

May 2005

Gender impact of income taxes.  
On the disincentives for married women to work  
created by joint income taxation.

by

Siv Gustafsson \*

Abstract:

This paper discusses arguments for separate taxation as against joint filing of incomes of husband and wife. The history of political actions in Sweden before the change from joint filing to separate taxation in 1971 is discussed. Justice in income taxation based on equal taxation for equal family income is contrary to justice based on equal taxation for equal individual income and some countries like the United States have opted for a compromise between these two opposite concepts of justice, while Sweden and many other countries have opted for a pure individual system while Germany, France and Spain have family based income tax systems. The tax disincentive effects of the German family based system for married women to work is compared to the Swedish system and estimated on micro data by simulating after tax wages and incomes of the tax system of the other country and predicting the resulting labor force participation of wives.

\* Professor of economics  
University of Amsterdam  
Department of Economics  
Roetersstraat 11  
1018 WB Amsterdam  
the Netherlands  
[S.S.Gustafsson@uva.nl](mailto:S.S.Gustafsson@uva.nl)

## **1. The introduction of separate taxation in Sweden.**

The discussions and arguments that preceded the switch from joint to separate taxation in Sweden in 1971 are clearly and informatively analyzed by Elvander (1974). Criticism against joint taxation is almost as old as the system itself. Joint taxation was introduced in 1902 and the first parliament action in the Swedish Riksdag against it was issued in 1904, where it was argued that joint taxation was disruptive to marriage since a working woman would lose by marriage. Thus the system encouraged “sinful liaisons”. Feminists argued: “Give the working woman the right to marry” different from arguments of other parliament members who thought, that it was unnecessary, or even harmful, to give the married woman the right to work. In the fall of 1947 there was a strong movement of public opinion against the high marginal taxes on married women’s earnings. That was because a system of tax at source had been introduced, which did not fully consider the marginal taxes on married women’s work, and people were charged afterwards for those earnings. This procedure made the marginal taxes on married women’s work very visible. A committee to consider the introduction of separate taxation was formed. In this committee, the representative of the conservative party, the female member of parliament, Ebon Andersson argued in favor of a split income taxation system similar to the present German one. The committee decided to keep joint taxation but introduced a deduction of working married women called “förvärvsavdraget” (deduction for earnings) to compensate for the assumed fact, that working women could do less economically important work around the house than housewives. The tax system introduced in 1952 also incorporated separate scales for married and single people, which in fact meant that 90% of the couples had split taxation.

In the mid 1960s an increasing number of Swedish women entered higher education, and the prospect of not being able to afford a career seemed to condemn them as they saw it, to “lifetime imprisonment within the four walls of a home”. Elvander notes, that the debate on separate taxation was not carried out along political party lines, but was enacted by individual women involved in the feminist movement. The governing social democrat party, showed little interest in a reform in favor of separate taxation, arguing that it was a luxury problem, which had no impact for the majority of women.

Elvander (1974) also emphasizes the importance of Eva Moberg and Sonja Lyttkens. Eva Moberg, an influential writer and columnist, claimed, that the system regarded women as only conditionally liberated, i.e. they were allowed to work, only if they held the upbringing of children and the home as their first duty. Sonja Lyttkens, a female mathematician from the University of Uppsala, showed that the right for the husband to deduct two basic allowances from his income, when his wife does not participate in the labor market is equivalent to a large marginal tax, which has a large discouraging impact on married women's labor supply, also for low income couples.

By active argumentation and private meetings with powerful persons the feminists later persuaded the political parties and the powerful labor market organizations. One of the contact persons was Rudolf Meidner, then head of the economic research section of the LO, the blue collar worker's national confederation of labor unions. He knew that the LO would not agree to separate taxation, seeing it as a luxury problem, but still he decided in favor of it, because he was convinced and hoped that time would prove him right. The medium term economic forecast of 1959 stated that, in the face of labor shortage, married women and particularly mothers of young children were the only important reserve of labor. The medium term survey of 1965 again stated the prospects of a growing shortage of labor. This was the argument that finally convinced the minister of finance of the time, Gunnar Sträng, of the benefits of separate taxation. The consequent debate centered on the prospective adverse effects for one earner families. The solution became to compensate them with an extra deduction, 'housewife deduction', which was kept at its nominal value and finally abolished as late as the mid 1980s.

In 1966 married couples were given a choice between filing jointly and filing individually. However, this choice does not solve the issue of the high marginal tax rate for a housewife, who considers taking a part-time job, perhaps in order to keep up with her profession in a period when she wishes to spend more time on the care of young children. Given a choice, all one-earner male breadwinner couples will opt for joint filing and the husband is given a subsidy for this nonworking wife in the form of two basic deductions. When his wife takes up a job, he loses his deduction for dependent wife, which increases his taxable income. Only strictly individual taxation irrespective of marital status is neutral and does not penalize working women when they marry.

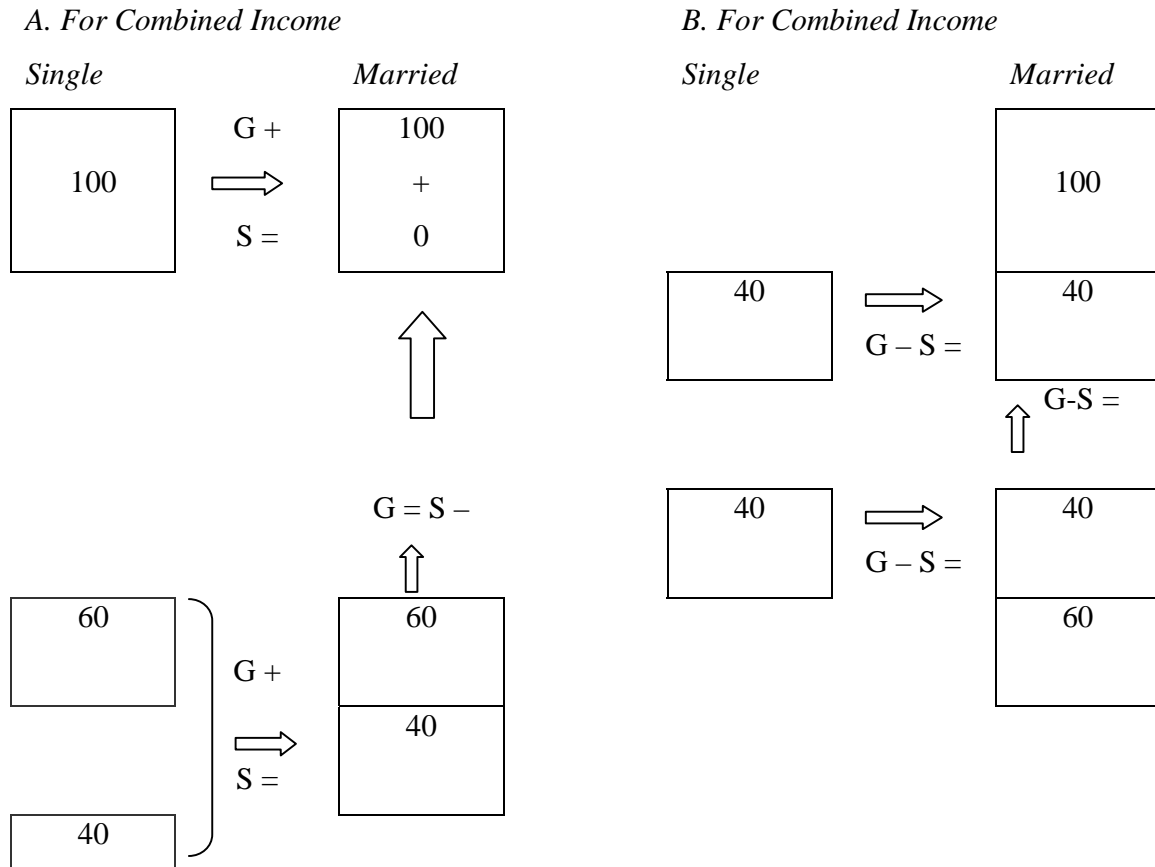
Therefore, in 1971, when half of all married Swedish women were labor force participants, the option of filing jointly was abolished. All income taxation is since then strictly individual. It has been pointed out that politicians who wish to maximize votes would also favor separate taxation in Sweden from 1971 onwards.

## **2. Justice in income taxation.**

The German Splitting Tax System and the Swedish Separate Taxation System are based on different and incompatible ideas of justice in income taxation. The German Splitting Tax System considers justice to be equal taxes for a given family income irrespective of whether it is all earned by the husband or whether earnings are contributed by both husband and wife. The German constitution protects the male breadwinner by stating that a man must be able to support his family. The constitution passage lends support to the splitting system and to the transferable deduction for a dependent wife, Carbajo (2005) notes, that Spain has a similar constitutional passage but does not define a family to be male breadwinner as is done in the German constitution. The Swedish Separate Tax System considers justice to be equal taxes for an individual income irrespective of the marital status of the individual. Justice in the form of equal taxes for equal family income produces injustice in the form of unequal individual tax dependent on marital status as is shown in Figure 1.

Considering the effect on after tax income, a marital loss in Figure 1 means a lower after tax income in comparison to remaining single, a marital gain means the opposite, a higher after tax income after marriage. If there is no effect on the after tax income from marriage, the tax system is indifferent between marital status. Under the German splitting system a single man earning 100, a high-income-man, will pay considerably less tax, when he marries and becomes a male breadwinner. This is because his income is now taxed according to the splitting system, which means that the tax is computed as if he and his wife had earned half of his income each. This effect results, because there is progressivity in the tax rates. There is a special tax schedule for married persons, which is computed in this way as if each of the spouses had earned half of their

**Figure 1. Marital Losses (-), Gains (+) or Indifference (=) from the German (G) and Swedish (S) Tax Systems**

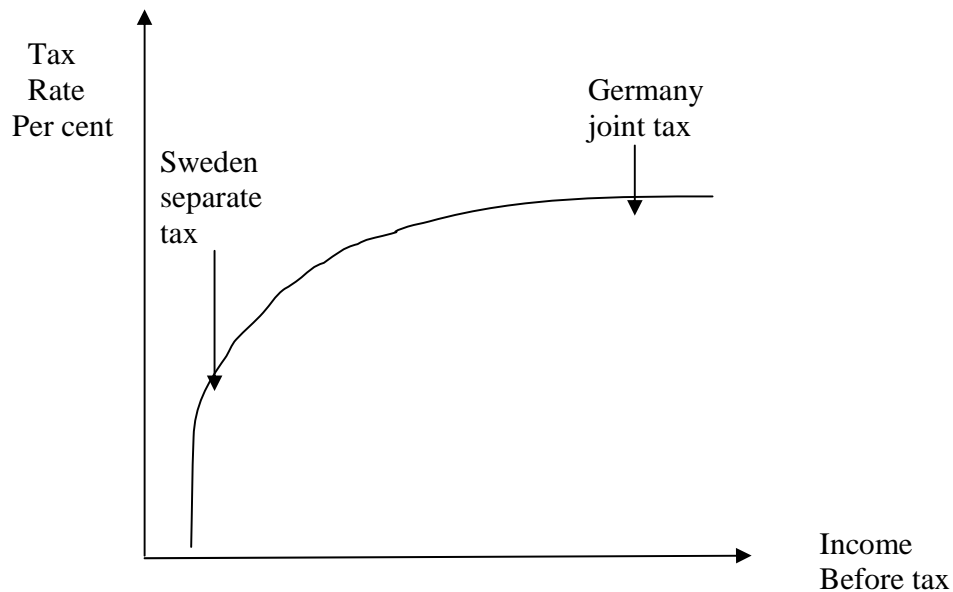


joint income irrespective of, how the actual division of earnings is between husband and wife. In the Swedish separate tax system there is no difference in the after tax wage for the man. He pays the same taxes after marriage as he did while he was single. For a couple where both husband and wife are breadwinners, the man earning 60 the woman earning 40 there can be a marital gain for them because the 60 earnings of the man is taxed, as if he earned 50, and the 40 earnings of the woman is taxed, as if she earned 50. The outcome depends on the particular progressivity in the tax schedule at these particular intervals. Only if there is 50/50 the taxation under the German system will be the same for the two single persons before marriage as for the married couple. Comparing after

taxincomes between two couples where one couple is the 100 + 0 and the other couple is the 60 + 40 the Swedish system taxes the 100+ 0 couple more heavily, because there is no provision for a dependent wife, in a strictly individual tax system, while the two earner couples get a basic deduction each. Also progressivity makes the 100 man pay higher taxes than the 60 man together with the 40 woman do.

In panel B, the tax effects for the individual woman earning 40 is considered. According to the Swedish system her before tax earnings will be equally taxed irrespective of if she stays single, marries the low income man or marries the high income man. In the German tax system, her earnings are the highest after tax, if she stays single. They decrease if she marries, and they decrease more as a contribution to family after tax income, the higher the earnings of her husband because they are taxed at the marginal tax rate of her husband. This is illustrated in Figure 2.

**Figure 2. Taxation of marginal earnings by secondary earner**



### **3. Compromises between equal taxation of family income and equal taxation of individual income.**

The German and Swedish tax systems are opposites because the German tax system is a strict splitting system and the Swedish tax system is a strictly individual system. The German government recognizes the disincentive for part-time work for the secondary earner, and has therefore introduced the possibility of tax-free marginal employment. As of April 1999 a person who earned less than 630 Deutsche marks per month, and worked less than 15 hours per week could do that tax free, and also paid only limited social security contributions (Hoffman and Walwei, 2003). This system is a strong incentive for German wives to find marginal tax free employment.

The Federal Income Tax System of the United States is a compromise between the two principles of justice in taxation, the principle of equal tax for equal family income as opposed to the principle of equal tax irrespective of marital status (Alm and Whittington, 2003). There is a personal exemption or basic deduction (in 2000 it was \$ 2800), which is independent of marital status, and there is also a standard singles deduction (in 2000 it was \$ 4400) and a standard couple's deduction, which is less than twice the single's deduction (in 2000 it was \$ 7350). Married couples have to file jointly and get the couple's deduction. The married couple is taxed according to a scale for married, but this scale is not reduced quite enough in comparison to the single scale in order to be a splitting system. Therefore in the US federal income tax system there are both marital gains and marital losses. The more equal the income of a man and a woman, the more likely they are to incur a marital loss, if they chose to marry, and the more unequal their incomes, the more likely they are to receive a marital gain if they chose to marry. Male breadwinner couples, receive marital gains. Such couples, in the United States, will also face high marginal tax rates if a former housewife considers to work part-time. Alm and Whittington (2003) have analyzed, if tax considerations have any influence on the choice of marital status between living in a consensual union without formal marriage or choosing for legal marriage. They find, that the choice when first moving in together, is not influenced by tax considerations but a couple, who already

lives in a consensual union, is much more likely to opt for legalizing their union if they get a marital gain by this choice than if they incur a marital loss.

The Spanish tax system allows the husband to deduct the personal deduction of a nonworking wife (*desgravacion por esposa dependiente*) which in 2003 was 3400 euros (Table 1, Pazos, 2005). Further there is an earner's deduction, which is only deductible against a person's own income (of 2400 euros), which applies after the personal deduction. Pazos (2005) shows in her Table 3, that the tax relief from the transferable basic deduction increases the larger the income of the husband, because his marginal tax rate increases with higher income. A man who earns 12000 euro gets a tax relief of 608 euro per year in comparison to a system with no transferable basic deduction for a dependent wife, a man who earns 78000 per year receives a gain of 1530 euro per year. The Spanish tax system like the German tax system therefore creates negative incentives for married women to combine work and family.

Related to the issue of incentives for married women to work is also the issue of poverty reduction, through either tax credits, or subsidies, or by increased labor supply. There is a large economic analysis literature on the negative work incentive effects of subsidies which are income dependent (see a textbook treatment in Ehrenberg & Smith, ch. 6, 2003, 8<sup>th</sup> ed.). Programs with positive net wage rates like the "Earned Income Tax Credit" or EITC can combine the goal of poverty reduction and keeping incentives to increase labor supply. In the year 2000 in the United States for workers with one child the maximum tax credit was \$ 2253. Workers with very low earnings can not profit fully from the whole tax credit that they are entitled to. A tax credit of one dollar reduces a person's income taxes by one dollar. If the tax credit, for which the person qualifies, exceeds their total income tax liability, the government will mail them a check for the difference. The EITC functions as an earnings subsidy, and because the subsidy goes only to those who work, the EITC is seen by many as an income maintenance program that preserves work incentives (Ehrenberg and Smith, 2003, p. 198). Recently, Great Britain introduced a similar system called "Working Family Tax Credit" and France introduced "la Prime pour l' Emploi".

A totally individualized tax system without deductions for dependent wife could be made preserving work incentives while still alleviating poverty, if the wife received a

negative tax, that is her basic deduction were mailed to her if her income is less than her tax credit. In the Netherlands a negative basic deduction for people, who earned less than their basic deduction was seriously discussed in the mid 1990s. It would have meant, that the subsidy to housewives currently in the form of a deduction for a dependent wife, would have been abolished from the husband's income declaration and instead mailed as a subsidy to the non-working wife. Different from the EITC of the United States, such a system would have given subsidies to nonworking people, but similar to the EITC it would have been constructed, so that if the person starts working there would always be an incentive to increase earnings. This system was not carried out, and the Netherlands has separate taxation of spouses with an element of joint taxation in that there is still a basic deduction transferable from the nonworking spouse.

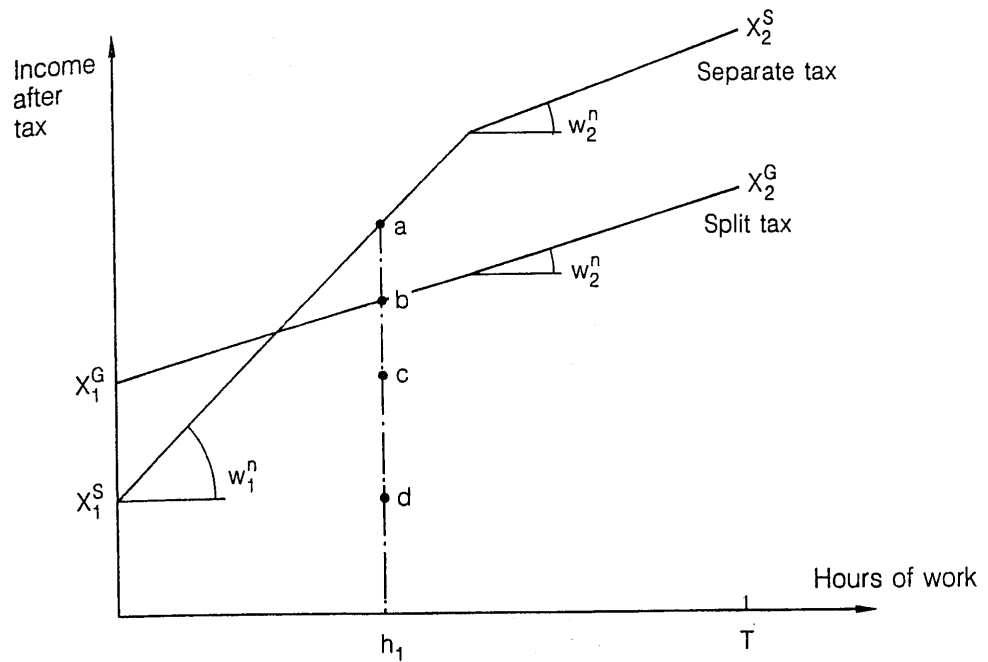
#### **4. How large are the disincentive effects of joint taxation on married women's labor supply?**

Using data on German couples from the 1984 German Socio-Economic panel (GSOEP) and on Swedish couples from the 1984 Swedish Household Panel (HUS) I quantified these effects (Gustafsson, 1992). The procedure is to first program the main characteristics of the German tax system and the Swedish tax system. Second to construct after tax wages and incomes for a couple using its own tax system. Third estimate by logits, the probability for a married woman to work using these after tax wages and income variables together with information on the woman's age, number of children and the age of the youngest child. Fourth, compute the after tax wages and income variable's that would have applied if the couple would have been confronted with the tax system of the other country. The fifth and final step is to use the simulated after tax wages and incomes from the tax system of the other country to predict wife's labor force participation from the estimated.

#### 4.1 Construction of after tax wages and incomes.

In Figure 3 the budget sets are shown under Swedish and German tax regimes for a wife who considers to enter the labor force. The assumptions of the graph are that before tax wages

**Figure 3. Wife's budget set under Swedish (S) separate taxation and German (G) joint split taxation with two tax brackets.**



$X_1^G, X_1^S$  = income after tax if the wife does not work for pay for G= German tax system and S = Swedish tax system.

$W_1^n, W_2^n$  = net wage of the wife in the first and second tax bracket.

= wife's contribution to family income at  $h_1$  hours of work:

ad = according to the Swedish tax system

bc = according to the German tax system

and incomes are given, that her husband is a full-time worker, and that there are two tax brackets.

The Swedish separate tax system taxes low incomes from a part-time worker in by a low tax so that the after tax wage becomes larger. This is shown in the graph as a steeper slope for the budget set for separate taxation for shorter hours of work. The German joint tax system taxes the first euro earned at the marginal tax rate of her husband so that she is immediately taxed by the second higher tax bracket and her after tax earnings therefore increase at a slower rate shown by the less steep increase in after tax earnings as her hours of work increase. The after tax earnings for the family if the wife does not work are represented as the intercepts on the vertical axes. Because under the German tax system, the husband deducts the basic deduction for his wife, after tax income is larger at zero hours of work by the wife in comparison to under the Swedish tax system, where he can not deduct his wife's basic deduction. Therefore every hour of work by the wife contributes more to family income under Swedish tax than under German tax. For example, if the wife works  $h_1$  hours, in Figure 3 under Swedish tax, her contribution to family earnings is the difference in after tax income with her after tax earnings at a and without them at d. That is, the difference  $ad$  is her contribution to after tax earnings under Swedish tax. Under German tax, because after tax earnings if she does not work is at c and after tax income if she works  $h_1$  hours is at b, her contribution to family after tax earnings is only  $bc$ . The computations are formalized in Figure 4.

Wife's contribution to family earnings before tax and after Swedish and German tax are shown in Table 1. The table shows results for all couples, for childless couples, and for couples with at least one child. The Swedish tax system increases the contribution of the wife in comparison to before tax both for German and Swedish couples. This is because both Swedish and German wives earned less than their husbands in 1984 and were therefore taxed in a lower tax bracket with a lower marginal tax rate and consequently a higher slope on the after tax wage. The German tax system, on the other hand, decreases wife's contribution to family earnings in comparison to before tax earnings. This is because the wife's smaller earnings are added to the earnings of her husband and taxed in the same tax bracket as his additional earnings would be taxed. The

**Figure 4. Computation of wife's contribution to family income and her wage before and after German (G) and Swedish (S) tax.**

Definitions:

Two earner couple:  $y_m > 0, y_f > 0$

$Y_m$  = husband's earnings,  $y_f$  = wife's earnings

Male breadwinner couple:  $y_m > 0, y_f = 0$

Family income if two earner couple =  $y_2, x_2$

Family income of male breadwinner couple =  $y_1, x_1$

Where  $y$  denotes before tax and  $x$  after tax

Wife's contribution to family income:

Before tax:  $\frac{Y_2 - Y_1}{Y_2}$

After tax:  $\frac{X_2^j - X_1^j}{X_2^j}$

where  $j = G, S$

G = according to the German tax system

S = according to the Swedish tax system

secondary earners, the wives, are therefore taxed, as if they had been full-time workers with a high (male) wage in spite of the fact that many wives were part-time workers, earning a lower (female) wage. In addition to being taxed at a high marginal tax rate, the wife's earnings must compensate for his loss of the deduction of dependent wife, before her earnings add to family after tax income. The tax differences between the two countries make women's earnings more important in the provisions for the family if taxed by Swedish tax. But there are also before tax earnings differences between the two countries, which are visible in table in Table 1.

Swedish women contribute more to family income than do German women because they are more likely to have a paid job. The difference is particularly large between couples with children.

**Table 1. Women's contribution to family earnings per cent**

	Sweden	Germany
<u>All couples</u>		
Before tax	36	20
After Swedish tax	38	22
After German tax	28	14
<u>Childless couples</u>		
Before tax	36	31
After Swedish tax	39	33
After German tax	27	26
<u>Couples with at least one child</u>		
Before tax	32	12
After Swedish tax	34	13
After German tax	27	10

Wife's wage

Before tax  $Yf/h$

After tax  $(X_2^j - X_1^j)/h$

Where h is wife's hours of work

Source: Gustafsson 1992

**4.2 Estimation of work disincentives.**

When the tax system is progressive, the after tax wage per hour differs depending on how many hours the person works. This is because working more hours results in higher earnings, so that a full-time worker is likely to have a higher tax rate than a part-time

worker. Hours of work and the after tax wage per hour are therefore simultaneously determined. Econometricians call this an endogeneity problem. I therefore computed the after tax wage at a given number of hours of work at 10 hours and at 30 hours of work per week. In this way, the net wage is determined only by exogenous variation, namely by the before tax wage, and the tax system. In order to estimate the probability to work one needs to have data on the wage for all women also for those who are not currently in the labor force and for whom the wage is not reported in the data. We know from numerous studies, that pay increases with the level of education, and the number of years a person has worked full-time or part-time in the labor market. These variables are available in the data sets also for those women, who in 1984 were not participating in the labor force. Therefore I used predicted wages for non-workers, that is they are given the wage of the average woman with their education and years of labor force experience in part-time and full-time jobs.

In Table 2 the results for the two key variables wife's after tax wage and net family earnings if the wife does not work are given. The results show that increasing wife's after tax wage increases the probability, that the wife is a labor force participant and increasing husband's after tax earnings, if he has a nonworking wife, decreases the probability that the wife participates in the labor market.

**Table 2. Logit estimation of the probability to work\***

	Swedish wives	German wives
·Average after tax wage if the wife works 10 hours per week	0.073 (3.98)	0.036 (4.81)
·Net family earnings if wife does not work in the market	-0.021 (-3.63)	-0.008 (-5.16)
·No. of obs.	632	1897

\* Other variables included in the logit regressions: wife's age, wife's age squared, number of children under 13, youngest child aged under 3, youngest child aged between 3-6, youngest child aged between 7-12

Source: Gustafsson 1992

This is seen in Table 2 because the coefficients 0.073 for Swedish wives and 0.036 for German wives are positive and the coefficients  $-0.021$  and  $-0.008$  are negative. In parenthesis under the coefficients are the Z-values presented. These values are computed from dividing the coefficient by the standard deviation. The Z-values inform us whether the coefficient is statistically significant or not. All four coefficients are strongly statistically significant, because the values in parenthesis are well above 2 for the positive values and well below minus 2 for the negative values. This means that there is a systematic variation such that other things equal the higher the wife's after tax wage given the tax system of her own country, the more likely she is to work, and for husband's after tax income her probability of working decreases. "Other things equal" in this case means the variables which are listed under Table 2: wife's age, the number of children under age 13, and whether the youngest child is aged under 3, between 3 and 6 years or between 7-12 years.

The next step is to give the couples the tax system of the other country and compute wife's after tax wage and husband's after tax income if she had not been working. The results are shown in Table 3.

In panel A the averages of after tax wage,  $(X_2 - X_1)1h = 10$ , and after tax income,  $X_1$ , for the couple's own tax system is shown.

In panel B the change resulting from applying the tax system of the other country is shown. The wage of the Swedish wife decreases from 31.6 crowns per hour by 6.32 crowns per hour, which is a 20 per cent decrease. The male breadwinner option increases after tax income by 20.040 crowns, which is a 35 per cent increase. For German couples the wage increase if confronted with Swedish taxes would be 6.57 crowns per hour, which is a 29 per cent increase from 22.6 crowns per hour and the male breadwinner option with Swedish taxes results in a decrease of 23300 crowns, which is a 27 per cent decrease from 86,200.

The values in Table 3 are computed using the programs for the Swedish and the German tax systems and the before tax wages and incomes of the couples included in the GSOEP and the HUS data. These wages  $(X_2 - X_1)/h = 10$  and incomes  $(X_1)$  are computed for every single couple and averaged across couples.

**Table 3. Simulated changes in wife's after tax wage and husband's after tax income if she does not work.**

A.		
	Swedish couples own tax system	German couples own tax system
Wage		
$X_2 - X_1/h = 10$	31.6	22.6
Income ( $X_1$ )	56,600	86,200
B.		
	Swedish couples change to German tax	German couples change to Swedish tax
Wage increase mean		
(st.d.)	-6.32	6.57
$X_2 - X_1/h = 10$		
Income increase ( $X_1$ )	20,040	-23,300

*All values in Swedish 1984 crowns*

*Source: Gustafsson 1992*

The theoretical discussion above in Figure 3 makes us expect that the after tax wage of the wife would be higher with the Swedish tax system and the after tax income of a male breadwinner couple would be higher with the German tax system. This is also what we find in Table 3.

The final step in the computation of the work disincentive effects of the German split taxation system in comparison to the Swedish individual taxation system, is to use the estimates of the probability to work from Table 2 and the simulated after tax wages and incomes of the individual couples, the averages of which are presented in Table 3 to predict effects on labor force participation of the wife. This is done for each couple by multiplying the estimated coefficients by the after tax wages and incomes simulated from

using the other country's tax system. Finally, predicted labor force participation is averaged over all wives in the respective German and Swedish samples.

**Table 4. Effects of tax system on married women's labor force participation.**

	Swedish couples	German Couples
Observed	80.2	50.3
Predicted outcome with the other country's tax system	60.4	60.0

Technical note:

Estimated logit (from Table 3):

$$y = \alpha + \beta_1 w^j + \beta_2 X_1^j + \gamma Z$$

Where:

Y = 1 if the wife is a labor force participant and 0 if not

$$w^j \equiv (X_2^j - X_1^j) / h \quad \text{for } j = G, S; h = 10$$

Z is a vector of other variables, see footnote to table 2.

$\gamma$  the corresponding estimated coefficients

Predicted logit:

For German Couples:

$$\hat{y}^G = \alpha^G + \beta_1^G w^S + \beta_2^G X_1^S + \gamma^G Z^G$$

For Swedish couples:

$$\hat{y}^S = \alpha^S + \beta_1^S w^G + \beta_2^S X_1^G + \gamma^S Z^S$$

Predicted labor force participation

$$\text{Prob}(y = 1) = \frac{\exp(\hat{y})}{1 + \exp(\hat{y})}$$

---

Source: Gustafsson 1992.

The results are shown in Table 4. The estimated work disincentive effect of the German tax system or the work incentive effect of the Swedish system is large. Swedish wives would have decreased their labor force participation from 80 to 60 per cent if they had been confronted with the German tax system and German wives would have increased their labor force participation from 50 to 60 per cent if they had been confronted with the Swedish tax system. In Gustafsson (1992), I predicted also the change in full-time work by giving the couples the tax system of the other country. After tax wages were computed at 30 hours of work. The results showed a predicted decrease from 45.4 per cent to 38.5 per cent for Swedish wives and an increase for German wives from 27.8 per cent to 30.6 per cent if they had been confronted with the tax system of the other country.

##### **5. How important are tax disincentives for married women's labor supply?**

The tax disincentive effect of the German splitting tax system in comparison to the Swedish individual tax system is very large as has been shown in this paper. The estimate is based on a careful cross sectional comparison between two countries. The Swedish policies for equality between women and men rest on three pillars: the separate taxation system since 1971, the subsidized childcare system applied on a larger scale since the 1970s, and the paid parental leave system since 1974 (Gustafsson, 1984). There was very little full-day childcare available in Germany in the 1980s although the "kindergarten" system, a German invention, allowed most children in the age range of 3-6 years old a few hours a day. If these other policies are also more favourable for wife's labor force participation they will enforce the effect of the tax incentive. Gustafsson and Stafford (1992), using the 1984 HUS data, show that availability and the size of the subsidy in childcare increase labor force participation of mothers. Childcare is organized, supplied, and financed by the 280 Swedish communities. Each community decides on the parental contribution to the costs of childcare although in recent years the variation between communities is less than it was in 1984. Using this exogenous variation in the price paid

by parents in addition to data by community on the rationing of childcare spaces, we showed, that labor force participation of mothers increased, when the price they had to pay was lower if they were not rationed. Controlling for rationing is important. We compared the number of childcare spaces available in the community to the number of children in the relevant age range in the population of the community. A recent study (Del Boca, 2002) shows, that similar effects exist in Italy.

Currently Swedish parents of young children have the right to paid parental leaves to the equivalent of 12 full-time months. The leave can be taken with the most possible flexibility, using the benefits fulltime or part-time, being on leave for 25, 50,75 or 100% (Gustafsson and Kenjoh, 2004). Mother and father can share as they like: both parents being part-time on leave or one being fulltime on leave. As many changes as the parents like, can be done in the composition of the take up of the leave. Employers have to be notified and modern technology allows the Swedish National Insurance Board to keep an on line account for each child, where parents can check their parental leave account. (Riksförsäkringsverket). The paid parental leave system takes earnings before birth of the child to be compensated for by 80 per cent up to a ceiling. This means, that a Swedish woman has an incentive to find a well-paying job, before she has a child, because this increases her parental benefit.

In a study of the time spent at home and at work month by month by new mothers comparing Sweden, Britain, Germany, The Netherlands and Japan, Kenjoh (2004) shows, that the proportion mothers, who work when their oldest child is five years old is by far the largest in Sweden about 80%, whereas in the other countries it does not exceed 60%. Comparing Sweden and Germany for women who had their first child during the 1990s, during the child's first year, the proportion mothers, who care for their child full-time at home, is equally large, that is generally universal. The German system allows a maximum of three years of parental leave, most of which is unpaid. Removing the disincentives from joint income taxation, will have a larger positive effect on married women's labor supply, if other family friendly institutions are also available.

## **6. Conclusions.**

Joint income taxes decrease incentives for married women to work, if the tax system is progressive, because her first earned euro will be taxed at his marginal tax rate. The more progressive the tax system and the larger the earnings differences between spouses, the larger will be the negative effect of joint taxation in comparison to separate taxation. With separate taxation and a progressive tax system, the small earnings of the wife are taxed at a low tax rate. A basic deduction (tax credit), which is transferable from a nonworking wife, but is deducted from the own income of a working wife, creates a high marginal tax rate if the wife starts to work. The larger the transferable basic deduction, the more the taxable income increases for the husband, when the wife uses her own basic deduction. Joint taxation implies a marriage gain for couples with unequal income. Therefore all one earner couples will file jointly, even if there is a choice to file separately. For couples filing jointly, the marginal tax rate for a housewife, who considers to start working is large, which implies work disincentives from joint taxation. In Spain the tax system is progressive and joint for husband and wife. Therefore it creates disincentives for married women to work in the labor market similar to the German tax system. A change to separate individual taxation, particularly if combined with reforms in the childcare and parental leaves systems, is likely to increase labor force participation of married women and move Spain from a situation of having the lowest female labor force participation rate of all European Union member states.

## References.

Alm, James and Whittington, Leslie A., 2003, Shacking Up or Shelling Out: Income Taxes, Marriage, and Cohabitation, *Review of Economics of the Household*, 1, 169-186.

del Boca, Daniela , 2003, Labor Market Behavior and Childcare Opportunities in Monitoring Italy, ISAE, Rome.

Carbajo, Domingo, 2005, La Tributación conjunta en el impuesto sobre la renta de las personas físicas y la igualdad de género. Algunas reflexiones. Paper presented at the seminar on Fiscal policy and gender, Madrid April 14, 2005.

Ehrenberg, Ronald, G. and Smith, Robert S., 2003, Modern Labor Economics, Theory and Public Policy, 8<sup>th</sup> edition, Addison Wesley, Boston, Madrid, etc.

Elvander, Nils, 1974, Skattepolitik 1945-1970. En studie i partiers och organisationers funktioner. Tax policies 1945-1970. A study of the role of political parties and other organizations. Rabèn och Sjögren, Stockholm.

Gustafsson, Siv. S., 1984, Equal Opportunity Policies in Sweden, in G. Schmid and Renate Weitzel (eds.) Sex Discrimination and Equal Opportunity. The Labour Market and Employment Policy, Wissenschaftszentrum Berlin and Gower Publishing Company

Gustafsson, Siv, S., 1992, Separate Taxation and Married Women's Labor Supply. A Comparison of West Germany and Sweden, *Journal of Population Economics*, 5: 61-85.

Gustafsson, Siv, S. and Stafford, Frank, 1992, Daycare Subsidies and Labor Supply in Sweden, *Journal of Human Resources*, Winter 1992, vol. 27, no. 1, pp. 204-230.

Gustafsson, Siv, S. and Kenjoh, Eiko, 2004, New Evidence on Work among New Mothers. What can Trade Unions do? In: *Transfer. European review of labour and research*, ETYV, vol. 10, no 1, p.p. 34-47.

Hoffmann, Edeltraud and Ulrich Walwei, 2003, "The Change in Work Arrangements in Denmark and Germany. Erosion or Renaissance of Standards?" in Houseman, Susan and Osawa, Machiko (eds.) *Nonstandard Work in Developed Economics, Causes and Consequences*, W.E. Upjohn Institute for Employment Research, Kalamazoo, Michigan, USA.

Kenjoh, Eiko, 2004, Balancing Work and Family Life in Japan and Four European Countries: Econometric Analysis on Mother's Employment and Timing of Maternity, 223 page, diss., University of Amsterdam and Tinbergen Institute.

Pazos, Maria, 2005, Género e Impuesto sobre la Renta (IRPF) en España. Propuestas para la Reforma, paper presented at the Seminar on Fiscal Policy and Gender, Instituto de Estudios Fiscales, Madrid, 14 April 2005.

Riksförsäkringsverket [The Swedish National Social Insurance Board] <http://www.rfv.se>.