Household Income Based on a Broad View of Production: The Contribution of Women

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I Introduction

The concept of broad household production was explored in a previous paper (Iyoda 2016) and in a subsequent version of the paper (Iyoda 2021). There it was shown that broad income analysis produces a very different picture of the household income distribution and of spousal contributions to household income. Using the same methods and framework, this current paper deals with the most recent estimates based on 2016 GDP data and considers additional issues (differential adjustments and comparisons).

Building on the finding of Hamada (2006) that the pseudo-Gini coefficient for unpaid household value is very low, we confirm our previous results showing the presence of substantial wage-earning differences between the sexes and between full- and part-time workers, and a large total work-hour difference between female spouses and the male head of household (HoH), with a far heavier burden imposed on working wives. To better accommodate a welfare point of view, we propose a way to effectively adjust for these differences.

Since estimates based on opportunity cost tend to understate the estimated value of unpaid work, we construct indices that will allow us to make differential adjustments for both wage-earning and work-hour differentials. We then compare the effects of using three different concepts of income—market income, broad income, and adjusted income—on the income distribution and on spousal contributions to household income.

As a result of our treatment, the real value of unpaid work is clearly explained. From a welfare perspective, considering household production has a powerful effect during the child rearing stage, not only on the income distribution but also on the contribution of the female spouse to household income (from an equality perspective). The true burden placed on married women is effectively established.

Macroeconomic Background: Stiglitz, Sen and Fitoussi (2009, p. 36) reported that household production in the U.S. amounted to 30% of conventionally measured GDP (1995-2006 average). Since personal consumption was 67% of GDP (2004), household production can be considered roughly equivalent to 45% of personal consumption. The Genuine Progress Indicator (GPI) considers personal consumption expenditures as a key driver. According to Talberth, Cobb and Slattery (2007, p. 9), "The value of housekeeping and parenting was roughly 33% of personal consumption expenditures in 2004; in 1950 it was 58%." In our calculation, the figure is closer to 65% (calculated from Table 1). Household production is thus a core part of GPI, second only to personal consumption expenditures.

While this macroeconomic background establishes the importance of household production, the inherent vagaries of the measurements make it difficult to assess the real value of such

production. To make precise comparisons, we need to consider the nature of the unpaid work covered and the method used in the valuation. Below, we note the available methods for estimating the value of unpaid work and propose an analytical framework for analysis

II Methodology
III Facts: A Broad View of Household Production (Equality and Inequality)
IV Differential Adjustments (Wages and Work Hours)
V Comparing Household Income by Sex and Family type
VI Adjustment Index for Macroeconomics

VII Conclusion

This study uses the same methods and framework that were used in our previous paper (Iyoda 2016) but includes the newest estimated DNA (RSAS) (2018) data for 2016. We found similar patterns of large differentials in both wage earning and work hours and proposed a method for constructing appropriate adjustment indices.

For the wage-earning index, full-time wage-earning serves as the numerical basis; for the work-hour index, the basis is the full-time work hours of men. Although the differences were large, we chose to use a modest half-rate adjustment. If desired, rates other than this half-rate may be similarly applied and assess the results.

The results of our comparative analysis using market income, broad income, and adjusted income are revealing. Firstly, in terms of welfare importance, housekeeping women are unrepresented in the market income approach based on current GDP. Secondly, introducing unpaid work provides a much different view of income equality and highlights the large contributions of the female spouse to household income. Thirdly, even our rather modest Ed adjustment amplifies the spouse's contributions to household income and the disproportionate burden placed on women.

It was also noted that data differentiating unpaid work by full-time versus part-time workers are lacking, as their work intentions are quite different in Japan.

Finally, our trial indices address two substantial data gaps: the large difference in the unpaid work values and unpaid work hours of married and single women and the differences between women during the child-rearing stage and women after this stage. In this regard, our "All" stage analysis may serve as a useful, if limited, reference, accepting that more work in this area needs to be done.

This research has several significant policy implications:
(1) Our analytical results (income distribution, women's contributions, etc.) have an important relation to the questions of low birth rate, work/life balance, and living standards.
(2) The household production that is replaced as an economy develops and more women go to work may increase income under the current GDP concept; however, this trend will not necessarily continue, as various factors such as the social and family system, religion, and the level of economic development are involved.
(3) To explore these issues, macroeconomic analyses based on averages are generally insufficient. The methodology and framework proposed in our work offers a promising alternative.