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Chapter 9

Three Internationally Standardised Measures for Comparative Research on Occupational Status[1]

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1. INTRODUCTION

The classification and scaling of occupations constitutes the foundation of much, if not most, research on social stratification. Whether one studies access to desirable positions in societies (such as education or income), consumer styles, health outcomes, social interaction patterns, or social values and attitudes, measures of social background will more likely than not include a measure of social position derived from occupational position. In addition, the study of access to occupations is an important research topic in its own right. Ever since it was recognised that the division of labour is the kernel of social inequality, stratification researchers have developed ways to derive social status measures from information on occupations. Typically, this involves two steps. First, information about occupations is secured in a detailed classification of several hundred categories, often census or other official classifications. In comparative research with existing data, the task is often to reconcile the various classifications that have been used to code detailed occupational information in the component studies. In a second step, these detailed occupational classifications are recoded into *status* measures of more manageable size and sociological relevance, depending on the preferences of researchers and the nature of their research questions. There

[1] This paper digests and updates two earlier publications (Ganzeboom, De Graaf and Treiman 1992; Ganzeboom and Treiman 1996).

are many derived scales and broad classifications in circulation (Grusky and van Rompaey 1992).

It comes as no surprise that the cross-national comparative measurement of occupational status has been hard to achieve. There are several reasons for this. First, detailed occupational classifications tend to differ both cross-nationally and, within societies, over time (national census bureaus typically upgrade their classifications for each new census). Classifications differ not only with respect to the level of detail and specific occupational titles included, but also with respect to their logic. For instance, some detailed classifications distinguish employment statuses (such as proprietorship or supervisory status) within the same occupations while others do not. Some classifications are heavily industry-oriented and others are not. Some classifications distinguish thousands of detailed occupations, while others differentiate only among dozens or even fewer categories. These differences partly reflect variations in the occupational structure of the respective societies and the institutions that have evolved around them (such as the 'statutory status' of occupations). However, in part the differences between national classifications must simply be attributed to idiosyncrasies that have evolved for no other reason than the lack of coordination.

Second, there is wide disparity among stratification researchers with respect to the logic and contents of the derived scales applied in actual data analysis. Researchers have organised detailed occupational categories into broad groupings or continuous scales in many different ways. Here again, these differences in part reflect differences in theoretical interests, but in part they result simply from the lack of coordination of sociological research as an international enterprise.

Fortunately, a number of developments have reduced this babylonic confusion of tongues. The International Labour Office (ILO) of the United Nations has produced a Standard Classification of Occupations (ISCO) – for the first time in 1958, but with revisions in 1968 and 1988. In order to generate a standard classification, ILO pooled occupational titles from national classifications and organised these in a hierarchical four-digit system,[2] together with a system of definitions and a mapping of various occupational titles into the categories (see Chapter 8 in this volume). One important use of ISCO is as a framework to reconcile national classifications in comparative research. However, increasingly, national research agencies and international research consortia have used ISCO as the initial occupational coding scheme in all countries being compared, thereby achieving immediate cross-national comparability (*e.g.* the six nation study on Social

[2] ISCO-58 and ISCO-68 have five digits, but the fifth digit does not contain information pertinent to most sociological analysis and we have never seen a data file that actually uses it.

Stratification in Eastern Europe after 1989 (http://www.ssrnet.ucla.edu/issr/da/SSEE/SSEE.home.html); the International Social Survey Programme (see http://www.issp.org and Chapter 3 in this volume); and OECD's Programme for International Student Assessment (http://www.pisa.oecd.org)). This is a practice we highly recommend.

At the level of derived occupational status scales, significant developments towards international standardisation also have occurred. Occupational status scales come in three main varieties: prestige measures, socio-economic status scales, and nominal class categories. Each of these has a different logic of construction.

Prestige measures are generated from the popular evaluation of occupational standing. They reflect the classical sociological hypothesis that occupational status constitutes the single most important dimension in social interaction and that occupations are used a primary device to interpret and label the social position and expected behaviour of potential interaction partners. National and local prestige scales have been created for many countries. These were integrated into the Standard International Occupational Prestige Scale (SIOPS) by Treiman (1977). The procedure followed by Treiman was to match occupational titles from national and local prestige studies conducted in 60 countries to the three-digit version of ISCO-68. He then added a fourth digit to accommodate distinctions that were found cross-nationally in prestige scales but not in ISCO-68. The SIOPS scale was generated by averaging the national prestige scores, appropriately rescaled to a common metric. This scale has been the uncontested candidate for use as a prestige scale in international comparative research (Bornschier 1986; Krymkowski 1988), and often has been applied at the national level as well.

Although *socio-economic indexes* (SEI) of occupational status initially were developed as a way to generalise prestige scores for all occupations (Duncan 1961), the operations used to derive SEI scales in fact have little to do with prestige scores (Hodge 1981; Ganzeboom, De Graaf, and Treiman 1992). SEI scores are created by computing a weighted sum of socio-economic characteristics of incumbents of each occupation, usually education and income, but occasionally other characteristics, *e.g.* father's socio-economic characteristics and wealth (Duncan-Jones 1972). Various procedures have been used to derive the weights, all with more or less the same result (education is modestly more important than income and other characteristics have little weight).[3] SEI scales are now in existence for a number of

[3] Hauser and Warren (1997) argue strongly, on the basis of an analysis of U.S. data, that socioeconomic status should be disaggregated into its components, the typical education of occupational incumbents and their typical income, because these two features of occupations have different properties and, in general, occupational education is more important than occupational income. However, at present there is no internationally standardised

countries, and tend to be more widely used by stratification researchers than are prestige scales because they capture the basic parameters of the process of stratification somewhat better (Featherman, Jones, and Hauser 1975).

In an earlier paper (Ganzeboom, De Graaf, and Treiman 1992) we constructed an International Socio-Economic Index of occupational status (ISEI) for ISCO-68 by generating scores from the International Stratification and Mobility File (ISMF), which combines data on men from 16 countries. We matched detailed occupational titles from each survey to Treiman's (1977, Appendix A) four-digit expansion of the three-digit ISCO-68 categories and then computed ISEI scores as weighted averages of standardised measures of the income and education of incumbents of each occupation. A subsequent paper (Ganzeboom and Treiman 1996) repeated the procedure for ISCO-88 categories, using the same cross-national database but with occupations coded into the ISCO-88 categories. (The independent coding of occupations from national studies into ISCO-68 and ISCO-88 categories permitted a comparison of the two ISCO schemes). Since its publication and particularly after the publication of the ISCO-88 version of ISEI, it has become a frequently used tool in comparative research, and has gradually replaced the use of SIOPS, in our own research as well.

Nominal *class categories* differ from prestige and socio-economic status scales for two reasons: because of their discrete nature, which often carries with it the assumption that the categories are not ordered or are only partially ordered; and because they often entail other distinctions between jobs in addition to the tasks and duties that distinguish different occupations. In particular, they often combine information on employment status with occupational information. Various schemes have been proposed. However, one scheme has emerged as the most widely accepted international standard: the EGP class categories. The EGP distinctions were initially developed by Goldthorpe (1980) as a seven-category system for analysis of the 1972 Oxford Mobility Inquiry, and at that point the scheme applied distinctions that were specifically British. The international EGP categories were first established as a nine-category system by Erikson, Goldthorpe, and Portocarero (1979) in their three-country comparison of Britain, France, and Sweden. Two additional distinctions were added by Erikson and Goldthorpe (1992) in their comparative work in the CASMIN project, but in most of their analysis they used only a seven-category version of the scheme.[4] We list the 11 categories of the extended EGP in Table 1 (see below). Note that

scale for occupational education or for occupational income. Moreover, most researchers have continued to rely on socio-economic indexes, even for research within the U.S. and other individual nations.

[4] 1 = I+II, 2 = IIIa+IIIb, 3 = IVa+IVb, 4 = IVc, 5 = V+VI, 6 = VIIa, 7 = VIIb.

the EGP categories can be conceived of a condensed typology of four occupational characteristics:

- Sector of work: non-manual, manual and farm.
- Hierarchical status within sector, basically related to skill level: three levels (high, middle, routine) for the non-manual sector and two levels (skilled and unskilled) for the manual sector.
- Supervisory status: whether one supervises or employs no, few, or many subordinate workers.
- Self-employed *vs.* salary or wage workers.

The combination of these four characteristics yields $3 \times 3 \times 3 \times 2 = 54$ possible categories, of which only 10 were originally distinguished (an 11th category was later added). The authors have chosen to combine categories in which few or no incumbents occur in order to end up with a manageable number of categories, each with a sufficient number of cases in typical samples to sustain analysis. As noted, in practice researchers, including Erikson and Goldthorpe (1992), often collapse categories even further, to a seven- or eight-category classification to avoid sparse cells in cross-classifications. Somewhat ironically, given the theoretical preoccupations of its authors, none of the EGP versions distinguishes a separate class of self-employed persons with many employees, *i.e.* entrepreneurs; this group is always merged with high level managers and highly skilled professionals in EGP Category I. Given that its purpose is to classify workers by market and work situation, this seems to us a major theoretical shortcoming of the EGP typology.

Despite these shortcomings, stratification researchers from different quarters have adopted the EGP categories as the *de facto* international standard and have begun to code their data to mimic the EGP distinctions. The original authors were slow to document the exact procedures they used to arrive at their distinctions, and when a set of maps from the source occupational classifications (detailed national occupational classifications) into EGP categories finally was provided (Erikson *et al.* 1989), there was no clear prescription as to how to replicate these procedures in new data. Because of this, in earlier work (De Graaf, Ganzeboom, and Kalmijn 1989; Ganzeboom, Luijkx and Treiman 1989) we have generated a standard module to derive the EGP categories from ISCO-68 (initially its close relative, the 1971 Netherlands census classification) and the appropriate employment status variables. The module was developed using the documentation on the initial British EGP predecessor and then repeatedly checked against new – British and German – data, for which both an 'EGP-original' and our EGP version was available. This work was updated by Ganzeboom and Treiman (1996) for the ISCO-88 categories and is presented again in this paper. In this contribution, we add a further differentiation in

the routine non-manual class, between higher and lower non-manual workers, following a distinction introduced by Erikson and Goldthorpe in 1992 (see Table 1 below).

The present chapter shows how each of these scales (SIOPS, ISEI, and EGP) can be generated from ISCO-88 codes plus additional information and lists the derived scores in the appendix. This information as well as additional tools for the reclassification of national classifications, is also available on-line.[5] Before introducing the construction of the three status scales, we provide some interpretative notes on ISCO-88 and give recommendations for its actual use in research.

2. THE 1988 INTERNATIONAL STANDARD CLASSIFICATION OF OCCUPATIONS

Like its predecessor, ISCO-68, and many national occupational classifications, ISCO-88 is a nested classification of four levels. The first digit distinguishes nine major groups.[6] Within these there are three further levels: 28 sub-major groups, 116 minor groups and 390 unit groups. The nine major groups are:

1000 Legislators, Senior Officials and Managers
2000 Professionals
3000 Technicians and Associate Professionals
4000 Clerks
5000 Service Workers and Shop and Market Sales Workers
6000 Skilled Agricultural and Fishery Workers
7000 Craft and Related Trades Workers
8000 Plant and Machine Operators and Assemblers
9000 Elementary Occupations

We adopt the convention that the level of the classification is designated by the number of trailing numbers different from zero. For example, 1000 refers to "Legislators, Senior Officials and Managers", 1200 to "Corporate Managers [Large Enterprises]", 1220 to "[Large Enterprise Operation] Department Managers", and 1229 to "Production Department Managers Not Elsewhere Classified". (ISCO-88 often reserves a trailing 9 at the four-digit level for "not elsewhere classified" – nec – categories.)

[5] Further information on the use of ISCO in comparative research and useful tools for recoding existing classifications into ISCO (both the 1968 and 1988 editions), and converting ISCO codes to the three analytic schemes discussed here, are provided electronically on the first author's website http://home.scw.vu.nl/~ganzeboom.

[6] In fact, ISCO-88 includes an undifferentiated tenth major group for the armed forces. However, we have merged this group with the other nine, as discussed below.

This listing of major groups serves to introduce several points about the logic of the classification. First, as noted in the introduction to the ISCO manual (ILO 1990), the logic of the classification emphasises skill requirements. Compared to other classifications (in particular its predecessor, ISCO-68) it is striking that industrial distinctions play no role at the first or second digit levels. For example, whereas in many national classification all "Textile Workers" are organised in a single sub-major (two-digit) group, irrespective of their skill level, and subdivided on the basis of the type of product they produce, thereby precluding distinctions based on skill, textile workers in ISCO-88 appear in three different major (one-digit) groups, depending on whether they do elementary labour, operate machines, or perform craft work. This same holds for many other manual occupations. Similarly, the organisation of major groups, specifically, the division of non-manual occupations into "Professionals", "Technicians and Associate Professionals", "Clerks", and "Service Workers and Shop and Market Sales Workers",[7] and the division of manual occupations into "Craft, *etc.* Trades Workers", "Plant and Machine Operators and Assemblers", and "Elementary Occupations" may also be seen as an attempt to introduce more clear-cut skill distinctions into ISCO-88 than were present in ISCO-68.

However, it would be naive to assume that ISCO-88 major group (first-digit) distinctions reflect only skill differences.[8] In particular, although in general "Craft Work" (7000) requires greater skill than "Machine Operating and Assembling" (8000), it is easy to point to exceptions, and we think the distinction mainly reflects a division into traditional *vs.* modern, mechanised production. For example, in mining, textiles, and construction, a craft worker may need extensive training, but the mechanised, machine-operating varieties of these trades may require equal technical skills and entail larger responsibility.

The second striking feature of ISCO-88, in contrast to ISCO-68, and many existing national classifications, is that employment status is not taken into account. Self-employment, ownership, and supervising status are not acknowledged as such. The treatment of proprietors (both working proprietors such as small shop owners and owners of larger enterprises) may be

[7] Actually, many service workers are generally regarded as doing manual work and in some countries this is true of shop clerks as well. Thus "Service Workers and Shop and Market Sales Workers" is best regarded as including both non-manual and manual workers.

[8] Nor does ISCO-88 claim this. Categories 4000, 5000, 6000, 7000, and 8000 are all associated with the same skill levels: the first *and* second levels of secondary education (ILO 1990: 3). Since in most industrial societies the distinction between first and second level secondary education is an important one, one may ask whether ISCO-88 makes enough skill distinctions. However, inspection of categories 7000 and 8000 gives the impression that occupations in category 7000 are somewhat more likely to entail formal apprenticeships, at least in European nations.

somewhat of a surprise to the sociologist, who is used to thinking of these labour and market relationships as the primary dimension of social inequality. Owners are now classified with workers managing these establishments on someone else's behalf. Also, such familiar supervisory occupations as manual foreman or factory managers are somewhat hard to classify in ISCO-88. Finally, self-employed craftsmen (*e.g.* plumbers, cabinet makers, and electricians) are classified with their counterparts who work for wages (ILO 1990: 10).

The Introduction to the ISCO-88 manual (ILO 1990: 10) argues that information on employment status should be secured as separate variables, since virtually every occupation can be exercised as a self-employed as well as a wage or salaried position and, equally, all occupations may entail some degree of supervisory responsibility.[9] Although we have no principled dispute with the ISCO-88 authors on this point, we fear that this move may diminish the applicability of ISCO-88 for practical reasons. Securing additional information on employment status usually requires additional survey questions,[10] which often are omitted by researchers for whom occupational status measurement is not a central concern.

While employment status distinctions are important for all three status measures we distinguish, they are of particular importance for constructing the EGP class categories. Researchers who want to use ISCO-88 in their research and want to construct nominal class categories such as the EGP categories must ask separate questions, *for each job for which information is sought* (*e.g.* respondent's current and past jobs, father's occupation, spouse's occupation, *etc.*), regarding both self-employment (yes/no) and supervisory status (number of subordinates). A related point is that many national classifications continue to include information about supervisory and self-employment status. Thus, adequately representing the distinctions contained in the three scales discussed here – particularly EGP, but SIOPS and ISEI as well – requires not only mapping the national occupation codes into ISCO but also capturing information on self-employment and supervisory level even when it is not represented in the original data by separate variables. In such cases, researchers should create new variables that contain these distinctions.

A third major change in ISCO-88 relative to its predecessor and a significant change relative to many national classifications is that the classification

[9] For the International Classification of Status in Employment (ICSE-93) see Chapter 7 in this volume.

[10] Of course, the additional information can sometimes be secured in post-processing, since self-employed persons and supervisors will often state their status without being prompted. However, this clearly is inferior to asking separate questions.

has become much more elaborate with respect to managers. At the three-digit level ISCO-88 distinguishes four varieties of managers:

1210 [Large Enterprise] Directors and Chief Executives
1220 [Large Enterprise] Production and Operations Department Managers
1230 [Large Enterprise] Other Department Managers[11]
1310 [Small Enterprise] General Managers

Here we have added specifications in brackets, because we think that the official ISCO-88 titles are likely to confuse many users. Category 1310 ("[Small Enterprise] General Managers") is substantially composed of occupations that in other classifications, *e.g.* ISCO-68, are shown as wholesale and retail business owners, but one might not have guessed this from the title "General Manager" and, moreover, might have assumed that these positions are somehow senior to those in 1220 and 1230 that are termed "Department Managers". The ISCO-88 manual mentions these distinctions in a footnote on the first page of the classification (ILO 1990: 13), but we think it would have been better to take them into account in the actual titles, as we do in our rendition. To further increase the confusion, it turns out that the formal criterion for distinguishing between "Department Managers" and "General Managers" is the presence of more than two managers in the establishment (ILO 1990: 23). Unfortunately, information on the number of managers in an establishment is rarely collected in surveys. For our own work, we have found it convenient to relabel "General Managers" as "[Small Enterprise] General Managers" and "Department Managers" as "[Large Enterprise] Department Managers" and to use the number of subordinates (or establishment size) as the criterion for distinguishing large from small enterprises: for us, a "large enterprise" has more than ten employees while a small enterprise has up to ten employees (in addition to the owner). Ironically, this is a point where employment status variables sneak back into the classification.

The four three-digit managerial categories (excluding office managers and military officers) then are differentiated at the most detailed (four-digit) level, by industry for those who manage "production and operations depart-

[11] The difference between 1220 and 1230 may not be self-explanatory. The managers in 1220 are production managers distinguished by industry, presumably because what distinguishes production managers is knowledge of the product, which is captured by industry; 1230 includes all large enterprise managers except production managers, and this category is further distinguished by function – that is, by the type of department being managed – but not by industry, presumably because their functions – *e.g.* personnel management – do not vary much across industries. For example, someone who manages a transportation department for a construction firm is coded 1235, whereas an operations manager in a transportation firm (when not the chief executive) is coded 1226.

ments" and by department type for managers of "other departments". Here we meet another departure from the logic of ISCO-68. One of the industries that subdivides "[Large Enterprise] Department Managers" (1210) and "[Small Enterprise] General Managers" (1310) is "Agriculture, Forestry and Fishing" (with codes, respectively, 1211 and 1311). One might then assume that all self-employed farmers are coded 1311. Not so; most of these should be classified in Major Group 6000 ("Skilled Agricultural and Fishery Workers"), where detailed distinctions within the agricultural sector occur at the three-digit level (field crop production and market-gardening; animal raising; forestry, fishing and hunting, *etc.*) and even finer distinctions are made at the four-digit level. To confuse matters even more, the major group "Skilled Agricultural Workers" also includes "Subsistence Agricultural and Fishery Workers" whereas "Farm Hands and Labourers" are classified in major group 9000, "Elementary Occupations". Finally, only when a farmer employs at least one other person (except family members) is s/he classified as an "Agricultural *etc.* Manager", that is, in group 1311 or 1211, depending upon the number of managers or (in our operationalisation) the number of employees. Again, this is a case where supervisory status sneaks into the classification. We have made this explicit in our rendering of ISCO-88. However, when supervisory status is not available, we have tended to use the 6000 codes rather than the managerial codes.

The classification of agricultural occupations is particularly problematic for comparisons between capitalist and communist systems. When agriculture is collectivised all workers are wage workers. However, it makes little sense to code them as "farm labourers" since they often do the same skilled work that family farmers do in capitalist economies, especially those at relatively low levels of development. Unfortunately, there seldom is adequate information to code agricultural workers in an unambiguous way. It would be very helpful for researchers to collect information on the specific tasks performed by various kinds of agriculturalists, as well as whether they are self-employed and whether they not only supervise other workers but are responsible for deciding how to manage crop and animal production.

Fourth, the ISCO-88 differs both from ISCO-68 and from many other classifications in common use by its failure to include broad categories such as "foreman" and "skilled worker". The authors of ISCO-88 would rightly argue that such designations are too broad to classify properly and that information should be collected in surveys to permit more coding to specific occupation categories. But this is of little help to the researcher, who encounters these broad occupational titles categories quite frequently, both in national classifications and, even more frequently, in responses to survey questionnaires. In order to accommodate this practical concern, we have enhanced ISCO-88 with a few new entries. These are: (1240) "Office Managers"; (7510) "Non-farm Manual Foremen and Supervisors (not further specified [nfs])"; (7520) "Skilled Workers/Artisans (nfs)"; (7530) "Apprentices (nfs)", and (8400) "Semi-skilled Workers (nfs)".

Fifth, in a few instances we have found it necessary to revise the ISCO-88 classification to accommodate our own research needs – and, we suspect, those of other stratification researchers as well. (A) We have changed the logic by which military titles are represented. ISCO-88 treats "Members of the Armed Forces" as an undifferentiated major group, 0000. While it is true that many national classifications do not take the armed forces into account, we do not see a good sociological reason for excluding such occupations. Therefore, we have distinguished several categories of armed forces personnel, integrating them with similar civilian occupations: we treat ordinary soldiers (5164) as a sub-species of the three-digit group "Protective Services Workers" (5160), subaltern officers (3452) as a sub-species of the three-digit group "Police Inspectors and Detectives" (3450), and higher officers (1250-1252) as sub-species of the sub-major group "Corporate Managers [Large Enterprises]" (1200). (B) We have expanded the category "Secondary Teacher" (2320) to distinguish two subcategories that differ substantially in their status and often are distinguished in national classifications: "Academic Teachers" (2321) and "Vocational Teachers" (2322). (C) We have changed "Traditional Chiefs and Heads of Villages" (1130) to cover all local, as opposed to national, officials. (D) We distinguish "oilers and greasers" from other mechanics and fitters, on the ground that "oilers and greasers" are much less skilled, by adding a category: (7234) "Oilers and Greasers". (E) Finally, we have made a few minor interpretative changes in the titles. We show all changes and enhancements in square brackets in Appendix A.

3. CONVENTIONS USED IN CODING AND REMAPPING

When coding occupations into ISCO-88 from primary data, or when remapping existing classifications into ISCO-88, one often encounters problems of ambiguity. The designations found in the source sometimes overlap several ISCO-88 categories but at the same time only partially cover each ISCO-88 category. The ISCO manual discusses this problem in the context of remapping existing classifications and lists three rules that we have found convenient to use in our own work. These are:

a. *Numerical dominance rule*: in a one-to-many mapping situation, the more numerous group prevails.
b. *Skill level rule*: if (about) equally large, the highest skill level prevails.

c. *Production rule*: if (about) equally large and at the same skill level, production occupations prevail over sales and managerial occupations.

These rules should be used in sequence (a) to (c). Unlike the coding of primary data, remapping an existing classification into ISCO-88 is not a very demanding task – it often turns out that there are many one-to-one correspondences between classifications, due to the fact that ISCO generalises from a great number of existing classifications. Also, our previous work shows convincingly that conversions from one classification into another generally do not entail much loss of information. Specifically, Ganzeboom, De Graaf, and Treiman (1992) show that basic status attainment models in five countries hardly change in parameter structure when national codes are replaced by internationally standardised ones, and this holds true both of unidimensional status scales and occupational class categories. Our experience is that researchers overestimate the national specificity of occupational structures as well as cross-national variations in the social standing of occupations. The basic finding remains that occupational classifications tend to be very constant across time and space.

4. DERIVING THE NEW STATUS SCALES

Appendix A reports scores for each ISCO-88 title on each of the three scales, together with a description of the occupational title. These titles are illustrated (within square brackets) by occupations included in each unit group, drawn from the index to the ISCO-88 manual and the national classifications that we have mapped into ISCO-88. Scores are presented for all levels of ISCO-88: major (first digit), sub-major (two-digit), and minor (three-digit) groups, as well as the slightly modified list of unit (four-digit) groups described above. The scores for each level above unit groups are computed as the weighted average of the scores for the lower level titles contained in the category, where the weights are proportional to the number of men in each category in the International Stratification and Mobility File; thus, applying the numerical dominance rule. Details for each scale are given below.

4.1 The Standard International Occupational Prestige Scale (SIOPS)

SIOPS scores for ISCO-88 were generated in three steps. First, for unit groups for which there was a one-to-one correspondence between ISCO-68 and ISCO-88, the 1968 scores were simply assigned to the 1988 categories. Second, for the remaining ISCO-88 categories the occupational titles reported by Treiman (1977, Appendix A) were matched to the ISCO-88 unit groups, in the same way that Treiman had initially matched them to ISCO-68 unit groups. The scores for all occupation titles matching each ISCO-88 unit group were then averaged to obtain a score for the unit group. (Usually the simple average was taken, but where occupational titles referred to rarely held jobs, weighted averages were taken – again, in a manner analogous to the procedures used by Treiman in constructing unit group scores for ISCO-68.) Third, where no occupational titles matched an ISCO-88 unit group, scores were borrowed from similar unit groups for which we had scores.

4.2 The International Socio-Economic Index of Occupational Status (ISEI)

In order to construct a new version of the ISEI index we used the computational procedures described in Ganzeboom, De Graaf, and Treiman (1992: 10-19 and Appendix C). We conceive of ISEI as measuring the attributes of occupations that convert a person's education into income. Accordingly, ISEI scores were generated by an optimal scaling procedure in which scores were assigned to occupation unit groups in such a way as to maximise the indirect effect of education on income through occupation and to minimise the direct effect of education on income, net of occupation (with both effects net of age). The crucial coefficients are those relating occupational status to education, and occupational status to income; they are, respectively, 0.582 and 0.465. As in many national studies, education outweighs income, which can be interpreted as meaning that occupations are somewhat more homogeneous with respect to education than with respect to income. The estimated coefficients were used as weights to produce a score for each ISCO-88 unit group. The resulting set of scores was rescaled to a range of 16-90, with "Judges" (2422) scoring highest, and two unit groups, "Farm-hands and Labourers" (9211) and "Helpers and Cleaners in Establishments" (9132) scoring lowest. It was not possible to estimate a separate ISEI score for all 390 detailed groups. We applied the rule that no ISEI score should be estimated for occupation unit groups with fewer than 20 incumbents, and instead combined neighbouring or otherwise similar titles into broader categories as necessary to achieve a minimum of 20. The number of independent unit groups for which we derived an ISCO-88 score was 209.

Table 1: The EGP Class Categories [a]

	EGP11	Description
I	1	Higher Managerial and Professional Workers [a]
II	2	Lower Managerial and Professional Workers [a]
IIIa	3	Routine Clerical Work
IIIb	4	Routine Service and Sales Work
IVa	5	Small Self-Employed with Employees
IVb	6	Small Self-Employed without Employees
V	7	Manual Supervisors
VI	8	Skilled Manual Workers
VIIa	9	Semi- and Unskilled Manual Workers
VIIb	10	Agricultural Labour
IVc	11	Self-Employed Farmers

a Classes I and II are often referred to as the "Higher Service" and "Lower Service" classes, in line with Goldthorpe's (1980: 40) reference to Renner's "Dienstklasse". We have found that this term often leads to confusion of two kinds: with tertiary sector or "service" industries (*e.g.* financial services), and with occupations conventionally (as in ISCO-68 and ISCO-88) labelled "service" occupations because their incumbents provide services, *e.g.* such diverse occupations as policemen, waiters, janitors, and personal servants. We thus label EGP Classes I and II by the kind of occupations they include.

4.3 The Enhanced EGP Class Categories

Table 1 provides the 11 categories of the EGP class schema we utilise.[12] We list the categories by the Roman numerals that Erikson and Goldthorpe (1992) apply and by a shortened title. Note that the ordering of categories is not identical to that of Erikson *et al.* (1989) and Erikson and Goldthorpe (1992); we prefer to list the two agricultural categories together, at the extreme end of the scale, since this gives us an orderly set of categories for the purpose of studying intergenerational occupational mobility (*cf.* Ganzeboom, Luijkx, and Treiman 1989). We have devised an EGP recode scheme for ISCO-88 by building upon the CASMIN documentation by Erikson *et al.* (1989). However, we should point out that the CASMIN documentation does not provide a generic way of producing the 11 CASMIN categories from

[12] This is the scheme devised by Erikson and Goldthorpe (1992: 35-47). The CASMIN data (Erikson *et al.* 1989) also distinguish between large and small farmers in some countries, but this distinction is never used in their analysis. Erikson and Goldthorpe (1992: 52, note 26) claim that although to facilitate the analysis of individual countries their data are coded into a 12 category classification, for comparative purposes only a seven category classification is legitimate. We accept the logic of this argument for the analysis carried out by Erikson and Goldthorpe, given the way they allocate persons to EGP categories (Erikson *et al.* 1989); however, we avoid the difficulties they have in producing truly comparable assignments for more than seven categories by standardising our procedures at each step (see the discussion below).

unit data, since the recoding procedures differ between countries and use differently defined source information, not only with respect to detailed occupation codes but also with respect to the important employment status codes.

In order to map the ISCO-88 categories into the 11-category EGP classification, we have mimicked the mappings by Erikson *et al.* (1989) as closely as possible. However, in some cases it is hard to decide how an ISCO-88 title should be mapped. Two kinds of occupations present particular difficulties: service occupations, many of which cannot be unambiguously classified as non-manual *vs.* manual; and occupations that similarly cannot be unambiguously classified as skilled *vs.* semi- or unskilled (among manual jobs) or as professional *vs.* semi- ('associate') professional (among non-manual jobs). In addition to taking the CASMIN documentation into account, we have occasionally consulted the 1970 U.S. Census occupational classification (U.S. Bureau of the Census 1971a, 1971b) and the *Dictionary of Occupational Titles* (U.S. Department of Labor, 1977) to determine the typical skill level of an occupation.

Our recoding procedure to generate EGP operates in the following way. We start with the detailed occupational titles as primary information to assign a 'root' EGP class – the EGP class categories shown in Appendix A. In a second step, we adjust the 'root' codes on the basis of information regarding self-employment (yes/no) and supervisory status (for managers, number of subordinates; for owners, number of employees): 0 (none); 1-10 (small); 11+ (large)); the specific adjustments are shown in Appendix B. Where information on self-employment and supervisory status is not available, no adjustment is made.

5. DISCUSSION

The three occupational status scales introduced in this article serve different purposes in empirical research and have done so in the past. In line with research on national versions of the three scales (*e.g.* Featherman, Jones, and Hauser 1975), our experience with the international status scales suggest that while SIOPS prestige and the socio-economic status index ISEI share a continuous approach to representing occupational status, they are not interchangeable, neither at the conceptual, nor at the empirical level. Conceptually, prestige measures attempt to represent the social rewards (approval, admiration, deference or contempt) people can expect in human interactions and symbolic power these rewards bring to structure these interactions. The socio-economic status index attempts to tap human resources and economic rewards in a more direct way, by focussing on

knowledge, expertise and income. These conceptualisations are related and empirically associated, but by no means the same. In fact, while it can be argued that socio-economic status and prestige promote one another, they sometimes also compensate one another. While from a conceptual point of view both dimensions are worth studying – and this can be done by using them as simultaneous indicators of occupational status – the empirical evidence remains clear that socio-economic status drives the status attainment process much more than prestige.

The EGP class categories may appear to tap again an entirely different dimension of occupational status. However, most of the distinction is plainly methodological. Our earlier computations on international data show that EGP and ISEI are much closer related to each other than EGP and SIOPS (Ganzeboom, De Graaf, and Treiman 1992). If one realizes that EGP categories are primarily conceived of as being produced by similar market and work conditions, and ISEI measure the way education (a market condition) is transferred into earnings (a work condition), this is less of a surprise. The choice between ISEI and EGP in data analysis is primarily a methodological one: does one want to deal with more realistic, but also more complicated multi-parameter models or prefer the statistical power of a continuous representation? In our own work we have not preferred one over the other, but in stead chosen a strategy, depending on the situation (audience) at hand.

Whether one chooses to represent occupations as continuous status distributions (ISEI, EGP) or not, whether one prefers theoretical strength (SIOPS) over empirical explanatory power (ISEI, EGP), or whether one prefers multi-parameter models (EGP) over single parameter models (ISEI, SIOPS), results will be different, but not diverge dramatically from one another. Given the availability of three conversion modules for the status scores form ISCO-88 occupation codes, it can be left to the researcher to explore whether the results are large enough to deserve theoretical attention.

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APPENDIX A

Scale Scores for Three Measures of Occupational Status, ISCO-88

SIOPS	ISEI	EGP	ISCO	Category
51	55	1	1000	LEGISLATORS, SENIOR OFFICIALS AND MANAGERS
67	70	1	1100	LEGISLATORS AND SENIOR OFFICIALS
64	77	1	1110	LEGISLATORS [*incl.* Member of Parliament, Member of Local Council]
71	77	1	1120	SENIOR [NATIONAL] GOVERNMENT OFFICIALS [*incl.* Minister, Ambassador]
63	66	2	1130	[SENIOR LOCAL GOVERNMENT OFFICIALS] [*incl.* Local Government Senior Officials, Mayor]
63	58	2	1140	SENIOR OFFICIALS SPECIAL-INTEREST ORGANISATIONS
63	58	2	1141	Senior officials of political-party organisations [*incl.* Politician]
63	58	2	1142	Senior officials of economic-interest organisations [*incl.* Union Leader, Director Employers' Organisation]
63	58	2	1143	Senior officials of special-interest organisations [*incl.* Lodge Official, Official Red Cross]
60	68	1	1200	CORPORATE MANAGERS [LARGE ENTERPISES]
70	70	1	1210	[LARGE ENTERPRISES] DIRECTORS AND CHIEF EXECUTIVES [*incl.* CEO, Large Business Owner 25+ employees]
63	67	1	1220	[LARGE ENTERPRISE OPERATION] DEPARTMENT MANAGERS [*incl.* Manager in establishment with 25+ employees]
60	67	11	1221	Production department managers agriculture and fishing
60	67	1	1222	Production department managers manufacturing [*incl.* Factory Manager *nfs* [a]]
60	67	1	1223	Production department managers construction
60	59	1	1224	Production department managers wholesale and retail trade [*incl.* Floor Manager]
60	59	1	1225	Production department managers restaurants and hotels
60	59	1	1226	Production department managers transportation, storage and communications [*incl.* Postmaster, Stationmaster]
60	87	1	1227	Production department managers business services [*incl.* Banker, Bank Manager]
60	59	1	1228	Production department managers personal care, cleaning *etc.*
60	67	1	1229	Production department managers *nec* [b] [*incl.* Impresario, Film Producer, College Dean, School Principal]
60	61	1	1230	[LARGE ENTERPRISES] OTHER DEPARTMENT MANAGERS
60	69	1	1231	Finance and administration department managers [*incl.* Company Secretary]
60	69	1	1232	Personnel and industrial relations department managers
60	56	1	1233	Sales and marketing department managers
60	69	1	1234	Advertising and public relations department managers
60	69	1	1235	Supply and distribution department managers
60	69	1	1236	Computing services department managers
60	69	1	1237	Research and development department managers
60	69	1	1239	Other department managers *nec*
55	58	2	1240	OFFICE MANAGERS [*incl.* Clerical Supervisor]

SIOPS	ISEI	EGP	ISCO	Category
65	64	1	1250	MILITARY OFFICERS
73	70	1	1251	Higher military officers [Captain and above]
63	60	2	1252	Lower grade commissioned officers [*incl.* Army Lieutenant]
50	51	2	1300	[SMALL ENTERPRISE] GENERAL MANAGERS
50	51	2	1310	[SMALL ENTERPRISE] GENERAL MANAGERS [*incl.* Businessman, Trader, Managers *nfs*]
47	43	11	1311	[Small enterprise] General managers agriculture, forestry and fishing [*incl.* Farm Manager, Self-employed Farmer with personnel]
52	56	2	1312	[Small enterprise] General managers manufacturing
52	51	2	1313	[Small enterprise] General managers construction [*incl.* Building Contractor]
46	49	2	1314	[Small enterprise] General managers wholesale and retail trade [*incl.* Shop Owner/Manager, Retail Owner/Manager, Merchant]
38	44	2	1315	[Small enterprise] General managers restaurants and hotels [*incl.* Manager Camping Site, Bar Owner/Manager, Restaurateur]
52	51	2	1316	[Small enterprise] General managers transportation, storage and communications [*incl.* Owner Small Transport Company]
52	51	2	1317	[Small enterprise] General managers business services [*incl.* Manager Insurance Agency]
52	51	2	1318	[Small enterprise] General managers personal care, cleaning *etc.* services [*incl.* Owner Laundry]
52	51	2	1319	[Small enterprises] General managers *nec* [*incl.* Manager Travel Agency, Manager Fitness Centre, Garage Owner]
62	70	1	2000	PROFESSIONALS
63	69	1	2100	PHYSICAL, MATHEMATICAL AND ENGINEERING SCIENCE PROFESSIONALS
69	74	1	2110	PHYSICISTS, CHEMISTS AND RELATED PROFESSIONALS
75	74	1	2111	Physicists and astronomers
72	74	1	2112	Meteorologists
69	74	1	2113	Chemists
67	74	1	2114	Geologists and geophysicists [*incl.* Geodesist]
56	71	1	2120	MATHEMATICIANS, STATISTICIANS *ETC.* PROFESSIONALS
69	71	1	2121	Mathematicians *etc.* professionals
55	71	1	2122	Statisticians [*incl.* Actuary]
51	71	1	2130	COMPUTING PROFESSIONALS
51	71	1	2131	Computer systems designers and analysts [*incl.* Software Engineer]
51	71	2	2132	Computer programmers
51	71	2	2139	Computing professionals *nec*
63	73	1	2140	ARCHITECTS, ENGINEERS *ETC.* PROFESSIONALS
72	69	1	2141	Architects, town and traffic planners [*incl.* Landscape Architect]
70	69	1	2142	Civil engineers [*incl.* Construction Engineer]
65	68	1	2143	Electrical engineers

SIOPS	ISEI	EGP	ISCO	Category
65	68	1	2144	Electronics and telecommunications engineers
66	67	1	2145	Mechanical engineers
66	71	1	2146	Chemical engineers
61	67	1	2147	Mining engineers, metallurgists *etc.* professionals
58	56	2	2148	Cartographers and surveyors
56	69	1	2149	Architects, engineers *etc.* professionals *nec* [*incl.* Consultant]
70	80	1	2200	LIFE SCIENCE AND HEALTH PROFESSIONALS
62	78	1	2210	LIFE SCIENCE PROFESSIONALS
69	77	1	2211	Biologists, botanists, zoologists *etc.* professionals
68	77	1	2212	Pharmacologists, pathologists *etc.* professionals [*incl.* Biochemist]
56	79	1	2213	Agronomists *etc.* professionals
73	85	1	2220	HEALTH PROFESSIONALS [EXCEPT NURSING]
78	88	1	2221	Medical doctors
70	85	1	2222	Dentists
61	83	1	2223	Veterinarians
64	74	1	2224	Pharmacists
73	85	1	2229	Health professionals except nursing *nec*
54	43	2	2230	NURSING AND MIDWIFERY PROFESSIONALS [*incl.* Registered Nurses, Registered Midwives, Nurse *nfs*]
61	69	2	2300	TEACHING PROFESSIONALS
78	77	1	2310	HIGHER EDUCATION TEACHING PROFESSIONALS [*incl.* University Professor]
60	69	2	2320	SECONDARY EDUCATION TEACHING PROFESSIONALS
60	70	2	2321	[Secondary teachers, academic track] [*incl.* Middle School Teacher]
57	66	2	2322	[Secondary teachers, vocational track] [*incl.* Vocational Instructor]
57	66	2	2330	PRIMARY AND PRE-PRIMARY EDUCATION TEACHING PROFESSIONALS
57	66	2	2331	Primary education teaching professionals
49	43	2	2332	Pre-primary education teaching professionals [*incl.* Kindergarten Teacher]
62	66	2	2340	SPECIAL EDUCATION TEACHING PROFESSIONALS [*incl.* Remedial Teacher, Teacher of the Blind]
62	66	1	2350	OTHER TEACHING PROFESSIONALS
68	70	1	2351	Education methods specialists [*incl.* Curricula Developer]
68	70	1	2352	School inspectors
62	65	2	2359	Other teaching professionals *nec*
60	68	1	2400	OTHER PROFESSIONALS [*incl.* Professional *nfs*, Administrative Professional]
57	69	2	2410	BUSINESS PROFESSIONALS
62	69	1	2411	Accountants [*incl.* Auditor]
56	69	2	2412	Personnel and careers professionals [*incl.* Job Analyst, Student Counsellor]

SIOPS	ISEI	EGP	ISCO	Category
57	69	2	2419	Business professionals *nec* [*incl.* Publicity Agent, Patent Agent, Home Economist, Market Researcher]
73	85	1	2420	LEGAL PROFESSIONALS
73	85	1	2421	Lawyers
76	90	1	2422	Judges
71	82	1	2429	Legal professionals *nec* [*incl.* Notary, Notary Public]
54	65	2	2430	ARCHIVISTS, LIBRARIANS *ETC.* INFORMATION PROFESSIONALS
54	65	2	2431	Archivists and curators
54	65	2	2432	Librarians *etc.* information professionals [*incl.* Documentalist, Health Records Technician]
58	65	1	2440	SOCIAL SCIENCE *ETC.* PROFESSIONALS
60	78	1	2441	Economists
67	71	1	2442	Sociologists, anthropologists *etc.* professionals
67	71	1	2443	Philosophers, historians and political scientists
62	65	2	2444	Philologists, translators and interpreters
67	71	1	2445	Psychologists
52	51	2	2446	Social work professionals [*incl.* Welfare Worker]
57	61	2	2450	WRITERS AND CREATIVE OR PERFORMING ARTISTS
58	65	2	2451	Authors, journalists and other writers [*incl.* Editor, Technical Writer]
57	54	2	2452	Sculptors, painters *etc.* artists
45	64	2	2453	Composers, musicians and singers
40	64	2	2454	Choreographers and dancers
57	64	2	2455	Film, stage *etc.* actors and directors
60	53	2	2460	RELIGIOUS PROFESSIONALS [*incl.* Priest, Chaplain, Theologian, Professional Nun]
48	54	2	3000	TECHNICIANS AND ASSOCIATE PROFESSIONALS
48	50	2	3100	PHYSICAL AND ENGINEERING SCIENCE ASSOCIATE PROFESSIONALS
47	49	2	3110	PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS
46	45	2	3111	Chemical and physical science technicians
39	45	2	3112	Civil engineering technicians
46	46	2	3113	Electrical engineering technicians
46	46	2	3114	Electronics and telecommunications engineering technicians
46	54	2	3115	Mechanical engineering technicians
46	54	2	3116	Chemical engineering technicians
53	54	2	3117	Mining and metallurgical technicians
55	51	2	3118	Drafts-persons [*incl.* Technical Illustrator]
46	53	2	3119	Physical and engineering science technicians *nec* [*incl.* Quantity Surveyor]
53	52	2	3120	COMPUTER ASSOCIATE PROFESSIONALS
53	52	2	3121	Computer assistants [*incl.* Assistant Users' Services]
53	52	2	3122	Computer equipment operators [*incl.* Computer Printer Equipment Operator]

SIOPS	ISEI	EGP	ISCO	Category
53	52	2	3123	Industrial robot controllers
46	52	2	3130	OPTICAL AND ELECTRONIC EQUIPMENT OPERATORS
46	48	2	3131	Photographers and electronic equipment operators [*incl.* Cameraman, Sound Mixer]
49	57	2	3132	Broadcasting and telecommunications equipment operators
58	57	2	3133	Medical equipment operators [*incl.* X-ray Technician]
44	52	2	3139	Optical and electronic equipment operators *nec* [*incl.* Cinema Projectionist, Telegrapher]
57	57	2	3140	SHIP AND AIRCRAFT CONTROLLERS AND TECHNICIANS
60	52	2	3141	Ships' engineers
55	52	2	3142	Ships' deck officers and pilots [*incl.* River Boat Captain]
60	69	1	3143	Aircraft pilots *etc.* associate professionals
50	69	1	3144	Air traffic controllers
46	50	2	3145	Air traffic safety technicians
54	50	2	3150	SAFETYAND QUALITY INSPECTORS
54	50	2	3151	Building and fire inspectors
54	50	2	3152	Safety, health and quality inspectors [*incl.* Occupational Safety Inspector, Inspector *nfs*]
51	48	2	3200	LIFE SCIENCE AND HEALTH ASSOCIATE PROFESSIONALS
52	50	2	3210	LIFE SCIENCE TECHNICIANS *ETC.* ASSOCIATE PROFESSIONALS
52	50	2	3211	Life science technicians [*incl.* Medical Laboratory Assistant, Medical Technician *nfs*, Physical and Life Science Technician, Technician *nfs*, Taxidermist]
47	50	2	3212	Agronomy and forestry technicians
55	50	2	3213	Farming and forestry advisers
51	55	2	3220	MODERN HEALTH ASSOCIATE PROFESSIONALS EXCEPT NURSING
53	51	2	3221	Medical assistants
48	51	2	3222	Sanitarians
52	51	2	3223	Dieticians and nutritionists
60	60	2	3224	Optometrists and opticians [*incl.* Dispensing Optician]
44	51	2	3225	Dental assistants [*incl.* Oral Hygienist]
51	60	2	3226	Physiotherapists *etc.* associate professionals [*incl.* Chiropractor, Masseur, Osteopath]
48	51	2	3227	Veterinary assistants [*incl.* Veterinarian Vaccinator]
44	51	2	3228	Pharmaceutical assistants
45	51	2	3229	Modern health associate professionals except nursing *nec* [*incl.* Homeopath, Speech Therapist, Occupational Therapist]
44	38	3	3230	NURSING AND MIDWIFERY ASSOCIATE PROFESSIONALS
44	38	3	3231	Nursing associate professionals [*incl.* Trainee Nurses]
44	38	3	3232	Midwifery associate professionals [*incl.* Trainee Midwife]
29	49	2	3240	TRADITIONAL MEDICINE PRACTITIONERS AND FAITH HEALERS

SIOPS	ISEI	EGP	ISCO	Category
29	51	2	3241	Traditional medicine practitioners [*incl.* Herbalist]
22	38	2	3242	Faith healers
50	38	3	3300	TEACHING ASSOCIATE PROFESSIONALS
50	38	3	3310	PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS [*incl.* Teacher's Aid]
50	38	3	3320	PRE-PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS [*incl.* Kindergarten Teacher's Aid]
50	38	3	3330	SPECIAL EDUCATION TEACHING ASSOCIATE PROFESSIONALS
50	38	3	3340	OTHER TEACHING ASSOCIATE PROFESSIONALS
48	55	2	3400	OTHER ASSOCIATE PROFESSIONALS
47	55	2	3410	FINANCE AND SALES ASSOCIATE PROFESSIONALS
50	61	2	3411	Securities and finance dealers and brokers
44	54	2	3412	Insurance representatives [*incl.* Insurance Agent, Underwriter]
49	59	2	3413	[Real] estate agents [*incl.* Real Estate Broker]
43	56	2	3414	Travel consultants and organisers
46	56	2	3415	Technical and commercial sales representatives [*incl.* Travelling Salesmen, Technical Salesmen]
49	50	2	3416	Buyers
46	56	2	3417	Appraisers, valuers and auctioneers [*incl.* Claims Adjuster]
46	55	2	3419	Finance and sales associate professionals *nec*
42	55	2	3420	BUSINESS SERVICES AGENTS AND TRADE BROKERS
55	55	2	3421	Trade brokers
50	55	2	3422	Clearing and forwarding agents
49	55	2	3423	Employment agents and labour contractors
42	55	2	3429	Business services agents and trade brokers *nec* [*incl.* Literary Agent, Sports Promoter, Salesmen Advertisements]
49	54	3	3430	ADMINISTRATIVE ASSOCIATE PROFESSIONALS
53	54	2	3431	Administrative secretaries *etc.* associate professionals
49	59	2	3432	Legal *etc.* business associate professionals [*incl.* Bailiff, Law Clerk]
49	51	3	3433	Bookkeepers
51	61	2	3434	Statistical, mathematical *etc.* associate professionals
53	54	3	3439	Administrative associate professionals *nec* [*incl.* Management Assistant]
52	56	2	3440	CUSTOMS, TAX *ETC.* GOVERNMENT ASSOCIATE PROFESSIONALS [*incl.* Administrative Associate Professional, Executive Civil Servants *nfs*, Public Administrator]
44	56	2	3441	Customs and border inspectors
52	57	2	3442	Government tax and excise officials
55	56	2	3443	Government social benefits officials
54	46	2	3444	Government licensing officials
55	56	2	3449	Customs, tax *etc.* government associate professionals *nec* [*incl.* Price Inspector, Electoral Official, Middle Rank Civil Servant]

SIOPS	ISEI	EGP	ISCO	Category
45	56	2	3450	POLICE INSPECTORS AND DETECTIVES/[ARMY]
60	55	2	3451	Police inspectors and detectives [*incl.* Police Investigator, Private Detective]
44	56	7	3452	[Armed forces non-commissioned officers] [*incl.* Sergeant]
49	43	3	3460	SOCIAL WORK ASSOCIATE PROFESSIONALS
45	52	2	3470	ARTISTIC, ENTERTAINMENT AND SPORTS ASSOCIATE PROFESSIONALS
49	53	2	3471	Decorators and commercial designers [*incl.* Window Dresser, Interior Decorator, Furniture Designer, Book Illustrator, Tattooist]
50	64	2	3472	Radio, television and other announcers
32	50	2	3473	Street, night-club *etc.* musicians, singers and dancers [*incl.* Band Leader, Chorus Dancer, Night Club Singer]
33	50	2	3474	Clowns, magicians, acrobats *etc.* associate professionals [*incl.* Strip-Tease Artist, Juggler]
49	54	2	3475	Athletes, sports persons *etc.* associate professionals [*incl.* Trainer, Umpire]
50	38	3	3480	RELIGIOUS ASSOCIATE PROFESSIONALS [*incl.* Evangelist, Lay Preacher, Salvationist]
37	45	3	4000	CLERKS
37	45	3	4100	OFFICE CLERKS [*incl.* Clerk *nfs*; Government Office Clerk *nfs*]
45	51	3	4110	SECRETARIES AND KEYBOARD-OPERATING CLERKS
42	51	3	4111	Stenographers and typists
42	50	3	4112	Word-processor *etc.* operators [*incl.* Teletypist]
45	50	3	4113	Data entry operators [*incl.* Key Puncher]
45	51	3	4114	Calculating-machine operators [*incl.* Bookkeeping Machine Operator]
53	53	3	4115	Secretaries
44	51	3	4120	NUMERICAL CLERKS
45	51	3	4121	Accounting and bookkeeping clerks [*incl.* Payroll Clerk]
36	51	3	4122	Statistical and finance clerks [*incl.* Credit Clerk]
32	36	4	4130	MATERIAL-RECORDING AND TRANSPORT CLERKS
30	32	4	4131	Stock clerk [*incl.* Weighing Clerk, Storehouse Clerk]
44	43	4	4132	Production clerks [*incl.* Planning Clerks]
37	45	4	4133	Transport clerks [*incl.* Dispatcher, Expeditor]
37	39	4	4140	LIBRARY, MAIL *ETC.* CLERKS
36	39	4	4141	Library and filing clerks
33	39	9	4142	Mail carriers and sorting clerks
41	39	4	4143	Coding, proof-reading *etc.* clerks
37	39	4	4144	Scribes *etc.* workers [*incl.* Form Filling Assistance Clerk]

SIOPS	ISEI	EGP	ISCO	Category
37	39	4	4190	OTHER OFFICE CLERKS [*incl.* Address Clerk, Timekeeper, Office Boy, Photocopy Machine Operator]
39	49	4	4200	CUSTOMER SERVICES CLERKS [*incl.* Customer Service Clerk *nfs*]
37	48	4	4210	CASHIERS, TELLERS *ETC.* CLERKS
34	53	4	4211	Cashiers and ticket clerks [*incl.* Bank Cashier, Store Cashier, Toll Collector]
42	46	4	4212	Tellers and other counter clerks [*incl.* Bank Teller, Post Office Clerk]
34	40	4	4213	Bookmakers and croupiers
15	40	4	4214	Pawnbrokers and money-lenders
27	40	4	4215	Debt-collectors *etc.* workers
38	52	4	4220	CLIENT INFORMATION CLERKS
38	52	4	4221	Travel agency *etc.* clerks
38	52	4	4222	Receptionists and information clerks [*incl.* Medical Receptionist]
38	52	4	4223	Telephone switchboard operators [*incl.* Telephone Operator]
32	40	4	5000	SERVICE WORKERS AND SHOP AND MARKET SALES WORKERS
32	38	4	5100	PERSONAL AND PROTECTIVE SERVICES WORKERS
32	34	4	5110	TRAVEL ATTENDANTS *ETC.*
50	34	4	5111	Travel attendants and travel stewards [*incl.* Airplane Steward, Airplane Purser]
32	34	4	5112	Transport conductors [*incl.* Train Conductor]
29	34	4	5113	Travel, museum guides
26	32	4	5120	HOUSEKEEPING AND RESTAURANT SERVICES WORKERS
37	30	2	5121	Housekeepers *etc.* workers [*incl.* Butler, Matron, Dormitory Warden, Estate Manager, Property Manager, Building Superintendent, Apartment Manager]
31	30	8	5122	Cooks
21	34	9	5123	Waiters, waitresses and bartenders
27	25	9	5130	PERSONAL CARE *ETC.* WORK
23	25	4	5131	Child-care workers [*incl.* Nursemaid, Governess]
42	25	9	5132	Institution-based personal care workers [*incl.* Ambulance Man, Hospital Orderly]
17	25	4	5133	Home based personal care workers [*incl.* Attendant]
29	25	9	5139	[Other] care *etc.* workers *nec* [*incl.* Animal Feeder]
29	30	8	5140	OTHER PERSONAL SERVICES WORKERS
32	29	8	5141	Hairdressers, barbers, beauticians *etc.* workers
17	19	9	5142	Companions and valets [*incl.* Personal Maid]
34	54	8	5143	Undertakers and embalmers [*incl.* Funeral Director]
29	19	9	5149	Other personal services workers *nec* [*incl.* Escort, Dancing Partner, Prostitute]

SIOPS	ISEI	EGP	ISCO	Category
37	43	2	5150	ASTROLOGERS, FORTUNE-TELLERS *ETC.* WORKERS
37	43	2	5151	Astrologers *etc.* workers
37	43	2	5152	Fortune-tellers, palmists *etc.* workers
37	47	9	5160	PROTECTIVE SERVICES WORKERS
35	42	8	5161	Fire-fighters
40	50	8	5162	Police officers [*incl.* Policeman, Constable, Marshall]
39	40	9	5163	Prison guards
39	40	8	5164	[Armed forces, soldiers] [*incl.* Enlisted Man]
30	40	9	5169	Protective services workers *nec* [*incl.* Night Guard, Bodyguard, Coast Guard]
31	43	4	5200	[SALESPERSONS, MODELS AND DEMONSTRATORS]
28	43	4	5210	FASHION AND OTHER MODELS [*incl.* Mannequin, Artist's Model]
32	43	4	5220	SHOP SALESPERSONS AND DEMONSTRATORS [*incl.* Shop Assistant, Gas Station Attendant, Retail Assistant]
24	37	4	5230	STALL AND MARKET SALESPERSONS
37	23	10	6000	SKILLED AGRICULTURAL AND FISHERY WORKERS
38	23	10	6100	MARKET-ORIENTED SKILLED AGRICULTURAL AND FISHERY WORKERS [This category includes skilled farm workers and self-employed small farmers who have no employees.]
40	23	10	6110	MARKET GARDENERS AND CROP GROWERS
40	23	10	6111	Field crop and vegetable growers [*incl.* Specialised Crop Farmers, Specialised Crop Farm Workers]
40	23	10	6112	Tree and shrub crop growers [*incl.* Skilled Rubber Worker, Coffee Farmer, Tea Grower, Fruit Tree Pruner]
40	23	10	6113	Gardeners, horticultural and nursery growers [*incl.* Bulb Grower, Market Gardener]
40	23	10	6114	Mixed-crop growers [*incl.* Share Cropper]
40	23	10	6120	MARKET-ORIENTED ANIMAL PRODUCERS *ETC.* WORKERS
40	23	10	6121	Dairy and livestock producers [*incl.* Cattle Breeder, Dairy Farmer, Grazier, Shepherd]
40	23	10	6122	Poultry producers [*incl.* Chicken Farmer, Skilled Hatchery Worker]
40	23	10	6123	Apiarists and sericulturists [*incl.* Beekeeper, Silkworm Raiser]
40	23	10	6124	Mixed-animal producers
40	23	10	6129	Market-oriented animal producers *etc.* workers *nec* [*incl.* Bird Breeder, Gamekeeper, Kennel Keeper, Dog Trainer, Animal Caretaker]
38	23	10	6130	MARKET-ORIENTED CROP AND ANIMAL PRODUCERS
40	23	11	6131	[Mixed farmers]
41	27	11	6132	[Farm foremen/supervisor]
40	28	11	6133	[Farmers *nfs*]
30	23	10	6134	[Skilled farm workers *nfs*]
24	22	10	6140	FORESTRY *ETC.* WORKERS

SIOPS	ISEI	EGP	ISCO	Category
24	22	10	6141	Forestry workers and loggers [*incl.* Forester, Rafter, Timber Cruiser]
16	22	10	6142	Charcoal burners *etc.* workers
28	28	10	6150	FISHERY WORKERS, HUNTERS AND TRAPPERS
23	28	10	6151	Aquatic-life cultivation workers [*incl.* Oyster Farmer, Pearl Cultivator, Fish Hatcher]
23	28	10	6152	Inland and coastal waters fishery workers [*incl.* Sponge Diver, Fisherman]
28	28	10	6153	Deep-sea fishery workers [*incl.* Fisherman *nfs*, Trawler Crewman]
6	28	10	6154	Hunters and trappers [*incl.* Whaler]
38	16	11	6200	SUBSISTENCE AGRICULTURAL AND FISHERY WORKERS
38	16	11	6210	SUBSISTENCE AGRICULTURAL AND FISHERY WORKERS
38	34	8	7000	CRAFT *ETC.* TRADES WORKERS
34	31	9	7100	EXTRACTION AND BUILDING TRADES WORKERS
34	30	9	7110	MINERS, SHOTFIRERS, STONE CUTTERS AND CARVERS
34	30	9	7111	Miners and quarry workers [*incl.* Miner *nfs*]
36	30	9	7112	Shotfirers and blasters
34	27	9	7113	Stone splitters, cutters and carvers [*incl.* Tombstone Carver]
34	30	8	7120	BUILDING FRAME *ETC.* TRADES WORKERS
36	29	9	7121	Builders, traditional materials
34	29	9	7122	Bricklayers and stonemasons [*incl.* Paviour]
34	26	9	7123	Concrete placers, concrete finishers *etc.* workers [*incl.* Terrazzo Worker]
37	29	8	7124	Carpenters and joiners
28	30	8	7129	Building frame *etc.* trades workers *nec* [*incl.* Construction Worker *nfs*, Billboard Erector, Demolition Worker, Scaffolder]
37	34	8	7130	BUILDING FINISHERS *ETC.* TRADES WORKERS
31	19	9	7131	Roofers
31	30	8	7132	Floor layers and tile setters [*incl.* Parquetry Worker]
31	31	8	7133	Plasterers [*incl.* Stucco Mason]
28	34	8	7134	Insulation workers
26	26	9	7135	Glaziers
34	33	8	7136	Plumbers and pipe fitters [*incl.* Well Digger]
44	37	8	7137	Building *etc.* electricians
31	29	8	7140	PAINTERS, BUILDING STRUCTURE CLEANERS *ETC.* TRADES WORKERS
31	29	8	7141	Painters *etc.* workers [*incl.* Construction Painter, Paperhanger]
29	32	9	7142	Varnishers *etc.* painters [*incl.* Automobile Painter]
20	29	9	7143	Building structure cleaners [*incl.* Chimney Sweep, Sandblaster, Boiler Engine Cleaner]

SIOPS	ISEI	EGP	ISCO	Category
40	34	8	7200	METAL, MACHINERY *ETC.* TRADES WORKERS
38	31	8	7210	METAL MOULDERS, WELDERS, SHEETMETAL AND STRUCTURAL METAL WORKERS
38	29	8	7211	Metal moulders and coremakers
39	30	8	7212	Welders and flamecutters [*incl.* Brazier, Solderer]
34	33	8	7213	Sheet-metal workers [*incl.* Panel Beater, Coppersmith, Tinsmith]
44	30	8	7214	Structural-metal preparers and erectors [*incl.* Ship Plater, Riveter, Shipwright]
32	30	8	7215	Riggers and cable splicers
26	30	8	7216	Underwater workers [*incl.* Frogman]
37	35	8	7220	BLACKSMITHS, TOOL-MAKERS *ETC.* TRADES WORKERS
35	33	8	7221	Blacksmiths, hammer-smiths and forging press workers [*incl.* Toolsmith]
40	40	8	7222	Tool-makers *etc.* workers [*incl.* Locksmith]
38	34	8	7223	Machine-tool setters and setter-operators [*incl.* Metal driller, Turner]
27	24	8	7224	Metal wheel-grinders, polishers and tool sharpeners
43	34	8	7230	MACHINERY MECHANICS AND FITTERS
43	34	8	7231	Motor vehicle mechanics and fitters [*incl.* Bicycle Repairman]
50	42	8	7232	Aircraft engine mechanics and fitters
42	33	8	7233	[Industrial and agricultural] machinery mechanics and fitters [*incl.* Mechanic Heavy Equipment, Millwright]
20	23	9	7234	[Unskilled garage worker] [*incl.* Oiler-Greaser]
38	40	8	7240	ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS AND FITTERS
38	40	8	7241	Electrical mechanics and fitters [*incl.* Office Machine Repairman]
48	39	8	7242	Electronics fitters
42	41	8	7243	Electronics mechanics and servicers
35	40	8	7244	Telegraph and telephone installers and servicers
36	38	8	7245	Electrical line installers, repairers and cable jointers
39	34	8	7300	PRECISION, HANDICRAFT, PRINTING *ETC.* TRADES WORKERS
45	38	8	7310	PRECISION WORKERS IN METAL *ETC.* MATERIALS
47	38	8	7311	Precision-instrument makers and repairers [*incl.* Dental Mechanic, Watch Maker]
33	38	8	7312	Musical-instrument makers and tuners
43	38	8	7313	Jewellery and precious-metal workers [*incl.* Diamond Cutter, Goldsmith]
28	28	9	7320	POTTERS, GLASS-MAKERS *ETC.* TRADES WORKERS
25	27	9	7321	Abrasive wheel formers, potters *etc.* workers
37	29	9	7322	Glass-makers, cutters, grinders and finishers
31	29	8	7323	Glass engravers and etchers
31	29	8	7324	Glass, ceramics *etc.* decorative painters [*incl.* Decorative Painter, Signpainter]
31	29	9	7330	HANDICRAFT WORKERS IN WOOD, TEXTILE, LEATHER *ETC.*

SIOPS	ISEI	EGP	ISCO	Category
31	29	9	7331	Handicraft workers in wood *etc.* materials [*incl.* Candle Maker, Straw Hat Maker]
31	29	9	7332	Handicraft workers in textile, leather *etc.* materials [*incl.* Carpet Weaver]
42	40	8	7340	PRINTING *ETC.* TRADES WORKERS
42	40	8	7341	Compositors, typesetters *etc.* workers [*incl.* Phototypesetter, Linotypist]
41	40	8	7342	Stereotypers and electrotypers
41	42	8	7343	Printing engravers and etchers
42	40	8	7344	Photographic *etc.* workers [*incl.* Darkroom worker]
32	37	8	7345	Bookbinders *etc.* workers
52	38	8	7346	Silk-screen, block and textile printers
33	33	8	7400	OTHER CRAFT *ETC.* TRADES WORKERS
28	30	8	7410	FOOD PROCESSING *ETC.* TRADES WORKERS
24	30	8	7411	Butchers, fishmongers *etc.* food preparers
33	31	8	7412	Bakers, pastry-cooks and confectionery makers
34	30	8	7413	Dairy-products makers
35	30	8	7414	Fruit, vegetable *etc.* preservers
34	30	8	7415	Food and beverage tasters and graders
34	30	8	7416	Tobacco preparers and tobacco products makers
29	33	8	7420	WOOD TREATERS, CABINET-MAKERS *ETC.* TRADES WORKERS
29	33	9	7421	Wood treaters [*incl.* Wood Grader, Wood Impregnator]
40	33	8	7422	Cabinet-makers *etc.* workers [*incl.* Cartwright, Cooper]
36	33	8	7423	Woodworking-machine setters and setter operators [*incl.* Wood-Turner]
21	33	9	7424	Basketry weavers, brush makers *etc.* workers [*incl.* Broom Maker]
34	36	8	7430	TEXTILE, GARMENT *ETC.* TRADES WORKERS
29	29	9	7431	Fibre preparers
32	29	9	7432	Weavers, knitters *etc.* workers
40	45	8	7433	Tailors, dressmakers and hatters [*incl.* Milliner]
35	36	8	7434	Furriers *etc.* workers
40	36	8	7435	Textile, leather *etc.* pattern-makers and cutters
26	33	8	7436	Sewers, embroiderers *etc.* workers
31	28	8	7437	Upholsterers *etc.* workers
27	31	8	7440	PELT, LEATHER AND SHOEMAKING TRADES WORKERS
22	31	8	7441	Pelt dressers, tanners and fellmongers
27	31	8	7442	Shoe-makers *etc.* workers
48	42	8	7500	[SKILLED WORKERS *NFS*]
46	42	7	7510	[MANUAL FOREMEN *NFS* – NON FARM –]
46	38	8	7520	[SKILLED WORKERS *NFS*] [*incl.* Craftsman, Artisan, Tradesman]
37	26	9	7530	[APPRENTICE SKILLED WORK *NFS*]
34	31	9	8000	PLANT AND MACHINE OPERATORS AND ASSEMBLERS
36	30	9	8100	STATIONARY-PLANT *ETC.* OPERATORS

SIOPS	ISEI	EGP	ISCO	Category
31	35	9	8110	MINING- AND MINERAL-PROCESSING PLANT OPERATORS
34	35	9	8111	Mining-plant operators
32	35	9	8112	Mineral-ore- and stone-processing-plant operators
31	35	9	8113	Well drillers and borers *etc.* workers
40	30	9	8120	METAL-PROCESSING-PLANT OPERATORS
45	31	9	8121	Ore and metal furnace operators
36	30	9	8122	Metal melters, casters and rolling-mill operators
38	28	9	8123	Metal-heat-treating-plant operators
28	30	9	8124	Metal drawers and extruders
31	22	9	8130	GLASS, CERAMICS *ETC.* PLANT OPERATORS
31	22	9	8131	Glass and ceramics kiln *etc.* machine operators
31	22	9	8139	Glass, ceramics *etc.* plant operators *nec*
28	27	9	8140	WOOD-PROCESSING AND PAPERMAKING PLANT OPERATORS
29	27	9	8141	Wood-processing-plant operators [*incl.* Sawyer]
28	27	9	8142	Paper-pulp plant operators
28	27	9	8143	Papermaking-plant operators
42	35	8	8150	CHEMICAL-PROCESSING-PLANT OPERATORS
43	35	8	8151	Crushing-, grinding- and chemical-mixing machinery operators
43	35	8	8152	Chemical-heat-treating-plant operators
43	35	8	8153	Chemical-filtering- and separating-equipment operators
43	35	8	8154	Chemical-still and reactor operators
37	35	8	8155	Petroleum- and natural-gas-refining-plant operators
43	35	8	8159	Chemical-processing-plant operators *nec*
38	32	8	8160	POWER-PRODUCTON *ETC.* PLANT OPERATORS
42	33	8	8161	Power-production plant operators
35	27	8	8162	Steam-engine and boiler operators [*incl.* Stoker, Ship Engine Room Ratings]
34	33	8	8163	Incinerator, water-treatment *etc.* plant operators [*incl.* Sewage Plant Operator]
30	26	8	8170	AUTOMATED-ASSEMBLY-LINE AND INDUSTRIAL-ROBOT OPERATORS
30	26	8	8171	Automated-assembly-line operators
30	26	8	8172	Industrial-robot operators
34	32	9	8200	MACHINE OPERATORS AND ASSEMBLERS
37	36	9	8210	METAL- AND MINERAL-PRODUCTS MACHINE OPERATORS
38	36	9	8211	Machine-tool operators [*incl.* Machine Operator *nfs*]
30	30	9	8212	Cement and other mineral products machine operators
43	30	9	8220	CHEMICAL-PRODUCTS MACHINE OPERATORS
43	30	9	8221	Pharmaceutical- and toiletry-products machine operators
43	30	9	8222	Ammunition- and explosive-products machine operators
28	30	9	8223	Metal finishing-, plating- and coating-machine operators [*incl.* Electroplater, Fettler]
43	30	9	8224	Photographic-products machine operators
43	30	9	8229	Chemical-products machine operators *nec*
30	30	9	8230	RUBBER- AND PLASTIC-PRODUCTS MACHINE OPERATORS
30	30	9	8231	Rubber-products machine operators
30	30	9	8232	Plastic-products machine operators
31	29	9	8240	WOOD-PRODUCTS MACHINE OPERATORS

SIOPS	ISEI	EGP	ISCO	Category
41	38	9	8250	PRINTING-, BINDING- AND PAPER-PRODUCTS MACHINE OPERATORS
41	38	9	8251	Printing-machine operators
32	38	9	8252	Bookbinding-machine operators
28	38	9	8253	Paper-products machine operators
28	30	9	8260	TEXTILE-, FUR- AND LEATHER-PRODUCTS MACHINE OPERATORS
29	29	9	8261	Fibre-preparing-, spinning- and winding-machine operators
29	29	9	8262	Weaving- and knitting-machine operators
25	32	9	8263	Sewing-machine operators
25	24	9	8264	Bleaching-, dyeing- and cleaning-machine operators [*incl.* Launderer]
26	32	9	8265	Fur- and leather-preparing-machine operators
28	32	9	8266	Shoemaking- *etc.* machine operators
26	32	9	8269	Textile-, fur- and leather-products machine operators *nec*
33	29	9	8270	FOOD *ETC.* PRODUCTS MACHINE OPERATORS
31	29	9	8271	Meat- and fish-processing-machine operators
34	29	9	8272	Dairy-products machine operators
33	29	9	8273	Grain- and spice-milling-machine operators
33	29	9	8274	Baked-goods, cereal and chocolate-products machine operators
35	29	9	8275	Fruit-, vegetable- and nut-processing-machine operators
45	29	9	8276	Sugar production machine operators
34	29	9	8277	Tea-, coffee- and cocoa-processing-machine operators
34	29	9	8278	Brewers-, wine and other beverage machine operators
39	29	9	8279	Tobacco production machine operators
33	31	9	8280	ASSEMBLERS
30	30	9	8281	Mechanical-machinery assemblers [*incl.* Car Assembly Line Worker]
48	34	9	8282	Electrical-equipment assemblers
48	34	9	8283	Electronic-equipment assemblers
30	30	9	8284	Metal-, rubber- and plastic-products assemblers
31	30	9	8285	Wood *etc.* products assemblers
28	30	9	8286	Paperboard, textile *etc.* products assemblers
33	26	9	8290	OTHER MACHINE OPERATORS AND ASSEMBLERS
33	32	9	8300	DRIVERS AND MOBILE-PLANT OPERATORS
36	36	9	8310	LOCOMOTIVE-ENGINE DRIVERS *ETC.* WORKERS
43	41	8	8311	Locomotive-engine drivers
29	32	9	8312	Railway brakers, signallers and shunters
32	34	9	8320	MOTOR-VEHICLE DRIVERS [*incl.* Driver *nfs*]
31	30	9	8321	Motor-cycle drivers
31	30	9	8322	Car, taxi and van drivers [*incl.* Taxi Owner *nfs*]
32	30	9	8323	Bus and tram drivers
33	34	9	8324	Heavy truck and lorry drivers
32	26	9	8330	AGRICULTURAL AND OTHER MOBILE PLANT OPERATORS
31	26	10	8331	Motorised farm and forestry plant operators [*incl.* Tractor Driver, Combine Harvester Operator]
32	26	8	8332	Earth-moving- *etc.* plant operators [*incl.* Bulldozer Driver, Dredge Operator, Road-Roller Driver]

SIOPS	ISEI	EGP	ISCO	Category
33	28	8	8333	Crane, hoist *etc.* plant operators
28	28	9	8334	Lifting-truck operators
29	32	9	8340	SHIPS' DECK CREWS *ETC.* WORKERS [*incl.* Boatman, Deck Hand, Sailor, Ship Deck Ratings]
33	24	9	8400	SEMI-SKILLED WORKERS *NFS* [*incl.* Production Process Worker *nfs*, Factory Worker *nfs*]
21	20	9	9000	ELEMENTARY OCCUPATIONS
23	25	3	9100	SALES AND SERVICES ELEMENTARY OCCUPATIONS
25	29	3	9110	STREET VENDORS *ETC.* WORKERS
24	29	3	9111	Street food vendors
24	28	3	9112	Street vendors, non-food products [*incl.* Hawker, Peddler, Newsvendor, Rag Picker, Scavenger]
26	29	3	9113	Door-to-door and telephone salespersons [*incl.* Solicitor, Canvasser]
12	28	9	9120	STREET SERVICES ELEMENTARY OCCUPATIONS [*incl.* Billposter, Shoeshiner, Car Window Washer]
21	16	9	9130	DOMESTIC *ETC.* HELPERS, CLEANERS AND LAUNDERERS
22	16	9	9131	Domestic helpers and cleaners [*incl.* Housemaid, Housekeeper *nfs*]
21	16	9	9132	Helpers and cleaners in establishments [Kitchen Hand, Chambermaid]
22	16	9	9133	Hand-launderers and pressers
23	23	9	9140	BUILDING CARETAKERS, WINDOW *ETC.* CLEANERS
25	23	9	9141	Building caretakers [*incl.* Janitor, Sexton, Verger]
19	23	9	9142	Vehicle, window *etc.* cleaners
20	27	9	9150	MESSENGERS, PORTERS, DOORKEEPERS *ETC.* WORKERS
22	25	9	9151	Messengers, package and luggage porters and deliverers [*incl.* Elevator Attendant, Bellboy, Messenger]
20	27	9	9152	Doorkeepers, watchpersons *etc.* workers [*incl.* Amusement Park Attendant, Ticket Collector, Usher, Watchman *nfs*, Park Attendant]
21	27	9	9153	Vending-machine money collectors, meter readers *etc.* workers
13	23	9	9160	GARBAGE COLLECTORS *ETC.* LABOURERS
13	23	9	9161	Garbage collectors [*incl.* Dustman]
13	23	9	9162	Sweepers *etc.* labourers [*incl.* Odd-Job Worker]
23	16	9	9200	AGRICULTURAL, FISHERY *ETC.* LABOURERS
23	16	10	9210	AGRICULTURAL, FISHERY *ETC.* LABOURERS
23	16	10	9211	Farm-hands and labourers [*incl.* Cow Herd, Farm Helper, Fruit Picker]
18	16	10	9212	Forestry labourers
23	16	10	9213	Fishery, hunting and trapping labourers
18	23	9	9300	LABOURERS IN MINING, CONSTRUCTION, MANUFACTURING AND TRANSPORT [*incl.* Unskilled Worker *nfs*]
16	21	9	9310	MINING AND CONSTRUCTION LABOURERS
18	21	9	9311	Mining and quarrying labourers
15	21	9	9312	Construction and maintenance labourers: roads, dams *etc.* [*incl.* Navvy, Shoveller, Railway Trackworker]

SIOPS	ISEI	EGP	ISCO	Category
15	21	9	9313	Building constructions labourers [*incl.* Handyman, Hod Carrier]
19	20	9	9320	MANUFACTURING LABOURERS
18	20	9	9321	Assembling labourers [*incl.* Sorter, Bottle Sorter, Winder, Checker *nfs*, Grader *nfs*]
22	24	9	9322	Handpackers and other manufacturing labourers [*incl.* Crater, Labeller]
20	29	9	9330	TRANSPORT LABOURERS AND FREIGHT HANDLERS
17	22	9	9331	Hand or pedal vehicle drivers [*incl.* Rickshaw Driver]
22	22	9	9332	Drivers of animal-drawn vehicles and machinery
20	30	9	9333	Freight handlers [*incl.* Docker, Loader, Longshoreman, Remover, Stevedore]

a *nfs*: not further specified

b *nec*: not elsewhere classified

APPENDIX B

This appendix contains two SPSS modules: The first corrects ISCO-88 scores for managers and owners on the basis of additional information concerning employment status and supervising status.
The second SPSS module generates EGP categories from ISCO-88 codes and supplementary information on self-employment and supervising status.

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** standard recode of ISCO-88 occupations in EGP11 score.
** please cite as: "Harry B.G. Ganzeboom & Donald J. Treiman,.
** International Stratification and Mobility File, Standard.
** Recode Module ISKOEGP.INC. Revision 2002/08.
** http://home.scw.vu.nl/~ganzeboom".

** the module has been changed to a format for an indeterminate.
** number of variables. you need to define in your file the following.
** macro variables:.
** @isko.
** @egp11.
** @sempl: 1=other 2=self-employed.
** @supvis: 0=none 1=one 5=some 11=many.

** module 1: this module corrects ISCO-88 scores.
** by coding managers and owners with certain
** employment statuses into the right place.

do repeat s=@sempl / sv=@supvis / is=@isko.
if ((is>=6100 and is>=6133) and sv>=1) is=1311.
if ((is>=9200 and is>=9213) and sv>1) is=6132.
do if (sv>=11).
recode
  is (1311=1221)(1312=1222)(1313=1223)(1314=1224)(1315=1225)
    (1316=1226)(1317=1227)(1318=1228)(1319=1229)(1300,1310=1220).
end if.
do if (sv ge 1 and sv le 10).
recode
  is (1221=1311)(1222=1312)(1223=1313)(1224=1314)(1225=1315)
    (1226=1316)(1227=1317)(1228=1318)(1229=1319)
    (1200,1210,1220=1310).
end if.
if ((is=1220 or (is>=1222 and is<=1229))and (s=2) and sv>=11) is=1210.
end repeat.
** end of module.
** to correct isko-codes.
```



```
** module 2: this module generates EGP-codes.
** the first part attributes initial EGP-codes to ISCO-88 categories.

do repeat i=@isko / e=@egp11.
compute e=i.
end repeat.
include file='~/incl/iskoroot.inc'.

** where the file 'inkoroot.inc' contains recode statements recoding.
** ISCO-88 into initial EGP-codes as shown in Appendix A.
** end of first part of module 2.
** the second part corrects EGP attributions.
** using self-employment and supervising status.

do repeat    e=@egp11 / is=@isko / sv=@supvis / s=@sempl.
if        ((e=3 or e=4) and (sv>=1)) e=2.
if        ((e>=7 and e<=9) and (s=2)) e=6.
if        ((e=8) and (sv>=1)) e=7.
if        ((e=10) and (s=2)) e=11.
if        ((e=2 or e=3 or e=4) and (s=2)) e=6.
if        ((e=5) and (sv=0)) e=6.
if        ((e=6) and (sv>=1)) e=5.
if        ((e=2 or e=3 or e=4 or e=5) and (sv>=10)) e=1.
end repeat.

add value labels @egp11
  (1) i: higher managerial
  (2) ii: lower managerial
  (3) iiia: routine clerical
  (4) iiib: routine service-sales
  (5) iva: self-empl with empl
  (6) ivb: self-empl no empl
  (7) v: manual supervisors
  (8) vi: skilled worker
  (9) viia: unskilled worker
  (10) viib: agricul labour
  (11) ivc: self-empl farmer.
```