

COMPARISON OF METHODOLOGIES FOR ASSESSING UNPAID HOUSEHOLD LABOR IN INTERNATIONAL PRACTICE

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Introduction

In the scientific literature, unpaid household labor is considered as a set of activities aimed at maintaining household functioning and reproducing the labor force, which are not included in market turnover and do not receive monetary compensation. Such activities include childcare and eldercare, cooking, cleaning, laundry, household management, and the emotional support of family members. Despite the absence of market valuation, this type of labor has significant economic value, as it directly affects household welfare and the quality of human capital. Care responsibilities reduce women's time, talents, and income. This limits the number of hours that women and girls can devote to education, rest, and leisure, and forces many of them into low-paid and unstable employment. According to the ILO statistical brief "The impact of care responsibilities on women's participation in the global labour market," about 708 million women worldwide are not employed due to unpaid care responsibilities. In 2023, 748 million people (aged 15 and over) were outside the global labor force because they had to care for family members. This represents one-third of all working-age persons not engaged in the economy. Of these, 708 million were women and 40 million were men. Care responsibilities are the main barrier preventing women from entering the labor market, whereas men more often cite other reasons for not working, primarily education and health problems. Globally, about 1.6 billion women and 800 million men are not employed. Among women aged 25-54, the share citing care responsibilities as the reason for non-participation in the labor force rises to two-thirds (379 million women). Women with lower levels of education and those living in rural areas face these problems more frequently. Women bear a disproportionately large share of household work, which hinders their labor market participation. This is exacerbated by factors such as low educational attainment, limited employment opportunities, rural residence, underdeveloped social support systems, as well as prevailing social expectations and norms.

Literature Review

In academic research, unpaid household labor is viewed as a structurally significant but institutionally undervalued component of the socio-economic system, closely linked to human capital reproduction and household resilience. In the works of G. G. Evstifeeva, it is shown that a persistent gender asymmetry in the distribution of unpaid labor exists across all examined economies: women spend 2–3 times more time on housework and family care than men, even at comparable levels of formal sector employment [1]. Similar conclusions are presented in the collective study by M. S. Nugmanova, A. S. Salimzhanova, M. A. Zhaksilikov, T. A. Erbosynov, and A. Kusaiynkyzy, which, based on evidence from Kazakhstan, identifies the "double burden" effect among women and emphasizes the role of institutional and cultural factors in reproducing gender inequality - findings that are highly relevant for Central Asian countries, including Uzbekistan [2].

In the article by G. P. Gvozdeva, unpaid labor is analyzed as an important mechanism of household adaptation during periods of socio-economic crises. The study demonstrates that

under conditions of declining income and limited access to market services, the volume of unpaid labor increases, with the main burden again concentrated on women, thereby intensifying social and gender inequality [3]. A significant contribution to understanding the determinants of the gender gap in time spent on unpaid household labor is made by I. E. Kalabikhina, who emphasizes the influence of education level, marital status, presence of children, type of employment, and persistent gender norms. At the same time, the growth of women's economic activity is not accompanied by an adequate redistribution of domestic responsibilities [4].

In recent years, Uzbekistan has witnessed growing scholarly interest in unpaid household labor, gender inequality, and informal employment, driven by labor market transformations and the increasing role of state social policy. Contemporary studies emphasize that a substantial share of women's economic activity remains statistically invisible due to the combination of unpaid household work and informal sector employment. In particular, the works of S. M. Dusmatov and B. E. Tagaev show that the high level of informal employment in Uzbekistan limits workers' - especially women's - access to social protection systems and stable sources of income, thereby reproducing socio-economic inequality [6], while analytical materials from the Inson huquqlari portal highlight the particular vulnerability of women and youth who are forced to combine paid and unpaid work under conditions of insufficient institutional support [7]. International analytical reports and country reviews by the United Nations Development Programme complement national studies, emphasizing that unpaid household labor in Uzbekistan remains predominantly a female sphere of activity, and its undervaluation and lack of systematic statistical accounting hinder the development of effective employment and gender equality policies [5].

Overall, contemporary scholars agree that reducing the scale of unpaid labor and informal employment requires comprehensive measures, including the development of care infrastructure, expansion of formal employment, improvement of time-use surveys, and integration of gender analysis into the country's socio-economic policy [4; 5; 6].

Research Methodology

The research methodology is based on a combination of comparative, statistical, and computational-analytical approaches, which made it possible to compare international methods for assessing unpaid household labor and adapt them to the conditions of Uzbekistan. The information base includes data from the ILO, UNDP, the World Bank, the National Committee of the Republic of Uzbekistan on Statistics, and the results of a sociological survey conducted by the Institute for Forecasting and Macroeconomic Research. To measure the volume of unpaid labor, data from sample household surveys and opinion polls were used, since regular Time Use Surveys are not conducted in the country.

Monetary valuation was performed using two internationally recognized approaches - the market replacement cost method and the opportunity cost of time method. Taking into account gender segregation in the labor market and wage differentials, the study employs a combined approach that allows for consideration of both the market value of household services and women's potential earnings. The economic value of unpaid labor was calculated based on the average time spent on household duties and official data on average wages, ensuring comparability with international practice and enabling a more comprehensive assessment of the contribution of unpaid labor to socio-economic development.

Discussion and Results

Despite the absence of market valuation, unpaid labor has substantial economic value, as it directly affects household welfare and the quality of human capital.

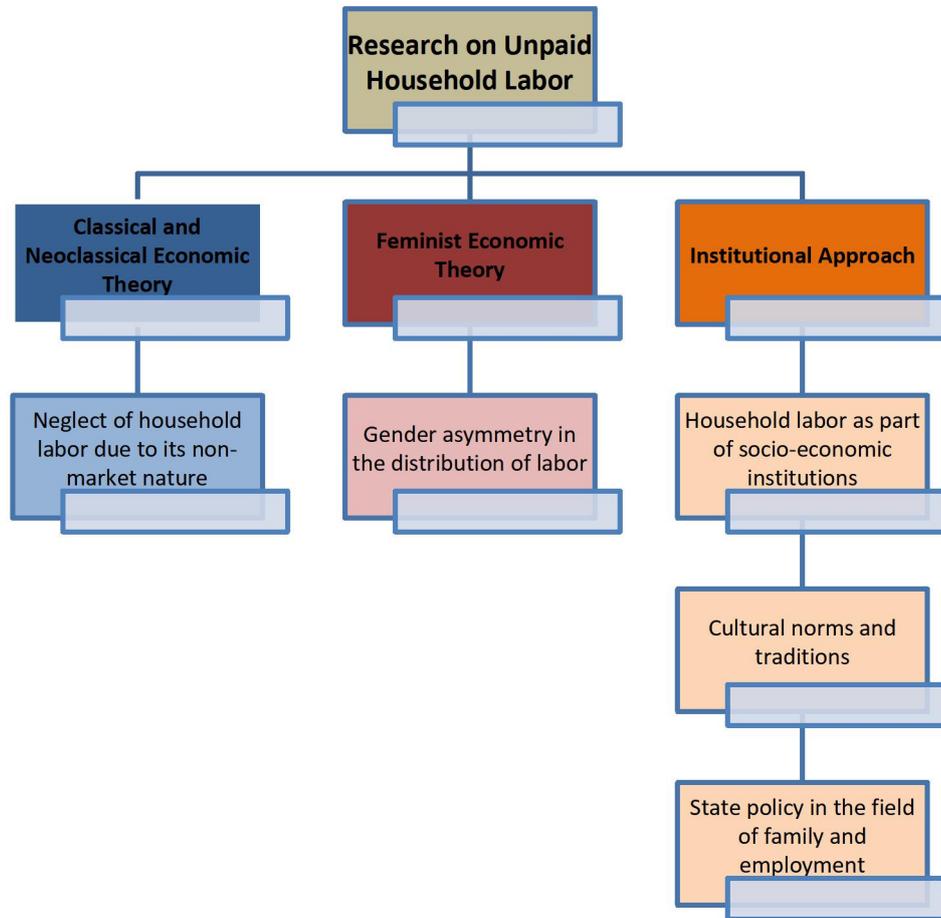


Figure 1. Theoretical approaches to the analysis of unpaid labor [7]

The diagram clearly illustrates three key theoretical approaches to the study of unpaid household labor. Classical and neoclassical economic theory emphasizes the historical neglect of household labor due to its non-market nature. Feminist economic theory focuses on gender asymmetry in the distribution of labor, the systematic underestimation of women’s contribution to the economy, and the need to recognize their role. The institutional approach considers household labor as an element of socio-economic institutions influenced by cultural norms, traditions, and public policy. Thus, a comprehensive understanding of unpaid labor requires the integration of economic, gender, and institutional perspectives.

Methods for Measuring Unpaid Household Labor

Time Use Surveys (TUS) are the most widespread and universal method for measuring unpaid household labor. They allow respondents to record all types of activities over a specified period, usually 24 hours or 1–7 days. These data make it possible to quantitatively assess time spent on household work, caregiving, volunteer activities, and other forms of activity, as well as to analyze the distribution of time between men and women and differences by age, marital status, and region. At the international level, the method is widely applied in OECD countries, the United States, Canada, Australia, and Japan, as well as in gender economics and labor studies. It is standardized by the United Nations and Eurostat, including through the use of household satellite accounts. In Uzbekistan, regular TUS have not yet been conducted, and information on household labor and caregiving is collected only fragmentarily through household social surveys,

which complicates a comprehensive assessment of gender inequality and women’s contribution to the economy. Nevertheless, the pilot implementation of TUS in urban and rural areas, followed by the integration of the data into national statistics, would provide reliable quantitative indicators and enable their use in the analysis and planning of the country’s social and economic policy.

Average Number of Hours Spent on Combined Paid and Unpaid Household Work by Gender [8]

| Indicators | 2018 | 2023 |
|------------------------------|------|------|
| Mens | 7,75 | 7,56 |
| <i>of which: unpaid part</i> | 2,15 | 2,18 |
| Womans | 7,62 | 7,29 |
| <i>of which: unpaid part</i> | 5,27 | 5,36 |

An analysis of the household sample survey data for Uzbekistan shows that the average number of hours spent on combined paid and unpaid work remained relatively stable for both men and women between 2018 and 2023. Men spend on average about 7.7 hours per day on total paid and unpaid work, with the unpaid component accounting for approximately 2.15–2.18 hours, indicating a slight increase in the unpaid workload. Women spend roughly 7.6–7.3 hours per day on similar activities, of which the unpaid component amounts to 5.27–5.36 hours - maining more than twice as high as that of men. These data confirm a persistent gender asymmetry in the distribution of household labor, with women continuing to bear the primary burden of unpaid work despite comparable total working time. This highlights the need for comprehensive measures aimed at reducing the gender gap and supporting women in both employment and household responsibilities. Most empirical studies confirm that the largest share of unpaid household labor worldwide is performed by women. Even with rising female participation in the formal sector, the burden of household management and caregiving remains unevenly distributed. This results in the so-called “double burden,” reduces women’s economic activity, limits career opportunities, and contributes to gender gaps in income and pensions.

Another method for studying household labor is the Replacement Cost Method, which estimates the economic value of unpaid household work based on the market price of services that would otherwise need to be purchased, such as those provided by nannies, cleaners, or cooks. This method makes it possible to convert unpaid work into a monetary equivalent and incorporate it into extended GDP indicators or household satellite accounts, thereby clearly reflecting the direct economic value of household labor from a market perspective.

At the international level, this method is widely used in OECD countries, the United States, and Europe to assess the contribution of household labor to the economy and to analyze gender gaps. In Uzbekistan, the method is not yet applied on a regular basis; however, its implementation is feasible based on data from pilot household surveys and the valuation of services at current market prices. This would make it possible to quantify women’s contribution to the economy through unpaid labor and to use the results in the development of social and economic policy.

The economic valuation of unpaid labor in this study is based on the Opportunity Cost Method, which involves quantifying the income forgone due to individuals’ engagement in unpaid activities. Under this approach, the value of unpaid labor is defined as the product of the

actual time spent and the potential average hourly wage that an individual could earn through participation in the formal sector of the economy.

The application of this method requires consideration of structural characteristics of the labor market, particularly gender segregation in employment, since the opportunity cost of time depends substantially on sectoral affiliation and wage levels. According to 2024 data, the employment structure in Uzbekistan is characterized by a pronounced gender concentration of women in socially oriented sectors. The largest shares of female employment are observed in health care and social services (74.8%) and in education (71.2%). These types of economic activity traditionally feature relatively lower wage levels compared with industrial, energy, and infrastructure sectors, where male employment predominates. Thus, an asymmetry in potential alternative earnings between women and men is already formed within the formal labor market. A relatively more balanced employment structure is observed in accommodation and food services (50.7% women) and in wholesale and retail trade (49.3%); however, these sectors also do not belong to the high-wage category. At the same time, the lowest female representation is recorded in construction (8.0%), mining (9.0%), energy, and transport, where employment is predominantly male (85-90%). These industries are characterized by higher average wages and, accordingly, higher opportunity costs of time.

From the perspective of the opportunity cost method, the identified gender segregation implies that the potential economic value of women's unpaid labor may be systematically underestimated if calculations rely solely on average wages in their sectors of actual employment. At the same time, the real socio-economic significance of women's unpaid labor remains high, since women are most heavily involved in caregiving, household production, and the maintenance of the reproductive functions of households. Moreover, in manufacturing and market services—such as financial activities, information and communication, and professional and scientific fields—the share of women ranges between 32% and 47%, indicating persistent institutional and structural constraints limiting women's access to more lucrative segments of the economy. This further widens the gap between actual and potential opportunity costs of women's time spent on unpaid labor.

Thus, the analysis confirms that the use of the opportunity cost method under conditions of a gender-segregated labor market, characteristic of Uzbekistan, requires careful interpretation. On the one hand, the method enables a quantitative assessment of income foregone due to unpaid work; on the other hand, it reflects existing structural inequalities and may underestimate women's contribution to societal economic welfare. This substantiates the need to combine the opportunity cost method with other valuation approaches and to account for gender and institutional factors in the formulation of social and labor policies.

Unpaid household labor has a significant impact on human capital formation, demographic processes, and social inequality. One of the key features of the modern economy is persistent gender inequality in the labor market, manifested both in women's participation rates and in wage levels. According to official data from the World Bank and the International Labour Organization (ILO), women's participation in Uzbekistan's labor force remains relatively low: in 2024 women accounted for approximately 35.44% of the labor force, significantly lagging behind men in the economically active population. According to national estimates, the female labor force participation rate was about 39.9% in 2020. These indicators show that less than half of working-age women actively participate in the labor market, which is substantially lower than the participation rate of men. The female-to-male participation ratio is approximately 54.5%, confirming a significant gender gap in economic activity. Analysis of unemployment levels also reveals gender differences. According to World Bank estimates, the unemployment rate among women in 2024 was about 6.63%, exceeding that of men and indicating greater female vulnerability in the labor market. Particularly acute difficulties are observed among youth: the

unemployment rate among women aged 15–24 reaches 15.5%, compared with 10% among men of the same age. The share of young women not in employment, education, or training (NEET) is 42%, which is nearly five times higher than the corresponding figure for young men (8.8%).

World Bank data indicate that women in Uzbekistan earn approximately 34% less than men, exceeding the global average gender pay gap (20%). Taken together, these official indicators demonstrate persistent gender inequality in the labor market, reflected both in women's limited access to economic activity and in higher risks of unemployment and lower earnings. These structural characteristics directly affect the valuation of unpaid labor using the opportunity cost method. Since women participate less frequently in formal employment and earn significantly lower wages when employed, the opportunity cost of time spent on unpaid work tends to be underestimated, which is important to consider when assessing its economic value. Under conditions of gender-segregated labor markets and persistent wage gaps between men and women, relying exclusively on the replacement cost method may also lead to an underestimation of the economic value of unpaid labor, while the opportunity cost method reflects existing institutional constraints. The empirical basis for estimating the economic value of unpaid labor in this study is a sociological survey conducted by experts of the Institute for Forecasting and Macroeconomic Research (IFMR). The survey covered 300 women aged 16-65 (average age 36) representing various sectors of economic activity. At the same time, 68% of respondents had higher education and 65.8% had two or more children, indicating a high combined burden associated with both employment and family responsibilities [9].

The survey results confirm the structural importance of unpaid labor in women's daily workload. In particular, an overwhelming majority of respondents (88%) believe that women should participate in paid employment; however, they simultaneously note that building a career is significantly more difficult for women than for men. One of the key constraints on career advancement is the heavy burden of unpaid household labor.

In this regard, the study proposes a combined approach that integrates elements of both methods.

Base formula

$$V_{unpaid} = \alpha * (H * W_{market}) + (1 - \alpha) * (H * W_{potential})$$

Where:

α - weight coefficient;

H - hours of unpaid labor;

W_{market} - replacement wage rate;

$W_{potential}$ - potential wage based on education or qualification.

Using this formula, the monetary value of unpaid labor per day can be calculated. The present study uses survey results from the Institute of Macroeconomic Research. According to the survey, women spend at least four hours daily on household duties that are not monetarily compensated and are classified as unpaid labor. For comparison, respondents estimate that men spend about one hour per day on similar activities. Thus, the survey results reveal a persistent gender gap in the distribution of time between paid and unpaid work. Based on these data, the value of unpaid labor in the Republic of Uzbekistan for 2025 was estimated. For the monetary valuation of one hour of labor, the average monthly wage in the republic (approximately 6.17 million UZS) was used. Under a standard working time of 160 hours per month, this corresponds to about 38,560 UZS per hour. Accordingly, four hours of unpaid labor are equivalent to 154,240 UZS per day, and the annual value of unpaid labor performed by one woman amounts to approximately 56.3 million UZS. These estimates reflect the economic equivalent of unpaid labor and clearly demonstrate the scale of women's contribution to household welfare and the economy as a whole, which is currently not captured in official macroeconomic indicators.

Conclusions and Recommendations

The study demonstrates that unpaid household labor remains an essential component of family life and makes a significant contribution to societal welfare, although this contribution is largely invisible in official statistics. Analysis of international experience confirms that in all countries the primary burden of household work and caregiving falls on women, and Uzbekistan is no exception. The results reveal a persistent gender gap in time spent on unpaid work, which constrains women's opportunities for professional advancement and full participation in the labor market.

The monetary valuation of unpaid labor clearly demonstrates its economic significance and the hidden contribution of women to economic development. In this regard, it is advisable to expand the statistical accounting of unpaid labor, introduce regular Time Use Surveys, and incorporate their results into social policy design. It is also important to develop childcare and eldercare infrastructure, create conditions for a more equitable distribution of household responsibilities, and expand women's opportunities in formal employment. The implementation of these measures will help reduce gender inequality and improve the efficiency of the country's labor potential.

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