EQUIVALENCE SCALES IN TAX AND TRANSFER POLICIES

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P. T. N.º 28/01

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ABSTRACT

Income distribution and poverty measurement requires weighting the impact of both economies of scale as the different needs of each household member. Different models of equivalence scales have been defined. Equivalence scales are also present in many tax and benefit programs. This paper revises implicit equivalence scales in personal income tax in Spain. Theoretical justifications for employing equivalence scales when analyzing income distribution and the different procedures that can be used to determine them are reviewed. We identify the adjustments contained in the new income tax highlighting the differences with those used in other social programs and scales normally used in studies on poverty. An empirical analysis of poverty rates for different kinds of households is carried out using both these implicit scales as conventional equivalence scales. Results illustrate that economies of scale are less considered in income tax legislation than in income distribution analysis.

INTRODUCTION[1]

The theory of personal income taxation and analyses on income distribution face some basic problems which are very similar. Choosing the tax-paying unit and assessing that unit's ability to pay (as a basis for determining the level of taxation) have much in common with the choice of the unit of analysis and the quantification of "adjusted" or "equivalent" income levels in poverty and inequality studies.

Comparing the economic well-being of individuals is of interest when analyzing income distribution. Nevertheless, individuals are not thought to be an adequate unit of analysis due to the fact that the income received by individuals is an imperfect indicator of their actual economic well-being. The economic situation of individuals is normally assessed by taking into account the income obtained by his/her household as a whole. This determines the levels of consumption by the household's members, be they income earners or not. The unit of analysis normally used in studies on poverty and inequality is therefore the household or family, and the economic position of individuals is assessed by obtaining their *equivalent income* as a function of the overall income and size of the household they belong to. This means making adjustments in order to weigh the impact of both economies of scale and consumption, as well as the different needs of each household member.

In many ways, designing income tax poses similar problems to the ones mentioned above. The principle of equity demands that individuals are taxed according to their ability to pay. When determining the ability to pay of the tax-paying units, however, it is necessary to consider the family costs they must bear. This requires the introduction of some adjustments in the tax, tax rates or tax revenue in order to differentiate the tax treatment given to units with the same income but different family composition. In this way, tax legislation tends to include implicit scales when assessing, for instance, the costs associated with having children in order to refine the notion of ability to pay as well as discriminate adequately as a function of the different units' specific circumstances.

In this context, the Personal and Familiar Minimum (hereinafter PFM), approved in the income tax reform of 1998, explicitly aims to limit individuals' income tax liabilities. It exempts from taxation all those resources considered by the legislators to be essential to cover the basic needs of individuals or family units. One of the main differences of the PFM compared with the tax allowances used in previous taxes is the *direct* application of assessment

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criteria to take into account taxpayers' individual and family circumstances so that the amounts set attempt to reflect the needs of different kinds of family units.

It is interesting to note that the concept of the PFM is closely related to the notion of the poverty thresholds used in income distribution studies. From the perspective of studies on poverty, an attempt is made in both cases to identify the individuals who can be classified as poor and thus entitled to non-contributory benefits. While from a fiscal viewpoint, the Minimum serves to determine what part of an individual's income should be subject to taxation once the different personal circumstances (age, disability, etc.) and family costs have been taken into account.

Equivalence scales are also present, either implicitly or explicitly, in many transference programs and other social policies, although the term we are interested in is often not used. Such is the case, for instance, in assessing what is to be given to children and other family members through pensions, minimum income programs or benefits geared towards providing people with access to housing.

The lack of linkage between the different fields where equivalence scales are used is striking, however. This is especially true in the case of public policies that should, to a certain extent, be linked and the criteria used to determine the level of tax exemption or social benefits should be justified. The existence of very different reasons and goals for the different programs must be admitted. This could explain the different adjustments applied to each particular case. It is, however, difficult to account for the existence of clear contradictions or the absence of a common approach.[2]

The equivalence scales implicit in the PFM are analyzed in this study. The assessment of the family costs used in the PFM are compared with those applied in other fields. The theoretical justifications for employing equivalence scales when analyzing income distribution are reviewed in Section 1. In Section 2 we take a look at the different procedures that can be used to determine equivalence scales. We then go on to study the adjustments contained in the PFM and highlight the differences that exist with those used in other social benefit programs in Section 3. A comparison with the equivalence scales that are normally used in studies on poverty are examined in Section 4. Lastly, an empirical analysis of poverty rates in the different kinds of household when using the PFM, instead of thresholds adjusted with conventional equivalence scales, is made in Section 5. The article ends with a series of brief conclusions.

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[2] In societies where information is ever more abundant and easier to access the coherence of public policies is increasingly demanded by public opinion. For instance, setting guaranteed minimum incomes at levels that are very distant from the Personal and Familiar Minimum for personal income tax could bring with it problems of social acceptance.

1. THE JUSTIFICATION FOR EQUIVALENCE SCALES

An important presupposition when analyzing inequality and poverty is that income is a good indicator for measuring the economic well-being of similar individuals and households having the same needs and paying the same prices. In fact, however, the data that researchers and legislators on fiscal matters have refer to units that vary concerning their characteristics and needs (number of household members, ages of the members, geographic location and possible disabilities, etc.). This situation gives rise to the need of using adjustments to convert non-comparable incomes obtained by very different households into comparable incomes. These would then constitute an adequate indicator of the economic well-being of the individuals forming part of the households.

Generally speaking, an equivalence scale is a combination of coefficients associated to the different kinds of households that allow one to adjust the incomes obtained by those households and carry out comparisons on a homogenous base. Applying equivalence scales aims to introduce adjustments that provide comparable information regarding income per equivalent adults, in other words equivalent income, on the utility, standard of living or level of well-being a household obtains from its income.[3]

In order to compare situations of individual well-being it is therefore necessary to analyze the relationship between the needs and resources of the different kinds of households. Although the resources of each household are directly observable (including the known restrictions associated with defining the notion of income and the limitations of the available data sources), the same cannot be said for household needs, which are much more difficult to determine. Establishing equivalence scales therefore requires an analysis on the relative needs of the different households. This should then provide a base from which to estimate the amounts of resources needed by the different households to reach the same level of economic well-being.

Actually, as Jenkins y Lambert (1993) point out, choosing an equivalence scale requires adopting presuppositions on three basic aspects:

1. The specification of the household characteristics that are relevant for differentiating needs levels.
2. A decision on how to sort households ordinally based on such characteristics.

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[3] Although the use of equivalence scales is a generalized procedure when analysing income distribution, the sensitivity of the results and the options adopted have lead to some authors searching for other methods that do not require this kind of adjustments. Atkinson and Bourguignon (1982 y 1987) defined different dominance criteria to compare heterogenous households when these could be sorted by their different levels of needs. More recently, Ebert and Moyes (2000) proposed Lorenz-type quasi orderings under different criteria in order to reduce value judgements so that comparisons could be consistent.

3. Determining a cardinal classification of different households by kinds of needs, specifying how many resources a household needs to maintain the same level of well-being as another.

Generally speaking, elaboration of equivalence scales requires carrying out two kinds of main adjustments:

1) Firstly, an adjustment based on household *size* is necessary to take into account the *economies of scale* in consumption as household size increases. The incorporation of additional household members obviously requires additional resources in order to maintain the same standard of living. However, household expenditure needs does not increase in a directly proportional way to household size. It generally increase less.

The reasons behind this fact generally reside in the existence of communal consumer goods within the household. These do not require additional spending in proportion to the number of household members to ensure needs are met[4]. The use of communal goods by household members implies enjoying the economies of scale that individuals living alone cannot benefit from. The family dwelling, household appliances, house insurance and cars are just some of the goods that can be considered communal or quasi-communal in family budgets. It is therefore fundamental to calculate the relative weight of such goods in family budgets to determine the importance of economies of scale. It should be noted that economies of scale depend on the structure of consumption. There is therefore no reason why they should be constant in time or in different geographical locations.

2) Secondly, it is generally recognized that the *needs* of different households vary as a function *of the ages of their members* or *other circumstances* considered to be relevant. Part of the literature on equivalence scales has been dedicated to analyzing and empirically estimating the "cost of children" with the aim of deriving the coefficients to be applied to children in equivalence scales. These coefficients are generally lower than the ones for adults given that it is thought that the consumption needs of children are lower than those of adults.[5] In more

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[4] Other possible reasons for the existence of economies of scale are that purchases tend to be cheaper when they are made for various people or the greater likelihood of one or various household members dedicating their time to domestic production. See Hourriez and Olier (1997).

[5] Some approaches on equivalence scales used to study poverty (understood to be not having access to the mininum level of resources, independently of age) argue that the weighting given to children should be the same as that given to adults. Conversely, other authors maintain that the weighting given to children should be nil given that they represent *consumption* that is freely decided by their parents in a context of rationally maximizing utility. Although it is easy to understand the argument used to defend the application of the same weighting being given to both adults and children, a more general approach requires taking into consideration the effective difference between the needs of both types of consumers making up family units. Several arguments have also been put forward to place the second position into question. See Bradbury (1989) and EUROSTAT (1992).

general terms, the scales can be graduated as a function of the household members' age and even, in some cases, their sex when their resource needs are estimated to vary uniformly depending on these characteristics.[6]

Apart from the circumstances mentioned above, other factors affecting households can have an influence on the income needed to attain a specific standard of living. Differences in geographical location or a household's rural or urban location may imply price differences that can alter income purchasing power. Other factors can also suppose differences in the amounts of income needed to attain a specific level of economic well-being. These factors can include a household member doing the domestic chores and taking care of the children, the amplitude and quality of free public services provided by the state, the household's wealth (particularly whether the dwelling is rented or owned as well as the costs associated to it) or the existence of household members needing special care (the chronically ill or disabled).[7]

In formal terms, the construction of equivalence scales is based on the supposition that the economic well-being reached by the members of the $i-$ th household depends on the income level of household Y_i, its size n_i and the remaining socio-demographic characteristics considered to be relevant (c_i):

$$U_i = f(Y_i, n_i, c_i)$$

If we take a household with characteristics $\{n_o, c_o\}$ that reaches a determined level of economic well-being U_o with an income level Y_o as a reference, then the equivalence scale of a household h with characteristics $\{n_h, c_h\}$ will be given by the multiplier e_h, which determines the income Y_h needed for that household to reach the same level of economic well-being as the one taken as a base:

$$e_h = \frac{Y_h(n_h, u_0, c_h)}{Y_0(h_0, u_0, c_0)}$$

The above expression could be interpreted as a "cost index of household characteristics" having a similar structure as cost of living indices. It provides a *deflator* applicable to the household income of different kinds of households to

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[6] For instance, the scales implicit in the United State's official poverty threshold, as it was orginally designed by Orshansky, gave a lower weighting to older people and women in specific age groups. One of the first Spanish studies on income distribution published in the early 1960's presented results referring to units of consumption based on a scale that assigned a coefficient of 1 to adult males, 0.75 to adult females and 0.5 to boys and girls below the age of 14. See ICE (1962).

[7] On the whole, it is difficult to trace the boundaries between the factors that have to be taken into account when designing equivalence scales and those that should be introduced through adjustments in the resources indicator (definition of the notion of income or spending) used to make the measurement.

obtain incomes that can be compared with the one obtained by the reference household (generally a single-person household) in terms of economic well-being. Thus, the "equivalent" income Y_i^e of any household i can be calculated by dividing the total income of household Y_i by the relevant equivalence scale e_i:

$$Y_i^e = \frac{Y_i}{e_i}$$

The size of the scale's relative variation increases with household size, therefore reflecting the economies of scale implicit in the adjustment. In general terms, the elasticity of the scale with regard to household size is limited to between 0 and 1. Both limits represent the extreme options that can be assumed when determining the scale. These are the absence of economies of scale in the case of unitary elasticity (which would imply that income should increase in the same proportion as household size to maintain the same level of economic well-being) or infinite economies of scale in the case of no elasticity (in such a case it would be supposed that it is not necessary to increase income to obtain the same level of well-being when the number of household members is modified).

The variability of the scale with regard to the remaining characteristics included in c_h will depend on the way one believes such characteristics might affect the households' resource needs. If, for instance, it is thought that children require less resources than adults, the scale should be designed in such a way so that its elasticity with respect to the number of children is less than for adults.

An aspect that remains unresolved in the literature on equivalence scales is if the relations described above are independent of income levels. Most of the scales used for analyzing income distribution are, as we shall see, constant and imply identical proportional adjustments for different levels of income. Nevertheless, the assertion that economies of scale and the relative cost associated with the different characteristics under consideration do not vary with income can be put into question[8]. It should be highlighted that a constant equivalence scale necessarily implies that additional income levels to cover, for example, the costs of a child are greater in absolute terms when the household's income level increases. This notion can be defended from a relative perspective on inequality, but can become unsustainable when such a phenomenon is viewed in absolute terms. In the latter case, equivalent income could be obtained by *subtracting* the sums corresponding to the costs associated with the different characteristics of households from unadjusted income once those costs have been assessed.[9]

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[8] See Conniffe (1992) for a discussion on this issue.
[9] See Del Río and Ruiz-Castillo (1996).

2. TYPES OF EQUIVALENCE SCALES

The range of equivalence scales employed in studies on income distribution and in public policies is very wide. On occasions, they imply making adjustments that are clearly different depending on household characteristics. The literature tends to differentiate among the groups of equivalence scales depending on the method used to determine them:

1) *"Objective" Equivalence Scales or Scales Based on Consumption*

This group includes the scales estimated from household consumption data, usually obtained from large family budget surveys. The problem posed by deriving equivalence scales from empirical purchasing data is that it requires previous criteria in order to determine when two households reach the same level of economic well-being despite their differences. So that a comparison of their levels of consumption allows one to calculate the income increase needed to maintain the same standard of living when their size or composition change.[10]

The best known procedure is the Engel Method, which places a comparable level of well-being for households that allocate the same percentage of their spending on food. Engel observed in 1895 that poor families spent a greater percentage of their income on food than families with greater purchasing power. Additionally, he also noted that for the same level of total expenditure, larger families spent a greater percentage on food. This allowed him to conclude that spending on food could be a good instrument to determine economies of scale. Two families spending the same proportion on food would have a similar standard of living regardless of their differences in respect of size and composition. The income differences between a one kind of family and another spending the same percentage of their costs on food would allow the equivalence scales to be determined[11].

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[10] An interesting synthesis on the problems that arise when attempting to obtain equivalence scales from household expenditure data can be found in Blundell (1998). Identification can be difficult because expenditure only reveals conditional orderings of preferences, regardless of whether households choose their consumption and their demographic characteristics simultaneously, sequentially or independently. Actually, expenditure data reveal a household's cost of living index in relation to another taken as a reference.

[11] The notion that the economic position of a household does not change if after the birth of a child the level of expenditure or income increases so as to maintain the previous level of consumption does not take into account the different consumption patterns of children and adults. By definition, the consumption of children is clearly biased towards the consumption of basic necessities. This means that the pattern of consumption would change even if the above-mentioned compensation existed in the form of increased total expenditure or household income. A greater percentage would now be spent on food costs. According to Engel, however, the increase in this percentage would indicate the household was worse off, which would in turn require new compensations. See Nicholson (1976).

The costs related to the different household members can be formally deduced from these premises. In other words, the expenditure increases needed to keep a household's well-being constant if its size changed. Let us suppose, for instance, that there are two households, both made up of a two of adults and only one of them with a child. The larger household needs to spend (y_1) more than the other household (y_0) to compensate for its greater size. The smaller household's costs would be ($y_1 - y_0$) and the equivalence scale expressed as the relative increase in spending would be ($y_1 - y_0$)/(y_0). Following the example of a household composed of two adults, the functional specification of the Engel curve relating to the percentage spent on food to total expenditure, as put forward by Deaton (1998), would be:

$$w_f^0 = \alpha + \beta Lny_0 + (\eta - \beta)Ln2 + \gamma_a \cdot 1$$

where w_f represents the household's percentage of expenditure on food and y g_a is the coefficient for the adults (there are no other γ coefficients because there are no children in the household). For the other household with two adults and a child it would be:

$$w_f^1 = \alpha + \beta Lny_1 + (\eta - \beta)Ln3 + \gamma_a(2/3) + \gamma_c(1/3)$$

where g_c is the coefficient for children.

The differences required in the larger household's respective levels of expenditure to cover its basic needs and match the well-being of the other household can be deduced from the two expressions outlined above:

$$\ln\left(\frac{y_1}{y_0}\right) = \left(1 - \frac{\eta}{3}\right)\ln\frac{3}{2} + \frac{\gamma_a - \gamma_c}{3\beta}$$

The coefficient of their respective costs would have a different value depending on the suppositions that may be made. Supposing that *h=0* (the percentage of spending allocated to food is independent of household size) and *g_a=g_c*, the relationship *y_1/y_0* is the same as the size coefficient of the households' sizes.

Other methods used to estimate the scales, such as Rothbarth's (1943) and its variants developed in recent years, follow a similar philosophy. However, they use other kinds of consumption (generally some kind of spending on "adult goods" such as alcohol, clothing or alternatively the percentage of total spending for children[12]) as an element to carry out the comparisons[13].

"Econometric scales" can be obtained from such information. They are derived from micro-data on income, consumption and socio-demographic char-

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[12] Lazear and Michael (1988) calculated that the percentage of a household's total consumption for children amounted to 40% of that for an adult.

[13] See Hourriez and Olier (1997), and Deaton, Ruiz-Castillo and Thomas (1989).

acteristics of the households included in family budget surveys[14]. The main criticism that has been made on obtaining scales by this procedure refers to the fact that it is not possible to calculate equivalence scales without including some previous presupposition that is determined by the researcher. Such presuppositions are not ethically neutral and can thus be arbitrary and subject to controversy. A school of thought considers it is not possible to carry out comparisons on well-being among disparate households using demand patterns because these represent conditional preferences (Pollack y Walles, 1979 y Van Praag, 1994). Another viewpoint reaffirms the need for making presuppositions explicit if one wishes any scale put together with the terms mentioned above to be valid (Deaton, 1998).

2)   *Subjective Scales or Scales Based on Declared Utility*

As an alternative to the objective methods (despite the nuances mentioned above, these are still conditioned by the value judgements of reaserchers when choosing the kind of spending from which to construct the equivalence scale), some have proposed to deduce equivalence scales from consumer opinions on wide-ranging categories such as the standard of living. The procedure is based on using some of the subjective questions included in household income or expenditure surveys which ask interviewees to answer questions on their standard of living or well-being. Sometimes the questions used by this procedure refer to the minimum income needed to cover basic necessities for a household similar to the interviewee's. This procedure attempts to transfer the value judgements from the researcher to the consumer. As Cowell and Mercader (1998) have observed, "qualitative questions directly reveal the population's views on well-being".

One must not forget, however, that the formulation of qualitative questions itself depends on the researcher's value judgements regarding the concepts alluded to (well-being, standard of living, etc.) despite the apparent advantage of subjective scales. Furthermore, the responses obtained from the households are probably conditioned to a certain extent by their effective budget restrictions. This is a fact that can distort the correct assessment of each kind of household's needs. It also requires the introduction of corrective mechanisms.[15] The advantage of the subjective method is undoubtedly derived from its greater simplicity regarding both the data that is to be handled as well as the econometric models to be used because this methodology does not require estimating demand functions.

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[14]   Van der Gaag y and Smolensky (1982) carried out one of the first scale calculations from consumption micro-data of different household types.

[15]   For instance, see Hagenaars (1986) for a detailed discussion on the Leyden methodology to obtain subjective poverty thresholds.

3) *Statistical Scales or "Scales for Experts"*

These are the scales recommended or used by experts when studying income distribution, particularly in international comparisons and situations of inequality or poverty. They can be based to some extent on minimum budget studies to cover specific needs in different kinds of households in the context of poverty or social exclusion analyses or the construction of approximations without an explicitly specified empirical base.[16]

Perhaps the best known scale within this group is the one designed by the OECD. It was put forward at the beginning of the eighties for countries that had not developed their own adjustment methods. The OECD scale is based on a system of weightings that assigns a unitary value to the first adult and weightings of lower value to the remaining household members. Adults and children are differentiated. The formulation of this scale would be:

$$e_h = 1 + \beta(a_h - 1) + \gamma m_h$$

where the variable a_h represents the number of adults in the household h, and m_h, the number of children. OECD scale assigns a value of 0.7 to adults other than the head of the household and a value of 0.5 to children.

A variant of this scale has been proposed by Eurostat in various reports on poverty in the European Union. It assigns a weighting of 0.5 to additional adults and 0.3 to children. This modification is based on the results obtained by some analyses that suggest that the OECD scale assigns an excessive weight to a household's additional members thus leading to an over-estimation of poverty among larger families.[17]

Both scales attribute a different relative weight to adults and children when calculating the number of equivalent units of consumption, but the correction for economies of scale is reduced to the lower weighting received by the second adult in regard to the first. Consequently, the income increases required by the additional household members does not decrease with subsequent increases in household size.

A different formulation that has been widely used since it was first introduced is the parametric formulation (Buhmann et al., 1988). It calculates the number of equivalent adults by elevating household size to a parameter ranging between 0 and 1:

$$e_h = n_h^{\phi}, \qquad 0 \le \phi \le 1$$

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[16] The former correspond to what Buhmann et al. (1988) call "budgetary" scales (similar to the one implicit in the American poverty threshold) and the latter to the so called "pragmatic" scales such as the OECD's.

[17] Eurostat (1992), p. 16.

The parameter f (equivalence elasticity) can be interpreted as income elasticity without adjustments concerning household size. A clear advantage of this way of introducing equivalence scales is its simplicity, making easier sensitivity analyses of the results. As many different studies have shown, many more complex scales can come close through a parametric form as expressed above with a small margin of error (Banks y Johnson, 1994 y Jenkins y Cowell, 1994).

The main disadvantage of the previous formulation is that the scale only takes into account household size (weighted the same for adults and children). It may be too simplistic to assess the needs of households having the same number of members but with very different internal structures (for instance, one with three adults and another with an adult and two children) in the same way.

As some studies have suggested, particularly the committee of experts in charge of reviewing the U.S.'s official method for measuring poverty, the disadvantages derived from not considering the differences between adults and minors can be avoided by proposing a more general formula for the parametric equivalence scale[18]:

$$e_h = (a_h + \gamma m_h)^{\phi}, \qquad 0 \le \gamma \le 1 \text{ y } 0 \le \phi \le 1$$

where a_h is the number of adults, and m_h the number of minors in household h.

The main advantage of this formula is that it allows two different aspects to be determined: the adjustment introduced to consider the lower costs of children (through the factor g) and a correction that assesses economies of scale (by means of parameter f).

Any of the scales "for experts" mentioned above can be criticized for the implicit arbitrariness of the values assigned to the coefficients and parameters that define them in so far as choosing them supposes making value judgements that are difficult to contrast regarding the weight of the household's economies of scale or the needs of each household member. On the other hand, there are obvious advantages in using this kind of scales. These are mainly linked to their simplicity, transparency and ease of use, all of which make carrying out sensitivity analyses relatively affordable.

4) *Normative or Political Scales*

These scales include the ones contained in the regulations linked to different expenditure and tax policies. They take into account the socio-demographic features of the households they consider[19]. In most cases the equivalence scales are not de-

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[18] See Citro and Michael [Eds] (1995), p. 178. Another study that uses this method is Hourriez y Olier (1997).

[19] "Social security scales" in EUROSTAT's (1992) terminology are included in this group.

termined explicitly. They are implicit in the way benefit payments or taxes are graduated according to the household characteristics targeted by specific policies.

In democratic countries, the main advantage of this kind of scales is that they are normally the result of the population's preferences revealed though the political process[20]. These scales, however, also have important disadvantages. Their main drawback is probably the lack of any analytical justification. In some countries it is increasingly the case that experts are charged with determining the most appropriate scales based on household spending patterns. Likewise, the fact that these scales differ from one country to the next and also from one program to another within a single country makes it difficult to use them at a more general level. Similarly, the combination of adjustment elements with the introduction of incentives or protective measures targeted at specific family units can lead to results that are difficult to justify from a theoretical viewpoint. A good example of this would be the increasing amounts of child benefit paid out to families with many children, which would suggest recognizing the existence of *negative* economies of scale.

3. EQUIVALENCE SCALES IMPLICIT IN THE PFM AND IN SOME MINIMUM INCOME PROGRAMS

The Spanish Income Tax Law passed at the end of 1998 put into effect a new way of adjusting the tax burden of the different kinds of households by means of the notion of the Personal and Familiar Minimum (PFM). This new approach taxes discretional income, which is defined as disposable income once all basic necessities of the taxpayer are met. These necessities vary according to the taxpayer's characteristics (age, disability) and existing family responsibilities.

Table 1 shows the scales implicit in the personal minimum when a single adult younger than 65 years of age is taken as the point of reference[21]. As we can see, the PFM increases from 18% to 109% as a function of age and the taxpayer's level of disability. At the same time, the existence of family costs increases the PFM in proportions dependant on the age and characteristics of the household's additional members. Single-parent families are a case apart. Although the assessment for children remains unaltered, overall PFM rises to above 350,000 pts for people over the age of 65 and for the disabled.

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[20] See Atkinson (1995)

[21] This is the group that receives the greatest amount with regards to the personal minimum, thus making it the ideal reference point to compare other very different groups with a different number of household members, ages and the existence or not of physical handicaps as well as single-parent households, which are given special treatment by the tax law.

Table 1

IMPLICIT SCALES IN LEGISLATION ON THE PERSONAL AND FAMILIAR MINIMUM

Personal Minimum	Scale
Adult less than 65	1.00
Adult over 65	1.18
Adult with a disability between 33% y 65%	1.54
Adult with a disability equal to or greater than 65%	2,09
Adult without spouse, with children	1.64
Adult over 65 without spouse, with children	1.82
Disabled adult (33% – 65%) without spouse, with children	2,18
Disabled adult (> 65%) without spouse, with children	2,73
Familiar Minimum	**D Scale**
Per ascendant > 65 whose income does not exceed the Minimum Wage	0.18
Per single descendant < 25 years whose income does not exceed the minimum level[1]	
For the first and second child	0.36
For the third and successive children	0.54
Supplement for school materials (descendants between 3 and 16)	0.05
Supplement for children below 3 years of age	0.09
Supplement for handicapped ascendant or descendant of any age whose income does not exceed the minimum level[1]	
Disability between 33% and 65%	0.54
Disability equal to or greater than 65%	1.09

Note (1):   These minimum levels are established by law.
Source: Income Tax Act 40/1998, dated 9 December.

The number of equivalent adults resulting from the implicit equivalence scale in the PFM can be deduced as:

$$e_h = a_h + \alpha m_h + \beta_k(d_{1h} + d_{2h}) + \gamma p_h + \delta s_h + \lambda_k(c_{1h} + c_{2h}) + \rho_k(b_{h1} + b_{h2})$$

Where *e* is the number of equivalent adults in the tax household *h* and a_h represents the number of main adults (*1* in an individual tax return and *2* in a joint return). For their part, m_h is the number of main adults without a disability whose age is equivalent to or greater than 65 (*a = 0,18*) and d_h represents the number of main adults with some kind of handicap (*b =0,54* if the disability is between 33% and 65% or *b = 1.09* if it is equal to or greater than 65%). p_h is a factor that takes on the value *1* when the household is a single-parent household and *0* when it is not (*g = 0,64*). s_h denotes the number of ascendants aged 65 or over (*d = 0,18*), c_h the total number of descendants (*l = 0,36* for the first two descendants, *l = 0,54* for the successive descendants from the third on) and b_h the number of descendants belonging to the

two age groups below **16** differentiated by the tax (**$r = 0,09$** when the descendants are under three years of age and **$r = 0,05$** when they are between **3** and **16** years old).

It is worthwhile asking oneself what relationship there is between the implicit assessment on family costs included in this approach with those of other minimums foreseen in Spanish social protection legislation or in the thresholds used to measure poverty. Making a comparison with the guaranteed minimum income systems turns out to be specially useful to carry out this assessment as such benefits attempt to guarantee all families receive a minimum income enough to cover their basic needs. These systems graduate the benefits according to household size and, in some cases, the age of the members of the family receiving benefit.

The number of equivalent adults derived from taking an average of the different equivalence scales implicit in the various minimum income systems of the Spanish Autonomous Communities can be defined as:

$$e_h = 1 + a_h \sum_{i=1}^{n} \frac{\delta_i}{n} + m_h \sum_{i=1}^{n} \sum_{j=1}^{p} \frac{\theta_{ij}}{nM_p}$$

where $i = 1....,n$ (i = Autonomous Community), $j = 1....,p$ (j = number of non-adult household members), e_h represents the household's equivalent adults, a_h the number of adults other than the head of the household, d the weighting given in each Community to i each adult other than the head of the household, m_h the number of children living in each household, and q_{ij} the weighting given to each additional child in each region up to a maximum number (M_p)[22].

The regional nature of the minimum income programs in Spain gives rise to a great diversity in the way households are treated with these benefits. The supplements allocated to each additional person vary between the extremes represented by Castilla-León and Aragón as well as Basque Country. The benefit is fixed independently of household size in the former, whereas in the latter two 30% more is allocated to a second member and 20% more for third and successive members. Generally speaking, the graduation of minimum income in Spain is less generous to high-sized households than the programs existing in other European countries[23].

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[22] Most regional government programs establish additional supplements for a maximum of eight children.

[23] See Ayala (2000) for a detailed study on this issue. The regional government minimum income systems do not, as a general rule, tend to take age into account when making adjustments. They lean towards considering only household size. An exception to this is Murcia. It is a region that pays out supplements for children that double the ones for adults other than the head of the household.

Table 2

IMPLICIT EQUIVALENCE SCALES IN PERSONAL AND FAMILIAR MINIMUM OF
REGIONAL AND EUROPEAN MINIMUM INCOME PROGRAMS

Kind of Family Unit	Personal and Family Minimum		Minimum Income Average Spain		Minimum Income Average EU	
	Scale	▶	Scale	▶	Scale	▶
One Adult	1.00	–	1.00	–	1.00	–
Two Adults	2.00	1.00	1.16	0.16	1.62	0.62
Couple + 1 Child	2.41	0.41	1.29	0.13	1.99	0.37
Couple + 2 Children	2.82	0.41	1.40	0.11	2.37	0.38
Couple + 3 Children	3.41	0.59	1.49	0.09	2.77	0.40
Couple + 4 Children	4.00	0.59	1.57	0.08	NK	NK

Note: To calculate the equivalence scale implicit in the Personal and Familiar Minimum we applied a per-descendant supplement of 225,000 Pts for the first and second child, and 325,000 for the third and successive child. These are the sums set forth by the law for descendants aged between 3 and 16 years.

Sources: Own research based on Table 1, European Commission (1999) and data supplied by the Spanish Autonomous Communities.

Table 2 shows the average equivalence scales that are implicit in the regional and European minimum income programs for the most common family types compared with the ones implicit in the PFM in the personal income tax. The latter is obtained for adults of less than 65 years of age without disabilities or descendants aged between 3 and 16, the age bracket that gives rise to the application of the 25,000 Peseta supplement for school material.

The first thing that strikes us about the comparison above is the contrast between the negligible variation of the guaranteed minimum income provided by the regions as household size increases and the increases foreseen by the Personal and Familiar Minimum in personal income tax. Thus, the minimum income obtained by a household composed of two adults is 16% more than the income received by a single individual. This proportion is much lower than the 100% implicit increase in the PFM thresholds. The cost assessment associated with children is also clearly lower. The amount of benefit a couple with four children is entitled to is only 57% more than the benefit received by a single person, while the Minimum for a family unit of these characteristics is four times greater than for one adult.

The implicit scales in the European Union programs turn out to be higher despite the fact that they are also lower than the ones included in the PFM foreseen in personal income tax. The main difference in this case is due to the less than proportional increase of benefit when a second adult is added. This fact is

coherent with the existence of economies of scale linked to household size which the adjustment scheme of the personal and family minimum allowance does not foresee[24].

4. IMPLICIT SCALES IN THE PFM VS THE SCALES APPLIED ON INCOME DISTRIBUTION ANALYSIS

Another comparison which offers interesting results is one which takes the adjustments used by experts to analyze income distribution and poverty as a reference. As was mentioned before, no consensus exists on the "correct" scales. Different studies apply diverse adjustments to household income to obtain equivalent incomes that are comparable in terms of economic well-being.

Almost all the empirical scales approach equivalent elasticity values of between 0.20 and 0.80 through parametric formulas. That is why we include three scales of this kind with parameters of $\phi = 0,25$, $\phi = 0,50$ y $\phi = 0,75$ in the comparison. The first of these presupposes the greatest economies of scale. It almost coincides with the estimated elasticities derived from subjective household surveys and is only slightly lower than the one obtained from the elasticities based on household consumption. The second is used in much recent research on international comparisons and represents an adjustment close to one implicit in the scales based on the determination of minimum budgets for different types of households. The third assumes lower economies of scale than the previous two and could summarize the adjustments implicit in statistical scales put forward without any specific theoretical or empirical grounds to make comparative income distribution analyses.

In addition, two other scales are included in the comparison incorporating different adjustments for adults and children. These are the OECD scale, which has been widely used in poverty and income studies in Spain, and the bi-parametric scale put forward by the commission of experts charged with reviewing the official methods to measure poverty in the United States. For the latter, the commission's recommendation to choose a weighting of 0.70 for children and an equivalent elasticity value situated between 0.65 and 0.75 ($\phi = 0.70$ was chosen by us) are followed.

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[24] These differences in the assessment given to spouses can be noted in other comparisons with other minimum benefits existing in the Spanish social protection system. Thus, the increase in minimum pensions that contemplate having a dependent spouse were situated around 18% in 1999, a proportion that is in keeping with the implicit ones in the regional programs analysed previously.

Table 3

IMPLICIT EQUIVALENCE SALES IN THE PFM AND STATISTICAL SCALES
APPLIED IN INCOME DISTRIBUTION ANALYSES

| Type of Household	PFM	Parametric Scales				OECD Scale
		k = 1.00			K = 0.70	
		$f = 0.25$	$f = 0.50$	$f=0.75$	$f = 0.70$	
One adult	1.00	1.00	1.00	1.00	1.00	1.00
One person > 65	1.18	1.00	1.00	1.00	1.00	1.00
Two adults	2.00	1.19	1.41	1.68	1.62	1.70
Two people > 65	2.36	1.19	1.41	1.68	1.62	1.70
One adult + 1 child	2.05	1.19	1.41	1.68	1.45	1.50
One adult + 2 children	2.45	1.32	1.73	2.28	1.85	2.00
One adult + 3 children	3.05	1.41	2.00	2.83	2.21	2.50
One adult + 4 children	3.64	2.24	2.24	3.34	2.55	2.70
Two adults + 1 child	2.41	1.32	1.73	2.28	2.00	2.20
Two adults + 2 children	2.82	1.41	2.00	2.83	2.35	2.70
Two adults + 3 children	3.41	1.50	2.24	3.34	2.68	3.20
Two adults + 4 children	4.00	1.57	2.45	3.83	3.00	3.70

Note: To calculate the equivalence scale implicit in the personal and family minimum, we applied a per-descendant supplement of 225,000 Pts for the first and second child, and 325,000 for the third and successive children. These are the sums set forth by the law for descendants aged between 3 and 16 years.

Source: Own research.

Table 3 shows the values of the resulting scales for twelve possible types of family units based on the head of the household, the existence or not of a spouse and the number of children the family unit is responsible for. As can be seen, none of the scales considered implement a graduation as detailed as the Personal and Familiar Minimum. Amounts do not vary for adults over 65 (nor for other circumstances not reflected in the table such the age of the children or disabilities).

Concerning the relative magnitude of the adjustments, the PFM is different from the rest of the statistical scales considered by assigning the same weight to the main breadwinner and the spouse meaning that economies of scale are not contemplated in conjugal life. This is probably due to the wish of not disincentivising joint tax returns as happened when the allowance a spouse was entitled to was less than when they filed separate returns before the tax reform. It is important to highlight, nevertheless, that this fact generates a clear "anomaly" in the scales implicit in the way the personal and family minimum was designed (see fig.1).

Figure 1

SCALE INCREASES FOR DIFFERENT FAMILY UNITS IN THE PFM AND OTHER EQUIVALENCE SCALES
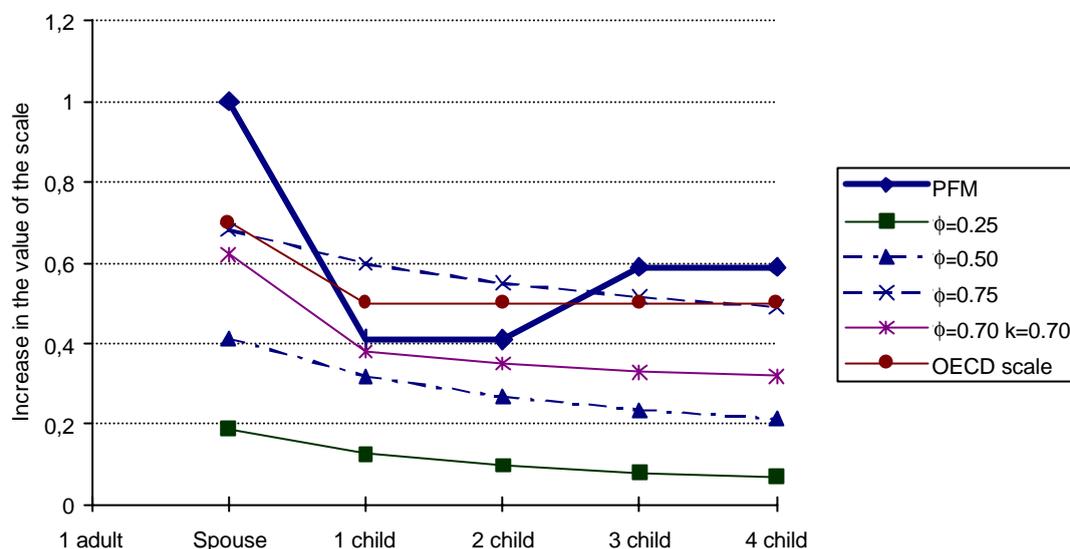
The scale increases due to the family unit having children are situated slightly above the increases recommended by the commission of American experts and below the implicit scales of the OECD regarding the first two children. However, the amounts foreseen by the tax law for the third and successive children are more generous than in all the other scales under consideration.

The fact the Minimum increases more from the third child onwards once again represents an anomaly in the implicit scales used to regulate personal income tax in so far as it presupposes a lack of economies of scale in high-sized families. As can be observed in the figure, all the other scales incorporate adjustments that decrease slightly as household size increases, except for the OECD scale (whose adjustment is constant from the first child). In this case, the explanation also probably resides in the existence of objectives similar to merely quantifying the levels of income needed to cover a series of basic necessities or maybe the wish to provide special protection in the form of a tax bonus to families with more than two children.

The way lone-parent households are treated in the new personal income tax regulation deserves a special mention. The application of a personal supplement for heading a lone-parent family provides this group with higher scales than the rest due to the fact that such a situation is not considered as a factor to increase the amounts in any other case. Given that it is reasonable to suppose an increase in costs if one has to bring up children alone, the implicit scale in the PFM is, in our view, an improvement with regard to the scales normally used to analyze income distribution.

Consequently, the overview we get from comparing the situation of households with children, both lone-parent families or not, reflects more generous

adjustments in the PFM than in the main alternatives used to analyze relative poverty. In the case of households made up of a couple, this generosity is not so much due to the greater assessment given to the cost of having children but to the equal weighting given to both adults by the PFM. Concerning single-parent households, the result is due to the specific supplement applied to the family head that must face this circumstance.

Figure 2

SCALES FOR DIFFERENT FAMILY UNITS MADE UP OF A COUPLE AND CHILDREN

Figure 3

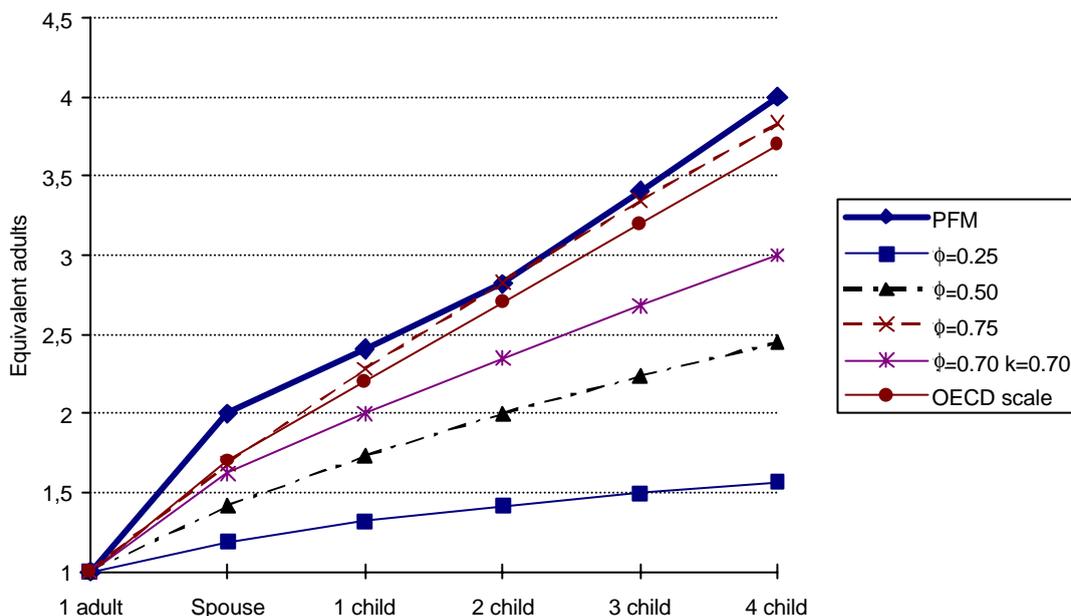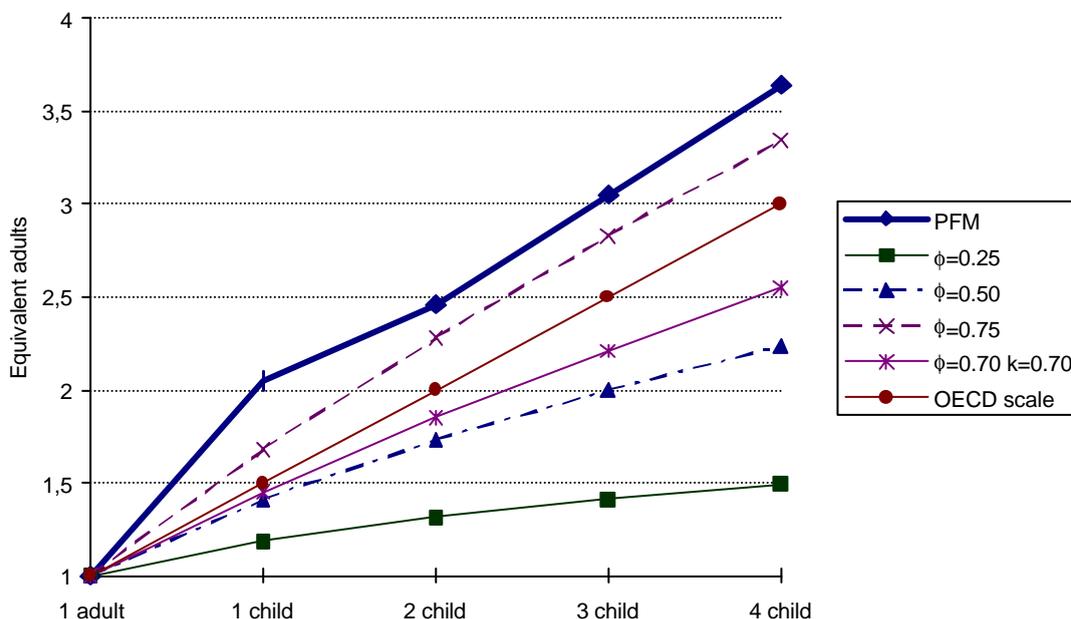**SCALES FOR DIFFERENT FAMILY UNITS MADE UP OF AN ADULT AND CHILDREN**

Figures 2 and 3 show the scales that result when there are from one to four additional children in both kinds of households. In the former, it can be easily observed that the personal and family minimum allowance scales are higher than the rest for a couple as well as for a couple with one child. They are equivalent to the parameter $\phi = 0,75$ for a couple with two children and are once again higher from the third child on. For lone-parent families, the scales are clearly above the others regarding the different alternative adjustments under consideration.

The discussion above has deliberately left to one side some of the difficulties that arise from the different definitions of the unit of analysis in studies on income distribution and personal income tax legislation. As a general rule, scales are applied to households in income distribution analyses. In other words, units made up of people who live together and share their costs without looking into legal ties that may exist among the household members nor the number of people who receive income. On the other hand, the tax unit is an individual, although the possibility exists of the different kinds of family unit recognized by the tax legislation (two spouses or an adult with dependent children under 18) filing a joint tax return.

Simple family units made up of single adults or couples with or without children have been used in the previous comparison. In them, it is not necessarily the case that people who should pay tax separately live together[25]. Actually, households frequently include other additional members that cannot in any way be considered to be a family burden for the household's head. They constitute independent tax units for which it is possible to calculate their own specific PFM. It is obvious that the sum of the different tax units' PFM's that make up more complex household structures requires a different adjustment to the one presupposed by the usual economies of scale in income distribution studies based on households and certain suppositions on economies of scale that cannot be taken into account when an analysis is made from tax units. In the next section we will make a more detailed analysis of the empirical distribution of households according to their composition. We will also compare the poverty levels derived from applying the PFM amounts with the ones resulting from a relative approach to poverty.

5. THE PFM AND THE MEASUREMENT OF POVERTY

In another paper we used the European Community Household Panel data (ECHP) to calculate the *poverty* levels that would be obtained if a threshold

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[25] The possibility of the spouses filing seperately occurs when both are income earners. In such cases family costs are calculated on a pro rata basis for each member of the couple.

equivalent to the PFM was applied instead of the thresholds that are normally used in most studies (Ruiz-Huerta, Martínez y Ayala, 2000)[26]. Assuming that an average of 23% under-declared their income, we reached the conclusion that 13.6% of the Spanish population belonged to households obtaining income levels below their respective PFM's expressed in 1993 prices. This figure is approximately 65% of the relative poverty index obtained with a threshold of half of the average equivalent income for the same year.

As is well known, equivalence scales tend to have an influence on the sociodemographic structure of poverty. This question will be analyzed in this section by comparing the poverty rates obtained for fifteen kinds of households when the PFM is applied with the poverty rates obtained from three different adjustment, particularly the ones derived from the OECD scale, the parametric scale with $\phi = 0,5$ and the double parameter scale (k = 0,7, $\phi = 0,7$). Given that our aim is to assess the pure effect of the equivalence scales implicit in the PFM on the structure of poverty, we have used relative thresholds that are slightly lower than the conventional thresholds. These relative thresholds generate a relative poverty index that is comparable to the percentage of people below the PFM. The poverty thresholds that give a result of 13.6% suppose 42% of average income.

The classification of household types has been differentiated into households having only a single "PFM unit" and households made up of more than one such unit. The former are solely formed by individuals or couples with dependent ascendants or children and taking account of family relations as well as the income limits set forth by personal income tax legislation. In the latter, on the other hand, there are members that cannot be considered as family burdens to the main breadwinner or his/her spouse (children or ascendants not fulfilling the conditions set forth by the law or people not forming part of the family). In these cases, the poverty rates according the PFM has been calculated by comparing the household's total income with the sum of PFM's of the different units.

Table 4 shows the specific poverty rates that result for each kind of household in the four cases being considered. Table 5 shows the same information in terms of the relative incidence of poverty, defined as the coefficient between the specific poverty index and the general index for the population as a whole (*RI*). This second indicator can be interpreted in terms of the relative risk of being poor for each kind of household in relation to the risk suffered by an average individual. The groups with and *RI* above **1** face an above average risk of being poor, while the opposite is true for the ones with an *RI* below one.

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[26] The European Community Household Panel (ECHP) is an income and living conditions survey carried out simultaneously in almost all countries of the European Union. The sample in Spain amounts to about 8000 households.

Table 4
POVERTY INDICES FOR DIFFERENT TYPES OF HOUSEHOLDS

Type of household	% Population	Equivalence Scales			PFM Scale
		f=0,5	**f=k=0,7**	OECD	
With only one PFM unit					
Single person < 65 years	1.7	18.5	14.0	9.8	10.6
Single person ≥ 65 years	2.4	16.1	6.2	4.4	4.8
Couple without children, both < 65 years	5.9	12.0	9.9	8.1	11.0
Couple without children, ≥ both 65 years	5.9	18.1	8.7	4.7	19.6
Single adult with 1 or 2 children	1.3	28.3	26.9	22.2	25.6
Single adult with 3 or more children	0.4	44.7	46.8	49.8	40.8
Couple with 1 child	12.5	15.0	14.3	12.8	11.7
Couple with 2 children	19.9	17.2	15.7	15.8	12.7
Couple with 3 children	7.2	19.8	20.4	22.0	16.4
Couple with 4 or more children	2.1	32.3	34.5	37.8	33.5
Households with a dependent ascendant	1.8	12.9	12.8	16.5	6.9
With more than one PFM unit					
Adult with children[2]	4.2	13.5	13.6	10.6	14.1
Couple with children[2]	18.4	8.4	9.3	10.5	11.2
Adult/couple with children and other members[3]	13.0	8.0	10.2	13.8	15.5
Adult/couple without children and other members[3]	3.3	7.2	13.2	6.3	9.3
TOTAL	100.0	14.0	13.2	13.3	13.6

Notes: (1) Households composed of adults or couples, with or without children, and an ascendent entitled to a deduction. (2) At least one child not entitled to a deduction in the PFM of the first unit. (3) A child and/or other member not entitled to a deduction in the PFM of the first unit.
Source: Own research with ECHP data, 1994.

Table 5
RELATIVE INCIDENCE OF POVERTY FOR DIFFERENT TYPES OF HOUSEHOLDS

Type of household	Equivalence Scales			PFM Scale
	f=0,5	**f=k=0,7**	OECD	
With one PFM unit				
Single person < 65 years	1.31	1.06	0,74	0,78
Single person ≥ 65 years	1.15	0,47	0,33	0,35
Couple without children, both < 65 years	0,85	0,75	0,61	0,80
Couple without children, at least one ≥ 65 years	1.28	0,66	0,36	1.44
Single adult with 1 or 2 children	2,01	2,04	1.66	1.88
Single adult with 3 or more children	3,18	3,54	3,73	3,00
Couple with 1 child	1.07	1.08	0,96	0,86
Couple with 2 children	1.22	1.19	1.18	0,93
Couple with 3 children	1.41	1.55	1.65	1.20
Couple with 4 or more children	2,30	2,61	2,83	2,46
Households with a dependent ascendant[1]	0,92	0,97	1.24	0,51
With more than one PFM unit				
Adult with children[2]	0,96	1.03	0,80	1.04
Couple with children[2]	0,60	0,70	0,79	0,83
Adult or couple with children and other members[3]	0,57	0,77	1.03	1.14
Adult or couple with children and other members[3]	0,51	0,53	0,47	0,68
TOTAL	1.00	1.00	1.00	1.00

Notes: (1) Households composed of adults or couples, with or without children, and an ascendent entitled to a deduction. (2) At least one child not entitled to a deduction in the PFM of the first unit. (3) A child and/or other member not entitled to a deduction in the PFM of the first unit.
Source: Own research with ECHP data, 1994.

The structure of poverty varies considerably depending on the adjustment used. Focusing our attention on the three relative scales, it is obvious that the parameter $\phi = 0,5$ significantly increases the risk of poverty attributable to single-person households and, to a lesser extent, households with two or three members. On the other hand, it attributes lower levels of poverty than the other scales in more numerous households such as couples with 3 or more children or household with an adult or couple with children and other members. This is due to the presupposition of greater economies of scale as household size increases which in turn leads to a better relative position for larger households within the income distribution. The other two adjustments suppose a greater concentration of poverty among the more numerous households, especially so the OECD scale. As was mentioned previously, this scale hardly takes into account the economies of scale associated with the increase in household size.

Despite the differences in the intensity of poverty that result from the application of one or other scale, all three coincide in pointing out lone-parent households and couples with four or more children as the main groups at risk of suffering poverty. Adults with three or more children have rates that are clearly more than triple the national rates. Lone-parent households constitute a group at risk only if the least generous scale for larger families ($\phi = 0,5$) is used. It is interesting to note that people over the age of 65 living alone have poverty rates that are always lower than single adults. Childless couples also show a lower incidence of poverty than the average, except for those made up of older people with the 0,5 parameter scale.

The application of the adjustments implicit in the notion of PFM does not notably change the delimitation of the groups at risk. Lone-parent and larger families still constitute the types of households with the highest poverty rates. However, the relative incidence of poverty in these groups is somewhat below the results obtained when other scales are used[27].

The main differences reside in how the PFM handles households with ascendants. These differences give rise to a poverty rate index that is notably lower for this group. This is due to the increase in the minimum allowance for having an ascendant as a burden (100,000 Pts in most cases), substantially less than what is required by the other thresholds that do not establish differences between this kind of additional adult and others.

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[27]   It should be noted that the equivalence scales implicit in the empirical exercise carried out for the different kinds of households the population was divided into do not completely coincide with the ones studied previously for the simple family units chosen. This is due to the fact that the thresholds for each group are the weighted average obtained when different circumstances coincide (disabilities or having children under the age of three or over the age of sixteen).

A second peculiarity can be found in the relative position of childless couples who obtain higher levels of poverty (especially older couples) than lone-parent households. This fact is only also observed for people above the age of 65, though to a much lower degree, with the 0.5 parameter scale. The reason lying behind this result is the equal weighting given to both spouses in the PFM, an aspect that none of the other scales share.

Lastly, the application of the MPF gives rise to poverty rates that are much higher in households having various PFM units due to not taking economies of scale into account. It should be underlined that the difference would be even greater if the analysis had been made with PFM units or tax units in the strictest sense. This would be because it would eliminate the effects of artificially summing up the incomes we presuppose when making the comparison for the household as a whole.

To sum up, although all the scales analyzed coincide in delimiting the main groups at risk, the incidence of poverty in the different kinds of households varies to a certain extent depending on which adjustment is used. The graduation of needs included in the PFM leads to some peculiarities when compared to the other equivalence scales. Such peculiarities are fundamentally due to the equal weighting given to both spouses, the relative limitation of the adjustment introduced for ascendants who are a family burden and the impossibility of taking into account the economies of scale linked to household size.

6. CONCLUSIONS

Equivalence scales constitute an indispensable tool to make welfare comparisons among individuals who face very different circumstances in the households they live in. These scales are also necessary to adequately determine the needs of individuals targeted by social policies.

This study has attempted to compare the scales implicitly introduced by the PFM designed for the 1998 income tax reform with the ones used in minimum income policies and others that tend to be applied in income distribution studies.

As a first conclusion, it should be highlighted that our results show there is a clear contrast between the increases in needs associated with larger family units in the PFM and the graduation of benefits in the main national income maintenance programs. Generally speaking, the equivalence scales implicit in the PFM are more generous than the ones foreseen in social benefit programs. In our view, this could lead to some problems concerning the coherence of tax and expenditure policies, which should be looked at in more detail.

Comparing the adjustments at the levels stipulated by the PFM and the ones employed in other widely used equivalence scales to analyze poverty reflects some differences that mean economies of scale are considered to a lesser degree. This is a result of the fact that both spouses are given equal weighting and the increase in the applicable minimum allowance for the third and successive children. This approach contrasts with the ones followed by other scales, which always assign a lower coefficient to the second adult as well as decreasing or, in some cases, equivalent values to additional children. The treatment given to lone-parent households is also more generous in the PFM because none of the other scales studied includes a specific threshold for this kind of household.

Overall we can say that the implicit scales in the Personal and Family Minimum have the advantage of providing a more detailed graduation of sums dependent on circumstances such as being disabled or a single-parent, which other scales do not take into account. Nevertheless, the PFM adjustments include a notion on economies of scale that is anomalous in the context of poverty studies and is therefore very difficult to translate to an analysis of the economic position of households.

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