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Working Paper

Implications of the changing nature of work for employment and inequality in Ghana

WIDER Working Paper, No. 2020/119

Provided in Cooperation with:

United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Gradín, Carlos; Schotte, Simone (2020) : Implications of the changing nature of work for employment and inequality in Ghana, WIDER Working Paper, No. 2020/119, ISBN 978-92-9256-876-4, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki,
<https://doi.org/10.35188/UNU-WIDER/2020/876-4>

This Version is available at:

<https://hdl.handle.net/10419/229343>

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TECHNICAL APPENDIX

Implications of the changing nature of work for employment and inequality in Ghana

Carlos Gradín and Simone Schotte*

September 2020

WIDER Working Paper 2020/119

Table 1: Detailed Ghana-specific recodes

Occupation, by ISCO-08		Occupation, by ISCO-88	
4-digits		3-digits	
Code	Label	Code	Label
1211	Finance managers	123	Other specialist managers
		* 131	Managers of small enterprises
1212	Human resource managers	123	Other specialist managers
		* 131	Managers of small enterprises
1213	Policy and planning managers	122	Production and operations managers
		* 123	Other specialist managers
1219	Business services and administration managers not elsewhere classified	122	Production and operations managers
		123	Other specialist managers
		* 131	Managers of small enterprises
1221	Sales and marketing managers	123	Other specialist managers
		* 131	Managers of small enterprises
1222	Advertising and public relations managers	123	Other specialist managers
		* 131	Managers of small enterprises
1223	Research and development managers	123	Other specialist managers
		* 131	Managers of small enterprises
1321	Manufacturing managers	122	Production and operations managers
		* 131	Managers of small enterprises
1322	Mining managers	122	Production and operations managers
		* 131	Managers of small enterprises
1323	Construction managers	122	Production and operations managers
		* 131	Managers of small enterprises
1324	Supply, distribution and related managers	122	Production and operations managers
		123	Other specialist managers
		* 131	Managers of small enterprises
1330	Information and communications technology service managers	122	Production and operations managers
		123	Other specialist managers
		* 131	Managers of small enterprises
1341	Child care services managers	122	Production and operations managers
		* 131	Managers of small enterprises
1342	Health services managers	122	Production and operations managers
		131	Managers of small enterprises
		* 223	Nursing and midwifery professionals
1343	Aged care services managers	122	Production and operations managers
		131	Managers of small enterprises
		* 223	Nursing and midwifery professionals
1344	Social welfare managers	122	Production and operations managers
		* 131	Managers of small enterprises

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1345	Education managers		122	Production and operations managers
		*	131	Managers of small enterprises
1346	Financial and insurance services branch managers		122	Production and operations managers
		*	131	Managers of small enterprises
1349	Professional services managers not elsewhere classified		122	Production and operations managers
		*	131	Managers of small enterprises
1411	Hotel managers		122	Production and operations managers
		*	131	Managers of small enterprises
1412	Restaurant managers		122	Production and operations managers
		*	131	Managers of small enterprises
1420	Retail and wholesale trade managers		122	Production and operations managers
		*	131	Managers of small enterprises
1439	Services managers not elsewhere classified		122	Production and operations managers
		*	131	Managers of small enterprises
2132	Farming, forestry and fisheries advisers		221	Life science professionals
		*	321	Life science technicians and related associate professional
2212	Specialist medical practitioners		221	Life science professionals
		*	222	Health professionals (except nursing)
2230	Traditional and complementary medicine professionals		322	Health associate professionals (except nursing)
		*	324	Traditional medicine practitioners and faith healers
2250	Veterinarians		221	Life science professionals
		*	222	Health professionals (except nursing)
2262	Pharmacists		211	Physicists, chemists and related professionals
		*	222	Health professionals (except nursing)
2263	Environmental and occupational health and hygiene professionals		* 222	Health professionals (except nursing)
			241	Business professionals
			315	Safety and quality inspectors
			322	Health associate professionals (except nursing)
2269	Health professionals not elsewhere classified		* 222	Health professionals (except nursing)
			322	Health associate professionals (except nursing)
			322	Health associate professionals (except nursing)
2320	Vocational education teachers		231	College, university and higher education teaching professionals
		*	232	Secondary education teaching professionals
2341	Primary school teachers		* 233	Primary and pre-primary education teaching professionals
			331	Primary education teaching associate professionals
2342	Early childhood educators		* 233	Primary and pre-primary education teaching professionals
			332	Pre-primary education teaching associate professionals
2352	Special needs teachers		234	Special education teaching professionals
		*	333	Special education teaching associate professionals
2353	Other language teachers		235	Other teaching professionals
		*	334	Other teaching associate professionals
2355	Other arts teachers		235	Other teaching professionals
		*	334	Other teaching associate professionals
2356	Information technology trainers		235	Other teaching professionals
		*	334	Other teaching associate professionals
2359	Teaching professionals not elsewhere classified		235	Other teaching professionals
		*	334	Other teaching associate professionals
2412	Financial and investment advisers		241	Business professionals
		*	341	Finance and sales associate professionals
2431	Advertising and marketing professionals		* 241	Business professionals
			245	Writers and creative or performing artists
2432	Public relations professionals		* 241	Business professionals
			245	Writers and creative or performing artists
2642	Journalists		245	Writers and creative or performing artists
		*	347	Artistic, entertainment and sports associate professionals
2652	Musicians, singers and composers		245	Writers and creative or performing artists
		*	347	Artistic, entertainment and sports associate professionals
2653	Dancers and choreographers		245	Writers and creative or performing artists
		*	347	Artistic, entertainment and sports associate professionals
2654	Film, stage and related directors and producers		122	Production and operations managers
		*	245	Writers and creative or performing artists
3112	Civil engineering technicians		* 311	Physical and engineering science technicians
			315	Safety and quality inspectors
3113	Electrical engineering technicians		* 311	Physical and engineering science technicians
			315	Safety and quality inspectors

3114	Electronics engineering technicians	*	311	Physical and engineering science technicians
3115	Mechanical engineering technicians	*	315	Safety and quality inspectors
3117	Mining and metallurgical technicians	*	311	Physical and engineering science technicians
3121	Mining supervisors	*	315	Safety and quality inspectors
3122	Manufacturing supervisors	*	711	Miners, shotfirers, stone cutters and carvers
			811	Mining and mineral-processing-plant operators
			817	Industrial robot operators
			821	Metal- and mineral-products machine operators
			822	Chemical-products machine operators
			823	Rubber- and plastic-products machine operators
			824	Wood-products machine operators
			825	Printing-, binding- and paper-products machine operators
			826	Textile-, fur- and leather-products machine operators
		*	827	Food and related products machine operators
			828	Assemblers
			829	Other machine operators and assemblers
3123	Construction supervisors		122	Production and operations managers
3139	Process control technicians not elsewhere classified	*	712	Building frame and related trades workers
3153	Aircraft pilots and related associate professionals	*	312	Computer associate professionals
3221	Nursing associate professionals	*	814	Wood-processing- and papermaking-plant operators
3222	Midwifery associate professionals	*	817	Industrial robot operators
3257	Environmental and occupational health inspectors and associates	*	314	Ship and aircraft controllers and technicians
3339	Business services agents not elsewhere classified	*	334	Other teaching associate professionals
3341	Office supervisors	*	223	Nursing and midwifery professionals
			323	Nursing and midwifery associate professionals
		*	223	Nursing and midwifery professionals
			323	Nursing and midwifery associate professionals
			315	Safety and quality inspectors
		*	322	Health associate professionals (except nursing)
			241	Business professionals
		*	341	Finance and sales associate professionals
			342	Business services agents and trade brokers
		*	343	Administrative associate professionals
			411	Secretaries and keyboard-operating clerks
			412	Numerical clerks
			413	Material-recording and transport clerks
			414	Library, mail and related clerk
			419	Other office clerks
			422	Client information clerks
3342	Legal secretaries	*	343	Administrative associate professionals
3344	Medical secretaries	*	411	Secretaries and keyboard-operating clerks
3359	Regulatory government associate professionals not elsewhere classified	*	343	Administrative associate professionals
3411	Police inspectors and detectives	*	344	Customs, tax and related government associate professionals
3413	Religious associate professionals	*	343	Administrative associate professionals
3423	Fitness and recreation instructors and program leaders	*	345	Police inspectors and detectives
3433	Gallery, museum and library technicians	*	324	Traditional medicine practitioners and faith healers
3435	Other artistic and cultural associate professionals	*	348	Religious associate professionals
3522	Telecommunications engineering technicians	*	334	Other teaching associate professionals
4221	Travel consultants and clerks	*	347	Artistic, entertainment and sports associate professionals
5164	Pet groomers and animal care workers	*	343	Administrative associate professionals
5246	Food service counter attendants	*	347	Artistic, entertainment and sports associate professionals
			122	Production and operations managers
		*	334	Other teaching associate professionals
			347	Artistic, entertainment and sports associate professionals
		*	311	Physical and engineering science technicians
		*	313	Optical and electronic equipment operators
		*	341	Finance and sales associate professionals
			422	Client information clerks
		*	513	Personal care and related workers
			612	Animal producers and related workers
			522	Shop salespersons and demonstrators

		* 523	Stall and market salespersons
5414	Security guards	* 516	Protective services workers
		915	Messengers, porters, doorkeepers and related workers
6111	Field crop and vegetable growers	131	Managers of small enterprises
		* 611	Market gardeners and crop growers
6112	Tree and shrub crop growers	131	Managers of small enterprises
		* 611	Market gardeners and crop growers
6113	Gardeners, horticultural and nursery growers	131	Managers of small enterprises
		* 611	Market gardeners and crop growers
6114	Mixed crop growers	131	Managers of small enterprises
		* 611	Market gardeners and crop growers
6121	Livestock and dairy producers	131	Managers of small enterprises
		* 612	Animal producers and related workers
6122	Poultry producers	131	Managers of small enterprises
		* 612	Animal producers and related workers
6130	Mixed crop and animal producers	131	Managers of small enterprises
		* 613	Market-oriented crop and animal producers
6210	Forestry and related workers	131	Managers of small enterprises
		* 614	Forestry and related workers
6221	Aquaculture workers	131	Managers of small enterprises
		* 615	Fishery workers, hunters and trappers
6222	Inland and coastal waters fishery workers	131	Managers of small enterprises
		* 615	Fishery workers, hunters and trappers
6223	Deep-sea fishery workers	131	Managers of small enterprises
		* 615	Fishery workers, hunters and trappers
7113	Stonemasons, stone cutters, splitters and carvers	711	Miners, shotfirers, stone cutters and carvers
		* 712	Building frame and related trades workers
7223	Metal working machine tool setters and operators	* 722	Blacksmiths, tool-makers and related trades workers
		821	Metal- and mineral-products machine operators
7317	Handicraft workers in wood, basketry and related materials	* 733	Handicraft workers in wood, textile, leather and related materials
		742	Wood treaters, cabinet-makers and related trades workers
7318	Handicraft workers in textile, leather and related materials	733	Handicraft workers in wood, textile, leather and related materials
		* 743	Textile, garment and related trades workers
7322	Printers	* 734	Craft printing and related trades workers
		825	Printing-, binding- and paper-products machine operators
7323	Print finishing and binding workers	* 734	Craft printing and related trades workers
		825	Printing-, binding- and paper-products machine operators
7523	Woodworking-machine tool setters and operators	* 742	Wood treaters, cabinet-makers and related trades workers
		824	Wood-products machine operators
7541	Underwater divers	* 615	Fishery workers, hunters and trappers
		721	Metal moulders, welders, sheet-metal workers, structural-metal preparers, and related trades workers
8111	Miners and quarriers	* 711	Miners, shotfirers, stone cutters and carvers
		811	Mining and mineral-processing-plant operators
8131	Chemical products plant and machine operators	815	Chemical-processing-plant operators
		815	Chemical-processing-plant operators
		* 822	Chemical-products machine operators
8132	Photographic products machine operators	* 734	Craft printing and related trades workers
		822	Chemical-products machine operators
8152	Weaving and knitting machine operators	* 743	Textile, garment and related trades workers
		826	Textile-, fur- and leather-products machine operators
8219	Assemblers not elsewhere classified	828	Assemblers
		* 829	Other machine operators and assemblers
9214	Garden and horticultural labourers	* 611	Market gardeners and crop growers
		921	Agricultural, fishery and related labourers
9612	Refuse sorters	916	Garbage collectors and related labourers
		* 932	Manufacturing labourers

Source: authors' compilation based on ILO (2016). For those occupations that have no unique match, we use the employment distribution from the 2005/06 GLSS to map the 4-digit level ISCO-08 occupations to the dominant 3-digit level ISCO-88 category (indicated by *).

Table 2: Detailed Ghana-specific mapping

Occupation, by ISCO-88				Occupation, by ISCO-08	
1-digit		3-digits		4-digits	
Code	Label	Code	Label	Code	Label
1	Managers	111	Legislators and senior government officials	1111	Legislators
		112	Senior government officials	1112	Senior government officials
		113	Traditional chiefs and heads of villages	1113	Traditional chiefs and heads of village
		114	Senior officials of special-interest organisations	1114	Senior officials of special-interest organizations
		121	Directors and chief executives	1120	Managing directors and chief executives
		122	Production and operations managers	1311	Agricultural and forestry production managers
				1312	Aquaculture and fisheries production managers
		123	Other specialist managers	1213	Policy and planning managers
2	Professionals	131	Managers of small enterprises	1211	Finance managers
				1212	Human resource managers
				1219	Business services and administration managers not elsewhere classified
				1221	Sales and marketing managers
				1222	Advertising and public relations managers
				1223	Research and development managers
				1321	Manufacturing managers
				1322	Mining managers
				1323	Construction managers
				1324	Supply, distribution and related managers
				1330	Information and communications technology service managers
				1341	Childcare services managers
				1344	Social welfare managers
				1345	Education managers
				1346	Financial and insurance services branch managers
				1349	Professional services managers not elsewhere classified
				1411	Hotel managers
				1412	Restaurant managers
				1420	Retail and wholesale trade managers
				1431	Sports, recreation and cultural centre managers
				1439	Services managers not elsewhere classified
		211	Physicists, chemists and related professionals	2111	Physicists and astronomers
				2112	Meteorologists
				2113	Chemists
				2114	Geologists and geophysicists
		212	Mathematicians, statisticians and related professionals	2120	Mathematicians, actuaries and statisticians
				2511	Systems analysts
				2512	Software developers
				2513	Web and multimedia developers
				2514	Applications programmers
				2519	Software and applications developers and analysts not elsewhere classified
				2521	Database designers and administrators
				2522	Systems administrators
				2523	Computer network professionals
				2529	Database and network professionals not elsewhere classified
		214	Architects, engineers and related professionals	2141	Industrial and production engineers
				2142	Civil engineers
				2143	Environmental engineers
				2144	Mechanical engineers

		2145 Chemical engineers 2146 Mining engineers, metallurgists and related professionals 2149 Engineering professionals not elsewhere classified 2151 Electrical engineers 2152 Electronics engineers 2153 Telecommunications engineers 2161 Building architects 2162 Landscape architects 2164 Town and traffic planners 2165 Cartographers and surveyors
221	Life science professionals	2131 Biologists, botanists, zoologists and related professionals 2133 Environmental protection professionals
222	Health professionals (except nursing)	2211 Generalist medical practitioners 2212 Specialist medical practitioners 2250 Veterinarians 2261 Dentists 2262 Pharmacists 2263 Environmental and occupational health and hygiene professionals 2269 Health professionals not elsewhere classified
223	Nursing and midwifery professionals	1342 Health services managers 1343 Aged care services managers 2221 Nursing professionals 2222 Midwifery professionals 3221 Nursing associate professionals 3222 Midwifery associate professionals
231	College, university and higher education teaching professionals	2310 University and higher education teachers
232	Secondary education teaching professionals	2320 Vocational education teachers 2330 Secondary education teachers
233	Primary and pre-primary education teaching professionals	2341 Primary school teachers 2342 Early childhood educators
235	Other teaching professionals	2351 Education methods specialists 2354 Other music teachers
241	Business professionals	2411 Accountants 2413 Financial analysts 2421 Management and organization analysts 2422 Policy administration professionals 2423 Personnel and careers professionals 2424 Training and staff development professionals 2431 Advertising and marketing professionals 2432 Public relations professionals
242	Legal professionals	2611 Lawyers 2612 Judges 2619 Legal professionals not elsewhere classified
243	Archivists, librarians and related information professionals	2621 Archivists and curators 2622 Librarians and related information professionals
244	Social science and related professionals	2631 Economists 2632 Sociologists, anthropologists and related professionals 2633 Philosophers, historians and political scientists 2634 Psychologists 2635 Social work and counselling professionals 2643 Translators, interpreters and other linguists
245	Writers and creative or performing artists	2641 Authors and related writers 2651 Visual artists

			2654 Film, stage and related directors and producers
			2655 Actors
	246	Religious professionals	2636 Religious professionals
3	Technicians and associate professionals	311 Physical and engineering science technicians	3111 Chemical and physical science technicians
			3112 Civil engineering technicians
			3113 Electrical engineering technicians
			3114 Electronics engineering technicians
			3115 Mechanical engineering technicians
			3116 Chemical engineering technicians
			3117 Mining and metallurgical technicians
			3118 Draughtspersons
			3119 Physical and engineering science technicians not elsewhere classified
			3522 Telecommunications engineering technicians
		312 Computer associate professionals	3511 Information and communications technology operations technicians
			3512 Information and communications technology user support technicians
			3513 Computer network and systems technicians
			3514 Web technicians
		313 Optical and electronic equipment operators	3211 Medical imaging and therapeutic equipment technicians
			3431 Photographers
			3521 Broadcasting and audio-visual technicians
		314 Ship and aircraft controllers and technicians	3151 Ships' engineers
			3152 Ships' deck officers and pilots
			3154 Air traffic controllers
			3155 Air traffic safety electronics technicians
		315 Safety and quality inspectors	7543 Product graders and testers (excluding foods and beverages)
		321 Life science technicians and related associate professional	2132 Farming, forestry and fisheries advisers
			3141 Life science technicians (excluding medical)
			3142 Agricultural technicians
			3143 Forestry technicians
			3212 Medical and pathology laboratory technicians
		322 Health associate professionals (except nursing)	2240 Paramedical practitioners
			2264 Physiotherapists
			2265 Dieticians and nutritionists
			2266 Audiologists and speech therapists
			2267 Optometrists and ophthalmic opticians
			3213 Pharmaceutical technicians and assistants
			3240 Veterinary technicians and assistants
			3251 Dental assistants and therapists
			3253 Community health workers
			3254 Dispensing opticians
			3255 Physiotherapy technicians and assistants
			3256 Medical assistants
			3257 Environmental and occupational health inspectors and associates
			3259 Health associate professionals not elsewhere classified
		324 Traditional medicine practitioners and faith healers	2230 Traditional and complementary medicine professionals
			3230 Traditional and complementary medicine associate professionals
			3413 Religious associate professionals
		333 Special education teaching associate professionals	2352 Special needs teachers
		334 Other teaching associate professionals	2353 Other language teachers
			2355 Other arts teachers
			2356 Information technology trainers

		2359 Teaching professionals not elsewhere classified
		3153 Aircraft pilots and related associate professionals
		3423 Fitness and recreation instructors and program leaders
		3435 Other artistic and cultural associate professionals
		5165 Driving instructors
	341 Finance and sales associate professionals	2412 Financial and investment advisers
		2433 Technical and medical sales professionals (excluding ICT)
		2434 Information and communications technology sales professionals
		3311 Securities and finance dealers and brokers
		3312 Credit and loans officers
		3315 Valuers and loss assessors
		3321 Insurance representatives
		3322 Commercial sales representatives
		3323 Buyers
		3334 Real estate agents and property managers
		3339 Business services agents not elsewhere classified
		4221 Travel consultants and clerks
	342 Business services agents and trade brokers	3324 Trade brokers
		3331 Clearing and forwarding agents
		3333 Employment agents and contractors
	343 Administrative associate professionals	3313 Accounting associate professionals
		3314 Statistical, mathematical and related associate professionals
		3332 Conference and event planners
		3343 Administrative and executive secretaries
		3359 Regulatory government associate professionals not elsewhere classified
		3411 Police inspectors and detectives
		3433 Gallery, museum and library technicians
	344 Customs, tax and related government associate professionals	3351 Customs and border inspectors
		3352 Government tax and excise officials
		3353 Government social benefits officials
		3354 Government licensing officials
	345 Police inspectors and detectives	3355 Police inspectors and detectives
	346 Social work associate professionals	3412 Social work associate professionals
	347 Artistic, entertainment and sports associate professionals	2163 Product and garment designers
		2166 Graphic and multimedia designers
		2642 Journalists
		2652 Musicians, singers and composers
		2653 Dancers and choreographers
		2656 Announcers on radio, television and other media
		2659 Creative and performing artists not elsewhere classified
		3421 Athletes and sports players
		3422 Sports coaches, instructors and officials
		3432 Interior designers and decorators
4	Clerical support workers	3341 Office supervisors
	411 Secretaries and keyboard-operating clerks	3342 Legal secretaries
		3344 Medical secretaries
		4120 Secretaries (general)
		4131 Typists and word processing operators
		4132 Data entry clerks
	412 Numerical clerks	4311 Accounting and bookkeeping clerks
		4312 Statistical, finance and insurance clerks
		4313 Payroll clerks

		413	Material-recording and transport clerks	4321	Stock clerks
				4322	Production clerks
				4323	Transport clerks
		414	Library, mail and related clerk	3252	Medical records and health information technicians
				4411	Library clerks
				4412	Mail carriers and sorting clerks
				4413	Coding, proof-reading and related clerks
				4414	Scribes and related workers
				4415	Filing and copying clerks
		419	Other office clerks	4110	General office clerks
				4227	Survey and market research interviewers
				4416	Personnel clerks
				4419	Clerical support workers not elsewhere classified
		421	Cashiers, tellers and related clerks	4211	Bank tellers and related clerks
				4212	Bookmakers, croupiers and related gaming workers
				4213	Pawnbrokers and money-lenders
				4214	Debt-collectors and related workers
				5230	Cashiers and ticket clerks
		422	Client information clerks	4222	Contact centre information clerks
				4223	Telephone switchboard operators
5	Services and sales workers			4224	Hotel receptionists
				4225	Enquiry clerks
				4226	Receptionists (general)
				4229	Client information workers not elsewhere classified
		511	Travel attendants and related workers	5111	Travel attendants and travel stewards
				5112	Transport conductors
				5113	Travel guides
		512	Housekeeping and restaurant services workers	3434	Chefs
				5120	Cooks
				5131	Waiters
				5132	Bartenders
				5151	Cleaning and housekeeping supervisors in offices, hotels and other establishments
				5152	Domestic housekeepers
				9411	Fast food preparers
		513	Personal care and related workers	3258	Ambulance workers
				5164	Pet groomers and animal care workers
				5311	Child care workers
				5312	Teachers' aides
				5321	Health care assistants
				5322	Home-based personal care workers
				5329	Personal care workers in health services not elsewhere classified
		514	Other personal services workers	5141	Hairdressers
				5142	Beauticians and related workers
				5162	Companions and valets
				5163	Undertakers and embalmers
				5169	Personal services workers not elsewhere classified
		515	Astrologers, fortune-tellers and related workers	5161	Astrologers, fortune-tellers and related workers
		516	Protective services workers	5411	Fire-fighters
				5412	Police officers
				5413	Prison guards
				5414	Security guards
				5419	Protective services workers not elsewhere classified
		521	Fashion and other models	5241	Fashion and other models
		522		5221	Shop keepers

		Shop salespersons and demonstrators	5222 Shop supervisors 5223 Shop sales assistants 5242 Sales demonstrators 5245 Service station attendants 5249 Sales workers not elsewhere classified
	523	Stall and market salespersons	5211 Stall and market salespersons 5246 Food service counter attendants
6	Skilled agricultural, forestry and fishery workers	611 Market gardeners and crop growers	6111 Field crop and vegetable growers 6112 Tree and shrub crop growers 6113 Gardeners, horticultural and nursery growers 6114 Mixed crop growers 9214 Garden and horticultural labourers
		612 Animal producers and related workers	6121 Livestock and dairy producers 6122 Poultry producers 6123 Apiarists and sericulturists 6129 Animal producers not elsewhere classified
		613 Market-oriented crop and animal producers	6130 Mixed crop and animal producers
		614 Forestry and related workers	6210 Forestry and related workers
		615 Fishery workers, hunters and trappers	6221 Aquaculture workers 6222 Inland and coastal waters fishery workers 6223 Deep-sea fishery workers 6224 Hunters and trappers 6310 Subsistence crop farmers 6320 Subsistence livestock farmers 6330 Subsistence mixed crop and livestock farmers 6340 Subsistence fishers, hunters, trappers and gatherers 7541 Underwater divers
7	Craft and related trades workers	711 Miners, shotfirers, stone cutters and carvers	3121 Mining supervisors 7542 Shotfirers and blasters 8111 Miners and quarriers
		712 Building frame and related trades workers	3123 Construction supervisors 7111 House builders 7112 Bricklayers and related workers 7113 Stonemasons, stone cutters, splitters and carvers 7114 Concrete placers, concrete finishers and related workers 7115 Carpenters and joiners 7119 Building frame and related trades workers not elsewhere classified
		713 Building finishers and related trades workers	7121 Roofers 7122 Floor layers and tile setters 7123 Plasterers 7124 Insulation workers 7125 Glaziers 7126 Plumbers and pipe fitters 7411 Building and related electricians
		714 Painters, building structure cleaners and related trades workers	7131 Painters and related workers 7132 Spray painters and varnishers 7133 Building structure cleaners 7544 Fumigators and other pest and weed controllers
		721 Metal moulders, welders, sheet-metal workers, structural-metal preparers, and related trades workers	7211 Metal moulders and coremakers 7212 Welders and flamecutters 7213 Sheet-metal workers 7214 Structural-metal preparers and erectors 7215 Riggers and cable splicers
		722 Blacksmiths, tool-makers and related trades workers	7221 Blacksmiths, hammermiths and forging press workers 7222 Toolmakers and related workers

		7223	Metal working machine tool setters and operators
		7224	Metal polishers, wheel grinders and tool sharpeners
	723 Machinery mechanics and fitters	7127	Air conditioning and refrigeration mechanics
		7231	Motor vehicle mechanics and repairers
		7232	Aircraft engine mechanics and repairers
		7233	Agricultural and industrial machinery mechanics and repairers
		7234	Bicycle and related repairers
	724 Electrical and electronic equipment mechanics and fitters	7412	Electrical mechanics and fitters
		7413	Electrical line installers and repairers
		7421	Electronics mechanics and servicers
		7422	Information and communications technology installers and servicers
	731 Precision workers in metal and related materials	3214	Medical and dental prosthetic technicians
		7311	Precision-instrument makers and repairers
		7312	Musical instrument makers and tuners
		7313	Jewellery and precious-metal workers
	732 Potters, glass-makers and related trades workers	7314	Potters and related workers
		7315	Glass makers, cutters, grinders and finishers
		7316	Sign writers, decorative painters, engravers and etchers
		7549	Craft and related workers not elsewhere classified
	733 Handicraft workers in wood, textile, leather and related materials	7317	Handicraft workers in wood, basketry and related materials
		7319	Handicraft workers not elsewhere classified
	734 Craft printing and related trades workers	7321	Pre-press technicians
		7322	Printers
		7323	Print finishing and binding workers
		8132	Photographic products machine operators
	741 Food processing and related trades workers	7511	Butchers, fishmongers and related food preparers
		7512	Bakers, pastry-cooks and confectionery makers
		7513	Dairy-products makers
		7514	Fruit, vegetable and related preservers
		7515	Food and beverage tasters and graders
		7516	Tobacco preparers and tobacco products makers
	742 Wood treaters, cabinet-makers and related trades workers	7521	Wood treaters
		7522	Cabinet-makers and related workers
		7523	Woodworking-machine tool setters and operators
	743 Textile, garment and related trades workers	7318	Handicraft workers in textile, leather and related materials
		7531	Tailors, dressmakers, furriers and hatters
		7532	Garment and related pattern-makers and cutters
		7533	Sewing, embroidery and related workers
		7534	Upholsterers and related workers
		8152	Weaving and knitting machine operators
	744 Pelt, leather and shoemaking trades workers	7535	Pelt dressers, tanners and fellmongers
		7536	Shoemakers and related workers
8	Plant and machine operators and assemblers	811	Mining and mineral-processing-plant operators
		8112	Mineral and stone processing plant operators
		8113	Well drillers and borers and related workers
	812 Metal-processing plant operators	3135	Metal production process controllers
		8121	Metal processing plant operators
	813 Glass, ceramics and related plant operators	8181	Glass and ceramics plant operators
	814 Wood-processing- and papermaking-plant operators	3139	Process control technicians not elsewhere classified

		8171 Pulp and papermaking plant operators 8172 Wood processing plant operators
	815 Chemical-processing-plant operators	3133 Chemical processing plant controllers 3134 Petroleum and natural gas refining plant operators
	816 Power-production and related plant operators	3131 Power production plant operators 3132 Incinerator and water treatment plant operators 8182 Steam engine and boiler operators
	821 Metal- and mineral-products machine operators	8114 Cement, stone and other mineral products machine operators
	822 Chemical-products machine operators	8122 Metal finishing, plating and coating machine operators 8131 Chemical products plant and machine operators
	823 Rubber- and plastic-products machine operators	8141 Rubber products machine operators 8142 Plastic products machine operators
	825 Printing-, binding- and paper-products machine operators	8143 Paper products machine operators
	826 Textile-, fur- and leather-products machine operators	8151 Fibre preparing, spinning and winding machine operators 8153 Sewing machine operators 8154 Bleaching, dyeing and fabric cleaning machine operators 8155 Fur and leather preparing machine operators 8156 Shoemaking and related machine operators 8157 Laundry machine operators 8159 Textile, fur and leather products machine operators not elsewhere classified
	827 Food and related products machine operators	3122 Manufacturing supervisors 8160 Food and related products machine operators
	828 Assemblers	8211 Mechanical machinery assemblers 8212 Electrical and electronic equipment assemblers
	829 Other machine operators and assemblers	8183 Packing, bottling and labelling machine operators 8189 Stationary plant and machine operators not elsewhere classified 8219 Assemblers not elsewhere classified
	831 Locomotive engine drivers and related workers	8311 Locomotive engine drivers 8312 Railway brake, signal and switch operators
	832 Motor vehicle drivers	8321 Motorcycle drivers 8322 Car, taxi and van drivers 8331 Bus and tram drivers 8332 Heavy truck and lorry drivers
	833 Agricultural and other mobile plant operators	8341 Mobile farm and forestry plant operators 8342 Earthmoving and related plant operators 8343 Crane, hoist and related plant operators 8344 Lifting truck operators
	834 Ships' deck crews and related workers	8350 Ships' deck crews and related workers
9	Elementary occupations	5212 Street food salespersons 5243 Door to door salespersons 5244 Contact centre salespersons 9520 Street vendors (excluding food)
		9510 Street and related service workers
		9111 Domestic cleaners and helpers 9112 Cleaners and helpers in offices, hotels and other establishments 9121 Hand launderers and pressers 9412 Kitchen helpers
		5153 Building caretakers
	914	

	Building caretakers, window and related cleaners	9122 Vehicle cleaners 9123 Window cleaners 9129 Other cleaning workers
915	Messengers, porters, doorkeepers and related workers	9621 Messengers, package deliverers and luggage porters 9623 Meter readers and vending-machine collectors 9629 Elementary workers not elsewhere classified
916	Garbage collectors and related labourers	9611 Garbage and recycling collectors 9613 Sweepers and related labourers 9622 Odd job persons 9624 Water and firewood collectors
921	Agricultural, fishery and related labourers	9211 Crop farm labourers 9212 Livestock farm labourers 9213 Mixed crop and livestock farm labourers 9215 Forestry labourers 9216 Fishery and aquaculture labourers
931	Mining and construction labourers	9311 Mining and quarrying labourers 9312 Civil engineering labourers 9313 Building construction labourers
932	Manufacturing labourers	9321 Hand packers 9329 Manufacturing labourers not elsewhere classified 9612 Refuse sorters
933	Transport labourers and freight handlers	9331 Hand and pedal vehicle drivers 9332 Drivers of animal-drawn vehicles and machinery 9333 Freight handlers 9334 Shelf fillers

Source: authors' compilation based on ILO (2016). For those occupations that have no unique match, we use the employment distribution from the 2005/06 GLSS to map the 4-digit level ISCO-08 occupations to the dominant 3-digit level ISCO-88 category.

References

ILO (2016). 'ISCO-08 Structure, Index Correspondence with ISCO-88'. Geneva: ILO. Available at: <https://www.ilo.org/public/english/bureau/stat/isco/isco08/index.htm> (accessed 16 March 2020).