

Gender based taxation:
A 100 euro bill left on the table?

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What theory suggests

Taxes are necessary to finance government expenditures but induce agents to make choices that are different from the optimal ones they would make in the absence of taxation.

A reduction of fiscal pressure for given government revenues improves social welfare because it reduces fiscal distortions.

Optimal taxation theory suggests two reasons why gender based taxation would reduce distortions and improve social welfare.

- i. The elasticity of labor supply is higher for women.
- ii. The distribution of earnings for women is more concentrated at low levels.

Let's see why.

1) Gender differences in the elasticity of labor supply

Suppose that the elasticity of labor supply is higher for women, as suggested by the empirical evidence:

- If men were taxed more, they would not change much their labor supply;
- The income revenue generated by men would increase considerably even if the tax rate does not increase much;
- Viceversa, even a large decrease of the tax rate on women would not reduce much the tax revenue generated by their incomes;
- This because female employment would increase and the lower tax rate would be applied to a significantly higher tax base.

Thus, it is possible to reduce the tax rate for women by more than the increase in the tax rate for men, leaving tax revenues constant.

This proposal should reduce fiscal distortions and improve social welfare.

Table 1: Optimal gender based taxation in Italy, Norway and USA

		Italy	Norway	USA
<i>Assuming zero cross elasticities:</i>				
Female elasticity ^a	σ_f	0.66	0.52	0.40
Male elasticity ^a	σ_m	0.12	0.39	0.10
Maximum optimal gender tax ratio ^b	$\max\left(\frac{t_f}{t_m}\right)$	0.67	0.91	0.79
Optimal revenues-constant tax rate for females ^c	t_f	0.27	0.49	0.38
Optimal revenues-constant tax rate for males ^c	t_m	0.68	0.56	0.71
<i>Assuming non-zero cross-elasticities;</i>				
Female cross-elasticity ^a	γ_{fm}	-0.49	-0.42	-0.19
Male cross-elasticity ^a	γ_{mf}	-0.12	-0.23	0.03
Gender labor force participation ratio ^d	$\frac{l_f}{l_m}$	0.64	0.92	0.84
Optimal revenues-constant tax rate for females ^e	\bar{t}_f	0.35	0.57	0.35
Optimal revenues-constant tax rate for males ^e	\bar{t}_m	0.77	0.70	0.91

2) Earnings distribution and optimal taxation

Consider the tax rate for a yearly income of 20000 euro:

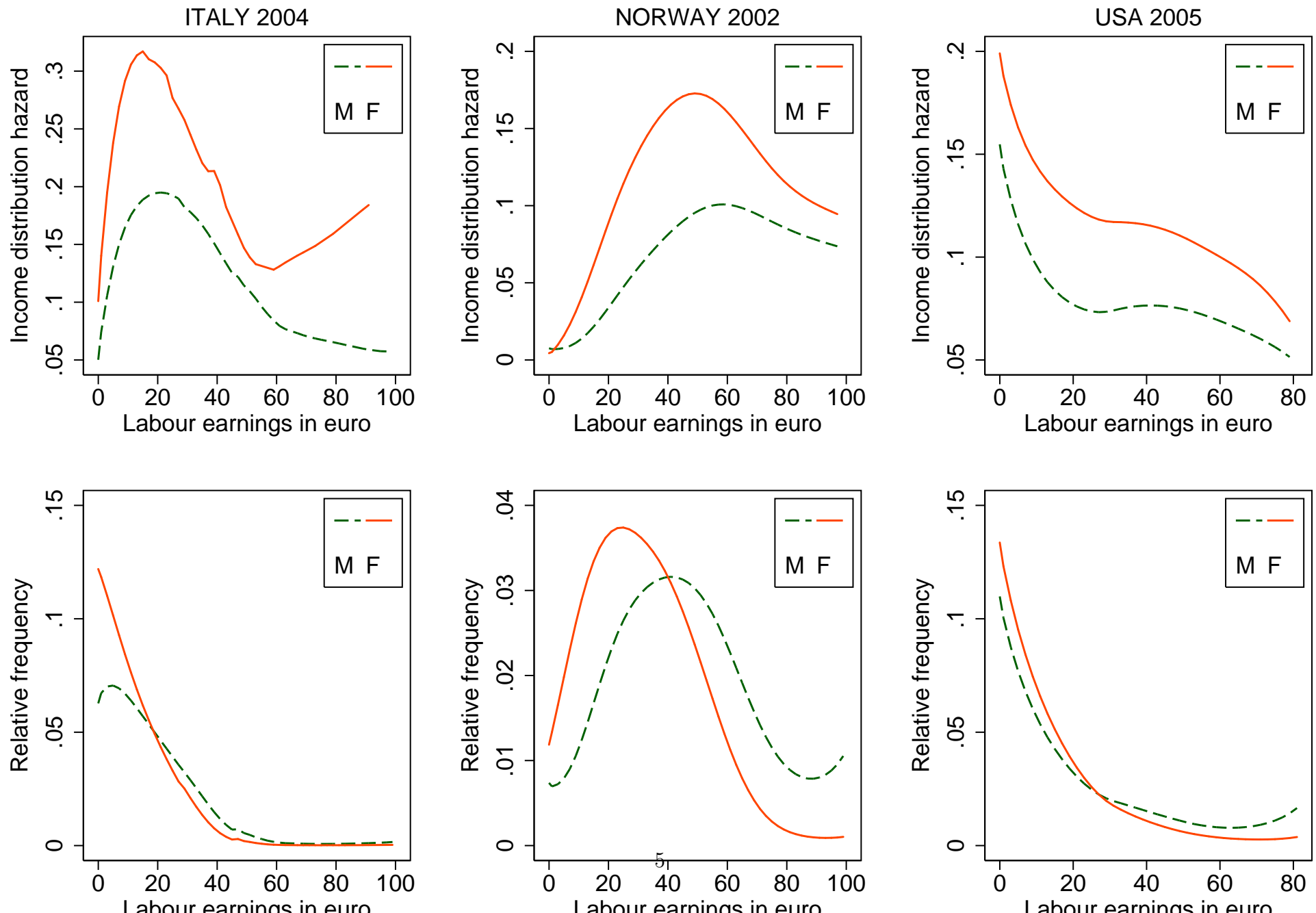
- those who earn less than 20000 euro are indifferent to this tax rate;
- those who earn exactly 20000 euro are distorted by this tax rate;
- for those who earn more than 20000 euro, this tax rate generates a tax revenue but does not distort labor supply because for them it is an infra-marginal tax rate.

Thus, the distortion induced by a tax rate per unit of generated revenues is proportional to the ratio between:

- the number of agents for which that rate is the marginal rate
- and the number of persons for which that rate is an infra-marginal rate that generates a revenue without distorting labor supply at the margin.

This ratio is called “earning distribution hazard” and is typically larger for women because they are concentrated at low levels of the earnings distribution.

Figure 1: Hazard rates of the earnings distribution in Italy, Norway and USA



It is not a new idea!

- Taxes should depend on non-modifiable determinants of productivity:
 - Akerlof (1978): the general idea.
 - Kremer (2003): age based taxation.
 - Mankiw and Weinzierl (2007): height based taxation.
- Taxation of couples:
 - Rosen (1977): joint taxation is bad for second earners, typically women.
 - Levy Report (2006): fiscal systems are not gender neutral.
 - Kleven, Kreiner and Saez (2006): tax rates should depend on spouse's incomes.
- Gender based taxation:
 - Apps and Savage (1983).
 - Boskin and Sheshinski (1983).

Our contribution

Is gender based taxation still optimal even when we consider all the possible objections to its validity?

Four categories of objections:

- i. *Theory is far from reality, in the sense that the hypotheses that are necessary for the proposal to work are not realistic.*
- ii. *It is preferable that women work less in the market and more at home.*
- iii. *It is desirable that women work less in the market, but it is preferable to achieve this goal with other instruments.*
- iv. *It cannot be done because it is discriminatory and against Constitutional principles.*

We believe our proposal survives even when these objections are considered, which leaves open the question of why it has never been implemented.

Theory is far from reality

- *Estimates of elasticities are not reliable.*
 - Yes but then let's collect better data and let's improve the quality of existing estimates.
 - Moreover estimates of earning distribution hazards are less disputable and they are sufficient to support gender based taxation.
- *Heterogeneity is larger within each gender than across genders.*
 - If such heterogeneity exists our proposal goes in the right direction because it differentiates tax rates at least with respect to gender.
 - It is possible to combine gender based taxation with age based taxation (or exploit other attributes as long as they are non-modifiable).
- *Elasticities and earning distribution hazards are endogenous.*
 - Gender based taxation can be adjusted to the temporal evolution of elasticities and distributional hazards, because this evolution is slow.

Theory is far from reality (continues)

- *Labor demand is not sufficiently elastic.*
 - Our proposal works as long as it is not perfectly rigid, a reasonable hypothesis in the long run: this is not a conjunctural hypothesis.
- *A subsidy to firms if they hire women would be more effective than a subsidy to women if they find a firm that hires them.*
 - The theoretical incidence of a tax or a subsidy is irrelevant for the actual incidence and for the equilibrium.
 - The existing evidence suggests that if anything, subsidies are more effective in the hands of workers (Spiegelman and Woodbury, 1987).
- *Pre-tax wages are not sufficiently flexible, particularly in the presence of unions.*
 - Workers should be interested in net wages, not gross wages.
 - Women would have a lower pre-tax wage but a higher post tax wage.

It is preferable that women work less in the market

This objection goes against all policies in favor of women employment. Note that the Lisbon Agenda sets the opposite goal for European countries.

- *One may argue that women have a comparative advantage in home production, particularly in taking care of children. However:*
 - The “first hour” spend by fathers with children may be more productive than the “last hour” spent by mothers.
 - The same might be true for other kinds of home production.
 - We do not know what is the optimal amount of time parents should spend with children.
 - We do not know the causal effect of parental time on children outcomes.
 - Maternal work is associated with some bad health outcome of male children, but with positive school outcomes of female children.
 - Maternal income has more positive effects on children than paternal income.

It is preferable that women work less in the market (cont.)

- *The divorce rate may increase.*
 - This is a possible consequence, but it is not obvious that it is a bad one if it means more financial independence for women.
 - It is not even obvious that divorce has a negative “causal” effect on children.
- *Fertility could decrease because of a direct effect and because of the effect on divorce.*
 - True, but why should we worry about fertility?

It is preferable to achieve the same goals with other policies

In comparing gender based taxation with other policies one should note that:

- Gender based taxation has no cost for the government budget.
- The existing parameter estimates that support alternative policies are not more satisfactory (if existing) than those supporting gender based taxation, i.e. elasticities and hazards.
- Gender based taxation achieves its goals modifying the “relative price” of female employment and leaving agents free to re-optimize equating costs and benefits at the margin.
- Other policies instead typically impose quantitative constraints on agents that do not allow the equalization of costs and benefits at the margin.
- The same principle applies to the idea that the best way to reduce pollution is to raise a tax such that agents internalize the negative externality generated by pollution.

Other policies are preferable (cont.)

- Gender based taxation is simple
- Many reforms that would increase global efficiency cannot be implemented because winners have no way to compensate losers; in the case of gender based taxation a large fraction of these compensations would take place within the family.
- Indeed it is possible that more than 50% of the population would vote in favour of gender based taxation:
 - women who work or who decide to work as a result of the proposal;
 - their husbands if these couples share resources.

Losers are:

- male singles;
- couples in which females do not work and do not begin to work.

Others are indifferent.

Specifically: should we subsidize child care facilities?

- There is no convincing evidence that lack of child care facilities is the reason of low female participation rates in Italy.
- Why should the government subsidize fertility?
- If there is taste discrimination against women, all women should be compensated, not only those with children.
- If there is statistical discrimination because women may have children, again all women should be compensated, not only those with children.
- There are cultural and biological gender differences that make the labor market participation of all women more costly than that of men.
- Gender based taxation increases family income leaving families free to choose how they prefer to spend it for the care of children.
- Gender based taxation reduces the labor cost of women and in this way effectively subsidizes child care facilities because they employ mainly women.
- Public subsidies to child care facilities are costly for the budget.

Specifically: should we use “quotas” like Zapatero in Spain?

Quotas presuppose a “market imperfection” like, e.g., statistical discrimination.

They share some advantages of gender based taxation:

- Zero cost for public budget;
- Change in role models;
- Investments and attitudes that may break statistical discrimination.

But have some important disadvantages:

- Leave on the table the “100 euro bill” that gender based taxation collects;
- Are administrative constraints that do not lead to a second best equilibrium, given the market imperfection they are trying to correct;
- This because with quotas, costs and benefits are not equalized at the margin;
- It is not clear if and what kind of effect they have on the supply side: does they help the “best” or the “worse”?

Equity and constitutional principles

This problem exists for all policies in favor of women:

- why should it be constitutional that women retire 5 years earlier than men?

Consider for example the Italian Constitution:

- Art. 3.1: Tutti i cittadini hanno pari dignità sociale e sono eguali davanti alla legge, senza distinzione di sesso, di razza, di lingua, di religione, di opinioni politiche, di condizioni personali e sociali.
- Art. 3.2: È compito della Repubblica rimuovere gli ostacoli di ordine economico e sociale, che, limitando di fatto la libertà e l'eguaglianza dei cittadini, impediscono il pieno sviluppo della persona umana e l'effettiva partecipazione di tutti i lavoratori all'organizzazione politica, economica e sociale del Paese.
- Art. 53: Tutti sono tenuti a concorrere alle spese pubbliche in ragione della loro capacità contributiva.

Equity and constitutional principles (cont.)

Any policy in favor of women represents a cost for men in general equilibrium: gender based taxation is just more transparent.

If gender based taxation were welfare improving but also in contrast with some constitutional principle, should the Constitution be changed?

It is hypocritical to tax equally those who are not treated equally elsewhere.

Other problems of equity

Gender based taxation favors women in rich families and damages poor families in which only the husband works.

- This is not true if women in those poor families start to work: family income would then increase.
- Our proposal improves fiscal efficiency and reduces the gender gap in earnings: other instruments should be used for other distributional problems.
- Our proposal helps single women, a category that is typically the focus of attention in many welfare programs.
- Women never reach the top of firms' hierarchies (*glass ceilings and sticky floors*); our proposal addresses this problem but in this way it necessarily helps female in better economic positions. Should this be a problem?
- All policies may have some undesirable distributional side effects: for example, public child care facilities either exclude families in which both spouses work, or imply a transfer from poor to rich families.

A law for the introduction of gender based taxation

A law for gender based taxation should have the following main ingredients:

- i. The tax rate for female workers in income bracket Y is decreased by the factor $F(Y)$.
- ii. The tax rate for male workers in income bracket Y is increased by the factor $M(Y)$.
- iii. The correction factor $F(Y)$ and $M(Y)$ are determined annually by the government on the basis of appropriate econometric estimates of labor supply elasticities and income distribution hazards.
- iv. Workers and firms are free to bargain different pre tax wages as a function of gender.