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Family size tax credits or allowances? A welfare comparison

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ABSTRACT

At present, Spain is undertaking a profound reform process in its personal income tax (IRPF, *Impuesto sobre la Renta de las Personas Físicas*). Maybe one of the most significant elements in the reform is the replacement of the current tax credit system, related to family size, by an allowance system. This paper makes a welfare comparison of both systems, following a social welfare function specification *à la* Atkinson and Bourguignon (1987).

The exercise is done using the Panel of IRPF, which belongs to the *Instituto de Estudios Fiscales*, which consists of a sample of more than 250,000 tax returns, from 1979 to nowadays.

Two main results are obtained. First, the use of tax credits entails a greater overall redistributive effect in personal income tax. Second, none of the alternatives can be assured to be welfare superior, nor can any of the systems when compared to an equal-yield proportional income tax.

KEYWORDS: Social Welfare, Inequality, Personal Income Tax, Family Size, Allowances, Tax Credit.

JEL CLASSIFICATION: D63, H23, H24.

I. INTRODUCTION

At present, Spain is undertaking a profound reform process in its personal income tax (IRPF, *Impuesto sobre la Renta de las Personas Físicas*). This process began in 1996 with a change in capital gains taxation. The steps that have taken place are expected to affect all the structural elements of the tax: tax schedule simplification, and reduction in marginal tax rates, changes in tax credits and allowances, and so on.

Maybe one of the most significant elements in the reform is the replacement of the current tax credit system, related to family size, by an allowance system. The reason for this substitution stems from the influence of the German Constitucional doctrine on the "Vital minimum". Our aim in this paper is to make a welfare evaluation of both systems. In order to make the comparison, we assume a social welfare function specification *à la* Atkinson and Bourguignon (1987), in which income and family size are the only relevant factors in the personal income tax code. In this context, it is necessary and sufficient for welfare improvement that there be sequential generalised Lorenz dominace of one system over the other.

This paper continues the investigation developed in Badenes *et al*. (1997) in which, with the same methodology, we study the different treatment between single persons, married couples with one income earner and married couples with two income earners.

The paper is organised as follows. Section II deals with theoretical aspects and shows the conditions for the progressive and differentiated taxation of several tax classes to reduce global inequality and to be acceptable in terms of social welfare. In Section III, family size treatment in current Spanish personal income tax is described, as well as the reform proposed. Section IV tries to offer an empirical approach, in which the current tax credit system and the proposed allowance system are assessed in terms of social welfare functions as defined in Section II. The empirical exercise, whose precedent is Atkinson, Bourguignon and Chiappori (1988), is undertaken using the Panel of IRPF, which belongs

to the *Instituto de Estudios Fiscales*, which consists of a sample of more than 250,000 tax returns, from 1979 to nowadays. The study ends with some concluding remarks.

II. THEORETICAL FRAMEWORK[1].

If an individual´s tax liability solely depends on his or her income (x), the following conventional result applies:

Theorem 1 (Fellman, 1976; Jakobsson, 1976)

If people's income is taxed progressively, inequality is unambiguously reduced.

Now, we define the following class of individualist, symmetrical, additively separable and inequality-averse social welfare functions:

$$W_1 = \frac{1}{N}\sum U(x) \ , \ U' > 0 \ , \ U'' < 0 \quad \text{for all } x \geq 0$$

where N is the income units. The following result applies:

Theorem 2 (Atkinson, 1970)

If inequality is unambiguously reduced by the income tax, then this tax is welfare-superior to an equal-yield proportional tax, for all $W \in W_1$.

If we allow the tax liability to depend on other non-income attributes, such as marital status, family size or number of income earners of the family, a different welfare specification will be needed to make a normative judgement.

[1] This section summarizes the main results of Lambert (1988, 1993a, 1993b, 1994).

Consideration of family size, has been traditionally included in analysis by turning monetary income into equivalent income, using equivalence scales. When adopting this approach, a relative treatment for different types of families is assumed *a priori*. This can seriously limit general validity of results.

A different approach is undertaken by Atkinson and Bourguignon (1987) with a very attractive method: the sequential generalized Lorenz dominance criterion. The starting point consists of reaching certain agreement about differential treatment that income units must be given by personal income tax. As Atkinson, Bourguignon and Chiappori (1987:347) say: "there is a degree of agreement but no complete agreement about the relative treatment of different family types". The fact that this criterion is applied in monetary terms (avoiding equivalence scales) is a great advantage, since the point of view of average utility of income is maintained.

As Lambert (1993a, 1994) explains, the available non-income information is used to subdivide the population into groups $i = 1, ..., n$ with different levels of need, which rank from the neediest ($i = 1$) downwards. The idea is that, for each given x, some income units are more deserving of additional resources than others. We have identified nine groups in our empirical approach, combining three of those non-income attributes: marital status -married couples or single persons-, number of income earners in the family -one or two- and number of children -three, two, one or no children-. As we will explain later on, i=1 stands for married couples with two income earners and three children, and i=9 for single persons without children.

These differences in needs are recognised by the social decision-maker which attributes a different utility-of-income function U^i (x) to income units in each group. Each U^i (x) is increasing and concave, i.e., the decision-maker is inequality-averse when focusing on income distribution within any group.

The social welfare function assesses average utility-of-income across the whole population:

$$W_2 = \sum p_i W_i$$

where p_i is the proportion of income units belonging to group *i*, and $W_i \in W_1$ is the average utility-of-income within group *i*.

Evaluation in welfare terms of a progressive income tax which applies to non-income attributes requires, as a general condition:

Theorem 3 (Atkinson and Bourguignon, 1987)

If overall inequality is unambiguously reduced by an income tax involving differences in tax treatment, then it is a necessary condition for welfare superiority over an equal-yield proportional tax[2], for all $W \in W_2$.

Moreover, when no restrictions are established over the utility function vector $<U^1(x), U^2(x),..., U^n(x)>$ which characterizes $U^i(x)$, the progressive tax (applied differently to *i* groups) will be superior in welfare terms to an equal-yield proportional tax, when the following result applies:

Theorem 4 (Atkinson and Bourguignon, 1987)

It is necessary and sufficient for unambiguous welfare improvement -for all $W \in W_2$- that there be generalised Lorenz dominance of the progressive income tax (PIT) over equal-

[2] Lambert (1993b) has demonstrated that the conditions for overall inequality reduction are certainly not trivial, and that separate progressive taxation -with between-groups redistribution to the needy and within-group redistribution to the poor- do not imply overall inequality reduction.

yield proportional tax (EYPT) for each one of the groups considered in the tax. Obviously, $\mu^i_{X\text{-}PIT} \geq \mu^i_{X\text{-}EYPT}$, for all *i*, is a necessary condition for $GL^i_{X\text{-}PIT} \geq GL^i_{X\text{-}EYPT}$.

As Lambert (1993a) explains, these dominance conditions are too strong to be useful. So, restricting the vector of utility functions to describe an attitude to needs on the part of the social decision-maker, we can find necessary and sufficient conditions for an unambiguous welfare recommendation. These conditions are considerably weaker, but much more applicable.

These properties of the vector of social utility functions are the following:

For each $i = 1, 2, ..., n-1$, $dU^i / dx - dU^{i+1} / dx$ is both positive and decreasing in income x. This means that at every level of income, the social decision-maker attributes a higher marginal social utility of income to some types of income units than to others, and also that the systematic difference in marginal social utility at each income level decreases with income.

Under these two assumptions the following theorem applies:

Theorem 5 (Atkinson and Bourguignon, 1987)

It is necessary and sufficient for welfare improvement -for all $W \in W_2$- that there be generalised Lorenz dominance of income tax over equal-yield proportional tax, for the sub-populations consisting of the *j* most needy groups, for each j = 1, ..., n. Necessary condition for the means is:

$$\sum_{i=1}^{j} p_i \left(\mu^i_{X-PIT} - \mu^i_{X-EYPT} \right) \geq 0 \,, \ \forall j \quad .$$

This is the sequential generalised Lorenz dominance criterion. We may explain the way it works with the nine types of income units we have identified in the Spanish IRPF.

First we select the most deserving group, i.e., dual-income married couples with three children and we check the generalised Lorenz dominance of income tax over the equal-yield proportional tax. Then, we add the next most deserving group, i.e, dual-income married couples with two children and we assess once more the generalised Lorenz dominance. Finally, we add the last group, i.e., single persons without children, and we iterate the procedure. If generalised Lorenz dominance is obtained at each stage, welfare enhancement is secured.

III. FAMILY SIZE IN SPANISH PERSONAL INCOME TAX.

At the present time, Spanish personal income tax (IRPF94) includes two different systems of taxation: a) Individual taxation, applicable to single persons and so each one of the married couple when both of them are income earners; b) Joint taxation, applicable to married couples when there is only one income earner. Both taxation systems fundamentally differ in tax schedule (Tables, III.1 and III.2). In 1994, taxation thresholds were 400,000 pts.[3] and 800,000 pts. for individual and joint taxation respectively. Moreover, joint taxation has a marginal tax rate structure smoother than the individual one, which generates a splitting effect when taxable income is less than 2,000,000 pts. The greatest marginal rate is 56% for taxable income equal or greater than 11,000,000 pts. Nevertheless, a 56% maximum rate applies in individual cases for a taxable income of 9,550,000 pts. or more.

On the other hand, children are taken into account by means of tax credits (20,000 pts. per child in 1994).

Thus, the tax treatment of family types differs according to marital status, number of income earners and number of children, apart from income.

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[3] In 1998, 168 Pesetas equal 1 EURO.

According to this tax structure, we infer that the social decision-maker carries out the following ranking among family types:

i= 1 : married couples with two income earners and three children.

i = 2 : married couples with two income earners and two children.

i = 3 : married couples with two income earners and one child.

i = 4 : married couples with two income earners without children.

i = 5 : married couples with one income earner and three children.

i = 6 : married couples with one income earner and two children.

i = 7 : married couples with one income earner and one child.

i = 8 : married couples with one income earner without children.

i = 9 : single persons without children[4].

For each of these, a different tax has been established.

We consider that this ranking fulfills the properties of the vector of social utility function required, when applying theorem 5 (Atkinson and Bourguignon, 1987) that is, the social marginal valuation of income should fall at the same time as we add less deserving groups, and, the greater the income is, the less worried the the decision-maker is about differences in needs.

At the moment, Spain is deeply involved in a reform process of personal income taxation. Pursuing a more equitable taxation, the main elements in the proposed reform presented by Government to Parliament, in April of this year, are the following: a) Tax brackets and marginal tax rates are reduced[5]; b) The joint schedule disappears but joint taxation is maintained for married couples with one income earner; c) The zero rate is eliminated; and d) A tax allowance system is established consisting of: 1. A personal

[4] In order to simplify data treatment, we always consider single persons without children.

[5] From 1994 to 1996, tax schedules consisted of 16 tax brackets. They were cut to 10 in 1997, and 8 in 1998. The proposal includes 6 tax brackets. The top marginal tax rate is expected to be reduced from 56% to 48%, and the bottom rate, from 20% to 18%.

minimum per individual (twice in joint taxation), 2. A family minimum related to the number of children.

To our concern, the most representative fact in this proposed reform is the replacement of the prevailing tax credits by tax allowances according to dependent relatives.

Table III.1. Personal Income Tax Schedule
Fiscal Year 1994. (IRPF94). Individual Taxation

Net tax base up to Pts.	Gross liability	Remaining net tax base up to Pts.	Rate applicable %
400.000	0	600.000	20,00
1.000.000	120.000	570.000	22,00
1.570.000	245.400	570.000	24,50
2.140.000	385.050	570.000	27,00
2.710.000	538.950	570.000	30,00
3.280.000	709.950	570.000	32,00
3.850.000	892.350	570.000	34,00
4.420.000	1.086.150	570.000	36,00
4.990.000	1.291.350	570.000	38,00
5.560.000	1.507.950	570.000	40,00
6.130.000	1.735.950	570.000	42,50
6.700.000	1.978.200	570.000	45,00
7.270.000	2.234.700	570.000	47,00
7.840.000	2.502.600	570.000	49,00
8.410.000	2.781.900	570.000	51,00
8.980.000	3.072.600	570.000	53,50
9.550.000	3.377.550	onwards	56,00

Table III.2. Personal Income Tax Schedule
Fiscal Year 1994. (IRPF94). Joint Taxation

Net tax base up to Pts.	Gross liability	Remaining net tax base up to Pts.	Rate applicable %
800.000	0	1.200.000	20,00
2.000.000	240.000	625.000	24,50
2.625.000	393.125	625.000	27,00
3.250.000	561.875	625.000	30,00
3.875.000	749.375	625.000	32,00
4.500.000	949.375	625.000	34,00
5.125.000	1.161.875	625.000	36,00
5.750.000	1.386.875	625.000	38,00
6.375.000	1.624.375	625.000	40,00
7.000.000	1.874.375	625.000	42,50
7.625.000	2.140.000	625.000	45,00
8.250.000	2.421.250	625.000	47,00
8.875.000	2.715.000	625.000	49,00
9.500.000	3.021.250	625.000	51,00
10.125.000	3.340.000	625.000	53,50
11.000.000	3.808.125	onwards	56,00

IV. EMPIRICAL EXERCISE.

In this section, we will try, following Atkinson and Bourguignon (1987), to assess in terms of welfare the present IRPF applied in Spain (IRPF94) and the proposed reform described in the previous section.

Our first aim will be to make a resolution about if IRPF94 is or is not recommended by a social welfare function $W \in W_2$ as described in section II.

The second aim is related to the reform proposal previously described. We will compare, in welfare terms, the tax structure applied in 1994 with a structure which incorporates the most relevant elements of the proposed reform of 1998. Thus, we compare the personal income tax with a tax (IRPF A.1.) that: a) Removes joint schedule; b) Eliminates the zero tax rate for the first income bracket, and tax credits for children; c) includes personal and family minimun by way of tax allowances.

Table IV.1. IRPF94 and IRPF A.1. structures

	IRPF94	IRPF A.1.
Individual tax schedule	yes	yes
Joint tax schedule	yes	no
Taxation threshold	yes (individual schedule: 400,000 pts.; joint schedule; 800,000 pts.)	no
Personal minimum	no	yes (taxpayer: 400,000 pts. included spouse non income earner)
Child deduction	Tax credit (20,000 pts. per child)	Tax allowance (100,000 pts. per child)

Comparisons have been made considering equal yield taxes. Assuming this, a personal minimum has been fixed at 400,000 pts, for each taxpayer, and a spouse tax

allowance of 400,000 pts. is allowed for those married couples with only one income earner; finally, a 100,000 pta. tax allowance for each child, as a “family minimum”.

The exercise is performed using the Panel of IRPF Returns for 1994 consisting of a sample of more than 250,000 tax returns. Table IV.2 shows the size of the sample and its distribution according to the tax units considered.

Table IV.2. Number of income units of each type

Number of Children	Single Persons	Married Couples with One Income Earner	Married Couples with Two Income Earners	Total
None	104,179	36,511	13,636	154,326
One	-------	28,026	11,385	39,411
Two	-------	32,801	12,832	45,633
Three	-------	14,858	4,216	19,074
Total	104,179	112,196	42,069	258,444

Table IV.3 shows the most relevant results from the point of view of overall inequality and the global redistributive effect caused by IRPF94 and the proposed alternative.

Table IV.3.

IRPF94 –IRPF reform alternatives. Overall inequality.

Gini index (Reynolds-Smolensky index)

Taxable income	0.396194	
IRPF94	0.355383	(0.040811)
IRPF Alternative 1	0.355569	(0.040625)
IRPF Alternative 2	0.355585	(0.040609)
IRPF Alternative 3	0.355651	(0.040543)
IRPF Alternative 4	0.354784	(0.041410)
IRPF Alternative 5 (Flat Tax)	0.370226	(0.025968)

We start analysing the current personal income tax. As it can be seen in Table IV.3 and Figure IV.1.i), IRPF94 unambiguously reduces global inequality, so necessary condition for a welfare enhancement of the tax over an equal-yield proportional tax (EYPT) is fulfilled.

Nevertheless, as it can be seen in Figures IV.1, sufficient condition is not fulfilled since there is no generalised sequential Lorenz dominance of the IRPF94 over the EYPT.

As regards the alternative design that we indentify as the Spanish Government proposal (IRPF A.1.), it can be stated that it generates a reduction in overall inequality, but slightly smaller than the previous alternative IRPF94. As showed in Figure IV.2, necessary condition of theorem 3 consisting of unambiguously inequality reduction when different treatment by groups is included, is also fulfilled by alternative IRPF A.1., since Lorenz dominance over EYPT exists.

When we directly compare both alternatives (IRPF94 with IRPF A.1.) we can assure that there is no Lorenz dominance, since as showed in Figure IV.3.i), Lorenz curves cross several times. Moreover, as seen in Figures IV.3, sequential generalised Lorenz dominance is not fulfilled.

Summing up, two clear results can be infered from our comparison. First, IRPF94 is the tax with the greatest progressive effect, and consequently it generates the greatest inequality reduction (but only slightly). Second, we can not be stated that any of the alternatives (IRPF94 and IRPF A.1.) is welfare superior to an EYPT, nor can we make an unambiguous ranking in welfare terms between both alternatives.

Lambert and Yitzhaki (1997) undertake a different analysis for welfare comparison by using tax credits instead of tax allowances. Under this approach, the social utility vector $<U^i(x)>$ is restricted, considering that the social decision-maker has correctly specified the social welfare function whose evaluation is carried out. Following Lambert and Yitzhaki (1995, 1997), the just money income tax T(X,N), i.e., the tax which embodies the horizontal and vertical equity commands, is the one defined by the following equation:

$$U_N\left(X - T(X,N)\right) = U_N(X) - \mathrm{t}\left(U_N(X)\right),\ \forall X, \forall N$$

where $\tau(\cdot)$ is the tax function on social utility which meets the vertical equity command.

According to this social utility function, Lambert and Yitzhaki (1997) show that a family size related tax credit cannot be considered equitable, whereas tax allowances (as well as the French "quotient familial") can.

In any case, this approach is weaker than the Atkinson and Bourguignon methodology, since a particular specification is required in the social evaluation function. This requirement is tantamount to saying that the social decision-maker is clearly inclined to accept a specific functional form belonging to W_2. In the tax allowance case, it is assumed that income net of the family size related exemption, e(N), can be taken as a measure of social utility: $U_N(X) = X - e(N)$.

Table IV.6. Alternative tax structures

	IRPF A.2.	IRPF A.3.	IRPF A.4.	IRPF A.5.
Individual tax schedule	yes	yes	yes	yes Flat Tax, rate: 25.765%
Joint tax schedule	no	no	no	no
Taxation threshold	no	no	no	no
Personal minimum **- singles** **- married couples with one income earner.** **- married couples with two income earners**	 375,000 pts. 841,560 pts. 375,000 pts.	 350,000 pts. 883,552 pts. 350,000 pts.	 350,000 pts. 837,095 pts. 400,000 pts.	 400,000 pts. 800,000 pts. 400,000 pts.
Children deduction	Tax allowance 100,000 pts.	Tax allowance 100,000 pts.	Tax allowance 100,000 pts.	Tax allowance 100,000 pts.

Having concluded our exercise, we have introduced some modifications in the structure of IRPF A.1., in order to shed light on the direction of inequality and on welfare effects caused by the reform instruments used in the design of IRPF A.1.

• The first option that we analysed is the reduction of differences in tax treatment between married couples with one or two income earners. For that purpose, we combine a decrease in taxation of the former and an increase in taxation of the latter (more deserving than married couples with one income earner). Notwithstanding, with this option, single persons pay more tax despite them being the group with the least average income before tax (but they are also the least deserving group according to the ranking of the social decision-maker. See Table IV.4).

IRPF A.2. is characterised by a reduction in personal minimum from 400,000 pts. to 375,000 pts. for individual taxation, while personal minimum for married couples with one income earner shows an increase from 800,000 pts. to 841,000 pts. (the necessary change for the tax to be yield neutral).

As showed in table IV.3, this option entails a slight worsening in redistributive effect when compared with IRPF A.1.

• In IRPF A.3., a more intensive change in the same direction as IRPF A.2. is simulated. Personal minimum for individual taxation is now 350,000 pts., from which we deduce an increase in personal minimum for joint taxation with one income earner up to 883,552 pts. Due to these changes, the difference in tax treatment between married couples with one and two income earners is even more reduced. Nevertheless, this again increases the differences in treatment between married couples with two income earners and single persons. The Gini index shows a worsening in redistributive effect in respect of IRPF A.2.

So, a reduction in differences of tax treatment between married couples with one and two income earners (with the consequent separation between couples with two income earners and single persons) means a successive decrease in the redistributive effect of progressive taxation, as showed in table IV.3.

• Third, we consider another tax design in the opposite direction: IRPF A.4. In this alternative, we set different personal minimums for each group: 350,000 pts. for singles, 400,000 pts. for married couples with two income earners, and 837,095 pts. for couples with one income earner.

This option shows the greatest inequality reduction. Despite this, there is no Lorenz dominance over IRPF94, since Lorenz curves of after-tax income cross several times when calculated over the whole population.

• Finally, we consider a more extreme scenario: a reform consisting of a flat tax identified as IRPF A.5. Like all the other alternatives, this flat tax is also yield neutral. Tax allowances are the same as those established in alternative IRPF A.1., and the marginal tax rate is 25.765%.

IRPF A.5. entails a worsening of the redistributive effect, the Gini index being the worst of all calculated.

It is important to point out that this last result is consistent with what Dardanoni and Lambert (1988) set up, since IRPF A.5. becomes an equal-yield tax reform with one cross, in which winners concentrates on the highest part of income distribution.

Table IV.4.

Taxable income and Post-Tax income average (pts.)

by non-cumulative groups.

Groups		Taxable income	Proportional Tax	IRPF94	IRPF A.1
Single Persons	Without children	1,778,427	1,451,817	1,433,882	1,433,882
Married Couples with one earner	Without children	1,806,264	1,474,542	1,547,090	1,539,367
	One child	2,210,442	1,804,492	1,884,561	1,878,254
	Two children	2,445,681	1,996,529	2,068,843	2,066,103
	Three children	2,599,636	2,122,210	2,169,111	2,170,466
Married Couples with two earners	Without children	3,494,538	2,852,763	2,766,184	2,766,184
	One child	4,193,898	3,423,685	3,334,684	3,339,947
	Two children	5,291,438	4,319,660	4,116,787	4,131,073
	Three children	5,962,356	4,867,364	4,559,952	4,584,727

Table IV.5.

Taxable income and Post-Tax income average (pts.)

by cumulative groups in decreasing need ranking.

Cumulative groups in decreasing need ranking		**Taxable income**	**Proportional Tax**	**IRPF94**	**IRPF A.1**
Married Couples with two earners	**Three children**	5,962,356	4,867,363	4,559,952	4,584,727
	+ Two children	5,457,357	4,455,108	4,226,383	4,243,262
	+ One child	4,951,449	4,042,111	3,869,333	3,881,561
	+ Without children	4,479,215	3,656,603	3,511,765	3,520,043
+ Married Couples with one earner	**+ Three children**	3,988,643	3,256,125	3,161,331	3,167,802
	+ Two children	3,424,597	2,795,667	2,761,961	2,765,064
	+ One child	3,135,623	2,559,762	2,553,136	2,553,999
	+ Without children	2,820,994	2,302,915	2,315,028	2,313,859
+ Single Persons	**+ Without children**	2,400,734	1,959,837	1,959,837	1,959,837

Figures IV.1.

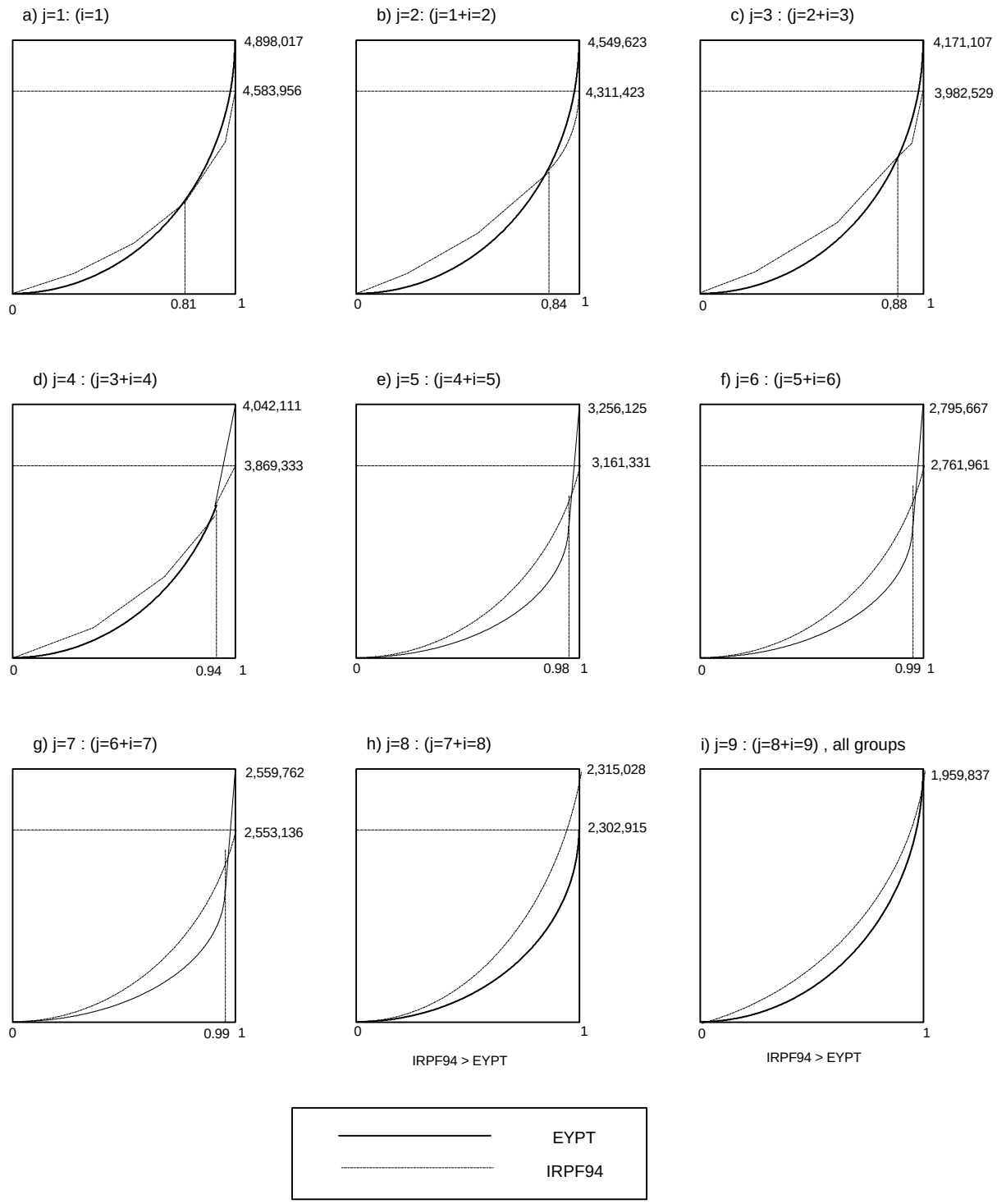
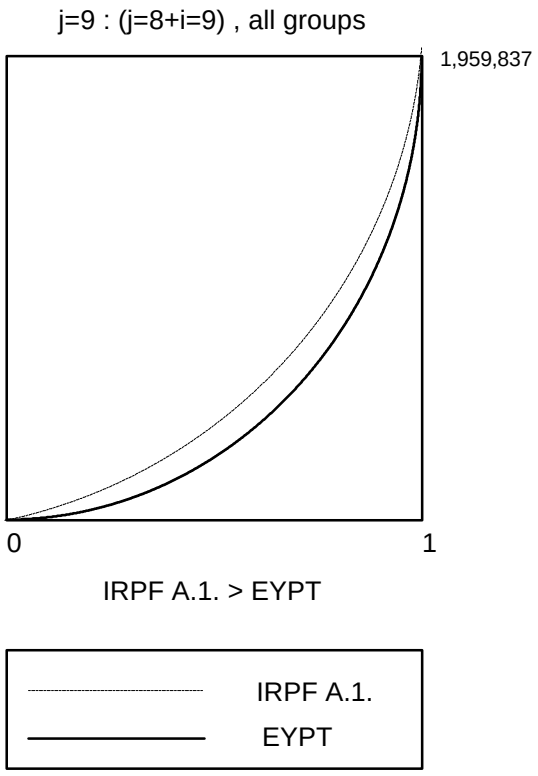
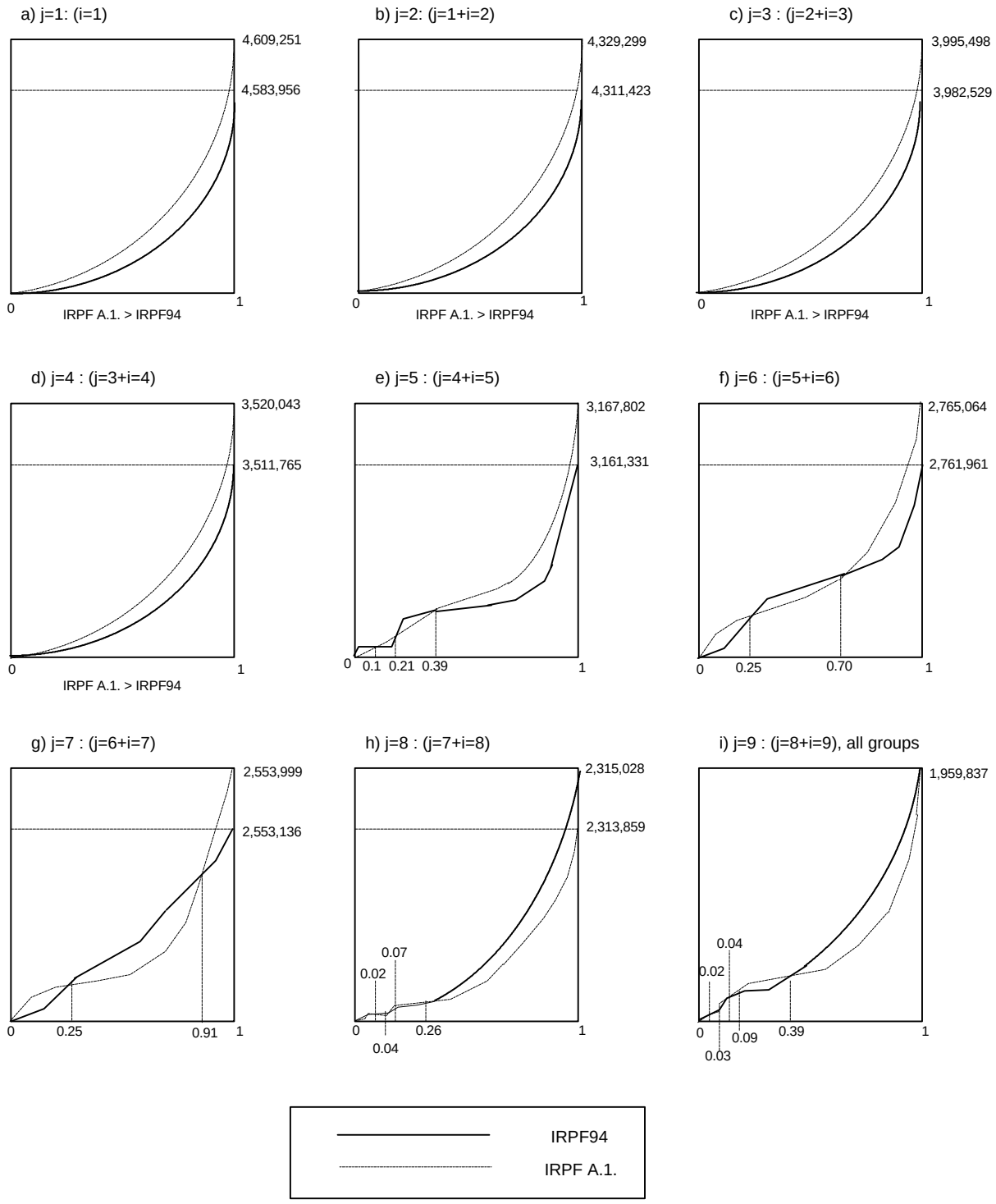

a) j=1: (i=1)
4,898,017
4,583,956
0
0.81
1
b) j=2: (j=1+i=2)
4,549,623
4,311,423
0
0,84
1
c) j=3 : (j=2+i=3)
4,171,107
3,982,529
0
0,88
1
d) j=4 : (j=3+i=4)
4,042,111
3,869,333
0
0.94
1
e) j=5 : (j=4+i=5)
3,256,125
3,161,331
0
0.98
1
f) j=6 : (j=5+i=6)
2,795,667
2,761,961
0
0.99
1
g) j=7 : (j=6+i=7)
2,559,762
2,553,136
0
0.99
1
h) j=8 : (j=7+i=8)
2,315,028
2,302,915
0
1
IRPF94 > EYPT
i) j=9 : (j=8+i=9) , all groups
1,959,837
0
1
IRPF94 > EYPT
EYPT
IRPF94

Figure IV.2.



Figures IV.3.


a) j=1: (i=1)
4,609,251
4,583,956
0
1
IRPF A.1. > IRPF94
b) j=2: (j=1+i=2)
4,329,299
4,311,423
0
1
IRPF A.1. > IRPF94
c) j=3 : (j=2+i=3)
3,995,498
3,982,529
0
1
IRPF A.1. > IRPF94
d) j=4 : (j=3+i=4)
3,520,043
3,511,765
0
1
IRPF A.1. > IRPF94
e) j=5 : (j=4+i=5)
3,167,802
3,161,331
0
0.1
0.21
0.39
1
f) j=6 : (j=5+i=6)
2,765,064
2,761,961
0
0.25
0.70
1
g) j=7 : (j=6+i=7)
2,553,999
2,553,136
0
0.25
0.91
1
h) j=8 : (j=7+i=8)
2,315,028
2,313,859
0.07
0.02
0
0.26
1
0.04
i) j=9 : (j=8+i=9), all groups
1,959,837
0.04
0.02
0
0.09
0.39
1
0.03
IRPF94
IRPF A.1.

V. CONCLUDING REMARKS.

This paper makes a welfare comparison of two different systems of family size treatment for Spanish personal income tax: tax credits and tax allowances. Following Atkinson and Bourguignon's (1987) methodology, two main results are obtained. First, the use of tax credits entails a greater overall redistributive effect in personal income tax. Second, none of the alternatives can be assured to be welfare superior, nor can any of the systems when compared to an equal-yield proportional income tax.

Assuming that, we can suggest two future ways of research. First, to throughly examine tax structures which would allow a welfare enhancement for an income distribution like the one existing in Spain. As shown in section IV, our attempts did not lead to positive outcomes.

The second outline consists of restating the groups of taxpayers we have considered, or the ranking made by the social decision-maker. In this sense, it can be thought that the social decision maker obviates marital status, each individual income and the number of children being the only need-relevant factors.

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