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Computerised Determination of Means Tested Benefits

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Abstract: This paper examines the use being made of computers in providing advice about entitlement to social security and welfare benefits. It describes briefly the history of development of such systems, their usefulness in advice giving and their use as a teaching aid.

One of the very few areas of law where computers have made an impact on determinations, has been that of social security. In parricular the area of assessment of means tested benefits has been one where, over the past ten years, considerable progress has been made in the use and development of computer systems.

This is, perhaps, not surprising as many of the Acts and Regulations for benefits, which have been introduced in that period, are considered to have been designed and drafted in such a way as to facilitate the computerised administration of these schemes.

Means Tested Benefits.

In order to explain the application of computers to benefits, it is worth describing the current structure of means tested benefits in the United Kingdom.

Following a major review of social security benefits in the mid 1980's a new structure of what are termed "Income Related Benefits" was introduced early in 1988. These benefits are Income Support, which is the benefit aimed that those not in full time employment, Family Credit, a benefit for those with children in low paid full time employment and Housing Benefit which is made up of Rent Allowance, to help the housing costs of private tenants, Rent Rebates, a housing allowance for local authority tenants and Community Charge Benefit a rebate system for the Community Charge or Poll Tax.

Other means tested benefits and systems have been based upon the structure of the Income Related Benefits. These include assessment for Legal Aid, the Renovation Grant system, introduced in 1990

to help those renovating buildings considered unfit for human habitation or installing facilities for disabled occupants of dwellings, and the proposed Child Support assessment system to be introduced in early 1993.

There is a high level of commonality in all these Systems in the core way in which assessments are carried out. All have three basic stages in their procedure;

- Stage 1 is to make an assessment of the needs of the applicant
- Stage 2 is to make an assessment of the resources of the applicant
- Stage 3 is to use the figures produced by the first two stages in terms of calculating an award.

There are also conditional tests for these benefits, for example in the case of Income Support an applicant unless of pensionable age, disabled or a single parent will need to satisfy the DSS that they are available for employment.

Needs are generally assessed according to a formula based upon the composition, age and disability of the applicant's family. Firstly an amount is included dependanton the age and number ofadults in the family, there are even amounts included in the formula for cases of polygamous marriages. Amounts are included for children according to four age bands, and these amounts are added together to produce the personal allowances.

Various premiums can also be included in the calculation. There are premiums for different disabilities, premiums for those over pensionable age and there are also premiums for single parents and a family premium which is payable whenever there are children. There is a complicated rule determining which premiums can be payable in conjunction with which others.

For Income Support additional housing costs can also be included in the applicable amount for mortgage interest payments and residential home payments which are not catered for in the housing benefits scheme. The total of these amounts form the Applicable Amount, the term used for a claimant's needs.

Resources are also assessed according to a structured series of rules. Earnings are taken into account net of Tax, National Insurance and half of any pension scheme payments, other income is in general taken into account in full, net of Tax, but there are special rules applying to some items. There are partial disregards of income from some items such as War Widows Pensions and voluntary and charitable payments, there are special rules for assessing income from commercial boarders and sub-tenants, and there are various other disregards for special categories of income for example, there is a £15 a week disregard against earnings from service in the Territorial and other Reserve Forces. Some income is totally disregarded such as Attendance and Mobility Allowances. Income from capital, such as interest from banks and building societies, dividends from shares etc is totally disregarded and instead a system of notional tariff income is used.

Having determined the calculation of the applicable amount and the resources income element of the calculation the benefit assessment can then be carried out. In the case of Income Support this is a very simple calculation where the needs are greater than the resources. Then the amount of Income Support payable, presuming that other conditions are satisfied, is the difference between the two. Where resources are equal to or greater than need then no Income Support is payable.

For other benefits the calculation can be more complex. For Housing Benefit there must also be an assessment of the eligible rent and the eligible Community Charge. The rent is assessed by examining the rent paid, making deductions for any heating or services included in the rent and also making deductions for any non dependents who are resident in the household. For the Community Charge the essential calculation for the eligible portion of the charge is that of 80% of the amount payable by the applicant. Where the needs are greater than the resources then the Housing Benefit

will meet the eligible rent and the eligible Community Charge in full but where the resources are greater than the needs, a deduction of 65% of the difference from the eligible rent and 15% of the eligible community charge is made and the result is payable as benefit.

Administrative systems.

The structure and complexity of these means tested systems is such that they are immediately attractive as examples of systems apparently readily amenable to computerisation in order to effectively automate the assessment and awards system.

The public bodies responsible for assessment, award and payment of these benefits have long been making use of computerised assessment.

Local Authorities actively encouraged by the government, local authority associations and bodies such as CIPFA (Chartered Institute of Public Finance and Administration) have largely become dependent upon computerised assessment and administration of the housing benefit scheme. In a survey in 1990 by the author, of local authorities administering Housing Benefit, 77.37% are totally computerised in their assessment, 22.63% are partly computerised and using partly manual systems and 0% of the respondents were using totally manual assessment systems.

Central government has been slower in moving towards computerised assessment of benefits but the largest computerisation scheme in Europe, now being implemented, is that of computerisation of the Department of Social Security.

The implementation, particularly of housing benefit systems, has had a history of problems; technical, financial and particularly those caused by late implementation. Local authorities have consistently complained that changes to regulations do not give them sufficient time to amend programs or introduce new systems.

Advisory systems.

For the purposes of this paper I shall not be looking in detail at systems which are designed for the administration, award and payment of benefits but at systems which have been developed with the intention of providing advice and information about entitlement to these benefits.

A number of these systems have been developed and are in use for both mini and micro-computers. The first of these systems was that known as the Inverclyde System developed by Adler and Du-Feu in1975.This was a mainframe system which took information collected from an enquirer on a large and complex form, the information was keyed in by operators onto punched card and a batch run produced letters outlining probable entitlement which were posted to the enquirer about a week later. The system was a success computationally but less so in terms of encouraging take up. There were problems in the design of the complex forms used for collection of the personal information required for assessment and in the clarity of the calculated output. The developers recommended that work should be carried out in developing an interactive system, where the client could receive the information, explanation and help, If necessary, at the time of interview.

The first micro-computer based system, and also the first interactive system, where the computer determined the questions to be asked by answers to questions already entered, which enabled a direct interview of the client, was the system known as WRAP: the Welfare Rights Assessment Program produced by the author at the Cardiff Citizens Advice Bureaux in 1980 and since then there have been a number of other programs produced on either micro-computers or hand held systems.

Description.

Welfare benefits advisory systems have, by necessity, a high degree of similarity to each other in their method of operation. They must collect the information from the client, carry out the calculations and display the results.

The process is designed in such a manner as to minimise the collection of unnecessary information, questions are selected on the basis of answers to earlier questions. The answers are normally figures, for example number of children or amount of earnings, Yes or No, for example, 'Is anyone sick or disabled?', or selection from a list or menu, for example selecting housing type.

The results are displayed on screen and in some cases can also be printed out. The detail of results differs from system to system; some display full details of the calculations, the personal allowances, the premiums, the housing elements and the different income types while others show only the net result.

There are different breadths of coverage also, the small hand held systems tend to cover the core means tested benefits whilst there are desk top systems for PCs and Unix machines which cover virtually every benefit available, including national insurance benefits and disability benefits. The larger systems can also include comprehensive help and information systems giving detailed advice, containing details of relevant precedents and extracts from regulations.

Development and maintenance.

Some of the advisory systems developed in the past decade have survived whilst many have not. Some systems have failed because of poor design or implementation but many more have failed because of an underestimate of the long term maintenance work involved in such systems.

Software developers have often been able to make reasonable estimates of the costs and effort involved in computerising the rules as a snapshot as it were of their status at one particular time. What many have failed to understand is the degree to which social security law is a moving target. As well as the fairly regular major changes introduced to the social security system by government reviews and changes of government and policy the regulations are amended frequently to reflect such elements as changes in benefit rates, loophole plugging and amendments to respond to special circumstances or pleadings.

In 1990 for example there were 75 Statutory Instruments in the area of Social Security alone. What this means in practice is that it is not infrequent for three or four sets of regulations to be published in a particular week, any of which may require major programming changes to be made to the assessment programs, with all the attendant necessity for specification, testing, documentation and issuing of updates to users. This means that, even more than usual in computerised systems, the means tested systems are maintenance heavy. It also means that the costs of such systems tilt towards the maintenance and updating of them and, commercially some developers have failed because of underestimating this factor or neglecting to develop suitable tools and techniques.

The content of the programs is drawn from several different sources. The most important are the Acts and the Regulations. Like much legislation today the Acts are mainly enabling, setting down the basic framework for the benefits whilst the detail and subsequent amendments are filled out by Regulations. As well as these, benefits law can be set by the Courts and by Commissioners of Social Security, whose decisions can establish binding precedent. Guidance to officers of the DSS and local authorities in areas where their discretion is available to them, is also produced by the Chief

Adjudication Officers in the Adjudication Officers Guide and by circulars from the Department of Social Security. All these sources must be constantly monitored in order that the programs reflect the changing state of the Systems. In my company we also monitor closely publications in the Welfare Rights field which is often where the first problems, mistakes and loopholes in Regulations are identified.

Where a change or changes have been identified which require amendments to the programs, either to the calculation sections or to the information and help sections, what followed would normally have to take a fairly lengthy period of time in terms of traditional program development. However, the traditional cycle of analysis, specification, programming, testing, refinement, is difficult to carry out when, not infrequently, we are dealing with a set of Regulations which take effect from midnight that day. Clearly a welfare benefits program that is out of date or inaccurate is worse than useless, and we therefore have a responsibility to the users of our systems to ensure that they are updated as quickiy as is possible whilst maintaining the accuracy of the systems.

We have therefore developed several techniques which enable us to move directly from the Regulations to the programming stage. It should be stressed that these programs although rule based are not expert systems. Traditional expert systems shells and techniques have not proved satisfactory for the analysis and implementation of welfare benefits programs despite the initial attraction of the rules based regulatory system.

We are able therefore to produce updated versions of our systems rapidly. and accurately and these amended programs must then be distributed to the end users together with any relevant documentation.

Usage.

A Community Information Project factsheet usefully commented on the attraction to advisors of using a computer to carry out the complex calculations, outlined above, necessary in benefits assessment and also focussed on concerns.

> "Such a system can have many advantages..
> The series of questions appearing on the screen reminds an adviser what to ask the client, and can ensure that a possible benefit is not forgotten..
> The computer can probably do the sums far quicker than anyone with a calculator - especially in complex cases - and it will get the same result each time..
> If comparative (or 'what if') calculations are carried out, where the first is followed by a similar calculation with just one or two different figures, the second (or third, or fourth) need not be entered from scratch. The answers in the first calculation can be retained, with just the relevant ones changed for the next calculation, and the computer will recalculate and produce the result..
> The programs are updated regularly by the suppliers to cover the frequent changes in the benefits system. The old rates and rules are replaced by new ones each April - and usually each October too..

Concerns.

The programs can be a useful tool in providing advice on welfare benefits. But they should never been seen as a substitute for skilled advisers. There are dangers if they are used by people without knowledge of the welfare benefits system..

Calculations are usually just part of an individual case, and will not solve the case in isolation..

Social security rules are complex. Each benefit can interact with others, causing confusion. It is vital to understand what is being asked and how each benefit relates to others. A program can be a useful guide through this 'maze', but they should not be used to reach a result without understanding how and why the calculations have been carried out..

Entitlement to benefits is supposed to be based largely on mandatory criteria, but it is not always easy to decide whether someone fits a given category or not. Computers are not suitable for making such judgements..

Rules and rates can change very rapidly, and are often introduced at short notice at any time in a financial year. Even when programs are updated regularly it is important to be aware of these changes and their effects.

Furthermore, computers can often appear rigid. Programs ask questions in a set order, which might be quite different from the approach of an individual - either the client or the person who is advising him/her. Computers may not be appropriate in an interview and access to a machine can also be a problem". (CIP)[1]

From the point of view of a hard pressed advisor carrying out a benefits interview there are some functional advantages. For example the computer program, which functions by asking aseries of questions and collecting the answers, should ensure that no relevant question is unasked and therefore unanswered and also no irrelevant question is asked.

Where the advisor has confidence in the publisher of the program there is also less necessity for them to be responsible for monitoring changes in benefits rules and regulations that they would have to were they to be assessing entitlement in the more traditional manner although there are risks that this attitude could lead to de-skilling of the advisor.

> "Computer programs can play a useful part in the provision of welfare benefits advice - especially when carrying out comparative, 'what if' calculations. However, they should not be regarded as substitutes for knowledge of the benefits system itself and will not provide automatic solutions to all the complexities of this system.
>
> If introduced as part of an overall strategy, welfare benefits calculation programs can be valuable tools. But without a thorough understanding of the benefits system, solicitors would not be able to make effective use of a program. Just as word processing will not automatically turn you into a good writer, a calculation program will not turn you into a benefits expert." (Computers and Benefits - a Solicitors guide to welfare benefits programs 1991)[2]

Education and Training.

There is, however, some evidence that, if a calculation program will not make the user a benefits expert, it can increase the user's knowledge and awareness.

Many users of computerised social security assessment systems have commented that one of the by-products of such systems has been that of improving the skills and knowledge of the users in the welfare benefits area.

A CAB organiser wrote of the early WRAP system, "My own feeling is that the program is probably less useful to welfare rights specialists than to people who find it difficult to get to grips with calculations or who are perhaps part time workers, as are the majority of CAB volunteers. One of the spinoffs of this system has been that volunteers who have used it have been made more aware of the possible questions that can be asked. This is of course subjective, but I would say that the standard of advice giving on welfare benefits without the use of the computer (inevitably the vast majority of our benefits work) has improved as a consequence." (Computanews)[3]

This sort of anecdotal evidence has been supplemented more recently by research at Southampton University. The Computers in Teaching Initiative which is situated in the Departrnent of Social Work Studies at Southampton University have been examining the use of computers in the teaching of social workers. In the summer term of 1990 they carried out a field trial to test whether students using a computer package devised to calculate benefit entitlement, in conjunction with specifically designed case material, would;

(a) gain more information about welfare benefits entitlement, and

(b) be better able to assess welfare benefit entitlements for individuals than students working from printed material.

They randomly assigned students to two groups, one working exclusively with a computer package and the other working primarily with the handbooks produced by the Child Poverty Action Group and other written materials to which they had access. About half of the group of 43 students taking part in the exercise had received no training in welfare benefits previously and the remainder had received between 6 and 12 hours of teaching. About 60% had none or very little experience using computers whilst 40% had some or substantial experience. There were no significant differences between the two groups on these variables.

The results of the case studies were particularly interesting.

"There were dramatic differences between the two groups in their ability to determine correctly the benefit entitlements of the individuals and families described in the case studies, as can be seen in the following table;

Group	**CAL**	**DOC**	
High, <19	20	1	CAL - Computer Assisted Learning
Low, >19	2	20	DOC - Document Using Group

The researchers also came to the conclusion that although they had been studying the usefulness of a computer based package in teaching welfare rights to social work students the strongest finding was the importance that such a facility had as a regular part of social work practice.

One interesting point in the study was a significant difference between the results and their original hypothesis.

"Our hypothesis at the beginning of this project was that those students who had both undertaken a course in Welfare Benefits and had the training session with the Maximiser (the computer program) had scored noticeably higher than the other groups on both the knowledge test and the test cases. Our results clearly do not support this. The significant factor in enabling our students to identify and calculate entitlement to benefits was the use of the computer program and previous teaching was insignificant in helping them to do this." (An exploration of the usefulness of the welfare benefits computer package in social work training).[4]

Use by lawyers.

It is commonly believed that social security is one of the weakest areas of legal expertise in the UK. There is some evidence to support this from success rates of appellants represented by solicitors at Social Security Appeal Tribunals.

It is easy to understand possible reasons why this is so, the absence of Legal Aid for most Social Security Tribunals, the poverty of most welfare benefits recipients, the ignorance of most clients about benefit rights and entitlements all lead to a situation where there is little financial incentive to most lawyers to acquire expertise in this area. However most lawyers would agree that in areas of family law especially marriage breakdown, industrial law especially unemployment and redundancy and personal injury; an assessment of a client's social security status could be of use both to the client as a statement of entitlement during a period of changing circumstances and to the solicitor as a added value service to the client and in some circumstances as an integral part of the client's case, for example where personal injury cases, disability benefits may need to be recovered or offset against an award.

With the particularly complex means test proposed in the Child Support Scheme, and the possibility of changes to the legal aid scheme requiring calculations by solicitors, lawyers may be forced to begin making assessments. It may be that computers have a useful role to play in this, both in practice and in training.

For more consideration of this, I would recommend to those interested the Law Society's publication "Computers and Benefits - a Solicitors guide to welfare benefits programs. 1991.

References

1 Community Information Project - A factsheet on welfare benefits computing

2 Computers and Benefits - a Solicitors guide to welfare benefits programs 1991 pubhshed by the Law Society.

3 Computanews No 1 CIP London January 1984.

4 An exploration of the Usefulness of a Welfare Benefits Computer Package in Social Work Training by Patrick Hayes and Mary Acton, published In New Technology in the Human Services Volume 5 No 3 Spring 1991 published by the CTI Centre for Human Services at Southampton University.

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