

Modeling Mother's Labour Supply Behaviour

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The aims of the research is to discuss and use data bases (time use surveys, ECHP, Labour Surveys, Fertility Surveys) for modeling mother labor supply and to illustrate that modeling with Portuguese time use micro-data.

Recent studies (Apps, 2003; Folbre and Bittman, 2004; Hamermesh and Pfann, 2004; Hamermesh, Frazis and Stewart, 2005)¹ point out the relative under utilization of time use data by economists. Previously Juster and Stafford (1991)² on a reference article in this field pointed out the importance for allocation of time studies of creating a "consistent set of micro data files from which common classifications can be developed and from which statistical models "could be estimated. Some years latter, Klevmarken (1998)³ surveying micro economic research using time use data also concluded that more time use studies integrated in the research community and based on theory were need.

Harmonised European Time Use Study co-ordinated by Eurostat during 90's contributed to a growing improvement on quantity and quality of time use data across 18 European countries and the first results were published on 2003 and 2004.⁴ Last September first results of U.S. Bureau of Labor Statistics - Time Use Survey 2003 were known.⁵ This growing availability of time use data will incentive in a near future a larger use by the economists of this data source to estimate labor supply and household production models and to inform social policies across Europe.

The paper has five sections: first section briefly survey mothers labor supply and household production models, data and empirical estimations for European countries (e.g. Germany, Italy, France), section two discuss potentialities and limitations of Eurostat time use data and others for empirical estimation of that models following Apps (2003), section three describes some particular Portuguese labor market and mother labor market participation and institutional aspects in European context, section four made an estimation of a model using original time Portuguese microdata bases. Section five concludes.

Mother labor supply and household production in Portugal, within the context of an increasingly rapid transformation of the structure, ties and size of Portuguese families, is particularly interesting to study because this country presents some particular values when compared with other European countries (EU-15). For example: the second highest average actual weekly hour of work for employed

¹ Apps, P. (2003) Gender, Time Use and Models of the Household, IZA DP No.796; Folbre, N. (2004). A theory of the misallocation of time, in Folbre, Nancy and Bittman, Michael (Eds) (2004). Family Time, The social organization of care, Routledge; Hamermesh, D.S. and Pfann, G.A. (2004) Time-use data in economics, European Economic Review (forthcoming; available on line: www.elsevier.com/locate/econbase); Hamermesh, D.S., Frazis, H. and Stewart, J (2005) Data Watch -The American Time Use Survey, Journal of Economic Perspectives, Winter 2005, (forthcoming; available on line Daniel S. Hamermesh Personal Web Page: <http://www.eco.utexas.edu/faculty/Hamermesh/JEPATUS.pdf>)

² Juster, F.T. and Stafford, F. (1991) The Allocation of Time: empirical findings, behavioral Models, and Problems of Measurement, Journal of Economic Literature, 29, June, p.512.

³ Klevmarken, N.A. (1998) Microeconomic analysis of time-use data. Did we reach the promised land?, Department of Economics, Uppsala University, p.25.

⁴ Eurostat (2003) Time Use on 13 European Countries; Eurostat (2004) How Europeans spend their Time – Everyday life of women and men (data 1998-2000) (forthcoming).

⁵ American Time Use Survey.(ATUS)(<http://www.bls.gov/tus/>)

women; lower part-time female work (10%), some of it involuntary (20%); for one fifty of Portuguese females the mains reason for working part time is because they "*could not find* a full time job", and look after children represents only 14% as the main reason. In EU-15 as a whole, the more frequent main reason for doing part time employment are for male and female is because "*they did not want* a full time job"(about one third of the occurrences) and the second is "look after children or adult" for females (31,5%).⁶

The empirical research is based, among others, on data from the first national Time Use Survey conducted in Portugal in 1999, by the Office of National Statistics (INE), which adopted the guidelines of the harmonized European Time Use Survey. The information was collected on the basis of household questionnaires, individual questionnaires and diaries. The total sample size was 5,500 household units and 10,000 individuals.

The basic information used in the study is time spent in paid work, in domestic work, in child care and other capital formation activities, in leisure, and the time preferences, as well as family income level and sources, and employment status, job and educational level of mother and market and nonmarket child arrangements.

The research illustrate the use of time use data on modeling labor market aspects and contributes for a better knowledge European labour market.

Keywords: Time Allocation, Labour Supply, Child Care, Time Use Data

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⁶ European Commission (2003) Labour Force Survey – Results 2002, European Social Statistics, June.