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HSN standardized, HISCO-coded and classified occupational titles, release 2020.02*

1 INTRODUCTION

This release consists of a standardization of 281,355 different occupational titles found in the sources used by the HSN till the 1st of January 2020 and the coding of the standardized 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). All acronyms are explained in section 3.

The coding process 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 (accdb) and Text (csv).

In the third and last section we will elaborate on the three stages of coding the occupational titles. This section is accompanied by 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 (Mandemakers et al, 2018) we added 146,386 new titles, most of them originating from deliveries of WieWasWie for the LINKS database.

With this release we introduced a second table, called HSN_DOUBLE, to handle so-called double occupations which are titles that effectively capture two different occupations. To indicate which titles are considered as having a double character we have also added a new variable in the main table.

Another new variable was created to make a start with defining occupational titles that are ambiguous and for that reason need multiple coding. It is for the user to decide which coding needs to be chosen.

* We thank Jan Kok for his useful comments

A third new variable was added to split occupational titles from *the organization* in which a certain occupational title was situated. For example, we have quite a lot of standards like ‘conducteur bij de staatsspoorwegen’ and ‘conducteur bij de nederlandse ijzeren spoorwegmaatschappij’. We started to bring the standardization of this kind of titles back to a) the occupational title itself and b) the organization. However, the HISCO code is only dependent on the occupational title.

The coding into other systems as SOCPO and HISCAM was hampered by the fact that since our first release of occupational data no new versions of these systems have been made. In the respective sections we will discuss the consequence of lacking codes.

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When using these data in any form (presentations, books, articles etc.) the dataset should be cited as Kees Mandemakers, Jan Hornix, 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, HSN release 2020.02* (IISG Amsterdam 2020). And of course you need to cite HISCO as well: 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 references of used classifications.

We expect, that this will not be the last release of standardized title, so please send all your comments to HSN@iisg.nl and hopefully this will lead to a further improvement of the system.

2 DESCRIPTON TABLES AND FIELDS

HSN_HISCO (n=281,355)

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 explanation see section 3.1.
Organization	Standard of the organization in which an occupational title is situated (only for a limited number of cases).
Double_occ	Indicator to mark if an occupational title consists of more than one occupation
n	No, only one occupation
y	Yes, two occupations in one title
y3	Yes, three occupations in one title

The included HISCO codes and other classifications are valid for the first occupational title. In a second table, HSN_DOUBLE, the occupations are separately standardized. All standardized occupations are also included in this table HSN_HISCO.

HISCO	HISCO basic code, see section 3.2.2
	<p>NB The original code -1 was divided into two groups:</p> <p> -1 title is only classifiable by way of the status code</p> <p> -3 title is not interpretable at all</p>
STATUS	HISCO status code, see section 3.2.3
RELATION	HISCO relation code, see section 3.2.4
PRODUCT	HISCO product code, see section 3.2.5
HISCLASS	<p>HISCLASS code, see section 4.1</p> <p>NB A new code '13' was introduced for 'workers' which classification is context dependent ('factory workers or 'farm workers').</p> <p> -1 is used to code non values.</p>
HISCLASS_5	HISCLASS code comprised in 5 classes, see section 4.1
HISCAM_U1	Universal HISCAM code, version 1.3.u1, see section 4.2
HISCAM_NL	HISCAM code only based on Dutch titles, version 1.3.nl, see section 4.2
SOCPO	SOCPO code, see section 4.3
OCC1950	OCC1950, see section 4.4
HISCO_ALT	Alternative coding of HISCO in case of established ambiguity during the coding process. The supposed most frequent meaning of an occupational title is reserved for the main field: HISCO. In case of contextual coding this alternative may be used. the fields STATUS and RELATION could also be used in connection with HISCO_ALT, but not the field PRODUCT. All other coding is related to the main field HISCO, see section 3.2.2
Release	Short release name (HSN_HISCO_2020_02).

HSN_DOUBLE (n=8,718)

Id	Primary key (no specific meaning)
Id_HISCO	Key to HSN_HISCO table
Standard	Standard occupational title with a double character (could also be used as link with HSN_HISCO)
Occ_1	First occupational title (standardized)

Occ_2	Second occupational title (standardized)
Occ_3	Third occupational title (standardized)
Id_Occ_1	Key to HSN_HISCO table [<i>Id</i>]
Id_Occ_3	Key to HSN_HISCO table [<i>Id</i>]
Id_Occ_3	Key to HSN_HISCO table [<i>Id</i>]
Release	Short release name (HSN_HISCO_2020_02).

Each of these three occupational titles are included as an original in the HSN_HISCO table. By using the identifiers all codes can be linked. See also section 3.1.

3 Process of standardizing and coding into HISCO

3.1 Standardization

Till present the transcription of occupational titles from the sources used by the HSN and LINKS resulted in 281,355 ‘raw’ titles. This number includes about 20,000 ‘raw’ titles that were created because the standardized form itself has not (yet) appeared in our sources. 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 of spelling we ended up with 83,610 standardized occupational titles. The occupational title ‘burgemeester’ (‘lord mayor’) and ‘landbouwer’ (‘farmer’) contained the most spelling variations: we found resp. 1,049 and 788 versions (partly because quite a lot of them had some kind of context included in the title, e.g. place of living). On the other side of the spectrum we have 20,975 standard titles that have 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 look 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 can be resolved by way of systematic standardizing.

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 including numbers (to keep the difference between a 1st and 2nd 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 decided to accept all 'originals' as found in the HSN and LINKS tables. This implies that quite a lot of occupational titles only differ in the way they handled diacritics and this was quite dependent on the way these strings were handled during and after data entry and all conversions that took place between different operation systems over the last 25 years. This also implies that quite a lot of the included originals will not exist anymore in the occupational data that are released by the HSN (or LINKS). In this release we also included about 20,555 titles that started with a '-' but which as such had already been included in the tables. Although we expect that this problem will be solved with new data deliveries from WieWasWie (the data provider for LINKS), we decided not to skip them. The good news was that the coding could be done automatically. The same can be said about extremely long titles that were delivered in strings of 70 or 80 characters long, but were equal for the first 60 characters.

More than one occupation in an occupational title

In historical sources persons may have more than one occupation at the same moment or be 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 first occupation. In the main table HSN_HISCO we have included a field to make clear if we consider a certain occupational title as a double occupation or not. Not all titles that includes 'en' are of a double nature, e.g. 'genees-, heel- en verloskundige' was considered as one occupation.

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 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 allows. 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 -in case of ambiguity- is decisive in deciding what code should be assigned to a title. In automatic coding this is difficult or impossible to realize, in case only the title itself is available.

3.2.2 HISCO

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

0/1	[18]	Professional, technical and related workers	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.
2	[3]	Administrative and managerial workers	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).
3	[9]	Clerical and related workers	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
4	[6]	Sales workers	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]	Service workers	Workers in this major group organise or perform catering, housekeeping, personal, protective and related services.
6	[4]	Agriculture, animal husbandry and forestry workers, fishermen and hunters	

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] Production and related workers, transport equipment operators and labourers

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. We created a new value -3 to make a distinction between persons with a title and persons with no title at all; in case of '-3' we have only two values in the field *standard*:

'beroepstittel niet vermeld'	No occupational title at all
'geen beroepstittel'	No occupational information, e.g. age or place of living

- 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). Including three standard values in the field *standard*:

'beroepstittel niet interpreteerbaar'	Occupational title is given, but not interpretable because there are no clues telling what it means
'beroepstittel niet vertaalbaar'	Occupational title is given, but in another language (usually French) and there are no clues telling what it means
'beroepstittel niet volledig'	Occupational title is not complete enough to make an interpretation possible (usually due to transcription problems)

It is not always easy to make a clear decision between these three different codes, for a description of 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 coding all occupational titles, we ended up with 1,347 HISCO micro-groups which implies that we did not find occupational titles for 328 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. This information could be useful for further classification, that is why 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 to farm laborers, because the HISCO for this occupational title already implies a subordinate position. In the present dataset, it seems that status codes are sometimes missing or are coded in an inconsistent way. But, product codes are certainly missing as no systematic attempt has been made as yet to create all possible product codes.

The coding itself is a product of all mentioned authors and has systematically been improved over the years. Nevertheless, we are sure that for two reasons inconsistencies may still be found. The first reason is that different coders made different choices in some cases and secondly quite a lot of the occupational titles have an ambiguous character which is also the main reason for getting different ways of interpretation. More complicated are occupational titles that on face value have more values in the HISCO tree depending on the context in which the person to whom 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.

With this release we have tried to overcome this problem by creating a second variable for an alternative HISCO code (HISCO_ALT). By way of this variable we made a start to do justice to occupational titles with an ambiguous character. We created n=31,943 records with two HISCO codes for one occupational title (11.3% of total). In terms of standard titles the percentage is much lower: 3.8% (3,102 out of 83,610). Probably, this implies that ambiguity is mostly found with quite unique titles (probably, because we did not check the total frequencies of appearances). In total there were 2,605 different combinations of HISCO and HISCO_ALT. In case of ambiguous titles, as first code was chosen for the content of the occupational title that seems the most widespread.

Final solution in ambiguous situations must come from adding contextual information. How far one has to go in these kinds of operations depends on the research and how much contextual information is offered. For example, a title as 'fisher' in Dutch language could be a sea-fisher or a fisher catching in fresh waters. In this example, the place of living could be a good contextual variable to make a decision on the definitive HISCO code. The content of the new variable *Organisaton* (see foregoing section), could also be helpful in defining context.

In case of using the alternative HISCO-code one can find the corresponding HISCLASS and other classifying codes by linking with the field HISCO in the same table HSN_HISCO.

3.2.3 Status

An occupational title may include several dimensions of status: economic, social, employment and education. However, in the case of no real 'occupational titles' (HISCO code -1 or -2) it is 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
- 43 Pupil secondary education (this is a new category to distinguish from tertiary level)

'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, almost all of which can be considered as principal (status 31). In clear cases a code should not be created on the status variable, according to the rules of the HISCO_creators. From the 83,610 standard occupational titles only 19,931 have a code on the status variable. A clear case means that the occupational title itself has a clear element of status. However, in practice it is far from clear how coders have handled the status code. A complete coding of all titles on the variable *Status* would make sense, to avoid a lot of unclear cases.

Occupational titles that got value 41 on *status* are excluded from HISCLASS coding.

An important change with foregoing versions is that the occupational titles 'particulier' and 'particuliere' do not receive a status code anymore. It was given status '11' but it became clear from other sources that in most of the cases persons with that title were not wealthy at all.

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 supplied as well.

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 83,610 standard occupational titles in HSN HISCO 3,078 have been coded on the relation variable. Occupational titles that got a code on a relation are excluded from HISCLASS coding, e.g. persons that get code 41 because they are invalid and for that reason work in a 'safe' environment, or get 21 because they are retired.

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 83,610 standard occupational titles in HSN HISCO only 14,049 have been coded on the product variable. Needless to say, that the coding is not complete (but already better than in the foregoing release). In case of no product code we used the code -9, regardless of the question if there should have been given one or not.

4 Further classifying on the basis of the HISCO classification

4.1 HISCLASS

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 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 dependent ('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 the *Status* and the *Relationship* variable were also used to place occupations in the HISCLASS scheme. Whereas status code may move an occupation to another 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) and so were all students (value 41 in the *Status* variable).

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 number 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	7 and 9	Skilled workers (medium skilled and lower skilled)
4	8	Self-employed farmers and fishermen
5	10, 11, 12 and 13	Unskilled workers and farm workers
-1	-1	No code in HISCLASS

4.2 HISCAM coding

In the coding of occupational status two traditions may be distinguished. One is coding according to 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 of '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). The coding of the difference between the actually used 536 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 must 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).

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 1,300 (HISCO's with a frequency of 25 or lower cannot be coded into HISCAM). In this release we include 1,347 different HISCO-codes. This figure alone implies that not all HISCOs could be coded into HISCAM. The HISCO codes 99999, -1, -2 and -3 did not receive a HISCAM code. Further, in total 2,658 titles (from 303 HISCO micro groups) 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.

4.3 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, supralocal businesspeople, 'super' skilled nonmanual workers and members of the nobility.
41	Middle Class	Farmers
42	Middle Class	Supervisors of skilled workers, local businesspeople, superskilled manual workers, and skilled nonmanual workers.
3	Skilled workers	Supervisors of semi- and unskilled workers and skilled manual 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 quite a large group which is usually necessary to be analyzed separately, we have split level 4 into 41 and 42.

SOCPO is a class based scheme which does not include economic *sector* as a source of power underlying class differences. For specific research questions (for example questions focusing 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 the HISCO_SOCPO scheme that was constructed by Bart Van de Putte and Frans van Poppel and extended and checked by Bart Van de Putte and Andrew Miles.

In case no SOCPO-code could be created the value is -9 (n=17,269 about 6% of all titles). Since SOCPO codes are created by combining the values of two variables (*HISCO* and *Status*), the SOCPO coding is quite sensitive to improvements in the coding of *status* in the basic table. Main reason is that occupational titles that are getting a value on *status* after 2011 are still handled in SOCPO as titles with no code which means that such a title will end up as missing in 2020.

4.4 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 kinds 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-qxmc>

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 into 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 into 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 joined 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 conversion between HISCO and OCC1950 in this release distinguishes 224 different OCC1950 groups.

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/rizjidean/o-clack/tree/master/crosswalks/occhisco_to_hisco

5 Literature

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Appendix A

Kees Mandemakers, Sanne Muurling, Jan Hornix, Richard Zijdemans, Ineke Maas, Marco van Leeuwen

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 onbekend is 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', 'leraars' 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 'baakerse' 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', 'voetbodijn' blijft 'voetbodijn', 'voermansche' wordt 'voermanse'.
8. Beroepsaanduidingen die starten met een **rangindicatie** en volgen met een koppelteken worden losgekoppeld in tegenstelling zoals vaak van toepassing is in de Nederlandse taal. Oud-, ex-, aspirant-, adjunct-, substituut-, chef-, kandidaat-, interim-, stagiair-, leerling-,

assistent-, collega- of meester- worden dus gevolgd door een spatie ('assistent-apotheker' en 'adjunct-commies' worden 'assistent apotheker' en 'adjunct commies', maar 'timmermansknecht' of 'smidsgezel' veranderen niet). Rangindicaties komen bovendien 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^e luitenant 2^e 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-interpretabel** 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 'patiënt', '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 om welk beroep het gaat, of er staan titels door elkaar of achter elkaar (gebeurt nogal eens bij de persoonskaart); [HISCO=99999].
beroepstitel niet volledig	Hier gaat het om beroepstitels die niet goed zijn te lezen (bij de HSN veelal aangegeven door een '@'), of waarbij het om andere redenen duidelijk is, dat het beroep niet goed is overgenomen uit de bron; dit beroep kan dus eventueel terug naar het archief voor een tweede lezer [HISCO=99999].
beroepstitel niet vertaalbaar	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.

Overig

- 26 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')
- 27 De volgende nieuwe statuscode werd geïntroduceerd
- 43 Pupil secundair onderwijs
- 28 **Gebruik van het veld *organisation*:** het veld *organisation* dient om een bedrijf of organisatie op te nemen, zodat deze niet meer als onderdeel van de standaard hoeft te worden overgenomen. Een beroepstitel als 'geëmployeerd aan de rijnspoorweg' krijgt dan als standaard 'employé bij de spoorwegen', en in het veld *organisation* wordt de organisatie: 'nederlandse rijnspoorwegmaatschappij' opgenomen. Op deze manier wordt automatisch standaardiseren en coderen vergemakkelijkt terwijl de additionele informatie van de originele beroepstitel niet verloren gaat. Dit moet enkel toegepast worden wanneer een veelvoorkomend beroep dus meerdere bedrijven of organisaties kent zoals dus bijvoorbeeld een medewerker bij een spoorwegmaatschappij, tramwegmaatschappij of een petroleummaatschappij. Ook hier geldt de hedendaagse spelling als standaard.
- 29 Bij beroepstitels die met de formulering **geen beroepstitels vermeld[beroepstitel]** - dus bijvoorbeeld 'geen beroep vermeldkoopman', 'geen beroep vermeldbreister of geen beroep vermeldmolenaar' – wordt enkel het genoemde beroep overgenomen. 'Geen beroep vermeld' dient te worden verwijderd.
- 30 Het kan voorkomen dat een beroepstitel van een relatie wordt vermeld op de volgende manier: '**beroep vader:** ...' of '**beroep partner:** ...'. In dit geval wordt het beroep, bijvoorbeeld 'bloembollenknecht' gestandaardiseerd als bloembollenknechtspartner. Bij een beroep waarbij een ouder wordt genoemd gaat dit anders. Hier 'beroep vader: heemeester' wordt dan bijvoorbeeld heemeesterskind.

Opmerking

- 31 Verwarrend in de HISCO lijst bijbel is dat de product codes 20, 30 en 40 niet in de gewone lijst staan.

Appendix B

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

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 chauffeurs
 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)