general home management, the profile for females is relatively flat across all ages – with women spending an average of 2 hours per week on these activities. Males spend more

time on home management in their early years, but this plummets after age 15. They then devote fewer than 30 minutes per week to home management, which remains stable until after age 70, when time spent drops to zero. Home management here refers to planning and organizing affairs of the home including menu-planning, and so it is somewhat of a surprise that younger generations spend more time on this activity than the older generations do.

Figure 5 depicts the gender differences in average time spent on the selected activities described in the preceding paragraphs. Clearly, in terms of these household activities, the difference between males and females is compelling – particularly housework (i.e., cooking, cleaning and laundry), care, and general home management. However, the time devoted to travelling by both genders is about the same.

**Figure 5: Differences in average time spent on selected activities of household production by age between males and females.**



Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

#### 4.2. Monetizing Time-based Household Production

We convert our time-based household production into monetary units in order to hitch the results onto the market-based NTA results. In other words, we impute wages on the household production activities so that they can be combined with market-based results, which are linked to market production in national accounting. Essentially, imputing wages on the time-based results is sufficient to obtain their economic value. Ideally, gross wages on each activity within

the household are needed to perform the economic valuation of these activities.<sup>5</sup> However, we used the daily statutory minimum wage adjusted to hourly wage for all the activities.<sup>6</sup> Thus, we present and analyse the profile of the household (NTTA) and market (NTA) production in time and monetary units by age and sex. We further present the lifecycle for males and females under NTA and NTTA.

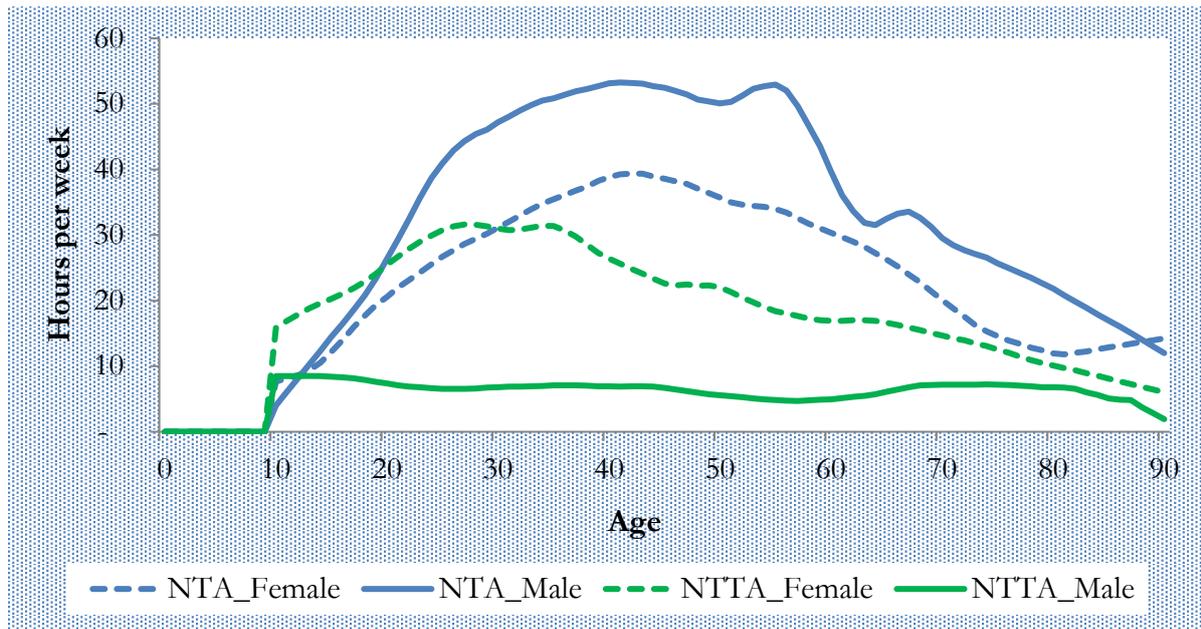
We begin by presenting the profiles of market and home production by age and sex (Figure 6). Clearly, men specialise in market-based activities whereas women specialise in home production. Figure 7, however, depicts the sum of these activities for both genders, which appears to indicate that women spend more time engaging in productive activities than their male counterparts, across most of their ages. Thus, there is strong evidence of “double shift” – where women spend more time engaged in productive activities than men. Women, at age 35 where the profile peaks, spend approx. 67 hours per week on productive activities; about 10 hours more than men of the same age. The profile for men peaks at age 42 when they spend about 60 hours per week on productive activities. After age 51, the total productive hours of men slightly exceed that of women, until age 60. In contrast, if only labour market production is considered, it appears that men spend more time engaged in such activity than women, across all ages.

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<sup>5</sup>Data on average hourly gross wages were obtained from ILO database for 2007. An attempt was made to grow the 2007 wages by per capita GDP growth from 2007 to 2009. However, these wages turned out to be lower than the minimum statutory wage instead.

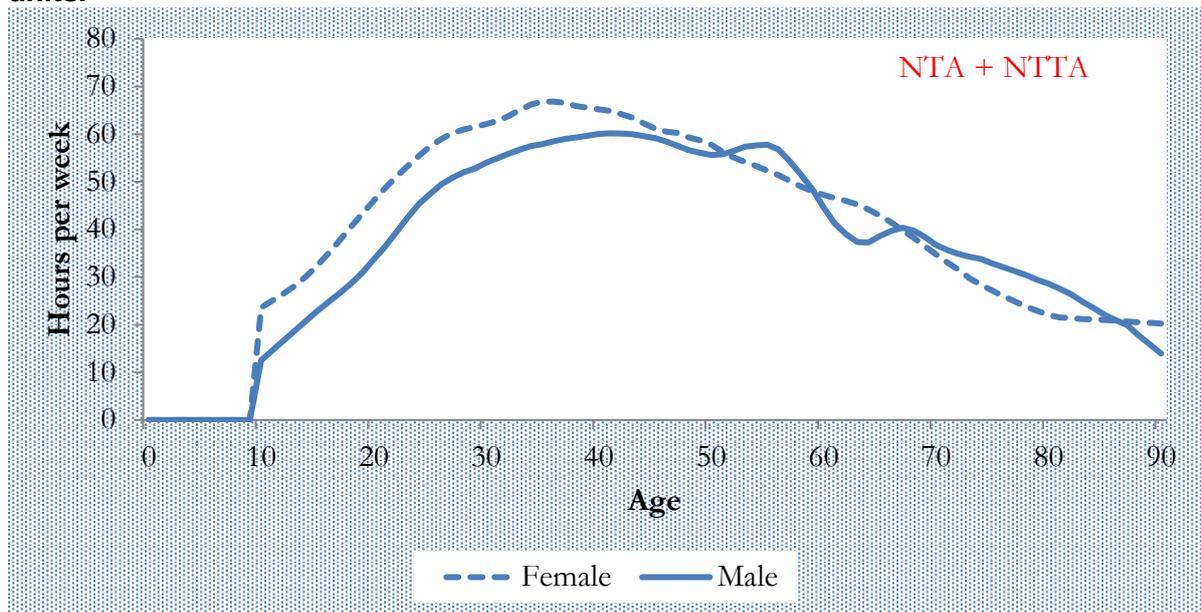
<sup>6</sup>Though this approach seems to suggest there is no variability in wages received by performing these different activities, we still find it seemingly innocuous to use it since the alternative would strongly underestimate their true value.

**Figure 6: Market and household production by age and sex measured in time units.**



Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

**Figure 7: Aggregate market and household production by age and sex measured in time units.**

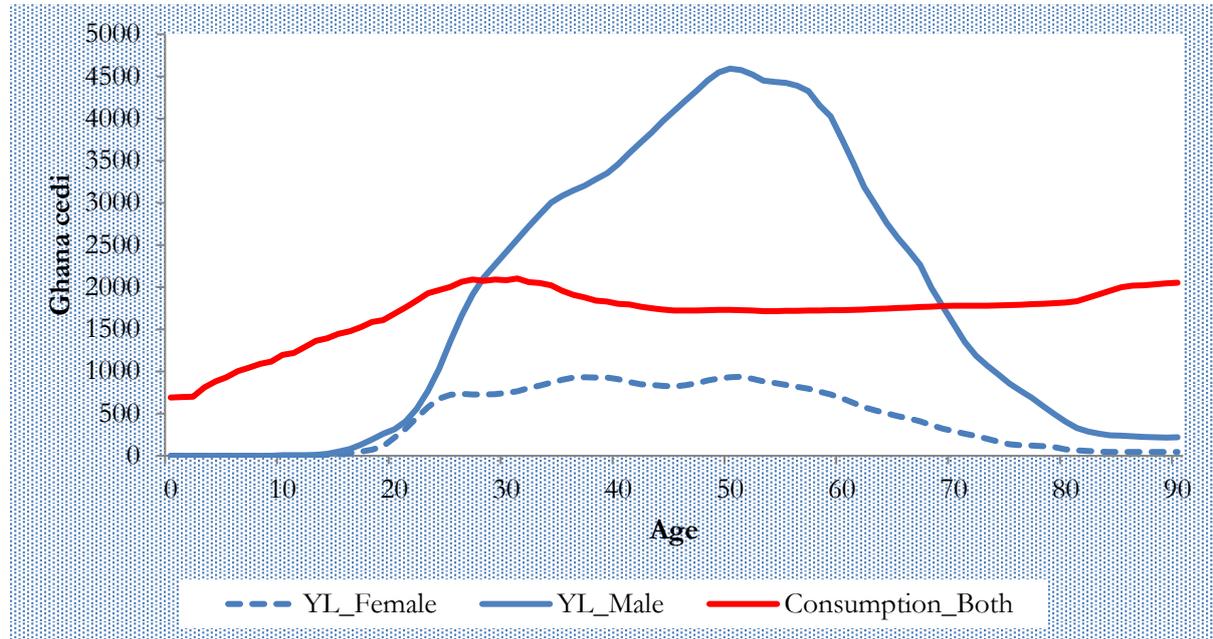


Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

Further, when we consider only the labour market profile (NTA) in monetary terms, the gap between males and females is large – and women do not overtake men at any age throughout the entire profile (Figure 8). We superimpose on the same coordinates the average consumption profile for both sexes. Again, it is clear that the deficit generated by women across all ages is huge, implying that women are dependent on men for the consumption and

production of market goods and services. This may be suggestive of a rather illusory conclusion that women's productivity has waned.

**Figure 8: Market-based productive activities by age and sex measured in monetary units.**

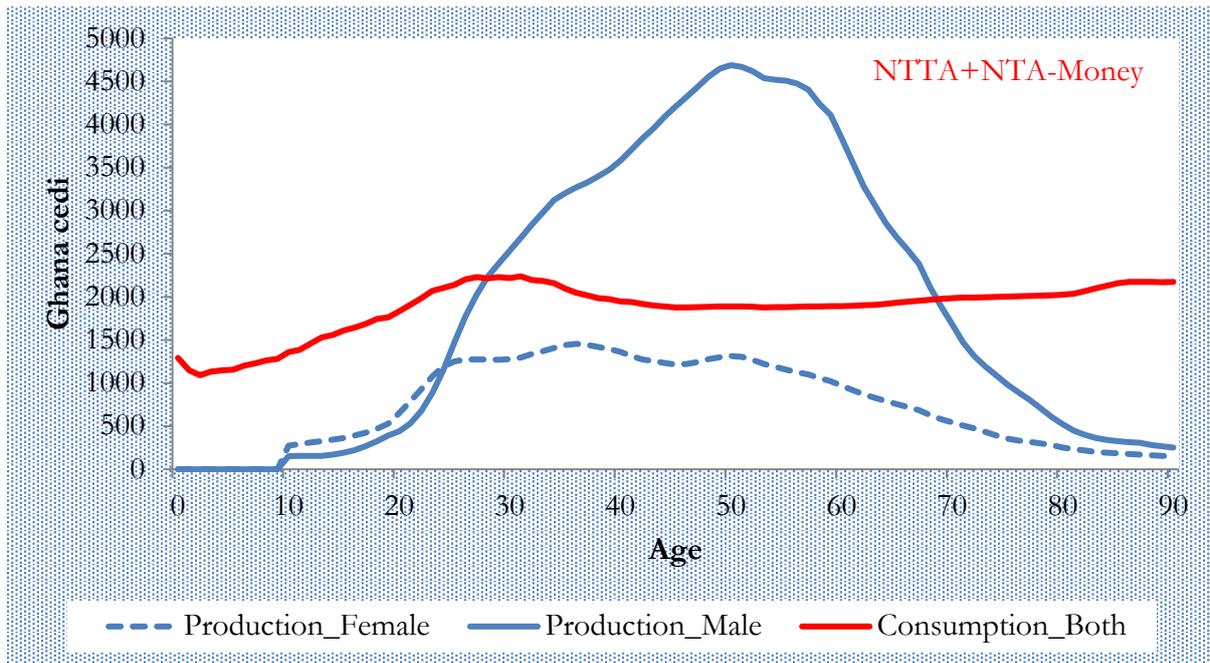


Source: GLSS, 2005 projected to 2009 (Ghana Statistical Service); Authors' calculations.

Figure 9 presents the profiles for both sexes when we consider unpaid work. Though females do not generate surplus, the gap between their profile and that of males is slightly reduced. This point is further exemplified by the lifecycle profile depicted in Figure 10. One sure reason for the slight reduction of the gap (though the total amount of time spent by women was significantly high), is the wages used to impute the economic value of these activities. The reason for the incommensurable increase in the monetary contribution of women is because of the low gross wage rate (minimum wage) used for the non-remunerated activities. This is low compared to other developing countries.<sup>7</sup> Nevertheless, the use of minimum wages for remunerating unpaid work is reasonable, as they match the wages paid to unskilled labour for housework.

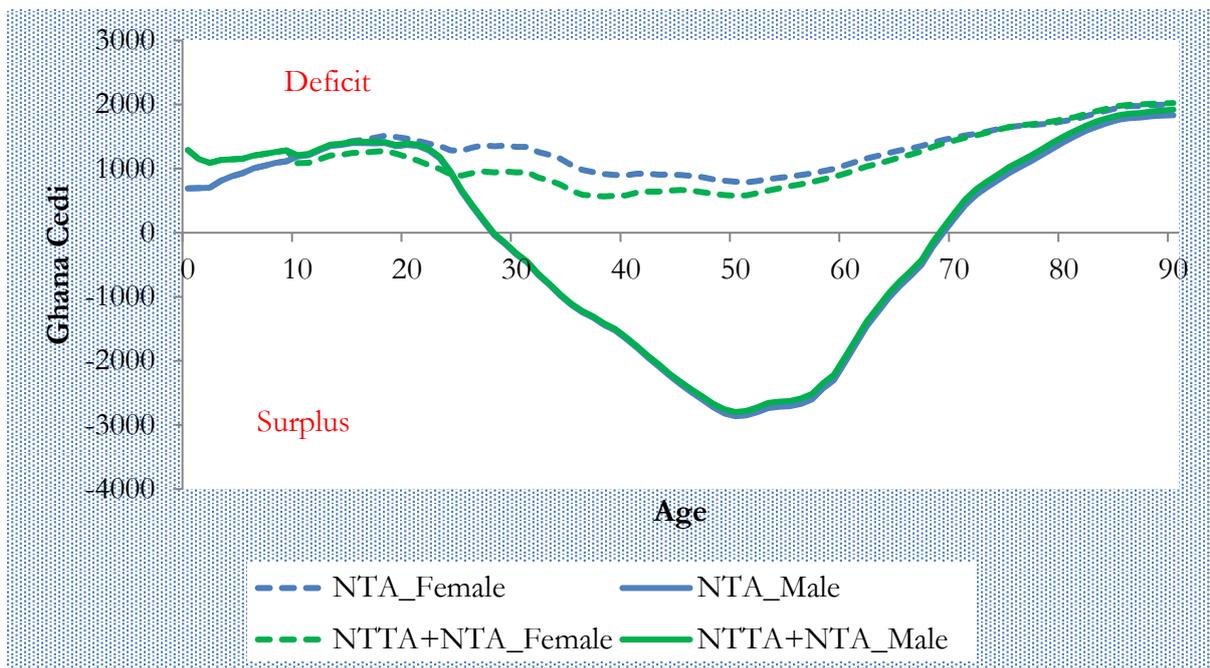
<sup>7</sup> Ghana embarked on wage and salary rationalisation in 2010 and adopted the Single Spine Pay Policy (SSPP) which invariably affected the setting of minimum wages. Wages have increased significantly from Gh¢2.65 in 2009, to Gh¢8 in January 2016, an increase of about 200%.

**Figure 2: Aggregate productive activities by age and sex measured in monetary units.**



Source: GTUS, 2009 and GLSS, 2005 (Ghana Statistical Service); Authors' calculations.

**Figure 3: Per capita lifecycle deficit by age and sex.**



Source: GTUS, 2009 and GLSS, 2005 (Ghana Statistical Service); Authors' calculations.

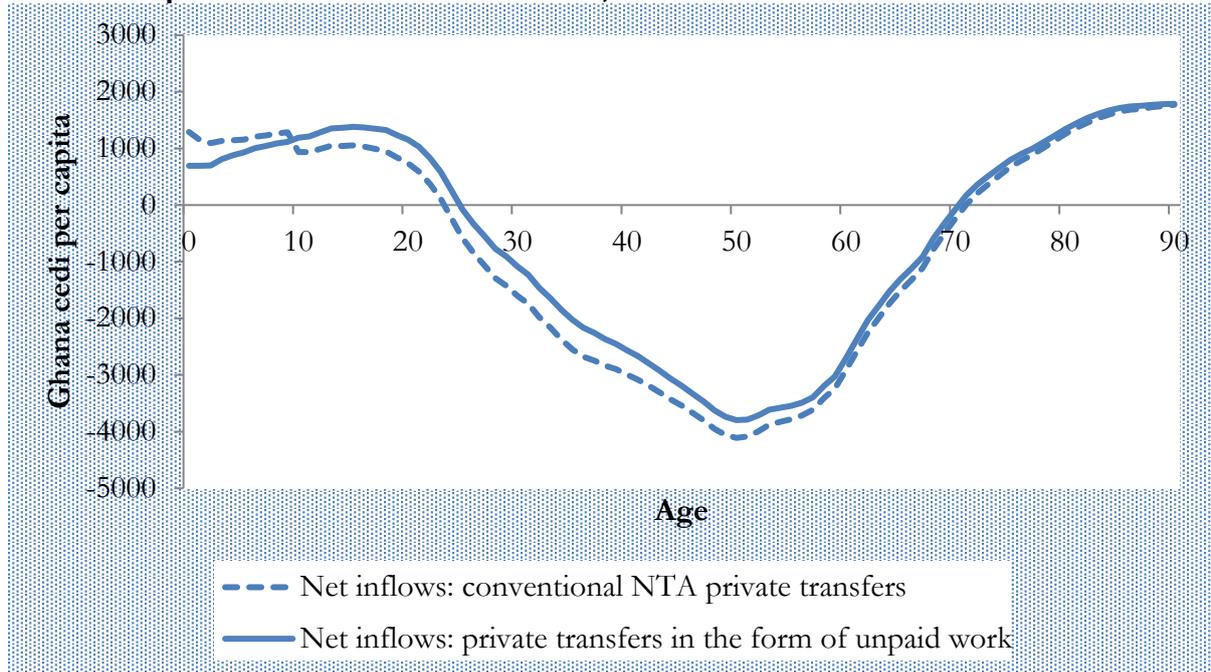
Conversely, the housework and market-based profiles for men virtually coincide, further accentuating the point about the low imputed wages, as well as the profoundly insignificant allocation of time towards housework for men. Thus, when all productive activities are taken into consideration, men generate lifecycle surplus from age 28 through to age 68. When only

market-based activities are considered, the lifecycle surplus is generated between the ages of 27 and 69.

Obviously, the above results show that Ghanaian women are disadvantaged. They spend more time than men working, especially in housework, but end up with less income making it necessary for them to depend on men for their consumption of goods and services. Such an outcome could be due to the relatively low level of education of females in Ghana (shown in Figure 3). Women are not given the opportunity to attain a high level of education that would allow them to develop the skills required to perform in high paying jobs. The Ghanaian economy then loses the potential growth from the large production that could result from educating and training more women. If women were able to reduce the amount of time spent on housework, they could dedicate that freed-up time to improving their skills and/or increasing their participation in market production. This would ultimately lead to the gain of a gender dividend.

We finally present the results on net private transfers originating from market-based production and household production – all in monetary terms not disaggregated by sex – to highlight the beneficiaries of private transfers. From Figure 11 it is evident that young children receive more net transfers in the form of household production (especially childcare) until age 9. Also in alignment with expectations, from age 10 to 25, market production contributes more to transfers received by young people. This may be due to families paying a lot on clothing, school fees, and spending on the provision of general goods and services. Net transfers in the form of household production become negative from as early as age 23, and spread through until age 72. Once net transfers in the form of household production assume negative values they outpace the negative values of net transfers related to market production. The elderly are also net receivers of net private transfers related to both household and market production. Thus, when we consider household production, we note that septuagenarians and beyond receive a lot of unpaid long-term care provided within families, often by a spouse or an adult own-child. With respect to market production, this group receive transfers in the form of social security and possibly private savings of some sort.

**Figure 4: Net private transfers by age: NTA market-based results supplemented by household production transfers for Ghana, 2009.**



Source: GTUS, 2009 and GLSS, 2005 (Ghana Statistical Service); Authors' calculations.

## 5 Conclusion

This study has shown that Ghanaian women are disadvantaged in that they spend more time than men in doing paid and unpaid work combined – but they are economically dependent on men. Society does not place enough value on their contribution to production, as a significant part of their work is not remunerated.

By way of extending earlier research on demographic dividend in the form of market production, and by supplementing transfers across age groups in the form of unpaid housework, the study sought to quantify the differences between paid and unpaid work by gender in Ghana. This was motivated by a quest to contribute to the measurement of women's work within the household, since their contribution to the economy has been hugely undervalued using the standard measurements of production such as GDP. More so, examining the economic flows by age, which the NTA project sought to highlight, is also bereft of the contribution emanating from each category of the gender divide. We find marked gender specialisation in productive activities. Our results support the existing view that women specialise in household production whereas men specialise in market production. Juxtaposing the time spent on household and market production disaggregated by sex, we find evidence of “double shift” – i.e. women spend more time on productive activities than men, at least across a significant spread of ages. Furthermore, we find that within household production,

women specialise in cooking, cleaning, laundry, shopping, care etc., whereas men subtly specialise in other domestic jobs.

After monetizing household production, we find that the gap between men and women in terms of lifecycle deficit is reduced. Additionally, children below age 10 receive more net transfers in the form of household production than net transfers of market-based production. However, young people between ages 10 and 25 receive net transfers of market-based production in the form of education, clothing etc. Elderly people from age 70 are also receivers of net transfers from both market and household production.

The findings from this research suggest some important policy considerations. Quite obviously, policies geared towards bridging the gender gap would be beneficial, particularly regarding total work load. The study makes three policy recommendations:

First, there is the need to encourage the education of girls and women to high levels. Women with higher levels of education and training are more likely to bargain for greater participation in paid work, than their less educated peers. By increasing the level of women's education, they will not only be able to work for longer in market employment, they will also be able to earn high-paying jobs and hence improve their economic empowerment.

Second, in order to free women to participate in paid work, housework could be outsourced. This could be in the form of availability of affordable day care and house help services. This would provide woman with the opportunity to participate in market employment and have access to income, without households losing the production of housework.

Third, the gender specialization does not encourage Ghanaian men to participate in care or housework. Even if women do not necessarily increase their labour force participation, they may need to reduce the time spent on housework in order to increase their time for leisure, of which they are so deprived. If men are endowed with the human capital for housework, then Ghanaian society has not tapped into that resource. By encouraging men to participate in housework, they could develop the skills for such activities, and hence relieve women of some of their workload.

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