PENSION POLICIES AND INCOME SECURITY IN RETIREMENT: A CRITICAL ASSESSMENT OF RECENT PENSION REFORMS IN PORTUGAL

Autora: *María Clara Murteira*(*)

P. T. N.º 12/08

Paper presented at the LIS-IEF Conference "Economic Well-Being and Social Protection in Southern Europe: Changing Policies and Tends", 15-16 november, 2007, Madrid

(*) Faculdade de Economia da Universidade de Coimbra, FEUC, Portugal. E-mail: murteira@fe.uc.pt

Edita: Instituto de Estudios Fiscales
N.I.P.O.: 602-08-004-3
I.S.S.N.: 1578-0252
Depósito Legal: M-23772-2001

INDEX

ABSTRACT

This paper aims to emphasize the idea that the income support guaranteed by the pension schemes should be a matter of primary concern when pension policies are designed. This subject is closely related to the social function of this system. As with any other system, the analysis and assessment of a pension system should consider, first of all, the success in meeting its purpose and objectives. As a consequence, the income guarantee provided in old age should not been seen as the adjustment variable (i.e. a residual subject) in a policy designed to achieve financial sustainability. The costs of pension systems must not be seen as "the objective" to minimize. Instead, they should be regarded as "the restriction" to face. Based on this argument, I develop a critical assessment of recent pension reforms in Portugal and propose a methodology for policy formulation that takes income security in retirement as the starting point.

JEL Classification: H55.

Keywords: Social Security, Pensions, Retirement Incomes, Portugal.

INTRODUCTION

Pensioners' incomes have received little attention both in economic literature and in the political speech. The political debate about the future of pensions often focuses on the rising costs of retirement. Recently the Portuguese government introduced a reform moved by this concern. However, the attempt to contain state spending on pensions may have very serious implications for different countries from a welfare point of view. In particular it may have negative consequences in some countries which have not yet reached a significant income security in old age for the majority of the retired population. This is the case in Portugal where guaranteed rights are still limited in its material scope.

Taking into account the specificity of the Portuguese case, this paper develops a critical assessment of the reform recently introduced. Section 1 provides an image of the income dynamics of different groups of pensioners, categorized both by gender and generation, in the transition to retirement and during the retirement period. The analysis shows that the system does not guarantee a significant income security for the majority of the retired population, as a consequence of its immaturity stage. Section 2 discusses the main characteristics of the public pension scheme before the recently introduced reform and outlines the new scheme. The guidelines of the reform can be summarised as follows: one measure is the introduction of a "sustainability coefficient" that will reduce pensions by a certain percentage if life expectancy increases during the working period; the earnings of the whole working life will be taken into account for calculating pensions, instead of the ten best years of earnings of the final fifteen; and a new way to index the benefits which does not guarantee neither the adjustment of minimum pension benefits in line with the minimum wage nor the maintenance of all benefits in real terms. The three measures will produce a significant reduction in the level of benefits. Section 3 develops a critical assessment of the recent reforms. A brief reference to the alternative strategies to deal with population ageing is made in section 4. Finally, section 5 proposes a methodology for policy formulation that focuses on the welfare function of the pension system and takes income security in retirement as the starting point. This subject is addressed considering both pension objectives and a normative view of income adequacy.

1. INCOME TRAJECTORIES IN RETIREMENT OF MEN AND WOMEN OF DIFFERENT GENERATIONS

In Portugal the main pension scheme is the public scheme[1] which is mandatory for the employees and self-employed workers in the private sector. There is also a voluntary public scheme open to those who are not covered by the previous. Additionally, a non-contributory scheme provides means tested benefits in old age (social pension). Public employees are covered by a specific system. Other special plans also exist (occupational schemes, pension funds, etc.) but cover a limited percentage of the total active population.

In this section, the income dynamics in retirement of men and women of different generations, covered by the public scheme for the employees in the private sector, is examined. The analysis is based on longitudinal data from the social security administration files on wages and retirement pensions. The data comes from the information collected regularly by the Centro Nacional de Pensões (CNP) to calculate benefits. It has been used a set of approximately 53500 records relating to old age pensioners categorized both by gender and generation[2]. The individual records contain information on age, sex, contribution periods, the date of the first contribution and the date of retirement, gross remunerations, the statutory pension and the pension in december 2001[3]. All the records relating to the retired people in 1985, 1990, 1995 and 2000 were made available by the CNP. However, only the records regarding the individuals who retired with the minimum legal age were used. Thus, the pensioners considered in each group were born and retired in the same years.

This dataset was initially collected with the purpose of analysing the income dynamics of different groups of pensioners, as well as gender and generational inequalities regarding their income trajectories. Although collected for another purpose, the longitudinal data regarding individual incomes is useful for the current analysis because it has now an historical value. The records refer to old age pensioners, men and women, who retired in those years and the final moment of income observation is December 2001. Thus, the analysed cohorts of pensioners retired between 1985 and 2000, i.e. the period of application of the first social security fundamental law approved after 1974[4], which defined the guiding principles of the social security system. From 1984 to 2001, pension

---

[1] Regime Geral de Segurança Social.

[2] See table 1, in appendix, which shows the number of records of pensioners retired in each year.

[3] The amount established in december 2001 was in effect in the next year (up to november).

[4] Lei n.º 24/84, de 14 de Agosto.

rules met some important changes. The major reform was introduced in 1993[5]. In the domain of old age pensions, some essential issues were changed like the necessary conditions to entitle people to the benefits and the rules established for calculating pensions. These new rules, however, were defined in accordance with the philosophy of the 1984 law, improving the coherence of the system previously defined. A deep philosophical turning point occurred in 2002, when a new law introduced new rules for calculating pensions with serious consequences in terms of income security. However, the legislator defined a transitional period which reduced its expected negative effects in terms of income protection. In 2007, as will be analysed below, another reform has been introduced which basically accelerates and deepens the former.

The research developed provides an image of a system which was still in an immaturity stage but gradually enlarging its material scope. It illustrates the income guarantee the system has provided throughout this period. This is, in my view, an essential departure point for questioning the coherence and meaning of the current reform.

The income trajectories of different generations

In this section, firstly, the income trajectories, at successive points in time, of different groups of pensioners, categorized both by gender and generation, are examined. Next, the relative income path of each group is analysed in the transition to retirement and during retirement, taking as reference the average remuneration level in the economy.

The following figures show the income trajectories of the different groups. They depict their average levels of remunerations in the years preceding retirement (which serve as the calculation base for pensions), reference remunerations[6], statutory pensions, first pensions and pensions in december 2001. The series of values of the average remunerations of each group is followed by a point that represents the respective nominal reference remuneration. The corresponding real reference remuneration is also shown, designated “rrr”, and is followed by the representation of the real average statutory pension, “ps”, the real average first pension, “apr” and the average pension in december 2001, “p01”.

---

[5] Decreto-Lei n.º 329/93, de 25 de Setembro.

[6] Up to 1994, the reference remuneration was calculated taking into account the five years of highest earnings in the final ten working years. Past remunerations were not revalorised. After 1994, the reference remuneration has been calculated taking into consideration the ten years of highest earnings of the final fifteen. Past remunerations have been revalorised on prices.

Figure 1A

AVERAGE VALUES FOR EARNINGS, REFERENCE REMUNERATIONS, FIRST PENSION IN 2002 - MEN

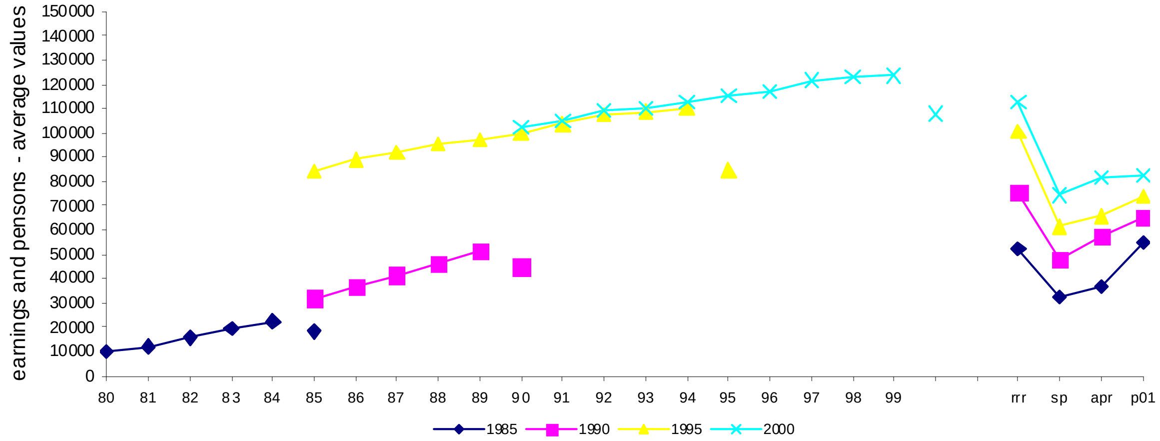
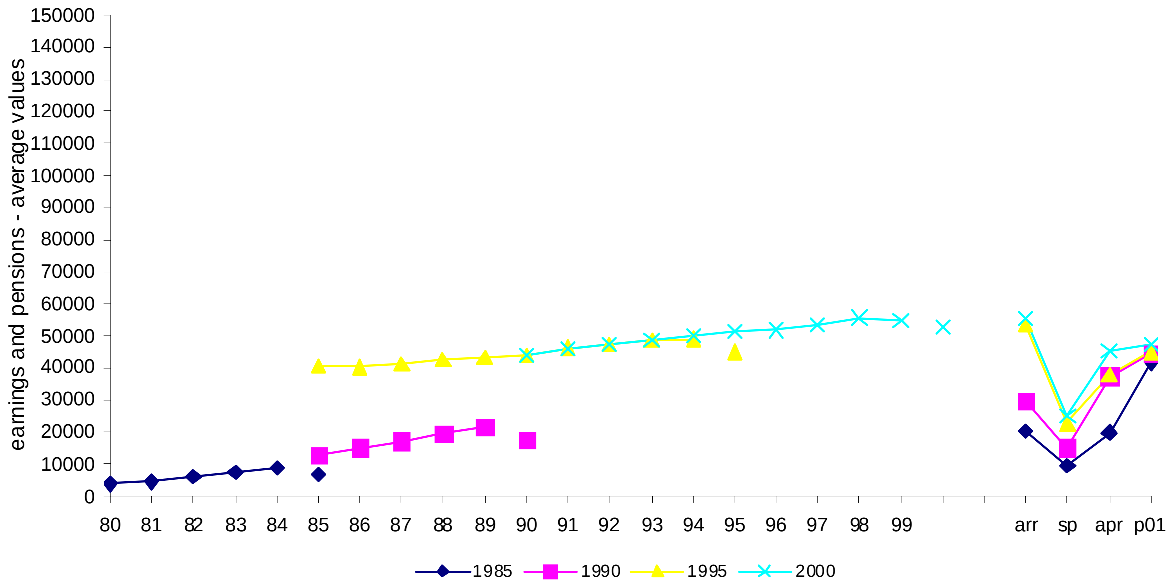


Figure 1B

AVERAGE VALUES OF REMUNERATIONS, REFERENCE REMUNERATION, FIRST PENSION AND PENSION IN 2002 - WOMEN



The comparative analysis of individuals of the same sex from different generations shows that the older generations were in a relatively worse situation in 2001, for a number of reasons: earning levels in the years preceding retirement, contributory careers and regulatory aspects. These circumstances all influenced the amount of the first pension and the following income trajectory.

These results express the immaturity stage of the public pension system in Portugal and its progressive growth. The eldest generations received lower real earnings in the final working years, and so they had lower average reference remuneration in real terms (table 4, in the appendix). This result is partially due to the fact that, up to 1994, the remuneration levels used for calculating pensions were not revalorised. Thus, the generations that retired before then were in a relatively worse situation in comparison to those who have retired after that year. In addition, the steady growth in real remunerations has favoured those who retired later (figure A1, in the appendix). Both the lower average reference remuneration and the lower contributory careers of the eldest generations, explains the lower average values of the first pension[7]. The subsequent indexing of pensions did not have any effect on the relative classification of the groups, which was the same at the end of 2001.

The enlargement of the personal scope of the system happened late and slowly, especially in the case of women. As a consequence, the oldest generations, who retired earlier, present on average shorter contributory periods (table 2, in the appendix). The increase in this variable over time expresses the process of maturation of the system. Women present on average shorter contributory careers due to their later integration. The distribution of beneficiaries, taking into account the moment of integration into the public pension system, is described in table 3, in the appendix. It shows that men of the oldest generation present a later integration. But the most outstanding feature is the significant difference in the distribution of men and women: 84.4% of men were covered by the system before april 1974 as opposed to 40.7% of women. More than 50% of the women paid their first contribution in the period between april 1974 and 1984.

Previous observations may be summarised as follows. The older generations were in a relatively worse situation regarding not only the remuneration levels in the years preceding retirement but also the length of their contributory careers[8]. This explains the lower average levels of the statutory pension, the first pension and, to some extent, the subsequent income trajectory.

The gender differentiation of paths among pensioners retiring in the same year is also clear. Men and women retiring in the each year exhibited quite distinct

[7] The type of data used means that certain prudence is required when interpreting the results. Some years after retirement, we find individuals from the generation with lower mortality rates and higher incomes included in the group of individuals belonging to the older generations. This effect is more significant for the eldest generations.

[8] The type of data used requires certain prudence when interpreting the results. Some years after retirement, a number of individuals of each cohort have died. The individuals still alive are those with higher life expectancy. Prudence is required because there is a correlation between lower mortality rates and higher incomes. This effect is more significant in the eldest generations.

paths in terms of contributory careers, remuneration levels and pension levels. Men always present substantially higher values of all variables under analysis.

It is important to notice that, at the time they retired, women received on average a pension significantly higher than the value of the respective statutory pension, thanks to the rules that guarantee minimum levels. Table 5, in the appendix, summarises some expressive indicators regarding gender inequalities in this matter. The statutory pension of women represented on average a third of the male average level, but their average first pension corresponds to around 55% of that of men. This difference is due to the regulatory improvements which raise the first pension above its statutory level, like the rules that guarantee a minimum amount, from which a large number of women benefit. This happens for a significant percentage of women who receive benefits below or equal to the minimum level (table 6, in the appendix). The relative situation of women improved slightly in December 2001. At that time, their average pension ranged between 55.7% and 73.9% of that of men. This is due to the positive differentiation of increases which involves a higher growth of benefits for those with the lowest incomes.

It is worth mentioning that sometimes the Portuguese pension system has been considered "generous" by a number of analysts who have observed that it guarantees high replacement rates. However, this is a narrow view that does not give a precise image of the true process of income transformation operated by the pension system. To assess it in an exact way it is necessary to consider simultaneously the gross replacement rate and the absolute levels of income it guarantees. In fact, a very high percentage of men, and even more women, receive the minimum level of pension which is higher than the amount of their statutory pension. The latter corresponds to the level of pension that would be received if it depended only on past earnings and of the extent of the contributory careers. Thus, the guarantee of a minimum level increases the gross replacement rate for those with the lowest incomes.

Table 7, in the appendix, summarises the average gross replacement rates of each group. The interpretation of these results is obvious. If the Portuguese pension system guarantees very high gross replacement rates this does not reflect its "generous character". Instead this fact is the symptom of the presence of a very high percentage of pensioners with precarious integration in the labour market, low incomes and short contributory careers who benefit from the guarantee of a minimum level of pension[9].

---

[9] It is important to look at the distribution of pensioners according to the level of benefits awarded, to have an idea of the absolute levels of income provided. In 2005, the distribution is not only extremely asymmetric but also refers to very low levels of absolute income: 81% of old age pensioners received an amount of benefits below or equal to the minimum remuneration, i.e. 374,7€ (table 8, in the appendix).

The relative income position of pensioners

To assess the relative situation of pensioners in the society, in dynamic terms, especially the effect of the income transition that occurs on retirement and the income dynamics during the retirement period, it is necessary to compare pensioners' incomes with a term of reference. As the available data relates to gross incomes (earnings and pensions) the reference term can be the average remuneration in the economy (also a gross income). This way it is possible to assess the significance of the fall in income that occurs in the transition to retirement and the income dynamics during the retirement period. Three variables were taken into consideration: the last remuneration, the first pension and the pension in December 2001.

The relative income position (RIP) is calculated for each group of individuals taking as reference the average remuneration (base) in the economy. The RIP is calculated for each group under analysis, i, and may be defined as:

$$RIP_i^t = \frac{y_i^t}{\text{Average remuneration}\,(M+W)^t}$$

Figure A2, in the appendix, represents the dynamics of the relative income position of the different groups of pensioners. The chart shows that there is a significant fall in the relative income position in the transition to retirement, more important in the male groups. The relative position continues to decline during retirement in the male groups. In the female groups, pension indexation generally produces not very expressive variations in the relative income position.

The indexation of benefits

Regarding the effect of the indexation mechanism for minimum pension values, it is necessary to examine the dynamics of minimum pension values both in real terms and in relative terms (taking into account the average remuneration in the economy).

The minimum pension level grew in real terms, in almost every year of the period under analysis (table 9, in the appendix). But the ratio between the minimum level of pension and the average remuneration was greater at the beginning of the nineties than in the following decade. The former didn't keep pace with the growth in average earnings in the economy. This dynamic occurred despite the minimum pension levels being raised above average levels of pension. Periodic and extraordinary increases have followed the principle of positive discrimination, which involves a higher relative increase for the lowest pensions.

The relative standard of living of the elderly

The studies based on Household Budget Surveys (HBS)[10] show that in Portugal the aged have a very low living standard compared to that of the total population and their risk of poverty is significantly higher.

The analysis of the relative standard of living of the eldest requires information about all the income sources received by the individuals and their households. HBS are an appropriate source for examining the relative weight of pensions in the total income of the eldest and their relative standard of living. The link between benefit levels and the economic welfare of retirees is expressed by the weight of pensions in total income. The data from HBS of 2000, show that pensions are the main source of income of older people, especially in households composed of men or women living alone or of couples with two persons over 65 years (table 10, in the appendix). These proportions range between 82% and 90% of total income. Individuals living in these households are those who present the lowest levels of equivalised income[11] (table 11, in the appendix). These proportions range between 59.4% and 74% of average equivalised income. This variable presents the lesser values in households where pensions are the highest component of total income. Whenever other components have a higher weight, average equivalised income arises.

International comparisons of income and living conditions show that the risk of poverty is significantly higher amongst older people in Portugal than for the total population. According to the Report "Adequate and Sustainable Pensions", from the European Commission[12], the poverty rate[13] of people aged 65 or over is substantially higher than the poverty rate of people less than 65. This also happens in Belgium, Denmark, Greece, Spain, Ireland; Cyprus and the United Kingdom. For all other Member States, older people are exposed to a similar (or even lesser) level of poverty risk. Regarding the relative income position of

---

[10] The HBS collected data does not allow distinguishing old age pensioners covered by the social protection scheme of the private sector for dependant workers (those under analysis) from all others. It includes the pensioners under analysis but is not limited to this universe. Yet, the social security general regime covers around 80% of all old age pensioners. Thus the information summarised refers to the elderly, based on HBS of 2000.

[11] The values presented were calculated using the modified OECD scale of equivalence.

[12] See European Commission, *Adequate and Sustainable Pensions*, 2006. The source of data used for analysing income and living conditions in Portugal was SILC (survey year 2004; income data 2003). The concept of income is monetary income received by the household during the income reference year (income from work, income from investment and property, private and public transfers. Benefits in kind, mortgage loan interest payments and imputed rents are excluded.

[13] The risk of poverty is measured in relative terms and defined as the share of individuals with an equivalised disposable income below a threshold, set at 60% of the national median.

old people, in most countries, the aged have a living standard very close to that of the total population, or even higher. In Portugal, however, the ratio of median equivalised income of older people compared to younger cohorts is only 76%[14].

2. THE DEVELOPMENT OF THE PUBLIC PENSION SCHEME IN PORTUGAL

This topic focuses on retirement benefits provided by the Portuguese public pension scheme for the employees in the private sector. It discusses the main characteristics of this scheme before the recently introduced reform and outlines the new scheme. It describes entitlement conditions and the determination of the benefits.

Before the reform

The requirements for eligibility to receive benefits are: a minimum legal age, which is now 65 years, and a minimum number of years of contributions[15], 15, with at least 120 days per year of registered earnings.

After 1994, the benefit formula was the following: $SP=2\%\times n\times RR$. Sp is the statutory pension, n is the number of years of contributions and RR is the reference remuneration. The latter is calculated taking into account the 10 years of highest remunerations of the final 15. Past remunerations are indexed to the consumer price index, according to coefficients defined in the law[16]. The amount of the statutory pension should range between 30% and 80% of the reference remuneration.

Additionally, the law guarantees a minimum amount of pension. Thus, the level of the first pension received may be higher than the amount of the statutory pension, thanks to the rules that guarantee minimum benefits. From 1999[17], the minimum levels of benefits guaranteed have depended on the

[14] These results were calculated based on the hypothesis that the individual income is equally shared within the household. An alternative approach, based on the non-sharing hypothesis, could provide additional important information about pensioners command over resources and their economic independence.

[15] These requirements have changed over time. Before 1994, the legal age of retirement was lower for women, i.e. 62 years. Gradually, it was raised to 65, increasing 6 months per year. Before 1980, the law required a minimum of 5 years of contributions. From 1988 to 1994, the worker should have been credited with a minimum of 10 years of contributions.

[16] As was mentioned, before 1994, the revalorisation of past earnings was not done.

[17] Portaria n.º 1018/98, de 4 de Dezembro.

number of years of contributions, representing a certain percentage of the minimum national remuneration. The lowest benefits have been indexed for changes in minimum remuneration.

The law guarantees the regular indexation of benefits. Over time, periodic and extraordinary increases of pensions have followed the principle of positive discrimination, which involves a higher relative increase for the lowest pensions. From 1986 to 2005, the nominal level of minimum pensions grew over the inflation rate. This policy allowed retirees entitled to minimum levels of pension to improve the purchasing power of their benefits. The real value of the minimum pension increased every year in the period under analysis (table 9, in the appendix).

Minimum levels of benefits have been rising gradually with an explicit purpose: to index the minimum level of pension in line with the minimum level of remuneration in the economy. The lowest benefits were already (after 1998) indexed for changes in minimum remuneration. However, after 2002, the target of convergence was explicit in the text of the law[18] which defined a transitional period to gradually achieve it. In accordance with the text of the law, the regulations approved in the following years have promoted the convergence of the minimum level of benefits up to the minimum remuneration. In 2006[19], pensioners with more than 30 years of contributions were entitled to benefits equal to the minimum remuneration (net of social insurance contributions) and pensioners with shorter contributory periods were entitled to different percentages of that amount (from 65% to 100%).

The Recent Reform – the new scheme

In 2002[20], a significant reform in the scheme described above was introduced, changing the formula of calculating benefits. However, the law also defined a transition period, from 2002 to 2016, during which the most favourable method of calculation could be used to determine the pension level. Thus, the effects of the new rules introduced by this law have not been not completely felt in 2007. In May 2007[21], the government introduced a new reform of the pension system. In order to face the problem of ageing populations, the law introduces new rules for calculating old age pensions and accelerates the transition to the calculation formula defined in 2002. The current topic focuses only on the new regulations regarding the determinants of

[18] Lei n.º 32/2002, de 20 de Dezembro.

[19] Portaria nº1316/2005, de 22 de Dezembro.

[20] Decreto-Lei n.º 35/2002, de 19 de Fevereiro, in accordance with Lei n.º 32/2000, de 8 de Agosto.

[21] Decreto-Lei n.º 187/2007, de 10 de Maio.

the amount of benefits under the public pension scheme for the employees in the private sector[22]. The main guidelines of present reform can be summarised as follows.

One measure is the introduction of a "sustainability coefficient" that will be used to reduce pensions by a certain percentage if life expectancy increases during the working period. The "sustainability coefficient" is the ratio between life expectancy in 2006 and life expectancy in the year preceding retirement. This coefficient will be multiplied by the level of statutory pension in order to reduce it as life expectancy increases. The decrease in pensions can be avoided if workers extend their working period or if they increase their contributions.

Secondly, the earnings of the entire working life will be taken into account for calculating pensions. To be entitled to an old age pension, beneficiaries should have completed a period of 15 years with contributions. From 1994, pension levels were calculated based on the average earnings of the ten best years of the final fifteen. This rule was changed in 2002[23]. The new law stated that the earnings of the entire career would be taken into account for calculating the pension (subject to a maximum of 40 years). However, this law also defined a transitional period, from 2002 to 2016, during which the most favourable method of calculation - the former, the latter or a weighted average of both - could be used to determine the pension level[24]. The reform introduced in 2007 accelerates the transition to the new calculation formula. Hereafter the beneficiaries of the system will have their pension determined by a weighted average of two components. One component is calculated considering the best ten years of earnings of the final fifteen and the other component is determined

[22] It is worth mentioning that some measures have been taken in order to bring the specific scheme that covers public employees into line with the general social security scheme (Lei n.º 60/2005 de 29 de Dezembro).

[23] It is worth mentioning that the Decreto-Lei n.º 17/2000, de 8 de Agosto, already stated that pensions should be calculated taking into account, gradually, the earnings of the entire career (art.º 57-3). This is a significant rule change regarding the previous scheme established by Decreto-Lei n.º 329/93, de 25 de Setembro, which stated that benefits should be calculated based on the average earnings of the ten best years of the final fifteen. The new method of calculating pensions was adopted only when Decreto-Lei n.º 35/2002, de 19 de Fevereiro, came into effect. However, as the law established a transitional period, during which the former and the latter methods could be applied in order to guarantee beneficiaries the most favourable rule, the true impact of the measure was reduced. Decreto-Lei n.º 187/2007, de 10 de Maio, accelerates the transition to the new calculation formula.

[24] It has been estimated that, "during the period between 2002 and 2004, some 238060 pensions were granted, of which 41713 (approximately 17.52%) were in accordance with lifetime contributions (…) with their recipients thus being guaranteed the most favourable pension amount." (European Commission, *National Strategy Report: adequate and sustainable pension systems,* 2005, 3).

by taking into account the earnings of the whole career. The weight of each component depends on the moment of retirement (before or after 2016) and the number of years with contributions before and after a specified moment of reference[25]. According to the text of the law, accelerating the transition to the new calculation formula is desirable because the latter reinforces the contributory nature of the system. This transition is seen as a requisite of justice[26].

Thirdly, in 2006, new rules were approved[27] regarding the scheme of indexing the benefits. This law came into effect in 2007. On the one hand, the indexation of pensions will not depend only on inflation. Instead it will depend on economic growth and inflation. On the other hand, the minimum remuneration will not be used anymore as reference for indexation. A new term of reference for calculating social benefits and their indexing is used: the "Indexante de Apoios Sociais" (IAS) which will be defined every year by the government. The value of IAS, in 2007, was determined taking into account the minimum remuneration and the consumer price index[28]. In the following years, it will be adjusted considering the rate of economic growth and inflation. It is worth outlining the consequence of the substitution of IAS for the minimum remuneration as term of reference for indexing the lowest benefits: wage indexing is lost. The new method of indexation will not guarantee all pensioners the maintenance of their benefits in real terms. This will only happen if the rate of economic growth is over 2%. According to the law, if the rate of economic growth is under 2%, only pensions below 1.5 IAS are increased following the inflation rate of the previous year. All other pensions will grow less than the consumer price index. Price indexing of all benefits is also lost.

Additionally, the law also introduces new rules to encourage the maintenance of activity in old age, with the declared purpose of guaranteeing "*justice (…) and protecting employment and productivity*". Firstly, it introduces higher penalties for those who retire before the legal age. If workers are willing to accept a reduced pension they may retire before the normal age. In this case, their benefits will be reduced by 6% a year[29]. Secondly, the law includes several incentives to extend working life.

---

[25] The reference is 2006, for those who retire before 2016, or 2001, for those who retire after 2016.

[26] Justice is assessed, in this case, based on an individual equity criterion. For a discussion of alternative criteria, see section 5.2.

[27] Lei n.º 53-B/2006, de 29 de dezembro.

[28] The IAS level is now below minimum national remuneration.

[29] From 1999, workers may retire before the minimum legal age if they accept a reduced pension. Early retirement involved a reduction of benefits of 4.5% per year.

3. A CRITICAL ASSESSMENT OF THE RECENT REFORM

The main guidelines of the recent reform can be summarised as follows: the immediate introduction of a new formula of calculating pensions based on workers' entire career, instead of the average earnings of the ten best years of the final fifteen; the introduction of a demographic adjustment factor, named "sustainability coefficient", that will be used to reduce pensions by a certain percentage if life expectancy increases during the working period; and a new way of indexing pensions.

The three measures converge in the sense of reducing the level of benefits. Firstly, according to the new formula of calculating pensions, benefits will be affected not only by workers' final earnings but will depend on workers' entire careers. Taking into account the general upward growth in wages during the working lives, the amount of benefits will be reduced for the majority of old age pensioners[30]. Secondly, the "sustainability coefficient" is, by definition, a "reduction coefficient". Thirdly, the new way of indexing pensions is also less favourable than the former. It does not guarantee neither that minimum pensions will be adjusted in line with the minimum remuneration nor the adjustment of all benefits in line with inflation. The single purpose of the reform seems to be the reduction of public spending on pensions, disregarding its consequences in terms of welfare.

The attempt to contain state spending on pensions may have very serious consequences from a welfare point of view. In Portugal, guaranteed rights are still limited in its material scope. As was mentioned earlier, the majority of the retired population has not yet reached a significant income security in old age. In the transition to retirement, pensioners under analysis still suffered significant income losses due to their past integration in the labour market, characterized by low earnings and short contributory periods (but the rule for calculating pensions was more favourable than the recently introduced one). Also their income dynamics after retirement depended on indexation rules which did not change significantly their relative income positions (though these rules were also more favourable than those recently introduced).

The decision to lower pension levels will produce effects in terms of welfare. On the one hand, the calculation formula has changed in a way which produces the reduction of benefits. On the other hand, the guarantee of income adjustment over time seems to be inadequate: there is no guarantee that minimum pensions will be adjusted in line with the minimum remuneration, nor the adjustment of all benefits in line with inflation. The new mechanisms of indexation induce minimum levels of benefits to fall behind the

[30] As an example, see note 24.

general evolution of earnings and also erode the purchasing power of all other pensions. The new rules for calculating pensions and the new indexation method may have serious consequences on the distribution of income amongst the elderly.

This reform may also be criticised from a methodological standpoint because it does not define objectives regarding the level of benefits, which are treated as a residual subject. A coherent policy requires, in my view, a clear specification of policy aims in the domain of income security. As pensions are intended to provide retirement income security, the design of these schemes must assess their respective adequacy as sources of retirement income[31]. As with any other system, the analysis, assessment and redesign of a pension system should consider, first of all, its purpose and objectives.

However, in the text of the Law[32] there is no reference neither to the objectives to attain in terms of income protection of retirees nor to the consequences of the measures introduced regarding the income guarantee provided. In another document[33], published by the Ministry of Solidarity and Social Security, in 2006, where the strategic lines of the reform were revealed, there is also no reference to the subject. The estimated effects of the reform, regarding the reduction of benefits, were presented, at the end of 2006, by the Ministry of Finance and Public Administration, in the State Budget 2007 Report[34]. The document contains an analysis of social security sustainability. The current reforms are interpreted as a necessary adjustment to reduce the future increase in public pension expenditure, and thus are presented as a solution to ensure the long term financial sustainability of the public pension system. According to the government projections, public spending on the whole contributory schemes of social security is projected to increase, around 2.4% of the GDP, in the next 20 years. In 2006, the sum of these schemes still presented a surplus but, in 2025, it will be in a deficit of -1.9% of the GDP. Public expenditure on pensions (old age, invalidity, survival) will increase from 5.5% to 7.9% of GDP. Old age pensions of the contributory scheme will increase from 4% in 2006, to 6.3%, in 2025. According to the official projections, the application of the new rules will allow a future reduction of public spending on pensions and of the real growth of average pension (figures A3 and A4, in the appendix). These effects are considered positive in the perspective of the state budget.

---

[31] Regarding contributory benefits, the objectives should be clearly formulated in two domains: the replacement for earnings lost and the adjustment of income over time.

[32] Decreto-Lei n.º 187/2007, de 10 de Maio.

[33] MTSS, *Linhas Estratégicas da Reforma da Segurança Social*, 3 de Maio de 2006.

[34] MFAP, *Orçamento de Estado para 2007*, *Relatório*, Outubro 2006.

Entirely subordinated to the pressure of balancing public finances, social policy has disappeared. As the reform does not define objectives regarding the level of benefits, it may be criticized for having treated pension levels as the adjustment variable. A coherent methodology of policy design requires a clear specification of policy aims in the domain of income security. The income support guaranteed should be a matter of primary concern, because it is closely related to the social function of the system. As a consequence, it should not been seen as the adjustment variable (i.e. a residual subject) in a policy designed to achieve financial sustainability. Under the perspective of Social Policy, the costs of pension systems cannot not be seen as "the objective" to minimize. Instead, they should be regarded as "the restriction" to face. Social objectives in the domain of retirement income security should always be treated as fundamental principles of any pension reform. These should be clearly stated and, obviously, I think, assumed as the departure point in the design of future schemes.

4. ALTERNATIVE STRATEGIES ACCORDING TO ECONOMIC THEORY

The economics of pensions and its theoretical framework have been deeply discussed in economic literature[35]. My aim, in this Section, is just to provide a brief outline of the alternative directions pension policies may follow to face rising life expectancy. I argue that the policy path followed in Portugal was not the only possible solution to face the problem of population ageing. There are several ways of adjusting pension systems.

From a macroeconomic perspective, to face rising life expectancy there are basically two solutions: to reduce the level of demand for goods or services or to increase their supply. Demand can be reduced by increasing contributions or by reducing benefits. In the first case, the burden of the adjustment is placed exclusively on workers. In the second case, the burden of the adjustment is placed exclusively on retirees. There is also a third solution: to increase the legal age of retirement in line with rising life expectancy. At the same time, this measure increases de number of workers and reduces the number of retirees. This policy contributes to contain state spending and simultaneously avoids the reduction of pensioners' living standards. Extending working life is an alternative to lowering consumption. Thus, on the demand side, there are four different solutions: to reduce pensions, to increase contributions, to adjust the

[35] On the economics of pensions, see Thompson (1998), Barr (2004), Barr (2006), Barr and Diamond (2006).

retirement age, or a combination of all three. But the former reasoning considers only policies on the demand side. As Barr (2006: 13) notices, "[a]t a given level of national *output*, these three policies –lower pensions, higher contributions, or later retirement –are only mechanisms for dividing *output* in different ways between workers and pensioners".

There are also alternative policies on the supply side. In fact, policies which promote economic growth help to deal with population ageing. If *output* grows, consumption per head may also grow. There are two basic strategies for raising *output*: increasing *output* per worker or increasing the number of workers. "Increased *output* per worker can arise from increases in the quantity and quality of capital and from increases in the quality of labour" (Barr, 2004: 206). Increased number of workers can be attained by reducing unemployment, by raising the legal age of retirement or by importing labour.

To deal with future problems caused by population ageing there are several directions. The Portuguese government decided to follow an exclusive path: to lower pensions, placing the burden of the adjustment exclusively on retirees.

The strategy of lowering pensions

The policy direction followed in Portugal is, in my perspective, undesirable in view of the specificity of the country. As was seen before, due to the late development of public pension system and the past labour market conditions, the majority of the retired population has not yet reached a significant income security in old age. In this context, the option seems to be adverse because it places the burden of the adjustment exclusively on pensioners.

The reduction of state spending occurs at the same time the government introduces new mechanisms of income protection for poor pensioners (safety nets), such as a special benefit[36] (means-tested) to prevent old age poverty. The prevention of poverty among the elderly was declared to be a political priority. This approach, however, may be criticized for focusing exclusively on one objective of pension schemes: poverty relief. Another fundamental objective is to allow people to maintain, as much as possible, the living standards achieved during the working period. This objective was ignored. The decrease in average pensions will reduce the replacement rates for most retirees, lowering their relative standard of living.

The strategy of lowering pensions represents a turning point in the philosophy of the system. State intervention is becoming focused exclusively on

---

[36] "Complemento solidário para idosos". See Decreto-Lei n.º 232/2005, de 29 de Dezembro.

one objective, poverty relief, disregarding the other fundamental objective, i.e. safeguarding living standards after retirement.

5. THE WELFARE FUNCTION OF THE PENSION SYSTEM AND FUNDAMENTAL CHOICES REGARDING PENSIONERS' INCOME SECURITY

In this section, I propose an alternative methodology for policy formulation that takes income security in retirement as the starting point.

Two fundamental points, concerning pension policies design, should be clearly specified in advance: their aims in terms of income protection; and the extent of the redistribution accepted. Both questions relate to fundamental principles of solidarity which may be realized in the sphere of pensions. The first question relates to the social objective defined, as reflected by the level of benefits provided, which may vary from assuring only minimum living standards to safeguarding previous living standards. The second question, i.e. the extent of the redistribution embodied in pension schemes, reflects essentially the limits accepted for the sphere of social responsibility. Taking into account pension objectives and a normative view of the meaning of adequacy, the definition of adequate standards regarding the levels of income to guarantee is discussed.

5.1. Income Security in Retirement - The Level of Benefits

To address the subject of income adequacy it is fundamental to start by considering pension objectives. The benefit structure of old age pensions usually contains two components: non-contributory and contributory benefits. In general, the non contributory component guarantees pensions, for all citizens, in old age (universal benefits or means-tested benefits), with the purpose of preventing poverty. The contributory component provides retirement pensions, for all workers, from the moment they attain the legal age of retirement, with the purpose of providing the replacement of individual earnings. People are entitled to benefits if they have made previous contributions for a certain period. Usually the amount they receive depends on past earnings and the number of years of contributions[37].

The level of contributory benefits

[37] As this paper has focused only on contributory benefits, the following sections refer only to this kind of benefits.

Regarding the level of contributory benefits provided to all workers at the moment of retirement, public policy objectives may vary from assuring minimum living standards to safeguarding previous living standards. Thus, these schemes may have different designs related to different policy aims. Often, they provide minimum levels of pensions for all workers who have contributed for a minimum period, with the objective of preventing poverty. However, poverty prevention may not be the only objective. In most cases these systems have a larger scope, guaranteeing pension benefits linked to previous earnings that are significantly beyond the minimum income level. Higher levels of income support are provided in order to allow retirees to maintain, as much as possible, their previous living standards[38].

5.2. Contributory benefits: the link between contributions and benefits

The income guarantee provided by retirement benefits relates to past earnings, requiring previous contributions. This defines the contributory nature of these benefits. However, contributory schemes may have different possible designs concerning the strength of the link established between individuals' lifetime contributions and expected pension benefits. Different choices in this matter relate to different insights into the presence in these schemes of two kinds of redistribution: individual inter-temporal income redistribution and inter-individual income redistribution. Different perspectives reflect different views of the desirable extent of inter-individual redistribution in these schemes.

A strong link between contributions and benefits allows individuals to receive in retirement a sum closely related to that they have paid during their working years. In such a scheme, the inter-individual redistribution of income is almost absent because it is excluded *ex ante*. However, it may happen *ex post*, resulting from differences in individual lifespans after retirement.

Many authors argue in favour of a strong link between contributions and benefits. Pension schemes should work like an inter-temporal mechanism of individual income transfer: the redistribution of income occurs between the working years and retirement. Accordingly, this mechanism of income transfer should be evaluated following an individual equity criterion. This requires that the present value of the expected lifetime benefits keep a strong link with the

[38] On this subject, see Rein and Turner (1999) and Myles (2002). In most European countries, around the sixties, pension policy objectives changed from assuring minimum living standards to safeguarding previous living standards. This movement happened first in Germany and Sweden and was followed, during the sixties and seventies, by other developed countries. This achievement was the result of a deliberate policy designed to improve pensioners' living standards. As a consequence of that policy, in most European countries and also in Canada, the US and Japan, the gap between the average living standards of pensioners and the rest of the population reduced in a significant way.

present value of lifetime contributions. Any elements of inter-individual redistribution of income should be excluded. Although the supporters of this model recognize that the whole system performs two functions, the redistributive function and the insurance function, they argue that the borderline between both can be clearly delimited. Interpersonal redistribution should be realized only by the non-contributory component of the benefit structure. The sphere of social responsibility should be restricted to that domain. Contributory benefits fall in the sphere of individual responsibility. Thus the benefits received by an individual must be strictly linked to his or her previous contributions[39].

There are, however, alternative views of the desirable link between contributions and benefits[40]. Other authors emphasize that the contributory schemes do not need to keep a strict proportionality between contributions and benefits. Pension schemes are not seen as a forced savings mechanism which enables individuals to transfer resources for themselves, between two time periods. Although contributory benefits are defined on a commutative basis –benefits are related to the employment status, their purpose is to replace lost earnings and require previous contributions– they do not need to be strictly linked to contributions. In a public pension system there may be inter-individual income redistribution. The redistribution function may be performed not only by the non-contributory component of the benefit structure but also by the contributory component. Thus, there may be a certain degree of inter-individual redistribution involved in this mechanism. It may occur *ex post*, being caused by the differences in individual lifespans after the age of retirement, or may be decided *ex ante*. In fact, these schemes often include redistributive mechanisms like the rules that establish minimum pension levels or the rules that guarantee higher replacement rates for the lowest incomes. Additionally, the benefit formula, sometimes, deliberately weakens the link between contributions paid throughout the working career and benefits received. When the objective is to provide a certain level of welfare, pension benefits may be calculated taking into account the earnings received in the final working years, instead of considering the earnings of the whole working career.

5.3. Income Adequacy

[39] This is the conception underlying the current reform. The transition to the new calculation rules is seen as a requisite of justice because it reinforces the contributory nature of the system (pensions are going to be calculated based not on final earnings but on the earnings of the entire career).

[40] On this subject, see Thompson (1983). For a discussion of the normative basis of pensions', see Gillion et *al*. (2000).

Taking into consideration both pension objectives and a normative view of the meaning of adequacy, it becomes possible to define standards of adequacy to be used as reference points for assessing the level of benefits provided.

From my normative stance, these standards should be relative. At any moment in time, pensioners' situation should be assessed in relative terms by comparing their standard of living with the standard of living prevailing in society. In the transition to retirement, pensioners may suffer a significant income loss. Average retirement benefits may be much lower than their average final earnings. As a consequence, pensioners' average income may fall significantly below their previous level and below the average income current in society at any time. After retirement the income dynamics will depend basically on the mechanisms of indexation. Pensioners' relative income may continue to fall during this period. As a consequence, the pattern of disadvantage observed in the transition to retirement may continue or even intensify during the retirement period[41].

Due to the fall in income that occurs in the transition to retirement or the way pensions are indexed during the retirement period, pensioners might have a relatively low standard of living. In this case, society might face a problem of justice amongst contemporaries. This occurs when benefits are not enough to prevent poverty in old age or when pensioners' incomes are significantly below the average income current in the society. Higher poverty rates among the elderly or high levels of inequality in the incomes of pensioners compared to the population as a whole are, from my perspective, ethically relevant. Justice amongst contemporaries[42] should be considered a fundamental ethical concern. This perspective requires the assessment of pensioners' incomes in relative terms, over time.

Thus it is fundamental to define standards of adequacy regarding both the replacement for earnings lost in the transition to retirement and the adjustment of income during the retirement period.

Regarding the transition to retirement, firstly, given that the objective of retirement pensions is to replace individual earnings, a reference point should

[41] It is worth emphasizing that pensioners' relative standard of living, at each moment in time, usually reflects not a momentary but a long lasting situation. On the one hand, pensioners' incomes are determined by previous earnings. Pension distribution usually reproduces the inequality pattern of earnings distribution. On the other hand, as was mentioned earlier, during the retirement period, pension levels depend on the indexation rules but usually keep a strong correlation with previous pension levels.

[42] On the problem of inequalities amongst contemporaries see Fleurbaey and Michel (1992) and Fleubaey (2002).

be pensioners' past earnings[43]. If the objective of policy is to allow retirees to maintain, as much as possible, their previous living standards, the final earnings should be taken into account. Secondly, according to the normative standpoint described above, income adequacy should be assessed in relative terms taking into consideration pensioners' incomes in comparison to that of their contemporaries. Thus, another reference point should be the levels of income prevailing in society, at any moment.

From my perspective, the general objective to attain, in the transition to retirement, should be to prevent pensioners from experiencing a significant fall in their standard of living. In more concrete terms, the replacement of individual earnings, at that time, should guarantee that on average the benefits pensioners are entitled to are not significantly lower than their average final earnings. Thus, they would be allowed to maintain, as much as possible, their previous living standards. A necessary condition to prevent pensioners' average income from falling significantly below the average income current in society, at the time they retire, is that on average their first pension does not fall significantly below their previous income level.

After retirement, pensioners' income dynamics will basically depend on the mechanisms of indexation. Their relative incomes may continue to fall during that period. Thus, the indexation rules are a fundamental tool not only to avoid increased poverty rates in old age but also to guarantee that pensioners' average income does not fall significantly below average income current in society at any time. This requires that the adjustment of benefits takes into account not only inflation but also the general rise in earnings over time.

FINAL REMARKS

As referred to earlier, economic theory proves that there are several ways of adjusting pensions to the demographic trends. The Portuguese government decided to follow an exclusive path: to lower pensions, placing the burden of the adjustment exclusively on retirees. This option seems particularly adverse in Portugal where guaranteed rights are still limited in its material scope and, thus, the majority of the retired population has not reached a significant income security in old age.

The reform recently introduced in Portugal represents a turning point in the philosophy of the system. State intervention is becoming focused exclusively on

[43] For pensioners with the lowest incomes, adequacy requires that the benefits provided should at least enable them to participate in social life. On the participation approach, see Atkinson (1995).

one objective: poverty relief. The objective of safeguarding the previous living standards after retirement has been disregarded.

Recent reforms will translate into a decline in the replacement rates, following the introduction of the sustainability factor and the new way of calculating benefits which will relate to the earnings of the entire career. Using the highest earnings of the final working years as a basis of pension calculation, or taking into consideration the entire career, has different implications regarding the replacement rate. As, in general, working careers present rising earnings in later years, when benefits relate to the earnings of the entire career the replacement rate is lower. Benefits will have a closer link to average earnings but will be more distant from final earnings. As a consequence, pensioners' incomes will have a closer relation to their lifetime earnings and will be more distant from the level of income current in society at the time they retire. During the retirement period, the new indexation rules will operate in the same sense.

This policy direction will cause a problem of justice amongst contemporaries which, in my view, should be considered a fundamental ethical concern.

APPENDIX

Table 1

NUMBER OF RECORDS OF PENSIONERS RETIRED EACH YEAR WITH THE LEGAL AGE OF RETIREMENT BY YEAR OF RETIREMENT AND GENDER

		Number of records
1985	M	4042
	W	3608
1990	M	6449
	W	5074
1995	M	9781
	W	4596
2000	M	11187
	W	8618
Total		53355

Table 2

AVERAGE NUMBER OF YEARS WITH CONTRIBUTIONS

Year of retirement	M	W
1985	22,3	12,9
1990	26,4	17,6
1995	30,0	19,0
2000	33,8	22,0

Table 3

PERIOD OF INTEGRATION OF BENEFICIARIES INTO THE PUBLIC PENSION SYSTEM

Gender	First Contribution		First receipt of retirement benefits				
			1985	**1990**	**1995**	**2000**	**Total**
M	Before law 1884	n.º	0	3	2	9	14
		%	0	0,05	0,02	0,08	0,04
	Between law1884 and law 2115	n.º	2027	3369	6062	7304	18762
		%	50,2	52,2	62,0	65,3	59,6
	Between law 2115 and April 74	n.º	1076	1796	2286	2651	7809
		%	26,6	27,8	23,4	23,7	24,8
	Between April 74 and law 24/84	n.º	938	1275	1386	1152	4751
		%	**23,2**	**19,8**	**14,2**	**10,3**	**15,1**
	After law 24/84	n.º	1	6	45	71	123
		%	**0,02**	**0,1**	**0,5**	**0,6**	**0,4**
	Total	n.º	4042	6449	9781	11187	31459
		%	100	100	100	100	100
W	Before law 1884	n.º	0	1	2	2	5
		%	0	0,02	0,04	0,02	0,02
	Between law1884 and law 2115	n.º	527	944	577	1065	3113
		%	14,6	18,6	12,6	12,4	14,2
	Between law 2115 and April 74	n.º	978	1440	1163	2230	5811
		%	27,1	28,4	25,3	25,9	26,5
	Between Abril 74 and law 24/84	n.º	2101	2571	2501	4082	11255
		%	58,2	50,7	54,4	47,4	51,4
	After law 24/84	n.º	2	118	353	1239	1712
		%	0,1	2,3	7,7	14,4	7,8
	Total	n.º	3608	5074	4596	8618	21896
		%	100	100	100	100	100

Table 4

AVERAGE REFERENCE REMUNERATION, STATUTORY PENSION, FIRST PENSION AND PENSION IN DECEMBER 2001 (ESCUDOS 2001)

	Average Reference Remuneration (real)		Average Statutory Pension (real)		Average First Pension (real)		Average Pension December 2001	
	M	W	M	W	M	W	M	W
1985	57668	22314	36301	10808	39661	20585	56779	41979
1990	83116	35302	53419	18293	58868	35073	68301	46057
1995	104769	51086	66866	22910	70700	38641	79381	46432
2000	116319	52771	80120	26053	86989	47363	88126	49115

Table 4

(values in euros)

	Average Reference Remuneration (real)		Average Statutory Pension (real)		Average First Pension (real)		Average Pension December 2001	
	M	W	M	W	M	W	M	W
1985	287,6	111,3	181,1	53,9	197,8	102,7	283,2	209,4
1990	414,6	176,1	266,5	91,2	293,6	174,9	340,7	229,7
1995	522,6	254,8	333,5	114,3	352,7	192,7	396,0	231,6
2000	580,2	263,2	399,6	130,0	433,9	236,2	439,6	245,0

Table 5

FIRST PENSION COMPARED TO STATUTORY PENSION AND RATIO OF AVERAGE PENSION LEVELS RECEIVED BY MEN TO AVERAGE PENSIONS LEVELS RECEIVED BY WOMEN

	(FP-SP)/SP (1)		SPW/SPM (2)	FPW/FPM (3)	P01W/P01M (4)
	M	W			
1985	9%	90%	29,8%	54,9%	73,9%
1990	10%	92%	34,2%	59,6%	67,4%
1995	6%	69%	34,3%	54,7%	58,5%
2000	9%	82%	32,5%	54,4%	55,7%

FP- First Pension; SP- Statutory Pension; P01 – Pension in december 2001.

Table 6

PENSIONERS WITH FIRST PENSION (FP) ≤ MINIMUM PENSION VALUE (MPV)

		Pensioners with fp ≤ mpv	Pensioners N	% pensioners (fp ≤ mpv)
1985	M	1485	4042	36,7%
	W	2845	3608	78,9%
1990	M	2768	6449	42,9%
	W	4042	5074	79,7%
1995	M	3741	9781	38,2%
	W	3857	4596	83,9%
2000	M	5215	11187	46,6%
	W	7590	8618	88,1%

Table 7

GROSS REPLACEMENT RATES

	Men				Women			
	85	90	95	00	85	90	95	00
Average	0,52	0,52	0,60	0,64	0,68	0,85	0,79	0,87
Median	0,41	0,41	0,50	0,56	0,97	0,83	0,64	0,76
Quantiles								
10	0,50	0,50	0,64	0,65	7,17	6,51	6,02	5,99
20	0,36	0,36	0,58	0,64	7,16	6,40	3,28	2,30
30	0,35	0,35	0,58	0,64	4,08	4,00	1,16	1,45
40	0,43	0,43	0,49	0,57	1,68	1,52	0,70	1,04
50	0,41	0,41	0,50	0,56	0,97	0,83	0,64	0,76
60	0,46	0,46	0,56	0,61	0,43	0,61	0,64	0,77
70	0,53	0,53	0,61	0,64	0,35	0,58	0,65	0,80
80	0,55	0,55	0,62	0,63	0,40	0,52	0,61	0,67
90	0,60	0,60	0,63	0,66	0,46	0,56	0,56	0,59

Table 8

DISTRIBUTION OF OLD AGE PENSIONERS, IN 2005, ACCORDING TO PENSION LEVELS

Amount of pension (euros)	Old age pensioners	
	n.º	(%)
<374	1110912	81,00
from 374,7 to 562,05	112440	8,20
from 562,05 to 749,40	54454	3,97
from 749,40 to 1124,1	53094	3,87
from 1124,1 to 1873,5	29553	2,15
from 1873,5 to 2997,6	8521	0,62
from 2997,6 to 3747,0	2555	0,19
Total	1371529	100,00

Source: MTSS, Linhas Estratégicas da Reforma da Segurança Social, 2006

Table 9

RATIO OF MINIMUM PENSION LEVEL (MPL) TO AVERAGE REMUNERATION (AR) AND MPL REAL GROWTH

	mpl Dec $_{t-1}$/ ar (base) $_{t-1}$	mpl (real growth rate)
1985	0,223	-0,162
1986	0,229	0,123
1987	0,321	0,523
1988	0,317	0,031
1989	0,323	-0,003
1990	0,334	0,027
1991	0,339	0,056
1992	0,325	0,047
1993	0,308	0,017
1994	0,294	0,008
1995	0,287	0,012
1996	0,293	0,019
1997	0,287	0,016
1998	0,291	0,013
1999	0,287	0,018
2000	0,288	0,015
2001	0,293	0,015
2002	0,276	0,019
2003	0,276	0.007
2004	0,281	0.031
2005	0,283	0.020

Table 10

SOURCES OF TOTAL INCOME

Househouds	idw (%)	iiw (%)	ip (%)	p (%)	oi (%)	Total
With people aged 0-64	70	13	2	7	8	100
With people aged 65+	26	7	4	59	4	100
People 65+ living alone						
M	2	4	6	82	6	100
W	1	1	5	90	3	100
Couple (1 aged 65+)	18	6	5	68	3	100
Couple (2 aged 65+)	5	4	4	84	3	100
Head of household aged 65+	38	8	3	46	5	100
Other	50	11	3	31	5	100

idw – income from dependent work; iiw – income from independent work; ip – income from property; p – pensions; oi– other sources.

Table 11

EQUIVALISED DISPOSABLE INCOME

Househouds	Disposable Income per "adult equivalent" (unit of analysis: individual)
	Index
With people aged 0-64	107,8
With people aged 65+	83,5
People 65+ living alone	62,3
M	74,0
W	59,4
Couple (1 aged 65+)	88,0
Couple (2 aged 65+)	73,5
Head of household aged 65+	87,8
Other	100,3
Total	100,0

Figure A1

REAL EARNINGS LEVELS OF DEPENDANT WORKERS

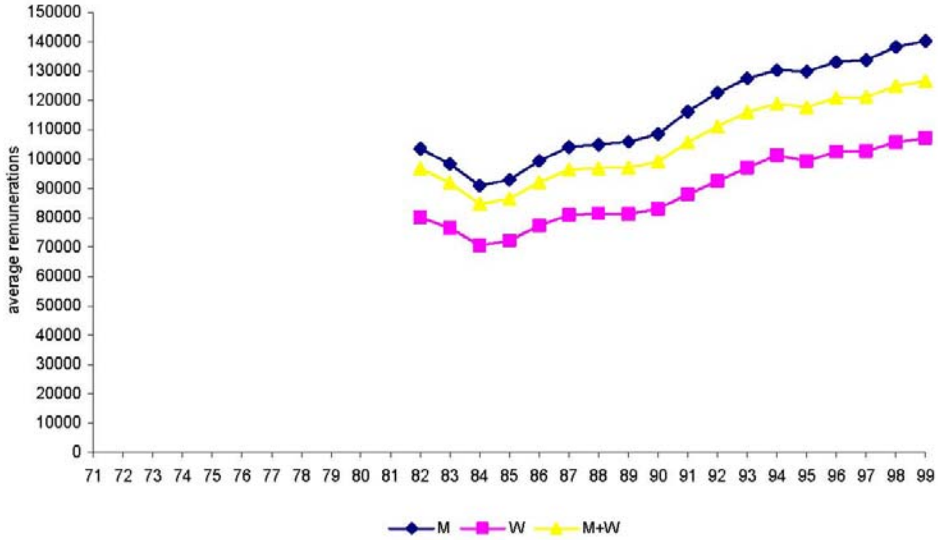


Figure A2

RELATIVE INCOME POSITION (Average remuneration - M+W)

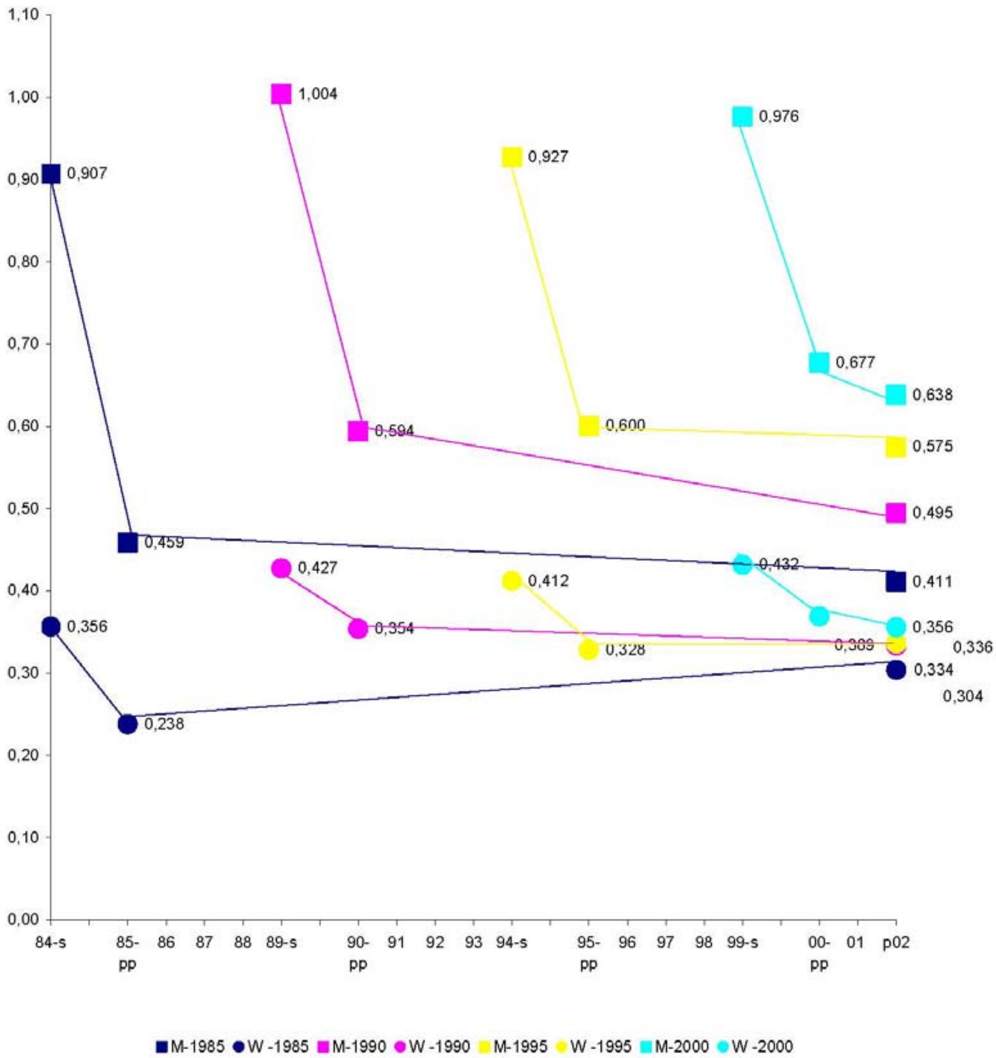


Figure A3

EFFECTS OF THE MEASURES ON PUBLIC SPENDING ON PENSIONS

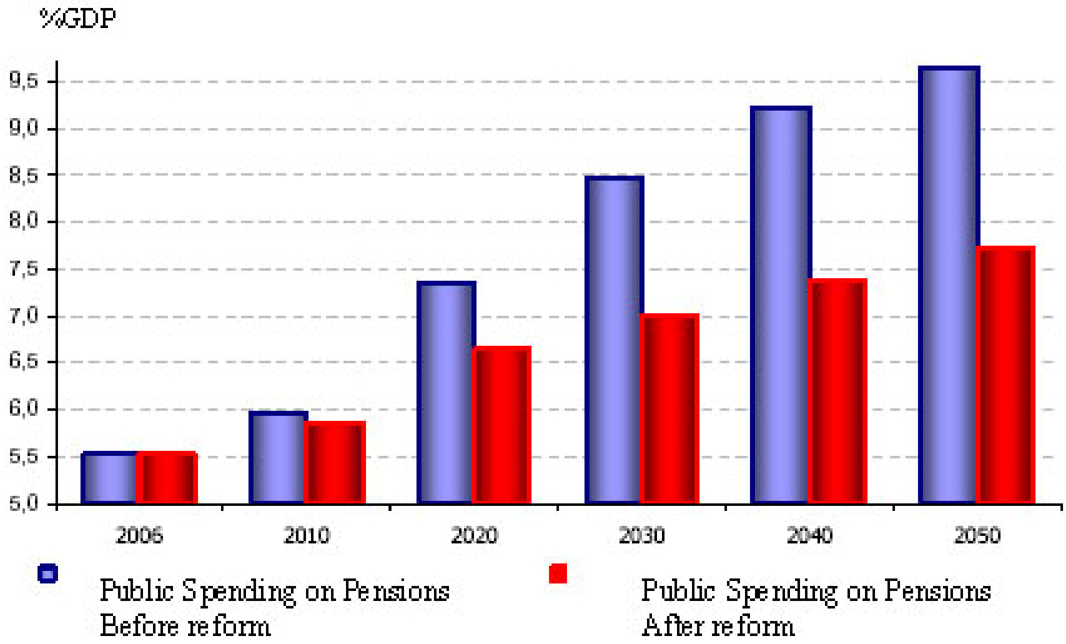
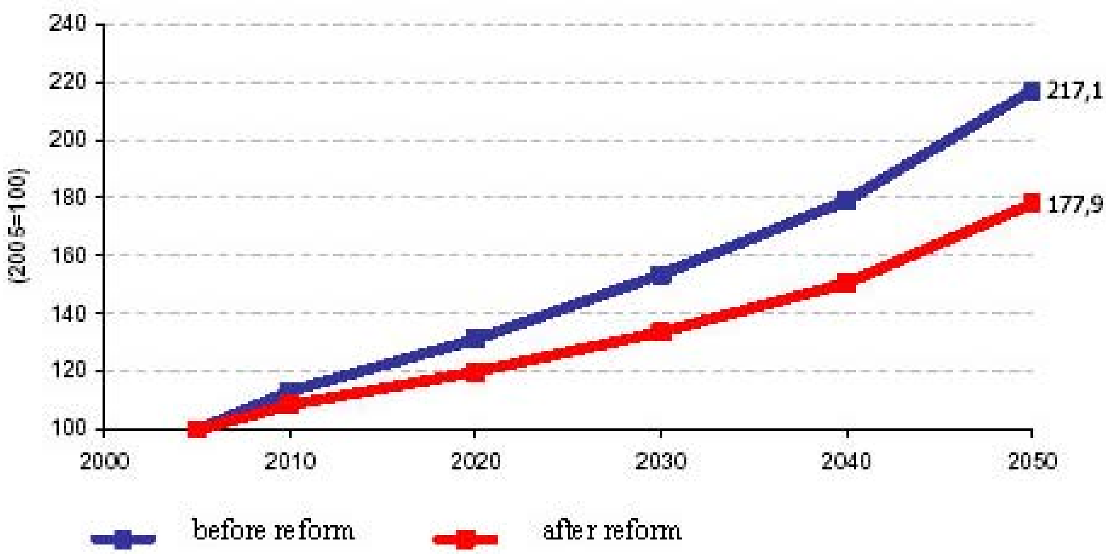


Figure A4

PENSIONS GROWTH IN REAL TERMS



in MFAP, *Relatório Orçamento de Estado 2007*, 2006 (source: MTSS)

REFERENCES

ATKINSON, Anthony B. (1995): *Incomes and the Welfare State: Essays on Britain and Europe*, Cambridge, Cambridge University Press.

– (1999): *The Economic Consequences of Rolling Back the Welfare State*, Cambridge Mass., The MIT Press.

BARR, Nicholas (2004): *Economics of the Welfare State*, 4th Ed., Oxford University Press, Oxford.

– (2006): *Pensions: Overview of the Issues*, Oxford Review of Economic Policy, n.º 22, 1, pp. 1-14.

BARR, Nicholas and DIAMOND, Peter (2006): *The Economics of Pensions*, Oxford Review of Economic Policy, n.º 22, 1, pp. 15-39.

EUROPEAN COMMISSION (2005): *National Strategy Report: adequate and sustainable pension systems*, Report submitted in July 2005 to the European Commission. [http://ec.europa.eu/employment_social/social_protection/docs/2005/pt_sintese_en.pdf]

– (2006): *Adequate and Sustainable Pensions: Synthesis Report,* Luxembourg, Office for Official Publications of the European Communities.

FLEURBAEY, Marc (2002): "Retraites, Générations et Catégories Sociales: de l'équité comme contrainte à l'équité comme objectif", *Revue d' Economie Financière*, n.º 68, pp. 91-111.

FLEURBAEY, Marc and MICHEL, Philippe (1992): "Quelle justice pour les retraites?", *Revue d'Économie Financière*, n.º 23, pp. 47-64.

GILLION, C., TURNER, J., BAILEY, C. e LATULIPPE, D. (eds.) (2000): *Social Security Pensions*, *Development and reform*, Geneva, International Labour Office.

MINISTÉRIO DAS FINANÇAS E DA ADMINISTRAÇÃO PÚBLICA (2006): *Orçamento de Estado para 2007*: *Relatório*, Outubro, Lisboa.

MINISTÉRIO DO TRABALHO E DA SOLIDARIEDADE SOCIAL (2006): *Linhas Estratégicas da Reforma da Segurança Social*, 3 de Maio, Lisboa.

MYLES, John (2002): "A New Social Contract for the Elderly?" in ESPING-ANDERSEN, Gosta with GALLIE, Duncan [et al.], *Why we need a new Welfare State*, Oxford, Oxford University Press, pp. 130-172.

REIN, Martin and TURNER, John (1999): "Le travail, la famille, l'État et le marché: des sources de revenus composites pour les ménages âgés", *Revue Internationale de Sécurité Sociale*, n.º 52, 3, pp. 109-125.

THOMPSON, Lawrence H. (1983): "The Social Security Reform Debate", *Journal of Economic Literature*, n.º 21, December, pp. 1425-1467.

– (1998): Older and Wiser: The Economics of Public Pensions, Washington, D.C., The Urban Institute Press.

SÍNTESIS

IMPLICACIONES DE POLÍTICA ECONÓMICA

This paper emphasizes the idea that coherent pension policies should take into account the function pensions are intended to perform. Thus, sound policies in this domain require a clear specification of their aims in terms of retirement income security. As a consequence, the income guarantee provided in old age should not been treated as the adjustment variable in a policy designed to manage State spending.

Based on this argument, firstly, this paper develops a critical assessment of recent pension reforms in Portugal. The reform is criticised both for its negative consequences in terms of welfare and from a methodological point of view because it does not define objectives regarding the level of benefits, which are treated as a residual subject.

Secondly, the paper proposes an alternative methodology for policy formulation that takes income security in retirement as the starting point. This approach requires the previous specification of pension policies aims in the domain of income security, which depends on a particular normative standpoint assumed.

From my point of view, pension policies should focus on two fundamental objectives: not only to prevent poverty in old age but also to allow people to maintain, as much as possible, the living standards achieved during the working period. Although several authors argue in favour of concentrating help on those in need, and thus on the poverty prevention function of pension systems, I think that taking into consideration only that objective represents a turning point in the philosophy of the system.

The function of poverty prevention and the definition of an adequate standard for minimum pension were not discussed in this paper. My primary concern was with the objective of safeguarding living standards after retirement. Regarding this issue, I argued in favour a relative approach. At any moment in time, pensioners' situation should be assessed in relative terms by comparing their standard of living with the standard of living prevailing in society. Due to the fall in income that occurs in the transition to retirement or the way benefits are indexed during the retirement period, pensioners might have a relatively low standard of living. In this case, society might face a problem of justice amongst contemporaries. Higher poverty rates among the elderly or high levels of inequality in the incomes of pensioners compared to the population as a whole are, from my perspective, ethically relevant. Justice amongst contemporaries should be considered a fundamental ethical concern.

This perspective requires the assessment of pensioners' incomes in relative terms, over time. Thus it is fundamental to define standards of adequacy regarding both the replacement for earnings lost, in the transition to retirement, and the adjustment of income during the retirement period.

In my perspective, in the transition to retirement, the general objective to attain should be to prevent pensioners from experiencing a significant fall in their standard of living. The replacement of individual earnings, at that time, should guarantee that on average the benefits pensioners are entitled to are not significantly lower than their average final earnings so that they would be allowed to maintain, as much as possible, their previous living standards. This would also guarantee that pensioners' average income does not fall significantly below the average income current in society, at the time they retire. After retirement, pensioners' income dynamics will basically depend on the mechanisms of indexation which are a fundamental tool to avoid increased poverty rates in old age and to guarantee that pensioners' average income does not fall significantly below average income current in society at any time. This requires that the adjustment of benefits takes into account not only inflation but also the general rise in earnings over time.

NORMAS DE PUBLICACIÓN DE PAPELES DE TRABAJO DEL **INSTITUTO DE ESTUDIOS FISCALES**

Esta colección de *Papeles de Trabajo* tiene como objetivo ofrecer un vehículo de expresión a todas aquellas personas interasadas en los temas de Economía Pública. Las normas para la presentación y selección de originales son las siguientes:

1. Todos los originales que se presenten estarán sometidos a evaluación y podrán ser directamente aceptados para su publicación, aceptados sujetos a revisión, o rechazados.

2. Los trabajos deberán enviarse por duplicado a la Subdirección de Estudios Tributarios. Instituto de Estudios Fiscales. Avda. Cardenal Herrera Oria, 378. 28035 Madrid.

3. La extensión máxima de texto escrito, incluidos apéndices y referencias bibliográfícas será de 7000 palabras.

4. Los originales deberán presentarse mecanografiados a doble espacio. En la primera página deberá aparecer el título del trabajo, el nombre del autor(es) y la institución a la que pertenece, así como su dirección postal y electrónica. Además, en la primera página aparecerá también un abstract de no más de 125 palabras, los códigos JEL y las palabras clave.

5. Los epígrafes irán numerados secuencialmente siguiendo la numeración arábiga. Las notas al texto irán numeradas correlativamente y aparecerán al pie de la correspondiente página. Las fórmulas matemáticas se numerarán secuencialmente ajustadas al margen derecho de las mismas. La bibliografía aparecerá al final del trabajo, bajo la inscripción "Referencias" por orden alfabético de autores y, en cada una, ajustándose al siguiente orden: autor(es), año de publicación (distinguiendo a, b, c si hay varias correspondientes al mismo autor(es) y año), título del artículo o libro, título de la revista en cursiva, número de la revista y páginas.

6. En caso de que aparezcan tablas y gráficos, éstos podrán incorporarse directamente al texto o, alternativamente, presentarse todos juntos y debidamente numerados al final del trabajo, antes de la bibliografía.

7. En cualquier caso, se deberá adjuntar un disquete con el trabajo en formato word. Siempre que el documento presente tablas y/o gráficos, éstos deberán aparecer en ficheros independientes. Asimismo, en caso de que los gráficos procedan de tablas creadas en excel, estas deberán incorporarse en el disquete debidamente identificadas.

Junto al original del Papel de Trabajo se entregará también un resumen de un máximo de dos folios que contenga las principales implicaciones de política económica que se deriven de la investigación realizada.

PUBLISHING GUIDELINES OF WORKING PAPERS AT THE **INSTITUTE FOR FISCAL STUDIES**

This serie of *Papeles de Trabajo* (working papers) aims to provide those having an interest in Public Economics with a vehicle to publicize their ideas. The rules governing submission and selection of papers are the following:

1. The manuscripts submitted will all be assessed and may be directly accepted for publication, accepted with subjections for revision or rejected.

2. The papers shall be sent in duplicate to Subdirección General de Estudios Tributarios (The Deputy Direction of Tax Studies), Instituto de Estudios Fiscales (Institute for Fiscal Studies), Avenida del Cardenal Herrera Oria, nº 378, Madrid 28035.

3. The maximum length of the text including appendices and bibliography will be no more than 7000 words.

4. The originals should be double spaced. The first page of the manuscript should contain the following information: (1) the title; (2) the name and the institutional affiliation of the author(s); (3) an abstract of no more than 125 words; (4) JEL codes and keywords; (5) the postal and e-mail address of the corresponding author.

5. Sections will be numbered in sequence with arabic numerals. Footnotes will be numbered correlatively and will appear at the foot of the corresponding page. Mathematical formulae will be numbered on the right margin of the page in sequence. Bibliographical references will appear at the end of the paper under the heading "References" in alphabetical order of authors. Each reference will have to include in this order the following terms of references: author(s), publishing date (with an a, b or c in case there are several references to the same author(s) and year), title of the article or book, name of the journal in italics, number of the issue and pages.

6. If tables and graphs are necessary, they may be included directly in the text or alternatively presented altogether and duly numbered at the end of the paper, before the bibliography.

7. In any case, a floppy disk will be enclosed in Word format. Whenever the document provides tables and/or graphs, they must be contained in separate files. Furthermore, if graphs are drawn from tables within the Excell package, these must be included in the floppy disk and duly identified.

Together with the original copy of the working paper a brief two-page summary highlighting the main policy implications derived from the research is also requested.

ÚLTIMOS PAPELES DE TRABAJO EDITADOS POR EL INSTITUTO DE ESTUDIOS FISCALES

2004

1/04 Una propuesta para la regulación de precios en el sector del agua: el caso español.
Autores: M.ª Ángeles García Valiñas y Manuel Antonio Muñiz Pérez.

2/04 Eficiencia en educación secundaria e *inputs* no controlables: sensibilidad de los resultados ante modelos alternativos.
Autores: José Manuel Cordero Ferrera, Francisco Pedraja Chaparro y Javier Salinas Jiménez.

3/04 Los efectos de la política fiscal sobre el ahorro privado: evidencia para la OCDE.
Autores: Montserrat Ferre Carracedo, Agustín García García y Julián Ramajo Hernández.

4/04 ¿Qué ha sucedido con la estabilidad del empleo en España? Un análisis desagregado con datos de la EPA: 1987-2003.
Autores: José María Arranz y Carlos García-Serrano.

5/04 La seguridad del empleo en España: evidencia con datos de la EPA (1987-2003).
Autores: José María Arranz y Carlos García-Serrano.

6/04 La ley de Wagner: un análisis sintético.
Autor: Manuel Jaén García.

7/04 La vivienda y la reforma fiscal de 1998: un ejercicio de simulación.
Autor: Miguel Ángel López García.

8/04 Modelo dual de IRPF y equidad: un nuevo enfoque teórico y su aplicación al caso español.
Autor: Fidel Picos Sánchez.

9/04 Public expenditure dynamics in Spain: a simplified model of its determinants.
Autores: Manuel Jaén García y Luis Palma Martos.

10/04 Simulación sobre los hogares españoles de la reforma del IRPF de 2003. Efectos sobre la oferta laboral, recaudación, distribución y bienestar.
Autores: Juan Manuel Castañer Carrasco, Desiderio Romero Jordán y José Félix Sanz Sanz.

11/04 Financiación de las Haciendas regionales españolas y experiencia comparada.
Autor: David Cantarero Prieto.

12/04 Multidimensional indices of housing deprivation with application to Spain.
Autores: Luis Ayala y Carolina Navarro.

13/04 Multiple ocurrence of welfare recipiency: determinants and policy implications.
Autores: Luis Ayala y Magdalena Rodríguez.

14/04 Imposición efectiva sobre las rentas laborales en la reforma del impuesto sobre la renta personal (IRPF) de 2003 en España.
Autoras: María Pazos Morán y Teresa Pérez Barrasa.

15/04 Factores determinantes de la distribución personal de la renta: un estudio empírico a partir del PHOGUE.
Autores: Marta Pascual y José María Sarabia.

16/04 Política familiar, imposición efectiva e incentivos al trabajo en la reforma de la imposición sobre la renta personal (IRPF) de 2003 en España.
Autoras: María Pazos Morán y Teresa Pérez Barrasa.

17/04 Efectos del déficit público: evidencia empírica mediante un modelo de panel dinámico para los países de la Unión Europea.
Autor: César Pérez López.

18/04 Inequality, poverty and mobility: Choosing income or consumption as welfare indicators.
Autores: Carlos Gradín, Olga Cantó y Coral del Río.

19/04 Tendencias internacionales en la financiación del gasto sanitario.
Autora: Rosa María Urbanos Garrido.

20/04 El ejercicio de la capacidad normativa de las CCAA en los tributos cedidos: una primera evaluación a través de los tipos impositivos efectivos en el IRPF.
Autores: José María Durán y Alejandro Esteller.

21/04 Explaining. budgetary indiscipline: evidence from spanish municipalities.
Autores: Ignacio Lago-Peñas y Santiago Lago-Peñas.

22/04 Local governmets' asymmetric reactions to grants: looking for the reasons.
Autor: Santiago Lago-Peñas.

23/04 Un pacto de estabilidad para el control del endeudamiento autonómico.
Autor: Roberto Fernández Llera

24/04 Una medida de la calidad del producto de la atención primaria aplicable a los análisis DEA de eficiencia.
Autora: Mariola Pinillos García.

25/04 Distribución de la renta, crecimiento y política fiscal.
Autor: Miguel Ángel Galindo Martín.

26/04 Políticas de inspección óptimas y cumplimiento fiscal.
Autores: Inés Macho Stadler y David Pérez Castrillo.

27/04 ¿Por qué ahorra la gente en planes de pensiones individuales?
Autores: Félix Domínguez Barrero y Julio López-Laborda.

28/04 La reforma del Impuesto sobre Actividades Económicas: una valoración con microdatos de la ciudad de Zaragoza.
Autores: Julio López-Laborda, M.ª Carmen Trueba Cortés y Anabel Zárate Marco.

29/04 Is an inequality-neutral flat tax reform really neutral?
Autores: Juan Prieto-Rodríguez, Juan Gabriel Rodríguez y Rafael Salas.

30/04 El equilibrio presupuestario: las restricciones sobre el déficit.
Autora: Belén Fernández Castro.

2005

1/05 Efectividad de la política de cooperación en innovación: evidencia empírica española.
Autores:Joost Heijs, Liliana Herrera, Mikel Buesa, Javier Sáiz Briones y Patricia Valadez.

2/05 A probabilistic nonparametric estimator.
Autores: Juan Gabriel Rodríguez y Rafael Salas.

3/05 Efectos redistributivos del sistema de pensiones de la seguridad social y factores determinantes de la elección de la edad de jubilación. Un análisis por comunidades autónomas.
Autores: Alfonso Utrilla de la Hoz y Yolanda Ubago Martínez.

4/05 La relación entre los niveles de precios y los niveles de renta y productividad en los países de la zona euro: implicaciones de la convergencia real sobre los diferenciales de inflación.
Autora: Ana R. Martínez Cañete.

5/05 La Reforma de la Regulación en el contexto autonómico.
Autor: Jaime Vallés Giménez.

6/05 Desigualdad y bienestar en la distribución intraterritorial de la renta, 1973-2000.
Autores: Luis Ayala Cañón, Antonio Jurado Málaga y Francisco Pedraja Chaparro.

7/05 Precios inmobiliarios, renta y tipos de interés en España.
Autor: Miguel Ángel López García.

8/05 Un análisis con microdatos de la normativa de control del endeudamiento local.
Autores: Jaime Vallés Giménez, Pedro Pascual Arzoz y Fermín Cabasés Hita.

9/05 Macroeconomics effects of an indirect taxation reform under imperfect competition.
Autor: Ramón J. Torregrosa.

10/05 Análisis de incidencia del gasto público en educación superior: nuevas aproximaciones.
Autora: María Gil Izquierdo.

11/05 Feminización de la pobreza: un análisis dinámico.
Autora: María Martínez Izquierdo.

12/05 Efectos del impuesto sobre las ventas minoristas de determinados hidrocarburos en la economía extremeña: un análisis mediante modelos de equilibrio general aplicado.
Autores: Francisco Javier de Miguel Vélez, Manuel Alejandro Cardenete Flores y Jesús Pérez Mayo.

13/05 La tarifa lineal de Pareto en el contexto de la reforma del IRPF.
Autores: Luis José Imedio Olmedo, Encarnación Macarena Parrado Gallardo y María Dolores Sarrión Gavilán.

14/05 Modelling tax decentralisation and regional growth.
Autores: Ramiro Gil-Serrate y Julio López-Laborda.

15/05 Interactions inequality-polarization: characterization results.
Autores: Juan Prieto-Rodríguez, Juan Gabriel Rodríguez y Rafael Salas.

16/05 Políticas de competencia impositiva y crecimiento: el caso irlandés.
Autores: Santiago Díaz de Sarralde, Carlos Garcimartín y Luis Rivas.

17/05 Optimal provision of public *input*s in a second-best scenario.
Autores: Diego Martínez López y A. Jesús Sánchez Fuentes.

18/05 Nuevas estimaciones del pleno empleo de las regiones españolas.
Autores: Javier Capó Parrilla y Francisco Gómez García.

19/05 US deficit sustainability revisited: a multiple structural change approach.
Autores: Óscar Bajo-Rubio. Carmen Díaz-Roldán y Vicente Esteve.

20/05 Aproximación a los pesos de calidad de vida de los “Años de Vida Ajustados por Calidad” mediante el estado de salud autopercibido.
Autores: Anna García-Altés, Jaime Pinilla y Salvador Peiró.

21/05 Redistribución y progresividad en el Impuesto sobre Sucesiones y Donaciones: una aplicación al caso de Aragón.
Autor: Miguel Ángel Barberán Lahuerta.

22/05 Estimación de los rendimientos y la depreciación del capital humano para las regiones del sur de España.
Autora: Inés P. Murillo.

23/05 El doble dividendo de la imposición ambiental. Una puesta al día.
Autor: Miguel Enrique Rodríguez Méndez.

24/05 Testing for long-run purchasing power parity in the post bretton woods era: evidence from old and new tests.
Autor: Julián Ramajo Hernández y Montserrat Ferré Cariacedo.

25/05 Análisis de los factores determinantes de las desigualdades internacionales en las emisiones de CO_2 *per cápita* aplicando el enfoque distributivo: una metodología de descomposición por factores de Kaya.
Autores: Juan Antonio Duro Moreno y Emilio Padilla Rosa.

26/05 Planificación fiscal con el impuesto dual sobre la renta.
Autores: Félix Domínguez Barrero y Julio López Laborda.

27/05 El coste recaudatorio de las reducciones por aportaciones a planes de pensiones y las deducciones por inversión en vivienda en el IRPF 2002.
Autores: Carmen Marcos García, Alfredo Moreno Sáez, Teresa Pérez Barrasa y César Pérez López.

28/05 La muestra de declarantes IEF-AEAT 2002 y la simulación de reformas fiscales: descripción y aplicación práctica.
Autores: Alfredo Moreno, Fidel Picos, Santiago Díaz de Sarralde, María Antiqueira y Lucía Torrejón.

2006

1/06 Capital gains taxation and progressivity.
Autor: Julio López Laborda.

2/06 Pigou's dividend *versus* Ramsey's dividend in the double dividend literature.
Autores: Eduardo L. Giménez y Miguel Rodríguez.

3/06 Assessing tax reforms. Critical comments and proposal: the level and distance effects.
Autores: Santiago Díaz de Sarralde Míguez y Jesús Ruiz-Huerta Carbonell.

4/06 Incidencia y tipos efectivos del impuesto sobre el patrimonio e impuesto sobre sucesiones y donaciones.
Autora: Laura de Pablos Escobar.

5/06 Descentralización fiscal y crecimiento económico en las regiones españolas.
Autores: Patricio Pérez González y David Cantarero Prieto.

6/06 Efectos de la corrupción sobre la productividad: un estudio empírico para los países de la OCDE.
Autores: Javier Salinas Jiménez y M.ª del Mar Salinas Jiménez.

7/06 Simulación de las implicaciones del equilibrio presupuestario sobre la política de inversión de las comunidades autónomas.
Autores: Jaime Vallés Giménez y Anabel Zárate Marco.

8/06 The composition of public spending and the nationalization of party sistems in western Europe.
Autores: Ignacio Lago-Peñas y Santiago Lago.Peñas.

9/06 Factores explicativos de la actividad reguladora de las Comunidades Autónomas (1989-2001).
Autores: Julio López Laborda y Jaime Vallés Giménez.

10/06 Disciplina credititicia de las Comunidades Autónomas.
Autor: Roberto Fernández Llera.

11/06 Are the tax mix and the fiscal pressure converging in the European Union?.
Autor: Francisco J. Delgado Rivero.

12/06 Redistribución, inequidad vertical y horizontal en el impuesto sobre la renta de las personas físicas (1982-1998).
Autora: Irene Perrote.

13/06 Análisis económico del rendimiento en la prueba de conocimientos y destrezas imprescindibles de la Comunidad de Madrid.
Autores: David Trillo del Pozo, Marta Pérez Garrido y José Marcos Crespo.

14/06 Análisis de los procesos privatizadores de empresas públicas en el ámbito internacional. Motivaciones: moda política *versus* necesidad económica.
Autores: Almudena Guarnido Rueda, Manuel Jaén García e Ignacio Amate Fortes.

15/06 Privatización y liberalización del sector telefónico español.
Autores: Almudena Guarnido Rueda, Manuel Jaén García e Ignacio Amate Fortes.

16/06 Un análisis taxonómico de las políticas para PYME en Europa: objetivos, instrumentos y empresas beneficiarias.
Autor: Antonio Fonfría Mesa.

17/06 Modelo de red de cooperación en los parques tecnológicos: un estudio comparado.
Autora: Beatriz González Vázquez.

18/06 Explorando la demanda de carburantes de los hogares españoles: un análisis de sensibilidad.
Autores: Santiago Álvarez García, Marta Jorge García-Inés y Desiderio Romero Jordán.

19/06 Cross-country income mobility comparisons under panel attrition: the relevance of weighting schemes.
Autores: Luis Ayala, Carolina Navarro y Mercedes Sastre.

20/06 Financiación Autonómica: algunos escenarios de reforma de los espacios fiscales.
Autores: Ana Herrero Alcalde, Santiago Díaz de Sarralde, Javier Loscos Fernández, María Antiqueira y José Manuel Tránchez.

21/06 Child nutrition and multiple equilibria in the human capital transition function.
Autores: Berta Rivera, Luis Currais y Paolo Rungo.

22/06 Actitudes de los españoles hacia la hacienda pública.
Autor: José Luis Sáez Lozano.

23/06 Progresividad y redistribución a través del IRPF español: un análisis de bienestar social para el periodo 1982-1998.
Autores: Jorge Onrubia Fernández, María del Carmen Rodado Ruiz, Santiago Díaz de Sarralde y César Pérez López.

24/06 Análisis descriptivo del gasto sanitario español: evolución, desglose, comparativa internacional y relación con la renta.
Autor: Manuel García Goñi.

25/06 El tratamiento de las fuentes de renta en el IRPF y su influencia en la desigualdad y la redistribución.
Autores: Luis Ayala Cañón, Jorge Onrubia Fernández y María del Carmen Rodado Ruiz.

26/06 La reforma del IRPF de 2007: una evaluación de sus efectos.
Autores: Santiago Díaz de Sarralde Míguez, Fidel Picos Sánchez, Alfredo Moreno Sáez, Lucía Torrejón Sanz y María Antiqueira Pérez.

27/06 Proyección del cuadro macroeconómico y de las cuentas de los sectores institucionales mediante un modelo de equilibrio.
Autores: Ana María Abad, Ángel Cuevas y Enrique M. Quilis.

28/06 Análisis de la propuesta del tesoro Británico “Fiscal Stabilisation and EMU” y de sus implicaciones para la política económica en la Unión Europea.
Autor: Juan E. Castañeda Fernández.

29/06 Choosing to be different (or not): personal income taxes at the subnational level in Canada and Spain.
Autores: Violeta Ruiz Almendral y François Vaillancourt.

30/06 A projection model of the contributory pension expenditure of the Spanish social security system: 2004-2050.
Autores: Joan Gil, Miguel Ángel Lopez-García, Jorge Onrubia, Concepció Patxot y Guadalupe Souto.

2007

1/07 Efectos macroeconómicos de las políticas fiscales en la UE.
Autores: Oriol Roca Sagalés y Alfredo M. Pereira.

2/07 Deficit sustainability and inflation in EMU: an analysis from the fiscal theory of the price level.
Autores: Óscar Bajo-Rubio, Carmen Díaz-Roldán y Vicente Esteve.

3/07 Contraste empírico del modelo monetario de tipos de cambio: cointegración y ajuste no lineal.
Autor: Julián Ramajo Hernández.

4/07 An empirical analysis of capital taxation: equity *vs*. tax compiance.
Autores: José M.ª Durán Cabré y Alejandro Esteller Moré.

5/07 Education and health in the OECD: a macroeconomic approach.
Autoras: Cecilia Albert y María A. Davia.

6/07 Understanding the effect of education on health across European countries.
Autoras: Cecilia Albert y María A. Davia.

7/07 Polarization, fractionalization and conflict.
Autores: Joan Esteban y Debraj Ray.

8/07 Immigration in a segmented labor market: the effects on welfare.
Autor: Javier Vázquez Grenno.

9/07 On the role of public debt in an OLG Model with endogenous labor supply.
Autor: Miguel Ángel López García.

10/07 Assessing profitability in rice cultivation using the Policy Matrix Analysis and profit-efficient data.
Autores: Andrés J. Picazo-Tadeo, Ernest Reig y Vicent Estruch.

11/07 Equidad y redistribución en el Impuesto sobre Sucesiones y Donaciones: análisis de los efectos de las reformas autonómicas.
Autores: Miguel Ángel Barberán Lahuerta y Marta Melguizo Garde.

12/07 Valoración y determinantes del *stock* de capital salud en la Comunidad Canaria y Cataluña.
Autores: Juan Oliva y Néboa Zozaya.

13/07 La nivelación en el marco de la financiación de las Comunidades Autónomas.
Autores: Ana Herrero Alcalde y Jorge Martínez-Vázquez.

14/07 El gasto en defensa en los países desarrollados: evolución y factores explicativos.
Autor: Antonio Fonfría Mesa.

15/07 Los costes del servicio de abastecimiento de agua. Un análisis necesario para la regulación de precios.
Autores: Ramón Barberán Ortí, Alicia Costa Toda y Alfonso Alegre Val.

16/07 Precios, impuestos y compras transfronterizas de carburantes.
Autores: Andrés Leal Marcos, Julio López Laborda y Fernando Rodrigo Sauco.

17/07 Análisis de la distribución de las emisiones de CO_2 a nivel internacional mediante la adaptación del concepto y las medidas de polarización.
Autores: Juan Antonio Duro Moreno y Emilio Padilla Rosa.

18/07 Foreign direct investment and regional growth: an analysis of the Spanish case.
Autores: Óscar Bajo Rubio, Carmen Díaz Mora y Carmen Díaz Roldán.

19/07 Convergence of fiscal pressure in the EU: a time series approach.
Autores: Francisco J. Delgado y María José Presno.

20/07 Impuestos y protección medioambiental: preferencias y factores.
Autores: María de los Ángeles García Valiñas y Benno Torgler.

21/07 Modelización paramétrica de la distribución personal de la renta en España. Una aproximación a partir de la distribución Beta generalizada de segunda especie.
Autores: Mercedes Prieto Alaiz y Carmelo García Pérez.

22/07 Desigualdad y delincuencia: una aplicación para España.
Autores:Rafael Muñoz de Bustillo, Fernando Martín Mayoral y Pablo de Pedraza.

23/07 Crecimiento económico, productividad y actividad normativa: el caso de las Comunidades Autónomas.
Autor: Jaime Vallés Giménez.

24/07 Descentralización fiscal y tributación ambiental. El caso del agua en España.
Autores: Anabel Zárate Marco, Jaime Vallés Giménez y Carmen Trueba Cortés.

25/07 Tributación ambiental en un contexto federal. Una aplicación empírica para los residuos industriales en España.
Autores: Anabel Zárate Marco, Jaime Vallés Giménez y Carmen Trueba Cortés.

26/07 Permisos de maternidad, paternidad y parentales en Europa: algunos elementos para el análisis de la situación actual.
Autoras: Carmen Castro García y María Pazos Morán.

27/07 ¿Quién soporta las cotizaciones sociales empresariales?. Una panorámica de la literatura empírica.
Autor: Ángel Melguizo Esteso.

28/07 Una propuesta de financiación municipal.
Autores: Manuel Esteban Cabrera y José Sánchez Maldonado.

29/07 Do R&D programs of different government levels overlap in the European Union.
Autoras: Isabel Busom y Andrea Fernández-Ribas.

30/07 Proyecciones de tablas de mortalidad dinámicas de España y sus Comunidades Autónomas.
Autores: Javier Alonso Meseguer y Simón Sosvilla Rivero.

2008

1/08 Estudio descriptivo del voto económico en España.
Autores: José Luis Sáez Lozano y Antonio M. Jaime Castillo.

2/08 The determinants of tax morale in comparative perspective: evidence from a multilevel analysis.
Autores: Ignacio Lago-Peñas y Santiago Lago-Peñas.

3/08 Fiscal decentralization and the quality of government: evidence from panel data.
Autores: Andreas P. Kyriacou y Oriol Roca-Sagalés.

4/08 The effects of multinationals on host economies: A CGE approach.
Autores: María C. Latorre, Oscar Bajo-Rubio y Antonio G. Gómez-Plana.

5/08 Measuring the effect of spell recurrence on poverty dynamics.
Autores: José María Arranz y Olga Cantó.

6/08 Aspectos distributivos de las diferencias salariales por razón de género en España: un análisis por subgrupos poblacionales.
Autores: Carlos Gradín y Coral del Río.

7/08 Evaluating the regulator: winners and losers in the regulation of Spanish electricity distribution (1988-2002).
Autores: Leticia Blázquez Gómez y Emili Grifell-Tatjé.

8/08 Interacción de la política monetaria y la política fiscal en la UEM: tipos de interés a corto plazo y déficit público.
Autores: Jesús Manuel García Iglesias y Agustín García García.

9/08 A selection model of R&D intensity and market structure in Spanish forms.
Autor: Joaquín Artés.

10/08 Outsourcing behaviour: the role of sunk costs and firm and industry characteristics.
Autoras: Carmen Díaz Mora y Angela Triguero Cano.

11/08 How can the decommodified security ratio assess social protection systems?.
Autor: Georges Menahem.

12/08 Pension policies and income security in retirement: a critical assessment of recent reforms in Portugal.
Autora: Maria Clara Murteira.