

Imputation for non-response of Household Income and Expenditure Survey (HIES)in Korea

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There is a need to impute the value of income and expenditure items of non-response households. Otherwise, the weights to the responded households should be changed to reflect the sample non-response.

On monthly average, only about 4,200 households complete the diary book-keeping from the sample of about 5,200 households in Korean HIES.

In this paper, I would like to introduce Korean imputation method for non-response in monthly HIES.

When imputing, we categorize both the responded and the non-responded households by 16 regions, 4 sorts of household head's occupation, and the number of household members;

- region : 7 metropolis like Seoul, Busan,... and 9 provinces.
 - household head : salary worker, wage worker, enterpriser, and no-occupation
 - number of household member : 2, 3-4, 5 or more.
- So, we have 192($16*4*3$) corresponding cells to impute.

In imputation, we simply reproduce data of a non-responded household by double entry of all the records of a chosen responded household in each cell.

We arrange the responded households by the magnitude of total income in each cell and select the respective households for double entry by the systematic sampling technique following the required extraction ratio.

For example, in Seoul* 2 person*wage worker cell, there were 38 responses and 17 non-responses. To impute, we arrange the 38 households by the magnitude of total income and select 17 households with $38/17*n$ -th interval. ($n=1,2,...17$. by rounding)

Before 1998, only 2 key categories of region and household head's occupation were applied, and since that time, number of household member has been added as another key in classifying corresponding cells for imputation.

We are studying developing another key in classifying the cells for more unbiased estimation in imputation. One of such promising key is an enumerated current income of last year which is surveyed in the beginning of each year for all the households of HIES.