



## The estimation of total consumption in the Eurosystem Household Finance and Consumption Survey

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This presentation builds on the work of Lamarche (2017) for the estimation of total consumption at the household level, from a set of expenditure questions covering a small number of items, applied to the case of the Household Finance and Consumption Survey (HFCS), and extended to the 2014 wave of this survey.

Given the focus on the measurement of assets and liabilities in the HFCS, and with the intention to limit reporting burden, the survey does not include the sufficient number of questions to directly measure total expenditure. The approach in the design of the HFCS follows from the work of Browning et al. (2003), where a subset of expenditure questions is used to estimate total non-durable consumption, using the correlation structure observed between different expenditure types and total consumption in an external source – the Household Budget Surveys in the present case. The selection of the items to use is based on the ease with which households can recall or estimate amounts (such as “food at home” or “utilities”), their impact on estimation of total consumption, the comparability of the variables between the two sources, and theoretical considerations.

The method has to overcome several hurdles. First, the observed distributions of specific expenditure items might differ between the budget and the wealth survey. Second, the method should properly account for different levels of uncertainty, and in particular the uncertainty of the coefficients in the estimated expenditure equation, the residual and its correlations with omitted or unobserved household and personal characteristics, and finally the possible misspecification of the estimated equation due to the failure of the Conditional Independence Assumption. We deal with these difficulties by applying in turn Monte-Carlo simulation and non-iterative Bayesian multiple imputation algorithms.

The results show that, as in the reference literature, the covariates selected (and available in the HFCS) have a high explanatory power, with adjusted  $R^2$  of between 0.70 to 0.81 at the household level, and the distributions of total non-durable consumption are generally consistent between the two sources, with a slight underestimation of the bottom of the distribution with the estimated consumption, although results vary by country. Consumption patterns by age, household type, or income quintile show general agreement between the estimated and the observed distribution of consumption.

**Keywords:** survey; wealth; consumption; estimation.