

# The Taxation of Married Couples: Theory and Evidence for Europe

Henrik Jacobsen Kleven and Claus Thustrup Kreiner

## An introduction to the issues

The tax treatment of married couples has been a debating point throughout the existence of the income tax. Actual policies have varied over time and across countries. In recent decades there has been an international trend from joint to individual taxation of husbands and wives, such that the majority of European countries now use the individual as the basic unit of taxation. However, although the formal framework tends to be individual-based, the taxation of spouses is not separate. For example, it is common for tax laws to allow for the transfer of unused allowances between spouses, or to grant dependent spouse rebates or employment credits based on family income. In addition to these elements of jointness in the tax system, the eligibility for transfers tends to be related to family income rather than individual income. This applies to social assistance benefits and to family benefits like housing subsidies and child reliefs. These components combine so as create a complicated interaction between the earnings of one spouse and the taxes and transfers for the other. Quantifying the effective tax rates for husbands and wives in different countries is not an easy task.

The tax treatment of couples is important because of its implications for the incentive to supply labor along the intensive margin (hours of work) and the extensive margin (labor force participation). The effective tax wedges along the two margins of labor supply response may be quite different from statutory marginal tax rates. For example, although the marginal tax rate might be low for the secondary earner (typically the wife), the incentive to participate in the labor market can be small if the husband loses tax allowances or if the couple loses benefits due to her entry decision. This point is particularly important, since the empirical evidence indicates that participation elasticities are high for married females (Heckman, 1993). This raises some interesting issues regarding the efficiency cost of taxation and the design of tax and welfare reform. For example, one may ask if there is a need for reforms to eliminate some of the jointness in taxes and transfers in order to strengthen female labor market attachment. Moreover, there is the question of the optimal taxation of married couples. Although there is a very large literature on optimal income taxation, this literature focuses almost exclusively on single individuals and is therefore not applicable. The few existing papers on optimal family taxation do not incorporate the level of generality required for the application to tax policy.

Besides these issues, past reforms in Europe affecting the tax treatment of married couples offer an ideal opportunity to estimate labor supply elasticities along the intensive and extensive margins. A typical problem with labor supply regressions is that the variation in explanatory variables (tax rates and wages) tend to be endogenous, hence creating biased estimates. But the reforms in European countries can be used as natural experiments creating the kind of exogenous variation necessary to obtain good estimates. It is important to take further steps toward pinning down labor supply elasticities, since these are vital for the understanding of the effects and the design of tax policy and welfare programs.

For these reasons, we think that the taxation of married couples offers an interesting and promising avenue of research. It is an issue that tends to get a lot of attention in the international research community. We propose a research programme consisting of three projects looking at different aspects of the issues laid out above.

#### **Tax reform for married couples: a micro-simulation analysis for the EU countries**

This project will be carried out jointly with Herwig Immervoll (University of Cambridge and OECD) with whom we have previously collaborated in connection with our work on welfare reform in Europe (Immervoll *et al.*, 2004). As in the previous paper, we will use the EUROMOD model which has recently become available to carry out micro-simulations. EUROMOD is a tax and benefits calculator based on homogeneous micro-data on earnings, labor force participation, and demographics for each EU country. For any set of household characteristics and country, EUROMOD is able to calculate the amount of taxes and benefits for the household. It incorporates all elements of the tax/benefit system, including the complicated interaction between different type of benefits, marital status, children, etc. It is therefore a unique tool to get a complete picture of the incentives to work for married individuals.

To analyze the effects of tax reform, we plan to develop a welfare theoretic framework which accounts explicitly for the labor supply responses along the intensive and extensive margins for both spouses. We then combine the theory with EUROMOD data and calibrated labor supply elasticities to simulate the effects on labor supply, employment, and efficiency from different reforms in the tax treatment of married couples. The emphasis will be on balanced budget reforms which shifts tax burden between spouses by changing the degree of jointness in taxes and benefits.

We begin working on this research project during the spring semester of 2004, and it will probably take around a year to complete. Our goal is to write a paper which is publishable in the top field journal (Journal of Public Economics) or in good general journals such as the Journal of the European Economic Association or the Economic Journal.

### **The optimal income taxation of married couples**

This project will be carried out with Emmanuel Saez (UC Berkeley and NBER) with whom we also collaborated on Immervoll *et al.* (2004). Our aim is to provide the first general analysis of the non-linear income taxation of married couples. The existing analyses of the tax treatment of married couples have been carried out in very simple models where, for example, the tax system is assumed to be linear and additively separable in the earnings of the two spouses (Boskin and Sheshinski, 1983). Within this simplified tax structure, one cannot say anything about the optimal interaction between the earnings of one person and the taxes and transfers for his/her spouse. By implication, one cannot say anything about the desirability or not of the complicated interactions observed in real-world tax-transfer systems.

Without doubt, the reason that such an analysis has not been carried out yet is due to the technical difficulties of doing so. The problem is much more difficult than what has been analyzed in the optimal tax literature looking at single individuals (Mirrlees, 1971; Saez, 2001, 2002). However, based on recent state-of-the-art optimal control techniques, we should be able to characterize the solution to the optimal tax problem. Although this research project is theoretical in nature, the results will be applicable to the design of redistributive policy. Indeed, to be able to discuss practical policy implications, we expect to carry out numerical simulations using realistic labor supply parameters as well as empirical data on the earnings distribution and the correlation of earnings between spouses.

Like the first project, we begin working on this one in the spring semester of 2004, and we expect to be able to deliver a first draft of a paper in around a year. Our ambitions for the project are high. In fact, we think that possible publication outlets include top five journals such as *Econometrica* and the *Review of Economic Studies*.

### **Using tax reforms to estimate the labor supply behavior of married women**

This project will also be a collaboration with Emmanuel Saez. Since the early 1970's, a number of European countries have switched from joint to individual taxation of couples (e.g., Austria, Denmark, Italy, Sweden, and the United Kingdom). Although a lot of the jointness was de facto maintained, the reforms did introduce significant changes in labor supply incentives. In particular, the incentives for secondary earners (married females) to participate in the labor market were improved. Interestingly, female labor force participation has increased substantially in the period following the reforms.

The reforms offer an ideal opportunity to estimate the responsiveness of female labor force participation to taxes and transfers. The idea is to use the reforms as natural experiments by comparing the behavior of married females to the behavior of a control group that was not

affected (or less affected) by the reforms. In this method, the choice of control group is vital, since one may easily end up ascribing trend effects in female participation rates to the estimated elasticity. The natural experiment method has been used convincingly to estimate labor supply behavior in a series of recent papers (e.g., Eissa, 1995; Eissa and Liebman, 1996). In fact, Eissa (1995) also looks at married females, but this paper suffers from lack of good data. We hope to be able to come up with better estimations based on European data. Initially, we will focus on the Danish and Swedish reforms.

This project will be started in the Fall semester of 2004, and it will probably take around a year to complete. The publication outlet for a paper of this sort is not easy to predict. It will depend on the quality of data and the empirical results. The Journal of Public Economics or the Journal of Human Resources are both possibilities.

#### **The policy relevance of the project in a Danish context**

As already explained, this research programme is highly applied in nature. The aim is to expand our knowledge about the effects of taxation on labor supply, employment and efficiency, and about the design of redistributive policy in general. These are evergreen issues which have always been considered relevant and important for policy making. The issues are particularly relevant at this point in time where the design of the welfare state is high on the policy agenda in many countries, including Denmark. Indeed, this policy interest seems to have been created by an increased awareness of the negative effects on labor supply and employment, a concern which has been reinforced by the challenges of globalization, migration, and demographic change. In Denmark, the debate about the welfare state is likely to be intensified in the near future when *Velfærdskommissionen* gives its recommendations on welfare reform. We hope that our research can serve as an input into this debate.

#### **Budget**

Completing the three projects outlined above is expected to require at least 12 man months of research, given the time-consuming character of the empirical analysis involved. Against this background, we are applying for financial support for 9 man months of research plus the usual 28% overhead to cover research assistance and the purchase of data etc. The remaining part of the funding will come from the Institute of Economics through the use of our research time as members of the scientific staff of the Institute. We attach a separate sheet summarizing the budget for the project.

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