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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		122	Production and operations managers			
	managers not elsewhere classified		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		122	Production and operations managers			
	technology service 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
1346	Financial and insurance services branch		131 122	Managers of small enterprises  Production and operations managers
1340	managers	*	131	Managers of small enterprises
1349	Professional services managers not		122	Production and operations managers
1040	elsewhere classified	*	131	Managers of small enterprises
1411	Hotel managers	1	122	Production and operations managers
	Tiotol managoro	*	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
	Ü	*	131	Managers of small enterprises
1439	Services managers not elsewhere		122	Production and operations managers
	classified	*	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		322	Health associate professionals (except nursing)
	professionals	*	324	Traditional medicine practitioners and faith healers
2250	Veterinarians		221	Life science professionals
	<b>D</b>	*	222	Health professionals (except nursing)
2262	Pharmacists		211	Physicists, chemists and related professionals
		*	222	Health professionals (except nursing)
2263	Environmental and occupational health	*	222	Health professionals (except nursing)
	and hygiene professionals		241	Business professionals
			315	Safety and quality inspectors
0000	Health and sectors at all such an	*	322	Health associate professionals (except nursing)
2269	Health professionals not elsewhere classified		222	Health professionals (except nursing)
	Classified		322	Health associate professionals (except nursing)
2320	Vocational education teachers		322 231	Health associate professionals (except nursing)  College, university and higher education teaching
2320	vocational education teachers		231	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
00=0	<del>-</del>	*	334	Other teaching associate professionals
2359	Teaching professionals not elsewhere	*	235	Other teaching professionals
0440	classified	Ļ	334	Other teaching associate professionals
2412	Financial and investment advisers	*	241	Business professionals
2431	Advertising and marketing professionals	*	341 241	Finance and sales associate professionals  Business professionals
2431	Advertising and marketing professionals		241 245	Writers and creative or performing artists
2432	Public relations professionals	*	243	Business professionals
2702	. asilo rolationo professionals	1	245	Writers and creative or performing artists
2642	Journalists		245	Writers and creative or performing artists  Writers and creative or performing artists
<u>_</u>		*	347	Artistic, entertainment and sports associate professionals
2652	Musicians, singers and composers		245	Writers and creative or performing artists
	, - G	*	347	Artistic, entertainment and sports associate professionals
2653	Dancers and choreographers		245	Writers and creative or performing artists
	<b>3</b> -1	*	347	Artistic, entertainment and sports associate professionals
2654	Film, stage and related directors and		122	Production and operations managers
	producers	*	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
1		1	315	Safety and quality inspectors

3114	Electronics engineering technicians	*	311	Physical and engineering science technicians
2445	Machanical anainspring to chairing	*	315	Safety and quality inspectors
3115	Mechanical engineering technicians		311	Physical and engineering science technicians
2447	Minimum and mostally united to aboritions	*	315	Safety and quality inspectors
3117	Mining and metallurgical technicians		311	Physical and engineering science technicians
0404	NA'-1-	*	315	Safety and quality inspectors
3121	Mining supervisors		711	Miners, shotfirers, stone cutters and carvers
0400			811	Mining and mineral-processing-plant operators
3122	Manufacturing supervisors		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
	·	*	712	Building frame and related trades workers
3139	Process control technicians not elsewhere		312	Computer associate professionals
	classified	*	814	Wood-processing- and papermaking-plant operators
			817	Industrial robot operators
3153	Aircraft pilots and related associate		314	Ship and aircraft controllers and technicians
0.00	professionals	*	334	Other teaching associate professionals
3221	Nursing associate professionals	*	223	Nursing and midwifery professionals
3221	reasing associate professionals		323	Nursing and midwifery associate professionals
3222	Midwifery associate professionals	*	223	Nursing and midwifery professionals
3222	Midwilery associate professionals			
2257	Environmental and accumational health		323 315	Nursing and midwifery associate professionals
3257	Environmental and occupational health inspectors and associates	*		Safety and quality inspectors
0000	•		322	Health associate professionals (except nursing)
3339	Business services agents not elsewhere		241	Business professionals
	classified	*	341	Finance and sales associate professionals
			342	Business services agents and trade brokers
3341	Office supervisors		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
		*	411	Secretaries and keyboard-operating clerks
3344	Medical secretaries		343	Administrative associate professionals
		*	411	Secretaries and keyboard-operating clerks
3359	Regulatory government associate		315	Safety and quality inspectors
	professionals not elsewhere classified	*	343	Administrative associate professionals
			344	Customs, tax and related government associate professionals
3411	Police inspectors and detectives	*	343	Administrative associate professionals
	-F		345	Police inspectors and detectives
3413	Religious associate professionals	*	324	Traditional medicine practitioners and faith healers
2	g. 1 2 2 2 2 2 2 3 3 4 5 5 5 5 5 6 1 4 1 5 6 5 6 6 1 4 1 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		348	Religious associate professionals
3423	Fitness and recreation instructors and	*	334	Other teaching associate professionals
5-20	program leaders		347	Artistic, entertainment and sports associate professionals
3433	Gallery, museum and library technicians	*	343	Administrative associate professionals
J <del>-1</del> JJ	Canory, muscum and library technicialis			
2/2F	Other artistic and cultural associate	-	347	Artistic, entertainment and sports associate professionals
3435	Other artistic and cultural associate professionals	*	122	Production and operations managers
	prorossionais		334	Other teaching associate professionals
0500	Tale and a second secon	<del></del>	347	Artistic, entertainment and sports associate professionals
3522	Telecommunications engineering	l .	311	Physical and engineering science technicians
	tachniciana	*	313	Optical and electronic equipment operators
	technicians	_		
4221	technicians Travel consultants and clerks	*	341	Finance and sales associate professionals
	Travel consultants and clerks	*	422	Client information clerks
4221 5164		*	422 513	Client information clerks Personal care and related workers
	Travel consultants and clerks	*	422	Client information clerks

		*	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		131	Managers of small enterprises
	growers	*	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 workes
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		711	Miners, shotfirers, stone cutters and carvers
	carvers	*	712	Building frame and related trades workers
7223	Metal working machine tool setters and	*	722	Blacksmiths, tool-makers and related trades workers
	operators		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
	rolated materials		742	Wood treaters, cabinet-makers and related trades workers
7318	Handicraft workers in textile, leather and		733	Handicraft workers in wood, textile, leather and related
	related materials			materials
		*	743	Textile, garment and related trades worke
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	*	742	Wood treaters, cabinet-makers and related trades workers
	operators		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		815	Chemical-processing-plant operators
	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 worke
		L	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
				<b>3</b>

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

	C	ccupatio	n, 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
		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
2	Professionals	211	Physicists, chemists and related	2111	Physicists and astronomers
			professionals	2112	Meteorologists
				2113	Chemists
				2114	Geologists and geophysicists
		212	Mathematicians, statisticians and related professionals	2120	Mathematicians, actuaries and statisticians
		213	Computing professionals	2511	Systems analysts
			, 0,	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	2141	Industrial and production engineers
		- ' -	professionals	2141	Civil engineers
			1	2142	Environmental engineers
				2143	Mechanical engineers
		<u> </u>		L 144	Modianical engineers

ĺ		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	2211	Generalist medical practitioners
	nursing)	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	1342	Health services managers
	professionals	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	2320	Vocational education teachers
	professionals	2330	Secondary education teachers
233	Primary and pre-primary	2341	Primary school teachers
	education teaching professionals	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
		0.40.4	professionals
		2431	Advertising and marketing professionals
242	Logal professionals	2432	Public relations professionals
242	Legal professionals	2611	Lawyers
		2612	Judges
242	Archivista librariana and related	2619	Legal professionals not elsewhere classified  Archivists and curators
243	Archivists, librarians and related information professionals	2621	
044		2622	Librarians and related information professionals
244	Social science and related professionals	2631	Economists
	ρισισοσιστιαιο	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 2651	Authors and related writers Visual artists
		-	' <del>-</del>

				2654	Film, stage and related directors and
				2055	producers Actors
		246	Policious professionals	2655 2636	
3	Technicians	311	Religious professionals  Physical and engineering science	3111	Religious professionals  Chemical and physical science technicians
3	and	311	technicians	3112	Civil engineering technicians
	associate		10011111010110	3113	
	professionals			3114	Electrical engineering technicians
				3114	Electronics engineering technicians
					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 3514	Computer network and systems technicians Web technicians
		312	Optical and electronic equipment	3211	Medical imaging and therapeutic equipment
		313	operators		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		2132	Farming, forestry and fisheries advisers
			related associate professional	3141	Life science technicians (excluding medical)
				3142	Agricultural technicians
				3143	Forestry technicians
				3212	Medical and pathology laboratory technicians
		322	Health associate professionals	2240	Paramedical practitioners
			(except nursing)	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	2353	Other language teachers
			professionals	2355	Other arts teachers
		1		2356	Information technology trainers

I	1		2359	Teaching professionals not elsewhere
			2000	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	2412	Financial and investment advisers
		professionals	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	3324	Trade brokers
		trade brokers	3331	Clearing and forwarding agents
			3333	Employment agents and contractors
	343	Administrative associate	3313	Accounting associate professionals
		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	3351	Customs and border inspectors
		government associate	3352	Government tax and excise officials
		professionals	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	2163	Product and garment designers
		associate professionals	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	411	Secretaries and keyboard-	3341	Office supervisors
support		operating clerks	3342	Legal secretaries
workers			3344	Medical secretaries
			4120	Secretaries (general)
			4131	Typists and word processing operators
			4132	Data entry clerks
	412	Numerical clerks	4311	Accounting and bookkeeping clerks
	I -		4312	Statistical, finance and insurance clerks
			4313	Payroll clerks
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derks 4323 Transport clerks 4414 Library, mail and related clerk 4415 Stress and related workers 4415 Coting, proof-reading and related clerks 4414 Scribes and related workers 4415 Filing and copying clerks 4416 Coting, proof-reading and related clerks 4415 Coting, proof-reading and related clerks 4415 Stress and related workers 5110 General office clerks Filing and copying clerks 4416 Coting and copying clerks 4417 Coting and copying clerks 4418 Coting support workers not elsewhere classification and related clerks 4418 Early and related clerks 4419 Clerical support workers not elsewhere classification and related derks 4411 Early and related clerks 4411 Early and related clerks 4412 Early and related clerks 4412 Early and related derks 4412 Early and related derks 4413 Early and related derks 4415 Early and related derks 4416 Early and related workers 4421 Early and related derks 4418 Early and related derks 4419 Clerical support workers 4422 Early and related workers 4422 Early and related workers 4422 Early and related workers 4422 Early clerks 4425 Enquiry clerks 4426 Early clerks 4426 Earl			413	Material-recording and transport	4321	Stock clerks
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farmers	nixed crop and livestock
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7 Craft and 711 Miners, shotfirers, stone cutters 3121 Mining supervi	isors
related and carvers 7542 Shotfirers and	blasters
trades 8111 Miners and qu	arriers
workers 712 Building frame and related trades 3123 Construction s	supervisors
workers 7111 House builders	s
7112 Bricklayers an	d related workers
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preparers, and related trades 7213 Sheet-metal w	orkers
workers 7214 Structural-met	al preparers and erectors
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	nammersmiths and forging
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process were a series of the s	nd related workers

				7223	Metal working machine tool setters and
				7224	operators  Metal polishers, wheel grinders and tool sharpeners
		723	Machinery mechanics and fitters	7127	Air conditioning and refrigeration mechanics
		720	Wachinery mechanics and niters	7231	Motor vehicle mechanics and repairers
				7232	Aircraft engine mechanics and repairers
				7232	Agricultural and industrial machinery
				1 200	mechanics and repairers
				7234	Bicycle and related repairers
		724	Electrical and electronic	7412	Electrical mechanics and fitters
			equipment 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	3214	Medical and dental prosthetic technicians
			related materials	7311	Precision-instrument makers and repairers
				7312	Musical instrument makers and tuners
				7313	Jewellery and precious-metal workers
		732	Potters, glass-makers and related	7314	Potters and related workers
			trades 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	7317	Handicraft workers in wood, basketry and related materials
			materials	7319	Handicraft workers not elsewhere classified
		734	Craft printing and related trades	7321	Pre-press technicians
			workers	7322	Printers
				7323	Print finishing and binding workers
				8132	Photographic products machine operators
		741	Food processing and related	7511	Butchers, fishmongers and related food
			trades workers	7512	preparers Bakers, pastry-cooks and confectionery
				7513	makers Dairy-products makers
				7513	Fruit, vegetable and related preservers
				7514	,
				7516	Food and beverage tasters and graders
				7516	Tobacco preparers and tobacco products makers
		742	Wood treaters, cabinet-makers	7521	Wood treaters
			and related trades workers	7522	Cabinet-makers and related workers
				7523	Woodworking-machine tool setters and
					operators
		743	Textile, garment and related trades worke	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
		L		8152	Weaving and knitting machine operators
		744	Pelt, leather and shoemaking	7535	Pelt dressers, tanners and fellmongers
		<u> </u>	trades workers	7536	Shoemakers and related workers
8	Plant and machine	811	Mining and mineral-processing- plant operators	8112	Mineral and stone processing plant operators
	operators			8113	Well drillers and borers and related workers
	and	812	Metal-processing plant operators	3135	Metal production process controllers
	assemblers			8121	Metal processing plant operators
		813	Glass, ceramics and related plant operators	8181	Glass and ceramics plant operators
		814	Wood-processing- and	3139	Process control technicians not elsewhere
		]	papermaking-plant operators	j	classified

			8171	Pulp and papermaking plant operators
			8172	Wood processing plant operators
	815	Chemical-processing-plant	3133	Chemical processing plant controllers
		operators	3134	Petroleum and natural gas refining plant operators
	816	Power-production and related	3131	Power production plant operators
		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	8141	Rubber products machine operators
		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	3122	Manufacturing supervisors
		machine operators	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	8311	Locomotive engine drivers
		related workers	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	8341	Mobile farm and forestry plant operators
		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	911	Street vendors and related	5212	Street food salespersons
occupations		workers	5243	Door to door salespersons
			5244	Contact centre salespersons
			9520	Street vendors (excluding food)
	912	Shoe cleaning and other street services elementary occupations	9510	Street and related service workers
	913	Domestic and related helpers,	9111	Domestic cleaners and helpers
		cleaners and launderers	9112	Cleaners and helpers in offices, hotels and
				other establishments
			9121	Hand launderers and pressers
			9412	Kitchen helpers
	914		5153	Building caretakers

		Building caretakers, window and related cleaners	9122 9123 9129	Vehicle cleaners Window cleaners 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).