

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

Eugenia Amporfu<sup>#</sup>, Daniel Sakyi<sup>↓</sup>, Prince Boakye Frimpong<sup>±</sup>, Eric Arthur<sup>§</sup>, Jacob Novignon<sup>‡</sup>

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## Abstract

National accounts are bereft of the time contributions of non-remunerated production mainly because there is no explicit economic compensation. Thus, disaggregating the national production by sex is quite illusive which seems to suggest that women's contribution is significantly lower than men's. In this study, we estimate the value and distribution of paid and unpaid work based on time-use survey data for Ghana in 2009 and to highlight the differences between men and women in performing these activities. We find that there is marked gender specialisation in productive activities – women specialise in household production whereas men specialise in market production. However, there is evidence of “double shift” – that is, women spend more time on productive activities for significant parts of their lives. We also find that there are significant net transfers of household production flowing from adults to children and elderly in a seemingly equal proportion. The findings suggest some key policies including bridging the gender gap regarding access to high level education, total work load and strengthening the support system to free time for women to increase their participation in paid work.

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

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<sup>#</sup> Department of Economics, KNUST, Kumasi, Ghana. Email: [eamporfu@gmail.com](mailto:eamporfu@gmail.com)

<sup>↓</sup> Department of Economics, KNUST, Kumasi, Ghana. Email: [dsakvi2003@yahoo.com](mailto:dsakvi2003@yahoo.com)

<sup>±</sup> Universitat Degli Studi di Milano, Milan, Italy. Email: [prince.frimpong@unimi.it](mailto:prince.frimpong@unimi.it) / [winconsin82@gmail.com](mailto:winconsin82@gmail.com)

<sup>§</sup> Department of Economics, KNUST, Kumasi, Ghana. Email: [earthur3@gmail.com](mailto:earthur3@gmail.com)

<sup>‡</sup> Department of Economics, KNUST, Kumasi, Ghana. Email: [nonjake@gmail.com](mailto:nonjake@gmail.com)

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## **1. Introduction**

Housework such as cooking, cleaning, and child/elderly care 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 household 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 household then can affect the economic, social, as well as the educational status of household members. Research (e.g., Craig, 2006; 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 hiring house helps and hence spend less time in housework. Second, household income can affect the type of technology that is adopted in housework as low income household are less likely to afford capital intensive technology and hence are more likely to adopt labour intensive technology for housework. The poor then spend longer time in housework than the rich. Thus gender inequity in housework may be less in rich households than 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 of 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 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 amount of time used for paid and unpaid work among males and females in the Ghanaian economy. Data was obtained from the Ghana Living Standard 2005 and the Ghana Time Use Survey 2009

## **1.1. Profile of unpaid work**

There has been extensive research on the distribution of paid and unpaid work among males and females (Bianchi and Milkie, 2010) in the household. 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 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. Ghanaian Living Standard Survey, 2006 shows that 69 percent of Ghanaian female working population was involved in paid work compared to 71 percent for males. However, in addition to the paid work, the average Ghanaian woman spends 6.32 hours per day on unpaid work while the male counterpart spends 4.20 on unpaid work. This is consistent with earlier research finding that men have better leisure time than women in terms of length and quality. While men get long uninterrupted leisure time, women's short leisure time is often interrupted by house chores especially childcare (Bittman and Wajcman, 2000).

According to UNDP's Human Development Report (1995 HDR), the estimated value of unpaid work was about US\$16 billion at the global level, of which US\$11 billion represent the invisible contribution of 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, 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, 1996).

Research using Ghanaian data is scanty but all show 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 their workplace is mainly due to family demand placed on them for housework. The greater the family demand and the less help received, the more time women need to spend on housework (Silver and Goldscheider, 1994).

These studies are similar to the various studies on housework in that they conclude that women's specialization in housework impedes their ability to attain high 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 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. The 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 with a focus on the socialist-feminist approaches, the specialisation perspective by Becker (1981), the Time Availability perspective, the Economic bargaining or relative resources perspective, the 'doing gender' perspective and gender attitudes perspective in explaining the allocation of household time between men and women.

The socialist feminist perspective links industrialisation to the separation of paid and unpaid labour and the development of the role of 'housewife' which represent the oppression of

women (Barrett and 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 the 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 and McIntosh, 1982) and hence can be controlled by men. The theory however does not explain why men would want women oppressed.

Becker (1981) in his theory of allocation of time considers the household as a small factory and argued that members of the household divided their time between paid work, housework and leisure based on their priorities. Unpaid work was treated as a micro level phenomenon, without any gender dimension. In this microeconomic model, Becker (1981) argues that husbands' traditional responsibility for breadwinning and wives' responsibility for homemaking arises 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 woman earns more than her husband, the husband will specialise in unpaid work. Becker further argues that women have a biological advantage over men in childcare and nursing, 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 dominate in most housework activities even apart from childcare. Moreover, if the consensus exists then one would not observe women doing paid work with men and also doing more unpaid work in the house than men.

The third theory, the *Time Availability Theory*, has 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 wives or husbands pick 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 toward the household labour. Conceptualized this way, 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 the 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 women participation rate in paid work is low because they do not have much time left after time spent 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 in housework.

The *Economic Bargaining Model* assumes that partners have potentially conflicting interest, 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 unpaid household work. Thus, higher education and income relative to one's partner translates into more power and to the avoidance of domestic tasks. A woman with a higher personal income then should do less housework than her husband. A related argument is that women are primarily responsible for domestic work because they are economically dependent and cannot bargain out of domestic work.

A fourth set of argument that has been put up is the gender perspective. There are two strands of the gender perspective; the "doing gender" approach and the gender attitudes approach. The 'doing gender' approach sees housework as a symbolic enactment of gender relations where wives and husbands display their 'proper' gender roles by 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. Work 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 and John, 1996; 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 reasons more general, will almost certainly have an impact on how domestic work is shared.

Despite the apparent problem with each of the theories discussed above, they may be very useful in helping interpret some of results in the current study. The main contribution of this study is to estimate the value and distribution of paid and unpaid work in Ghana. To do so, we use the Ghana Living Standard Survey (GLSS) of 2005 (Ghana Statistical Service, 2006) and the Ghana Time Use Survey (GTUS) of 2009 (Ghana Statistical Service, 2012) to estimate the 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 the study is structured as follows. The next section is devoted to the material and methods which is followed by results and conclusion.

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

#### **3.1. Data**

We use the Ghana Living Standard Survey (GLSS) of 2005 (Ghana Statistical Service, 2006) to estimate the remunerated profiles. This survey only accounts for production activities and earnings on 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

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



slots, which was used as the core instrument to record activities. Respondents were made 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 main anomalies that were fixed before the analysis. First, members who did not report any activity were excluded from the analysis. Second, members who reported less than 22 hours and above 25 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

The 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 theory of *economic lifecycle* which states how people decide to consume taking into account their earnings at each age (United Nations, 2013; Deaton, 2005). At each age, the consumption and production differ resulting in a gap which is covered with intergenerational transfers. Stated alternately, 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 responsible for asset reallocation (e.g., borrowing from the bank). The idea behind the NTA construction is illustrated in Equation (1).

$$\begin{array}{ccccccc}
 C - Y_l & = & Y_A - S & + & \underbrace{\tau_g^i - \tau_g^o}_{\text{Net public transfers}} & + & \underbrace{\tau_p^i - \tau_p^o}_{\text{Net private transfers}} \\
 \text{Lifecycle deficit} & & \text{Asset-based reallocations} & & & & \\
 & & & & \underbrace{\hspace{10em}}_{\text{Net transfers}} & & \\
 & & & & \underbrace{\hspace{10em}}_{\text{Age reallocations}} & & 
 \end{array} \tag{1}$$

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

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

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, when we consider only market production disaggregated by sex as described above, is apparent. Particularly, since the above methodology considers the real contributions of men and women appealing only to labour market side of the economy, it is quite illusive if we 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 to give a more real estimation of national production. Essentially, we seek to put economic value on the work people do for others and receive nothing as economic compensation. These activities include cooking, cleaning, care to household members, home management, etc. For the purpose of this study, we seek to estimate distinctively these unpaid productive activities performed by men and women with the aim at 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, since these activities could be performed equally by hiring a third person to perform them, it is innocuous to consider them as productive. 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 children 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 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 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) 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 a person who performs the same task in the market. Preference is given generally to the latter over the former because of its seemingly less complexity in the assignment of the market wage to each non-market activity. On the converse, the controversies sounding the use of the opportunity cost method make it less appropriate because housework value depends on the person performing the task, albeit 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 part analyses the age profiles of household production and highlight on the differences between males and females. In particular, we select some household activities such as cooking, cleaning, laundry to examine the differences in time spent performing them amongst males and females before we impute wages. In the second part of the section, we convert the time units of the 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 (e) leisure and personal care which include 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. However, in Figure 2, we present the differences between males and females on these activities 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. Paid work time rises gradually as one approaches the working age, peaks at age 45 and only starts falling after age 55. On average, the time spent on paid work for an average Ghana in 2009 is 40 hours per week. Interestingly, time spent on paid work falls significantly to about 10 hours a week after retirement; it does not fall to zero even at age 85. This means that the average Ghanaian remains in paid work even at very old age. The possible reason is the large informal sector, employing more than 80 percent of the population, where there not enough social security for majority of the workforce. Younger generations may provide support to the elderly but they still need to supplement the support 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 old, they transfer their paid work time to leisure and self care. However, they do not leave the paid work completely

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 age of their lives. The shape for differences in education and care are similar for both genders with males dominating the former and females the latter for most ages. However, regarding education, after age 34, both genders spend no time at all thus resulting in a zero difference between them. An interesting result on education is that girls mildly dominate boys in time spent on education until age 15 after which males dominate significantly till 34 after which 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 basic education while the average male pursues education to the high level. On care, males surprisingly dominate

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 for housework.

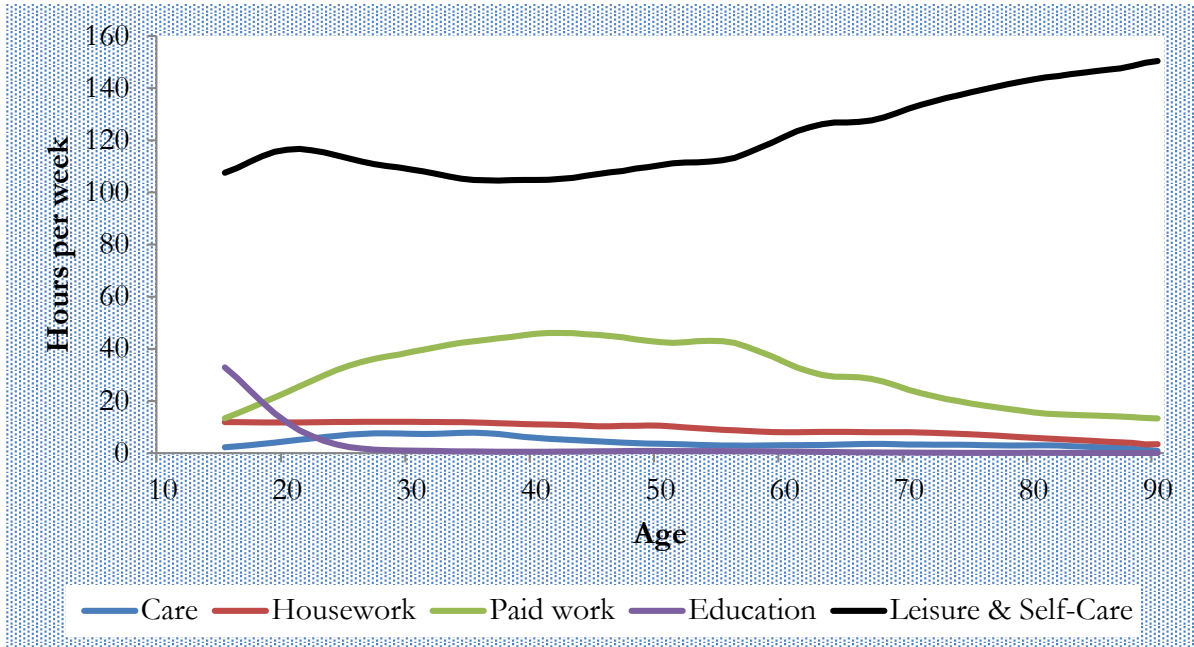


Figure 1: Average time spent on individual activities by age, both sexes. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

Women predominantly engage in housework devoting more than 10 hours per week than their men counterparts. On leisure and self-care, men dominate from age 15 to 51 years and thereafter alternate between both genders. Growing old, both genders recognise the need to engage in personal care and leisure so it is not surprising to witness the alternating differences between men and women. However, 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. From the foregoing the differences in these activities between men and women suggest a polarized gender division of labour with the former specialising and dedicating most of their time in market-based activities whereas the latter devote their time in 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.

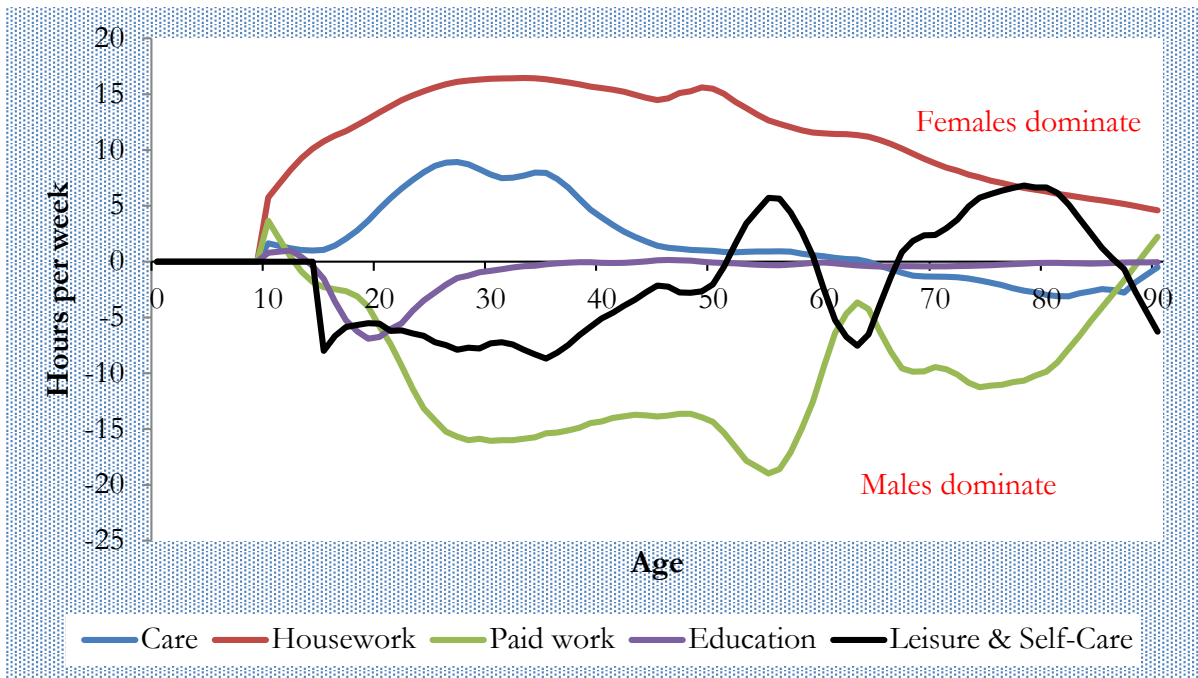


Figure 2: Differences in average time spent on individual activities by age between males and females. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

A further decomposition of household production into sub-categories is presented in Table 1 which 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 significant chunk of the time spent on household production. However, in terms of the gender differences<sup>4</sup>, cooking, laundry, shopping, cleaning and house management represent the largest share among the activities. This situation 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 than males on all activities in the household.

The outcomes here can at least be explained by the Economic Bargaining theory in that Ghanaian women spend less time on education than men 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 getting more females into higher education.

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

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

The polarization of specialization of work between men and women would be efficient if women are better endowed with the human capital to provide housework relative to men, as suggested in Becker's (1981) model. Several researches have however shown that such specialization results from nurture rather than nature. Thus, the Ghanaian economy could grow significantly if more women are able to participate in market production, a concept known as 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 show 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

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 in their mid-thirties spending about 15 hours per week. Thereafter, it falls gradually to about 4 hours till age 90. A possible reason why the profile on these activities starts falling from the mid-thirties is because girls become mothers and in some cases grandmothers. Hence, such activities can be distributed over the

younger family members of some sort. Boys spend about half of girls' time performing these activities but the gap between them increases significantly as they grow old. 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 in producing home care. It increases gradually after age 20 and peaks at age 39 spending about 2 hours per week production care. Contrarily, girls between ages 10 and 15 spend 2 hours producing care activities per week and increases swiftly thereafter and seemingly experience two peaks between ages 27 and 35. From the profile, the bulk of care was concentrated between ages 20 and 40 when people had young children. This is similar to the profile of men though there is significant difference between the hours spent by them.

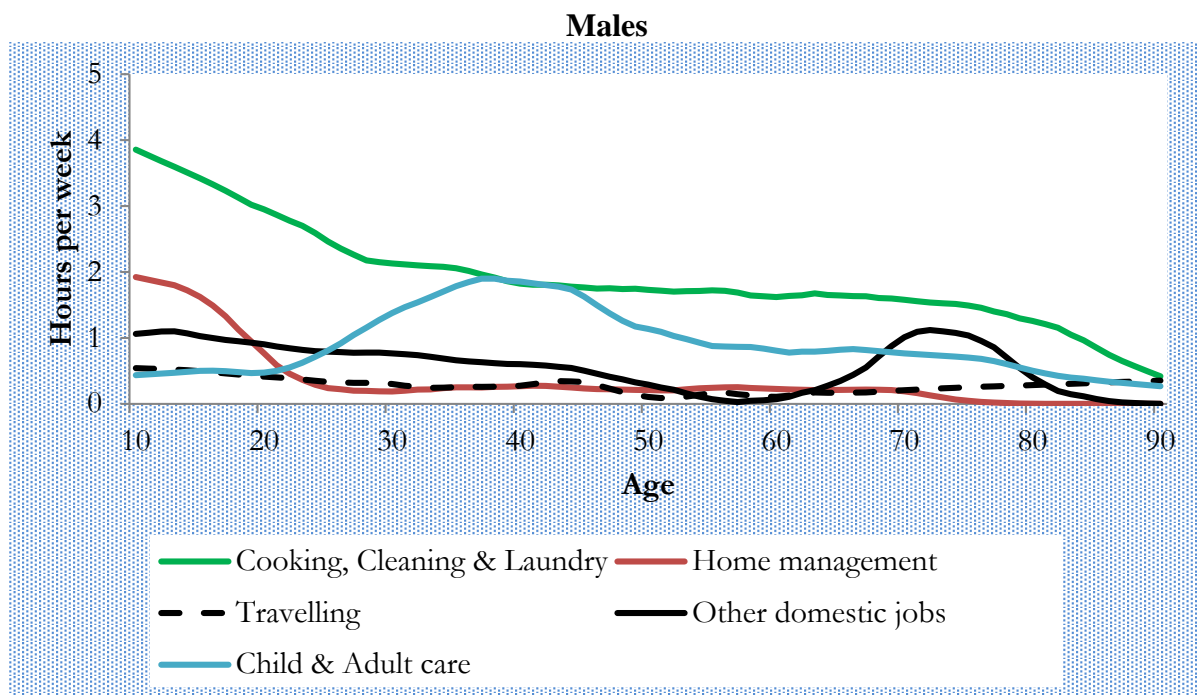


Figure 3: Average time spent on selected activities of household production by age, males. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

For general home management, the profile for females is relatively flat across all ages spending an average of 2 hours per week. Males spend more time in their early ages but plummets after age 15 and remains stable till after age 70 devoting less than 30 minutes per



week to home management. Time spent by males after age 70 drops to nothing which is not a departure of reality. The time devoted to travelling by both gender is about the same. Home management here refers to planning and organizing affairs of the home including menu-planning, and so it is a surprise that the younger generations spend more time on this than the older generations.

Figure 5 depicts the gender differences in average time spent on the selected activities described in the preceding paragraphs. Clearly, on these household activities, the difference between males and females is compelling particularly on housework (i.e., cooking, cleaning and laundry), care and general home management.

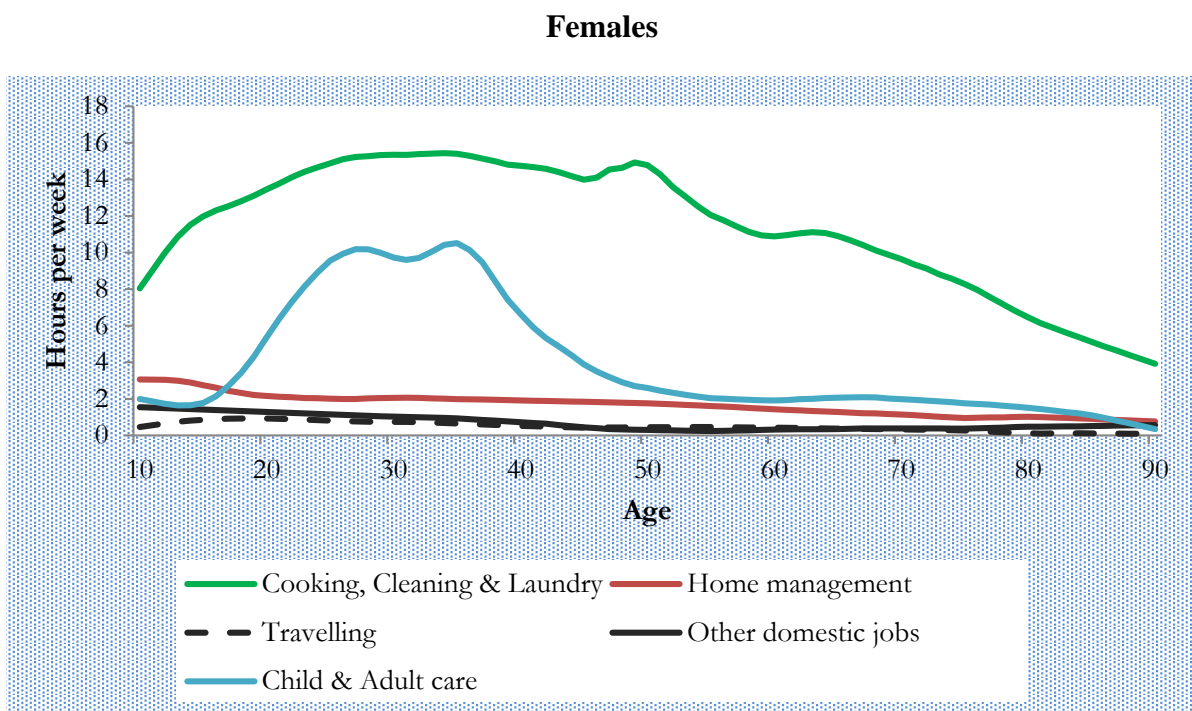


Figure 4: Average time spent on selected activities of household production by age, females. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

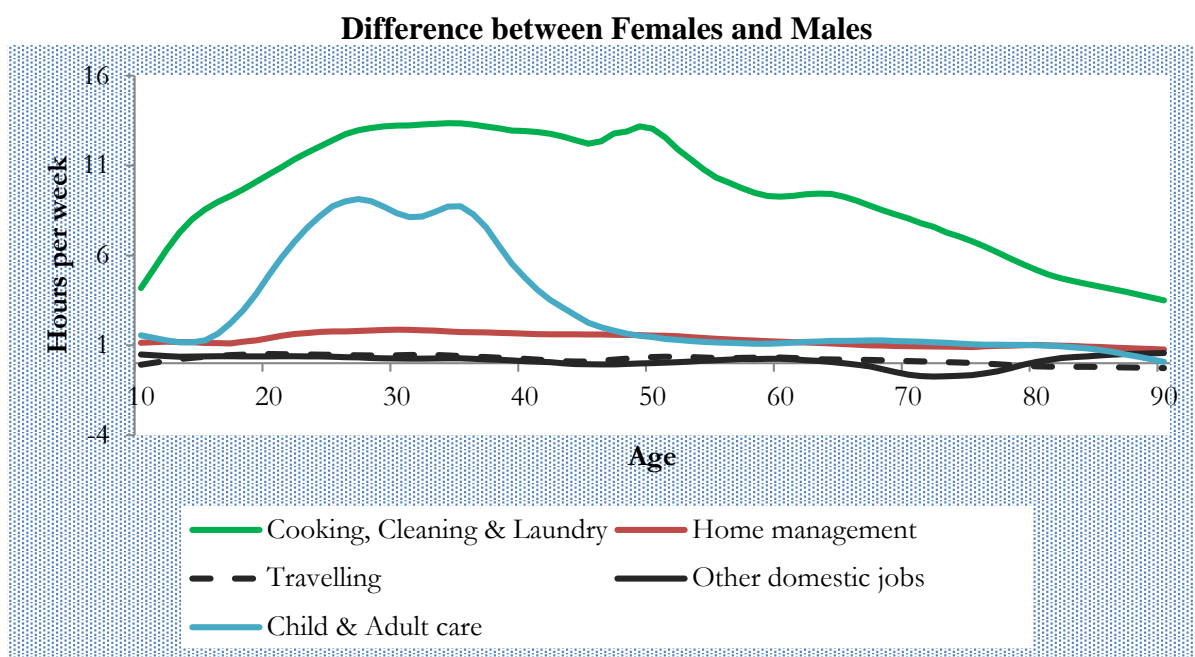


Figure 5: Differences in average time spent on selected activities of household production by age between males and females. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

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

We convert our time-based household production into monetary units in order to hitch on the results with the market-based NTA results. Stated differently, we impute wages on the household production activities so 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

<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.

apparently indicates that women spend more time engaging in productive activities than do their men counterparts for most part of their ages. Thus, there is evidence of “double shift” – women spend more time in productive activities than men. Women spend about 67 hours per week on productive activities at age 35 where the profile peaks; about 10 hours more than men of the same age. Men’s profile peaks at age 42 and they spend about 60 hours on productive activities. After age 51, the total productive hours of men slightly exceed that of women until age 60. In contrast, if we consider only labour market production, it appears men spend more time than women across all ages.

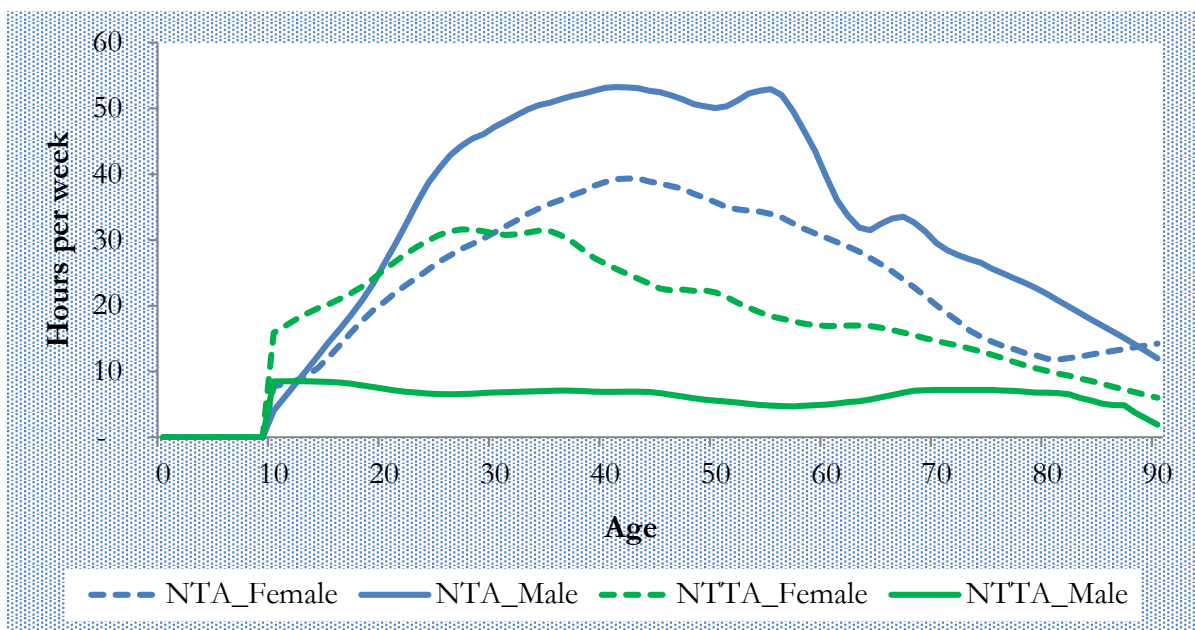


Figure 6: Market and household production by age and sex measured in time units. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors’ calculations.

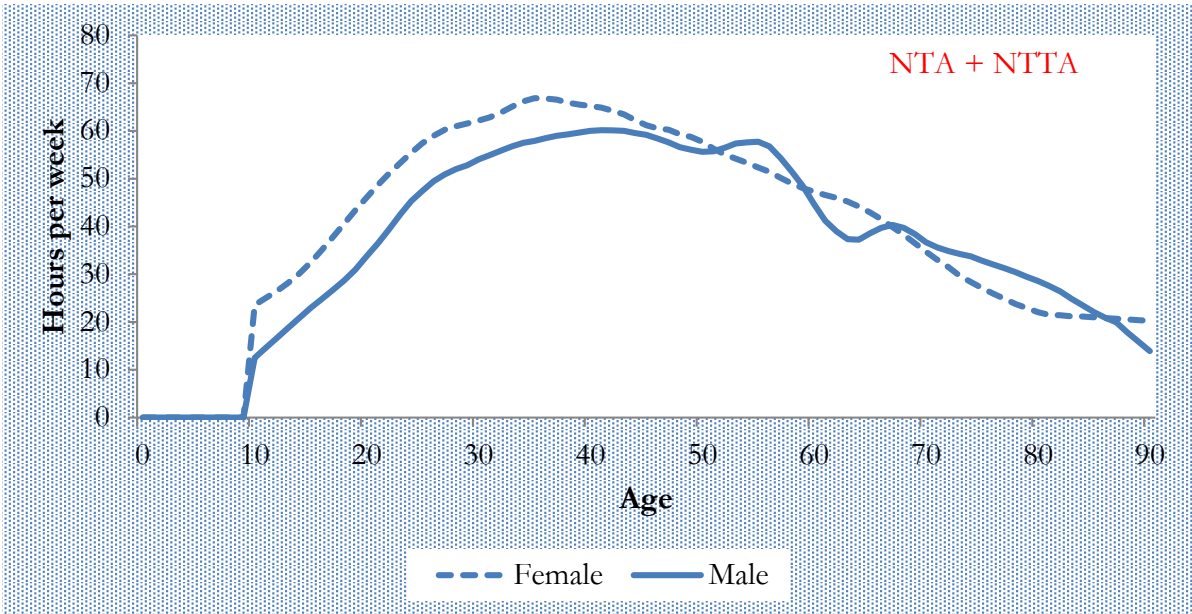


Figure 7: Aggregate market and household production by age and sex measured in time units. Source: Ghana Time Use Survey (Ghana Statistical Service, 2009); Authors' calculations.

Further, when we consider only labour market profile (NTA) in monetary terms, the gap between men and women is large and the latter does not overtake the former 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 is waned.

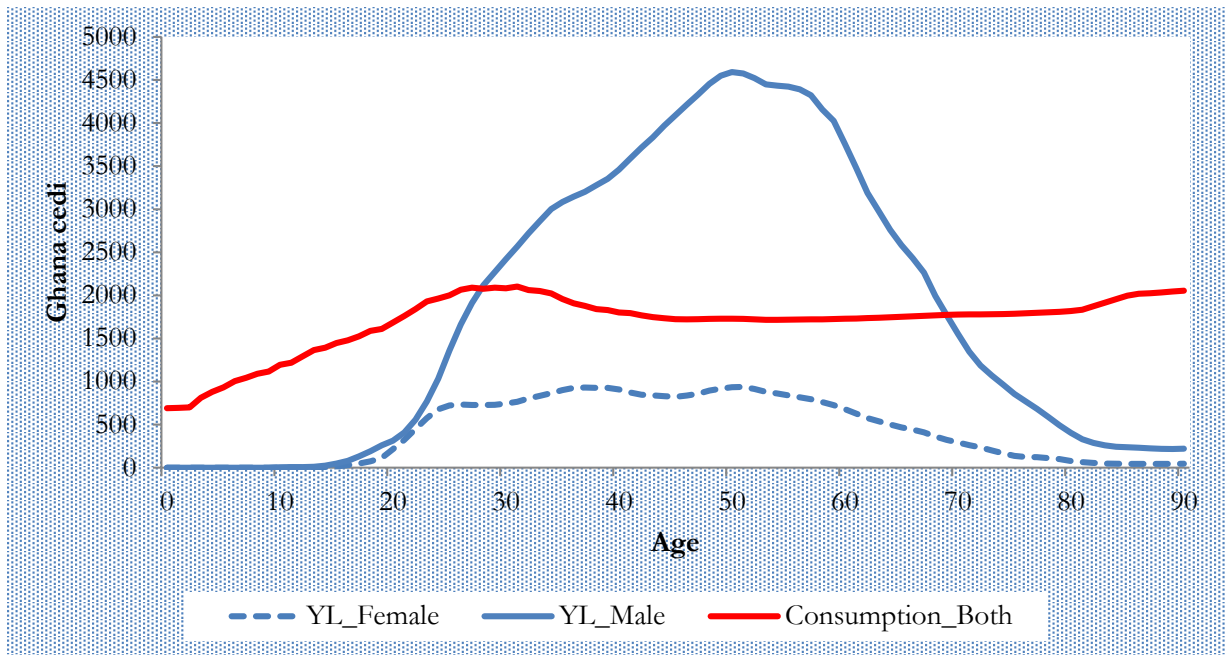


Figure 8: Market-based productive activities by age and sex measured in monetary units. Source: GLSS, 2005 projected to 2009 (Ghana Statistical Service); Authors' calculations.

Figure 9 presents the profiles for both sexes when we consider unpaid work. Though, women do not generate surplus, the gap between their profile and men 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 we 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 used for the non-remunerated activities which is low compared to other developing countries.<sup>7</sup> Nevertheless, the use of minimum wages for unpaid work is reasonable as they happen to the wages paid to unskilled labour for housework.

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. Lifecycle surplus is generated between ages 27 and 69 when market-based activities are only considered.

<sup>7</sup>Ghana embarked on wages and salaries 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%.

Obviously, 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 have 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 women shown in Figure 3. Women are not given the opportunity to attain high level of education to develop their skills for high paying jobs. The Ghanaian economy then loses the potential growth from the large production that could result from training more women in high education. If women are able to reduce the amount spent on housework, it could free up some time for them to improve their skills and/or increase their participation in market production leading to the gain of gender dividend.

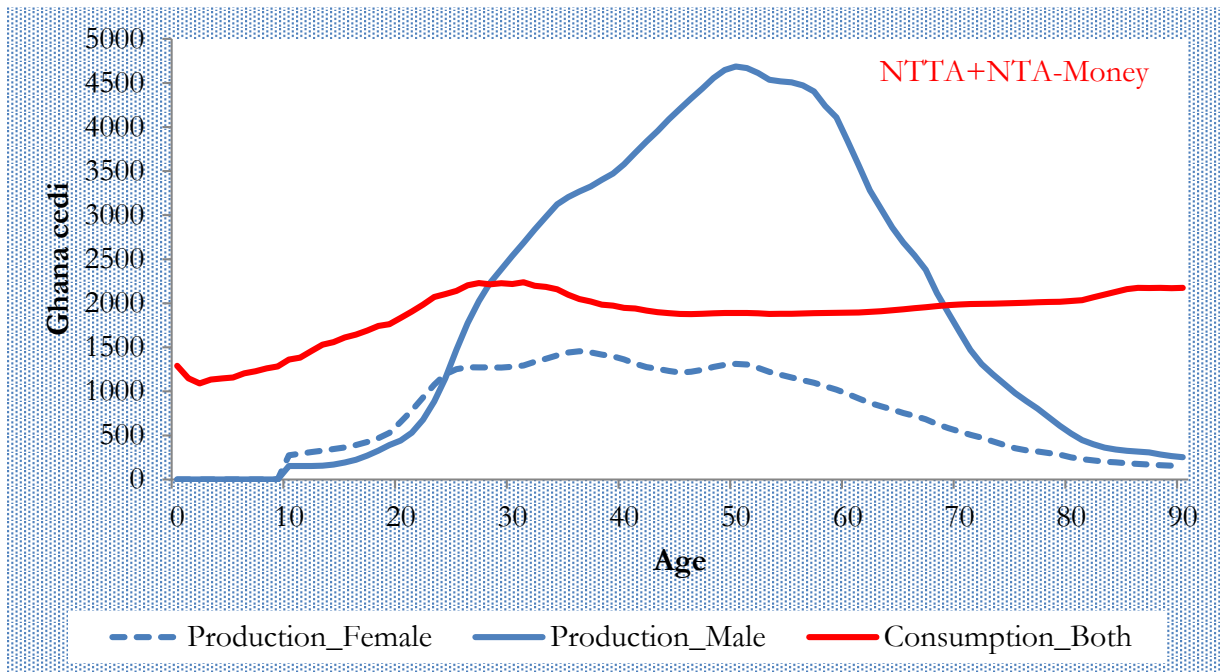


Figure 9: Aggregate productive activities by age and sex measured in monetary units. Source: GTUS, 2009 and GLSS, 2005 (Ghana Statistical Service); Authors' calculations.

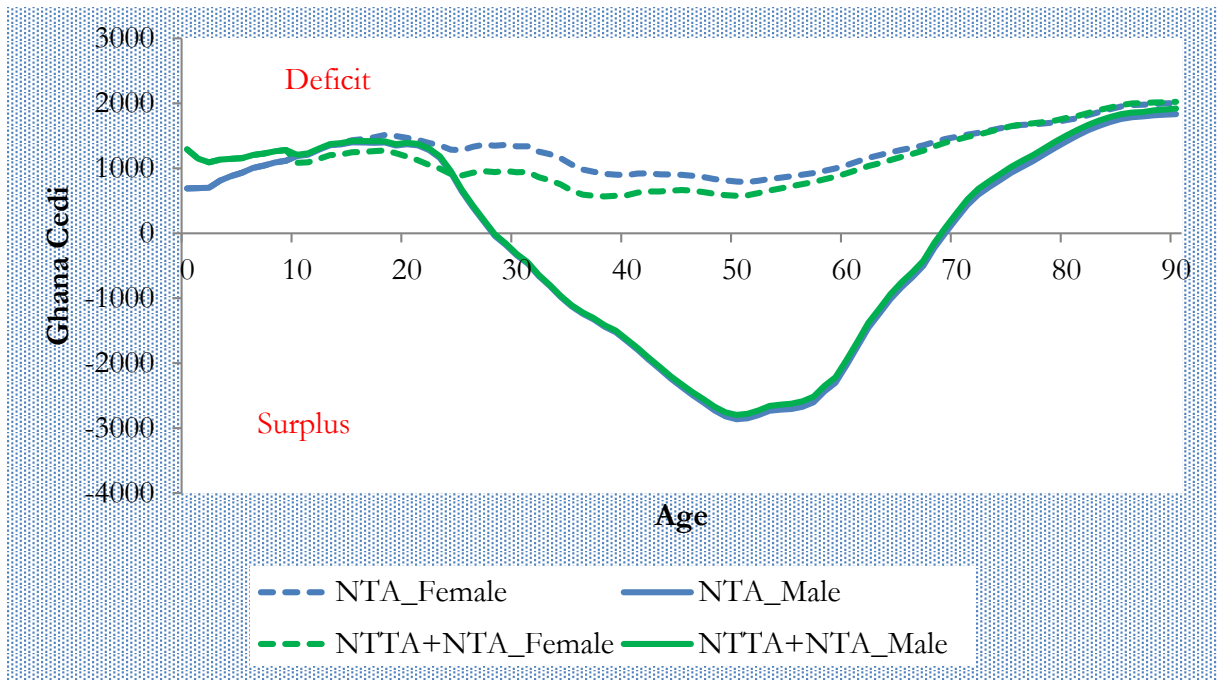


Figure 10: Per capita lifecycle deficit by age and sex. Source: GTUS, 2009 and GLSS, 2005 (Ghana Statistical Service); Authors' calculations.

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 of net transfers in the form of household production (especially childcare) until age 9. From age 10 to 25, market production contributes more to transfers received by young people, which is in alignment with expectations. This may be in terms of paying a lot on clothing, paying school fees, and the provision of general goods and services. Net transfers in the form of household production become negative 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 septuagenarians and beyond receive a lot of unpaid long-term care provided within families, often by a spouse or an adult own-child when we consider household production. With respect to market production, this group receive transfers in the form of social security and possibly private savings of some sort.

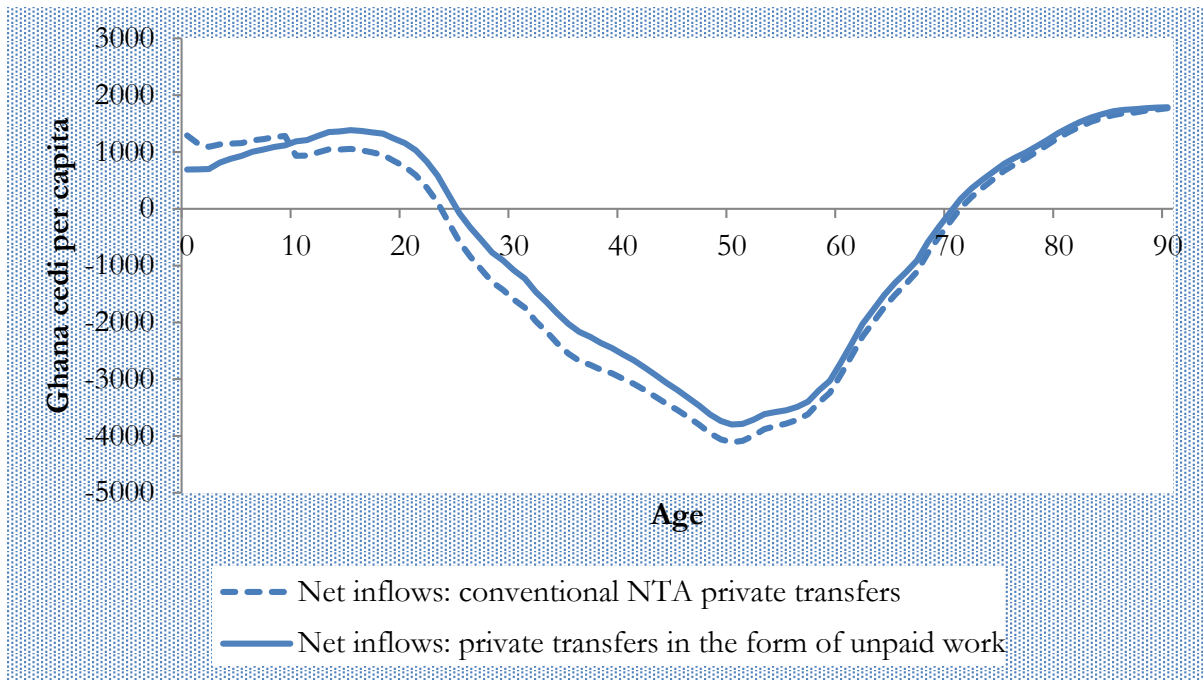


Figure 11: Net private transfers by age: NTA market-based results supplemented by household production transfers for Ghana, 2009. Source: GTUS, 2009 and GLSS, 2005 (Ghana Statistical Service); Authors' calculations.

## 5. Conclusion

The 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.

The study sought to quantify the differences between paid and unpaid work by gender in Ghana by way of extending earlier research on demographic dividend in the form of market production by supplementing transfers across age groups in the form of unpaid housework. This is motivated by our 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 for significant



number of ages in their lives. 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 monetising household production, we find that the gap between men and women in terms of lifecycle deficit is reduced. Additionally, children below age 10 receive net transfers in the form of household production more than the 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. Old 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 high level of education are more likely to bargain for greater participation in paid work than a less educated woman. By increasing women's level of education they will not only be able to work longer in market employment they will also be able to get 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 will provide opportunity for the woman to participate in market employment, have access to income, without giving losing the production of housework.

Third, the gender specialization does not encourage Ghanaian men to participate in housework. If men are endowed with the human capital for house work then the Ghanaian society has not tapped into that resource. By encouraging men to participate in housework they could develop the skill for housework and hence relieve women of their workload. Even if women do not increase in 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.

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