Extended abstract

In preindustrial agrarian societies, the household was the primary locus of production and consumption. Household members provide the labor needed to produce enough food and other goods to meet family needs. Traditional farming systems were characterized by human labor inputs, the limited or lack of use of fossil fuels (for tractors, for instance), the limited use of wage laborers, and household organization of production. Chayanov noted that the use of household labor distinguished smallholders from large-scale capitalist farming firms (Chayanov 1986). In his theory of the peasant economy, the balance of workers relative to consumers was essential to understanding how families meet their needs while minimizing the drudgery of additional labor. Chayanov further noted how the relationship of household labor supply to consumption needs changes as the family develops. In his simple model, the consumer/producer (C/P) ratio is followed from the formation of a new household by a couple through their childbearing years. As children are born, the C/P ratio becomes sharply unfavorable, placing an economic squeeze on the household that may be mediated by increased intensity of production, decreased consumption, or the acquisition of additional labor. In his consideration of the changing nature of household workers and consumers, Chayanov applied a set of age- and sex-weights to each household member, meant to represent their relative contributions to household production and nutritional needs. Similar insights were provided already at the beginning of the 20th century by Rowntree (1901 [2000], pp. 136–137) who noted that working class families can be expected to face economic problems mainly during two phases of the family life cycle: during the early family formation years, when young children are still an economic burden to the household, and during the empty-nest phase, when all the children have left home.

The idea of this paper is not to test whether Chayanov's or Rowntree's models are valid in macro- or microeconomic terms. Our approach does not focus on the marginal utility and disutility of labor, but on the consumer/producer (C_P) ratio generated over time in the developmental cycle of rural households in various historical settings. Focusing on this aspects of Chayanov's theory allows for an empirical comparative elaboration of his insights that each household can be expected to move across levels of well-being, governed by the number of its producers and consumers (all else being equal), as it progresses through the domestic cycle. Assessing this issue in a large-scale comparative setting creates unprecedented opportunities to explore one of historical demography's unpursued topics: the fluctuation of economic well-being over the domestic cycle in preindustrial Eurasia.

Accordingly, the empirical core of the paper will consist of computing the age-specific consumer-to-producer (C/P) ratios for a wide range of historical societies spanning from Catalonia in the west, to Siberia and northeast China in the east, between 1700 and 1926. Using census microdata from the Mosaic and the North Atlantic Population projects, as well as China Multi-Generational Panel Dataset (Shuangcheng), we reconstruct the C/P patterns for over 300 historical populations and map their distribution over space and time. This will be supplemented with comparing household well-being cycles between different forms of family organisation (nuclear, stem, joint), and between societies with different intensity of historical patriarchy as assessed through the Patriarchy Index (Gruber and Szołtysek 2016).

Methodology-wise, we will rely on creating synthetic cohorts for all quinquennial age-groups between 20 and 65+, with household heads treated as reference persons. All household members in these groups of households will be assigned age- and sex-based weights that are intended to approximate the relative nutritional needs and energetic outputs of individuals, following the scheme suggested by Hammel (2005). The production and consumption weights will then be summed over all of the household members in particular cohort and the summed

consumption weights are divided by the summed production weights to create the household-level C/P ratio.

Implications of this study are potentially far-reaching. To the best of our knowledge, nobody has so far provided robust computations of the dynamics of the domestic cycles on large scale for preindustrial Eurasia. Such account of the economics and well-being of the basic units of production and consumption may provide new grounds for answering why certain principles of household organisation might set different societies on differential developmental paths.