Research proposal – PhD in Economics and Management (University of Trento)

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LABOUR SUPPLY OF WOMEN: AN EMPIRICAL AND BEHAVIOURAL INVESTIGATION

Abstract

The main objective of my PhD study would be to investigate female labour supply by expanding traditional models with behavioural and experimental elements, in order to take into account the social and institutional dimension in which women exert their choice of whether working or not. A greater need of realism of assumption in model building is needed in order to study women decision making, and it is relevant in terms of building policies which might enhance women labour supply and hence economic growth.

There are several reasons why this investigation would be relevant for Italy: firstly, given the low rate of participation of women to the labour market in this country and secondly, given the high heterogeneity of such participation across Italian regions, which involves cultural differences that the model should be able to take into account.

Introduction

A remarkable characteristic of labour markets in most developed economies since post world- war II has been the sharp increase in female labour participation. The rise in female labour supply has proceeded at different rates over time and across countries.

Nevertheless, several European countries -most of all the Mediterranean ones- did not achieve the target of 60% for female working rates, recognised by the Lisbon Agenda among the priorities to make the "European region the world's most dynamic and competitive knowledge- based economy by 2010"[1].

This is worrying because female labour supply represents an important key variable which would be desirable to boost for several economic reasons. First of all, it is widely recognised that the effective women labour participation rates are far below the levels compatibles with their preferences. This proves the existence of labour market imperfections and policy lacks which, if solved, would enhance the level of welfare in society. Moreover, enhancing female labour supply would have significantly positive effects on the reduction of gender-inequality and also of poverty, as well as positive effects on the ageing problem of most European countries. Indeed, with a population getting dramatically older due to the low birth rates of almost all of the developed economies, the

[1] www.europa.eu/lisbon_treaty/index_en.htm

subsequent negative impacts on public finances could be offset or partially improved by an increasing female labour participation.

Understanding the determinants at the basis of female labour supply is not only relevant in terms of policy and welfare[2], but it is also challenging to study in terms of the underlying economic theory. In the last years this topic has received contributions from behavioural economists, who have expanded the conventional model of participation to labour by incorporating various social and behavioural sources of constraints –such as inflexibility in the workplace-, preference and preference adaptation under social influences[3].

Literature review

As far as the economic modelling of female labour supply is concerned, the first distinction to be made relies on the temporal space considered by women when making their decisions, and on the assumption made with respect to human capital accumulation. In dynamic models, economic agents are assumed to act as if their present choices had future consequences, and also nonhuman and human capital accumulation is allowed, whereas in static models economic agents are assumed to act as if their current choices and subsequent facts had no impact on their future, therefore the accumulation of human and non-human capital is not allowed[4].

Another relevant issue in the literature is the choice of the unit of the economic decision-making process. In family labour supply models, the decision-making unit is represented by the family, which aims to maximise a family utility function depending on the leisure time of each family component and on the consumption of a composite good by the family, subject to an income-expenditure budget constraint. The main criticism against this framework is that families are made up by individuals, who must be taken into account: such models implicitly assume that there is a head within the household, whose preferences are respected and followed by other family components, although it is not clear how the head is chosen and why everybody decides to respect his/ her choices. A variant of these family labour supply models consists in the duopoly models (Killingsworth and Heckman, 1986), in which each partner aims to maximize his/ her own utility and each one has strategic connections with other family members since every action influences the other member's utility. However, this approach seems quite individualistic and unrealistic, since every family member would face a selfish utility maximization against the welfare of other relatives. The models of allocation of time proposed a great advance in the formulation of the determinants of women labour supply in comparison with the classical models of consumer behaviour, which were

[2] See Jaumotte (2003).
[3] See Altman, M. (2006).
[4] See Killingsworth, M. R. and J. Heckman (1986).

simply distinguishing between labour activities and non- market activities (leisure). Indeed, the allocation of time theories further distinguished non-market activities into leisure and household production of goods and services (for instance caring for children/ elderly people within the family, etc.).

Given the rise of dual-earner households and the importance of combining market work and unpaid work activities, some scholars (Barnett, Gareis, and Brennan, 1999) introduced in the utility function the timing or scheduling of work activities, allowing the utility to increase whenever the timing of work is the schedule that is preferred by the worker[5].

Once outlined the economic modelling of female labour participation, it is relevant to underline which have been the variables mostly used in addressing this topic. Most of the models included: women's human capital -expressed by age and education attainments-, women's potential wage, the number of children -especially included in age ranges-, non-labour income and partner's income, marital status, the cost and availability of child care returns to experience and wage-gender-gap[6].

Some scholars also studied the connection between tax schemes for the second worker within a family (in most of the cases the woman) and women labour participation: Smith et al. (2003) after applying simulations of separate, joint and split taxation in the cases of Britain, Denmark, Ireland and Germany, concluded that the nature of the tax scheme is highly relevant for women's decision of entering the labour force.

Another stream of research analysed the decision of women's labour participation in connection to religion (Heineck, 2004), the co-residence with other family members (Sasaki, 2002), the availability of public health insurance (Lee and Tomohara, 2008).

Finally, an interesting work on Italian data (Bratti, 2005) studied the relationship between pre-marital job characteristics and post marital women's participation rates, concluding that job protection and stability before having the child would represent an important variable in the study of the female labour market framework in Italy.

Methodology

In the characteristic Italian context, I would start my analysis by considering the so-called male chauvinist model, in which the man is assumed to work and the woman takes the man's labour supply decision and wage as given. She subsequently maximises the family utility function, which is a function of a bundle of goods consumed and of the time spent on leisure by every family's component (including her). The maximisation problem faced by the woman-spouse is constrained to the total income earned by the family (sum of all the exogenous earnings of each family member).

[5] See also Chenu and Robinson (2002).
[6] See Del Boca (2000, 2002 and 2005), Blau and Kahn (2007), Attanasio et al. (2008).

There are observable factors influencing the decision of a woman of either to work or not (such as age, education attained, number of sons/daughters, social status), as well as unobservable ones (for instance, her own tastes about work, the beliefs she has about working or not in case of having children, whether she prefers to educate her children only within the family and not also in kindergartens, her emancipative ideals, etc.).

The difficulty of the study is to capture in the model such unobservable factors, which are mainly cultural and psychological. In addition to econometric techniques such as the use of instrumental variables, the realization of an experiment could represent a source of the pursued data. This is why the PhD. at the University of Trento could be an excellent context in which to learn such experimental techniques.

Once obtained and refined a comprehensive dataset for my empirical investigation, I will work on econometric inference. A likely specification of the model to estimate could be a probit. Indeed, the dependent variable to explain is a clear-cut decision of participation in the labour market by the woman and its dichotomous nature is in line with a probit.

A well-known problem in the Econometrics of this kind of issue is the selection bias. The fact that it is difficult to observe some data for women who do not enter the labour market and that working and non working women might be systematically different would lead to biased estimates. A solution is proposed by the Heckman multi-stage procedure (Heckman, 1979).

In addition, in order to capture dynamic effects such as the returns to experience or the depreciation of human capital when not participating in the labour market, it would be meaningful to construct a panel framework for the analysis. Panel data would also allow to control for unobservable individual effects which remain constant over time, given the repeated measurements on the same individual.

A good source of Italian micro data is represented by the “Survey on Household Income and Wealth”, collected and made available by the Bank of Italy every two years (the most recent wave dates back to 2008), on which I already applied some studies during my MSc in Public Economics at York University. As already mentioned, I plan to integrate this kind of data with some cultural and psychological variables, as well as with data on kindergartens costs and availability, which are not included in the Bank of Italy Survey.

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