Redistribution and labour supply incentives: an application of the optimal tax theory

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Résumé

En offrant une garantie de revenu minimum à ceux dont le revenu primaire se trouve en-dessous d'un niveau de vie acceptable, les systèmes de redistribution en vigueur dans la plupart des pays européens pourraient détourner du marché du travail, peut-être durablement, les bénéficiaires de cette garantie. Dans une perspective statique et sous des hypothèses alternatives concernant l'élasticité de l'offre de travail et la fonction de bien-être social, on montre ici que si un tel dispositif n'est pas en complet désaccord avec les enseignements d'un modèle de fiscalité optimale à la Mirrlees, les différences obtenues entre les barèmes optimaux et les barèmes réels de redistribution peuvent néanmoins être considérables. La mise en œuvre proposée ici du modèle de fiscalité optimale constitue une alternative originale aux approches économétriques standard des effets d'une réforme fiscale.

Abstract

A growing concern appeared in many developed countries during the last ten years that generous redistribution systems might be detrimental to those they want to help. By guaranteeing a minimum income or an income supplement to those whose purchasing power would fall below some limit, these systems would be responsible for strong labour-supply disincentives, the cost of which may be very high. In a static framework and under alternative specifications of the labour supply elasticities and the social welfare function, we show, in this paper, that, even if such a mechanism is not in complete disagreement with the Mirrlees optimal tax model, the difference between optimal and real tax rates can be high. The proposed implementation of the optimal tax model can be considered as an original alternative to the standard econometric approach to the analysis of fiscal reforms.

JEL Classification: H21, C63

Introduction

During the last ten years an increasing concern in many developed economies is that overly generous redistribution systems could ultimately prejudice those they are supposed to help. Ensuring a minimum income or a substantial supplement for people or households whose living level is below a certain limit, these systems could be responsible for a lack of incentive to work, the distortions whose social and economical cost could be high. [1]

To ensure that this is not happening would require a good knowledge of the behaviour in terms of labour supply of the members of the household, of their potential salary or more generally of their "productivity" and an appropriate application setting of the "Optimal Tax Theory". Concerning the two first issues, our knowledge of the empirical facts is very limited. Firstly, to assimilate labour supply and work duration as we generally do can be restrictive to a person remunerated at a higher hour rate than the legal minimum. The work effort provided can be as important as the time spent working in determining the total gross income and the exogeneity of the wage rate (above the eventual legal minimum) can be questionable. Second, ignoring this restriction, the econometric estimations of labour supply that satisfactorily integrate the effects of the redistribution systems in force, often are not very accurate. [2] The necessity to place the welfare question at a household level more than at an individual level makes the estimation even harder and raises the relevant questions of the inadequacies of available data. The econometric models of the simultaneous labour supply within a household are indeed rare. Third, the fact that a guaranteed minimum income policy, like the RMI in France, is often associated with the inactivity of household members, makes difficult the observation of their potential wage and their labour supply reactions. A [last] difficulty of the econometric estimation of changes in labour supply under alternative tax-benefits systems is that the functional specifications generally used fall in better with the analysis of the fiscal reform (do we or don't we improve a social utility?) than with the calculation of an optimal scheme of redistribution (in other words the scheme that maximize this utility). However it seems that the question above about the form of the optimal tax structure for the households with low productivity is more from the second than the first logic.

Without questioning the interest of the econometric approach in the redistribution and labour supply issues and highlighting the necessity to improve the methods used, and to refine the estimations, in this article we explore a different approach to the problem. Based on the same type of disaggregated data, it is essentially based on simple techniques of micro simulation. First we take a possible labour supply specification that leads to an analytically simple determination of the optimal redistribution scheme. Then we identify the "natural" distribution of the household work productivities from income data obtained from surveys. This is done by micro simulation, inverting the previous model under the arbitrary hypothesis

[1] To accurately identify these distortions for the French case, see Laroque and Salanié (1999). Also see the more general discussion of these problems in Bourguignon and Bureau (1999).

[2] The econometric labour supply models in the presence of non-linear budgetary constraints because of the redistribution systems have been dealt with in a considerable number of books during the 80´s. For example Hausman (1985). Also see the special edition of the Journal of Human Resources which presents estimations for several developed countries, in particular France and Italy, which are analysed in this article (Bourguignon and Magnac, 1990 ; Colombino and del Boca, 1990). Finally see the works of Blundell and his partners summarized in Blundell (1992). The limitations of this structural approach to the problem appeared at the end of the 80´s (see in particular McCurdy, 1990) and the publications became rare. A good example of the present approach to these questions is Blundell, Duncan, and Meghir (1998).

of price elasticity of labour supply, and considering the budget constraints proper of the redistribution systems in force in the countries that we are studying. Finally we analyse the form of the optimal redistributive scheme according to parameters describing the social aversion to inequality and the previous hypothesis on the elasticity of labour supply.

This approach can be considered the dual of the econometric one. In the last one, we observe the income and productivities of the agents, supposed to be identical to the gross wage rate. From this we can (by estimation) deduce the parameters of labour supply behaviour under certain functional form hypothesis. In our approach, we *a priori* assert a functional form and (alternative) behaviour parameters, and we deduce the implicit work productivity from the observed income. This last variable doesn't coincide with the gross wage rate. From one side, this is due to the role, stipulated above, of the non-observed efforts in the work activity and from the other side to the fact that the unit analysed is the household rather than the individual. By using this approach, we are in fact half way between the standard econometric approach and more succinct applications of the optimal tax theory based on the only distribution of the individuals productivity approximated by the gross wage rate or earned incomes, for example Diamond (1998) or Saez (1998) in the American case and Salanié (1998) or d´Autume (1999) in the French case. With respect to these works, our method is consistent with the econometrics one for the coherence of the productivity, the observed work incomes and the rules in force of the redistribution system.

The explanation of this methodology is dealt with in the first part of this article. The second part analyses the results obtained with datasets from four European countries: Spain, France, Italy and United-Kingdom. This comparison is motivated by a concern to test the grade of generality of the obtained conclusions.

1. A simple empirical implementation of the optimal income tax theory.

Mirlees optimal income tax (or redistribution) model, in its canonical form, can be stated as follows.

$$\text{Max}_{T()} \int_{w_0}^{A} G[V[w,T()]].f(w).dw \qquad (1.1)$$

under contraints : $$(C^*,L^*) = \text{Argmax}\,[U(C,L);\; C = wL - T(wL),\; L \geq 0] \qquad (1.2)$$

$$V[w,T()] = U(C^*,L^*) \qquad (1.3)$$

$$\int_{w_0}^{A} T(wL^*).f(w).dw \geq B \qquad (1.4)$$

In this optimisation program, the function U( ), supposed increasing and quasi-concave, represents the preferences of an agent between all the combinations of the real expenses of consumption (C) and work (L). The combination (C*, L*) is the preferred combination, under the budget constraint he/she confronts. W is the work unit income, that is to say the wage rate, if we suppose that L measures only the work duration or the "productivity" of an agent in a more general case. T( ) is the tax paid. It is supposed to be only a function of the observed total income. V( ) is the utility level obtained effectively by the agent. Therefore it depends on his productivity and on the redistribution system T( ). The distribution of productivities f( ) in the population is defined within the interval (W_0, A). Finally, B is the budget that the government has to finance. B = 0 implies that certain values of the tax, T( ), should be negative and makes it possible to concentrate the analysis only on the redistribution effects. From this point of view, the government is supposed to maximize the total social value of the individual utilities respect to the redistribution function T( ). The relation between the private value and the social value of the individual utility is represented by the function G( ), supposed to be increasing and concave.

The concavity of G( ) means that the government would like to redistribute part of the income of those who have a higher productivity and income to the people with low productivities. A way of obtaining this result is by increasing the tax T( ) according to income. But if it increases too quickly, the labour supply L* can decrease and the total amount to be redistributed can then being insufficient after considering the government budgetary constraint. The trade off between efficiency – in other words a high level of labour supply and monetary income – and equity, or redistribution, constitute then the heart of the model. Under this general form, we can see that the optimal redistribution, represented by T( ) is a function of the individual labour supply behaviour (as it proceeds from the preferences U( )), of the distribution of the productivities f( ) and, finally, of the social welfare function G( ).

The general solution of this problem is complex[3]. It is therefore rarely implemented without restrictions on individual preferences. A particular case, which has recently received a lot of attention, is the one where utility is separable with respect to consumption and work and linear in consumption. The following function

$$U(C,L) = C - k.L^{1+\frac{1}{\varepsilon}} \qquad (2)$$

where k and ε are positive constants is frequently used. It is easy to see that labour supply income elasticity is 0. Then the labour supply depends only on the productivity corrected by a factor considering the marginal tax rate. Formally, we have:

$$L^* = A.w^{\varepsilon}.[1 - T'(wL^*)]^{\varepsilon} \qquad (3)$$

where T´( ) is the derivative of the function T( ) in relation to the labour income. The constant ε appears as the wage elasticity of the labour supply.

With this particular specification of the preferences, we can easily show [4] that the optimal marginal tax rate t(w) of an agent whose productivity is w, is given by :

$$\frac{t(w)}{1-t(w)} = (1+\frac{1}{\varepsilon}).\frac{1-F(w)}{w.f(w)}.(1-S(w)/S(w_0)] \qquad (4)\ [5]$$

[3] See Atkinson and Stiglitz (1980).
[4] Strictly this connection is given by the following system :

$$y = wL^* = Aw^{1+\varepsilon}.[1-t(w)]^{\varepsilon} \ ; \quad t(w) = T'(y)$$

It indeed requires that the work income is a monotonous (increasing) function of the productivity.
[5] For the derivation of this equation see Atkinson and Stiglitz (1980) or Atkinson (1995), Diamond (1998), Piketty (1997). At the light of the previous note, this equation could simply be interpreted as a differential equation of the tax function T( ). Its integration gives the redistribution function. The government budgetary constraint makes it possible to identify the integration constant T(0) that can be considered as a universal social contract tax (or a transfer if it is negative).

where F( ) is the cumulative associated with f( ) and S(w) is the average marginal social value of the income of all the agents whose productivity is above w – $S(W_0)$ being the average marginal social value of the income in the whole population.

The interpretation of this equation is simple enough. Increasing the marginal tax rate of the agent with level of productivity w, the government both wins and loses income. It loses because the agents whose productivity is w will decrease their labour supply. The corresponding loss is obtained by multiplying the left side of (4) by the term in f(w) on the right – in other words the number of people who are at this level of productivity – and by the term $w/(1+1/\varepsilon)$ – in other words from how much the wage income decrease. The terms staying on the right could be interpreted as the additional income that the government obtains increasing the tax paid in the marginal bracket of the income corresponding to w by all those whose productivity is higher than w, that is to say 1-F(w). This gain is corrected by the relative difference between the average marginal social value of the corresponding incomes and the average marginal social value of the income of those who effectively pay this supplementary tax.

To implement the previous model, we should have estimations of ε, the distribution f( ) and a specification of the social welfare function, G( ). The usual practice consists of fixing an arbitrary value of ε and using the distribution observed of the individual wage rates as proxy for w. Such a practice is however unreliable because of the non-coincidence between labour supply and work duration and because it neglects the information available on observed labour incomes. The econometric approach would use these incomes and the hourly wage rates to deduce from them, in one specification or another, an estimation of the elasticity ε. It poses the same identification problems of the labour supply and the work duration. Moreover, it is not appropriated in the case where the household rather than the individuals that constitute it are retained as the unit of analisys.[6]

The approach that we propose here is an intermediary between these two approaches. It infers from the observed work incomes, the redistribution system in force, and arbitrary labour supply elasticity ε, the implicit productivity w coherent with the theoretical model (2) or (3) of the labour supply. This can be done for individuals or households. However in the latter case, it is convenient to correct the imputed productivity w, by household size. Without considering this last aspect by now, in other words supposing that all the households are homogeneous, the proposed procedure simply comes to the following inversion:

$$(C^*, L^*) = \text{Argmax } \; U(C,L) = C - k.L^{1+\frac{1}{e}} \quad s.t \;\; C = w.L - T_0(w.L) \quad \Leftrightarrow \;\; w = \Phi[wL^*, T_0(\,), \boldsymbol{e}] \quad (5)$$

where $T_0(\,)$ corresponds to the fiscal system in force. The function Φ [ ] doesn't have an analytic expression because the function $T_0(\,)$ doesn't have one. However numerical techniques are easily implemented to identify w from the work income, wL* and the retained value for the elasticity, ε. One only needs to be able to calculate $T_0(\,)$.[7]

[6] This individualistic approach of the labour supply explains that the different econometric estimations distinguish carefully the case of men and women, single or married etc… This diversity is rarely adapted to an optimal fiscal system where the household is considered as statistical unit.

[7] We can use directly the equation (3) for the inversion and we just have to calculate the tax effective marginal rate of the household considered. However, we should consider conditions of second order for the optimisation (2) and that the budgetary constraint created by $T_0(\,)$ is not necessarily convex. To resolve this problem we use

Knowing the distribution f(w), it is easy to use (4) to determine the optimal redistribution system when we have retained a certain function of social utility G( ).

To consider the heterogeneity of the households in term of size doesn't create a problem when we say that the redistribution system should satisfy a principle equivalent to the principle of "*quotient familiale* (QF)". If N is the size of the household, or more exactly the number of adults or persons in working age, a simple extension of the household preferences is :

$$U(C,L,N) = N[C/N - k.(L/N)^{1+\frac{1}{e}} + b(N)] \qquad (6)$$

where b(N) is any function that doesn't matter in the behaviour of the labour supply and in the determination of the optimal fiscal system. It is sufficient to suppose then that the optimal fiscal system T( ) is based on the principle of QF, or in other words that the tax function can now be written as:

$$T(y, N) = N.\tau(y/N) \qquad (7)$$

The problem with the optimal fiscal system is identical to the previous model, after the division of C and L by N. However many precautions should be taken. First, the term of productivity can be interpreted as the ´average productivity` of the household members. Second, the distribution of these productivities can be estimated conditionally as the size N. Third, the households should be weighted by their size to maximize the function. However it is necessary to insist that N is defined as the number of persons of working age and doesn't include children. In other words, we ignore the differences of "need" due to the presence of "unproductive" members in the households.

The last precaution that should be taken concerns the case of households whose work income is 0 in the database. If L* is 0, then the inversion (7) is not possible. We can determine a threshold for productivity – reserve threshold –, below which the observed household should be[8]. To deal with this case, we suppose that the households are distributed below this reserve threshold according to a truncated lognormal distribution whose density is connected continually with the frequency by the level and the slope, estimated by the Kernel method above the threshold reserve. At the top of the distribution, a similar approximation has been done for the superior centile. Given the low representativeness of the empirical distribution of very high incomes, we have approximated them using a Paretian law for the richest centile.

2. Application to some European countries

The previous methodology has been applied to 4 European countries for which we have a representative sample of households and micro simulation model of the actual redistributive schemes. The countries concerned are Spain, France, Italy and the United Kingdom. The samples and the micro simulation model are issued from a project in progress whose objective

the same method as Hausman (1981). We suppose that the income, wL*, is observed with an error which law we a priori fix in order that every anomaly observed can effectively be attributed to a measuring error.

[8] Seeing ( ) this threshold corresponding to a marginal tax rate equal to 100 %. In France, this would be the RMI (adopting a medium term prospect, and ignoring the profit-sharing period). The households for who the observed income is lower than a guaranteed minimum after application of a correction for measurement error are linked to the case indicated here.

is to propose an integrated micro simulation model for the 15 countries of the European Community. Each sample contains about 10.000 households. [9]

The calculations described in the previous section have been run under two hypothesis of labour supply elasticities: $\varepsilon = 0.1$ and $\varepsilon = 0.5$. These two values can be considered as “low” and “medium” in the range of the estimations internationally available.[10] In relation to a direct application of the formula (4) it is necessary to underline that the change in ε is not only a simple shift of the marginal tax rate curve towards the bottom or the top. In fact, the inversion procedure (5) introduces a supplementary role for the wage elasticity of labour supply, which is to generate an endogenous distribution of the productivities.

The second exogenous component included in the calculation of the optimal fiscal system is the social utility function. To simplify the calculations we have retained a linear function by parts, giving a constant marginal social utility to the proportion q of the poorest households and a lower constant marginal social utility to the remaining (1-q)% of households (see figure 1). The proportion q and the difference in weights of the marginal utilities β, are the two parameters which allow the function G( ) to be controlled. The first which represents, in a certain way, the ´targeting` of the redistribution policy, is fixed at 20%, in what follows. The second is calibrated in such a way that the optimal redistribution system guarantees a minimum income equal to 50% of the average income in each country under the low hypothesis of labour supply elasticity. (This minimum guaranteed income is simply the negative value of the tax function for a household with zero income: T(0). This value is obtained from (4) and the government budgetary constraint). In other words, *the social utility function is calibrated in such a way that it would be optimal to completely eradicate poverty, defined according to European Commission norms, if the labour supply elasticity was in its lower value* ***e*** *=0.1.*

The results of all the calculations are summarized on figure 2. We show for each of the countries included in the analysis the frequency distribution of the individual productivity w, obtained under each of the two hypothesis of the labour supply elasticity, and the corresponding curve of optimal marginal tax rates. The tax function T( ) can be deduced from these curves and from an constant of integration which defines the transfer corresponding to a zero income, T (0), and which depends on the governments budgetary constraints. We saw that this minimum guaranteed income has been arbitrarily fixed to 50 % of the average income before transfer, in the case where $\varepsilon = 0.1$. The value of this transfer in the case where $\varepsilon = 0.5$ (T05(0)) is indicated in the top right corner of the optimal marginal tax rates graphs.

The first property to appear clearly on figure 2 is that the distribution of the imputed productivity is more egalitarian when we suppose an average elasticity of the labour supply. With $\varepsilon = 0.1$, the productivity distribution is actually near the distribution of the observed

[9] On the Euromod model see Immervoll et al. (1999). The Spanish data is from the Investigation of the Households Budget from the National Institute of Statistics. The authors would like to thank Magda Mercader for her help given compiling this data (see Mercader and Levi, 1999). The Investigation on the Households Budget for France was given by the INSEE. The Italian data came from the Investigation on the households income and patrimony. The United-Kingdom data came from the Household Expenditure Survey (Crown Copyright). It has been given by l’Office National de Statistiques (ONS) through the Data Archive. It has been used with the permission of the organisation. The ONS and Data Archive are not responsible for the data analysis or interpretation in this article. The same applies to the INE, the INSEE, and the Bank of Italy for the Spanish, French and Italian data.

[10] See for example Pencavel (1986) and Blundell (1992).

work incomes (by people of working age). With $\varepsilon = 0.5$, the kurtosis of the distribution go up (i.e. the density increases towards the middle of the distribution and decrease on both extremes). This phenomenon is common to all four countries, even if it is less intense in the case of United Kingdom. Indeed it corresponds to the assumption: under the retained hypothesis of behaviour (2)- (3), the observed work incomes tend to reinforce the inequality of productivity inducing the most productive to offer more work and effort.

An important consequence to this property is to decrease the optimal marginal tax rates in a higher proportion to what would strictly correspond to the term that contains the labour supply in the formula (4). The passage from $\varepsilon = 0.1$ to $\varepsilon = 0.5$ implies a fall of the marginal tax rates not only because the fiscal cost in terms of work income is higher but also because the productivity distribution is less inequalitarian and consequently requires less redistribution. In the four countries the difference that results from this double effect is important. The global importance of the redistribution, measured by the minimum guaranteed income – T(0), goes from 50 % of the average income with $\varepsilon = 0.1$ to 29 % in Spain, 12,6 % in France and 8 % in United-Kingdom for $\varepsilon = 0.5$.

Another obvious property on the graph is that the curves of the optimal marginal tax rates are decreasing, except eventually in a very limited way a little before the joining point that we have arbitrarily imposed to be a Pareto distribution. Again we find here a result already obtained elsewhere – see Diamond (1998), Salanié (1998) and d´Autume (1999)[11]. It is due to the hypothesis that the top of the distribution is a Pareto and to the particular form of the social utility function retained, which implies a constant marginal social utility for the income. Lower in the distribution, the decrease of the marginal tax rates reflects the empirical form of the productivity distribution, deducted from the observed distribution of the work incomes before tax and under the redistribution systems in force. It is interesting to note that the shift from a low elasticity to a medium elasticity of the labour supply modifies the individual productivity distribution and the average marginal rate but doesn't change the decreasing property of the optimal tax rate. It is also worth noting that this property is common to all four countries considered. Moreover, we can remark that, when the labour supply elasticity is equal to 0.5, the form of the optimal marginal tax curves is not too dependent on the target parameter q. On the contrary, when $\varepsilon = 0.1$, it tends to flatten when q increases – keeping the calibration condition which imposes a minimum guaranteed income equal to half the average income.

To finally come to the principal motivation of our analysis, an important property of the optimal curves of the marginal tax rates obtained is that they only imply very high marginal rates for a low labour supply elasticity ($\varepsilon = 0.1$), and for small percentage of the low productivity population in the case of a medium elasticity. In this last case however, the marginal tax rate decrease very quickly to a level greatly inferior to the 100 % rates associated in reality to minimum income measures like the RMI. In The United Kingdom and Italy it is less than 50 % for households whose productivity is lower when $\varepsilon = 0.5$. In Spain it only approaches the 100 % for a part of the population less than the first centile. It is about 60 % for the first centile and less than 50 % for the second centile. In France, the decrease is as high when $\varepsilon = 0.5$. The marginal rate is about 90 % for the first half-centile but then it decreases by 10 % for each centile until the fifth. However in these two last countries, the situation is

[11] Saez (1998) obtains a more pronounced increase with the American data but this above all is due to the form of the function corresponding to the median part of (4).

different if we retain the low value of the labour supply elasticity. The marginal rate is still more than 70 % in the first decile.

This exercise leads to the conclusion that very high marginal tax rates for the first vintile or the first decile of the population can be justified only in the case where: a) the labour supply elasticity is very low and b) the society is largely orientated towards the redistribution – let's remember that the social utility function is calibrated so that everyone obtains an income superior or equal to 50% of the population average income in the case where $\varepsilon = 0.1$.

We could think that this result needs to be moderated. Because the lack of observed income of the population that, in our samples, chose to stay inactive, we have been led to make an arbitrary hypothesis about the productivity distribution for this section of the population. After all, the form of the marginal tax rates curves, for the first centiles, could simply reflect the arbitrary hypothesis of log-normality done for them. We think that it is not so. Alternatives hypothesis would have led to results even more pronounced than the ones that appear on figure 2. Two extreme alternative cases could be considered for the distribution of individual productivities in the population observed as inactive within the samples. In the first case, it is supposed to "observe" all these households at a productivity level only very slightly inferior to the " reserve " level above which the activity becomes profitable, considering the redistribution measures in force. In this case, the optimal marginal tax rates are less than the ones we observe on figure 2. In the second case, we could suppose that, to the contrary, this population is concentrated at a productivity level close to zero. Then, a marginal rate close to 100 % becomes optimal for this population. However, we are faced with the question of knowing whether to include this population in the calculation of the optimal tax schemes is justified. These individuals or these households appear like "sicked and retired" and they should not to be considered as potential workers. Naturally the problem is to be able to identify them. Considering the previous results, the justification of a minimum income and a marginal tax rates close to 100% for the low skilled people seems to lie in the only unobservability of the determinants (individual characteristics) that lead these households to productivities close to zero.

We need to underline that the conclusion of the non-optimality of a 100% effective marginal tax rate for low productivity level depends also on the retained social utility function. A Rawlsian hypothesis that would give a strictly positive marginal weight only to the incomes of the 20 % poorest, would lead to a different result. In the French case, we can see on figure 3 that the marginal tax rate decreases only very slowly from 100 % from this hypothesis. However we should notice that the redistribution is then extreme. The fall of the average effective work income that follows is also considerable. This picture is not comparable with the size of redistribution achieved with the actual systems in force.

Conclusion

In this article we have studied the optimality of the redistribution systems in force in several European Union countries in light of an original empirical application of the optimal income tax model. The originality of the method used consists of starting with some hypothesis about the labour supply behaviour and deducing the distribution of the average productivity of the individuals of a same household, from observed incomes and real budgetary constraints to which the households are confronted. This method is based on tax-benefits micro-simulation techniques, which make it possible to determine the average and effective marginal tax rates for all the households observed in a sample. From the productivity distribution calculated by inversion and with some hypothesis about the social aversion to inequality, it is then possible to identify the properties of the optimal redistribution systems.

The analysis done in this paper on households proceeding from four countries of the European Union leads to several types of conclusion about the properties of an optimal redistribution system. This analysis justifies the fact that effective marginal tax rates are higher for the households with low productivity. These higher rates should be compensated by a transfer (i.e. a minimum guaranteed income). The decrease of the marginal rates at the bottom of the distribution is actually a common characteristic for most of the European redistribution systems. But, the analysis made in this article can only justify the marginal tax rates equal to or greater than 100 % observed for the first centile of the population (because of measures like the RMI) by personal characteristics that make the productivity of some individuals or households close to zero. If these "handicaps" can be a priori identified, we are faced with the question of knowing if they should be treated through the redistribution systems based on the sole work incomes or if they should be dealt with by specific measures.

The labour supply model dealt with here is essentially static and doesn't consider the dynamic disincentive effects that guaranteed income measures based on means could create. The idea that social assistance mechanisms like Minimum Incomes could be a poverty trap cannot be analysed strictly in the standard framework of the optimal tax model which relies on a static labour supply model. The extension of this model in a dynamic framework where the future wage rate can depend on the today labour supply would contribute to an additional fall in the marginal tax rates for the low incomes however, without eliminating the idea of a universal contract transfer that guarantee to everyone a minimal standard of living.

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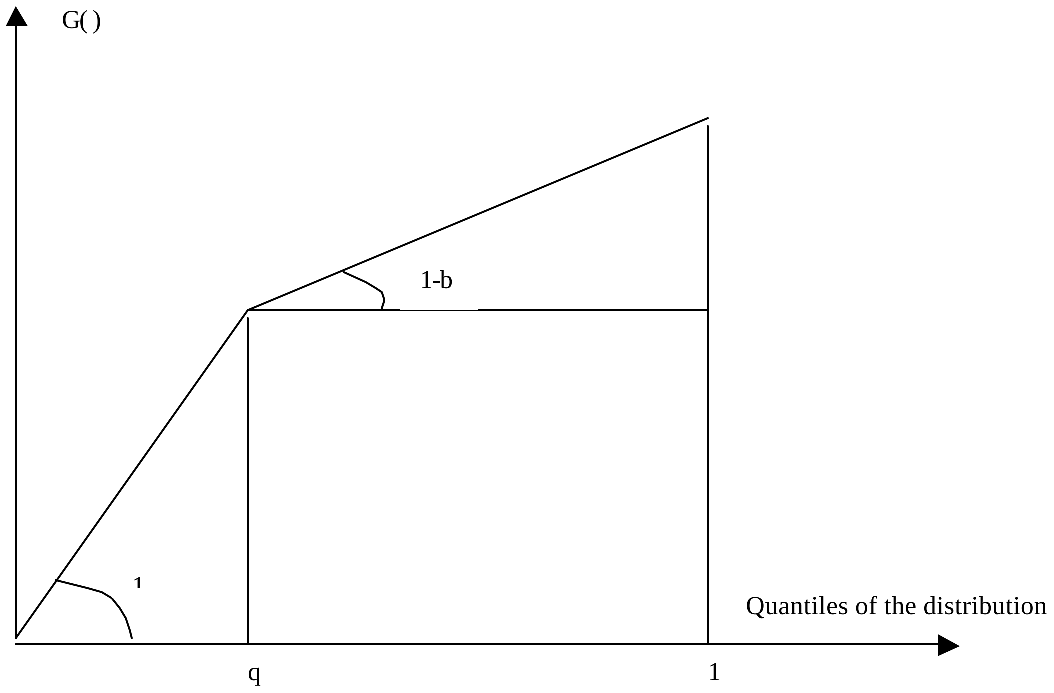


Figure 1. Social Welfare Function [G( )]

Figure 2. Productivity Distributions and Optimal marginal tax rates in four Europeans countries (1994)

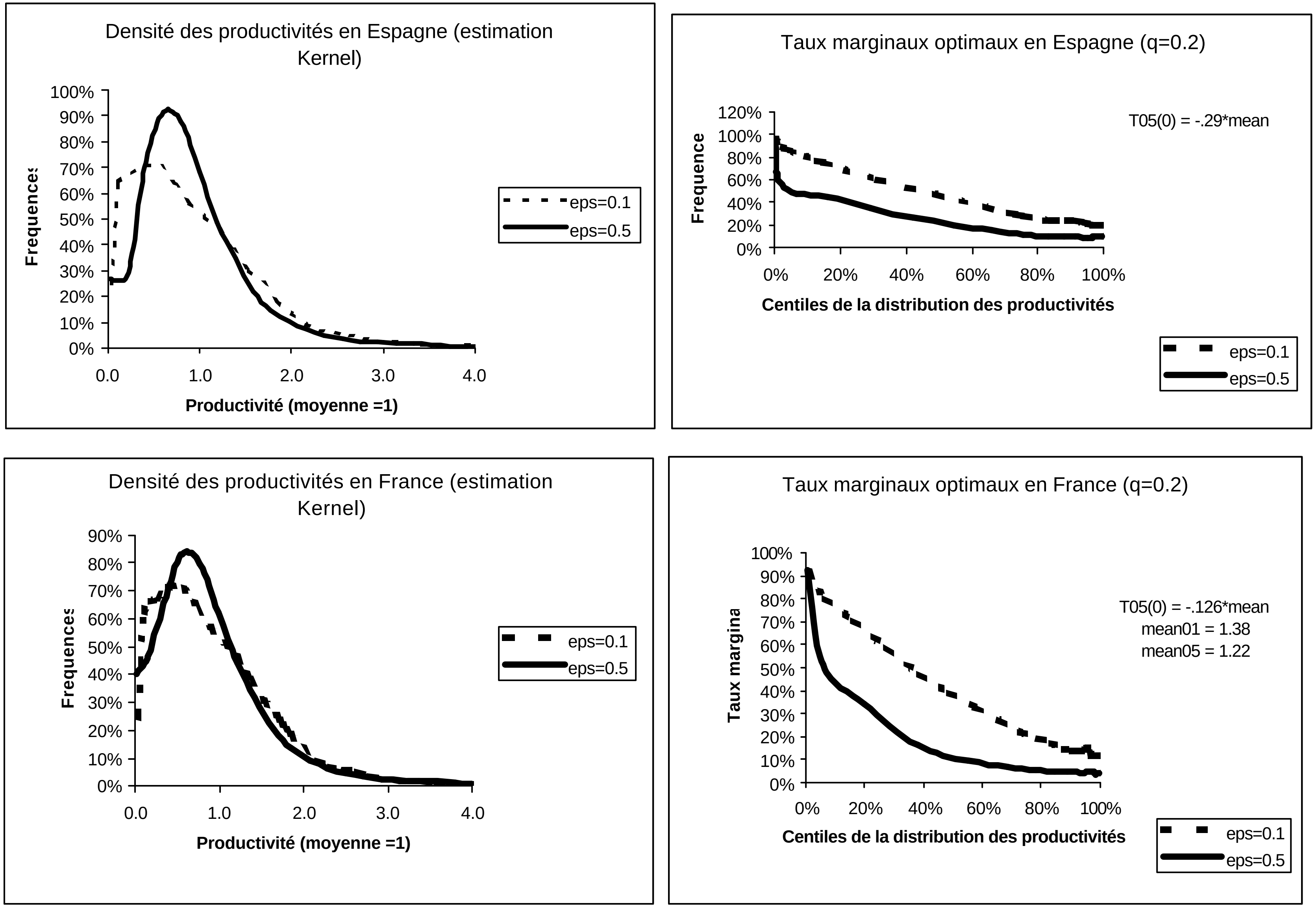
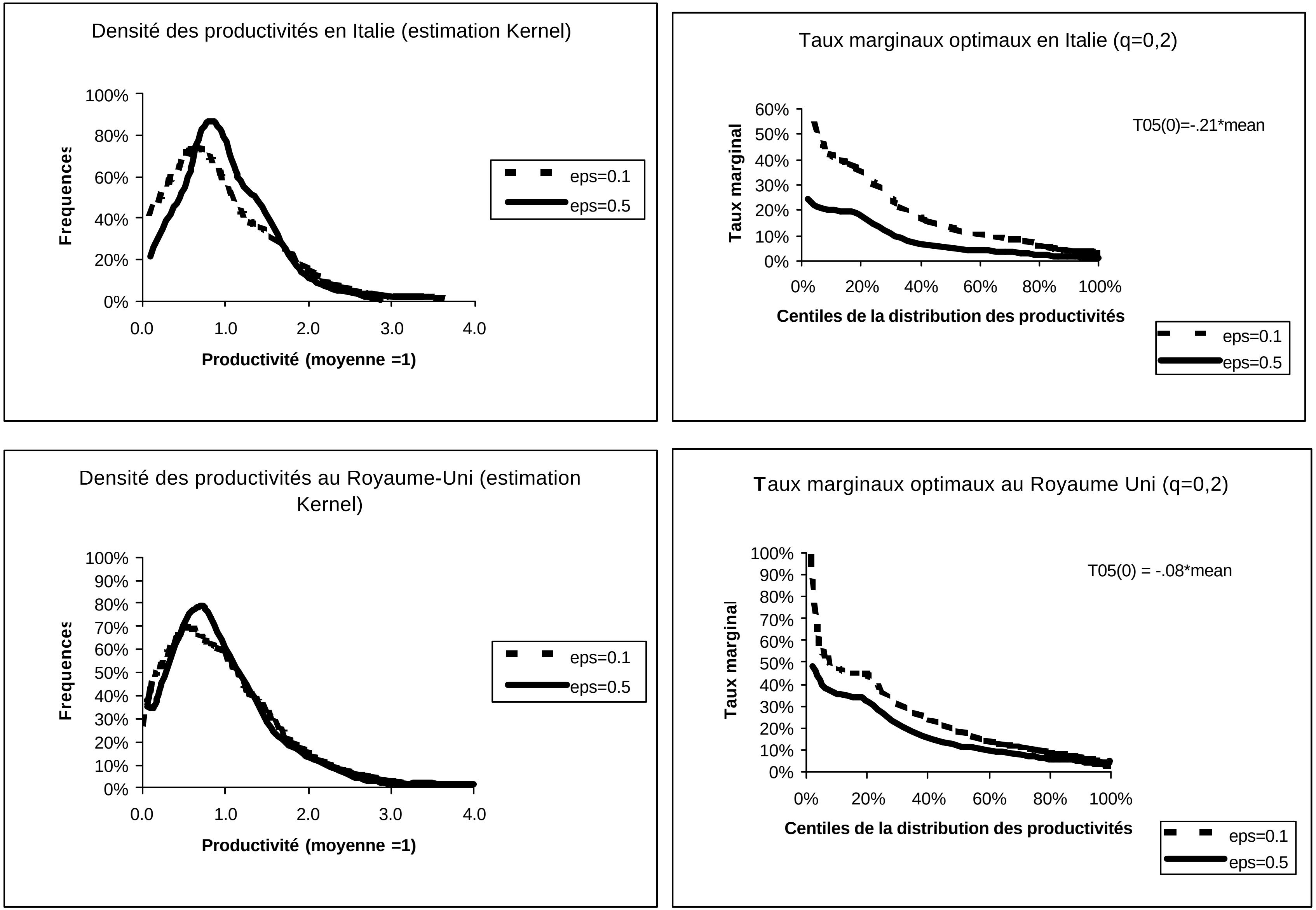


Figure 2 (follow)



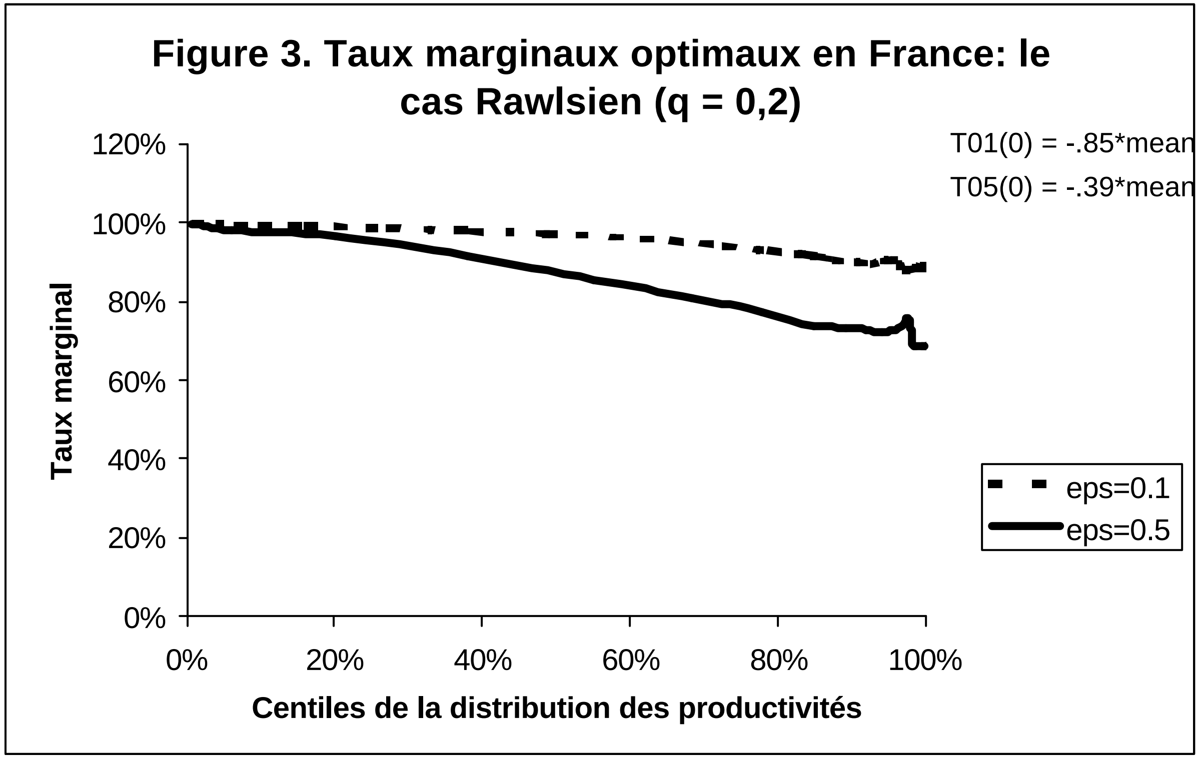


Figure 3. Taux marginaux optimaux en France: le cas Rawlsien (q = 0,2)
T01(0) = -.85*mean
T05(0) = -.39*mean
120%
100%
80%
60%
40%
20%
0%
Taux marginal
0%
20%
40%
60%
80%
100%
Centiles de la distribution des productivités
eps=0.1
eps=0.5