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## **HSN standardized, HISCO-coded and classified occupational titles, release 2018.01\***

### **1 INTRODUCTION**

This release includes standardization of 134,964 different occupational titles found in the sources used by the HSN till the 1<sup>st</sup> of July 2018 and the coding of these occupations in the HISCO, HISCLASS, OCC1950, HISCAM and SOCPO classifications. HSN stands for the Historical Sample of the Netherlands which forms a database consisting of over 85,000 life courses and which organizes adjacent projects with more life course data like the LINKS project (see [www.iisg.nl/hsn](http://www.iisg.nl/hsn)). All acronyms are explained in section 3.

The process of coding of the occupational titles followed three stages:

- 1) All titles were standardized into a uniform spelling,
- 2) The resulting standards were provided with a HISCO code,
- 3) On the basis of the HISCO code other classifications such as HISCLASS and HISCAM were added to the standards.

In the second section we will provide the description of the dataset. All data are downloadable in three data formats: Excel (xlsx), Access (accx) and Text (csv).

In the third and last section we will elaborate on these three stages of coding the occupational titles. This section is accompanied with Appendix A (in Dutch) explaining the rules used in the standardization of the spelling of the occupational titles.

The system is developing continuously; in the future not only mistakes will be repaired and new titles will be added, but on the basis of HISCO other class and prestige stratifications may be added as well. Compared with the foregoing version (2013.01; Mandemakers et al 2013) we added 39,666 titles, most of them originating from the project Genes, Germs and Resources delivered by Rick Mourits and Ingrid van Dijk (see <https://www.ru.nl/genesandgerms>) and the dissertation project of Corinne Boter (2017) *Dutch Divergence? Women's work, structural change, and household living standards in the Netherlands, 1830-1914*. To make comparisons with American datasets easier we also included the OCC1950 coding system.

When using these data in any form (presentations, books, articles etc.) the dataset should be cited as Kees Mandemakers, Rick J. Mourits, Sanne Muurling, Corinne Boter, Ingrid K. van Dijk, Ineke Maas, Bart Van de Putte, Richard L. Zijdemans, Paul Lambert, Marco H.D. van Leeuwen, Frans van Poppel and Andrew Miles, *HSN standardized, HISCO-coded and classified occupational titles, release*

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\* We thank Jan Kok for his useful comments

2018.01 (IISG Amsterdam 2018). And off course further citations are needed to HISCO: Marco H. D. van Leeuwen, Ineke Maas and Andrew Miles, *HISCO. Historical International Standard Classification of Occupations* (Leuven University Press 2002) and to the subsequent sources of used classifications.

## 2 DESCRIPTON TABLE AND FIELDS

### Name of the table: HSN\_HISCO (n=134,964)

Id	Primary key (no specific meaning)
Original	Original occupational title as transcribed from the sources
Standard	Standard occupational title cleaned from spelling mistakes and additions of non-occupational nature. For an overview of the applied rules, see Appendix A (in Dutch).
HISCO	HISCO basic code, see section 3.2 NB The original code -1 was divided into two groups: -1 title is only classifiable by way of the status code -3 title is not interpretable at all
STATUS	HISCO status code, see section 3.2
RELATION	HISCO relation code, see section 3.2
PRODUCT	HISCO product code, see section 3.2
HISCLASS	HISCLASS code, see section 3.3 NB A new code '13' was introduced for 'workers' which classification is context depended ('factory workers or 'farm workers'). -1 is used to code non values.
HISCLASS_5	HISCLASS code comprised in 5 classes, see section 3.3
HISCAM_U1	Universal HISCAM code, version 1.3.u1, see section 3.4
HISCAM_NL	HISCAM code only based on Dutch titles, version 1.3.nl, see section 3.4
SOCPO	SOCPO code, see section 3.5
OCC1950	OCC1950, see section 3.6
Release	Short release name (HSN_HISCO_2018_01).

### 3 Process of standardizing and coding

#### 3.1 Standardization

Till present the transcription of occupational titles from the sources used by the HSN and LINKS resulted in 134,964 'raw' titles.<sup>†</sup> Most of these titles were no more than small variations of each other and about 10% were unique but not spelled according to modern standards. We called them spelling variations and the first step was to standardize all occupational titles into one uniform more modern spelling. After standardization on spelling we ended up with 45,513 standardized occupational titles. The occupational title 'farmer' contained the most spelling variations: we found 659 versions of the Dutch occupational title 'landbouwer' (partly because quite a lot of them had some kind of context, e.g. place of living included in the title). On the other side of the spectrum we have 13,210 standard titles that has only one spelling variant.

Bringing occupational titles down to a standard spelling has several advantages: the assignment of the HISCO codes is a less laborious work, represented titles looks much better, spelling standardization is a lower grade job than assigning HISCO-codes and translation of titles into another language becomes a smaller job as well. Since we started with a large existing dataset of HISCO the standardization process also revealed inconsistencies that slipped into the HISCO coding over the years which could be resolved.

At first glance the spelling standardization seemed easier than it actually was. In the end we defined 27 rules on the basis of which we standardized our spelling. For an overview of the rules, see Appendix A (in Dutch).

Actually, the process of standardization was a semi automatic one, since we could standardize in an automatic way a) occupational titles that were followed by a specific context like 'Burgemeester van Besoyen [Lord mayor of Besoyen], b) relatively long strings that could be standardized by way of an allowable string difference of 1 (Levenshtein algorithm) in combination with exclusion of titles like those including numbers (to keep the difference between a 1<sup>st</sup> and 2<sup>nd</sup> lieutenant) and c) it proved to be easy to recognize in an automatic way some types of non interpretable occupational titles like 'zonder beroep' (without occupation). In first instance we wanted to have a more automatic if not complete automatic process, but try outs proved to deliver quite a lot of mistakes, so this path was called off.

Principally we avoided interpretations in the process of spelling standardization. This means for example that we kept the distinction between 'koopman' and 'handelaar', although for HISCO coding this should not make a difference [both to be translated as merchant]. We started to work on a 'light' level of interpretation of titles like the just mentioned or by bringing together occupational titles only with different company additions. Although we already used preliminary results in the assigning of HISCO codes, this is still 'unfinished businesses'.

#### 3.2 HISCO coding

##### 3.2.1 Introduction

HISCO stands for the *Historical* version of the *International Standard Classification of Occupations* (ISCO, used version ISCO1968). ISCO consists of a socio professional grouping of occupational titles in

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<sup>†</sup> Including about 10,000 'raw' titles that were created because the standardized form itself did not (yet) appear in our sources.

1675 different categories. Main merit of HISCO is that it has become an international comparable and accepted base for 'pre-coding' historical occupational titles.

HISCO was developed by an international composed group of historians and sociologists working with large historical datasets in the years before the millennium. The theoretical and practical description of the system was delivered in *HISCO. Historical International Standard Classification of Occupations* authored by Marco H. D. van Leeuwen, Ineke Maas and Andrew Miles with contributions by Sören Edvinsson, Johnny Karlsson, Marianne Jarnaes Erikstad, Jean-Pierre Pélissier, Danièle Rebaudo, Michel de Sève, Bart Van de Putte and Koen Matthijs (Leuven University Press 2002). For an explanation, see also the website <http://historyofwork.iisg.nl>. The following text originates from this website.

The HISCO code consists of four separate codes: HISCO itself, Status, Relation and Product. The three last codes are used to make more use of the information from the occupational title than the HISCO system itself would allow. In the sections 3.2.2 – 3.2.5 we will elaborate on these variables and explain the main values.

Essentially, the HISCO coding is a system in which the context of an occupational title could be decisive in deciding what code should be assigned to a title. In automatic coding this is difficult or impossible to realize. In section 3.2.6 we will discuss some of the consequences of this practice.

### 3.2.2 HISCO

HISCO is a five digit code where the first digit makes a distinction in seven main groups. Within brackets we have included the number of subgroups per main group, in total 76, distinguished are by way of a two digit code.

- |     |      |  |
|-----|------|--|
| 0/1 | [18] | <p><b>Professional, technical and related workers</b></p> <p>Workers in this major group conduct research and apply scientific knowledge to the solution of a variety of technological, economic, social and industrial problems and perform other professional, technical, artistic and related functions in such fields as the physical and natural sciences, engineering, law, medicine, religion, education, literature, art, entertainment and sport.</p>   |
| 2   | [3]  | <p><b>Administrative and managerial workers</b></p> <p>Workers in this major group comprise persons who as elected or appointed members of national, state, provincial or local governments are mainly occupied in deciding or participating in formulating governmental policy and in making and amending laws and official regulations, together with those who, as government administrators, organise and direct the interpretation and execution of governmental policy and those who, as directors and managers, plan, organise, co-ordinate and direct the activities of private or public enterprises, or organisations, or one or more of their departments (with certain exceptions: see definitions below).</p> |
| 3   | [9]  | <p><b>Clerical and related workers</b></p> <p>Workers in this major group put into effect laws, rules and regulations made by central, state, provincial or local governments; supervise clerical and related work, transport and communications service operations; compile and maintain records of financial and other business transactions; handle cash on behalf of an organisation and its customers; record oral or written matter by shorthand writing, typing and other means; operate office machines and telephone and telegraph equipment; conduct passenger transport vehicles; take part in postal work and mail distribution and perform other duties related to the foregoing</p>                          |

4	[6]	<b>Sales workers</b> Workers in this major group are engaged in, or directly associated with, buying and selling goods and services of all kinds and in conducting wholesale and retail businesses on their own behalf.
5	[8]	<b>Service workers</b> Workers in this major group organise or perform catering, housekeeping, personal, protective and related services.
6	[4]	<b>Agriculture, animal husbandry and forestry workers, fishermen and hunters</b> Workers in this major group conduct farms on their own behalf or in partnership, perform agricultural, animal husbandry and forestry tasks, catch fish, hunt and trap animals, and perform related tasks.
7/8/9	[29]	<b>Production and related workers, transport equipment operators and labourers</b> Workers in this major group are engaged in or directly associated with the extraction of minerals, petroleum and natural gas from the earth and their treatment; manufacturing processes; the construction, maintenance and repair of various types of roads, structures, machines and other products. Also included are those who handle materials, operate transport and other equipment and perform labouring tasks requiring primarily physical effort.

In combination with the third digit 296 'unit' groups were created. By using a fourth and fifth digit 1675 'micro' groups were distinguished.

For non valid codes HISCO developed three codes:

- 1 [-3] If the source does not deliver an occupational title or the title provides information that is not related to a work activity
- 2 If the source explicitly states that the person does not work, e.g. in the case of a retired person. (In case of occupational titles from the past HISCO codes are given, but relationship code is 21 or 23).

99999 The title is too vague to be interpretable or is multi-interpretable (multitude of occupations).

- 9 Empty values are coded with -9

It is not always easy to make a clear decision between these three different codes, for the way the HSN has handled the main variants, see Appendix A, rule 21-24. To make an easier implementation of the status variable the HSN used a separate code '-3' for titles without any information.

After all coding we ended up with 1,197 HISCO micro-groups, which implies that we did not find occupational titles for 478 groups (from the total of 1,675 predefined micro-groups).

Some occupational titles contain information which is not strictly about work activity and therefore could not be handled by the ISCO/HISCO scheme. Because this information could be useful for further classification three extra, already mentioned, variables were developed to contain this information: Status, Relation and Product. We can consider them as a kind of sub codes. These codes only need to be given when information would otherwise be lost. Thus, the status 'assistant' is not given for farm laborers, because the HISCO for this occupational title already implies a subordinate position. In the present dataset, it seems that status, relation and especially product codes are sometimes missing.

### 3.2.3 Status

An occupational title may include several dimensions of status: economic, social, employment and education. In the case of no real 'occupational titles' which will receive HISCO code -1 or -2 it is even often possible to derive a status code, e.g. in the case of a title like 'nobleman'.

The following categories are distinguished:

#### OWNERSHIP

- 11 Owner, proprietor
- 12 Lease-holder, share-cropper
- 13 Poor

#### ARTISAN CAREER

- 21 Master
- 22 Journeyman
- 23 Apprentice, learner
- 24 Artisan

#### PRINCIPALS AND SUBORDINATES

- 31 Principal
- 32 'Worker'
- 33 Subordinate
- 34 Serfs and Slaves

#### TERTIARY EDUCATION

- 41 Student
- 42 Graduate

#### 'PURE' STATUS

- 51 Nobility
- 52 Prestige titles

#### NO STATUS

- 9 Empty values are coded with -9

Quite often the HISCO code itself contains a status-element, like most of the titles in main group 0/1 which almost all can be considered as principal (status 31). In clear cases a code should not be created on the status variable. From the 45,513 standard occupational titles only 11,922 have a code on the status variable.

### 3.2.4 Relation

An occupational title may relate to someone else or to another period in the life of the owner of that attribute. The code *Relation* was introduced to contain several dimensions of a relationship: family, temporal, voluntary, incapacitated and housework. In the cases of HISCO code -1 and -2 a relationship code may be given.

The following categories are distinguished:

#### FAMILY RELATIONSHIP

- 11 Wife or widow

- 12 Son
- 13 Daughter
- 14 Other male relative
- 15 Other female relative
- 16 Child (no explicit gender)

#### TEMPORAL RELATIONSHIP

- 21 Former or retired
- 22 Future
- 23 Before death

#### VOLUNTARY OR HONORARY RELATIONSHIP

- 31 Voluntary, honorary

#### INCAPACITATED

- 41 Physical or mental disability

#### HOUSEWORK

- 51 Homeworker [household work]

#### NO RELATIONSHIP

- 9 Empty values are coded with -9

From the 45,513 standard occupational titles in HSN HISCO only 1,876 have been coded on the relation variable.

#### 3.2.5 Product

Especially in HISCO major group 4 (shops, trades) there are no subgroups to categorize the specific trade in which persons have their commerce, only their various commercial roles and positions are defined. For this reason the product variable has been developed. This variable consists of 53 product groups. However, from the 45,513 standard occupational titles in HSN HISCO only 3,338 have been coded on the product variable. Needless to say, that the coding is not complete. In case of no product code we used the code -9, regardless of the question if there should have been one or not.

#### 3.2.6 Automatic coding in HISCO

With automatic coding there are several problems that pop up: a) so-called double occupations, that is when more than one occupation is included in an occupational title, for example 'farmer and shoemaker' or 'merchant and stockbroker' and b) ambiguous occupations in the sense that they have different HISCO codes depending on the context, for example a fisher which could be fresh water or a sea fisher.

##### *More than one occupation in an occupational title*

In historical sources persons may have more than one occupation at the same moment or are attributed with a combination of occupations. HISCO as such has no codes for double occupations in occupational titles and the general rule is that each occupation gets its own HISCO code. However,

handling more than one code for a title is difficult in automatic coding. What happens in practice is that occupational titles receive the HISCO belonging to the highest occupation in terms of social status, or receive the code belonging to the most detailed occupation or receive the code belonging to the first occupation.

Within this release double occupations are recognized by the article 'en' which connects the different occupations that are distinguished in this release. The applied HISCO code refers to the most detailed occupation or in case there are no differences to the first occupation. However, it is not completely clear how this have worked in practice. In future we intend to make a separate table for double occupations in which we split the occupations and deliver separate codes for each occupation.

A more complicated problem are occupational titles that on face value have more values in the HISCO tree depending on the context in which the person to which the title belongs operated. That could be the geographical context, e.g. fisher, but also the context of the job, e.g. size of the farm. Although HISCO provides enough differentiation it is difficult to handle this in an automatic way. In case of ambiguous titles, the code was chosen for the content of the occupational title that seems the most widespread. In future we think on providing more codes in terms of ambiguity.

### 3.3 HISCLASS coding

HISCLASS is a class scheme based on HISCO. It was developed by Marco van Leeuwen and Ineke Maas using the American *Dictionary of Occupational Titles* (DOT) and expert knowledge to place the HISCO codes in a class system of 12 classes. These classes were defined on the basis of four dimensions of class structure: a) manual or non-manual type of occupation, b) skill level of the occupation, c) supervisory character of the occupation d) economic sector (primary/ secondary/ tertiary sector). In the selection of these dimensions they were inspired by the work of Gérard Bouchard, Erik Olin Wright and John Goldthorpe (see Marco H. D. van Leeuwen and Ineke Maas, *HISCLASS. A Historical International Social Class Scheme*, Leuven University Press, 2011).

The resulting class scheme is as follows:

- 1 Higher managers
- 2 Higher professionals
- 3 Lower managers
- 4 Lower professionals, [higher and middle] clerical and sales personnel
- 5 Lower clerical and sales personnel
- 6 Foremen
- 7 Medium skilled workers
- 8 Farmers and fishermen
- 9 Lower skilled workers
- 10 Lower skilled farm workers
- 11 Unskilled workers
- 12 Unskilled farm workers
- 13 Unskilled workers not specified
- 1 No HISCLASS code

Class '13' was introduced by us for the group of 'unskilled workers' (HISCO 99900 and 99920) which category is context depended ('unskilled' workers' or 'unskilled farm workers', HISCLASS 11 or 12)



and for this reason could not be classified automatically because the HSN\_HISCO coding is context independent.

Besides the HISCO grouping itself also the *Status* and the *Relationship* variable were used to place occupations in the HISCLASS scheme. Whereas status code may move an occupation to a higher or lower class, all occupations with a value on the *Relationship* variable were excluded from a place in the HISCLASS scheme (see Van Leeuwen & Maas, 2011, p. 58-59) as well as all students (value 41 in the *Status* variable).

For these exclusions and for the codes for missing values, we used the general code -1. By way of the HISCO codes it is always possible to trace the original values.

For the practice of coding HISCO into HISCLASS we used the SPSS-code scheme as it was published on the HISCO collaboratory: <https://collab.iisg.nl/web/hisco/hisclass>, more specific the file named *hisco\_hisclass12\_book@\_numerical.inc*. This file also include code to split HISCLASS '13' on the basis of the type of the location where the occupational title was found.

#### *HISCLASS\_5*

Especially when categories contain a small number of cases, it is advisable to combine them into larger ones. We included a combination of 5 classes which is quite frequently used (see e.g. Jan Kok en Kees Mandemakers, ' "Je zoudt maar last van mij hebben". Verwanten in het Nederlandse huishouden, 1860-1940', *Tijdschrift voor Sociale en Economische Geschiedenis* 6 (2009), 4, 139-165). Van Leeuwen and Maas also suggested a smaller amount of classes, but they continued to make a distinction between unskilled farm and industrial workers which has the disadvantage of the special context treatment of class '13' (Marco H.D. Leeuwen and Ineke Maas, 'Economische specialisering en veranderende sociale verhoudingen in de 19e en 20e eeuw. Een studie op basis van de Nederlandse volkstellingen en huwelijksakten', in: O.W.A. Boonstra et al (red.), *Twee eeuwen Nederland geteld. Onderzoek met de digitale Volks- Beroeps- en Woningtellingen 1795-2001*. DANS en CBS Den Haag 2007, p. 181-205).

1	1 and 2	Elite (higher managers and higher professionals)
2	3, 4, 5 and 6	Lower middle class (lower managers, professionals, clerical and sales personnel and foremen)
3	8	Self-employed farmers and fishermen
4	7 and 9	Skilled workers (medium skilled and lower skilled)
5	10, 11, 12 and 13	Unskilled workers and farm workers
-1	-1	No code in HISCLASS

### **3.4 HISCAM coding**

In the coding of occupational status two traditions may be distinguished. One is coding according class boundaries based on a rule set defining the classes. An example of this approach is HISCLASS. The other tradition starts from the view that the social world consists of a continuum of social positions with different social distances between each other.

There are several ways of defining the relative social positions of occupational titles. The two most known systems on which this so-called social prestige of occupations is based, are a) surveys in which people are asked to rank occupations according to their place in society and b) rankings

according to the average of the social and economic status (SES ranking) of each occupational title usually calculated by the average income and educational level of each occupation. Especially Pareto, Sorokin and Blau & Duncan were important in the development of this tradition of continuous scaling. In the Netherlands it was Van Heek who started research on social stratifications based on prestige.

HISCAM is based on a third and recently increasingly applied method of social interaction distance scaling. In this method the occupational hierarchy is based on the frequency with which a combination of occupations occurs in a type of social relationship, such as friendship or marriage. The more often a combination of occupations occurs in that relationship, the smaller the social distance between these occupations is assumed to be.

HISCAM is a historical version of such a social interaction distance scale and is developed by Paul Lambert and colleagues. The following is based on the most recent article about HISCAM: Paul S. Lambert, Richard L. Zijdemann, Marco H. D. Van Leeuwen, Ineke Maas & Kenneth Prandy, 'The Construction of HISCAM: A Stratification Scale Based on Social Interactions for Historical Comparative Research' *Historical Methods* 46 (2013), 2, 77-89.

HISCAM stands for the historical version of CAMSIS which is an acronym for 'CAMbridge Social Interaction and Stratification'. CAMSIS is a scale for occupational titles with a continuous character which assumes that the more people interact with each other the closer they are in social position. On the basis of empirical data it is calculated how far these relative distances are. HISCAM uses a scale of 1 to 100 to scale all occupations and is based on the interaction between occupational titles as they are shown on marriage certificates. HISCAM uses the combination of the occupations of parents and children like the occupation of the groom and those of his father or father-in-law. The used marriage certificates originate from seven countries: Belgium, Britain, Canada, France, Germany, the Netherlands and Sweden dating from the period 1800 – 1938 and counting over 2 million certificates.

The actual calculation of the distances was done on the basis of 536 different occupational groups coded in HISCO. In practice the scale runs from a bottom of about 40 for an agricultural day laborer to almost 100 for a general physician (note that the levels between 1 and 40 are not used in practice). One of the advantages of a continuous scale is that it can be used as a dependent variable in linear regression analysis which needs interval level of the dependent variable while HISCLASS and also SOCPO are of respectively nominal and ordinal level.

In this release we have included two HISCAM scales. One is based on the total ('universal') dataset of all countries and one that is only based on Dutch titles. In both instances the number of coded HISCO micro-groups amounts to n=1300 (HISCO's with a frequency of 25 or lower cannot be coded into HISCAM). Since the different HISCO-codes in this release (n=1135) don't belong to these small cells, all HISCO's could be coded into HISCAM. The coding of the difference between the actual used 534 quantitative most important HISCAM-groups and the remaining ones was done on the basis of the teams expert knowledge. The used conversion tables were downloaded from <http://www.hiscam.org> and has to be cited as *HISCAM version 1.3.1.u1* for the universal one and *HISCAM version 1.3.1.nl* for the version based on Dutch titles (files dated February 2011). The HISCO codes 99999, -1, -2 and -3 did not receive a HISCAM code. Further, 977 titles could not be supplied with a HISCAM-code, they received -9 as a code.

For more information on HISCAM, see also <http://www.hiscam.org> or <https://collab.iisg.nl/web/hisco/hiscam> and the referred articles at this website.

### 3.5 SOCPO coding

SOCPO stands for SOCIal POWer and is another version of a stratification in social groups originating from the HISCO scheme. It was developed by Bart Van de Putte and Andrew Miles and the distinction in social groups is based on the principle of social power, defined as “the potential to influence one’s destiny—or ‘life chances’—through control of (scarce) resources.” (see Bart Van de Putte and Andrew Miles, ‘A Social Classification Scheme for Historical Occupational Data’, *Historical Methods* 38 (2005), 2, 61-94; p. 63; also the following originates from this article).

Social power is based on economic and cultural resources. Economic power is derived from factors such as self-employment, skill, and authority (command). Sources of cultural power are non-manual versus manual occupations and nobility and prestige titles. The merging of economic and cultural power dimensions leads to the following groups (the names of the levels are our own):

5	Elite	Executives who perform general policy tasks, supra local businesspeople, non manual ‘super’ skilled people and members of the nobility.
41	Middle Class	Farmers
42	Middle Class	Supervisors of skilled workers, local businesspeople, manual superskilled people, and nonmanual skilled people.
3	Skilled workers	Supervisors of semi- and unskilled workers and manual skilled workers.
2	Semi skilled workers	Self-employed who are locally oriented and who have minimal capital as well as semiskilled workers.
1	Unskilled workers	

Because the farmers are a quite large group of which it is usually necessary to analyze them separately we have split level 4 into 41 and 42.

In case no SOCPO-code could be made, the value is 999. In case no SOCPO-code was available, the value is -9 (n=6,763, about 4% of all titles).

SOCPO is a class based scheme which does not include economic *sector* as power source underlying class differences. For specific research questions (for example questions focus in on differences in living conditions), sector differences can be integrated in the SOCPO class variable, for example by making a distinction between the agricultural and the non-agricultural middle class in level 4 as has been done here.

For our operationalization we used a HISCO\_SOCPO scheme s which was constructed by Bart Van de Putte and Frans van Poppel and extended and checked by Bart Van de Putte and Andrew Miles.

### 3.6 OCC1950 coding

The study of social class and corresponding measurement schemes has evolved separately in Europe and the US. On both continents a standardized occupational coding system exists that can be transferred into a wide scala of measures of socioeconomic status. The U.S. Bureau of the Census' 1950 standard (OCC1950) is the American standard for occupational coding and can be used to generate other social class schemes. The occupational coding system OCC1950 is the US standard for occupational coding and is based on the US Census of 1950. The scheme of OCC1950 is used for coding into all kind of other systems: e.g. the Duncan Social Economic Index (SEI), the Nam-Powers-Boyd Occupational Status Score NPBOSS), the Siegel Prestige Score (PRESGL) and the Occupational Income Score (OCCSCORE), see <https://usa.ipums.org/usa/chapter4/chapter4.shtml>.

The coding of the HISCO codes into the OCC1950 code was realized by Rick Mourits for more details, see Rick J. Mourits, *HISCO - OCC1950 crosswalk* (DANS 2017). <https://doi.org/10.17026/dans-zap-gxmc>

Occupational categories were linked between HISCO and OCC1950 on the basis of the underlying occupations. Both HISCO and OCC1950 consist of multiple layers of occupational groups. HISCO is divided in 7 major, 76 minor, 296 unit, and 1,675 micro groups, which roughly correspond with: social groups, economic sectors, occupational groups, and occupational subgroups. OCC1950 on the other hand is divided in 10 social groups and 269 occupational groups. HISCO's micro groups and OCC1950's occupational groups are based on a well-documented number of occupations, which can easily be compared and matched between both occupational coding schemes.

In the translation from HISCO to OCC1950 1,675 occupational categories were collapsed into 229 OCC1950 unique occupational groups. Although 40 occupational groups in OCC1950 could not be retrieved from HISCO, all occupations were successfully attributed to the right social group.

The design of OCC1950 is described at length in [Integrated Occupation and Industry Codes and Occupational Standing Variables in the IPUMS](#). The composition of the 1950 occupation categories is described in detail in U.S. Bureau of the Census, [Alphabetic Index of Occupations and Industries: 1950](#) (Washington D.C., 1950).

The OCC1950 code consist of ten social groups:

Social group	Occupational groups	Description
0	0-99	Professional & technical workers
1	100-123	Farmers
2	200-290	Managers, officials, and proprietors
3	300-390	Clerical and kindred workers
4	400-490	Sales workers
5	500-595	Craftsmen
6	600-690	Operatives
7	700-790	Service workers
	700-720	In a private household
	730-790	Not in a household
8	800-840	Farm laborers
9	910-970	Laborers

For a complete overview of all used occupational groups, see Appendix B

Please note that the HISCO to OCC1950 coding used in this release is not a crosswalk to the intermediate HISCO used by the NAPP project, also known as OCCHISCO or NAPPHISCO. This crosswalk can be retrieved from:

[https://github.com/rlzijdeman/o-clack/tree/master/crosswalks/occhisco\\_to\\_hisco](https://github.com/rlzijdeman/o-clack/tree/master/crosswalks/occhisco_to_hisco)

#### 4. Literature

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## Appendix A

### Regels bij het standaardiseren van de beroepstitels.

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#### Regels bij standaardiseren beroepstitels

Onderstaande regels staan in volgorde van belangrijkheid. Indien er meerdere regels van toepassing zijn, geldt dus de bovenste regel (regel 1 is dus belangrijker dan regel 2). In de eerste sectie gaat het om zuivere spellingsregels, in de tweede sectie worden regels gegeven voor enkele vormen van toegestane standaardisering. Bij een aantal regels betreffende titels die niet duidelijk een beroep aangeven zijn ook de te geven HISCO-code vermeld.

Regels betreffende spelling

1. **Afkortingen voluit uitschrijven.** Indien van een afkorting onbekendis waar het voor staat, niet wijzigen. Punten in afkortingen verwijderen.
2. Er worden **alleen kleine letters** gebruikt. Eigen namen en namen van plaatsen krijgen dus geen hoofdletter.
3. Er worden geen komma's gebruikt, een constructie als 'genees-, heel- en vroedmeester' wordt 'genees- heel- en vroedmeester'.
4. **Leestekens** anders dan een verbindingsstreepje (bijv: #, \*, &, /, \$, @) verwijderen. Zie ook regel 12.
5. Indien de beroepsaanduiding uit **meerdere beroepen** bestaat, worden beide beroepen gestandaardiseerd; komma's worden vervangen door 'en' (bijv: 'doctor in de Letteren, leeraar#' wordt 'doctor in de letteren en leraar'). Meerdere beroepen worden altijd van elkaar onderscheiden door ' en ', om automatische splitsing mogelijk te maken (een ander gebruik van ' en ' is overigens wel toegestaan). Bij drie verschillende beroepen twee keer een scheiding met 'en '.
6. Beroepsaanduidingen in **meervoud omzetten naar enkelvoud** ('arbeidslieden' wordt 'arbeider'; 'kappers' wordt 'kapper').
7. De **vrouwelijke vorm** van een beroep dient gehandhaafd te blijven: 'winkeliersche' wordt 'winkelierster', 'leraares' wordt 'lerares', 'bakkerse' wordt 'bakster. Uitzondering: 'sommige beroepen worden alleen maar geassocieerd met vrouwen, maar kennen ook een vrouwelijke beroepsaanduiding. In deze gevallen wordt de 'neutrale' vorm genomen, bijvoorbeeld 'baekerse' wordt 'baker' (geen 'baakster'). Bij 'neutrale' beroepen (niet geassocieerd met het vrouwelijke geslacht) blijft de 'oude' vorm gehandhaafd 'touwslagersche' wordt 'touwslagerse' en 'smidsche' wordt 'smidse', 'voetbodin' blijft 'voetbodin', 'voermansche' wordt 'voermanse'.
8. Beroepsaanduidingen die starten met een **rangindicatie** worden losgekoppeld. ('assistentapotheker' en 'adjunctcommies' worden 'assistent apotheker' en 'adjunct

commies', maar 'timmermansknecht' of 'smidsgezel' veranderen niet). Rangindicaties komen voorop, dus 'accountant (ass)' wordt 'assistent accountant'.

9. Bij beroepsvermeldingen met **tijdsaanduidingen die het heden** vermelden kan deze toevoeging worden verwijderd. Dus iets als 'thans schoenmaker' wordt 'schoenmaker'; maar 'ex-burgemeester' wordt 'ex burgemeester' (aanduiding naar het verleden, zie ook regel 20 en 21).
10. Beroepstitels waarbij een **firma of een bedrijfstype** wordt genoemd krijgen als 'tussenvoegsel' standaard 'bij de', 'bij het', 'bij een', etc. dus 'adjunct commies ten hypotheekkantore' wordt 'adjunct commies bij het hypotheekkantoor', 'inspecteur van politie' wordt 'inspecteur bij de politie', etc. Welke keuze voor een bepaald voorzetsel of lidwoord wordt gemaakt, is minder belangrijk als het maar consequent gebeurt. 'De' of 'het' hebben de voorkeur boven 'een'.  
NB: dit is dus niet het geval bij aanduidingen over iets anders dan het beroep, zoals bijvoorbeeld product. In dat geval moet 'in', 'van' of 'tot' gehandhaafd blijven, voorbeelden: 'agent in granen', 'kandidaat tot de heilige dienst', distributeur van brieven', 'commies te water', vervaardiger van kunstgebitten'. .
11. **Rangtelwoorden worden voluit** geschreven ('1<sup>e</sup> luitenant 2<sup>e</sup> regiment ...', wordt 'eerste luitenant tweede regiment ....').
12. **Verbindingstekens (streepjes)** in beroepsaanduidingen verwijderen en voorzien van een spatie. ('adjunct-commies' wordt 'adjunct commies', 'advocaat-generaal' wordt 'advocaat generaal'), mits taalkundig in overeenstemming met groene boekje (regel 14), 'groente-inkoper' blijft 'groente-inkoper', 'genees- heel- en vroedmeester' is ook volgens de regels.  
NB 1: Dit geldt alleen voor beroepsaanduidingen: 'Zuid-Waddinxveen' wordt 'zuid-waddinxveen' met een streepje, 'Ned.-Indië' wordt gestandaardiseerd als 'nederlands-indië'.  
NB 2: Voor dubbele beroepsvermeldingen met een tussenliggende spatie geldt regel 5.
13. Beroepstitels in een **vreemde taal** krijgen de Nederlandse vertaling, tenzij de titel in het Nederlands geen ingang heeft gevonden, dus 'cultivateur' wordt 'landbouwer' terwijl 'donkeyman' niet wordt vertaald.
14. **Spelling** hanteren volgens het groene boekje (<http://woordenlijst.org/>).

*Vormen van standaardisering die niet of minder met spelling te maken hebben*

15. De bij het bevolkingsregister van na 1920 gebruikelijke toevoegingen **van 'h' ('hoofd' of 'zelfstandig') en 'o' ('ondergeschikt')** worden overgenomen, tenzij ze de beroepsinhoud herhalen, voorbeelden:

'drogist (h)'	blijft	'drogist (h)'
'drogist (o)'	blijft	'drogist (o)'
'drogistbediende (o)'	wordt	'drogistbediende',
'directeur (h)'	wordt	'directeur'
'kantoorbediende (h)'	blijft	'kantoorbediende (h)'
'kantoorbediende (o)'	wordt	'kantoorbediende'

Bij twijfel en dit treedt makkelijk op bij beroepen die zowel zelfstandig als in loondienst kunnen worden uitgeoefend, beide varianten handhaven (ook in die gevallen waarbij er bijvoorbeeld maar één variant voorkomt in de lijst, bv. 'sloper' en 'sloper (o)' terwijl 'sloper (h)' niet voorkomt).

16. Omschrijvingen die eventueel **multi-interpretabil** zijn, toch gewoon standaardiseren, 'in de melkfabriek' wordt dan 'werkzaam in de melkfabriek', 'gloeilampenfabriek (o)' wordt dan 'werkzaam in gloeilampenfabriek (o)', 'in effecten' wordt dan 'handelaar in effecten'.
17. Soms wordt **alleen het type bedrijf** gegeven, zoals 'slijterij', 'pettenwinkel' of 'fabriek'; in deze gevallen kan moeilijk 'werkzaam in de slijterij' of 'werkzaam in de fabriek' worden gegeven omdat het veelal om de baas zelf zal gaan. Eigenlijk zijn het ook helemaal geen beroepstitels: we geven dit aan met de term 'Bedrijfstitel:' en dan het bedrijf, bijvoorbeeld: 'Bedrijfstitel: slijterij'. In het geval van winkels, horeca, kleine ambachten e.d. kunnen we er vrij zeker van zijn dat het om een zelfstandige gaat. Deze krijgen een 'normale HISCO code als zelfstandige; in de andere gevallen gaan we uit van niet-zelfstandigen (in dit laatste geval is de situatie vergelijkbaar met regel 16).  
In het geval van titels als 'boekdrukkersaffaire doende' worden ook standaard als bedrijfstitel opgevoerd; termen die uitsluitend op de aard van het werk slaan, zoals 'boerenarbeid doende' blijven onveranderd.'
18. **Beroepstitels die slechts gedeeltelijk zijn** opgenomen, ook gedeeltelijk opnemen, bv. 'leraar bij de #' wordt 'leraar'.
19. **Toevoegingen van plaats** (zoals burgemeester *dezer stad*, of luitenant *derde regiment*) worden verwijderd, tenzij deze toevoegingen het beroep beter definiëren (zoals luitenant *OIL* of kapitein *ter zee*, of predikant *bij de doopsgezinde gemeente*). Een plaatsaanduiding alleen is niet voldoende om onderscheidend te zijn, bij titels als 'predikant te Arnhem', 'ambtenaar secretarie Dedemsvaart' wordt de plaatsaanduiding verwijderd. Een specifieke firmanaam kan vervangen worden door een '(o)' indien het een ondergeschikte positie betreft (zie regel 14). Bedrijfstakaanduidingen blijven gehandhaafd.
20. **Overige termen** in beroepstitels die niets met het beroep te maken hebben, worden niet meegenomen, maar termen als 'milicien' (vaak in huwelijksakten in combinatie met het beroep) en 'met wachtgeld' worden wel meegenomen, een beroepstitel als 'onbezoldigd veldwachter', of 'vrijwillig veldwachter' blijft wat het is, want dat is toch een ander soort beroep dan 'gewoon veldwachter'.

#### *Vormen van standaardisering van 'niet-beroepen' en toekenning HISCO*

Voor 'niet-beroepstitels' geldt de HISCO-code -1 of -2. Titels die geen code kunnen krijgen omdat de titel nergens in past, krijgen de code 99999. De code -2 staat voor allerlei vormen van 'niet-werken', -1 voor status-indicaties zoals baron, student.

21. Als er uitsluitend 'op wachtgeld' en varianten daarvan staat zonder een beroepsvermelding dan wordt dit gestandaardiseerd als 'op wachtgeld' [De hiervoor gegeven HISCO-code=-2]. Voor varianten van 'met verlof' zonder beroepstitel geldt dezelfde regeling. Andere vormen zijn termen als 'patient', 'armlastige', 'invalide' of 'gedetineerd'. [De hiervoor gegeven HISCO-code=-2].



22. Voor allerlei varianten waaruit blijkt dat men **geen beroep (meer) uitoefent**, zoals 'geen', 'zonder', 'zonder beroep', 'beroep neergelegd', etc. worden de standaard termen 'zonder beroep' of 'gepensioneerd' gebruikt; indien het beroep toch wordt gegeven, dan wordt het voorafgegaan met de term 'ex' of 'oud' of 'rustend' of 'gepensioneerd' afhankelijk van het origineel. Indien bij pensionering e.d. wel een beroep staat vermeld, wordt de HISCO van dat beroep gegeven en op de relatie-code wordt op 21 gezet. In het andere geval geldt HISCO code -2.
23. Beroepen die status aangeven, zoals 'baron', 'leerling', worden in HISCO gecodeerd met -1; door middel van de status variabele kan hier verder invulling aan worden gegeven. 'Leerling' staat als zodanig niet vermeld in het HISCO-boek maar het lijkt beter hier toch een code voor te geven, daar dit tot 1940 niet zonder betekenis was. Dit wordt dan HISCO=-1 en status=43.  
NB Ambachtsleerlingen krijgen de code van het ambacht plus de statuscode 23.
24. Beroepstitels waarbij het duidelijk is, dat het om een relatie van de betrokkene gaat, zoals koopmansvrouw, of koopmansdichter krijgen de HISCO-code voor koopman, voor de relatie wordt de relatie-codering gebruikt. Een term als koopvrouw wordt als een vrouwelijke variant beschouwd en krijgt dus gewoon de HISCO-code zonder een relatie-code.
25. Voor **niet goed overgenomen beroepen** worden de volgende standaardomschrijvingen gebruikt; hieronder tussen teksthaken de gehanteerde HISCO-code. In het geval van het ontbreken van een beroep of status wordt de HISCO-code -3 geïntroduceerd (i.p.v. HISCO - 1), overgenomen beroepstitels die niet zijn te begrijpen of niet in te delen krijgen code 99999:

beroepstitel niet interpreteerbaar	Uit de titel is niet te begrijpen of het wel een beroep is, of er staan titels door elkaar of achter elkaar (gebeurt nogal eens bij de persoonskaart); het kan ook zijn dat het duidelijk is, dat het beroep niet goed is overgenomen uit de bron [HISCO=99999]. Het omvat ook titels die niet goed zijn te lezen (bij de HSN veelal aangegeven door een '@')
beroepstitel onvertaalbaar	Meestal Franse titel waarvoor geen goed Nederlands equivalent voor is gevonden [HISCO=99999].
beroepstitel niet vermeld	In het origineel is geen beroepstitel weergegeven (niet vermeld) [HISCO=-3].
geen beroepstitel	Als er iets staat als 'zie boven' of anderszins duidelijk is dat men de titel niet (goed) heeft overgenomen of helemaal geen titel heeft overgenomen bijvoorbeeld een plaatsnaam of leeftijd [HISCO=-3].
beroepstitel niet gecodeerd	Titels die nog niet zijn gecodeerd, kunnen tijdelijke codes hebben (HISCO=--4 of lager)

In de praktijk is het soms lastig om een keuze te maken uit een van de eerste vier varianten. Omdat de originele titels die hierbij horen toch opnieuw in de bron moeten worden bekeken, is een minder goede keuze in deze niet zo'n probleem.

Tussentijds kan er de situatie zijn, dat er wel HISCO's zijn maar nog geen standaard beroepstitel, dit wordt aangegeven met de term 'nog geen standaard'

Tussentijds kan er de situatie zijn, dat er wel standaardtitels zijn, maar nog geen HISCO en andere codes, dit wordt aangegeven met de code -4 op HISCO.

Titels die nog helemaal gestandaardiseerd en gecodeerd moeten worden, krijgen -5 op HISCO en het veld *standard* blijft leeg

*Extra codes voor status en relatie*

26 De volgende nieuwe statuscode werd geïntroduceerd.

43 Dit staat voor 'leerling middelbare school'; dit past niet in de bestaande categorieën 'student' en 'graduate'; een nog niet opgelost probleem is, dat de bovenliggende categorie 'tertiair onderwijs' nog moet veranderen in 'secundair en tertiair'

27 De volgende nieuwe relatiecodes werden geïntroduceerd.

16 Geen specificatie van het geslacht van het kind (dus niet zoon of dochter maar 'kind')  
23 Beroep van de persoon voordat hij het tijdelijke voor het eeuwige verwisselde ('in leven')

## Appendix B

### OCC1950 codes as retrieved from IPUMS (12-7-2018):

[https://usa.ipums.org/usa-action/variables/OCC1950#codes\\_section](https://usa.ipums.org/usa-action/variables/OCC1950#codes_section)

#### Professional, Technical:

- 0 Accountants and auditors
- 1 Actors and actresses
- 2 Airplane pilots and navigators
- 3 Architects
- 4 Artists and art teachers
- 5 Athletes
- 6 Authors
- 7 Chemists
- 8 Chiropractors
- 9 Clergymen
- 10 College presidents and deans,

#### Professional, Technical:

- 12 Agricultural sciences
- 13 Biological sciences
- 14 Chemistry
- 15 Economics
- 16 Engineering
- 17 Geology and geophysics
- 18 Mathematics
- 19 Medical sciences
- 23 Physics
- 24 Psychology
- 25 Statistics
- 26 Natural sciences (n.e.c.)
- 27 Social sciences (n.e.c.)
- 28 Non-scientific subjects
- 29 Subject not specified
- 31 Dancers and dancing teachers
- 32 Dentists
- 33 Designers
- 34 Dietitians and nutritionists
- 35 Draftsmen
- 36 Editors and reporters
- 41 Engineers, aeronautical
- 42 Engineers, chemical
- 43 Engineers, civil
- 44 Engineers, electrical
- 45 Engineers, industrial

46	Engineers, mechanical
47	Engineers, metallurgical, metallurgists
48	Engineers, mining
49	Engineers (n.e.c.)
51	Entertainers (n.e.c.)
52	Farm and home management advisors
53	Foresters and conservationists
54	Funeral directors and embalmers
55	Lawyers and judges
56	Librarians
57	Musicians and music teachers
58	Nurses, professional
59	Nurses, student professional
61	Agricultural scientists
62	Biological scientists
63	Geologists and geophysicists
67	Mathematicians
68	Physicists
69	Miscellaneous natural scientists
70	Optometrists
71	Osteopaths
72	Personnel and labor relations workers
73	Pharmacists
74	Photographers
75	Physicians and surgeons
76	Radio operators
77	Recreation and group workers
78	Religious workers
79	Social and welfare workers, except group
81	Economists
82	Psychologists
83	Statisticians and actuaries
84	Miscellaneous social scientists
91	Sports instructors and officials
92	Surveyors
93	Teachers (n.e.c.)
94	Technicians, medical and dental
95	Technicians, testing
96	Technicians (n.e.c.)
97	Therapists and healers (n.e.c.)
98	Veterinarians
99	Professional, technical and kindred workers (n.e.c.)

Farmers:

100	Farmers (owners and tenants)
123	Farm managers

Managers, Officials, and Proprietors:

- 200 Buyers and department heads, store
- 201 Buyers and shippers, farm products
- 203 Conductors, railroad
- 204 Credit men
- 205 Floormen and floor managers, store
- 210 Inspectors, public administration
- 230 Managers and superintendents, building
- 240 Officers, pilots, pursers and engineers, ship
- 250 Officials and administrators (n.e.c.), public administration
- 260 Officials, lodge, society, union, etc.
- 270 Postmasters
- 280 Purchasing agents and buyers (n.e.c.)
- 290 Managers, officials, and proprietors (n.e.c.)

Clerical and Kindred:

- 300 Agents (n.e.c.)
- 301 Attendants and assistants, library
- 302 Attendants, physician's and dentist's office
- 304 Baggage men, transportation
- 305 Bank tellers
- 310 Bookkeepers
- 320 Cashiers
- 321 Collectors, bill and account
- 322 Dispatchers and starters, vehicle
- 325 Express messengers and railway mail clerks
- 335 Mail carriers
- 340 Messengers and office boys
- 341 Office machine operators
- 342 Shipping and receiving clerks
- 350 Stenographers, typists, and secretaries
- 360 Telegraph messengers
- 365 Telegraph operators
- 370 Telephone operators
- 380 Ticket, station, and express agents
- 390 Clerical and kindred workers (n.e.c.)

Sales workers:

- 400 Advertising agents and salesmen
- 410 Auctioneers
- 420 Demonstrators
- 430 Hucksters and peddlers
- 450 Insurance agents and brokers
- 460 Newsboys
- 470 Real estate agents and brokers

- 480 Stock and bond salesmen
- 490 Salesmen and sales clerks (n.e.c.)

Craftsmen:

- 500 Bakers
- 501 Blacksmiths
- 502 Bookbinders
- 503 Boilermakers
- 504 Brickmasons, stonemasons, and tile setters
- 505 Cabinetmakers
- 510 Carpenters
- 511 Cement and concrete finishers
- 512 Compositors and typesetters
- 513 Cranemen, derrickmen, and hoistmen
- 514 Decorators and window dressers
- 515 Electricians
- 520 Electrotypers and stereotypers
- 521 Engravers, except photoengravers
- 522 Excavating, grading, and road machinery operators
- 523 Foremen (n.e.c.)
- 524 Forgemen and hammermen
- 525 Furriers
- 530 Glaziers
- 531 Heat treaters, annealers, temperers
- 532 Inspectors, scalers, and graders, log and lumber
- 533 Inspectors (n.e.c.)
- 534 Jewelers, watchmakers, goldsmiths, and silversmiths
- 535 Job setters, metal
- 540 Linemen and servicemen, telegraph, telephone, and power
- 541 Locomotive engineers
- 542 Locomotive firemen
- 543 Loom fixers
- 544 Machinists
- 545 Mechanics and repairmen, airplane
- 550 Mechanics and repairmen, automobile
- 551 Mechanics and repairmen, office machine
- 552 Mechanics and repairmen, radio and television
- 553 Mechanics and repairmen, railroad and car shop
- 554 Mechanics and repairmen (n.e.c.)
- 555 Millers, grain, flour, feed, etc.
- 560 Millwrights
- 561 Molders, metal
- 562 Motion picture projectionists
- 563 Opticians and lens grinders and polishers
- 564 Painters, construction and maintenance
- 565 Paperhangers

570 Pattern and model makers, except paper  
 571 Photoengravers and lithographers  
 572 Piano and organ tuners and repairmen  
 573 Plasterers  
 574 Plumbers and pipe fitters  
 575 Pressmen and plate printers, printing  
 580 Rollers and roll hands, metal  
 581 Roofers and slaters  
 582 Shoemakers and repairers, except factory  
 583 Stationary engineers  
 584 Stone cutters and stone carvers  
 585 Structural metal workers  
 590 Tailors and tailoresses  
 591 Tinsmiths, coppersmiths, and sheet metal workers  
 592 Tool makers, and die makers and setters  
 593 Upholsterers  
 594 Craftsmen and kindred workers (n.e.c.)  
 595 Members of the armed services

Operatives:

600 Apprentice auto mechanics  
 601 Apprentice bricklayers and masons  
 602 Apprentice carpenters  
 603 Apprentice electricians  
 604 Apprentice machinists and toolmakers  
 605 Apprentice mechanics, except auto  
 610 Apprentice plumbers and pipe fitters  
 611 Apprentices, building trades (n.e.c.)  
 612 Apprentices, metalworking trades (n.e.c.)  
 613 Apprentices, printing trades  
 614 Apprentices, other specified trades  
 615 Apprentices, trade not specified  
 620 Asbestos and insulation workers  
 621 Attendants, auto service and parking  
 622 Blasters and powdermen  
 623 Boatmen, canalmen, and lock keepers  
 624 Brakemen, railroad  
 625 Bus drivers  
 630 Chainmen, rodmen, and axmen, surveying  
 631 Conductors, bus and street railway  
 632 Deliverymen and routemen  
 633 Dressmakers and seamstresses, except factory  
 634 Dyers  
 635 Filers, grinders, and polishers, metal  
 640 Fruit, nut, and vegetable graders, and packers, except factory  
 641 Furnacemen, smeltermen and pourers

642 Heaters, metal  
 643 Laundry and dry cleaning operatives  
 644 Meat cutters, except slaughter and packing house  
 645 Milliners  
 650 Mine operatives and laborers  
 660 Motormen, mine, factory, logging camp, etc.  
 661 Motormen, street, subway, and elevated railway  
 662 Oilers and greaser, except auto  
 670 Painters, except construction or maintenance  
 671 Photographic process workers  
 672 Power station operators  
 673 Sailors and deck hands  
 674 Sawyers  
 675 Spinners, textile  
 680 Stationary firemen  
 681 Switchmen, railroad  
 682 Taxicab drivers and chauffers  
 683 Truck and tractor drivers  
 684 Weavers, textile  
 685 Welders and flame cutters  
 690 Operative and kindred workers (n.e.c.)

Service Workers (private household):

700 Housekeepers, private household  
 710 Laundresses, private household  
 720 Private household workers (n.e.c.)

Service Workers (not household):

730 Attendants, hospital and other institution  
 731 Attendants, professional and personal service (n.e.c.)  
 732 Attendants, recreation and amusement  
 740 Barbers, beauticians, and manicurists  
 750 Bartenders  
 751 Bootblacks  
 752 Boarding and lodging house keepers  
 753 Charwomen and cleaners  
 754 Cooks, except private household  
 760 Counter and fountain workers  
 761 Elevator operators  
 762 Firemen, fire protection  
 763 Guards, watchmen, and doorkeepers  
 764 Housekeepers and stewards, except private household  
 770 Janitors and sextons  
 771 Marshals and constables  
 772 Midwives  
 773 Policemen and detectives



780 Porters  
 781 Practical nurses  
 782 Sheriffs and bailiffs  
 783 Ushers, recreation and amusement  
 784 Waiters and waitresses  
 785 Watchmen (crossing) and bridge tenders  
 790 Service workers, except private household (n.e.c.)

Farm Laborers:

810 Farm foremen  
 820 Farm laborers, wage workers  
 830 Farm laborers, unpaid family workers  
 840 Farm service laborers, self-employed

Laborers:

910 Fishermen and oystermen  
 920 Garage laborers and car washers and greasers  
 930 Gardeners, except farm and groundskeepers  
 940 Longshoremen and stevedores  
 950 Lumbermen, raftsmen, and woodchoppers  
 960 Teamsters  
 970 Laborers (n.e.c.)  
 979 Not yet classified

Non-occupational response:

980 Keeps house/housekeeping at home/housewife  
 981 Imputed keeping house (1850-1900)  
 982 Helping at home/helps parents/housework  
 983 At school/student  
 984 Retired  
 985 Unemployed/without occupation  
 986 Invalid/disabled w/ no occupation reported  
 987 Inmate  
 990 New Worker  
 991 Gentleman/lady/at leisure  
 995 Other non-occupational response  
 997 Occupation missing/unknown  
 999 N/A (blank)