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Non take up of means-tested benefits for the elderly in Greece and Spain

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Abstract

Even though interest in the non take up of social benefits is on the increase in many European countries, the topic is under-researched in southern Europe. The proposed paper provides preliminary estimates of the extent of non take up with respect to two pairs of means-tested retirement benefits in Greece and Spain. The benefits analysed are (i) the minimum pension supplements *pensioner social solidarity benefit ΕΚΑΣ* and *complementos por mínimos*, and (ii) the social pensions *pension to uninsured elderly* and *pensión de jubilación no contributiva*. The paper finds that non take up of social benefits in the two countries is rather extensive, examines the methodological difficulties inherent in the analysis of non take up, and concludes with a discussion of policy implications.

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1. Introduction

Not all individuals claim the social benefits to which they are entitled. In particular, while universal (e.g. child benefits) and contributory benefits (e.g. social insurance pensions) tend to reach all those eligible, the take up of means-tested benefits is known to be significantly less than complete. For instance, a recent survey found that the take up of social assistance in several European countries typically spans a range of 40% to 80% (Hernanz et al., 2004; see also Currie, 2004).

Non take up of social benefits may be due to a variety of factors, including high claiming costs, administrative errors, fear of stigma, lack of information about entitlements etc. (Atkinson, 1996; Duclos, 1995). Moreover, the converse problem (i.e. the payment of benefit to illegitimate recipients) may also manifest itself. Social benefits may "leak" to households or individuals who would have been deemed ineligible had they disclosed to benefit-awarding agencies all relevant information about their material conditions and other characteristics.

The implications of target inefficiency (involving both non take up, as well as "over-payment" of benefits) are clear. Low take up by eligible recipients and over-payment of benefits to ineligible ones distort the intended impact of social benefits, while also limiting the accuracy of estimates concerning the effect of policy changes under the assumption of full compliance to benefit rules. Nevertheless, the problem remains overlooked as a policy issue and relatively neglected as a research topic.

This paper aims to estimate the extent of non take up with respect to means-tested benefits for the elderly in Greece and Spain in 2004. There is little research on non take up in the two countries, and even less on the benefits analysed here. Evidence from elsewhere confirms that non take up of retirement benefits can be significant. For example, in Britain, according to the latest official estimates (DWP, 2008), Pension Credit, an improved safety net for the elderly, had an estimated rate of non take up between 33% and 41% by caseload (i.e. in terms of numbers claiming), and between 24% and 31% by expenditure (i.e. in terms of the amount claimed). In the USA, estimated non-participation to Supplemental Security Income, a means-tested benefit for the elderly, was in the range of 40% to 55% (Warlick, 1982; McGarry, 1996).

The paper is structured as follows. Section 2 introduces the benefits examined. Section 3 presents the data and explains the methodology. Section 4 discusses the results. Section 5 concludes.

2. The benefits examined

Retirement benefits in Greece and Spain are typically contributory, earnings-related, provided through social insurance institutions. Non-contributory means-tested benefits play a secondary role, as complements to, or as substitutes of, social insurance pensions.

The first type of benefit is non-contributory pension supplements, in the absence of which contributory pensions would have fallen short of a certain minimum standard. These are called *επίδομα κοινωνικής αλληλεγγύης συνταξιούχων* (pensioner social solidarity benefit) or, for short, *ΕΚΑΣ* in Greece, and *complementos por mínimos* (supplements up to the minimum) in Spain.

The second type of benefit is social pension to elderly persons lacking an adequate contributory record as well as adequate income. These are called *σύνταξη ανασφαλίστων*

υπερηλίκων (pension to uninsured elderly) in Greece and *pensión de jubilación no contributiva* (non-contributory old age pension) in Spain.

TABLE 1: **Means-tested benefits for the elderly in Greece and Spain** (2004)

	expenditure			recipients		
	€ million	% of: *pension spending*	% of: *GDP*	no. of persons	% of: *pensions*	% of: *population*
Greece						
ΕΚΑΣ	685	3.2	0.37	390,079	14.9	3.6
pension to uninsured elderly	181	0.9	0.10	56,907	2.2	0.5
all retirement benefits	21,209	100.0	11.45	2,622,668	100.0	24.0
Spain						
complementos por mínimos	3,224	5.8	0.38	1,886,680	26.9	4.4
pensión no contributiva	1,019	1.8	0.12	281,447	4.0	0.7
all retirement benefits	55,701	100.0	6.62	7,020,834	100.0	16.4

Note: The figures for Spain refer to pensioners aged 65+ only.

Sources: Matsaganis (2009); Flevotomou and Matsaganis (2009); Levy (2008).

Table 1 places the benefits examined in the broader context of retirement benefits in the two countries in 2004, the year of reference for this paper. Although total expenditure on pensions as a proportion of GDP is higher in Greece than it is in Spain, spending on the benefits concerned is very similar: 0.10 to 0.12% of GDP in the case of the social pensions, and 0.37% to 0.38% of GDP in the case of the minimum pension supplements. The two Spanish benefits were received by a greater number of persons: 4.4% and 0.7% as a proportion of population, compared to 3.6% and 0.5% in Greece (for minimum pension supplements and social pensions respectively).

2.1. Minimum pension supplements

Complementos por mínimos in Spain are income-tested supplements paid to recipients of social security or civil service contributory pensions below an official minimum level. In 2004 the monthly minimum pension for beneficiaries aged over 65 was €411.76, rising to €484.89 for pensioners with a dependent spouse. Monthly amounts are paid 14 times a year. Eligible income, defined as annual personal taxable income in excess of the insurance pension (i.e. before the supplement), should not exceed €5,915 in 2004 or €5,754 in the year of assessment (in this case 2003). In the case of pensioners with dependent spouse, the threshold for the combined annual taxable income of the couple in excess of the insurance pension rose to €6,900 in 2004. The supplement is reduced *pari passu* for pensioners with eligible income above the threshold (i.e. by €1 for each €1 above the threshold). Eligibility for the supplement is assessed automatically by the benefit agency on the basis of information provided in the application form for an insurance pension, cross-checked by the Inland Revenue. Pensioners who failed to provide full information at the time of application, or experienced a change in circumstances since then, need to claim the supplement on their own initiative.

The *pensioner social solidarity benefit ΕΚΑΣ* in Greece is an income-tested supplement to low pensions[1], restricted to those receiving a contributory social insurance pension (i.e. recipients of a farmer basic pension or a social pension are excluded). Beneficiaries must be over 60 if in receipt of an old age pension or a survivor pension. The age condition does not apply to recipients of invalidity or orphans' pensions. Claimants must pass three income tests: in 2004 (a) net personal income from retirement benefits and employment earnings had to be below €6,562 per year, (b) personal taxable income from all sources below €7,656 per year, and (c) family taxable income had to be below €11,913 per year. Income assessment is based on the latest year for which a tax return is available (i.e. income earned up to two years before the application). *ΕΚΑΣ* improved dramatically since its introduction (from €33.46 a month for full-rate claimants in 1996 to €230.00 in 2008). In 2004, our year of reference, the full rate of €141.20 per month was paid to pensioners with annual net personal income from retirement benefits and employment earnings of less than €5,976. Reduced rates at €105.90, €70.60 and €35.30 a month were paid to those with higher levels of net personal income from retirement benefits and employment earnings up to the threshold of €6,562 per year, above which *ΕΚΑΣ* was no longer payable. Monthly amounts are paid 14 times a year. Claimants need to apply on their own initiative, providing proof of low income (in practice the most recent tax return). On their part, social insurance institutions notify minimum pension recipients that they may be eligible for *ΕΚΑΣ* and consequently invite them to apply. Administration of *ΕΚΑΣ* is devolved to the social insurance institutions paying out contributory pensions.

2.2. Social pensions

The *pension to uninsured elderly* in Greece is a non-contributory income-tested benefit, introduced in 1982, reserved for persons aged over 65 not in receipt of a social insurance pension (except if it is lower than the non-contributory basic pension for farmers) and lacking independent means of support. Beneficiaries must be resident in Greece at the time of application and be Greek or EU nationals, or UN refugees. The benefit rate is set at the level of the non-contributory basic pension for farmers, and has improved considerably over recent years (from €73.37 a month for full-rate claimants in 1996 to €330.00 in 2008). In 2004 it was €200.80 a month, paid 14 times a year. Supplements for a dependent spouse and dependent children apply (€2.93 and €5.85 a month respectively in 2004). The income condition specifies that annual taxable income must not exceed the value of the benefit itself. Income assessment is based on the latest year for which a tax return is available. Claimants must apply on their own initiative, attaching the most recent tax return. The benefit is administered by *ΟΓΑ*, the social insurance institution for farmers. Applications reporting incomes over the threshold (€2,811 per annum for single claimants or €5,622 per annum for couples in 2004) are rejected. In other words, there is no reduced rate: either the full amount is paid or no benefit at all. On the other hand, both spouses are eligible to receive the full amount, provided they fulfil the income and other conditions.

The *pensión de jubilación no contributiva* in Spain is targeted to persons aged over 65 living on low income and not entitled to an insurance pension. At the time of application, beneficiaries must have lived in Spain (or in another EU country, in the case of EU nationals) for at least 10 years. The maximum level of the benefit in 2004 was €276.30 per

[1] Note that *ΕΚΑΣ* is not exactly equivalent to *complementos por mínimos* as it is paid in addition to the minimum pension, which already includes a non-contributory component (see Appendix I).

month, paid 14 times a year. The income threshold varies by household type: in the case of persons living alone, taxable income must not exceed the maximum benefit amount; in the case of claimants living living with relatives (up to second degree), the threshold increases by 70% for each relative; if at least one of the household members is a closer relative, the threshold is multiplied by 2.5. For example, in 2004 the annual income threshold for a single person was €3,868, but rose to €23,209 for those living with their spouse and a dependent child. The maximum benefit is payable to claimants with a personal taxable income of no more than 25% of the maximum benefit (€967 in 2004), and is reduced *pari passu* for incomes in excess of that level (i.e. by €1 for each €1 above €967 in 2004). It is also similarly reduced for claimants living in households with a combined income above the relevant threshold. Recipients entitled to receive less than 25% of the maximum benefit (€967 in 2004) have their benefit raised to that amount. Both spouses may be eligible to receive the benefit, if they fulfil the income and other conditions, but the amount for each additional recipient is limited to 70% (€193.41 monthly in 2004); total benefit is then divided equally among beneficiaries (i.e. in 2004 each eligible spouse received €234.86 per month). The benefit is administered by the *Comunidades Autónomas* (regional governments) and the Institute for Migration and Social Services *IMSERSO*. Claimants need to present an application form, attaching proof of low income.

3. **Data and methodology**

Our estimation of non take up is based on a comparison of eligibility vs. receipt of benefit. The rate of non take up is defined as entitled non-receipt (ENR) divided by the sum of entitled receipt (ER) plus entitled non-receipt (ENR). This is shown in Table 2.

TABLE 2: **The non take up matrix**

	receipt of benefit	non-receipt of benefit
eligibility for benefit	*entitled recipients (ER)*	*entitled non-recipients (ENR)*
non-eligibility for benefit	*non-entitled recipients (NER)*	*non-entitled non-recipients (NENR)*

Note: The rate of non take up is ENR/(ER+ENR). The rate of "over-payment" of benefit is NER/(ER+NER).

Two measures of non take up are estimated: by caseload (defined as the number of entitled non-recipients divided by the total number of those eligible, whether receiving or not) and by expenditure (defined as the amount of benefit not claimed by entitled non-recipients) divided by the total amount of benefit available to eligible (potential) recipients, whether actually receiving or not.

3.1. The datasets

Administrative databases may record benefit receipt accurately, but contain no information on non-recipients, including those theoretically entitled to benefit. In contrast, benefit receipt may or may not be recorded in those datasets (such as income surveys) that are appropriate for the analysis of non take up. Of the benefits examined here only *ΕΚΑΣ* was observed directly (in two datasets). The other three could not be identified as such in any appropriate dataset.

Receipt of *ΕΚΑΣ* is separately recorded in the 2004/05 Household Budget Survey (HBS), carried out by the National Statistical Service of Greece over a period of 12 months, from February 2004 to January 2005. The survey contains information on the incomes, expenditure patterns and demographic characteristics of 17,386 individuals in 6,555 households. Nevertheless, since receipt of *ΕΚΑΣ* in the 2004/05 HBS is seriously under-reported, as explained in section 3.4 below, we also analyse a sample of unaudited income tax returns submitted in 2005. The sample contains information on incomes earned in 2004 and several other characteristics of 41,283 tax payers in 27,414 tax units (sampling fraction of 0.53%).

On the contrary, receipt of the *pension to uninsured elderly* in Greece is not observed in any household survey or other appropriate dataset. For instance, although the 2004/05 HBS collects data on retirement benefits under 14 separate items (codes no. 9013 to 9026), no information is collected on the social pension as such. As a result of that, benefit receipt had to be estimated indirectly.

The same holds for the two Spanish benefits considered here. In this case we relied on the 2005 wave of the European Union Statistics on Income and Living Conditions (EU-SILC). Our sample contained information on the social, demographic and economic characteristics (including incomes earned in 2004) of 37,276 individuals in 12,937 households. In EU-SILC all pensions (including old-age, survivor's and disability benefits) of those aged 65 or more are reported in a single variable, as a result of which receipt of the benefits under consideration had to be identified indirectly.

Eligibility conditions can be simulated in the dataset, provided the latter contains all necessary information and there are no interactions with other benefits or taxes. When this is not the case, simulated eligibility for benefit can be estimated using a tax-benefit model. In this paper we relied partly on direct simulation in the dataset, and partly on the European tax-benefit model EUROMOD[2].

3.2 Survey vs. population

The reliability of estimates of non take up depends critically on the accuracy of survey data in representing the population of interest and their incomes. The main issues involved here are population coverage, time frame, accounting unit and statistical reliability.

More specifically, while household surveys are representative of the population living in private households in the country, some of the benefits reported in administrative datasets may be received by individuals living in hospitals, in institutions, or abroad.

On the other hand, there may be a mismatch between the date of interview and the income reference period. In the case of the Greek HBS, respondents were interviewed anytime between February 2004 and January 2005, and were asked to report on incomes earned over the last 12 months. In the case of the EU-SILC, interviews took place in the second quarter of 2005, while reported incomes were earned in 2004. In other words, part of the population of the income reference period may not be represented at the time of the interview.

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[2] For information on EUROMOD, see Sutherland (2007) – or visit the website of Microsimulation Unit, University of Essex (http://www.iser.essex.ac.uk/msu/emod/).

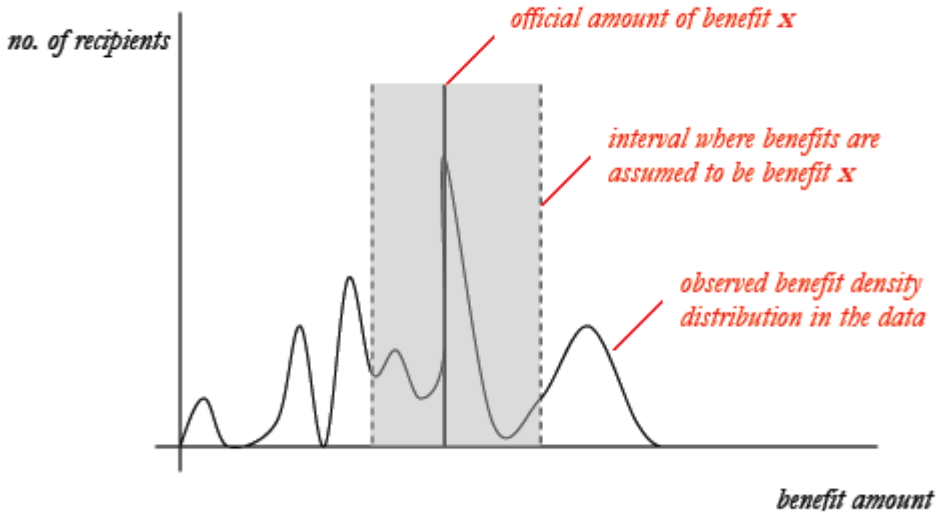
Furthermore, administrative data usually list the number of benefits provided, while household surveys report the number of recipients by category of benefit. Discrepancies will arise if some individuals receive more than one benefit in the same category. In fact, the Spanish National Statistical Institute estimated that 903,810 pensioners received in 2006 two or more contributory pensions. In view of this, in the rest of the paper the number of Spanish pensioners has been adjusted (by a factor of 0.9225) to account for the fact that some of them actually receive more than one contributory pension.

Finally, although the household survey sample may be representative of the overall population, it is not necessarily representative of population sub-groups (such as recipients of particular social benefits). More specifically, Levy (2008) found that the EU-SILC tends to underestimate the number of male pensioners by 1% and that of female ones by 20%. The mismatch was largest in the case of female pensioners aged 80 or more.

3.3 Benefit identification

As explained in section 3.1, while receipt of *ΕΚΑΣ* is reported both in the HBS and in our sample of tax returns, in contrast *pension to uninsured elderly* in Greece is not recorded separately in the HBS, nor is either of the two Spanish benefits in the EU-SILC. In view of that, the benefits of interest had to be identified indirectly.

FIGURE 1: **Identifying the benefits of interest**



In theory, the benefits of interest can be identified by simply selecting the individuals who (a) fulfil the eligibility conditions and (b) receive old-age benefits equal to the official value of each benefit. In practice, the value of benefits received by the relevant population sub-group is not a discrete variable (in which case identification of the various benefits would be rather straightforward), but almost a continuous one. Figure 1 provides a stylised picture of this phenomenon.

Because of this, the benefits of interest can be identified not by their exact amounts or fulfilment of the eligibility conditions, but within intervals around these values.

In the case of the *pension to uninsured elderly* in Greece, we selected the interval so as to match the condition that beneficiaries must not be recipients of a social insurance pension, except if the latter is lower than the benefit itself. Accordingly, we assumed recipients were those with pension income (including the benefit itself) in the range of 85% to 185% of the level of the benefit, provided their spouse's pension income did not exceed 105% of the value of the benefit. This led to a small overestimation of recipient numbers (+1.7%).

In the case of the Spanish benefits, we have applied an iterative procedure for the identification of recipients of each benefit, setting the interval around the official amount of the benefit so that the proportion of identified recipients in the dataset was as close as possible to that in administrative statistics. In fact, this procedure slightly underestimated the proportion of pensioners receiving *pensión de jubilación no contributiva* (4.2% in the dataset, compared to an adjusted official figure of 4.3%), and the share of recipients of *complementos por mínimos* by a bit more (27.6% vs. 28.5%).

3.4 Measurement errors

The accuracy of any attempt to estimate benefit non take up crucially depends on the correct identification of entitled non-recipients, in other words of persons or households who appear to meet eligibility conditions but not to receive the benefit in question.

At least three issues arise here: measurement error, reporting error and recall error.

As regards income measurement error, the reliability of income surveys at either end of the income scale is known to be limited. This is of particular relevance to non take up, as some of those appearing to be entitled non-recipients may in fact have their incomes measured with error. When this is the case, estimates of non take up (by caseload and, even more, by expenditure) will be biased. An attempt to correct for this type of error through sensitivity analysis is discussed later on in the paper.

Furthermore, survey participants may report receipt of a certain social benefit under a different item, even when a specific item is present in the survey questionnaire for that benefit. Respondents are likely to misclassify benefits when these are received jointly with other benefits. This is an issue with *ΕΚΑΣ*, which is paid together with the social insurance pension it supplements. Probably this is one of the reasons why the weighted number of individuals reporting receipt of ΕΚΑΣ in the 2004/05 HBS was equivalent to just 170,044 recipients in the population. While official data on actual number of recipients are not available, an earlier estimate of benefit receipt (based on a compilation of recipient numbers released by most but not all social insurance institutions) was 378,698 (Flevotomou and Matsaganis, 2009). If this estimate is accurate, 2004/05 HBS data underestimate the true number of ΕΚΑΣ recipients by at least 55%.

Measurement and reporting errors are made worse by recall error. As explained in section 3.2 above, in both the HBS and the EU-SILC respondents are asked to report on incomes earned up to 18 months before the day of the interview. When survey participants happen to be elderly, as is the case here, the accuracy of the information given is bound to be affected by recall error.

In theory, the errors discussed above affect the accuracy of tax records as well, while the truncated nature of such records constitutes an additional source of bias. Nevertheless,

our estimation of non take up of *ΕΚΑΣ* using tax data is not affected by these errors. On the one hand, even though individuals earning less than a certain level of income in Greece are allowed not to submit a tax return, this exemption does not apply to social insurance pensioners (including recipients of *ΕΚΑΣ*). On the other hand, social insurance institutions send pensioners individualised statements of benefits received in the relevant fiscal year, in which *ΕΚΑΣ* features as a separate item; pensioners' tax returns have to be consistent with these statements. These provisions greatly limit the scope for measurement, reporting and recall errors.

Indeed, the number of individuals reporting receipt of *ΕΚΑΣ* in the full set of 2005 income tax returns was 390,079 (Matsaganis, 2009). We consider this figure more accurate than our earlier estimate of 378,698 recipients, based on data released by most but not all social insurance institutions paying *ΕΚΑΣ* (Flevotomou and Matsaganis, 2009).

3.5 Simulation errors

While the measurement errors discussed in section 3.4 may affect the correct identification of benefit recipients, a further set of errors may in turn affect the simulation of eligibility conditions which is necessary for the correct identification of entitled non-recipients.

The most common of these errors are missing information, past incomes and tax evasion.

To begin with, information on some of these conditions may simply not be available in the dataset used. For example, as explained in section 2.2, the rules for awarding *pensión de jubilación no contributiva* include the requirement that claimants have been resident in Spain or elsewhere in the EU for the last 10 years, while non-EU nationals may be eligible for a Greek *pension to uninsured elderly* if officially recognised as refugees. However, no information on past residence nor on refugee status is available either in the HBS or the EU-SILC. In the case of tax data, no information on taxpayer age is available except in the form of a binary variable (over or under 65), whose usefulness for the correct simulation of eligibility for *ΕΚΑΣ* is limited.

On the other hand, as mentioned in sections 2.1 and 2.2, in practice the income test for both Greek benefits is based on the latest available tax return, which contains information on incomes earned exactly two years before the year in which benefit receipt is observed[3]. Again, while panel datasets may contain information on past incomes and therefore permit the correct simulation of the income conditions, such information is not available in the 2004/05 HBS, nor in our sample of 2005 income tax returns – and nor, for that matter, in the 2005 EU-SILC, to the extent that the problem of past incomes affects the identification of entitled non-recipients in Spain as well.

Finally, while involuntary reporting errors were discussed in section 3.4, such errors may be perfectly voluntary when the purpose of income under-reporting is tax evasion. If some individuals report lower incomes in their tax returns than in a survey (such as HBS or EU-SILC), then survey-based estimates of targeting errors will be biased[4]. On the other

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[3] As an illustration, applications for *ΕΚΑΣ* in year *y* are submitted in the first quarter of that year, are assessed in the light of tax returns submitted in the year *y-1*, which reported on incomes earned in the year *y-2*.

[4] Arguably, this point applies more to type II errors of "overpayment" of benefit to non-entitled recipients.

hand, since income assessment is based on information available in tax returns, this bias will not affect our estimate of non take up of *ΕΚΑΣ* using tax data.

4. **Results and discussion**

In response to the various methodological problems discussed in the previous section, we estimated non take up of means-tested benefits for the elderly in Greece and Spain under a number of different assumptions.

As explained in section 3.1, non take up of *ΕΚΑΣ* was estimated using two different datasets, the 2004/05 HBS and our sample of 2005 income tax returns. On HBS data, as reported in Flevotomou and Matsaganis (2009), non take up was estimated at 68.7% in the sample (projected to 70.2% in the population). In an attempt to correct for the fact that the incomes assessed for eligibility in 2004 were practically those earned in 2002, we inflated the income conditions by the observed average rate of growth in 2002-2004 (i.e. by 13.2% for wages and salaries, 15.2% for incomes from self employment, 9.2% for pensions and by 17.1% for taxable incomes as a whole). That adjustment raised our estimate of non take up to 74.0% and 74.7% (in the sample and the population respectively). However, as explained in section 3.4, *ΕΚΑΣ* was vastly under-reported in HBS data. In view of that, we repeated the exercise using our sample of income tax returns. On tax data, our initial estimate was 63.8% by caseload and 64.0% by expenditure, raised to 66.2% and 66.5% respectively when the income conditions were inflated as described above. That estimate was based on the sample of all pensioners, defined as those with non-zero pension incomes (n=10,787 of which 1,927 reported receipt of *ΕΚΑΣ*). Given our inability to simulate the eligibility test fully, since our sample of tax returns contained limited information on age, we re-estimated non take up for the group of taxpayers aged 65+ (n=3,799 of which 749 reported receipt of *ΕΚΑΣ*). The resulting estimates of non take up were 60.4% by caseload and 60.3% by expenditure, becoming 63.4% and 63.2% respectively when the income conditions were inflated (Matsaganis, 2009). We consider the latter our "best" estimate, corresponding to 116,923 entitled non-recipients in the population.

In the case of *pension to uninsured elderly* in Greece, entitled non-recipients were defined as those in the HBS reporting pension income below 85% of the level of that pension and meeting all eligibility conditions. These two criteria were satisfied by 50 observations in the sample, corresponding to 32,515 persons in the population[5]. The estimated rate of non take up was 37.9% in the sample (projected to 38.3% in the population). We attempted to correct for income measurement error, discussed in section 3.4, through sensitivity analysis. Specifically, we relaxed the implicit assumption that the observed incomes underlying the simulation of benefit eligibility were "true", and examined the effect of systematic income measurement error upon our estimates of non take up. We therefore assumed that incomes varied around their observed values by ±15%. As a result of that, we obtained a range of

[5] Our analysis of tax data (Matsaganis, 2009) yielded an estimated 7,967 taxpayers who reported zero income from pensions despite meeting eligibility conditions for *pension to uninsured elderly*, and another 9,561 whose reported pension income was less than the level of that pension (€2,699 p.a.). It has to be noted, though, that those with income below €3,000 p.a. in 2004 were legally exempt from the obligation of filing a tax return in Greece (with a few exceptions that are not relevant to our purpose). Also, an earlier analysis of European Community Household Panel data for 2001 by Gavriliadi and Matsaganis (2005) had found 34,301 eligible individuals below the relevant threshold.

estimates of non take up of *pension to uninsured elderly*, from 28.9% to 48.2% (Flevotomou and Matsaganis, 2009). Since the benefit is paid at a flat rate, estimates of non take up by caseload were identical to those by expenditure[6].

As discussed earlier, our estimates of take up of *complementos por mínimos* and *pension de jubilación no contributiva* in Spain relied on data from the 2005 EU-SILC. With respect to the former, persons aged 65+ who received an insurance pension below the minimum, even though they were eligible for the supplement, were identified as eligible non-recipients. The estimated rate of non take up by caseload varied from 19.9% to 24.1%, corresponding to approximately 400,000 to 500,000 eligible non-recipients. It was higher for single females and married males with a dependent spouse, and lower for married persons without a dependent spouse (Levy, 2008). The corresponding rate by expenditure was much lower (in the 7.3% to 9.1% range), supporting the hypothesis that take up increases with the amount of the entitlement (Pudney et al., 2006).

With respect to *pension de jubilación no contributiva*, estimates of non take up were in the range of 40.2% to 65.5%, roughly corresponding to between 360,000 and 460,000 persons. Non take up by expenditure was from 37.3% to 65.7%. Lower estimates resulted from the assumption of a tighter income threshold for eligibility, disregarding the rather peculiar rule (described in section 2.2) that the threshold must be multiplied by 2.5 if at least one of the persons living with the applicant is a first-degree relative. Our "best" estimates (44.6% by caseload and 41.4% by expenditure) are in fact mid-range estimates under that scenario. The estimates of non take up of *pension de jubilación no contributiva* were driven by the much higher rates among females, in particular married ones, given that in 2004 female recipients outnumbered male ones by more than 5 to 1 (Levy, 2008).

TABLE 3: **Best estimates of non take up** (2004)

	by caseload (%)			by expenditure (%)		
	min	max	"best"	min	max	"best"
Greece						
ΕΚΑΣ	60.4	66.2	63.4	60.3	66.5	63.2
pension to uninsured elderly	28.9	48.2	38.3	28.9	48.2	38.3
Spain						
complementos por mínimos	19.9	24.1	22.0	7.3	9.1	8.2
pensión no contributiva	40.2	65.5	44.4	37.3	65.7	41.4

Note: "Best" estimates correspond to the following scenarios. *ΕΚΑΣ*: sample of 2005 tax returns; income condition inflated; individuals aged 65+ only. *Pension to uninsured elderly*: HBS data; income condition inflated. *Complementos por mínimos*: 2005 EU-SILC data; mid-range of all estimates. *Pensión de jubilación no contributiva*: 2005 EU-SILC data; mid-range of estimates under alternative assumption of tighter income test.

Sources: Matsaganis (2009); Flevotomou and Matsaganis (2009); Levy (2008).

Our estimates of non take up of means-tested benefits for the elderly in Greece and Spain are summarised in Table 3.

[6] Even though the focus of this paper is on non take up, rates of "overpayment" of benefit to non-entitled recipients in Greece have also been estimated at 54.7% and 9.7%, for *ΕΚΑΣ* and *pension to uninsured elderly* respectively (Matsaganis, 2009; Flevotomou and Matsaganis 2009).

According to our results, the lowest rates of non take up, in the region of 22%, were associated with *complementos por mínimos* in Spain. As mentioned in the introduction, these rates are lower than those corresponding to means-tested benefits for the elderly in Britain and the USA. However, they are higher than expected – for two reasons. On the one hand, administrative errors must be low, since non-pension incomes of low-income pensioners do not tend to fluctuate much from one year to the next. On the other hand, as discussed in section 2.1, the claiming process is almost automatic. In contrast, in the case of *pension de jubilación no contributiva*, the complexity of the income test and the amount of information requested (especially for family members) raise the costs of claiming benefit and render the administrative process more prone to error, thus increasing the probability of non take up.

Estimated non take up of *ΕΚΑΣ* was much higher, around 63%. This is striking, given that the benefit was hailed as a sign of a more innovative, "selective" policy approach when first introduced in 1996. In subsequent years, as explained in section 2.1, its value was raised significantly, while at the same time the number of beneficiaries also rose. As a result of these developments, spending on *ΕΚΑΣ* increased dramatically. Nevertheless, this considerable commitment was never matched by a parallel investment in administrative resources. Responsibility for awarding benefit continued to rest with the hundreds of social insurance institutions paying pensions, most of which simply lack the capacity to carry out this task (Matsaganis, 2005). Administrative fragmentation is less of an issue in the case of *pension to uninsured elderly*, which is administered by a single institution. However, given that the main mission of that institution is to provide social insurance for farmers, rather than means-tested benefits to low-income persons, administrative capacity is comparatively low.

On the whole, our findings suggest that non take up is lower the more automatic the claiming process is. This confirms one of the main lessons of the empirical literature. In the words of Remler et al. (2001): "Programmes for which no 'extra action' is required have the highest take up rates. In contrast, other programmes, which do require extra action, have much lower take up rates."

Finally, as discussed in section 3, the validity of our results could be affected by a series of methodological difficulties, particularly measurement and simulation errors. While some of these errors may be offset by others, it is difficult to say *a priori* what the net effect might be. In any case, it is probably true that "the greater the inaccuracy of the analyst's measurement of eligibility relative to the own inaccuracy of the agency, the more estimated take up tends to underestimate the true take up." (Duclos, 1995).

5. **Concluding remarks**

In this paper we attempted to estimate the extent of non take up of means-tested benefits for the elderly in Greece and Spain. This is an important policy issue: taken together, these benefits constitute a social safety net of sorts – and that in two countries otherwise lacking the generalised protection offered by minimum income or social assistance schemes where these are in place (Matsaganis et al., 2003). Furthermore, given that no previous research on this issue existed in the two countries, our research aimed to fill a gap in our knowledge on social policy and administration in Greece and Spain.

As it turned out, our results imply that a large number of intended beneficiaries in fact fail to benefit from the programmes in question, even though they appear to meet the eligibility conditions for participation. This seems to be the case of around 150,000 persons in Greece, while the corresponding number in Spain is in the order of 850,000.

For reasons discussed in some length in the paper, our estimates are surrounded by a great deal of uncertainty. A more thoughtful design of income surveys, making possible the collection of richer and more accurate data, would greatly assist research into non take up. Nevertheless, even though we are still in the dark about many aspects, we believe that the underlying problem cannot be simply dismissed or explained away. Even when all possible sources of bias have been taken into account, the issue still appears to deserve considerably more attention than it currently receives.

Explaining variation in take up (between countries, across programmes, over time) is not easy, and certainly lies beyond the scope of this paper. Nevertheless, it seems clear that at least some of the reasons for the large extent of non take up of means-tested benefits to the elderly in Greece and Spain must be sought in the nuts and bolts of claiming benefit and assessing eligibility. In view of that, our final point concerns administration: simplifying the claiming process, reducing the costs of benefit to claimants themselves and improving the capacity of benefit agencies to assess eligibility would be some of the components of a systematic policy effort to increase take up. While such efforts rarely make headlines, their potential to improve the lives of "the deserving poor" by definition cannot be emphasised enough.

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Appendix I

Non-contributory components to Greek social insurance pensions

Greek minimum pensions have two components: (i) a contribution-related "organic pension", resulting from the application of the benefit formula, and (ii) a non-contributory implicit subsidy, intended to ensure that all pensions reach at least a specified minimum. The latter, similar to the Spanish *complementos por mínimos*, is positive only when the organic pension falls short of the minimum level. The maximum value of the implicit subsidy applies to retirees with the minimum contributory record (4,500 days or 15 years of insurance) and a history of low earnings, and is estimated at 38.1% of the minimum pension (Leventi and Matsaganis, 2008).

Recipients of minimum pensions with little other income may be eligible for *ΕΚΑΣ*. Data for *ΙΚΑ*, the largest social insurance institution in Greece, show that 61.9% of retirees were recipients of the minimum pension in 2004, while the proportion of those receiving both the minimum pension and *ΕΚΑΣ* was 26.7%.

TABLE A.1

Estimating non-contributory components to Greek social insurance pensions (2007)

	all components	non-contributory components
actuarial pension	171.47	
implicit subsidy to actuarial pension		115.18
ΙΚΑ organic pension	286.65	
implicit subsidy to organic pension		176.53
ΙΚΑ minimum pension	463.18	
supplement for dependent spouse		44.09
supplement for 1st child		92.64
supplement for 2nd child		69.48
ΙΚΑ minimum pension incl. family supplements	669.38	
ΕΚΑΣ		195.15
ΙΚΑ minimum pension incl. supplements + *ΕΚΑΣ*	864.53	
all non-contributory components		**693.06**

Notes: The actuarial pension shown refers to the case of a man retiring at age 65 with the minimum contributory record (15 insurance years) and a history of low earnings (all pensionable earnings equal to the minimum wage), and a rate of return to contributions matching the performance of government bonds. *ΙΚΑ* is the largest social insurance institution in Greece. All figures are in euros per month in the year 2007.

Source: Leventi and Matsaganis (2008).

However, *ΕΚΑΣ* and implicit subsidies to organic pensions are not the only non-contributory components to Greek social insurance pensions.

On the one hand, supplements for a dependent spouse (defined as not in employment and not a pensioner) and dependent children (defined as aged up to 18 or up to 24 if in full-time education) are also provided. The value of the supplement is fixed at 150% of the minimum daily wage in the case of dependent spouse, while the supplement for dependent children at 20% of the minimum pension for the first child, 15% for the second child, and 10% for the third child.

On the other hand, the organic pension itself can be higher than the equivalent of the actuarially fair benefit that corresponds to a pensioner's contributory record. For instance, the actuarially fair benefit of a low earner retiring with the minimum contributory record in 2007 was estimated at €171.47 a month, or significantly less than the *IKA* organic pension of €286.65 a month in the same year (Leventi and Matsaganis, 2008).

Table A.1 presents all non-contributory components to Greek social insurance pensions, including *EKAΣ*, supplements for dependent spouse and (two) dependent children, implicit subsidies to organic pensions as well as implicit subsidies to actuarial pensions (shown here as the difference between the organic pension and the actuarially fair benefit for a low earner retiring with the minimum contributory record). Summing them all up, non-contributory components in 2007 could reach €693.06 monthly, or 80.2% of the total benefit of €864.53 a month (*IKA* minimum pension including supplements for a dependent spouse and two dependent children plus *EKAΣ*).