

Micro-Class Project: Coding for Sweden

Jan O. Jonsson

Swedish Institute for Social Research (SOFI)

Stockholm University

2009, April 2nd

Coding decisions for Sweden

The coding of micro-classes (mc's) from occupations for Sweden is done with the aid of the three-digit Swedish (Nordic) Standard Occupational Classification (NYK, *Nordisk Yrkesklassificering*), mostly based on NYK80. There are also references to the five-digit, updated NYK85 (both these classifications are described in Statistics Sweden 1989). For coding that is done on the Swedish Censuses of 1985 and 1990, and on other data from the same period, NYK85 is possible to use (NYK was later replaced by SSYK96 which builds on ISCO88). That is then preferable as it makes it possible to identify all of the 82 micro-classes, also foremen and mass transport operators (with NYK80, only 80 mc's can be identified). In addition, some of the distinctions between mc's are more accurate (or closer to the international standard) using NYK85.

In intergenerational analyses, we are forced to use NYK80 as we want parents' and children's micro-classes to be as similarly coded as possible. In fact, for parents we use the Censuses of 1960 and 1970 which were coded before the implementation of NYK80, but with a classification that only entails a few differences.

Help codes

The coding of 82 (or 80) micro-classes from around 300 detailed occupational codes in NYK80 is shown below in a comparison with the US coding. The coding is relatively straightforward with one exception: in quite a few cases one needs information on social class (here labeled EGP; see Erikson and Goldthorpe 1992). This is mainly because the Swedish NYK80 in some cases merely singles out branches of industry rather than occupations; this is notably the case with the codes 1-7, where, for example, code 1 identifies people who work with construction planning and design ('*arkitekter, ingenjörer och tekniker med byggnads- och anläggningstekniskt arbete*') and then mixes architects with technicians with draftsmen (occupations which have different big-class belonging, EGP I, II, and III respectively). The need for a big-class code creates some problems when making comparable the mc classifications for parents and children, as the EGP classification is not available until the 1980 Census. For parents it was necessary to use information also on education to assign individuals within a NYK80-code to a micro-class. This could however only be done when educational credentials play a decisive role in the allocation to occupations, such as mostly the case for architects and other professionals in Sweden. For children (or, to be precise, for codes stemming from the Censuses 1980, 1985, and 1990) in some cases the big-class distinction between skilled

(EGP=VI) and unskilled (EGP=IIIb, VII) workers are used for distinguishing operators from craft. For parents (or, for codes stemming from the Censuses 1960 and 1970), this can however not be done. In these cases, we have chosen to allocate NYK80-codes to the mc according to a 'majority' principle. This means that mc's are less precisely identified for parents, but the majority allocation principle overall works well, with very few 'ties'.

The classification of the help codes (EGP) is described in Table 1. (The detailed way in which this is achieved for parents builds on a series of algorithms which are not shown here.)

Table 1. The identification of help codes for micro-class coding for Sweden. FoB80, 85, 90.

<i>Help codes</i>	<i>EGP codes</i>	<i>Description</i>	<i>SEI-codes</i>
EGP=1	I	Upper service class (incl self-empl professionals)	56, 57, 60
EGP=2	II	Lower service class	46
EGP=3	IIIa	Routine non-manual, some qualifications	36
EGP=31	IIIb	Routine non-manual, unqualified	33
EGP=4	IVab	Self-employed	79
EGP=5	IVcd	Farmers, fishermen	89
EGP=6	VI	Skilled workers	21, 22
EGP=7	VII	Unskilled workers	11, 12

Note: SEI is the standard classification of socioeconomic position in Swedish official statistics (Statistics Sweden 1982; 1989)

In the coding below, we use the following abbreviations:

= equal

NE not equal

References

Erikson, Robert and John H. Goldthorpe. 1992. *The Constant Flux: A Study of Class Mobility in Industrial Societies*. Clarendon Press: Oxford.

Statistics Sweden. 1982. *Socio-ekonomisk indelning (SEI)*. MiS 1982:4. (Swedish Socioeconomic Classification.) Stockholm: Statistics Sweden.

Statistics Sweden. 1989. *Yrkesklassificeringar i FoB 85 enligt Nordisk Yrkesklassificering (NYK) och Socioekonomisk indelning (SEI)*. MiS 1989:5. (*Occupations in Population and Housing Census 1985 According to Nordic Standard Occupational Classification (NYK) and Swedish Socio-economic Classification (SEI)*.) Stockholm: Statistics Sweden.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
1101	Jurists						
		105	Lawyers and judges		71	Domstolsjurister	
					72	Åklagare och högre polistjänstemän	
					73	Praktiserande jurister m.fl.	
					74	Juridiska ombudsmän	
				78	Övrigt juridiskt arbete		
1102	Health professionals						
		71	Dentists		32	Tandläkare	
		153	Osteopaths				
		160	Pharmacists		46	Farmaceuter	
		162	Physicians and surgeons		31	Läkare	
1103	Professors and instructors						
		30	College presidents and deans				
		31	Professors and instructors, agricultural sciences				
		32	Professors and instructors, biological sciences				
		34	Professors and instructors, chemistry				
		35	Professors and instructors, economics				
		40	Professors and instructors, engineering				
		41	Professors and instructors, geology and geophysics				
		42	Professors and instructors, mathematics				
		43	Professors and instructors, medical sciences				
		45	Professors and instructors, physics				
		50	Professors and instructors, psychology				
		51	Professors and instructors, statistics				
		52	Professors and instructors, natural sciences (n.e.c.)				
53	Professors and instructors, social sciences (n.e.c.)						
54	Professors and instructors, nonscientific subjects						
		60	Professors and instructors, subject not specified		51	Universitets- och högskolelärare	
1104	Natural scientists						
		21	Chemists		11	Kemister	Egp=1, 4
		130	Agricultural scientists		23	Jordbruks- och trädgårdsforskare m.fl.	Egp=1, 4
		131	Biological scientists		22	Biologer	Egp=1, 4
		134	Geologists and geophysicists		13	Geologer, meteorologer m.fl.	Egp=1, 4
		140	Physicists		12	Fysiker	Egp=1, 4

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding	
		145	Miscellaneous natural scientists			
				24	Skogsbruksforskare	Egp=1, 4
1105	Statistical and social scientists					
		135	Mathematicians			
		172	Economists	94	Ekonomer, statistiker	Egp=1, 4
		173	Psychologists	95	Psykologer	Egp=1, 4
		174	Statisticians and actuaries			
		175	Miscellaneous social scientists	Use 1970 and 1980 codes to filter archivists into MC 1308. ¹		
1106	Architects					
		13	Architects	1	Ingenjörer och tekniker (i&t) med byggnadstekniskt arbete (inkl arkitekter)	Egp=1, 4
1107	Accountants			91	Revisions- och redovisningsexperter	
		0	Accountants and auditors			
1108	Journalists, authors, and related writers					
		20	Authors	84	Författare	
		75	Editors and reporters	85	Journalister , förlagsredaktörer	
		163	Public relations men and publicity writers			
1109	Engineers					
		80	Engineers, aeronautical			
		81	Engineers, chemical	4	I&t med kemitekniskt arbete	Egp=1, 4
		82	Engineers, civil			
		83	Engineers, electrical	2	I&t med elkraft- och teletekniskt arbete	Egp=1, 4
		84	Engineers, industrial			
		85	Engineers, mechanical	3	I&t med mekaniskt arbete	Egp=1, 4
		90	Engineers, metallurgical, and metallurgists			Egp=1, 4
		91	Engineers, mining	5	I&t med gruvtekniskt och metallurgiskt arbete	Egp=1, 4
		92	Engineers, sales			Egp=1, 4
		93	Engineers (n.e.c.)	9	I&t, ej specificerbar uppgift	Egp=1, 4
		181	Surveyors	7	Lantmätare, mätningstekniker m.fl.	Egp=1, 4
1201	Officials, government and non-profit organizations					
		270	Officials and administrators (n.e.c.), public administration	101	Allmänt samhällsadministrativt arbete	
		275	Officials, lodges, society, union, etc.			
		280	Postmasters	2		
				297	Försäkringskassetjänstemän	EGP=1
1202	Managers					
		290	Managers, officials, and proprietors	Employees only (no self-employed).		

¹ We are unable to isolate archivists in the 1960 classifications, and as a result, there will be some slight coding error in this category..

² Postmasters could be extracted from NYK80=651, mc=3030, with NYK85 (NYK85=67110, 67132)mc=1201.

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding		
		(n.e.c.), not self-employed					
				111	Företagsledare	EGP NE 4	
				118	Övriga företagsadministratörer m.fl.	EGP NE 4	
				292	Banktjänstemän	EGP=1	
1203	Commercial Managers						
		250	Buyers and department heads, store				
		251	Buyers and shippers, farm products				
		285	Purchasing agents and buyers (n.e.c.)				
				331	Inköpare, kontorsförsäljare	EGP=1,2	
				332	Affärsföreståndare	EGP=1,2	
1204	Building managers and proprietors						
		262	Managers and superintendents, building				
		821	Boarding and lodging housekeepers				
				295	Förvaltare av fast och lös egendom		
1301	Systems analysts and programmers						
		195	Professional, technical, and kindred workers (n.e.c.)	Use 1970 (codes 3-5, 55) and 1980 (codes 64-65) codes to select out systems analysts and programmers. For OCG I use 1960 computer industry filter (code 257).	97 ³	Systemmän, programmerare m fl	EGP NE 3
1302	Aircraft pilots and navigators						
		12	Airplane pilots and navigators		621	Flygarbete	
1303	Personnel and labor relations workers						
		154	Personnel and labor relations workers		96	Personalmän m fl	
1304	Elementary and secondary school teachers						
		182	Teachers, elementary schools		53	Klasslärare	
		183	Teachers, secondary schools		52	Lärare i läroämnen	
		184 ⁴	Teachers (n.e.c.)		59	Pedagogiskt arbete, ej specificerbar uppgift	
					50	Skolledare	
					54	Lärare i övningsämnen	
					55	Yrkeslärare	
					57	Utbildningskonsulenter m.fl.	
					58	Övrigt pedagogiskt arbete	
1305	Librarians						
		111	Librarians		93 ⁵	Bibliotekarier, museitjänstemän m.fl.	
1306	Creative artists						

³ With NYK85 one should pull out (NYK85=21211, 21295) and put into mc=1201.

⁴ This US category includes nursery school teachers, who should be coded into MC 1314. We cannot isolate them using the 1960 and 1970 US classifications, but we are able to do so using the 1980 classifications. For those data coded with the 1960 and 1970 classifications, there will be some coding error.

⁵ We cannot separate out museum workers (such as curists) and archivists unless we use NYK85 (NYK85=9231,9232,9234,9212,9213,9214,9221=1308), Professional, technical nec.

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding	
		10	Actors and actresses	86	Scenkonstnärer	
		14	Artists and art teachers			
		70	Dancers and dancing teachers			
		72	Designers	82	Formgivare	
		101	Entertainers (n.e.c.)			
		120	Musicians and music teachers	87	Musiker	
				81	Bildkonstnärer	
				83	Dekorator	
				88	Övrigt litterärt och konstnärligt arbete	
1307	Ship officers					
		265	Officers, pilots, pursers, and engineers, ship			
				601	Fartygsbefäl	
				602	Lotsar	
				603	Maskinbefäl	
1308	Professional, technical, and related workers, n.e.c.					
		15	Athletes			
		102	Farm and home management advisors			
		103	Foresters and conservationists			
		161	Photographers	946	Fotografer	
		164	Radio operators			
		165	Recreation and group workers			
		180	Sports instructors and officials	945	Sportledare, travtränare m.fl.	
		194	Veterinarians	21	Veterinärer	
		195	Professional, technical, and kindred workers (n.e.c.)	See US 195 under MC 1301.		
		260	Inspectors, public administration,	48	Hälsovårdsinspektörer m.fl.	
		420	Decorators and window dressers			
				98	Tekniskt/naturvetenskapligt: övrigt hithörande arbete	EGP NE 3
				421	Jaktvårdare och jägare	
				94	Ekonomer, statistiker	EGP=2
				95	Psykologer	EGP=2
				11	Kemister	EGP=3
				13	Geologer, meteorologer m.fl.	EGP=3, 31
				22	Biologer	EGP=3, 31
				3	Mekaniskt arbete	EGP=31
				23	Jordbruks- och trädgårdsforskare m.fl.	EGP NE 1
				24	Skogsbruksforskare	EGP NE 1
1309	Social and welfare workers					
		171	Social and welfare workers, except group	92	Socialtjänstemän	
1310	Workers in religion					
		23	Clergymen	61	Präster och predikanter	
		170	Religious workers	68	Övrigt religiöst arbete	
1311	Nonmedical technicians					

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding	
		74	Draftsmen	7	Lantmätare, mätningstekniker m.fl.	Egp=2,3,6
		190	Technicians, electrical and electronic	2	I&t med lkraft- och teletekniskt arbete	Egp=2,3,6
		191	Technicians, other engineering and physical sciences			
		192	Technicians (n.e.c.)	9	I&t ej specificerbar uppgift	Egp=2,3,6
				8	Tekniska biträden	Egp NE 31
				1	Byggnadstekniskt arbete (inkl arkitekter)	Egp=2,3,6
				3	Mekaniskt arbete	Egp=2,3,6
				4	Kemitekniskt arbete	Egp=2,3,6
				5	Gruvtekniskt och metallurgiskt arbete	Egp=2,3,6
				6	Annat tekniskt arbete	Egp=2,3,6
				11	Kemister	Egp=2,3,6
				12	Fysiker	Egp=2,3,6
				13	Geologer, meteorologer m.fl.	Egp=2,3,6
				14	Laboranter, laboratoriebiträden	Egp NE 31
				22	Biologer	Egp=2,3,6
1312	Health semiprofessionals					
		22	Chiropractors	47	Sjukgymnaster, massörer m.fl.	
		73	Dieticians and nutritionists			
		150	Nurses, professional	40	Sjuksköterskor	
		151	Nurses, student professional			
		152	Optometrists			
		185	Technicians, medical and dental			
		193	Therapists and healers (n.e.c.)			
		303	Attendants, physician's and dentist's office	44	Tandsköterskor	
		840	Midwives	41	Barnmorskor	
		842	Practical nurses			
				45	Röntgenbiträden, laboratriser m.fl.	
1313	Hospital attendants					
		810	Attendants, hospitals and other institutions			
				42	Skötare inom mentalvård	
				43 ⁶	Sjukvårdsbiträden	
1314	Nursery school teachers and aides					
		812 ⁷	Attendants, professional and personal service (n.e.c.)	56	Förskollärare	
				914	Hembiträden och barnsköterskor	

⁶ Here are also 'undersköterskor'. With NYK85 they could be put under 'sjuksköterskor': (if nyk85=02192 or nykr85=10712)mc=1312.

⁷ This U.S. 1960 Census category includes nursery school aides, who properly belong in the MC category 'Nursery school teachers and aides' (MC 1314). Using industry filters, we can separate out nursery school aides to MC 1314. This is possible for those respondents coded with either the 1970 or 1960 U.S. Census occupation/industry classifications, but not for those respondents coded in terms of the 1980 U.S. scheme. There will therefore be coding error in the U.S. for those data coded with the 1980 occupation/industry classifications.

⁸ We are unable to isolate nursery school teachers using the 1960 and 1970 US classifications, and there will therefore be some coding error in this category for all data not coded in terms of the 1980 US classifications.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
2001	Proprietors						
		290	Managers, officials, and proprietors (n.e.c.), self-employed	Self-employed only.			
					111	Företagsledare	EGP=4
					118	Övriga företagsadministratörer m.fl.	EGP=4
					292	Banktjänstemän	EGP=4
					301	Partihandlare	EGP=4
					302	Detaljhandlare	EGP=4
					309	Kommersiellt arbete, ej specificerbar uppgift	EGP=4
					311	Försäkringssäljare	EGP=4
					312	Egendoms- och värdepappersmäklare	EGP=4
					313	Reklammän	EGP=4
					318	Värderingsmän, auktionister	EGP=4
					319	Försäljning av egendom, tjänster, ej specificerbar uppgift	EGP=4
					321	Handelsresande agenter	EGP=4
					331	Inköpare, kontorsförsäljare	EGP=4
					332	Affärsföreståndare	EGP=4
					333	Övrig affärspersonal	EGP=4
					334	Ambulerande försäljare	EGP=4
					338	Bensinförsäljare, demonstratörer m.fl.	EGP=4
					339	Övrigt kommersiellt arbete: ej specificerbar uppgift	EGP=4
3101	Real estate agents						
		393	Real estate agents and brokers		312 ⁹	Egendoms- och värdepappersmäklare	
3102	Other agents						
		301	Agents (n.e.c.)				
		380	Advertising agents and salesmen		313	Reklammän	
		381	Auctioneers		318	Värderingsmän, auktionister	
		395	Stock and bond salesmen				
					293	Resebyråtjänstemän	
					321	Handelsresande agenter	
3103	Insurance agents						
		385	Insurance agents, brokers, and underwriters		311	Försäkringssäljare	
3104	Cashiers						
		312	Cashiers		204	Butiks- och restaurangkassörer	
3105	Sales workers and shop assistants						
		254	Floor men and floor managers, store		332	Affärsföreståndare	EGP=3,7
		382	Demonstrators		338	Bensinförsäljare, demonstratörer m.fl.	
		383	Hucksters and peddlers				
		394	Salesmen and sales clerks (n.e.c.)		333	Övrig affärspersonal	
					334	Ambulerande försäljare	
					302	Detaljhandlare	EGP NE 4
					331	Inköpare, kontorsförsäljare	EGP=3,7,31
					301	Partihandlare	EGP NE 4

⁹ With NYK85 one can remove the stockbrokers (NYK85=31220)mc=3102.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding	
3201	Telephone operators							
		352	Telegraph operators		655	Telegraf- och radioexpeditörer		
		353	Telephone operators		653	Telefonister (Televerket)		
					652	Teleassistenten m.fl.		
3202	Bookkeepers and related workers							
		253	Credit men					
		305	Bank tellers		203	Bankkassörer		
		310	Bookkeepers		201	Bokförare och kontorskassörer		
		313	Collectors, bill and account					
		333	Payroll and timekeeping clerks					
		354	Ticket, station, and express agents					
						204	Butiks- och restaurangkassörer	
						208	Inkasserare m.fl.	
						298	Kalkylatorer, ordbehandlare och specialkontorister	
						292	Banktjänstemän	EGP=2,3
3203	Office and clerical workers							
		302	Attendants and assistants, library					
		314	Dispatchers and starters, vehicle					
		320	File clerks					
		321	Insurance adjusters, examiners, and investigators		296	Tarifferare, skadereglerare m.fl.		
		325	Office machine operators					
		341	Receptionists					
		342	Secretaries		290	Sekreterare, stenografer, maskinskrivare		
		343	Shipping and receiving clerks		294	Speditörer, skeppsklarerare m.fl.		
		345	Stenographers					
		350	Stock clerks and storekeepers					
		360	Typists					
		370	Clerical and kindred workers (n.e.c.)	See US 370 under MC 4306.	299	Annat kontorsarbete, ej specificerbar uppgift		
					291	Datamaskinoperatörer		
					297	Försäkringskassetjänstemän	EGP NE 1	
			654	Kontorstelefonister				
			97	Systemmän, programmerare m fl	EGP=3			
			98	Samhällsvetenskapligt arbete, övrigt hithörande arbete	EGP=3			
			8	Tekniska biträden, laboratoriebiträden	EGP=31			
			14	Laboranter, laboratoriebiträden	EGP=31			
			641	Hamntrafikbefäl m.fl.				
			642	Flygtrafikbefäl, flygklarare m.fl.				
			643	Trafikbefäl vid järnväg				
			644	Vägtrafikbefäl				
3204	Postal and mail distribution clerks							
		315	Express messengers and railway					

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding	
			mail clerks			
		323	Mail carriers	661	Postiljoner	
		324	Messengers and office boys	662	Expeditionsvakter, kontorsbud m.fl.	
		340	Postal clerks	651	Postassistenter, postexpeditörer	
		351	Telegraph messengers			
4101	Craftsmen and kindred workers, n.e.c.					
		450	Inspectors (n.e.c.)			
		493	Motion picture projectionists			
		504	Piano and organ tuners and repairmen			
		521	Stone cutters and stone carvers	856	Stenhuggeriarbetare	
		545	Craftsmen and kindred workers (n.e.c.)			
		620	Apprentices, other specified trades			
		621	Apprentices, trade not specified			
				850	Korgmakeriarbetare	
				855	Musikinstrumentmakare	
				811	Glashyttarbetare	EGP NE 7
				812	Formare (keramiska produkter)	EGP NE 7
				813	Ugnsskötare (glas- och keramisk tillverkning)	EGP NE 7
				814	Dekoratörer, glaserare	EGP NE 7
				818	Övrigt glas-, porslins-, keramik- och tegelarbete	EGP NE 7
				819	Glas m.m. arbete, ej specificerbar uppgift	EGP NE 7
4102	Foremen					
		430	Foremen (n.e.c.)	10		
4103	Electronics service and repair workers					
		453	Linemen and servicemen, telegraph, phone, and power ¹¹	767	Linjearbetare	
		473	Mechanics and repairmen, office machine			
		474	Mechanics and repairmen, radio and television	764	Tele-, radio- och TV-reparatörer	
				765	Inspelningstekniker m.fl.	
				766	Telefonreparatörer, -installatörer	
				768	Övrigt elektroarbete	
4104	Printers and related workers					
		404	Bookbinders	806	Bokbinderiarbetare	
		414	Compositors and typesetters	801	Typografer, litografer m.fl.	
		423	Electrotypers and stereotypers			
		424	Engravers, except photoengravers	808	Övrigt grafiskt arbete	
		503	Photoengravers and lithographers			

¹⁰ Foremen are not possible to code for fathers in Sweden, otherwise (EGP=3 and NYK80=1,2,3,4,5,6,7,9)mc=4102 possible (but not ideal). Doable with NYK85 however.

¹¹ Electrical linemen should be coded into MC 4106. However, we are unable to isolate linemen from US 453, resulting in some coding error in this category.

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding
		512	Pressmen and plate printers, printing		
		615	Apprentices, printing trades		
4105	Locomotive operators				
		454	Locomotive engineers	631 ¹²	Lokförare, lokbiträden
		460	Locomotive firemen		
		640	Brakemen, railroad		
		713	Switchmen, railroad		
4106	Electricians				
		421	Electricians		
		604	Apprentice electricians		
				761	Installations-, drift- och maskinelektriker
				769	Elektroarbete, ej specificerbar uppgift
				2	Elkraft- och teletekniskt arbete
					EGP=7
4107	Tailors and related workers	¹³			
		432	Furriers	712	Körsnärer
		515	Shoemakers and repairers, except factory	721	Skomakare
		524	Tailors and tailoresses	711	Skräddare, ateljésömmerskor m.fl.
		535	Upholsterers	714	Tapetserare
		651	Dressmakers and seamstresses, except factory	716	Konfektionssömmerskor m.fl.
		680	Milliners	713	Modister och hattmakare
		705	Sewers and stitchers, manufacturing		
				715	Tillskärare m.fl.
				718	Övrigt sömnadsarbete
				719	Ej specificerbar uppgift
				722	Skoarbetare
				726	Sadelmakare, lädersömmare m.fl.
4108	Vehicle mechanics			¹⁴	
		472	Mechanics and repairmen, automobile		
		601	Apprentice auto mechanics		
4109	Blacksmiths and machinists				
		402	Blacksmiths	735	Smeder
		431	Forgemen and hammermen		
		452	Job setters, metal		
		465	Machinists		
		491	Millwrights		

¹² With NYK85 one can separate out tubetrain-drivers from locomotive drivers (NYK85=64220)mc=4305, i.e., put into mass transportation operators.

¹³ MC 4107 should include not only craft workers, but also the following types of operatives: garment cutters, shoe cutters, lasters, sewers, and leather workers. In the U.S., some of these operatives cannot be isolated out, so MC 4107 will not include them (and this is to be treated as coding error in the U.S.).

¹⁴ This was not possible to do in a similar way for fathers and children, child: NYK85=75326, 75252; father NYK80=752 & SNI=95.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
		502	Pattern and model makers, except paper				
		530	Toolmakers, and die makers and setters				
		605	Apprentice machinists and toolmakers				
		614	Apprentices, metalworking trades (n.e.c.)				
		653	Filers, grinders, and polishers, metal				
					751	Montörer, maskinuppsättare, maskin- och motorreparatörer (förr 752)	
					736	Gjuteriarbetare	
					758	Övrigt verkstads- och metallindustriarbete	
					759	Verkstads- och byggmetallarbeta, ej specificerbar uppgift	
4110	Jewelers, opticians, and precious metal workers	15					
		451	Jewelers, watchmakers, goldsmiths, and silversmiths		745	Guld- och silversmeder	
		494	Opticians, and lens grinders and polishers				
					741	Finmekaniker	
4111	Other mechanics						
		470	Mechanics and repairmen, air conditioning, heating, and refrigeration				
		471	Mechanics and repairmen, airplane				
		475	Mechanics and repairmen, railroad and car shop				
		480	Mechanics and repairmen (n.e.c.)		750	Verkstadsmekaniker	
		610	Apprentice mechanics, except auto				
		692	Oilers and greasers, except auto		876	Smörjare	
		963	Garage laborers, and car washers and greasers				
4112	Plumbers and pipe-fitters						
		510	Plumbers and pipe fitters		754	Rörarbetare	
		612	Apprentice plumbers and pipe fitters				
4113	Cabinetmakers						
		410	Cabinetmakers		772	Bänksnickare, möbelsnickare m.fl.	

¹⁵ MC 4110 should include dental prosthesis makers, but this distinction is not possible in the US, resulting in slight coding error.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
4114	Bakers						
		401	Bakers		822	Bagare och konditorer	
4115	Welders and related metal workers						
		403	Boilermakers				
		523	Structural metal workers		756	Grovplåtslagare m.fl.	
		525	Tinsmiths, coppersmiths, and sheet metal workers		753	Tunnplåtslagare	
		721	Welders and flame-cutters		755	Svetsare, gasskärare	
4116	Painters						
		495	Painters, construction and maintenance		781	Målare	
		694	Painters, except construction and maintenance				
					782	Lackerare	
4117	Butchers						
		675	Meat cutters, except slaughter and packing house		826	Slakteri- och charkuteriarbetare	EGP NE 7
4118	Stationary engine operators						
		520	Stationary engineers		871 ¹⁶	Landmaskinister	
		701	Power station operators				
		712	Stationary firemen				
4119	Bricklayers, carpenters, and related construction workers						
		405	Brickmasons, stonemasons, and tile setters		792	Stenmontörer	
		411	Carpenters		771	Byggnadsträarbetare	
		413	Cement and concrete finishers		793	Betongarbetare, byggarbetare m.fl.	
		434	Glaziers		795	Glasmästeriarbetare	
		501	Paperhangers				
		505	Plasterers				
		514	Roofers and slaters				
		602	Apprentice bricklayers and masons				
		603	Apprentice carpenters				
		613	Apprentices, building trades (n.e.c.)				
		630	Asbestos and insulation workers		794	Isoleringsmontörer	
		960	Carpenters' helpers, except logging and mining				
					791	Murare, rappare, putsare	
					797	Dykare, rörläggare	
					798	Övrigt mureri- och betongarbete	
4120	Heavy machine operators	¹⁷					
		415	Cranemen, derrickmen, and		872	Kran- och traversförare	

¹⁶ With NYK85, one should also define NYK85=86133 in the group 'stationary engine operators'.

¹⁷ This category should include riggers and cable splicers. In the U.S., this coding decision cannot be implemented, as riggers and cable splicers are combined with other occupations in U.S. 775. We treat this as coding error in the U.S.

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding
			hoistmen		
		425	Excavating, grading, and machinery operators	874	Anläggningsmaskinförare
				873	Riggare
				875	Truckförare, transportskötare m.fl.
4201	Truck drivers				EGP NE 7
		715	Truck and tractor drivers		
		971	Teamsters		
		972	Truck drivers' helpers		
				633 ¹⁸	Motorfordons- och spårvagnsförare
				639	Loförare m.fl. vägtrafikarbete, ej specificerbar uppgift
4202	Chemical processors				
		775	Operatives and kindred workers (n.e.c.)		
			Filter for the following industries: chemical processing, paper pulp, paper and paperboard, rubber, and plastic.		
				831	Kemiska processarbetare
				834	Trämasselipare, cellulosarbetare
				836	Pappers-, papp- och fiberplattarbetare
				838	Övrigt kemiskt- och cellulosatekniskt arbete
				839	Kemiskt cellulosatekniskt arbete, ej specificerbar uppgift
				851	Gummivaruarbetare
				852	Plastvaruarbetare
				857	Pappersvaruarbetare
4203	Miners and related workers				
		634	Blasters and powdermen		
		685	Mine operatives and laborers (n.e.c.)	504	Övriga gruv- och stenbrytningsarbetare
		690	Motormen, mine, factory, logging camp, etc.		
			Mining industry filter.		
				501	Gruvbrytare, bergsprängare m.fl.
				502	Brunnsbore, diamantbore
				503	Anrikningsarbetare
				509	Ej specificerbar uppgift
4204	Longshoremen and freight handlers				
		965	Longshoremen and stevedores	882	Stuveriarbetare m.fl.
		973	Warehousemen (n.e.c.)	883	Lager- och förrådsarbetare
4205	Food processors				
		490	Millers, grain, flour, feed, etc.	821	Kvarnarbetare

¹⁸ This is a problem, as we cannot separate mass transportation operators, but have to merge truck drivers with them. To do it right, we need to set (NYK80=633, 639)mc=4305, and then do (NYK85=64111, 64112, 64119)mc=4201.

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding
		643	Checkers, examiners, and inspectors, manufacturing	Food and tobacco industry filter.	
		654	Fruit, nut, and vegetable graders and packers, except factory	Food and tobacco industry filter.	
		671	Graders and sorters, manufacturing	Food and tobacco industry filter.	
		693	Packers and wrappers (n.e.c.)	Food and tobacco industry filter.	
		775	Operatives and kindred workers (n.e.c.)	Food and tobacco industry filter.	828 Övrigt livsmedelsarbete
				823	Choklad- och sötvaruarbetare
				824	Bryggeri- och vattenfabriksarbetare m.fl.
				825	Konservarbetare
				827	Mejeriarbetare
				841	Tobaksarbete
				826	Slakteri- och charkuteriarbetare
					EGP=7
4206	Textile workers				
		461	Loom fixers		
		652	Dyers		
		673	Knitters, loopers, and toppers, textile		
		710	Spinners, textile		
		720	Weavers, textile		
				701	Textilarbetare
4207	Sawyers and lumber inspectors				
		444	Inspectors, scalers, and graders, log and lumber		
		704	Sawyers	774	Ram- och cirkelsågare, hyvlare m.fl.
				773	Träskivearbetare
				778	Övrigt träarbete
				779	Ej specificerbar uppgift
4208	Metal processors				
			A metal processing industry filter is applied to all of MC 4209 and these respondents are filtered here.		
		435	Heat treaters, annealers, and temperers	732	Härdare, glödgarare m.fl.
		492	Molders, metal		
		513	Rollers and roll hands, metal	733	Varmvalsare, kallvalsare
		670	Furnacemen, smeltermen, and pourers	731	Hytt- och metallugnsarbetare
		672	Heaters, metal		
		775 ¹⁹	Operatives nec	738	Övrigt järnbruksarbete m.m.
			Metal processing industry filter.	737	Tråddragare, rördragare
				739	Ej specificerbar uppgift
				757	Metalliserare m.fl.

¹⁹ This MC category is partially constructed using a metal processing industry filter in the U.S. applied to MC 4209 ('Operatives and kindred workers, n.e.c.). In addition, this category should include galvanizers. In the U.S., this coding rule cannot be implemented, resulting in coding error in the U.S.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
4209	Operatives and kindred workers, n.e.c.	20		See comments under MC 4208. Implement MC 4209 'Purification Procedure' ²¹			
		631	Assemblers				
		635	Boatmen, canalmen, and lock keepers		671	Fyrvaktare, sluss- och färjvakter m.fl.	
		642	Chainmen, rodmen, and axmen, surveying				
		643	Checkers, examiners, and inspectors, manufacturing	See comments for US 643 under MC 4205.			
		654	Fruit, nut, and vegetable graders and packers, except factory	See comments for US 643 under MC 4205.			
		671	Graders and sorters, manufacturing	See comments for US 643 under MC 4205.			
		690	Motormen, mine, factory, logging camp, etc.	See comments for US 690 under MC 4203.			
		693	Packers and wrappers (n.e.c.)	See comments for US 643 under MC 4205.	881	Paketerare och emballerare	
		695	Photographic process workers		854	Fotolaboratoriearbetare	
		703	Sailors and deck hands		611	Däcks- och maskinmanskap	
		775	Operatives and kindred workers (n.e.c.)	See US 775 under MC 4205, MC 4202.			
		985	Laborers (n.e.c.)				
					811	Glashyttarbetare	EGP=7
					812	Formare (keramiska produkter)	EGP=7
					813	Ugnsskötare (glas- och keramisk tillverkning)	EGP=7
					814	Dekoratörer, glaserare	EGP=7
					818	Övrigt glas-, porslins-, keramik- och tegelarbete	EGP=7
					819	Glas m.m. arbete, ej specificerbar uppgift	EGP=7
					699	Ej specificerbart transportarbete m.m.	
					853	Garvare och skinnberedare	
					858	Övrigt tillverkningsarbete	
					859	Övrig tillverkning, ej specificerbar uppg	
					861	Grov- och diversearbete	
					879	Maskin- och motorskötsel, ej specificerbar uppgift	
					899	Ej specificerbar tillverkningsarbete	
4210	Forestry workers						
		970	Lumbermen, raftsmen, and woodchoppers		441	Skogs- och flottningsarbete	
4301	Protective service workers	22					
		850	Firemen, fire protection		901	Brandmän	

²⁰ In the U.S., all metal processing operatives are coded into MC 4208 using an industry filter. In addition, in the U.S., where possible (i.e., in all data except the OCG I), we use the more disaggregate 1970 and 1980 U.S. Census occupational classifications in order to recode respondents from this MC category into their proper MC categories. Finally, this MC category should include tanners and fur dressers.

²¹ For all those US data coded in terms of the 1970 and 1980 US classifications, and who are, after initial coding, part of MC 4209, we use the two more disaggregate classifications to recode these respondents into their appropriate MC categories when possible. This procedure is undertaken in order to attenuate the size and non-specificity of MC 4209.

²² This MC category should include customs agents. However, this decision cannot be implemented in the U.S. (and is therefore treated as coding error in the U.S.).

Code	Micro-class Category	1960 Census Codes and Categories	Special coding	SSM Codes and Categories	Special coding
		852	Marshals and constables		
		853	Policemen and detectives	902	Polismän
		854	Sheriffs and bailiffs		
				903	Tullbevakningspersonal
4302	Transport conductors				
		252	Conductors, railroad	632	Järnvägskonduktörer, trafikbiträden
		645	Conductors, bus and street railway	636	Buss- och spårvagnskonduktörer m.fl.
4303	Guards and watchmen				
		851	Guards, watchmen, and doorkeepers	Hotel and residential building industry filter.	908 Övrigt bevaknings- och skyddsarbete
				904	Vaktkonstaplar m.fl.
4304	Food service workers				
		815	Bartenders		
		825	Cooks, except private household	912	Kockar och kallskänkor
		830	Counter and fountain workers		
		835	Kitchen workers (n.e.c.), except private household	913	Köksbiträden
		875	Waiters, and waitresses	921	Hovmästare, servitörer
				911	Storköksföreståndare m.fl.
4305	Mass transportation operators			²³	
		641	Bus drivers		
		691	Motormen, street, subway, and elevated railway		
		714	Taxicab drivers and chauffeurs		
4306	Service workers, n.e.c.	²⁴			
		104	Funeral directors and embalmers	947	Begravningsbyråföreståndare m.fl.
		304	Baggagemen, transportation	888	Flyttkarlar m.fl.
		370	Clerical and kindred workers (n.e.c.)	Hotel industry filter.	916 Hotellportierer
		632	Attendants, auto service and parking		
		812	Attendants, professional and personal service (n.e.c.)	See US 812 under MC 1314.	948 Övrigt servicearbete
		813	Attendants, recreations and amusement		
		820	Bootblacks		
		831	Elevator operators		
		841	Porters		
		851	Guards, watchmen, and doorkeepers		
		860	Watchmen (crossing) and bridge tenders	678	Banbiträden m.fl.
		874	Ushers, recreation and amusement		
		890	Service workers, except private household (n.e.c.)		

²³ Cannot be identified in Sweden, except when using NYK85, as we cannot separate mass transportation operators from truck drivers. To do it right, we need to set (NYK80=633, 639)mc=4305, and then do (NYK85=64111, 64112, 64119)mc=4201

²⁴ This category should include stewards, stewardesses, and pursers. In the U.S., this cannot be implemented (as these lines are combined with other occupations in U.S. 832); and hence coding error in the U.S. is generated.

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
					917	Pursers, trafikvärdinnor m.fl.	
					942	Badpersonal	
4307	Hairdressers						
		814	Barbers		941	Frisörer, skönhetsvårdare m.fl.	
		843	Hairdressers and cosmetologists				
4308	Newsboys and deliverymen						
		390	Newsboys				
		650	Deliverymen and routemen		635	Varubud m.fl.	
					634	Kuskar	
4309	Launderers and dry-cleaners						
		674	Laundry and dry cleaning operatives		943	Tvättare	
		803	Laundresses, private household				
					944	Pressare	
4310	Housekeeping workers						
		801	Baby sitters, private household				
		802	Housekeepers, private household				
		804	Private household workers (n.e.c.)		918	Övrigt husligt arbete	
		823	Chambermaids and maids, except private household				
		832	Housekeepers and stewards, except private household				
					915	Hemvårdarinnor m.fl.	
4311	Janitors and cleaners						
		824	Charwomen and cleaners		932	Städare	
		834	Janitors and sextons		931	Fastighetsarbetare m.fl.	
					933	Skorstensfejare	
4312	Gardeners						
		964	Gardeners, except farm, and groundskeepers		412	Trädgårdsarbetare	
					404	Trädgårdsbefäl	
5101	Fishermen						
		962	Fishermen and oystermen		431	Fiskare	
5201	Farmers and farm managers						
		200	Farmers (owners and tenants)		401	Lant-, skogs- och trädgårdsbrukare	
		222	Farm managers				
		901	Farm foremen		402	Lantbruksbefäl	
		903	Farm laborers, unpaid family workers				
					403	Skogsbefäl	
					405	Husdjursuppfödare	

Code	Micro-class Category	1960 Census Codes and Categories		Special coding	SSM Codes and Categories		Special coding
					406	Pälsdjursuppfödare	
					407	Renägare	
					409	Ej specificerbar uppgift	
					432	Fiskodlare	
5202	Farm laborers						
		902	Farm laborers, wage workers		411	Lantarbetare	
		905	Farm service laborers, self-employed				
					412	Trädgårdsarbetare	
					413	Husdjursskötare	
					414	Pälsdjursskötare	
					415	Renskötare	
					418	Övrigt jordbruksarbete m.m.	
9990	Members of armed forces						
		555	Former members of the armed forces		981	Militärt arbete	
9999	Occupation not reported						
		995	Occupation not reported		999	Ej identifierbara yrken	