

Standard Occupational Classification - Introduction

1. General background and introduction

The Standard Occupational Classification (SOC) has been developed in collaboration by the Employment Department Group (EDG)¹ and the Office of Population Censuses and Surveys (OPCS).

SOC replaces both the Classification of Occupations and Directory of Occupational Titles (CODOT) and the 1980 version of the OPCS Classification of Occupations (C080). CODOT was published in 1972 by a predecessor of EDG and has been used and supported since by EDG both in client-oriented applications (e.g. job placement, vocational guidance) and as a basis for labour market statistics. C080 was developed from a series of earlier classifications used in OPCS to code occupational information on census of population forms and in many other applications.

In developing C080 a partial harmonisation for statistical purposes was made between it and CODOT. This gave rise to the classification known as Condensed Key Occupations for Statistical Purposes (Condensed KOS). By the mid-nineteen eighties C080, CODOT and Condensed KOS all needed extensive revision and a decision was accordingly made to update and replace them by developing the Standard Occupational Classification.²

It happened that the 1968 version of the International Standard Classification of Occupations (ISCO), developed and promulgated by the International Labour Office, was also simultaneously up for revision. The joint IER/OPCS SOC development team took the opportunity to consult and liaise with the ISCO revision team at ILO in order to achieve the closest feasible harmonisation between SOC and the new International Standard (ISCO 88).

Technical development work was carried out on contract to EDG by the Institute for Employment Research of the University of Warwick (IER). A development team at IER worked closely with a team from OPCS, consulting with users in the employment field within and outside EDG as development proceeded. OPCS also consulted users of the occupational and occupation-based statistics and data which it provides through censuses and surveys.

2. The SOC Manual

The present manual is being published to enable operational users in both research/statistical and client-oriented applications to use SOC in as consistent a way as possible; and to enable users of SOC-based occupational statistics to understand the classificatory principles and coding practices according to which those statistics are produced. The manual is published as three volumes — Volumes 1 and 2 together, followed later by Volume 3.

The remainder of Volume 1 comprises the following sections. Section 3 gives a brief account of some important principles, concepts and conventions according to which SOC has been developed. Section 4 explains the treatment in SOC of some technical problems in the classification of occupations. Section 5 sets out the detailed SOC structure of Unit,

¹ Consists of: the Department of Employment, Employment Service and Training Agency

² For further information see R. Thomas and P. Elias 'The development of the Standard Occupational Classification', Population Trends, No. 55 Spring 1989

Minor, Sub-major and Major Groups. Section 6 gives a description of each of the groups distinguished and lists job tasks which persons classified to the group typically carry out and common job titles which are classified to the group.

Volume 2 mainly consists of a detailed alphabetical index of job titles, giving the SOC Unit Group to which each is assigned. This is designed for use in coding occupations. To assist consistent coding some guidance notes are provided on the way in which the index has been compiled and organised so as to show how to locate exactly the right index entry, given the kind of description of the job typically provided by informants. These notes form the introductory sections to Volume 2.

Volume 3 (to be published later) covers several different topics. The first part describes in detail how summary socio-economic classifications derived from information on occupation and employment are formed using data coded to SOC (plus certain ancillary information). The second part provides information on the degree and nature of discontinuities between SOC and its predecessor C080. The third part contains some remarks on issues arising in implementing the classification and coding of occupations and in the use of socio-economic classifications derived from information on occupation.

3. Principles and concepts

3.1 Types of economic activity classification

In classifying jobs and persons by reference to their economic activity four distinct concepts are generally recognised and separately measured in standard statistical sources. These are:

1. Economic activities status
2. Occupation
3. Status in employment
4. Industry

Economic activity status defines whether the person is or is not at some reference time a member of the workforce. In practice those in paid employment and those currently looking for or available for paid employment are classified as economically active and the remainder as economically inactive. Many economically inactive persons (e.g. most of those wholly retired from employment) have, of course, had an occupation at some time in the past.

Occupation is most often determined by reference to a person's main job at the reference time, but for persons not currently employed may be determined by reference to the most recent, or most recent main, job. The SOC principles used in classifying occupations are discussed below.

Status in employment refers to the relationship of a person doing a job to the means of production (i.e. proprietor or self-employed versus employee); and, for an employee, to his or her position in the seniority structure of the workplace (e.g. apprentice/trainee, foreman/supervisor, manager, other employee). Not all these status distinctions are made in every data source and there have been differences over time and between

different classificatory schemes as to whether certain distinctions should be built into the classification of occupations or introduced separately. For their treatment in SOC see Sections 3.2 and 4.2 below.

Industry refers to the economic sector to which the work done in a particular job contributes. It is usually defined by reference to the main product made or service performed at the workplace at or from which a job is carried on. Thus the job of a person who is occupationally a carpenter will be classified industrially to building, if employed by a building firm, but to brewing, if employed by a brewing firm. Most occupational groups include jobs located in many different industrial sectors but there are some cases of occupations which in practice are associated almost entirely with one particular industry. In general, classification of occupations to SOC takes no account of information on industry, but for certain exceptions to this see Section 4.3 below and the Notes on coding included in Volume 2 of the SOC Manual.

3.2 Objects to be classified and criteria of classification

SOC has been designed as a classification applicable to all paid jobs currently done by economically active persons in Great Britain. Any given job is assumed to involve a set of typical work activities and to be an instance of one particular occupation. The object has then been to group together occupations (basically by reference to job titles) which are deemed to be similar, taking simultaneous account of two main criteria. These criteria are: the level of skill and/or experience and/or formal qualification which is required to carry out competently the work activities typically involved in the occupation, and the nature of those work activities. These same criteria are applied as principles of aggregation at different levels within SOC (see Section 3.3 below).

These criteria are not new and have been implicitly or explicitly invoked in previous schemes of occupational classification. However, in the case of SOC a thorough-going attempt has been made to apply them in a consistent manner throughout the classification.

The first criterion —skill level —is applied where possible by reference to the level of formal qualifications currently required in order for a person to be recognised as fully competent in the occupation concerned but in other cases by reference to the duration of training and or experience recognised in the field of employment concerned as being normally required to pursue the occupation competently.

The second criterion —nature of work activities -may refer to any or all of a number of aspects of the work, including the materials handled, the type of tools and equipment used and so on. However, it focusses specifically in all cases on work activities. rather than on other aspects of the job such as, for example, whether the worker has trainee or supervisory status, or what industrial function the job serves. These are ignored by SOC —so that, for example, a ‘carpenter’, an ‘apprentice or trainee carpenter’ and a ‘foreman carpenter’ are all assigned to exactly the same occupational group. (For limited exceptions in the case of managerial occupations see Section 4.3 below.)

In this respect the SOC unit group classification differs from the classificatory scheme of C080, where some groups are distinguished by reference to whether or not the job-holder had the status of a foreman or supervisor.

other criteria which have been significant in the development of the SOC are:

- . to ensure that the classification bridges past and future usage —i.e. that a balance is struck between the need to provide so up-to-date classification which will be used for some time into the future and the need to retain a reasonable degree of continuity with previous classifications;
- to reduce the usage of ‘not elsewhere classified’ categories which appeared in previous classifications;
- to identify additional occupational categories in areas of work where women predominate and which lacked differentiation in previous classifications;
- to recognise significant developments in the structure of occupations over recent years and take account of the modern usage of job titles;
- to distinguish occupations in ways which can be reliably classified using responses to the Census of Population, the Labour Force Survey and the New Earnings Survey;
- to align as far as possible with ISCO 88.

Further information on the application of these criteria is given in Section 4.1 below

3.3 Structure of the classification

Unlike C080, but like CODOT and ISCO 88, SOC has an explicitly hierarchical structure. At the most detailed level of classification 374 unit groups are distinguished. Each occupation unit group is allocated to a minor group (two-digit), of which there are 77 and a major group (one-digit), of which there are nine.

The major group structure is a set of broad occupational categories which are designed to be useful in bringing together unit groups which are similar in terms of the qualifications, training, skills and experience commonly associated with the competent performance of work tasks. The divisions between major groups also reflect the important aim of aligning SOC as far as possible with the international classification ISCO 88, in which major groups are distinguished on similar criteria.

Table 1 shows the nine major groups of SOC, defined in terms of the general nature of the qualifications, training and experience associated with competent performance of tasks in the occupations classified within each major group.

Table 1: General Nature of Qualifications, Training and Experience for occupations in SOC Major Groups

Major Group	General Nature of Qualification, Training and Experience for occupations in the Major Group
Managers and Administrators	A significant amount of knowledge and experience of the production processes, administrative procedures or service requirements associated with the efficient functioning of organisations and businesses.
Professions Occupations	A degree or equivalent qualification, with some occupations requiring post graduate qualifications and/or a formal period of experience-related training.
Associate Professional and Technical occupations	An associated high-level vocational qualification, often involving a substantial period of full-time training or further study. Some additional task-related training is usually provided through a formal period of induction
Clerical and Secretarial occupations	A good standard of general education. Certain occupations will require further additional vocational training to a well defined standard (e.g. typing or shorthand).
Craft and Related Occupations	A substantial period of training, often provided by means of a work-based training programme.
Personal and Protective Service Occupations	A good standard of general education. Certain occupations will require further additional vocational training, often provided by means of a work-based training programme.
Sales occupations	A general education and a programme of work-based training related to sales procedures. Some occupations require additional specific technical knowledge but are included in this major group because the primary task involves selling.
Plant and Machine Operatives	The knowledge and experience necessary to operate vehicles and other mobile and stationary machinery, to operate and monitor industrial plant and equipment, to assemble products from component parts according to strict rules and procedures and subject assembled parts to routine tests. Most occupations in this major group will specify a minimum standard of competence that must be attained for satisfactory performance of the associated tasks and will have an associated period of formal experience-related training.
Other Occupations	The knowledge and experience necessary to perform mostly simple and routine tasks involving the use of hand-held tools and in some cases, requiring a degree of physical effort. Most occupations in the major group require no formal educational qualifications but will usually have an associated short period of formal experience-related training. All non-managerial agricultural occupations are also included in this major group, primarily because of the difficulty of distinguishing between those occupations which require only a limited knowledge of agricultural techniques, animal husbandry, etc. from those which require specific training and experience in these areas. These occupations are defined in a separate minor group.

Minor groups in SOC are distinguished mainly by reference to the type of work performed or the area of occupational specialism which characterises the constituent unit groups.

Each Unit Group is identified by a three-digit number, which indexes its position in the SOC structure as shown in the following example.

Town Planners SOC Unit Group 261

The first digit references the major group, the second digit references the minor group, the third digit references the unit group, as follows:

Major group 2	Minor group 26	Unit group 261
(Professional occupations)	(Architects, town planners and surveyors)	(Town planners)

Within each level of the classification the digit '9' is reserved for occupations 'not elsewhere classified' at each level of the structured classification.

Following the lead of ISCO, it was acknowledged that some analysts may feel the need for a classification more detailed than SOC Major Groups, but less detailed than Minor Groups. In order to meet this need a further level between Major and Minor levels is defined, known as Sub-major Groups. The 22 Sub-major Groups are defined in Table 2 which follows and may be formed by aggregating Minor Groups, but the Sub-major Group level of classification is not indexed in the numbering system.

The sub-major groups are particularly useful in that they distinguish between some of the broad groups of occupations which, because of the nature of their associated qualifications, training or work experience, are aggregated into the same major group. Thus, for example, important distinctions are made in Major Group 1: Managers and Administrators, between managers of small businesses and other managers; in Major Group 2: Professional Occupations, between science and engineering, health and education professions; in Major Group 3 between science and engineering on the one hand and health occupations on the other in Associate Professional and Technical occupations. Major Group 4 distinguishes clerical from secretarial occupations at the level of sub-major groups. In Major Group 5: Craft and Related Occupations, skilled construction and skilled engineering trades are separately identified because of their numerical importance in this major group and their distinctive training requirements. In Major Group 6: Personal and protective Service Occupations, protective service occupations (armed forces, fire, police, prison, security occupations) are identified separately at the level of sub-major group. Major Group 7: Sales occupations, separates buyers, brokers and sales representatives from other sales occupations at the level of sub-major group. In major Group 8: Plant and Machine Operatives, drivers and other mobile machine operators are distinguished from other plant and machine operators and assembly workers. Major Group 9: Other Occupations distinguishes between the agricultural group of occupations and other elementary occupations at the level of sub-major group, recognizing the special treatment of agricultural occupations in the Standard Occupational Classification (see Section 4.4).

Table 2: The Definition of Sub-Major Groups and Constituent Minor Groups

Major Group	Sub-major Groups	Constituent Minor Groups
1 Managers and Administrative	a) Corporate Managers and Administrators	10,11,12,13,14,15,19
	b) Managers / Proprietors in Agriculture and Services	16,17
2 Professional Occupations	a) Science and Engineering professionals	20, 21
	b) Health Professionals	22
	c) Teaching Professionals	23
	d) Other Professional Occupations	24,25,26,27,29
3 Associate Professional and Technical Occupations	a) Science and Engineering Associate Professionals	30,31,32
	b) Health Associate Professionals	34
	c) Other Associate Professional Occupations	33,35,36,37,38,39
4 Clerical and Secretarial Occupations	a) Clerical Occupations	40,41,42,43,44,49
	b) Secretarial Occupations	45,46
5 Craft and Related Occupation	a) Skilled Construction Trades	50
	b) Skilled Engineering Trades	51,52
	c) Other Skilled Trades	53,54,55,56,57,58,59
6 Personal and Protective Service Occupations	a) Protective Service Occupations	60,61
	b) Personal Service Occupations	62,63,64,65,66,67,69
7 Sales Occupations	a) Buyers, Brokers and Sales Reps.	70,71
	b) Other Sales Occupations	72,73,79
8 Plant and Machine Operatives	a) Industrial Plant and Machine Operators, Assemblers	80,81,82,83,84,85,86, 89
	b) Drivers and Mobile Machine Operators	87,88
9 Other Occupations	a) Other occupations in Agriculture, Forestry and Fishing	90
	b) Other Elementary Occupations	91,92,93,94,95,99

4 Approach to certain technical problems in the classification of occupations

4.1 Continuity versus up-to-dateness

The development of SOC has inevitably required compromise between, on the one hand, the need for a classification which adequately and usefully reflects the current structure of occupations; and, on the other hand, the need for a reasonable degree of continuity in the classifications used in producing statistics, as a basis for comparisons over time.

In pursuing the first of these goals a strong effort was made to move where necessary towards more consistent use of the two criteria described at 3.2 above in drawing distinctions between groups.

A further major effort was concentrated on the 'not elsewhere classified' (n.e.c.) groups which appeared at various places in CODOT, KOS and C080. These groups contained a number of well-identified types of job which were neither common enough to justify being given a separate occupations group of their own, nor had enough in common with existing occupational groups to be included in any of them. They thus had something of a 'rag-bag' character and were not very useful for analytic purposes. In developing SOC the aim was to adjust group definitions in a way which ensured that as many as possible of the jobs previously assigned to n.e.c. groups could be more usefully classified. As a result, the proportion of jobs allocated to n.e.c. groups is much reduced in SOC.

A third aim in developing SOC was to reconsider the occupational groups to which high proportions of jobs done by women were allocated. It was felt that previous classifications might for historical reasons have a bias towards finer classification of traditionally male than of traditionally female occupations. Special attention was given to the treatment of clerical, teaching, nursing and child care occupations, for example, and in each of these cases it was found possible to introduce a finer classification.

A fourth aim in developing SOC was to take account of changes in the structure of occupations which had manifested themselves since 1980. Such changes had become apparent to users of C080 CODOT and KOS and many were naturally in areas of rapid technological development, such as computing. A particular problem with 'new' jobs is that job-title terminology, on which occupational classification depends, may not have settled into a consistent pattern. Efforts were nevertheless made to take account of 'new' or greatly expanded occupations and areas of employment by adjusting group boundaries and, where justified, creating new occupational groups.

Other changes, such as the convergence of existing occupational groups through automation and 'de-skilling', are also certainly taking place, but are much harder to identify unambiguously. It is therefore likely that in this respect SOC, like its predecessors, tends to be conservative in recognizing old distinctions which are embedded in job-title terminology.

The result of efforts in these four directions clearly had to be a degree of discontinuity for statistical purposes with both C080 and KOS. It is hard to define summary measures of discontinuity which would not be misleading in some contexts. A section dealing with this topic is therefore included in Volume 3 of the SOC Manual.

4.2 Information base for SOC coding

SOC has been developed for application to raw data collected in surveys in broadly the same way as in the national Census of Population. Recent censuses have contained two questions addressed to occupation, the first asking for the title of the person's job and the second for a brief description of the main job activities. The questions are answered in the census by a household form filler who may or may not consult other members of the household.

The 1991 Census will include questions on industry and on higher qualifications and in certain situations the answers to these may be used to improve the accuracy of occupational coding to SOC. However, it is intended that SOC should permit reasonably accurate coding on the basis of answers to questions on job title and job activities, without recourse to such ancillary information.

It is anticipated that many data sources to which SOC is applied will be broadly comparable to the census, others better and some worse. Better occupational information may be obtained by trained interviewers who are able to speak directly to job holders, or by persons experienced in job placement who are able to speak directly to job applicants or employers. It should, however, be noted that fuller information about jobs is not necessarily better information for SOC coding purposes. Coding is likely to be most accurate and reliable where the information recorded is succinct but directly relevant to the distinctions which SOC aims to make.

4.3 Treatment of managerial occupations

An area where nature of activities, type of skill and status in employment may be difficult to separate conceptually is management. The SOC approach is to treat jobs where the main activity is, 'management above the level of a first-line supervisor or foreman', as requiring a special class of skills and thus needing to be classified separately from the jobs of the workers managed.

Thus in allocating jobs to occupational groups SOC takes account, in appropriate and defined cases, of the designation 'manager' and also of indications that the person is the proprietor of a business. These are treated as indications that the job involves activities and skills typical of managers. On the same principle there are a few cases (indicated in the SOC index) where allocation to an occupational group may be assisted by a knowledge of whether or not the person has self-employed status. In these limited respects information on status in employment is taken into account in SOC.

4.4 Treatment of agricultural, forestry and fishing occupations

occupations which are specifically agricultural, forestry and fishing, but not managerial, in nature are allocated to Minor Group 90 of SOC and its constituent unit groups. This solution is a compromise. This group of occupations is sufficiently distinct from other occupations to require their own small set of minor groups and might therefore claim their own major group. However, one criterion for distinguishing major groups was that each should contain a substantial proportion of all occupations; and the proportion of the labour force of Great Britain currently engaged in agriculture, forestry and fishing is now so small that major group status was judged not to be appropriate.

4.5 Treatment of labouring and similar unskilled occupations

Jobs having the title 'Labourer' are in general classified, along with other jobs requiring relatively little skill, qualification or experience, to Major Group 9 of SOC. Because of the unspecific terms in which many such jobs are reported in practice it is necessary to invoke a quasi-industrial principle for classifying below major group level. This gives rise to minor group headings such as: '91 Other occupations in mining and manufacturing'; '92 Other occupations in construction'; and so on. Each of these contains unit group titles which convey some useful information about the jobs classified to them.

The ultimate recourse is to Minor Group 99 and Unit Group 990, which is a catch-all for 'All other labourers and related workers'. The practical implications of this are tending to diminish as the number of generalised unskilled jobs in the economy continues to decline.

4.6 Treatment of Armed Forces occupations

Members of the Armed Forces may in certain cases have jobs which are unique to that sector of the economy. SOC makes provision for military occupations specified in terms of ranks (e.g. 'Lieutenant Commander', 'Sergeant' etc.) in Minor Groups 15 (Commissioned Officers) and 60 (NCOS and Other Ranks).

In other cases job titles, if given, may equate to those of civilian jobs (e.g. vehicle mechanic, radio operator etc.), though of course the persons concerned all hold military ranks also. Here the basic classificatory assumption is that both Armed Forces and civilian jobs will be coded to the same groups without any distinction being made between them.

In practice, however, this assumption is somewhat academic, since members of the Armed Forces are normally under orders for security reasons to give only a minimum amount of information about their job titles and activities when responding to censuses and surveys. In the coding of the 1991 Census it is likely that most members of the Armed Forces will identify themselves by rank only and be classified to Unit Groups 150, 151, 600 and 601 as appropriate.

5 Updating of SOC

Changes occur in work organisation as a result of technological developments, use of new materials, improved methods of production or delivery of services etc. New occupations arise either because tasks are enlarged, contracted or combined within and between existing occupations or because new, different tasks are introduced into the organisation of work. Such new occupations may become sufficiently important to warrant their recognition and inclusion in the classification. Additionally, new index entries for Volume 2 may be required.

The Occupation Information Unit, which has been set up within the Office of Population Censuses and Surveys to support SOC, would welcome information on such changes. This will be taken into account in the periodical updating of SOC.

Please contact,

Occupation Information Unit,
Office of Population, Censuses and Surveys.
Segensworth Road,
Titchfield,
Fareham,
Hants,
PO15 5RR

Telephone Titchfield (0329) 42511