The Work-Leisure Tradeoff: Identifying the Heterogeneity

Gizem Koşar†
NY Fed

Ayşegül Şahin ‡
UT Austin

Basit Zafar §
ASU

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Abstract

Labor force participation is a key determinant of important aggregates in the economy, such as employment and hours worked. Understanding and predicting the behavior of participation in the macroeconomy requires identifying individuals’ tradeoff for work and leisure correctly, and the underlying heterogeneity. However, since observed work-leisure choices are influenced by various other determinants such as year, age, and cohort effects, it is difficult to identify the underlying heterogeneity in these preference parameters using standard data without imposing some additional assumptions. In addition, observational data suffer from issues such as labor market frictions and unobservables, which may lead to biased inference.

In this paper, we revisit this important issue by designing a novel survey that was fielded as a special module of the NY Fed’s Survey of Consumer Expectations (SCE) in December 2017. SCE is a monthly, online survey of a representative sample of US household heads. The survey has three main stages. In the first stage, we ask the respondents about their current labor market status, work hours, earnings, family composition, household wealth. In the second stage, we ask the survey participants to consider a hypothetical situation where everything about them is the same as their current situation except that they are currently not working. We then elicit information about their search behavior, subjective probability of receiving job offers and reservation wages. The information we gather in the first two stages helps us design individual-specific scenarios that are anchored around respondents’ current or most recent wages. In the third and final stage, we present the respondents with multiple scenarios, in each of which they are asked to choose between two different job offers. The scenarios vary work hours, wage offers, and the outside option of non-work. These scenarios are individual-specific, and take into account the individual’s household income, consumption, and current and past labor market history. In particular, each individual is offered ten scenarios based on the types of job they are willing to search for. Each scenario includes two job offers and the option of remaining unemployed and vary both wages and hours.

Using the rich variation that our survey provides us, we estimate a canonical labor supply model to recover the unique preference parameters separately for each demographic group (such as gender, education, and income) without imposing any parametric assumptions on the underlying distribution of the heterogeneity.

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†gizem.kosar@gmail.com
‡aysegul.sahin@austin.utexas.edu
§basitak@gmail.com
in preferences. The key ingredient of our framework is the optimization problem of an individual who maximizes her instantaneous utility with respect to consumption and hours of work, given her observable and unobservable characteristics and the choice of job type in a given period. The job types we consider are only part-time, only full-time, and both part-time and full-time jobs. We do not model the individual’s search decisions and wages, rather we take that as given. We assume that at the start of the period each individual is unemployed and each of them receive two job offers defined by wage-hours pairs and are identical in all other aspects. The individual has the option of choosing one of the jobs, or rejecting both and staying unemployed. We take into account the tax and transfer system as well as spousal earnings (if married), non-labor income, the number of kids, and state or residence when constructing individual budget constraints. We model fixed, work-related costs as being specific to the demographic group the individual belongs to, and assume that they reflect the actual costs an individual has to pay to get to work. These fixed costs are also modeled as being specific to the types of jobs the individuals search for; such as only full-time, only part-time, or both part-time and full-time jobs.

We estimate our model using Method of Simulated Moments, which minimizes a weighted squared sum of the differences between the moments generated by the model and their data equivalents. After estimating the preference parameters for different demographic groups, we simulate our model to compute Marshallian and Hicksian elasticities at the group level. The elasticities implied by the estimated parameters vary systematically across demographic groups. There is also substantial heterogeneity in estimated elasticities within each of the demographic groups. In order to highlight the importance of this heterogeneity, we assess the impact of policy changes in the tax policy and childcare subsidies on labor supply in a labor supply model with and without this heterogeneity.

We use our estimated model to perform counterfactual experiments to evaluate the importance of incorporating the underlying heterogeneity in preferences. We simulate the effect of a marginal income tax change on work hours, using the distribution of elasticities we estimate and compare it with the response in hours computed using a single aggregate elasticity. Our preliminary results show that both the average hours response and the distributional impact to a change in the marginal tax rate are substantially biased if the underlying heterogeneity in preferences is not taken into account.

**Keywords:** labor supply; gender; household survey.