



Exit from and non-take up of public services

A comparative analysis: France, Greece, Spain, Germany, Netherlands, Hungary

[DATA AND MEASUREMENT IN GREECE]

THEO MITRAKOS AND PLATON TINIOS

Data and measurement

Take-up and under-recording of social cash benefits

Introduction

As the previous chapters have made clear, the issue of non-take up (NTU) has seldom entered the discussion of social policy in Greece.

This is a side effect of the more general problem of not employing outcome indicators in the planning, monitoring and assessment of social policy; in the absence of outcome indicators, what matters is the administrative act of first legislating and then making available a particular social policy initiative – most commonly a benefit. The availability of the benefit is a good in itself and the purpose of social policy. If the *ex ante* size of a perceived problem is unknown (and possibly irrelevant), its *ex post* size is of little importance and can excite less interest.

In the context of operating in a clientellistic framework, such as in Ferrera's (1996) 'Mediterranean Welfare State' the framing of social policy is like a bargaining game. A rough caricature of the approach can be summarized as follows: Once a benefit is bargained for and then granted, it (presumably) falls on the group that originally bargained for the benefit to see how it is used. In this context, the issue of non-take up is something that should concern the client and not the patron. The patron would have fulfilled his/her side of the bargain by ensuring that the benefit is available. Under this view, how that benefit is used is not part of the concern of the giver. (Indeed, within public administration this view can expect the strictness and parsimony with which the State bureaucracy frequently administers social benefits: It is in the nature of the political leadership to exhibit largesse, while the duty of the civil service is to defend the public purse against this largesse). In this approach, non-take up is of little or no importance; it will receive attention only if a (politically weighty) complaint is heard.

This 'traditional approach' comes under challenge once social policy is assigned and comes to play a function in an overall strategy. In the 'Lisbon Agenda', for instance, social policy must work as 'factor of production' and deliver particular results which have already been budgeted for and are anticipated in overall strategy (and more particularly in economic policy). As the first Greek NAP/Incl mentions (reproduced in Lyberaki and Tinios, 2002: 50), under the pressures of modernity and urbanization social policy in Greece must supply many of the functions hitherto performed by informal social networks. It must hence step out from being an instrument in clientellistic politics and assume a functional role with a well-defined niche in overall national strategy. Both examples imply that social policy is expected to deliver particular *outcomes* – which must be measured. (See Atkinson et al, 2002 for the use and nature of indicators in the context of EU social involvement). Once the *outcome* of social policy reaches centre stage, the issue of non-take up also becomes central for the success of social policy.

A further reason for non-take up to become a matter of significance is the emphasis placed on exclusion issues. In this context lacking political voice in the framing of social policy becomes an issue to be solved in itself – an aspect of alienation or 'political exclusion'. Non-take up could thus assume an emblematic role as

indicating deeper social (and political) problems which must first be understood, measured and then addressed.

Be that as it may, and whatever the reasons behind it, the fact remains that little or no approach to measure non-take up has been attempted in Greece. In contrast, its mirror image – the collection of social benefits by those *not* entitled -has often been mentioned as a particular manifestation of the grey economy and tax evasion (see in the context of social insurance Börsch-Supan and Tinios, 2001 and Tatsos, 2001 for the grey economy). This is why it was proposed in the framework of the EXNOTA project to make a first attempt to measure the NTU phenomenon, based on available data. In doing so, the question of the state of data as well as methodological issues are equally addressed.

In this chapter, we start by clarifying the two concepts, by borrowing a simple framework from sampling theory. We next proceed to look at three particular cases where measuring non-take up empirically is feasible. The investigation proceeds by first employing data from the Household Expenditure Survey and then by looking at data on the European Community Household Panel. Employing a data set which is comparable on a European-wide basis, raises the prospect of producing comparable estimates of take-up in all members of the EU-15 and (soon) for the EU-25. Producing estimates for the first time in a country like Greece, with little direct experience can be taken as an indication that the project of examining take-up indicators on a European scale is feasible. We conclude by providing a summary of the argument, and suggesting a limited number of 'stylised facts' for non-take up in Greece. Suggestions for taking the matter forward in Greece are also offered.

1. Conceptual issues, sampling and the general empirical approach

Social policy essentially concerns itself with offering selective help to groups of individuals who share particular needs and/or characteristics which merit aid. As such it shares much with various schemes for handling and economizing on information.

Seen as a targeting exercise which is trying to reach an underlying, but unknown, 'true' population of beneficiaries, social policy can be analysed as a kind of sampling exercise. In sampling theory two kinds of errors are distinguished:

Type I Errors - 'True' beneficiaries are missed out by the targeting (sampling) mechanism. The problem that true beneficiaries are either discouraged, hindered or choose not to claim benefits they would have been entitled to, had they been well informed or chose to bear the (direct or indirect) costs of applying for their rights. This problem is referred to in social policy analysis as that of 'take up'¹.

Employing the statistical analogy brings to the attention the obverse problem, that of statistical 'False positives':

Type II Error - i.e. people who are *not* eligible and collect the social benefits. The mechanism of awarding the social benefit may be inefficient in failing to prevent individuals from receiving the benefits if they do not meet all the necessary requirements and preconditions. This situation would necessarily entail some breach or circumvention of the rules and could be the result of asymmetries of

¹ In sampling theory of testing hypotheses, a type I error is the probability that the hypothesis is rejected (the benefit not collected) given that it is true (there is entitlement). Alternatively a type II error is the probability that the hypothesis is accepted (the benefit collected) given that it is not true (in truth the individual is ineligible). The statistical approach to testing (e.g. Neyman-Pierson approach) consists in deciding acceptable levels of Type I ('*significance level*' of the test) and Type II errors ('*power*' of the test). See, among other Maddala (1977), p42.

information or infelicities of enforcement or control². That group can be thought as 'playing the system' and may be referred to as 'system abusers' or as 'bogus beneficiaries'.

To approach both issues one needs to start by employing a random sample of the 'true population'. To enable analysis to proceed, the sample should possess *both* of two distinct kinds of information:

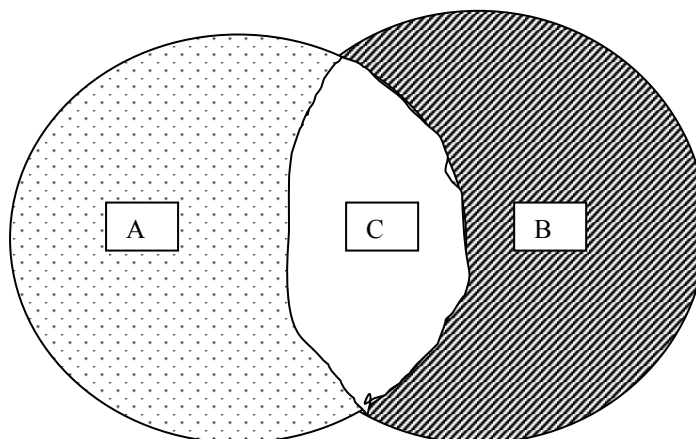
1. Personal information that can be used to construct a list of eligibles for the social benefit. – Set A
2. Information on whether a particular social benefit is collected (and to what extent by the individual concerned). – Set B

The intersection of the two sets (Set C in the diagram) is people who are both eligible and collect the benefit: true beneficiaries. The area of A *not* in B (i.e. A-C) – are the individuals who face a take-up problem – eligible but not in receipt

The people who collect but are *not* eligible, i.e. the area of B *not* in A (B-C) are the bogus beneficiaries or system abusers.

A possible test on the extent of both the take up and the system abuse issues can be done at the micro or individual level, by trying to approximate the diagramme *directly*. The list of those known to collect is compared with the list of those deemed on the basis of information in the sample to be eligible. Once populations of individuals not taking up or abusing benefits are identified, then the analysis may proceed to ask what distinguishes (if anything) the two populations from the general population – whether it is random or whether it is linked systematically to features that may have policy implications for the design or delivery of benefits.

Diagram 1
Schematic representation of eligibility and take up



Complete information on the *total* population is impossible. Hence the shapes of diagram 1 must be approximated by using information on the underlying information. Using administrative information from bodies responsible for delivering the benefits is outside the question. Such bodies are, by definition, aware of those who have applied to them (B+C in the diagram) and not the *potential* beneficiaries. Their observations of the populations is thus by definition partial and (through self-selection) biased. (Given that those refused benefits on grounds of ineligibility will

² Given that behaviour may alter as a result of incentives embedded in social benefits, one may further distinguish those who were ineligible *ex-ante* and have altered their behaviour so as to become eligible *ex-post* in order to claim the benefit. This more elaborate concept however requires analytical and statistical tools of greater power and sophistication that fall outside the ambit of this investigation.

be a higher proportion of the cases they are aware of, they are likely to place more emphasis on system abuse and less on non-take up). Thus in order to approximate more fully the real situation, information must be gleaned from random samples, which include both those receiving *and* those not receiving a particular benefit. An (informal) sampling mechanism of this type based on local knowledge is employed even by social workers or other operatives on trying to limit non-take up. On the macro (societal) level national samples are the only possible source of information available.

The information on eligibility or on benefit collection is not, itself, collected without error – in other words what we know of it passes through a series of filters – both objective and subjective – before it is known to the outside observer or researcher. Such a filter may be dependent on the sampling mechanisms – certain parts of the set of true beneficiaries may be invisible if they are not included in the sampling frame. It may also depend on subjective corrections – e.g. if an individual distrusts the sampling confidentiality safeguards and does not wish the information passed on to administrative bodies; in such cases a benefit while paid is declared not to be paid. Finally, there may be individuals who are unable to interpret a question posed to them or who may misclassify benefits.

However, a consistency check is possible. The information derived from the sample (corrected for possible coverage problems) may be blown up (using sample inclusion probabilities) to an economy- wide total and compared with administrative information collected on the payouts and beneficiaries of the particular social benefit. In doing so, two further complications arising from the filtering process mentioned must be noted:

A. The possibility of misreporting (typically under-reporting – e.g. for tax reasons) of the benefit may lead to projected total expenditure lower than that actually known to have been expended by the authorities. The case arises therefore of a person who (a) *is* eligible (b) is found to be eligible by the identification process based on his/her characteristics (c) collects the benefit *but* (d) does *not* mention he/she collects benefit. *Underreporting implies that the empirical information at the micro level will appear exactly the same as in non-take up.* A correction may be made only *after* the data is aggregated and is compared with administrative data, and only on an aggregate level.

In the presence of aggregate evidence that underreporting exists, a verdict on take up can be delivered if assumptions are made about the extent and distribution of underreporting or 'under reporters': is it due to ignorance, to reasons connected with relations with the tax authorities. Such assumptions can be derived from the presumed reasons for underreporting and their relationship with *other* individual characteristics. For example, an old person with a low pension will have a smaller interest on tax avoidance than a company executive³.

B. The second problem may be detected as the opposite of the first and can be expected to be less widespread. A projected expenditure greater than that known from administrative sources to have been spent could be due to misclassification of benefits caused by limited understanding of the nature of the benefit on the part of the recipient or may be due to problems of the questionnaire (or indeed, the sampling design)⁴.

Finally, if a *sequence* of survey information is available over time, comparisons between years can be used to shed qualitative information about how the phenomena in question could have evolved over time. Time-indexed estimates

³ Underreporting may also lead to lower amounts being declared than in fact were collected and could account for disparities with macro data. However, this aspect is not dealt with in this paper.

⁴ It could also be due to problems in the administrative data itself – though most of those will imply rather under-reporting.

could also serve as a consistency check and used to increase confidence in point estimates.

2. Data Issues

Data –their availability and nature - are key in an empirical investigation of this kind.

2.1 The State of administrative data in Greece

Theoretical reasons why administrative data is inappropriate for a non-take up exercise have already been given. Administrators must concern themselves with applicants, while also seeking to identify system abusers. The existence of the latter in Greece combines with the invisibility of the non-take up population to give rise to an organizational culture hostile to the entire issue of non-take up and geared to 'defend' the organisation's revenues.

However, even if such cultural problems can be overcome, in Greece administrative information suffers from a number of drawbacks:

- Personal privacy regulation means that registers are not available for research purposes – the information must be aggregated by the agencies themselves. Their very limited research capacity (as well as their general financial state) raises few hopes for substantial in-house analysis of the take –up problem using administrative data or even insights.
- Administrative data suffer from a lack of a unique personal identifier such as a social security number. Thus social protection organizations are unable to differentiate between the number of claims and the number of claimants. Thus IKA (the main pension fund) is able to note the number of cheques sent each month, but has difficulty in noting the total number of pensioners. Indeed, the total number of pensioners over 70 exceeds the population over 70 (Borsch-Supan and Tinios, 2001). This problem is mostly caused by widows with their own work-related pension plus a widow's pension from a deceased husband but is indicative of the kind of information problems when an organisation is geared to processing legal claims rather than aiming for social outcomes.
- The Public Employment Service (OAED) suffers from the same problem, with the result that the *registered* unemployed exceed in number the total number who is counted as unemployed by the Labour Force Survey (which is the accepted way in the EU of measuring unemployment⁵).
- A general problem in Greece, especially prevalent in the social protection sector results from fragmentation of providers and agencies, with little corresponding coordination. Especially damaging from the point of view of quality of statistical information was the devolution of responsibility for much of social welfare expenditure from the Ministry of Health and Welfare to the 53 prefectures (*nomoi*) or to municipalities. Whatever its merits from a delivery point of view, the consequence for statistics was to remove expenditure from (central) visibility to essential invisibility – as the collation of information from 53 sources is imperfect, while budgeting and monitoring procedures at the local level leave much to be desired (NSSG 2000).

⁵ Though in the case of unemployment definitional problems impinge – e.g. the treatment of seasonal workers or of unpaid family members helping out in a family business.

- Much administrative data in Greece suffers from a general distrust of authority particularly in its fiscal function; much of this is associated with the widespread tax evasion. This drawback affects financial data of households more than other kind of data.

The upshot of the above considerations is that little aid can be sought from administrative sources. Though administrators are worried about system abuse (witness the repeated and ultimately successful attempts to curtail disability pensions in IKA the main pension fund), its mirror problem of non-take up is not high in their agenda. Correspondingly (their admittedly not very high) research capability is directed away from non-take up).

The pressure to define, identify and use outcome indicators most probably in the context of mechanisms associated with the open method of coordination, may well change this picture in the next few years. However, currently the situation remains that only published information can be brought to bear, as long as the requisite care is taken.

2.2 Possible statistical sources that can be used for the exercise

The richest source of personal and income information available in Greece (and in most of the EU countries) are the Household Expenditure Surveys. One was conducted in 1998/9 and is available for immediate study. The next survey should have been conducted in 2003/4, but will instead be completed in 2005. The HES is conducted subject to well-understood methodologies harmonized by the UN, so should *in principle* provide information comparable across countries. As in other countries the HES contains detail on expenditure but rather less on incomes, while its main use remains to update the weights used in the calculation of the Retail Price Index. Nevertheless, the social and financial information contained is fairly detailed. The sample size in Greece is of the order of 6300 households (20 thousand individuals), of whom about 12% are above 65; such a sample size should, *prima facie*, allow degrees of freedom for statistical analysis.

Another possible data source is the **European Community Household Panel**. On the positive side one may note the comparability of the questionnaire across the EU, its use in the context of the Open Method of Coordination, and the fact that a series of annual surveys exists from 1995 to 2001 (for all member states) and 2002 for Greece only. Also important may be the panel nature of the data (where individuals are re-interviewed in later years). On the negative side one may note the smaller sample size, as well as the smaller detail contained in benefit information (The data are processed by Eurostat and benefits are aggregated to a smaller number of common categories). As more pressure was placed on the ECHP, in the context of indicators to be used in NAPs/Incl –most of the 18 Laeken Indicators on Social Exclusion are based on ECHP data, the initial concerns on its reliability and comparability across countries, led to a decision to replace it with a new EU-wide source aiming to correct many of the problems identified⁶.

From 2004 on, the ECHP is to be superseded by the Survey of Income and Living Conditions (EU-SILC). SILC will thus be the European benchmark for social research for the next 10-15 years. The SILC is designed to correct many of the ECHP problems. In particular, defining a SILC-based indicator for non-take up could increase the potential of the combating of non-take up to be elevated to the status of one of the common objectives of social exclusion.

However, SILC is unlikely to be available for use in the period of the current project. A pilot SILC was conducted in Greece in 2003 and some first results have been

⁶ For a brief analysis and presentation of the indicators, see Eurostat 2004.

announced (to the Press) by the National Social Research Centre (EKKE). Provided the issue of data availability is dealt with, an analysis of the Greek 2003 SILC data could be seen as a pilot for how (and whether) the question of take up can be addressed in a EU-wide context in the coming years.

By the middle of 2005 the data of the Survey on Health and Retirement in Europe (SHARE), conducted in nine EU countries⁷ and in Switzerland and focusing on individuals over 50, should come on stream. SHARE may allow a fuller analysis for the elderly, as it contains richer income, benefit and social and demographic information than other surveys. Concentrating on the old and providing information on health status and informal transfers could shed new light on the issue, as applied to one of the more vulnerable groups.

2.3. Types of benefits that allow treatment

The key requirement of the analysis proposed is that the sample should contain information that may allow reconstruction of the eligibility information. In doing so the benefits should be granted on the basis of characteristics on which information is contained in the survey.

This (in the cases of HES and ECHP, though *not* SHARE) rules out most of welfare payments given on the grounds of disability, as very little information of physical and health status is contained. This also applies to National Resistance benefits⁸.

Given the data limitations, analysis must focus on *three* categories of (social assistance) benefits⁹:

A. Old Age 'Welfare' Pensions. The majority of old age pensions are paid on a social insurance basis, i.e. on the basis of social insurance claims accumulated as a result of payment of contributions. In such cases it is reasonable to assume that both issues (take up and system abuse) are not relevant. This may not hold though for programs designed to offer pension protection *independently* of the payment of contributions, on the basis of so-called 'welfare' justification. Those benefits together comprise an most important part of the safety net for people of pension age (the part that is not considered here, which is quantitatively more important, is the operation of minimum pensions). Three types of pensions offer themselves for this treatment:

1. Rural sector pensions to farmers. All inhabitants of rural areas (men and women) who are not insured in a contribution-based programme are entitled to a basic OGA pension on completing their 65th year of age. The pension is payable without a means test, the only test necessary being residence of a rural area and/or agriculture as a primary source of income (testified by the OGA correspondent at the place of residence). Some 800 thousand OGA pensions are in payment.

2. Pensions to uninsured elderly. All individuals over 65 not in receipt (themselves or their spouses) of a pension in excess of the OGA pension and not entitled to other household income from any source in excess of that pension are entitled to a pension equal to the OGA pension. The pension is

⁷ Sweden, Denmark, Germany, Holland, Belgium, Austria, Spain, Italy and Greece. The questionnaire is comparable to the UK survey ELSA and the US Health Retirement Survey, while fairly detailed information is contained both on physical health and use of health care and social services by people over 50. The possibility of detailed inter-country work on the over-50s in 2005 is thus worth approaching.

⁸ Both these benefits however may allow macro consistency checks – i.e. to see how the amounts declared correspond with administrative information on total disbursements.

⁹ For a description of such benefits, see the two Greek NAPs/Incl – 2001 and 2003 (Ministry of Labour 2001 and 2003). See also Lyberaki and Tinios 2002. See also Matsaganis 2004.

financed by the Ministry of Finance and administered by OGA. Some 34 thousand beneficiaries exist.

3. The EKAS Pension Supplement. Pensioners of any pension fund other than OGA and over 65 (for men) and 60 for (women) whose total monthly pension entitlement is less than a sum calculated to be roughly equal to the minimum IKA plus minimum TEAM (supplementary) pension receive a fixed rate allowance¹⁰. The EKAS is administered initially electronically by IKA (the *a priori* eligibility is determined by cross-checking pension fund and tax data); the pensioner is informed by letter of his possible eligibility and then must apply separately. *Other* pension funds' procedure is less streamlined and the pensioner may need to apply for the supplement *ab initio*. Some 340 thousand pensioners receive EKAS, the vast majority being IKA pensioners; other large categories of recipients are NAT (seamen) and Government Service (civil servants and local authority workers).

The three pension supplements are essentially fixed rate (with a limited range of variation due to family supplements) and could be identified separately. EKAS is *not* separately identified in the HES and ECHP but may be included with a range of other benefits (of far smaller significance).

B. Benefits to large families. A cash benefit for families with 4 children has existed for a long time and is administered by OGA. Separate cash benefits exist for the 3rd child. The benefits were originally given without any means test. This policy was reversed in 1997 when a means test (designed to focus on declared income) was introduced; the policy was rescinded in 2001 when the benefits started to be given without a means test¹¹. *Provided* therefore the large family benefit can be identified separately in the ECHP, an analysis of the number of beneficiaries over time might shed light on the effects of the *introduction, use and demise* of a means test, both on take up and on system abuse.

C. Employment related cash benefits. Most unemployment in Greece affects younger people, labour market entrants with little or no work experience and hence few accumulated insurance rights. Thus unemployment cash benefits are collected not so much by the unemployed (in the Labour Force Survey) sense but by categories such as seasonal workers and construction workers. Of more interest are possibly active labour market measures, including various kind of training, life-long learning, assisted job search and other targeted activities. The HES and ECHP have sparse information on labour market activities, while the Labour Force Survey has little income information. Issues of taking up unemployment benefits are linked with wider issues of active employment policies and are dealt with separately in the European Employment Strategy¹². Thus, though strictly speaking a matter of take up, it was decided not to proceed with the investigation in the field of employment.

2.3. Empirical Methodology - Aggregate information

The first step is to use the available information to identify households potentially falling into the non-take category – i.e. potential beneficiaries. These were compared with declarations of receipts in order to categorise observations. The

¹⁰ Two other (cascading) income conditions predicated on total individual income and total household income (including presumptive income from the ownership of durables) also apply. Nevertheless the binding constraint for most cases is the sum of pensions constraint.

¹¹ A recent court decision gives rise to the possibility that benefits denied between 1997-2001 will have to be paid retrospectively. See Matsaganis 2004 a , 2004 for an analysis of Greek attempts at selectivity.

¹² The use of employment measures, for example, is a key responsibility of the Employment Observatory which was created at the express behest of recommendations connected with the Greek Employment Action Plans.

extent of the issue was investigated and projections made for the entire population. Consistency checks were run, comparing micro with macro data: Micro data were blown up and compared with administrative information on beneficiaries and expenditure. Some preliminary analysis was also undertaken on the characteristics of individuals falling in the categories of non-take up and of system abuse. The object was to seek systematic relationships between non-take up and bogus claims and variables important to social analysis: poverty status, income, area of residence, sex, education, etc. Finally, a separate exercise consisted of an impressionistic analysis of trends in the phenomena over time. EKAS was the first consistent use of means testing in the Greek Social protection system, while means tested was introduced and then rescinded between 1997 and 2001. At the same time a strong conceptual/ideological case was made in terms of directing social expenditure 'where it really matters', while the efficiency of the tax collection mechanism is deemed to have improved (See for a critique Matsaganis 2004a). These experiments in means testing may have had effects on the extent of take-up and system abuse, which might have been visible over time. The variability of these issues over time will be examined by using comparisons over time, as well as more impressionistic evidence.

Family benefits amount to a relatively modest part of total social protection expenditure. Table 1 outlines expenditure on the 'Family-Children Function' on the basis of ESSPROS data from 1993 to 2002. Given that most such benefits are defined in cash terms (as euro per month – earlier drachmae per month) and are not indexed to magnitudes that keep pace with real GDP per head, the rough constancy in the share of GDP (around 2%), combined with the trend towards smaller families, probably amounts to increases per head of beneficiary. To put matters into context, this period coincided with a large expansion to the overall share of social protection expenditure, by some 5 points. According to Table 1 family related expenditure was not a beneficiary of this increase. The transfer of large family benefits to being means tested is also apparent.

Table 1:

Expenditure on the Family-Children function – ESSPROS data Greece, 1993-2002 (millions EUR, current prices)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total expenditure	1.048	1.382	1.519	1.677	1.792	2.015	2.086	2.227	2.397	2.613
In cash	630	903	1.005	1.040	1.120	1.247	1.238	1.369	1.449	1.616
Means tested	4	5	8	7	416	456	385	371	362	424
Not means tested	626	898	997	1.033	703	790	854	998	1.087	1.192
Benefits in kind	418	479	514	636	672	768	847	858	947	997
As Per cent of GDP										
Total expenditure	1,67	1,94	1,90	1,91	1,84	1,91	1,86	1,84	1,83	1,85
In cash	1,00	1,27	1,26	1,18	1,15	1,18	1,11	1,13	1,11	1,14
Means tested	0,01	0,01	0,01	0,01	0,43	0,43	0,34	0,31	0,28	0,30
Not means tested	1,00	1,26	1,25	1,18	0,72	0,75	0,76	0,83	0,83	0,84
Benefits in kind	0,67	0,67	0,64	0,72	0,69	0,73	0,76	0,71	0,72	0,71

Source: ESSPROS, New Cronos Database

However, cash benefits are a rather small part of overall family social policy. Other items entering the above total include items such as birth grants and crèches, some of which (following the ESSPROS definition) are financed by employers. Table 2 shows the actual benefits in question in greater detail.

Table 2

Expenditure on Large family cash benefits – ESSPROS data Greece, 1993-2002 (millions EUR, current prices)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Means tested	4,11	5,06	7,92	7,16	416,3	456,5	384,8	370,5	362,0	423,5
Not means tested	375,6	621,9	687,5	692,0	332,4	393,6	439,8	486,2	486,1	538,8
Total	379,7	626,9	695,4	699,1	748,7	850,1	824,6	856,8	848,1	962,4
As Per cent of GDP										
Means tested	0,01%	0,01%	0,01%	0,01%	0,43%	0,43%	0,34%	0,31%	0,28%	0,30%
Not means tested	0,60%	0,87%	0,86%	0,79%	0,34%	0,37%	0,39%	0,40%	0,37%	0,38%
Total	0,60%	0,88%	0,87%	0,80%	0,77%	0,81%	0,74%	0,71%	0,65%	0,68%

Source: ESSPROS, New Cronos Database

In 1997 there was a shift from non-means tested to means tested. This was accompanied by a rise in expenditure, which as the total shows did not manage to keep in pace with GDP.

Table 3 turns to the case of social assistance pensions. As is evident from the data, the benefits involved show a very dynamic behaviour. EKAS in particular which was only introduced in 1997 absorbs more than three times the percent of GDP it did in its first full year of operation. However, even the benefits for aged uninsured is more than twice the proportion of GDP it used to be in 1994. Even so, however, these amounts are rather small when compared to the total expenditure on social protection.

Table 3**Pensions or pension supplements with a social assistance function , 1993-2002 (millions EUR, current prices)**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Pension supplement (EKAS – Funds)				88,7*	160,3*	140,1	222,3	332,7	401,7	474,7
EKAS-public sector				3,9	11,5	16,4	18,1	19,7	19,7	20,8
Total EKAS				92,7	171,8	156,5	240,4	352,4	421,4	495,6
OGA-uninsured	18,6	29,4	32,6	..	..	49,9	54,4	79,7	106,7	126,1
As % of GDP										
Pension supplement (EKAS – Funds)				0,10	0,17	0,13	0,20	0,28	0,31	0,34
				%*	%*	%	%	%	%	%
EKAS-public sector				0,00	0,01	0,02	0,02	0,02	0,02	0,01
				%	%	%	%	%	%	%
Total EKAS				0,11	0,18	0,15	0,21	0,29	0,32	0,35
				%	%	%	%	%	%	%
OGA-uninsured	0,03	0,04	0,04	..	..	0,05	0,05	0,07	0,08	0,09
	%	%	%	%	%	%	%	%

Source ESSPROS – New Cronos Database

Notes: for 1996 and 1997 the two benefits cannot be separated.

The reasons for the small relative weight of the benefits considered are mainly due to the weight of social insurance pensions in social protection (which absorb around 14% of GDP, and the fact that targeted measures are a rather recent addition to social protection spending. To temper this observation it may be pointed out that almost all new benefits and much of the increase in social expenditure falls in categories where take up is (or should be) an important consideration.

Table 4
HES based Estimates of the extent of possible take up problems in Greece: Large family benefits 1999,

(Figures blown up to population magnitudes using sample weights)

	Potential Beneficiaries Who meet children criterion+ means test (thousands of households)	Potential beneficiaries <i>without</i> means test (thousands of households)	Number who state they receive <i>some</i> Large family benefit (thousands of households)	Number of beneficiaries even though they fail the means test (thousands of households)	Number of beneficiaries who actually received the benefit in February 1999 (Administrative data)
	(1)	(2)	(3)	(4)	(5)
A. Monthly benefit for 3 rd child	42.6	58.7	11.5	13.8	39.5
B. Monthly benefit for large family (4 children+)	34.5	42.6	25.3	28.8	75.3
C. Monthly lifetime pension for 3+ children	2.3	3.4	0.6	1.7	160.9
					275.7

Source: based on microdata of the 6258 households of the Household Expenditure Survey, conducted by the Statistical Service For columns 1 -4 the data have been blown up to the total of the Greek population (3.6 million households) on the basis of sampling weights

Col 5 is derived from the Farmers Insurance Organisation (OGA) which is the competent administrative agency.

Table 5
Legal prerequisites for Large Family Benefits in 1999

	Beneficiaries	Eligibility conditions ⁽¹⁾	Beneficiaries	Sum of benefit (gross of tax) GDR	Net benefit ⁽²⁾
A. Monthly benefit for 3 rd child	Mothers who have or give birth to a 3 rd child until that completes its 6 th year of age	<input type="checkbox"/> A 3 rd child up to 6 years old <input type="checkbox"/> All children have EU nationality <input type="checkbox"/> Annual family income no greater than 7 m GDR.	<input type="checkbox"/> 39496 Feb. 99 <input type="checkbox"/> 42049 Dec 99	43513	38640
B. Monthly benefit for large family (4 children+)	Mothers who have more than 4 children and have some unwed children up to 23 years of age	<input type="checkbox"/> More than 4 children <input type="checkbox"/> Unwed child under 23 <input type="checkbox"/> Annual family income no greater than 8 m GDR.	<input type="checkbox"/> 75287 Feb. 99 <input type="checkbox"/> 85485 Dec 99	10878 GDR for every child less than 23 years Minimum sum 25020	9660 GDR for every child less than 23 years Minimum sum 22218
C. Monthly lifetime pension for 3+ children	Mothers who have given birth to 4 or more children provided they do not collect other large family benefits	<input type="checkbox"/> Have given birth more than 4 times <input type="checkbox"/> The youngest child is over 23 (not eligible for C) <input type="checkbox"/> Annual family income no greater than 3 m GDR..	<input type="checkbox"/> 160936 Feb. 99 <input type="checkbox"/> 197563 Dec 99	25020	24720

⁽¹⁾ From 1.1.2002 the means test was abolished for all large family benefits

⁽²⁾ A and C are subject to withholding tax of 10% and stamp duty of 1.2%. C is only liable to stamp duty of 1.2%.

3. Results for 1999 based on Family Expenditure Survey

The methodology outlined above was followed using the data of the 1999 HES for the cases of Large Family Benefits and for Old age protection.

3.1 Large Family Benefits

Table 5 shows in detail the eligibility and other conditions related to large family benefits as in force at the time of the HES. Of the three such benefits, Table 4 shows the effects of applying the eligibility conditions of Table 2 to the HES data for two cases – that of 3rd child and large family benefits (for families with more than 4 children). Both benefits' key requirement is the existence of a third or more children. Thus the only grey areas would arise in the case of broken families (where the issue of who has the parental responsibility could break the link between the observed presence of children and legal entitlement), and of older children (where the issue would be whether a non-resident and possibly employed child would still be judged as forming part of the parental household). Both benefits in 1999 were subject to a means test which was introduced in 1997 for the first time (see next section for a time series analysis). Given that the income test was relatively generous, and the existence of children is relatively straightforward to ascertain, we would expect their case to be rather simple as far as take up is concerned.

The data is blown to population totals in terms of households using the sampling weights¹³. Note must be taken that the HES excludes those not living in households (e.g. old age homes, the army, prisons etc, but also the homeless); the extent of bias created would be rather small in the case of Greece – though possibly larger elsewhere. The numbers resulting are then compared to administrative information from the agency responsible for the benefits' administration.

Table 4 is arranged in the following manner: Column (1) shows the potential beneficiaries who meet both the children criterion *and* the means test. Column (2) repeats the calculation omitting the means test. Column (3) shows the number who say they receive large family benefits, while column (4) adds to those in column 3 those who, despite appearing to fail the income criterion, appear to be collecting the benefit. The final column notes the number of beneficiaries using administrative data of the agency responsible for their payment.

In the case of Benefit A (the monthly 3rd child benefit), *estimated* beneficiaries are almost equal to those who received the benefit (42 thousand as opposed to 39). However of the estimated beneficiaries only 11.5 state clearly that they collect it and a further 13,8 thousand appear to receive a benefit without being entitled to it (due to the means test). Thus, in the typology of Section 1:

- 31 thousand appear to have a problem of take up. As a proportion of *potential* beneficiaries this amounts to a staggering 76%. Even if we add those not entitled to the means test, the problem is reduced to a non-take ratio of up of 57%. However, the fact that those saying they received a

¹³ Thus a few observation in the HES correspond to thousands if blown up. Care should thus be exercised in interpreting the data.

benefit is 25 thousand, while 39 thousand benefits were paid, could be said to point to bogus beneficiary or system abuse problem of 64%. Thus, the number of apparent system abusers - 29 thousand - is very close to the number with a non-take up problem. These numbers can only be explicable if we presume very substantial problems of underdeclaration, i.e. that non-take-up is far smaller than it appears to be and simply people who receive the benefit for some reason do not declare it. However, it may be, they signal important problems both in the data and quite possibly to the mechanisms of benefit delivery.

In the case of Benefit B, the large family benefit, the situation is no easier to interpret. *Potential* beneficiaries are 34 thousand (42 thousand if no means test were levied), 25 thousand collect it (and 29 if we include those who apparently fail the means test), while administrative data show 73 thousand awards.

- The *measured* non-take up problem is smaller and a little more credible ($25/34 = 26\%$). The opposite problem of apparent system abuse, is of similar magnitude, as total claimants (29 thousand, even if we ignore the means test, are less than half of the *actual* claimants based on administrative data who were 75 thousand).

Differences of such nature demand explanation. Why should almost 50 thousand families who presumably were in a position to explain their entitlement to the satisfaction of system administrators refuse to declare such an income in a questionnaire on family expenditure? Fear to declare income for danger of increasing taxable income could be a reason, though not very convincing given that most beneficiaries are below the thresholds anyway. The explanation that some of the children are not resident would lead to apparent non-eligibles declaring receipt of large family benefits, which does not seem to be the case. A further explanation could be to do with infelicities of the questionnaire and misclassifications on the part of the respondents.

Nevertheless, though the problem of misclassification is very large, this should not obscure the fact that substantial numbers of what must be considered well-documented cases of non-take up were identified. A non - take up problem of the order of a quarter or a third is sufficient to signal that the problem exists; in the case of benefits that are not very large in monetary terms, a figure of a quarter is credible.

The case of Benefit C - of the life-long benefit paid to women who have given birth more than three times - does not allow us to draw inferences. As the number refers to children ever-born and not actually resident the information on the composition of the household is of little use: Only 2 thousand possible beneficiaries were identified, whilst the payments were made to over 160 thousand. Thus the analysis of that case would have to wait the arrival of more specialised data, such that of SHARE.

3.2. Pensions

The methodology in the case of pensions is identical: it is first necessary to identify individuals over 65 *not* in receipt of pensions, and try to duplicate the eligibility criteria. As Table 3 showed the pension supplement EKAS in the period since 1996 played an increasing role. However, the information contained in the HES did not allow the separate identification of those receiving EKAS: By definition EKAS is added to a pension (or pensions) *already* in receipt and unless a special query is made, it cannot be separated

from the other pension payments. Even if the rather intricate cascading income tests could be reproduced, so that potential beneficiaries could be identified, we would not know who received EKAS in order to proceed to the next step. Moreover, given that EKAS is granted using different administrative methods by the various pension funds, absence of information on pension fund would further complicate interpretation and obscure any policy recommendations.

In the case of old age protection, two cases lend themselves to a methodology of diagnosing take-up. Both involve basic pensions administered by the Farmer's Social Insurance Fund (OGA). OGA basic pensions are non-contributory and form something that could be thought of as the social safety net for the aged, given that people with no insurance or contribution history are entitled to them. As table 4 showed these two cases account for rather limited total expenditure; this is likely to be translated to a small number of estimated potential beneficiaries and hence to problems connected with small sample sizes, which can be translated into low confidence in the point estimates derived.

Two cases of pension benefits lending themselves to the non-take up methodology were identified in the 1999 data:

The first case concerns Rural pensions are granted to anyone residing in a rural area (without proof of contributions) and who is not in receipt of a pension from a contributory social insurance fund over 30 thousand GDR per month. No income criterion or proof of cessation of economic activity is required. Finally, the OGA basic pension is granted to both spouses, as long as they fulfil the age criterion. Thus, prima facie evidence of non-take up, would be a rural resident with no other pension who is over 65.

52 thousand individuals (weights corresponding to 85 cases) were thus identified. As a percent of total pension payments by OGA (720 thousand) this is of the order of 7%. Anecdotal evidence suggests that the cases of system abuse consist of urban residents (usually married women) who are not entitled to any pension of their own, but are in a position to claim rural residence and agricultural activity. A certificate by the local OGA correspondent would suffice, while ownership of tracts of rural land by urban residents of pensionable age is a natural side-effect of internal migration of the '50s and '60s. The extent of the problem cannot be gauged, though the fact that OGA grants the lowest pensions in the system acts as a natural barrier against abuse.

In the presence of system abuse, the issue of how to calculate non-take up and underreporting rates becomes relevant. What should one use in the denominator? The potential beneficiaries, the administrative figure or some combination of the two? In the example of rural pensions, it should suffice to say that non-take up is measured as *at least* seven per cent.

The second case concerns pensions given to uninsured individuals over 65 in the *urban* sector living in households with no other pension and subject to a (rather strict) means test. 21 thousands (corresponding to 35 individual cases) were identified. Given that total estimated beneficiaries were 43 thousands, this gives a non-take up rate of 32% ($21/(21+43)$). Care should however be exercised; the case of family benefits shows that there is a substantial underreporting problem, which however in the case of pensions can be expected to be smaller (pensions are taxed at source).

Administrative data (OGA) gives the number of *actual* disbursements as equal to 37 thousand. This, as before is comparable to the total estimated *potential* beneficiaries (43 thousand) but much higher than those interpreted as receiving it (21 thousand). This once again raises difficult issues of

interpretation and creates the problem of disentangling underreporting from non-take up.

4. Non-take up in the European Community Household Panel: Family benefits

4.1 The ECHP and family benefits

In the case of estimates based on a small sample, confidence in the point estimates derived must be a particular worry. Non-take up rates are derived as the ratio of one small number (those not taking up) with another small number (the estimated beneficiaries based on sample surveys), so problems of estimate instability should be particularly acute. The presence of difficult to explain phenomena such as the distance with administrative data complicate the matter even further.

It is for these two reasons that recourse should be sought to a different data set in order to cross-check if possible the results derived so far. To do this, we turn to the European Community Household Panel (ECHP). The ECHP has the merit of being a European data source, with known characteristics on which are based the overwhelming majority of the Laeken indicators of social exclusion. The ECHP when compared to the HES has the further advantage of being able to add a time dimension to the analysis, possessing as it does a number of waves from 1994 to 2001. Given the vicissitudes of means testing of family benefits in Greece which was introduced in 1997 only to be withdrawn in 2002 (Matsaganis 2004a), the period covered by the ECHP should be of especial significance; the ECHP data on family benefits could in principle (if certain other conditions are fulfilled) be thought of as almost a controlled experiment on the effects of the introduction and use of means test. Table 6 charts the progress of the means test

Table 6
Evolution of statutory income limit for the collection of family benefits

	A. Monthly benefit for 3rd child	B. Monthly benefit for large family (4 children+)	C. Monthly lifetime pension for 3+ children
Before 1/1/1997	0	0	0
1997-1999	7 million GDR	8 million GDR +0,5 million per child after 4th	3 million GDR
2000-2001	8 million GDR	10 million GDR +0,5 million per child after 4th	3,5million GDR
From 1/1/2002	0	0	0

The ECHP in Greece started with a sample size of 5523 households in 1994. Through the depletion of households and problems in their replacement, this number had fallen to 3916 in 2001. When dealing with family benefits, a further problem is that these are aggregated in a single category ("Family related allowances" - HI133) with other items such as carer's allowance,

birth grants, unmarried woman's allowance, wedding grant and other family benefits. As a result, the assumption was made that for a *potential* beneficiary a positive entry on HI 133 referred to large family benefit and not to something else¹⁴.

Administrative data of cases handled under the cases (source OGA) are reproduced in table 7:

Table 7
Administrative data on family benefits (Number of cases)
1991-2002

	3 rd child benefit	Large family benefit	Lifelong pension for mothers	Total
1991	25.060	62.560	1.954	89.574
1992	29.742	100.896	7.191	137.829
1993	29.301	106.814	39.905	176.020
1994	26.029	108.606	235.228	369.863
1995	26.705	112.033	244.973	383.711
1996	25.459	112.877	238.074	376.410
1997	41.264	89.022	206.891	337.177
1998	45.227	89.793	205.403	340.423
1999	42.049	85.485	197.563	325.097
2000	40.235	83.754	190.149	314.138
2001	38.342	82.008	183.584	303.934
2002	40.036	83.925	194.842	318.803

Source: OGA annual Statistical Bulletin, 2002

Notes: Years when the means test was in force are shaded.

The data show that the introduction of the means test -and indeed its abolition and abandonment- have not had a great effect on beneficiaries either way. The structural change in benefits in 1996 was due to the abandonment of Law 1153/1972 and its replacement by a new type of benefit.

4.2 Estimating non-take up in the ECHP – large family benefits

Eligibility was determined on the basis not of all children living in a household (who may have different parents in a complex household), but on the basis of the maximum number of children corresponding to a single household member. This number was estimated for each wave. The same number was then reestimated applying the means test. The results were blown up to the population using sample weights¹⁵.

Table 8 reports the outcome of the exercise of potential eligibles, both before and after the imposition of means tests:

¹⁴ This is to some extent confirmed given that of the cumulative number of all Greek households around 8% have positive entries which corresponds roughly to the expected number of beneficiaries.

¹⁵ As the sample is shrinking each household stands for more towards the end of the period, which makes inferences and confidence intervals more problematic.

Table 8 Estimated eligible households before and after means test in the ECHP

Year of Survey	No means test			Means tests applied		
	Eligible households (number)	Projected population (thousands)	Percent Of sample	Eligible households (number)	Projected population (thousands)	percent
1994	95	57	1.7	95	57	1.7
1995	80	52	1.5	80	52	1.5
1996	69	48	1.4	69	48	1.4
1997	63	47	1.4	63	47	1.4
1998	57	48	1.4	50	42	1.2
1999	52	46	1.3	46	41	1.2
2000	56	52	1.4	46	42	1.2
2001	54	50	1.4	48	45	1.2

Notes: Years when the means test was in force are shaded.

Table 8 shows a number of interesting features. Firstly, the maximum sample size (despite the starting point of over 3500 households) is actually quite small – under 1,5 per cent of all households could be eligible by having more than 4 children – a reflection of small family size. Though this corresponds to around 50 thousand people, it is still far too small for ‘safe’ statistical inference. The number of people excluded once means tested were applied was one in eight (12%), a figure which confirms the initial impression that means tests were actually quite generous. In terms of statistical inference, this 12% excluded translates to a maximum number of 9 households (in 1999) and a minimum of 4.

The number of eligibles is not far removed from the number of payments undertaken by OGA, which in that period ranged between 70-80 thousand. The difference could be due to the number of families with at least one of the 4 children not actually resident in the household when the survey was conducted.

The next Table shows the number of eligibles according to whether they declare a positive amount under the ‘family related allowances’ headings.

Table 9 Estimation of possible non-Take-up problems in family benefits in the ECHP, 1994-2001 (means test ignored)

Year of survey	Household numbers		Population equivalents		Possible non-take up (as % of eligible population)
	With family benefits	Without family benefits	With family benefits (thousands)	Without family benefits (thousands)	
1994	71	24	42,9	14,5	25.3%
1995	67	13	43,4	8,4	16.3%
1996	60	9	41,9	6,3	13.0%
1997	46	17	34,7	12,8	27.0%
1998	37	20	30,9	16,7	35.1%
1999	39	13	34,9	11,6	25.0%
2000	45	11	41,5	10,1	19.6%
2001	40	14	37,4	13,1	25.9%

The ECHP figures concur that one would expect some 13 thousand families or a rate between 15-25% of those eligible not to take up their entitlements for various reasons. In table 7 some of the non-take up estimates after 1998 might be due to the means test. From the data of table 6 it appears that a fairly stable fraction (17.5% in 1998, 19,2% in 1999, 17,9% in 2000 and 18,5% in 2001).

The figures in Table 9 allow us to proceed to some exploratory analysis of the characteristics of those eligible households receiving benefits and eligibles not receiving. It may be recalled that the second group may fall into two ideal-typical cases: First what may be called the 'traditional' or expected non-taker; secondly, the individuals who may be receiving the benefit but not declaring it or maybe doing so because they do not think it worth their time or their effort. Of these the traditional group may be not collecting for reasons of stigma, whereas the second group maybe doing it as a result of calculation or for strategic reasons. One would expect the first group to be less educated, older, more rural than the second group. Table 10 looks at some averages for the two populations:

Table 10 Descriptive statistics for the non-taking up population in the ECHP (all waves)

	Potential eligible populatin		With family benefit income		Without family benefit income	
	Mean value	Std. Error	Mean value	Std. Error	Mean value	Std. Error
Household size	6.44	0.04	6.47	0.04	6.30	0.07
Household members at work	1.96	0.05	1.94	0.06	2.04	0.10
Interviewed economically active household members	2.39	0.06	2.41	0.07	2.32	0.11
Total net household income (detailed, NC), millions GRD	4,99	131,4	4,94	144,3	5,18	313,13
Non-work private income (net, NC), thousands GRD	164,0	24,15	126,3	20,16	308,3	86,25
Property/rental income(net, NC), thousands GRD	94,0	3	67,8	2	194,3	2
Total social insurance receipts (net,NC) thousands GRD	716,8	18,87	824,0	12,9	306,7	75,8
Old-age/survivors benefits thousands GRD	277,8	41,60	288,5	47,1	237,0	76,1
Family-related allowances thousands GRD	296,1	35,88	372,8	41,13	2,91	72,4
Social assistance	39,090	10,03	47,088	7	8,495	2,913
Current total monthly net household income (NC,1994)	384,69	9	373,88	9,365	426,04	2,913
Percentage of all transfers to total income	16.57	3	19.05	7,710	7.10	5,306
Percentage of all transfers except pensions to total income	10.44	12,09	12.74	13,22	1.63	28,92
Members 16+ in	0.48	8	0.43	0.50	0.66	0.58
		0.03		0.04		0.08

education						
Retired members	0.30	0.03	0.31	0.03	0.22	0.04
Members 16+ with recognised third level education	0.15	0.02	0.15	0.02	0.16	0.05
Members 16+ with second stage of secondary level education	1.12	0.05	1.08	0.06	1.25	0.12
Place of residence						
Rural area or village	9.9		10.7		6.8	
Small town	4.8		5.1		3.9	
Larger town	4.2		4.3		3.9	
Total	18.9		20.1		14.6	
Members 16+ with less than second stage of secondary education	2.64	0.07	2.67	0.08	2.53	0.16
Valid N (listwise)	497		394		103	

The small sample size makes comparisons rather courageous. However, a tentative impression emerging is that the non-take up group is somewhat better off than those collecting: their income is some 5% higher, they have more members at work, are slightly younger. They are more likely to be living in a larger town.

One significant pointer is that the non-taking up group has more income from rents, and would therefore (presumably) have greater opportunities to under-declare their income, which would provide one motive for not taking up entitlements. People not taking up seem to have a looser relationship with the entire income transfer system – social insurance takings, transfers but also other benefits appear lower, in most cases to a significant extent. Another observation of interest is that for the group taking up benefits, the benefits are a non-negligible part of the family budget – and obviously much larger than in the non-taking up group.

A final interesting observation from the ECHP comes when we use the panel nature of the data - i.e. that the same individuals appear in adjacent years. We see as a common feature, individuals who declare family benefits in one year not to declare it the next, only to come back the next year. This phenomenon holds even in years when the means test was not in force – leaving as the most likely explanation under-declaration in the intervening years.

4.3 Estimating non-take up in the ECHP – third child benefit

Using a methodology equivalent to the one above, the eligible population was estimated as those households with exactly three children of whom one at least was under six years of age and whose household income (in the years when there was one in force) did not exceed the means test limit. (7 million and 8 million GRD for 1997-9 and 2000-2001 respectively).

Table 11: Calculation of eligibles for third child benefit

Year of survey	Potential Beneficiaries + means test (numbers of households)	As per cent of sample population	Potential beneficiaries without means test (numbers of households)	Projected population with means test (thousands of households)	Projected population without means test (thousands of households)
1994	98	1.8	98	59,2	59,2
1995	97	1.9	97	62,8	62,8
1996	90	1.8	90	62,8	62,8
1997	100	2.2	100	75,4	75,4
1998	80	1.9	90	66,8	75,2
1999	72	1.8	84	64,4	75,1
2000	61	1.6	72	56,3	66,5
2001	52	1.3	61	48,7	57,1

The percentage of eligibles is between 1.8 and 2.0 per cent of the total population for the duration of the period. The projected population of eligibles is somewhat *greater* than those known to be collecting from administrative data (38 thousand in 2001 according to OGA). The projected expenditure (if all the eligibles collected) is not far from the known expenditure for 2001 (58 million EUR, whereas OGA disbursed 64 million the same year). Though there must be some under-declaration, the amounts involved are not incompatible.

The picture of compatibility is overturned once the data of those actually declaring themselves to collect the benefit are brought into the picture. (Table 12)

Table 12**Estimation of possible take up problems in third child benefit, ECHP**

Year of survey	Household numbers		Household numbers		Possible non-take up as a % of eligibles
	Declaring benefit	Not declaring benefit	Declaring benefit	Not declaring benefit	
1994	51	47	30801	28385	48.0
1995	35	62	22667	40154	63.9
1996	28	62	19551	43292	68.9
1997	37	63	27908	47520	63.0
1998	37	43	30926	35941	53.8
1999	31	41	27743	36693	56.9
2000	30	31	27684	28607	50.8
2001	27	25	25265	23394	48.1

Those not declaring benefit are in most years greater in number than those declaring it. The pattern of non-declaration relative to means tests is actually the opposite of what might expect: Once means tests are introduced, the extent of non-take up actually appears to *fall*. Once compared with administrative data, the preponderance of underreporting (possibly combined with non-take up) also appears as a very real possibility,

as in the equivalent examination of the HES in section 4. The difference with the previous analysis was the locus of the greater problem in the HES was estimated to lie on the large family benefit, rather than in the 3rd child benefit as in the case of the ECHP.

In attempting to distinguish the characteristics of non-takers we look at descriptive statistics (table 13).

Table 13

Descriptive statistics for the non-taking up population in the ECHP (all waves) - selected indicators

	Potential eligible population		With 3 rd child benefit income		Without 3 rd child benefit income	
	Mean value	Std. Error	Mean value	Std. Error	Mean value	Std. Error
Household size	5.45	0.03	5.54	0.06	5.38	0.04
Interviewed household members at work	1.47	0.03	1.49	0.04	1.46	0.04
Total net household income (detailed, NC), thousands GRD	4,221	159,	3,970	118	4,412	266
Total net income from work (net, NC)	3,579,	151,	3,066	108	3,968,	252
Self-employment earnings (net)	1,726	147	1,413	101	1,964	247
Property/rental income	79,	12	51	13	100	20
Total social insurance receipts (net,NC)	469	35,4	786,	68,3	228	28
Percentage of all transfers to total income	13.73	0.84	22.32	1.35	7.19	0.92
Percentage of all transfers except pensions to total income	7.39	0.51	15.47	0.94	1.25	0.25
Members aged 0-6 years old	1.48	0.03	1.50	0.04	1.47	0.04
Members 16+ in education	0.08	0.01	0.05	0.02	0.09	0.02
Retired members	0.22	0.02	0.30	0.04	0.17	0.02
Inactive members	1.04	0.04	1.08	0.06	1.01	0.04
Members aged 60+	0.35	0.03	0.45	0.05	0.28	0.03
Members 16+ with recognised third level education	0.27	0.02	0.19	0.03	0.32	0.03
Members 16+ with second stage of secondary level education	0.72	0.03	0.67	0.05	0.76	0.04
Members 16+ with less than second stage of secondary education	1.62	0.05	1.80	0.08	1.49	0.07
Valid N (listwise)	650		276		374	

As in the previous case, though the differences between the two groups are not huge, the group not taking up seems to be a little better off, slightly better educated and to be more likely to lie in categories that have a higher

probability of tax evasion. Of the two ideal-typical cases the figures (though not decisive) fit more the case of the strategic planner than the traditional socially-excluded image of stigma or ignorance.

4.4 Ranges of possible values for the estimates – Confidence intervals

The estimates presented are based on a rather small number of sampled observations. It is well known in statistical theory that this raises the possibility of instability of estimates and consequently widens the range for which we can say with some confidence that the 'true' estimate will probably lie.

Table 14

95% Confidence intervals for family benefits in the ECHP

	<i>Large family benefit</i>			<i>3rd child benefit</i>		
	Central Estimate	95% limit min	max	Central Estimate	95% limit min	max
1994	25,3%	16,6%	34,0%	48,0%	38,1%	57,9%
1995	16,3%	8,2%	24,4%	63,9%	54,3%	73,5%
1996	13,0%	5,1%	20,9%	68,9%	59,3%	78,5%
1997	27,0%	16,0%	38,0%	63,0%	53,5%	72,5%
1998	35,1%	22,7%	47,5%	53,8%	42,9%	64,7%
1999	25,0%	13,2%	36,8%	56,9%	45,5%	68,3%
2000	19,6%	9,2%	30,0%	50,8%	38,3%	63,3%
2001	25,9%	14,2%	37,6%	48,1%	34,5%	61,7%

Confidence intervals for 95% confidence were estimated using the standard errors of the estimates¹⁶. The results for non-take up appear as Table 14 – with the respective wide confidence limits. For example in the case of 2000, the central estimate for the 3rd child benefit was 51%; this means that the true estimate can lie between 38% and 62,5%.

Taking the minimum value estimated for *any* years and comparing it with the maximum for *any* year, we arrive at some extremely wide ranges. In the case of the third child benefit, this ranges from 35% to 79% In the case of monthly benefit it is even wider – from 5% to 47%. Thus, though we cannot be certain of the precise figure, we *can* be certain that our estimates are for every year significantly different from zero – i.e. that the issue of non-take up is present. Given the difficulties of the analysis, this conclusion is actually quite strong.

5. Concluding Remarks: A way forward?

As is perhaps expected in the case of measuring for the first time a complex phenomenon such as non-take up, the analysis led to more questions than it provided answers. This is *not* due to the data used: Household Expenditure Survey data have been the basis of much of the specialized literature in

¹⁶ For an overview of the basic statistical theory, see for example Mosteller et al (). Confidence intervals are calculated using the formula $p \pm Z_{\alpha} (s.e.)$ (standard error)

other countries. The European Community Household Panel has been less used for this express purpose, but its use as the source of most of the Laeken indicators makes it an obvious point to study. The methodology followed – producing synthetic lists of eligibles and comparing them with declarations – is well tested, even if its statistical and other problems may not be fully understood.

The choice of benefits *is* an area where especial difficulties could be expected in Greece. In Greece the majority of benefits are granted to groups with narrowly defined characteristics which are not easily captured in the information contained in national sample surveys. This narrowed the search down to two sets of benefits, only *one* of which lent itself to fuller analysis – the case of large family benefits. However, such a choice limits the search to a population comprising around to two per cent of the population; small families are part of the key distinguishing characteristics of Greek society. This means a correspondingly smaller population from which to derive a sample of possible non-takers. A further difficulty can probably be found as arising in the efficacy of the informal social support mechanisms in preventing (to a far greater degree than other EU Mediterranean countries) child poverty. This presumably robs policy in this field of the urgency found in other fields (such as old age income support where over 40% of those at risk of poverty are to be found).

However, the chief difficulty is essentially conceptual and is neither due to policy nor data. The problem of non-take up is the mirror image of system abuse, while it suffers from underreporting. In the course of analyzing the data we have found a number of cases where the influence of these factors was more than apparent. In some cases, the separate influences are hard to disentangle, without using extra information. The impressionistic analysis of the characteristics of non-takers compared to eligibles, showed (possibly contrary to expectations) that they do not correspond to the image of the socially excluded feeling shut out of the social protection system. Instead, they are possibly closer to the image of people discouraged by long waits (placing a higher marginal utility on time spent claiming) or perhaps wishing to keep dealings with officialdom to a minimum.

Table 15 reviews all the estimates derived for family benefits in Greece, from both sources. As is evident in the data non-take up is estimated in all cases as substantial, with wide confidence intervals. Any comparison with administrative data (the last but one column with those who declare they take it – fifth column) would lead to a supposition that a substantial number of those appearing not to take up are in fact under-declarers. A further aspect that urges caution is that the *relative* estimated importance of the non-take up issue differs substantially between the HES and the ECHP. Whereas according to the HES the larger non-take up problem exists in the large family benefit, the ECHP ranks the 3rd child benefit as having a larger problem instead. The data appear in the form of two diagrams (diagram 1 and 2 showing all estimates for each benefit, together with the confidence intervals).

However, though on the basis of these data it would be very courageous to impute a number on non-take up, it would be fair to conclude that in all cases examined the problem was in existence; in some cases, it was further estimated as serious.

Table 15

Estimates of the extent of possible take up problems related to large families benefits in Greece

	Data source	Year of Survey	Potential Beneficiaries Who meet children criterioi+ means test (thousands of households)	Potential beneficiaries <i>without</i> means test (thousands of households)	With family benefits (thousands of households)	Without family benefits (thousands of households)	Number of beneficiaries who actually received the benefit (Administrative data)	Possible non-take up (as % of eligible population) 95% confidence intervals	Comments
A. Monthly benefit for 3 rd child	HES	1999	42,6	58,7	11,5	31,1	42,0	32,4%±10,7 %	13,8 thousands of who fail the means test
	ECHP	1994	59,2	59,2	30,8	28,4	26,0	48,0%±9,9 %	System abuse cannot be investigated, as benefits aggregated With other benefits in one category
		1995	62,8	62,8	22,7	40,2	26,7	63,9%±9,6 %	
		1996	62,8	62,8	19,6	43,3	25,5	68,9%±9,6 %	
		1997	75,4	75,4	27,9	47,5	41,3	63,0%±9,5 %	
		1998	66,9	75,2	30,9	35,9	45,2	53,8%±10,9 %	
		1999	64,4	75,1	27,7	36,7	42,0	56,9%±11,4 %	
		2000	56,3	66,5	27,7	28,6	40,2	50,8%±12,5 %	
2001	48,7	57,1	25,3	23,4	38,3	48,1%±13,6 %			
B. Monthly benefit for large	HES	1999	34,5	42,6	25,3	21,9	85,5	67,6%±9,4 %	28,8 thousands of beneficiaries who fail the means test

family (4 children+)	ECHP	1994	57,4	57,4	42,9	14,5	108,6	25,3%±8,7 %	System abuse cannot be investigated, as benefits aggregated With other benefits in one category
		1995	51,8	51,8	43,4	8,4	112,0	16,3%±8,1 %	
		1996	48,2	48,2	41,9	6,3	112,9	13,0%±7,9 %	
		1997	47,5	47,5	34,7	12,8	89,0	27,0%±11,0 %	
		1998	41,8	47,6	30,9	16,7	89,8	35,1%±12,4 %	
		1999	41,2	46,5	34,9	11,6	85,5	25,0%±11,8 %	
		2000	42,4	51,6	41,5	10,1	83,8	19,6%±10,4 %	
		2001	44,9	50,5	37,4	13,1	82,0	25,9%±11,7 %	
Г. Monthly lifetime pension for 3+ children	HES	1999	2,3	3,4	0,6	1,7	197,6		1,7 thousands of beneficiaries even though they fail the means test

Source: Estimates based on microdata of the Household Expenditure Survey and European Community Household Panel.

Diagram 2

Estimates and 95% confidence intervals from all sources

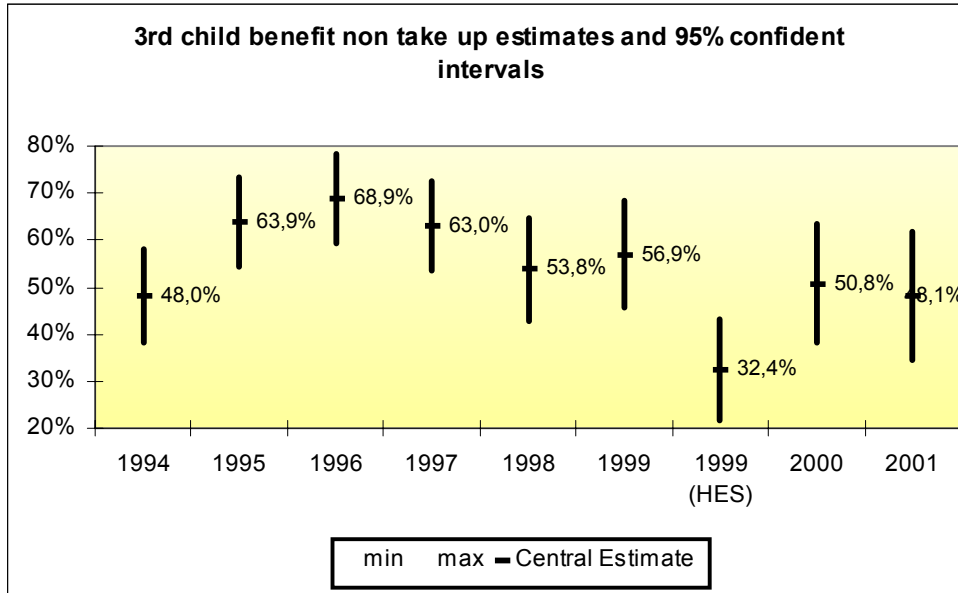
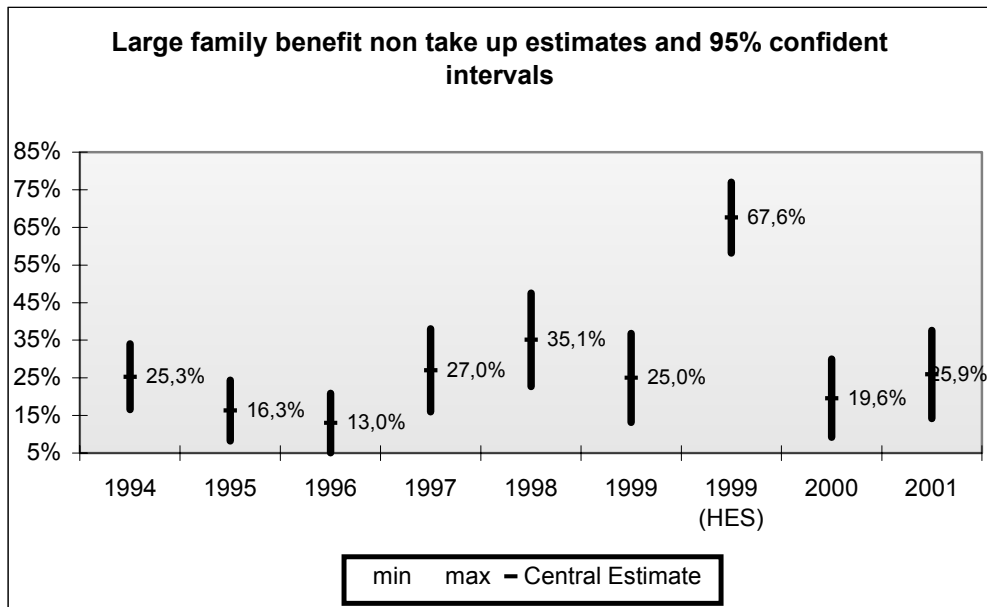


Diagram 3

Estimates and 95% confidence intervals from all sources



Be that as it may, a certain number of key suppositions – or working hypotheses – emerge:

First, a problem of non-take up exists, though its exact magnitude is uncertain. The estimates derived in this paper, even if necessarily couched in very cautious terms,

must be taken to imply that the issue is sufficiently important to (a) warrant further study and (b) to be an explicit concern in benefit design and policy formulation.

Second, the widespread parallel problem of under-declaration which cannot easily be disentangled from the data probably exists in parallel with non-take up and could be serving to disguise its true magnitude. Under-declaration itself is a manifestation of pathology in the administration of social benefits; addressing non-take up cannot happen independently of parallel measures to get to grips with the causes of under-declaration. Combating *both* should be in the priorities of well run social protection systems. The pursuit of quality in the delivery of social protection contains precisely this type of measures.

Third, dealing with take-up issues should be a priority in any social protection system which aims to achieve a particular outcome. Progress in tackling non-take up must go hand-in-hand with adapting social policy to be more open, more results oriented and ultimately more efficient in feeding into societal goals.

What is the way forward? On a national basis further investigation using specialized data that refer to particular population groups – such as the SHARE survey of the over 50s- is probably indispensable. On a European level, the issue of non-take up must be integrated more carefully in the *problematique* of the combating of social exclusion in the context of the open method of coordination. In this context, the first step should be to examine the issue using the new EU-wide successor to the ECHP (EU-SILC) as soon as that comes on stream. Studying the question of non-take up while using a data source common for all EU member states is important for two reasons. By comparing systems with different organizational philosophies, delivery systems, and organizational cultures, information that cannot be gleaned by studying an isolated country can be compiled. Secondly, the issue is sufficiently important to warrant an effort to devise an internationally comparable non-take up indicator¹⁷. Such an indicator could add a valuable dimension to the open method of coordination by providing a quantitative measure of the key concept of quality of delivery of social protection.

¹⁷ For an analysis of the role and importance of indicators in taking European social policy forward and their desired characteristics, see Atkinson et al 2002

References

- Atkinson, T. Cantillon, B. Marlier, E. and Nolan, B. 2002. *Social Indicators: the EU and Social Inclusion*. Oxford University Press.
- Börsch-Supan, Axel, and Tinios, P. 2001. 'The Greek Pensions System: Strategic Framework for Reform', in Ralph C Bryant, Nicolas C. Garganas, and George S. Tavlas (eds.), *Greece's Economic Performance and Prospects*. Bank of Greece and Brookings Institution, 361-451.
- Commission of the European Communities (CEC). 2002. *Joint Report by the Commission and Council on Social Inclusion*, Directorate of Employment and Social Affairs.
- Commission of the European Communities (CEC). 2003. *Joint Report by the Commission and Council on Adequate and Sustainable Pensions*, Directorate of Employment and Social Affairs/ Ecofin.
- Commission of the European Communities (CEC). 2004. *Joint Report by the Commission and Council on Social Inclusion*, Directorate of Employment and Social Affairs.
- Eurostat. 2004. *Statistics in Focus: Poverty and Social Exclusion in the EU*, Luxembourg.
- Ferrera, M. 1996. The 'southern model' of welfare in social Europe', *Journal of European Social Policy* 6 (1): 17-37
- Lyberaki, A. and Tinios, P. 2002. *Work and Cohesion: The National Action Plans for Employment and Social Inclusion* [Εργασία και Συνοχή: Τα Εθνικά Σχέδια Δράσης για την Απασχόληση και την Κοινωνική Ένταξη]. Athens: Papazissis.
- Maddala, G.S. 1977. *Econometrics*. New York: McGraw-Hill. 2nd edition.
- Matsaganis, M. 2004, *Social Solidarity and its contradictions: the role of guaranteed minimum income in modern social policy*. [Η κοινωνική Αλληλεγγύη και οι Αντιφάσεις της. Ο ρόλος του Ελάχιστου Εγγυημένου Εισοδήματος σε μια σύγχρονη κοινωνική πολιτική] Athens: Kritiki.
- Matsaganis, M. 2004a. The rise and fall of selectivity a la Greque. In *Minimum Income Schemes in Europe*. Standing G. ed. Geneva: ILO : 269-292.
- Mosteller, F. Rourke, R.E. and Thomas, G.B. 1970. *Probability with Statistical Applications*. London.
- Ministry of Labour and Social Security (2001). *National Action Plan for Social Inclusion (2001)*, www.europa.eu.int/comm/employment_social/news/2001/jun/napsincl2001_en.html also published (in Greek) in Lyberaki and Tinios, 2002.
- Ministry of Labour and Social Security (2003). *National Action Plan for Social Inclusion (2003-2005)*. www.europa.eu.int/comm/employment_social/news/2001/jun/napsincl2001_en.
- Tatsos, N. 2001. *The grey economy and tax evasion in Greece*. [Παραοικονομία και Φοροδιαφυγή στην Ελλάδα]. Athens: IOVE.