

Occupational Outlook - Long-run employment prospects for the UK – Revised tables and figures

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Warwick



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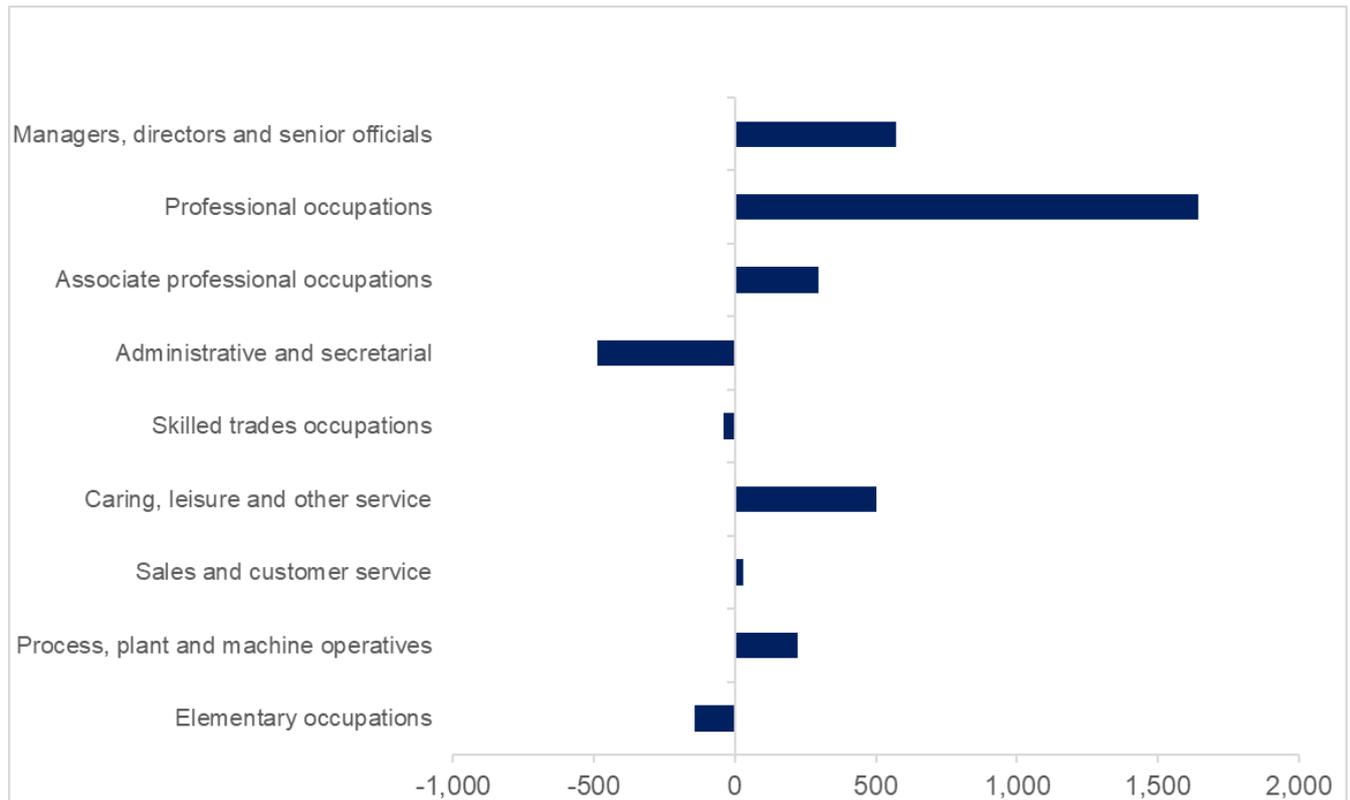
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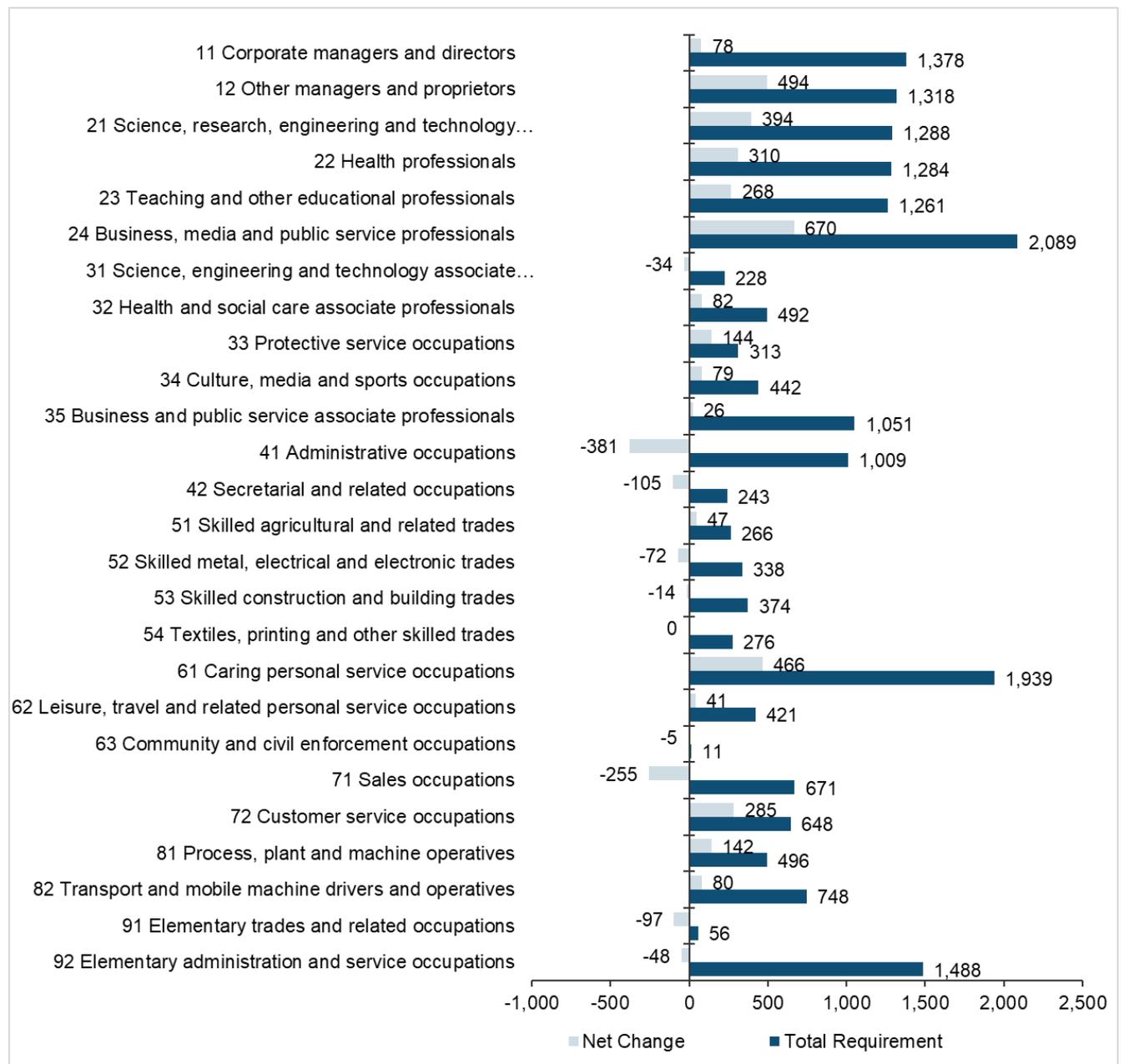
1 Revised versions of the tables and figures from *Working Paper 2 - Headline report* that were affected by ONS coding errors in the LFS

Figure 7: Changes in occupational employment structure (000s) in the *Baseline projections* between 2020 and 2035



Source: IER estimates

Figure 8: Total Requirements by SOC Sub-major Group, 2020-35



Source: IER estimates

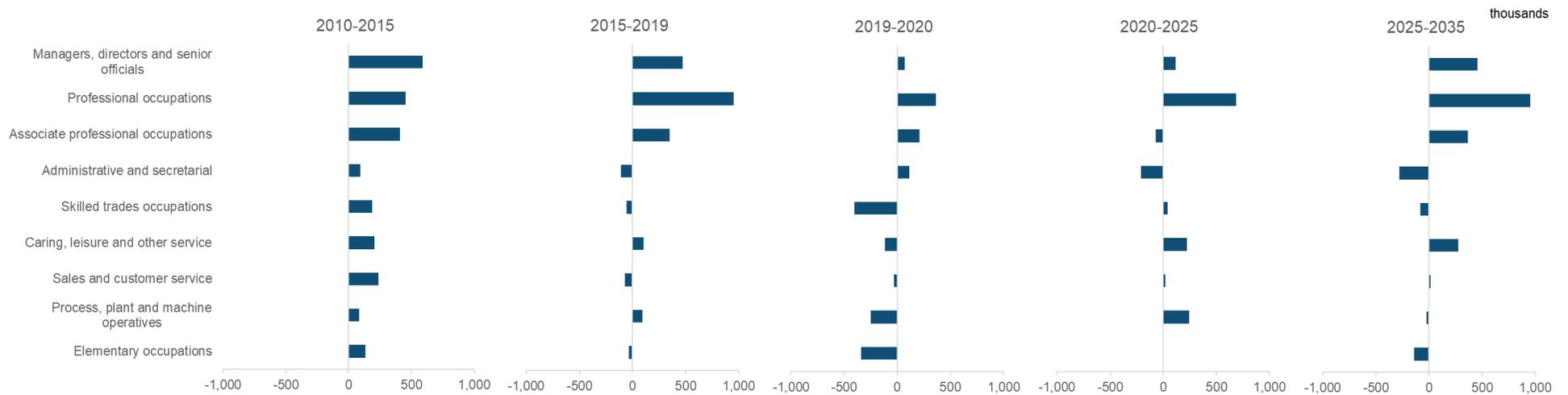
Table 3: Occupations experiencing greatest rates of change

Top 20 (fastest growing occupations %)	Employment					Change 2021-2035	
	Occupation Code (412) and Name	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s
1221 Hotel and accommodation managers and proprietors	12	58	172	71	149	14	1
1251 Property, housing and estate managers	12	208	38	258	27	50	2
1232 Residential, day and domiciliary care managers and proprietors	12	77	127	95	111	18	3
1256 Betting shop and gambling establishment managers	12	22	333	28	312	5	4
1233 Early education and childcare services proprietors	12	7	397	9	389	2	5
1225 Travel agency managers and proprietors	12	15	364	19	350	4	6
1212 Managers and proprietors in forestry, fishing and related services	12	21	336	26	317	5	7
1231 Health care practice managers	12	37	249	46	225	9	8
1224 Leisure and sports managers	12	77	126	96	109	18	9
1223 Publicans and managers of licensed premises	12	24	328	29	296	6	10
1222 Restaurant and catering establishment managers and proprietors	12	167	54	206	41	40	11
1211 Managers and proprietors in agriculture and horticulture	12	32	275	39	250	8	12
1253 Hairdressing and beauty salon managers and proprietors	12	19	349	23	334	4	13
1241 Managers in transport and distribution	12	84	113	104	101	20	14
1242 Managers in storage and warehousing	12	85	112	106	97	20	15
1243 Managers in logistics	12	47	205	58	182	11	16
1257 Hire services managers and proprietors	12	18	351	22	339	4	17
1255 Managers and directors in the creative industries	12	54	182	66	161	13	18
1252 Garage managers and proprietors	12	25	307	32	281	6	19
1258 Directors in consultancy services	12	82	116	102	103	20	20
Bottom 20 (occupations with fastest rates of decline %)	Employment					Change 2021-2035	
Occupation Code (412) and Name	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s	rank
5232 Vehicle body builders and repairers	52	29	293	27	315	-2	393
5317 Glaziers, window fabricators and fitters	53	34	258	31	282	-2	394
5319 Construction and building trades n.e.c.	53	222	33	205	42	-16	395
5322 Floorers and wall tilers	53	46	213	43	243	-3	396
5314 Roofers, roof tilers and slaters	53	33	263	31	284	-2	397
5323 Painters and decorators	53	87	109	80	134	-6	398
5315 Plumbers & heating and ventilating installers and repairers	53	151	63	140	76	-11	399
5313 Bricklayers	53	46	210	43	241	-3	400
5321 Plasterers	53	55	180	51	200	-4	401
5316 Carpenters and joiners	53	203	39	188	48	-15	402
5312 Stonemasons and related trades	53	13	370	12	376	-1	403
5330 Construction and building trades supervisors	53	62	159	58	183	-5	404
5311 Steel erectors	53	7	405	6	405	0	405
4215 Personal assistants and other secretaries	42	233	29	177	54	-56	406
4214 Company secretaries and administrators	42	31	277	24	333	-7	407
4213 School secretaries	42	68	148	52	199	-16	408
4211 Medical secretaries	42	92	100	70	152	-22	409
4217 Typists and related keyboard occupations	42	8	393	6	407	-2	410
4216 Receptionists	42	258	24	196	45	-62	411
4212 Legal secretaries	42	60	162	46	226	-14	412

Source: IER estimates, Baseline projections

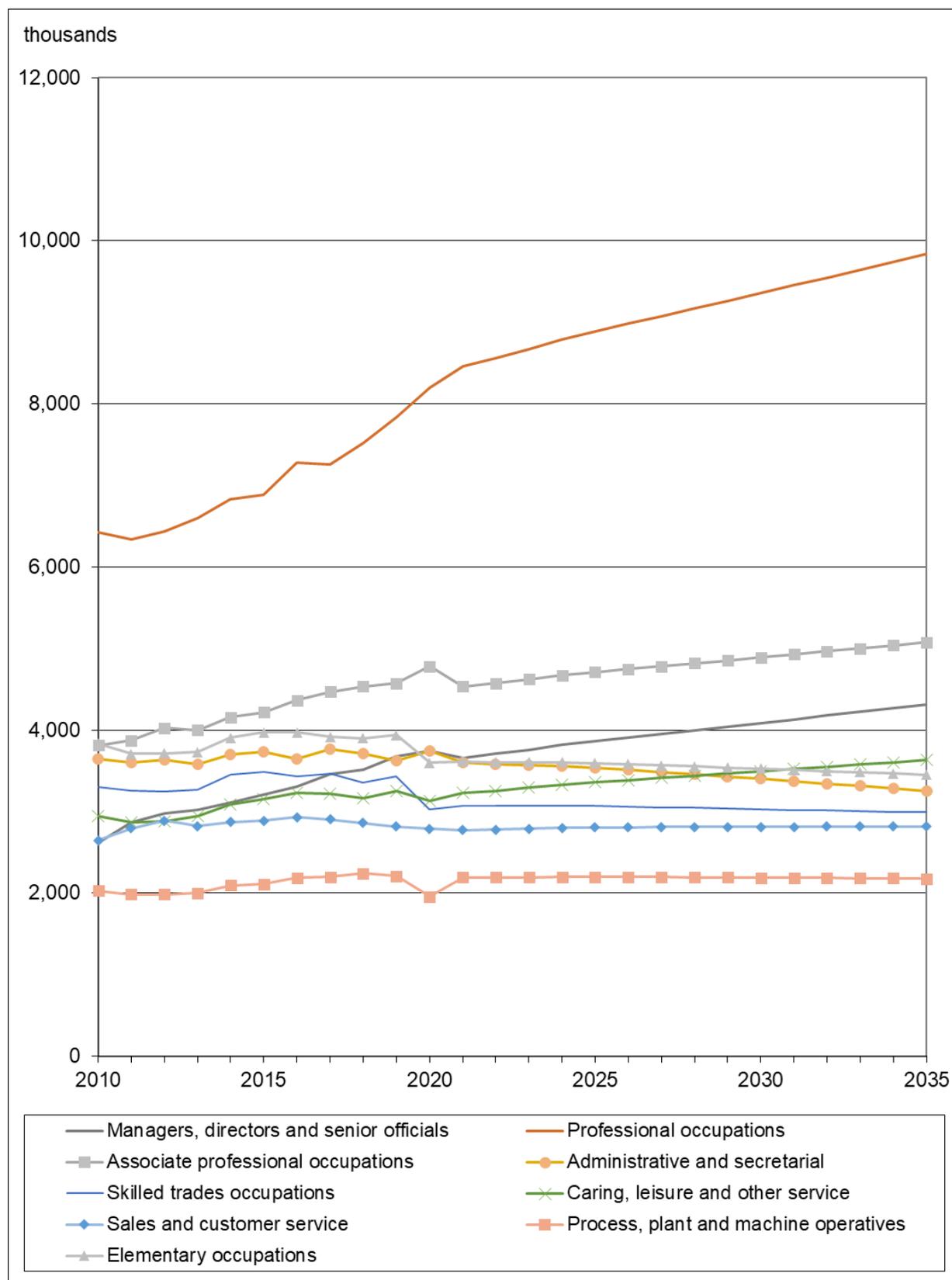
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Figure 4.1 Changes in occupational employment structure (000s), 2015-2035



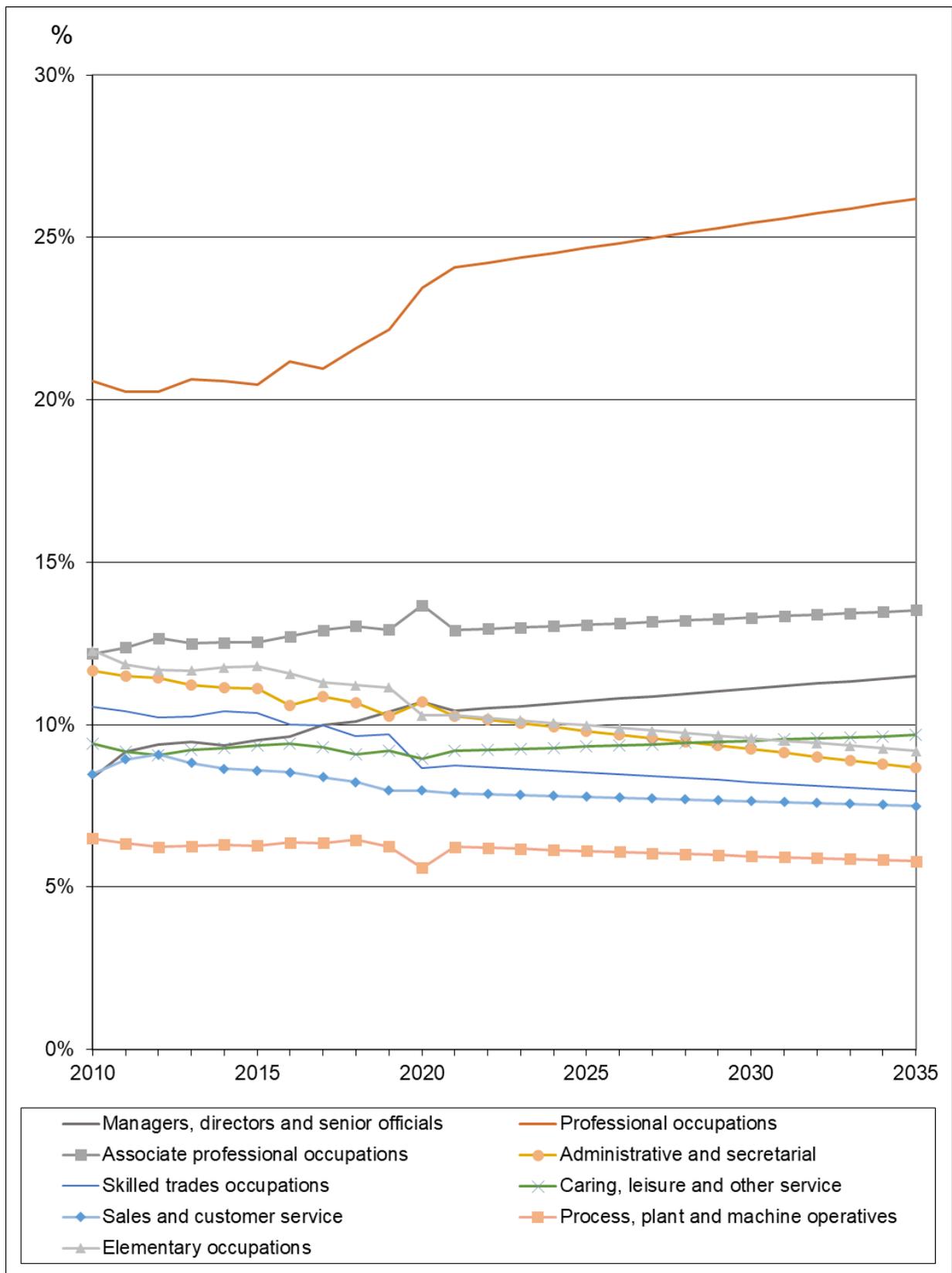
Source: IER estimates

Figure 4.2 Occupational trends (000s), 2015-2035



Source: IER estimates

Figure 4.3 Occupational trends (% shares) 2015-2035



Source: IER estimates

Table 4.1 Employment in SOC2020 occupational categories – Major Groups

Levels (000s)	2010	2015	2019	2020	2025	2035
Managers, directors and senior officials	2,617	3,205	3,678	3,747	3,863	4,318
Professional occupations	6,430	6,885	7,836	8,200	8,888	9,842
Associate professional occupations	3,810	4,219	4,571	4,782	4,710	5,078
Administrative and secretarial	3,644	3,736	3,628	3,742	3,534	3,255
Skilled trades occupations	3,302	3,489	3,434	3,029	3,070	2,990
Caring, leisure and other service	2,942	3,149	3,251	3,134	3,358	3,635
Sales and customer service	2,648	2,887	2,817	2,787	2,804	2,816
Process, plant and machine operatives	2,031	2,113	2,209	1,957	2,200	2,179
Elementary occupations	3,837	3,972	3,941	3,598	3,594	3,454
All occupations	31,261	33,656	35,365	34,975	36,022	37,568
Shares (%)	2010	2015	2019	2020	2025	2035
Managers, directors and senior officials	8%	10%	10%	11%	11%	11%
Professional occupations	21%	20%	22%	23%	25%	26%
Associate professional occupations	12%	13%	13%	14%	13%	14%
Administrative and secretarial	12%	11%	10%	11%	10%	9%
Skilled trades occupations	11%	10%	10%	9%	9%	8%
Caring, leisure and other service	9%	9%	9%	9%	9%	10%
Sales and customer service	8%	9%	8%	8%	8%	7%
Process, plant and machine operatives	6%	6%	6%	6%	6%	6%
Elementary occupations	12%	12%	11%	10%	10%	9%
All occupations	100%	100%	100%	100%	100%	100%
Change (000s)	2010-2015	2015-2019	2019-2020	2020-2025	2025-2035	2020-2035
Managers, directors and senior officials	588	472	69	116	456	572
Professional occupations	455	951	363	689	953	1,642
Associate professional occupations	409	351	211	-71	368	296
Administrative and secretarial	92	-108	114	-208	-279	-487
Skilled trades occupations	188	-55	-406	41	-80	-39
Caring, leisure and other service	206	103	-118	225	277	502
Sales and customer service	239	-70	-30	17	12	29
Process, plant and machine operatives	82	96	-252	243	-22	222
Elementary occupations	135	-31	-342	-5	-140	-144
All occupations	2,395	1,709	-390	1,047	1,546	2,593

Source: IER estimates

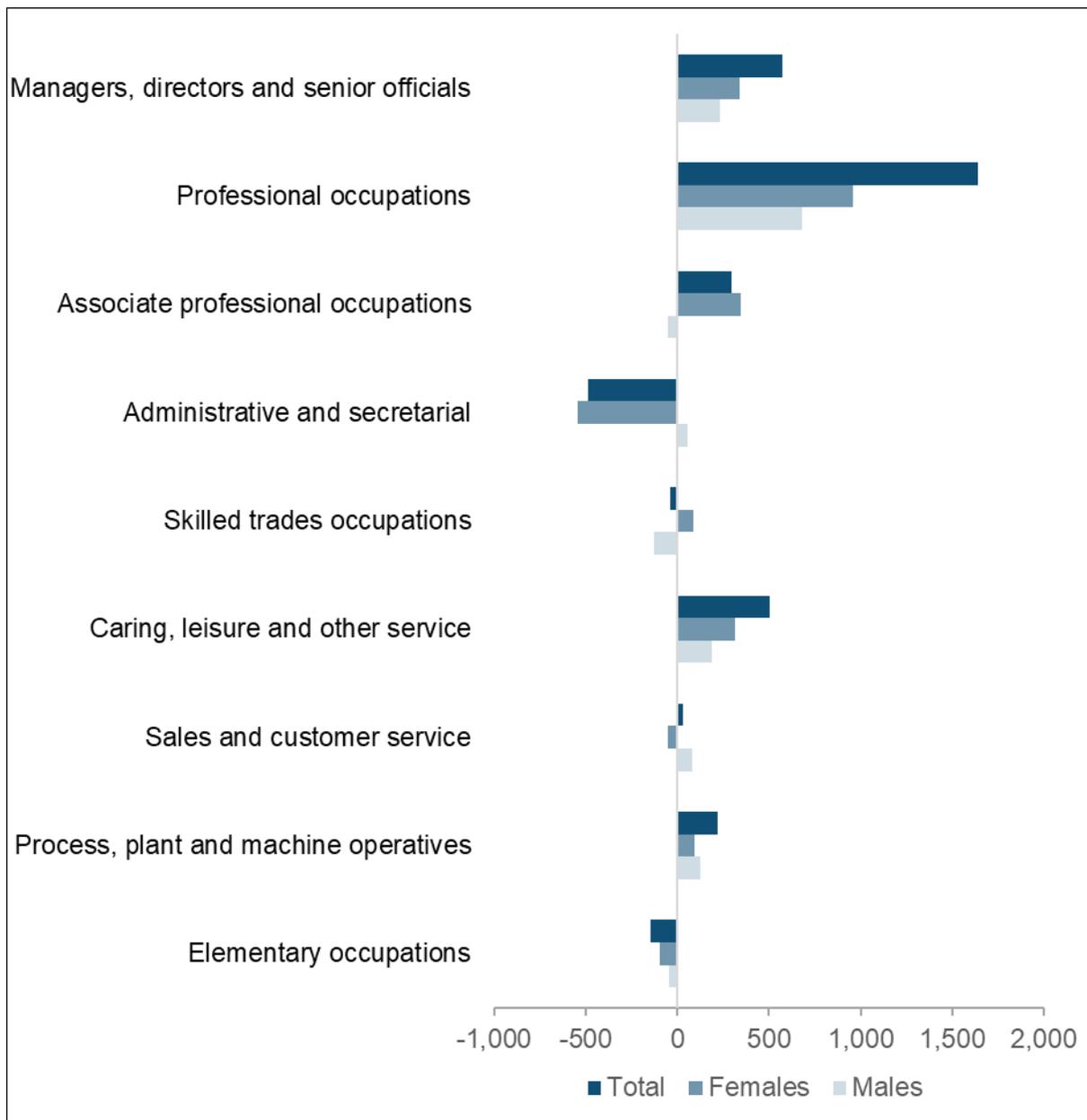
Table 4.2 Changing Composition of Employment by Occupation 2010-2035 and Replacement Demands, 2020-2035

Levels (000s)	2010	2015	2019	2020	2025	2035	2020-2035		
							Net Change	Replacement Demand	Total Requirement
Managers, directors and senior officials	2,617	3,205	3,678	3,747	3,863	4,318	572	2,124	2,696
Professional occupations	6,430	6,885	7,836	8,200	8,888	9,842	1,642	4,280	5,922
Associate professional occupations	3,810	4,219	4,571	4,782	4,710	5,078	296	2,229	2,526
Administrative and secretarial	3,644	3,736	3,628	3,742	3,534	3,255	-487	1,739	1,252
Skilled trades occupations	3,302	3,489	3,434	3,029	3,070	2,990	-39	1,293	1,254
Caring, leisure and other service	2,942	3,149	3,251	3,134	3,358	3,635	502	1,870	2,372
Sales and customer service	2,648	2,887	2,817	2,787	2,804	2,816	29	1,289	1,319
Process, plant and machine operatives	2,031	2,113	2,209	1,957	2,200	2,179	222	1,021	1,243
Elementary occupations	3,837	3,972	3,941	3,598	3,594	3,454	-144	1,688	1,544
All occupations	31,261	33,656	35,365	34,975	36,022	37,568	2,593	17,534	20,127

Shares (%)	2010	2015	2019	2020	2025	2035	2020-2035		
							Net Change	Replacement Demand	Total Requirement
Managers, directors and senior officials	8%	10%	10%	11%	11%	11%	15.3	56.7	72.0
Professional occupations	21%	20%	22%	23%	25%	26%	20.0	52.2	72.2
Associate professional occupations	12%	13%	13%	14%	13%	14%	6.2	46.6	52.8
Administrative and secretarial	12%	11%	10%	11%	10%	9%	-13.0	46.5	33.5
Skilled trades occupations	11%	10%	10%	9%	9%	8%	-1.3	42.7	41.4
Caring, leisure and other service	9%	9%	9%	9%	9%	10%	16.0	59.7	75.7
Sales and customer service	8%	9%	8%	8%	8%	7%	1.1	46.3	47.3
Process, plant and machine operatives	6%	6%	6%	6%	6%	6%	11.3	52.2	63.5
Elementary occupations	12%	12%	11%	10%	10%	9%	-4.0	46.9	42.9
All occupations	100%	100%	100%	100%	100%	100%	7.4	50.1	57.5

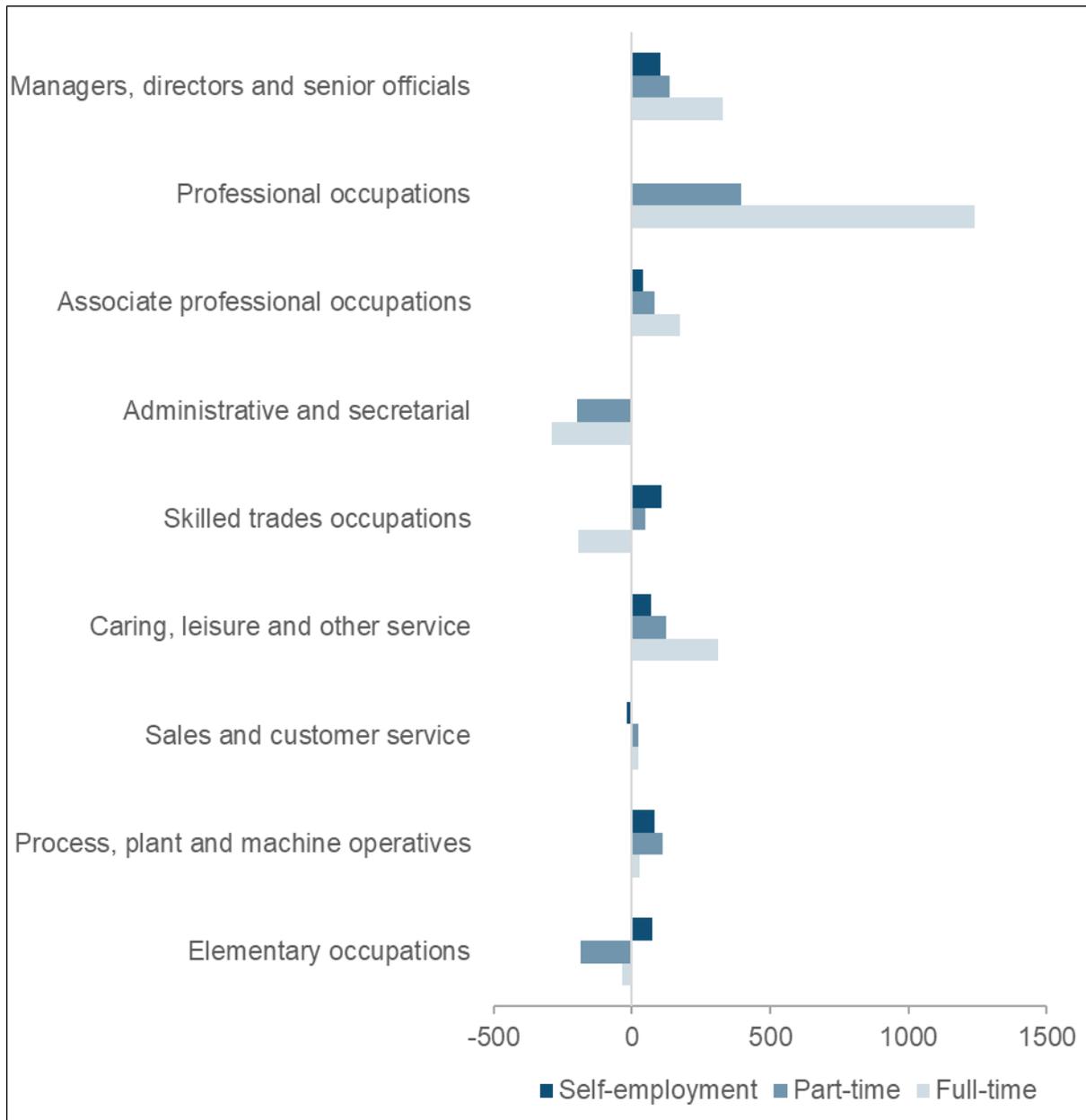
Source: IER estimates

Figure 4.4 Occupational change by gender, 2020-2035: Total Employment (000s)



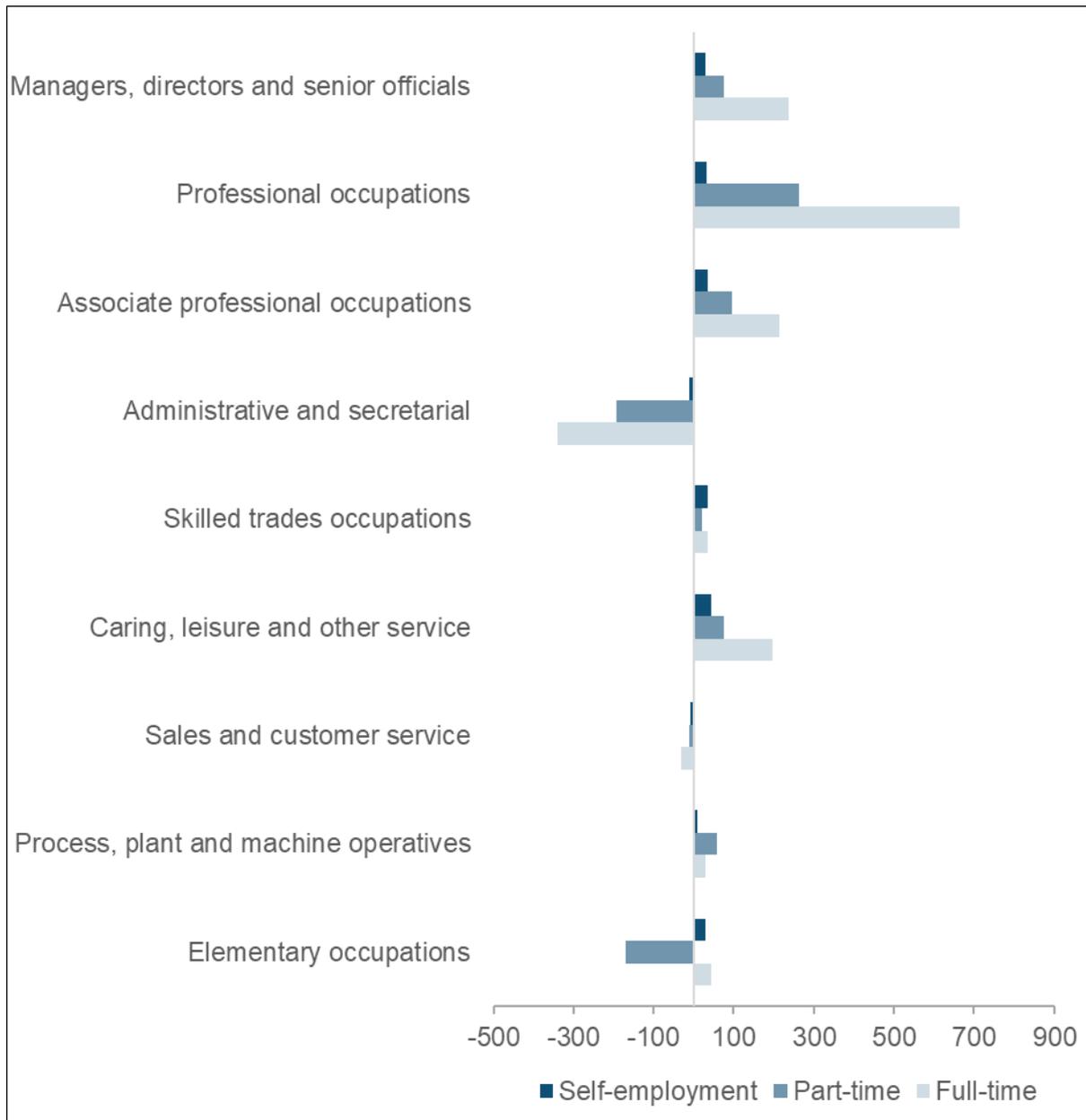
Source: IER estimates

Figure 4.5 Occupational change by employment status, 2020-2035: Males and Females (000s)



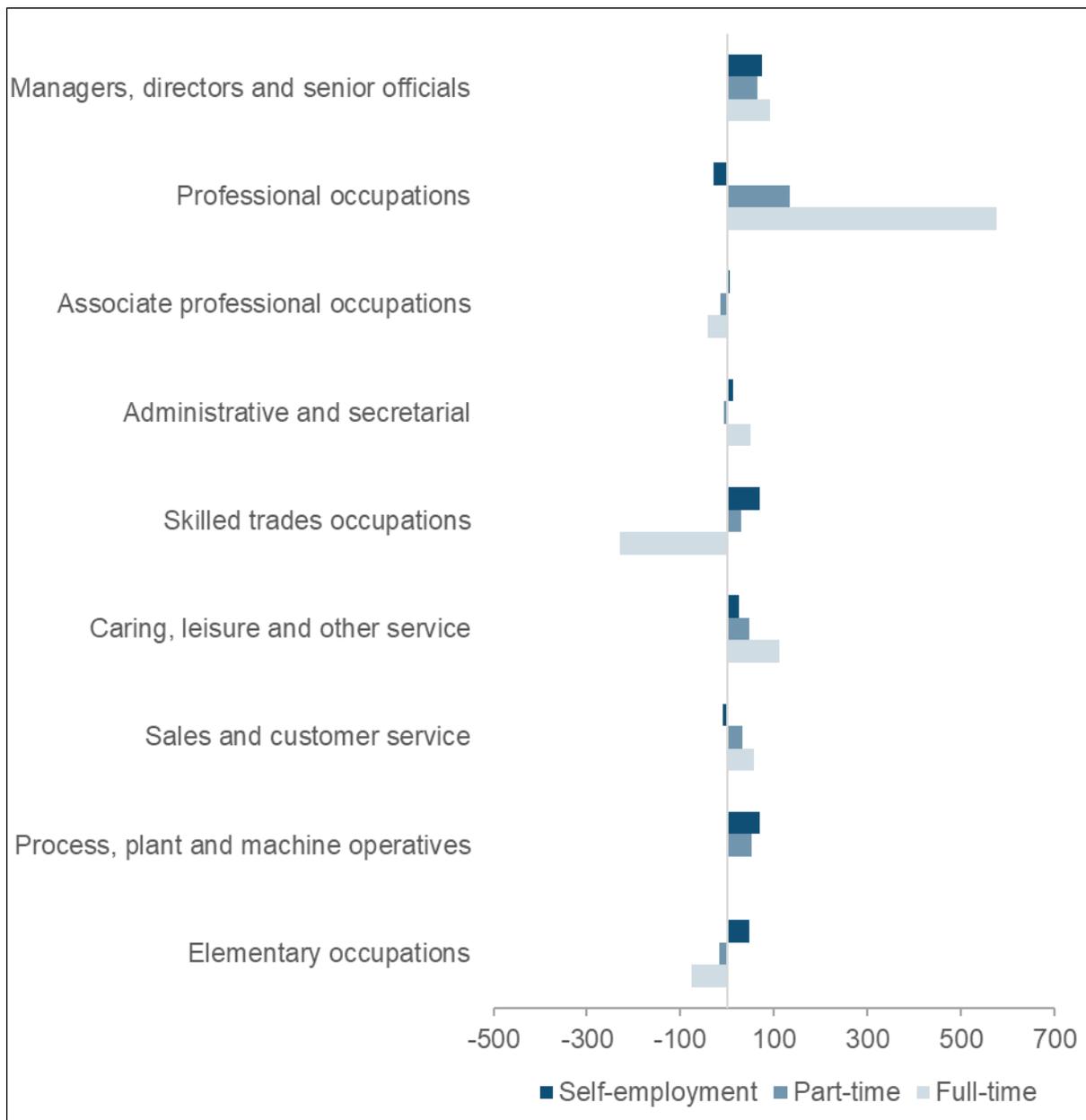
Source: IER estimates

Figure 4.6 Occupational change by employment status: Females, 2020-2035 (000s)



Source: IER estimates

Figure 4.7 Occupational change by employment status: Males, 2020-2035 (000s)



Source: IER estimates

Table 4.3 Females, Occupational categories, SOC2020 – Major Groups

Levels (000s)	2010	2015	2019	2020	2025	2035
Managers, directors and senior officials	931	1,076	1,304	1,360	1,452	1,700
Professional occupations	3,019	3,378	3,888	4,106	4,487	5,065
Associate professional occupations	1,671	1,941	2,144	2,265	2,330	2,611
Administrative and secretarial	2,864	2,785	2,729	2,694	2,517	2,148
Skilled trades occupations	299	368	366	384	431	474
Caring, leisure and other service	2,363	2,530	2,602	2,495	2,635	2,809
Sales and customer service	1,522	1,751	1,696	1,657	1,636	1,605
Process, plant and machine operatives	243	268	276	244	322	341
Elementary occupations	1,877	1,854	1,907	1,699	1,658	1,602
All occupations	14,788	15,951	16,911	16,903	17,466	18,355
Shares (%)	2010	2015	2019	2020	2025	2035
Managers, directors and senior officials	6%	7%	8%	8%	8%	9%
Professional occupations	20%	21%	23%	24%	26%	28%
Associate professional occupations	11%	12%	13%	13%	13%	14%
Administrative and secretarial	19%	17%	16%	16%	14%	12%
Skilled trades occupations	2%	2%	2%	2%	2%	3%
Caring, leisure and other service	16%	16%	15%	15%	15%	15%
Sales and customer service	10%	11%	10%	10%	9%	9%
Process, plant and machine operatives	2%	2%	2%	1%	2%	2%
Elementary occupations	13%	12%	11%	10%	9%	9%
All occupations	100%	100%	100%	100%	100%	100%
Change (000s)	2010-2015	2015-2019	2019-2020	2020-2025	2025-2035	2020-2035
Managers, directors and senior officials	146	227	56	92	248	340
Professional occupations	359	510	218	381	578	959
Associate professional occupations	271	203	121	65	281	346
Administrative and secretarial	-79	-56	-35	-176	-369	-546
Skilled trades occupations	69	-2	18	47	43	90
Caring, leisure and other service	167	72	-107	140	174	314
Sales and customer service	230	-56	-39	-21	-31	-52
Process, plant and machine operatives	25	7	-32	78	19	97
Elementary occupations	-23	54	-208	-42	-55	-97
All occupations	1,163	960	-8	563	889	1,452

Source: IER estimates

Table 4.4 Males, Occupational categories, SOC2020 – Major Groups

Levels (000s)	2010	2015	2019	2020	2025	2035
Managers, directors and senior officials	1,687	2,129	2,374	2,387	2,411	2,619
Professional occupations	3,411	3,507	3,948	4,094	4,402	4,777
Associate professional occupations	2,139	2,278	2,427	2,517	2,381	2,467
Administrative and secretarial	780	951	899	1,048	1,017	1,107
Skilled trades occupations	3,003	3,121	3,068	2,645	2,640	2,516
Caring, leisure and other service	580	619	649	639	724	826
Sales and customer service	1,126	1,136	1,122	1,130	1,169	1,211
Process, plant and machine operatives	1,788	1,845	1,933	1,713	1,879	1,838
Elementary occupations	1,960	2,118	2,033	1,899	1,936	1,852
All occupations	16,473	17,705	18,454	18,072	18,556	19,213
Shares (%)	2010	2015	2019	2020	2025	2035
Managers, directors and senior officials	10%	12%	13%	13%	13%	14%
Professional occupations	21%	20%	21%	23%	24%	25%
Associate professional occupations	13%	13%	13%	14%	13%	13%
Administrative and secretarial	5%	5%	5%	6%	5%	6%
Skilled trades occupations	18%	18%	17%	15%	14%	13%
Caring, leisure and other service	4%	3%	4%	4%	4%	4%
Sales and customer service	7%	6%	6%	6%	6%	6%
Process, plant and machine operatives	11%	10%	10%	9%	10%	10%
Elementary occupations	12%	12%	11%	11%	10%	10%
All occupations	100%	100%	100%	100%	100%	100%
Change (000s)	2010-2015	2015-2019	2019-2020	2020-2025	2025-2035	2020-2035
Managers, directors and senior officials	442	245	13	24	208	232
Professional occupations	97	441	146	308	375	683
Associate professional occupations	139	149	90	-136	87	-49
Administrative and secretarial	171	-52	149	-32	90	59
Skilled trades occupations	119	-53	-423	-6	-123	-129
Caring, leisure and other service	39	30	-11	85	102	187
Sales and customer service	10	-14	9	38	43	81
Process, plant and machine operatives	57	88	-220	165	-41	125
Elementary occupations	158	-85	-134	37	-84	-47
All occupations	1232	749	-382	484	657	1141

Source: IER estimates

Table 5.1 Expansion and Replacement demand by occupation, 2020 – 2035

Levels (000s)	2020	2035	Net Change	Replacement Demand level	Total Requirement	Replacement Demand rate (pa)
11 Corporate managers and directors	2,604	2,681	78	1,300	1,378	2.7%
12 Other managers and proprietors	1,143	1,637	494	824	1,318	3.7%
21 Science, research, engineering and technology professionals	2,168	2,563	394	894	1,288	2.3%
22 Health professionals	1,653	1,963	310	974	1,284	3.1%
23 Teaching and other educational professionals	1,814	2,082	268	994	1,261	3.0%
24 Business, media and public service professionals	2,564	3,234	670	1,419	2,089	3.0%
31 Science, engineering and technology associate professionals	694	660	-34	262	228	2.2%
32 Health and social care associate professionals	684	766	82	411	492	3.2%
33 Protective service occupations	397	541	144	169	313	2.4%
34 Culture, media and sports occupations	753	831	79	363	442	2.7%
35 Business and public service associate professionals	2,254	2,280	26	1,025	1,051	2.5%
41 Administrative occupations	3,066	2,685	-381	1,390	1,009	2.5%
42 Secretarial and related occupations	676	570	-105	349	243	2.8%
51 Skilled agricultural and related trades	376	423	47	219	266	3.1%
52 Skilled metal, electrical and electronic trades	1,102	1,030	-72	410	338	2.1%
53 Skilled construction and building trades	903	889	-14	388	374	2.4%
54 Textiles, printing and other skilled trades	648	648	0	277	276	2.4%
61 Caring personal service occupations	2,366	2,832	466	1,474	1,939	3.3%
62 Leisure, travel and related personal service occupations	729	770	41	380	421	2.8%
63 Community and civil enforcement occupations	38	34	-5	16	11	2.3%
71 Sales occupations	2,182	1,927	-255	926	671	2.4%
72 Customer service occupations	605	889	285	363	648	3.2%
81 Process, plant and machine operatives	765	907	142	354	496	2.6%
82 Transport and mobile machine drivers and operatives	1,192	1,272	80	668	748	3.0%
91 Elementary trades and related occupations	465	368	-97	153	56	1.9%
92 Elementary administration and service occupations	3,134	3,086	-48	1,536	1,488	2.7%
All occupations	34,975	37,568	2,593	17,534	20,127	2.7%

Figure 5.1 Detailed changes by occupation, 2020-2025, 2025-2035 (000s)

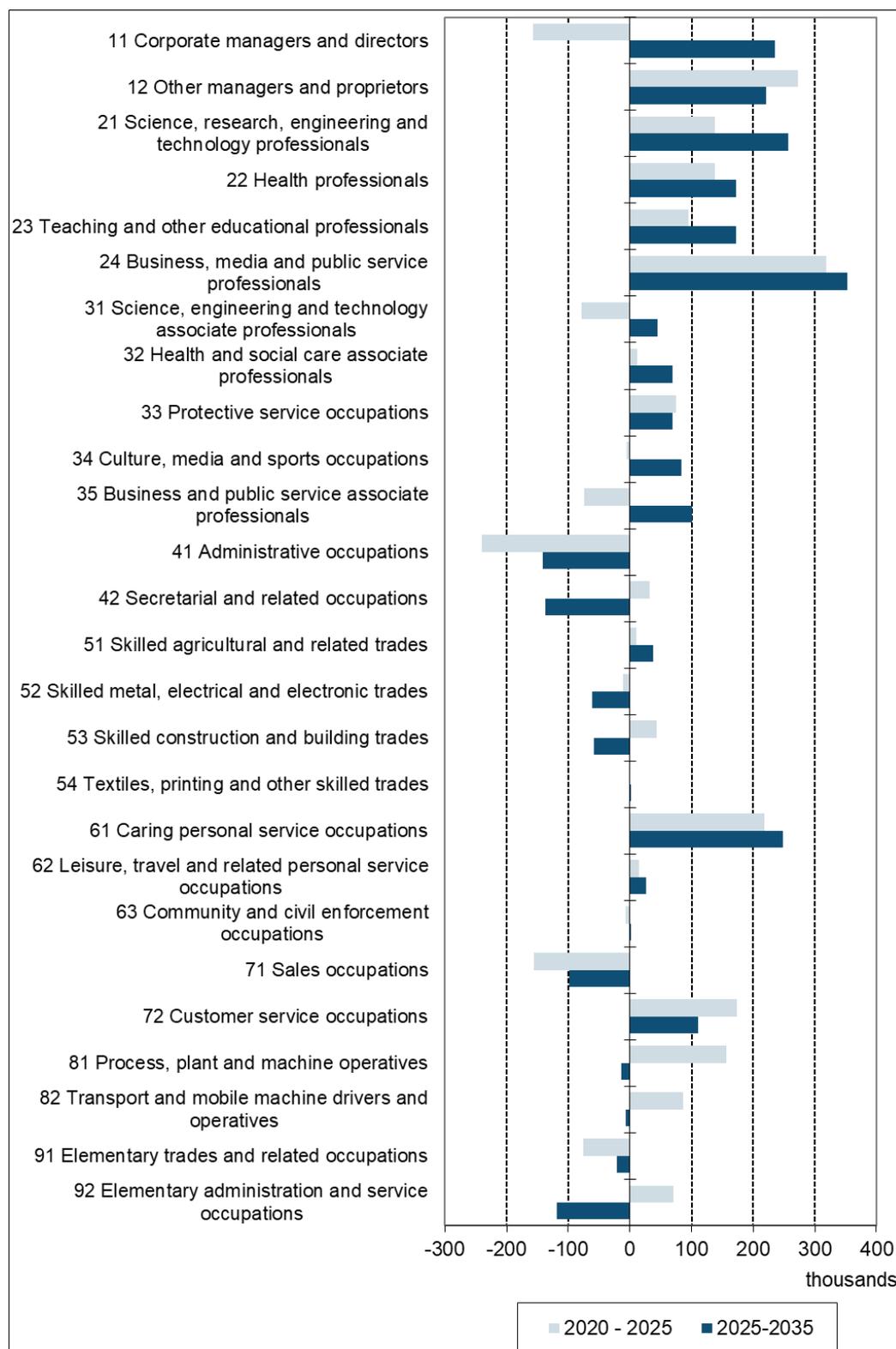
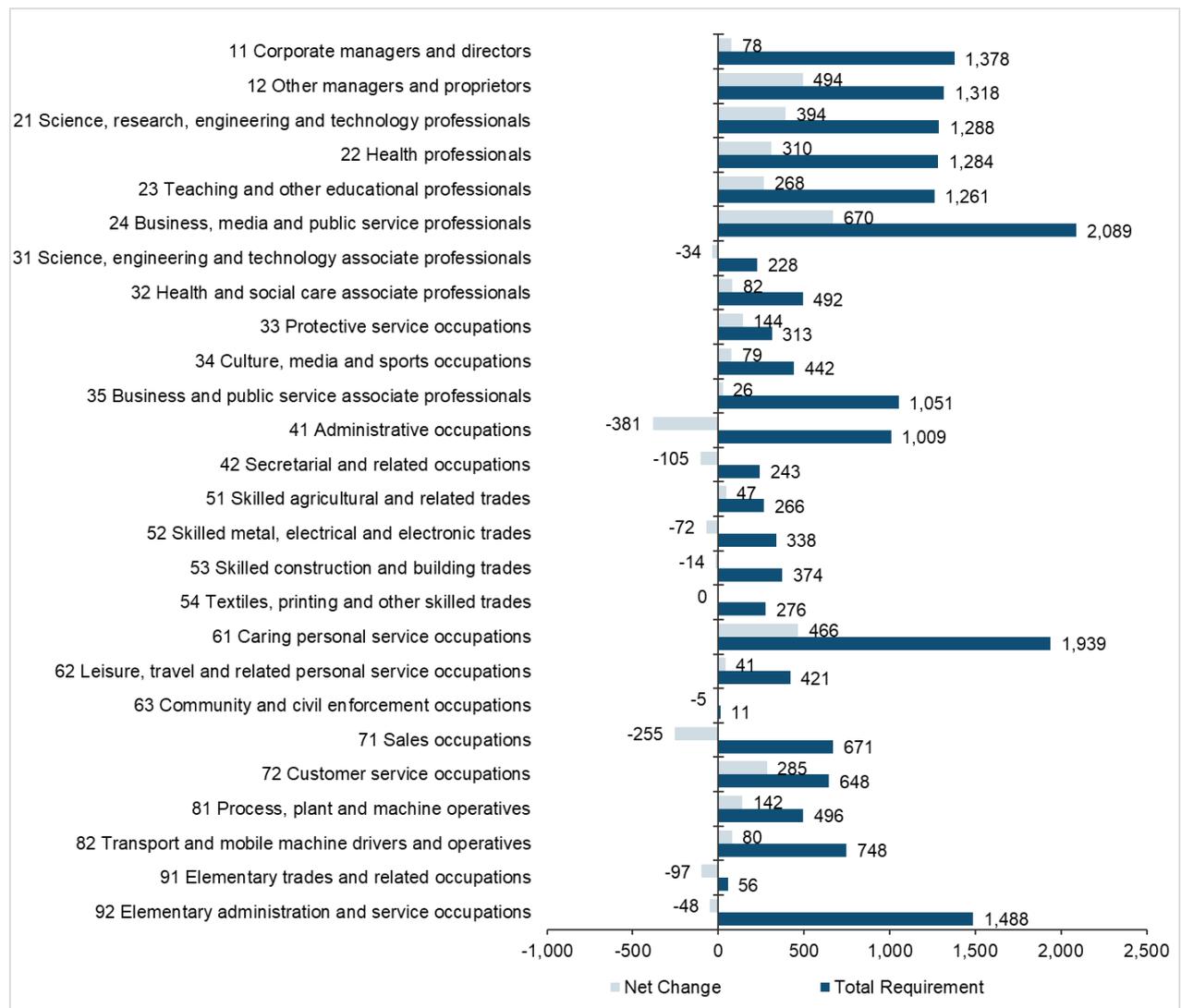


Figure 5.2 Net Requirements by SOC2020 Sub-major Group, 2020-2035



Source: IER estimates

Table 5.2 Total occupational employment, shift-share analysis, 2015-2020, UK: All industry sectors

SOC2020 Sub-Major Groups							Components of change					
	Base year 2015		Target year 2020		Change 2015-2020		Scale effect		Occupation effect		Industry mix effect	
	000s	% share	000s	% share	000s	%	000s	%	000s	%	000s	%
11 Corporate managers and directors	2,148	6.4	2,604	7.4	456	21.2	84	3.9	367	17.1	4	0.2
12 Other managers and proprietors	1,057	3.1	1,143	3.3	85	8.1	41	3.9	40	3.8	4	0.4
21 Science, research, engineering and technology professionals	1,804	5.4	2,168	6.2	364	20.2	71	3.9	268	14.8	26	1.4
22 Health professionals	1,432	4.3	1,653	4.7	221	15.4	56	3.9	153	10.7	12	0.9
23 Teaching and other educational professionals	1,647	4.9	1,814	5.2	167	10.2	65	3.9	154	9.4	-51	-3.1
24 Business, media and public service professionals	2,002	5.9	2,564	7.3	562	28.0	78	3.9	464	23.2	19	0.9
31 Science, engineering and technology associate professionals	543	1.6	694	2.0	151	27.8	21	3.9	124	22.9	5	1.0
32 Health and social care associate professionals	595	1.8	684	2.0	89	15.0	23	3.9	63	10.5	3	0.6
33 Protective service occupations	363	1.1	397	1.1	34	9.2	14	3.9	16	4.3	4	1.0
34 Culture, media and sports occupations	691	2.1	753	2.2	62	8.9	27	3.9	40	5.8	-6	-0.8
35 Business and public service associate professionals	2,027	6.0	2,254	6.4	227	11.2	79	3.9	142	7.0	5	0.3
41 Administrative occupations	2,983	8.9	3,066	8.8	83	2.8	117	3.9	-40	-1.3	6	0.2
42 Secretarial and related occupations	752	2.2	676	1.9	-76	-10.2	29	3.9	-111	-14.7	5	0.7
51 Skilled agricultural and related trades	405	1.2	376	1.1	-28	-7.0	16	3.9	-30	-7.5	-14	-3.4
52 Skilled metal, electrical and electronic trades	1,243	3.7	1,102	3.2	-141	-11.3	49	3.9	-178	-14.4	-11	-0.9
53 Skilled construction and building trades	1,086	3.2	903	2.6	-183	-16.9	43	3.9	-265	-24.4	39	3.6
54 Textiles, printing and other skilled trades	756	2.2	648	1.9	-108	-14.2	30	3.9	-138	-18.3	1	0.1
61 Caring personal service occupations	2,378	7.1	2,366	6.8	-12	-0.5	93	3.9	-99	-4.2	-6	-0.3
62 Leisure, travel and related personal service occupations	735	2.2	729	2.1	-6	-0.8	29	3.9	-40	-5.5	5	0.7
63 Community and civil enforcement occupations	35	0.1	38	0.1	3	9.3	1	3.9	2	4.8	0	0.6
71 Sales occupations	2,342	7.0	2,182	6.2	-160	-6.8	92	3.9	-188	-8.0	-63	-2.7
72 Customer service occupations	545	1.6	605	1.7	60	10.9	21	3.9	43	7.8	-4	-0.8
81 Process, plant and machine operatives	905	2.7	765	2.2	-139	-15.4	35	3.9	-167	-18.5	-8	-0.9
82 Transport and mobile machine drivers and operatives	1,208	3.6	1,192	3.4	-16	-1.3	47	3.9	-84	-6.9	20	1.7
91 Elementary trades and related occupations	586	1.7	465	1.3	-122	-20.7	23	3.9	-145	-24.8	1	0.1
92 Elementary administration and service occupations	3,386	10.1	3,134	9.0	-252	-7.4	133	3.9	-389	-11.5	4	0.1
All occupations	33,656	100.0	34,975	100.0	1,319	3.9						

Source: IER estimates

Table 5.3 Total occupational employment, shift-share analysis, 2019-2021, UK: All industry sectors

SOC2020 Sub-Major Groups							Components of change					
	Base year 2019		Target year 2021		Change 2019-2021		Scale effect		Occupation effect		Industry mix effect	
	000s	% share	000s	% share	000s	%	000s	%	000s	%	000s	%
11 Corporate managers and directors	2,544	7.2	2,340	6.7	-205	-8.1	-16	-0.6	-207	-8.1	19	0.7
12 Other managers and proprietors	1,133	3.2	1,322	3.8	189	16.7	-7	-0.6	213	18.8	-17	-1.5
21 Science, research, engineering and technology professionals	2,079	5.9	2,192	6.2	114	5.5	-13	-0.6	114	5.5	13	0.6
22 Health professionals	1,646	4.7	1,710	4.9	64	3.9	-10	-0.6	36	2.2	39	2.3
23 Teaching and other educational professionals	1,741	4.9	1,829	5.2	88	5.1	-11	-0.6	86	4.9	14	0.8
24 Business, media and public service professionals	2,372	6.7	2,726	7.8	354	14.9	-15	-0.6	352	14.9	17	0.7
31 Science, engineering and technology associate professionals	640	1.8	594	1.7	-46	-7.2	-4	-0.6	-45	-7.0	3	0.5
32 Health and social care associate professionals	665	1.9	665	1.9	0	-0.1	-4	-0.6	-10	-1.5	14	2.1
33 Protective service occupations	374	1.1	442	1.3	67	18.0	-2	-0.6	62	16.6	8	2.0
34 Culture, media and sports occupations	706	2.0	711	2.0	5	0.7	-5	-0.6	13	1.8	-4	-0.5
35 Business and public service associate professionals	2,185	6.2	2,123	6.0	-62	-2.8	-14	-0.6	-63	-2.9	16	0.7
41 Administrative occupations	2,936	8.3	2,852	8.1	-84	-2.9	-19	-0.6	-88	-3.0	23	0.8
42 Secretarial and related occupations	691	2.0	751	2.1	60	8.7	-4	-0.6	63	9.0	2	0.3
51 Skilled agricultural and related trades	408	1.2	369	1.1	-39	-9.7	-3	-0.6	-26	-6.4	-11	-2.6
52 Skilled metal, electrical and electronic trades	1,262	3.6	1,107	3.1	-156	-12.3	-8	-0.6	-117	-9.3	-31	-2.4
53 Skilled construction and building trades	1,074	3.0	959	2.7	-115	-10.7	-7	-0.6	-99	-9.2	-9	-0.9
54 Textiles, printing and other skilled trades	689	1.9	641	1.8	-49	-7.1	-4	-0.6	-19	-2.8	-25	-3.6
61 Caring personal service occupations	2,426	6.9	2,469	7.0	43	1.8	-15	-0.6	18	0.8	40	1.6
62 Leisure, travel and related personal service occupations	795	2.2	727	2.1	-67	-8.5	-5	-0.6	-55	-6.9	-7	-0.9
63 Community and civil enforcement occupations	31	0.1	30	0.1	0	-0.9	0	-0.6	0	-0.2	0	0.0
71 Sales occupations	2,227	6.3	2,044	5.8	-183	-8.2	-14	-0.6	-184	-8.3	15	0.7
72 Customer service occupations	590	1.7	729	2.1	140	23.7	-4	-0.6	143	24.2	1	0.1
81 Process, plant and machine operatives	871	2.5	920	2.6	49	5.6	-6	-0.6	63	7.2	-8	-1.0
82 Transport and mobile machine drivers and operatives	1,338	3.8	1,272	3.6	-66	-4.9	-9	-0.6	-56	-4.2	-1	-0.1
91 Elementary trades and related occupations	523	1.5	395	1.1	-128	-24.5	-3	-0.6	-124	-23.8	0	-0.1
92 Elementary administration and service occupations	3,418	9.7	3,221	9.2	-197	-5.8	-22	-0.6	-67	-2.0	-108	-3.1
All occupations	35,365	100.0	35,140	100.0	-225	-0.6						

Source: IER estimates

Table 5.4 Total occupational employment, shift-share analysis, 2020-2035, UK: All industry sector

SOC2010 Sub-Major Groups							Components of change					
	Base year 2020		Target year 2035		Change 2020-2035		Scale effect		Occupation effect		Industry mix effect	
	000s	% share	000s	% share	000s	%	000s	%	000s	%	000s	%
11 Corporate managers and directors	2,604	7.4	2,681	7.1	78	3.0	193	7.4	-73	-2.8	-42	-1.6
12 Other managers and proprietors	1,143	3.3	1,637	4.4	494	43.2	85	7.4	396	34.7	13	1.2
21 Science, research, engineering and technology professionals	2,168	6.2	2,563	6.8	394	18.2	161	7.4	244	11.2	-10	-0.5
22 Health professionals	1,653	4.7	1,963	5.2	310	18.8	123	7.4	114	6.9	74	4.4
23 Teaching and other educational professionals	1,814	5.2	2,082	5.5	268	14.8	135	7.4	162	8.9	-29	-1.6
24 Business, media and public service professionals	2,564	7.3	3,234	8.6	670	26.1	190	7.4	481	18.8	-2	-0.1
31 Science, engineering and technology associate professionals	694	2.0	660	1.8	-34	-4.9	51	7.4	-76	-10.9	-10	-1.4
32 Health and social care associate professionals	684	2.0	766	2.0	82	11.9	51	7.4	1	0.1	30	4.4
33 Protective service occupations	397	1.1	541	1.4	144	36.2	29	7.4	121	30.6	-7	-1.7
34 Culture, media and sports occupations	753	2.2	831	2.2	79	10.4	56	7.4	22	2.9	1	0.1
35 Business and public service associate professionals	2,254	6.4	2,280	6.1	26	1.2	167	7.4	-109	-4.8	-32	-1.4
41 Administrative occupations	3,066	8.8	2,685	7.1	-381	-12.4	227	7.4	-579	-18.9	-29	-1.0
42 Secretarial and related occupations	676	1.9	570	1.5	-105	-15.6	50	7.4	-166	-24.5	10	1.5
51 Skilled agricultural and related trades	376	1.1	423	1.1	47	12.5	28	7.4	27	7.3	-8	-2.2
52 Skilled metal, electrical and electronic trades	1,102	3.2	1,030	2.7	-72	-6.5	82	7.4	-103	-9.4	-50	-4.6
53 Skilled construction and building trades	903	2.6	889	2.4	-14	-1.5	67	7.4	-91	-10.1	10	1.1
54 Textiles, printing and other skilled trades	648	1.9	648	1.7	0	0.0	48	7.4	-57	-8.8	8	1.3
61 Caring personal service occupations	2,366	6.8	2,832	7.5	466	19.7	175	7.4	191	8.1	99	4.2
62 Leisure, travel and related personal service occupations	729	2.1	770	2.0	41	5.6	54	7.4	-9	-1.2	-4	-0.6
63 Community and civil enforcement occupations	38	0.1	34	0.1	-5	-12.5	3	7.4	-8	-21.1	0	1.2
71 Sales occupations	2,182	6.2	1,927	5.1	-255	-11.7	162	7.4	-340	-15.6	-78	-3.6
72 Customer service occupations	605	1.7	889	2.4	285	47.1	45	7.4	244	40.3	-4	-0.7
81 Process, plant and machine operatives	765	2.2	907	2.4	142	18.5	57	7.4	141	18.5	-56	-7.4
82 Transport and mobile machine drivers and operatives	1,192	3.4	1,272	3.4	80	6.7	88	7.4	-6	-0.5	-3	-0.2
91 Elementary trades and related occupations	465	1.3	368	1.0	-97	-20.8	34	7.4	-119	-25.7	-12	-2.5
92 Elementary administration and service occupations	3,134	9.0	3,086	8.2	-48	-1.5	232	7.4	-410	-13.1	130	4.1
All occupations	34,975	100.0	37,568	100.0	2,593	7.4						

Source: IER estimates

Table 5.5 Top 20 4-digit occupations in terms of Employment levels in 2021

Occupation Code (412) and Name	Occ(26)	2021 (000s)	rank	2035 (000s)	rank
7111 Sales and retail assistants	71	1,230	1	1,160	2
6135 Care workers and home carers	61	1,023	2	1,173	1
9223 Cleaners and domestics	92	595	3	570	4
4159 Other administrative occupations n.e.c.	41	575	4	541	7
4122 Book-keepers, payroll managers and wages clerks	41	544	5	512	9
9252 Warehouse operatives	92	531	6	509	10
9263 Kitchen and catering assistants	92	508	7	487	11
2313 Secondary education teaching professionals	23	507	8	577	3
2134 Programmers and software development professionals	21	472	9	551	6
2314 Primary education teaching professionals	23	464	10	528	8
7219 Customer service occupations n.e.c.	72	453	11	552	5
2237 Other nursing professionals	22	378	12	434	12
8214 Delivery drivers and couriers	82	347	13	347	16
1131 Financial managers and directors	11	332	14	381	14
6112 Teaching assistants	61	332	15	381	13
8211 Large goods vehicle drivers	82	312	16	312	19
9264 Waiters and waitresses	92	307	17	294	23
2422 Finance and investment analysts and advisers	24	297	18	352	15
1150 Managers and directors in retail and wholesale	11	294	19	337	17
6131 Nursing auxiliaries and assistants	61	288	20	331	18

Source: IER estimates

Table 5.6 Top 20 4-digit occupations in terms of employment growth in absolute terms, 2021-2035

Occupation Code (412) and Name	Employment					Change 2021-2035			
	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s	rank	%	rank
6135 Care workers and home carers	61	1,023	2	1,173	1	150	1	14.7	152
7219 Customer service occupations n.e.c.	72	453	11	552	5	99	2	21.9	28
2134 Programmers and software development professionals	21	472	9	551	6	80	3	16.9	97
2313 Secondary education teaching professionals	23	507	8	577	3	70	4	13.8	193
2314 Primary education teaching professionals	23	464	10	528	8	64	5	13.8	190
2237 Other nursing professionals	22	378	12	434	12	56	6	14.8	136
2422 Finance and investment analysts and advisers	24	297	18	352	15	55	7	18.6	57
1251 Property, housing and estate managers	12	208	38	258	27	50	8	23.8	2
6112 Teaching assistants	61	332	15	381	13	49	9	14.7	164
1131 Financial managers and directors	11	332	14	381	14	49	10	14.6	178
2440 Business and financial project management professionals	24	256	25	304	21	48	11	18.6	48
1150 Managers and directors in retail and wholesale	11	294	19	337	17	43	12	14.6	182
6131 Nursing auxiliaries and assistants	61	288	20	331	18	42	13	14.7	150
3312 Police officers (sergeant and below)	33	184	46	225	32	41	14	22.4	25
1222 Restaurant and catering establishment managers and proprietors	12	167	54	206	41	40	15	23.8	11
1132 Marketing, sales and advertising directors	11	268	21	307	20	39	16	14.6	179
2421 Chartered and certified accountants	24	210	37	249	28	39	17	18.6	53
1121 Production managers and directors in manufacturing	11	258	23	296	22	38	18	14.6	183
2412 Solicitors and lawyers	24	202	40	239	29	38	19	18.6	58
2431 Management consultants and business analysts	24	189	43	224	33	35	20	18.6	59

Table 5.7 Top 20 4-digit occupations in terms of Employment Change 2021-2035 (largest declines in absolute terms)

Occupation Code (412) and Name	Employment					Change 2021-2035			
	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s	rank	%	rank
5223 Metal working production and maintenance fitters	52	163	58	151	69	-11	393	-6.9	382
4129 Financial administrative occupations n.e.c.	41	213	35	201	44	-13	394	-5.9	352
9264 Waiters and waitresses	92	307	17	294	23	-13	395	-4.2	319
7132 Sales supervisors - retail and wholesale	71	230	31	217	36	-13	396	-5.7	334
4111 National government administrative occupations	41	226	32	212	39	-13	397	-5.9	345
4141 Office managers	41	230	30	217	37	-14	398	-5.9	353
4212 Legal secretaries	42	60	162	46	226	-14	399	-24.1	412
5316 Carpenters and joiners	53	203	39	188	48	-15	400	-7.4	402
5319 Construction and building trades n.e.c.	53	222	33	205	42	-16	401	-7.4	395
4213 School secretaries	42	68	148	52	199	-16	402	-24.1	408
5241 Electricians and electrical fitters	52	245	27	228	31	-17	403	-6.9	377
9263 Kitchen and catering assistants	92	508	7	487	11	-21	404	-4.2	322
4211 Medical secretaries	42	92	100	70	152	-22	405	-24.1	409
9252 Warehouse operatives	92	531	6	509	10	-22	406	-4.2	310
9223 Cleaners and domestics	92	595	3	570	4	-25	407	-4.2	316
4122 Book-keepers, payroll managers and wages clerks	41	544	5	512	9	-32	408	-5.9	355
4159 Other administrative occupations n.e.c.	41	575	4	541	7	-34	409	-5.9	351
4215 Personal assistants and other secretaries	42	233	29	177	54	-56	410	-24.1	406
4216 Receptionists	42	258	24	196	45	-62	411	-24.1	411
7111 Sales and retail assistants	71	1,230	1	1,160	2	-71	412	-5.7	333

Source: IER estimates

Table 5.8 Top 20 4-digit occupations in terms of Employment Change 2021-2035 (per cent change)

Occupation Code (412) and Name	Employment					Change 2021-2035			
	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s	rank	%	rank
1221 Hotel and accommodation managers and proprietors	12	58	172	71	149	14	65	23.8	1
1251 Property, housing and estate managers	12	208	38	258	27	50	8	23.8	2
1232 Residential, day and domiciliary care managers and proprietors	12	77	127	95	111	18	53	23.8	3
1256 Betting shop and gambling establishment managers	12	22	333	28	312	5	164	23.8	4
1233 Early education and childcare services proprietors	12	7	397	9	389	2	233	23.8	5
1225 Travel agency managers and proprietors	12	15	364	19	350	4	206	23.8	6
1212 Managers and proprietors in forestry, fishing and related services	12	21	336	26	317	5	170	23.8	7
1231 Health care practice managers	12	37	249	46	225	9	105	23.8	8
1224 Leisure and sports managers	12	77	126	96	109	18	52	23.8	9
1223 Publicans and managers of licensed premises	12	24	328	29	296	6	154	23.8	10
1222 Restaurant and catering establishment managers and proprietors	12	167	54	206	41	40	15	23.8	11
1211 Managers and proprietors in agriculture and horticulture	12	32	275	39	250	8	125	23.8	12
1253 Hairdressing and beauty salon managers and proprietors	12	19	349	23	334	4	183	23.8	13
1241 Managers in transport and distribution	12	84	113	104	101	20	42	23.8	14
1242 Managers in storage and warehousing	12	85	112	106	97	20	40	23.8	15
1243 Managers in logistics	12	47	205	58	182	11	86	23.8	16
1257 Hire services managers and proprietors	12	18	351	22	339	4	186	23.8	17
1255 Managers and directors in the creative industries	12	54	182	66	161	13	73	23.8	18
1252 Garage managers and proprietors	12	25	307	32	281	6	145	23.8	19
1258 Directors in consultancy services	12	82	116	102	103	20	46	23.8	20

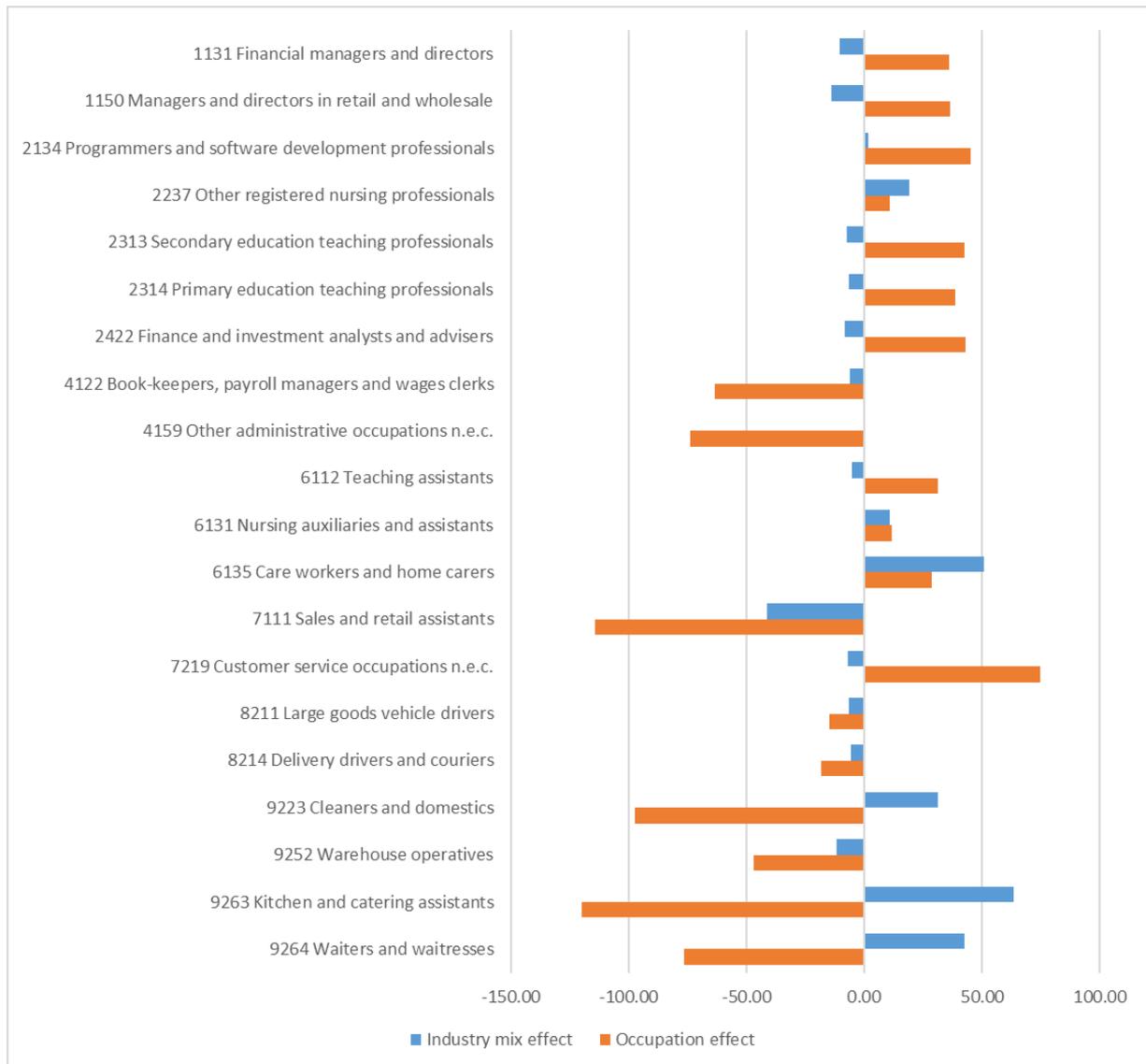
Source: IER estimates

Table 5.9 Top 20 4-digit occupations in terms of Employment Losses, 2021-2035 (largest per cent declines)

Occupation Code (412) and Name	Employment					Change 2021-2035			
	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s	rank	%	rank
5232 Vehicle body builders and repairers	52	29	293	27	315	-2	344	-6.9	393
5317 Glaziers, window fabricators and fitters	53	34	258	31	282	-2	352	-7.4	394
5319 Construction and building trades n.e.c.	53	222	33	205	42	-16	401	-7.4	395
5322 Floorers and wall tilers	53	46	213	43	243	-3	365	-7.4	396
5314 Roofers, roof tilers and slaters	53	33	263	31	284	-2	351	-7.4	397
5323 Painters and decorators	53	87	109	80	134	-6	380	-7.4	398
5315 Plumbers & heating and ventilating installers and repairers	53	151	63	140	76	-11	392	-7.4	399
5313 Bricklayers	53	46	210	43	241	-3	366	-7.4	400
5321 Plasterers	53	55	180	51	200	-4	372	-7.4	401
5316 Carpenters and joiners	53	203	39	188	48	-15	400	-7.4	402
5312 Stonemasons and related trades	53	13	370	12	376	-1	318	-7.4	403
5330 Construction and building trades supervisors	53	62	159	58	183	-5	375	-7.4	404
5311 Steel erectors	53	7	405	6	405	0	301	-7.4	405
4215 Personal assistants and other secretaries	42	233	29	177	54	-56	410	-24.1	406
4214 Company secretaries and administrators	42	31	277	24	333	-7	384	-24.1	407
4213 School secretaries	42	68	148	52	199	-16	402	-24.1	408
4211 Medical secretaries	42	92	100	70	152	-22	405	-24.1	409
4217 Typists and related keyboard occupations	42	8	393	6	407	-2	339	-24.1	410
4216 Receptionists	42	258	24	196	45	-62	411	-24.1	411
4212 Legal secretaries	42	60	162	46	226	-14	399	-24.1	412

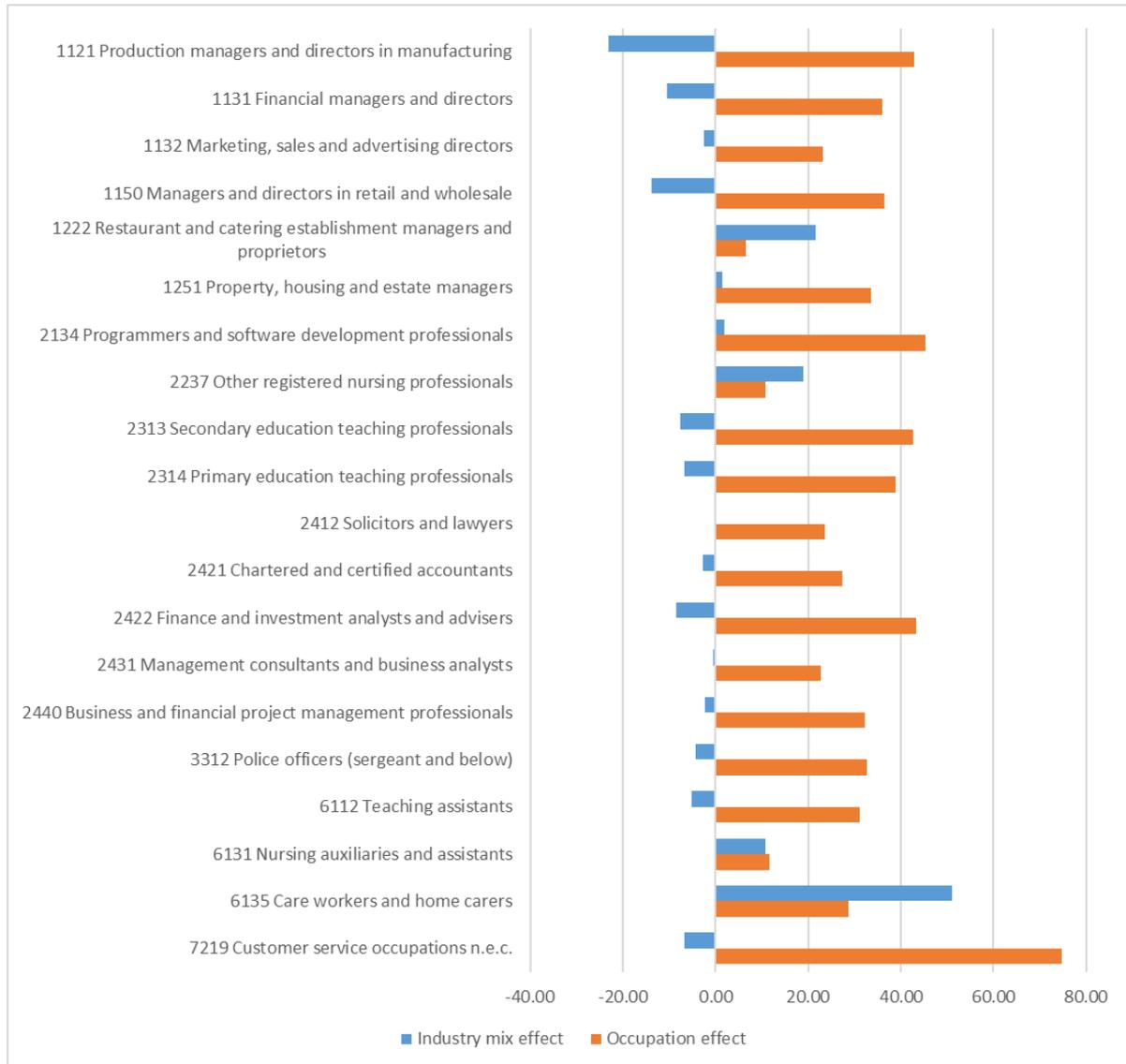
Source: IER estimates

Figure 5.3 Shift-share for the Top 20 4-digit occupations in terms of Employment levels in 2021 (000s, 2021-2035)



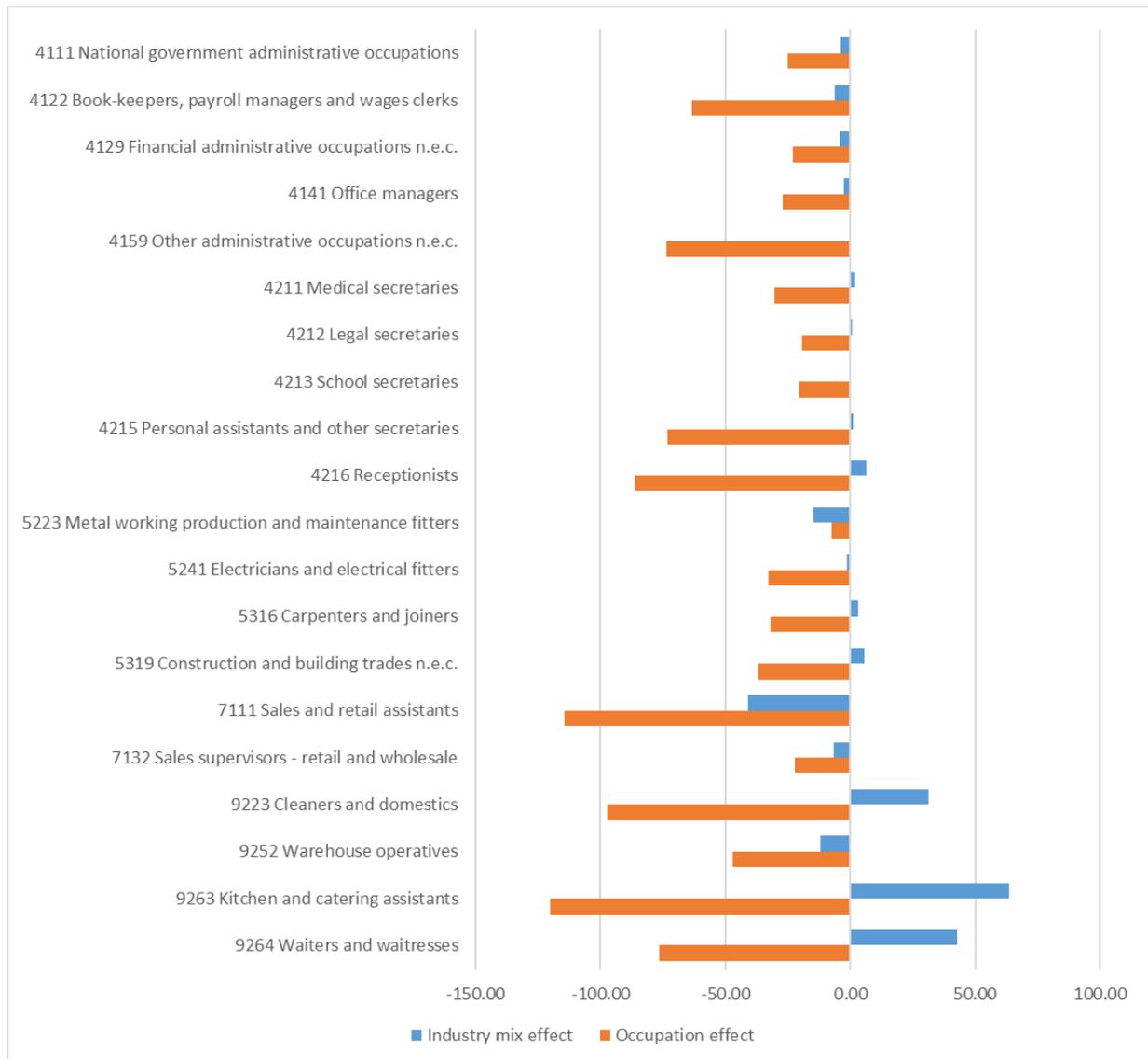
Source: IER estimates

Figure 5.4 Shift-share for the Top 20 4-digit occupations in terms of employment growth in absolute terms (000s, 2021-2035)



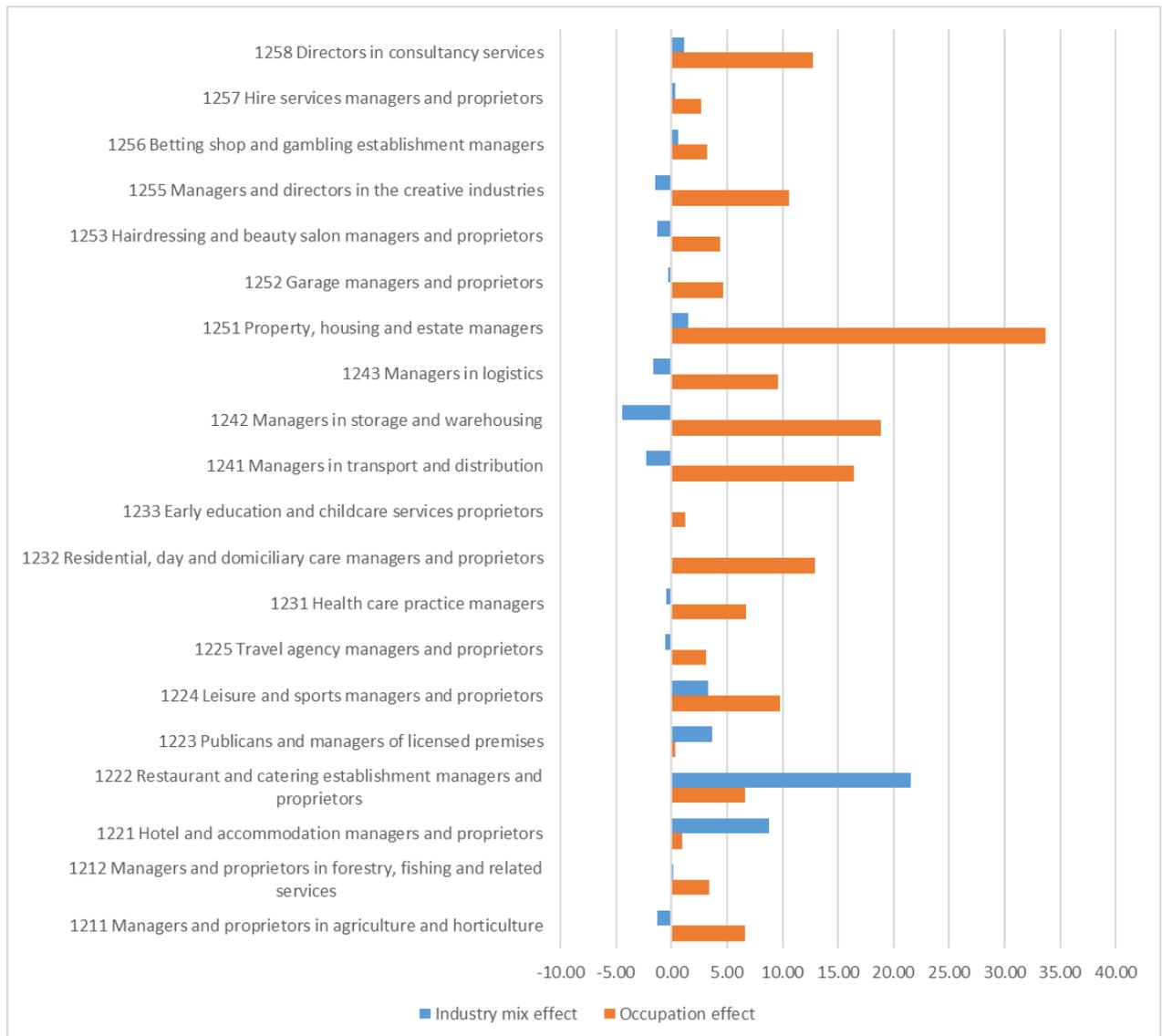
Source: IER estimates

Figure 5.5 Shift-share for the Top 20 4-digit occupations in terms of Employment Change 2021-2035 (largest declines in absolute terms, 000s)



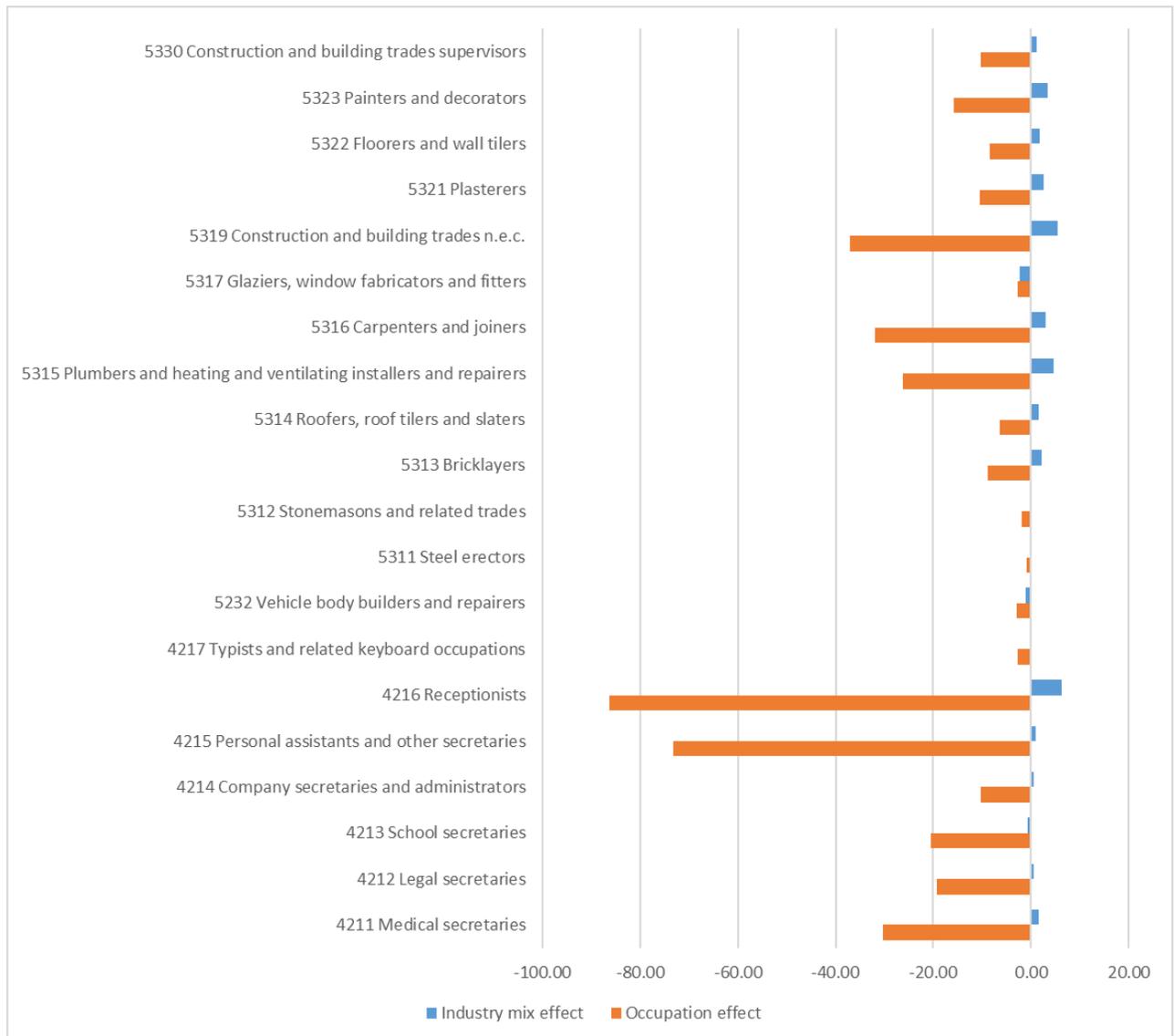
Source: IER estimates

Figure 5.6 Shift-share the Top 20 4-digit occupations in terms of Employment Change 2021-2035 (per cent change)



Source: IER estimates

Figure 5.7 Shift-share for the Top 20 4-digit occupations in terms of Employment Change 2021-2035 (largest per cent declines)



Source: IER estimates

Table 5.10 Top 20 4-digit occupations in terms of Replacement Demand 2021-2035 (000s)

Occ(412) Name	Employment					Change 2021-2035				Replacement demand			
	Occ(26)	2021 (000s)	rank	2035 (000s)	rank	000s	rank	%	rank	000s	rank	%	rank
6135 Care workers and home carers	61	1,023	2	1,173	1	150	1	14.7	152	577	1	56.4	36
7111 Sales and retail assistants	71	1,230	1	1,160	2	-71	412	-5.7	333	521	2	42.3	273
9223 Cleaners and domestics	92	595	3	570	4	-25	407	-4.2	316	267	3	44.8	238
4159 Other administrative occupations n.e.c.	41	575	4	541	7	-34	409	-5.9	351	262	4	45.5	195
2313 Secondary education teaching professionals	23	507	8	577	3	70	4	13.8	193	260	5	51.2	101
4122 Book-keepers, payroll managers and wages clerks	41	544	5	512	9	-32	408	-5.9	355	247	6	45.5	195
9252 Warehouse operatives	92	531	6	509	10	-22	406	-4.2	310	238	7	44.8	248
2314 Primary education teaching professionals	23	464	10	528	8	64	5	13.8	190	237	8	51.2	101
9263 Kitchen and catering assistants	92	508	7	487	11	-21	404	-4.2	322	228	9	44.8	261
7219 Customer service occupations n.e.c.	72	453	11	552	5	99	2	21.9	28	215	10	47.4	187
2237 Other nursing professionals	22	378	12	434	12	56	6	14.8	136	203	11	53.8	61
6112 Teaching assistants	61	332	15	381	13	49	9	14.7	164	187	12	56.4	36
2134 Programmers and software development professionals	21	472	9	551	6	80	3	16.9	97	182	13	38.5	313
1131 Financial managers and directors	11	332	14	381	14	49	10	14.6	178	173	14	52.0	87
8214 Delivery drivers and couriers	82	347	13	347	16	0	263	0.0	276	172	15	49.5	116
6131 Nursing auxiliaries and assistants	61	288	20	331	18	42	13	14.7	150	162	16	56.4	36
8211 Large goods vehicle drivers	82	312	16	312	19	0	264	0.0	269	155	17	49.5	116
1150 Managers and directors in retail and wholesale	11	294	19	337	17	43	12	14.6	182	153	18	52.0	87
2422 Finance and investment analysts and advisers	24	297	18	352	15	55	7	18.6	57	146	19	49.3	130
1132 Marketing, sales and advertising directors	11	268	21	307	20	39	16	14.6	179	140	20	52.0	81

Source: IER estimates

3 Revised versions of the tables and figures from *Working Paper 2b – Alternative Scenarios* that were affected by ONS coding errors in LFS

Table 5.5: Employment in 2035 for Major Groups compared across the scenarios (with occupational adjustments) and *Baseline projections*

Levels (000s)	Baseline (BS)	Automation adjusted (AS*)	Technological opportunities adjusted (TS*)	Human-centric adjusted (HS*)
Managers, directors and senior officials	4,318	3,968	4,219	4,191
Professional occupations	9,842	9,808	10,293	10,356
Associate professional occupations	5,078	4,850	5,189	5,128
Administrative and secretarial	3,255	2,982	3,125	3,156
Skilled trades occupations	2,990	2,689	2,860	2,831
Caring, leisure and other service	3,635	3,593	3,804	3,804
Sales and customer service	2,816	2,476	2,621	2,618
Process, plant and machine operatives	2,179	2,010	2,124	2,112
Elementary occupations	3,454	3,172	3,312	3,345
All occupations	37,568	35,547	37,546	37,541

Shares (%)	Baseline (BS)	Automation adjusted (AS*)	Technological opportunities adjusted (TS*)	Human-centric adjusted (HS*)
Managers, directors and senior officials	11%	11%	11%	11%
Professional occupations	26%	28%	27%	28%
Associate professional occupations	14%	14%	14%	14%
Administrative and secretarial	9%	8%	8%	8%
Skilled trades occupations	8%	8%	8%	8%
Caring, leisure and other service	10%	10%	10%	10%
Sales and customer service	7%	7%	7%	7%
Process, plant and machine operatives	6%	6%	6%	6%
Elementary occupations	9%	9%	9%	9%
All occupations	100%	100%	100%	100%

Change (000s) 2020-2035	Baseline (BS)	Automation adjusted (AS*)	Technological opportunities adjusted (TS*)	Human-centric adjusted (HS*)
Managers, directors and senior officials	572	221	472	444
Professional occupations	1,642	1,608	2,093	2,156
Associate professional occupations	296	68	407	346
Administrative and secretarial	-487	-760	-617	-586
Skilled trades occupations	-39	-340	-169	-197
Caring, leisure and other service	502	459	670	671
Sales and customer service	29	-311	-166	-169
Process, plant and machine operatives	222	52	167	155
Elementary occupations	-144	-426	-287	-253
All occupations	2,593	572	2,571	2,566

Source: IER estimates *Includes occupational adjustments.*

Table 5.5a: Percentage impact, Automation adjusted scenario compared to *Baseline projections*

% impact	2025	2035
Managers, directors and senior officials	-2.1	-8.8
Professional occupations	0.4	-0.3
Associate professional occupations	-1.0	-4.7
Administrative and secretarial	-2.0	-9.2
Skilled trades occupations	-2.4	-11.2
Caring, leisure and other service	0.0	-1.2
Sales and customer service	-3.2	-13.8
Process, plant and machine operatives	-1.8	-8.4
Elementary occupations	-1.9	-8.9
All occupations	-1.2	-5.7

Source: IER estimates

Table 5.6: Employment for Sub-major Groups in 2035 compared across the scenarios (with occupational adjustments) and *Baseline projections*

Males and Females

Levels (000s)	Baseline (BS)	Automation adjusted (AS*)	Technological opportunities adjusted (TS*)	Human-centric adjusted (HS*)
11 Corporate managers & directors	2,681	2,451	2,602	2,588
12 Other managers & proprietors	1,637	1,517	1,617	1,603
21 Science, research, engineering & technology professionals	2,563	2,848	2,958	3,002
22 Health professionals	1,963	1,955	2,063	2,071
23 Teaching & other educational professionals	2,082	2,069	2,170	2,180
24 Business, media & public service professionals	3,234	2,936	3,102	3,103
31 Science, engineering & technology associate professionals	660	802	897	845
32 Health & social care associate professionals	766	820	875	869
33 Protective service occupations	541	482	511	509
34 Culture, media & sports occupations	831	737	781	779
35 Business & public service associate professionals	2,280	2,010	2,126	2,126
41 Administrative occupations	2,685	2,400	2,517	2,541
42 Secretarial & related occupations	570	581	608	614
51 Skilled agricultural & related trades	423	376	400	396
52 Skilled metal, electrical & electronic trades	1,030	913	971	960
53 Skilled construction & building trades	889	842	900	887
54 Textiles, printing & other skilled trades	648	558	590	588
61 Caring personal service occupations	2,832	2,852	3,023	3,021
62 Leisure, travel & related personal service occupations	770	711	749	751
63 Community & civil enforcement occupations	34	30	32	32
71 Sales occupations	1,927	1,630	1,731	1,724
72 Customer service occupations	889	846	890	894
81 Process, plant & machine operatives	907	763	805	803
82 Transport & mobile machine drivers & operatives	1,272	1,247	1,319	1,309
91 Elementary trades & related occupations	368	294	293	310
92 Elementary administration & service occupations	3,086	2,878	3,019	3,035
All occupations	37,568	35,547	37,546	37,541

Source: IER estimates

Table 5.6a: Differences between the scenarios (with occupational adjustments) and Baseline projections

Males and Females Levels (000s)	2035	Differences in 2035		
	BS	AS*	TS*	HS*
11 Corporate managers & directors	2,681	-231	-79	-93
12 Other managers & proprietors	1,637	-120	-20	-34
21 Science, research, engineering & technology professionals	2,563	285	395	439
22 Health professionals	1,963	-8	100	108
23 Teaching & other educational professionals	2,082	-13	88	98
24 Business, media & public service professionals	3,234	-298	-132	-131
31 Science, engineering & technology associate professionals	660	141	237	185
32 Health & social care associate professionals	766	54	109	103
33 Protective service occupations	541	-59	-30	-32
34 Culture, media & sports occupations	831	-94	-50	-53
35 Business & public service associate professionals	2,280	-271	-155	-154
41 Administrative occupations	2,685	-284	-168	-143
42 Secretarial & related occupations	570	11	38	44
51 Skilled agricultural & related trades	423	-47	-24	-27
52 Skilled metal, electrical & electronic trades	1,030	-117	-60	-70
53 Skilled construction & building trades	889	-47	11	-2
54 Textiles, printing & other skilled trades	648	-90	-58	-59
61 Caring personal service occupations	2,832	20	191	190
62 Leisure, travel & related personal service occupations	770	-59	-21	-19
63 Community & civil enforcement occupations	34	-3	-2	-2
71 Sales occupations	1,927	-297	-196	-203
72 Customer service occupations	889	-44	1	5
81 Process, plant & machine operatives	907	-144	-101	-104
82 Transport & mobile machine drivers & operatives	1,272	-25	47	37
91 Elementary trades & related occupations	368	-74	-75	-59
92 Elementary administration & service occupations	3,086	-207	-67	-50
All occupations	37,568	-2,021	-22	-27

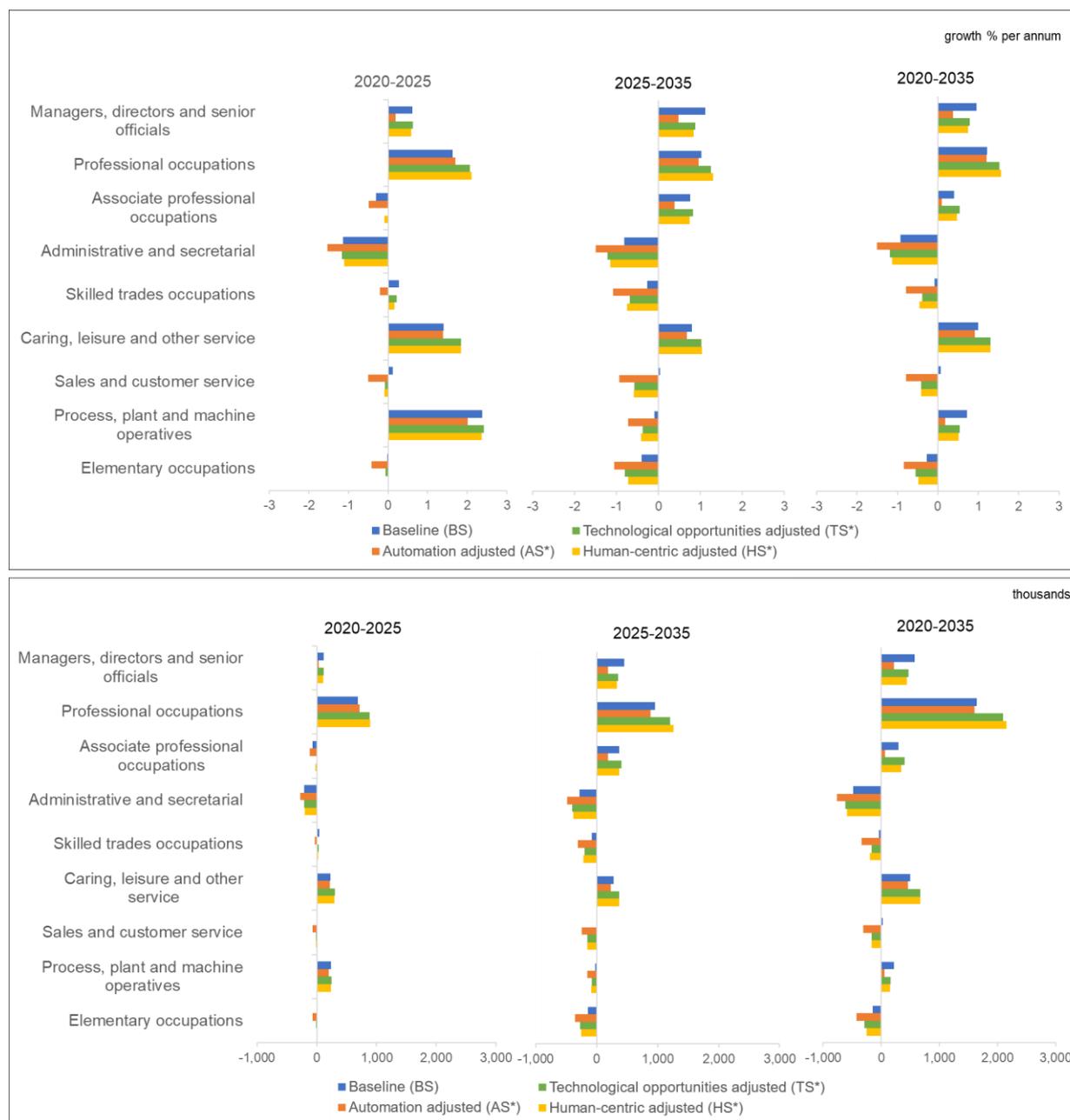
Source: IER estimates

Table 5.6b: Percentage impact, *Automation adjusted scenarios* and Sub-major groups

% impact	2025	2035
11 Corporate managers & directors	-2.3	-9.4
12 Other managers & proprietors	-1.9	-7.9
21 Science, research, engineering & technology professionals	4.0	10.0
22 Health professionals	0.2	-0.4
23 Teaching & other educational professionals	0.2	-0.6
24 Business, media & public service professionals	-2.5	-10.2
31 Science, engineering & technology associate professionals	6.6	17.6
32 Health & social care associate professionals	2.5	6.6
33 Protective service occupations	-3.1	-12.2
34 Culture, media & sports occupations	-3.2	-12.8
35 Business & public service associate professionals	-3.3	-13.5
41 Administrative occupations	-2.7	-11.8
42 Secretarial & related occupations	0.5	1.9
51 Skilled agricultural & related trades	-2.9	-12.5
52 Skilled metal, electrical & electronic trades	-2.8	-12.8
53 Skilled construction & building trades	-0.9	-5.6
54 Textiles, printing & other skilled trades	-3.8	-16.2
61 Caring personal service occupations	0.6	0.7
62 Leisure, travel & related personal service occupations	-2.0	-8.3
63 Community & civil enforcement occupations	-2.7	-11.2
71 Sales occupations	-4.1	-18.2
72 Customer service occupations	-1.1	-5.2
81 Process, plant & machine operatives	-4.3	-18.9
82 Transport & mobile machine drivers & operatives	-0.1	-2.0
91 Elementary trades & related occupations	-5.4	-25.2
92 Elementary administration & service occupations	-1.5	-7.2
All occupations	-1.2	-5.7

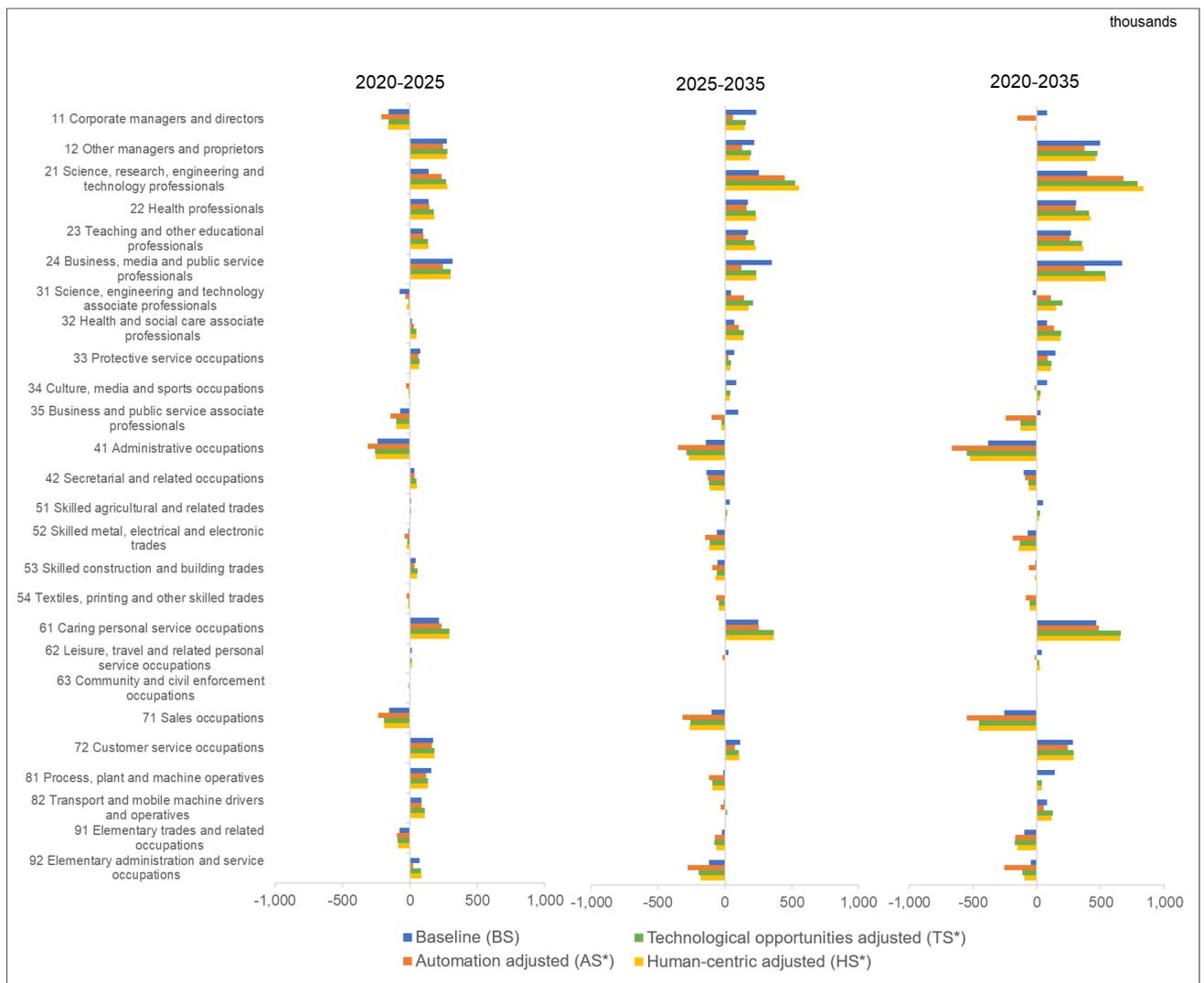
Source: IER estimates

Figure 5.7: Net Changes in employment, Major Groups, All scenarios, 2020-2035



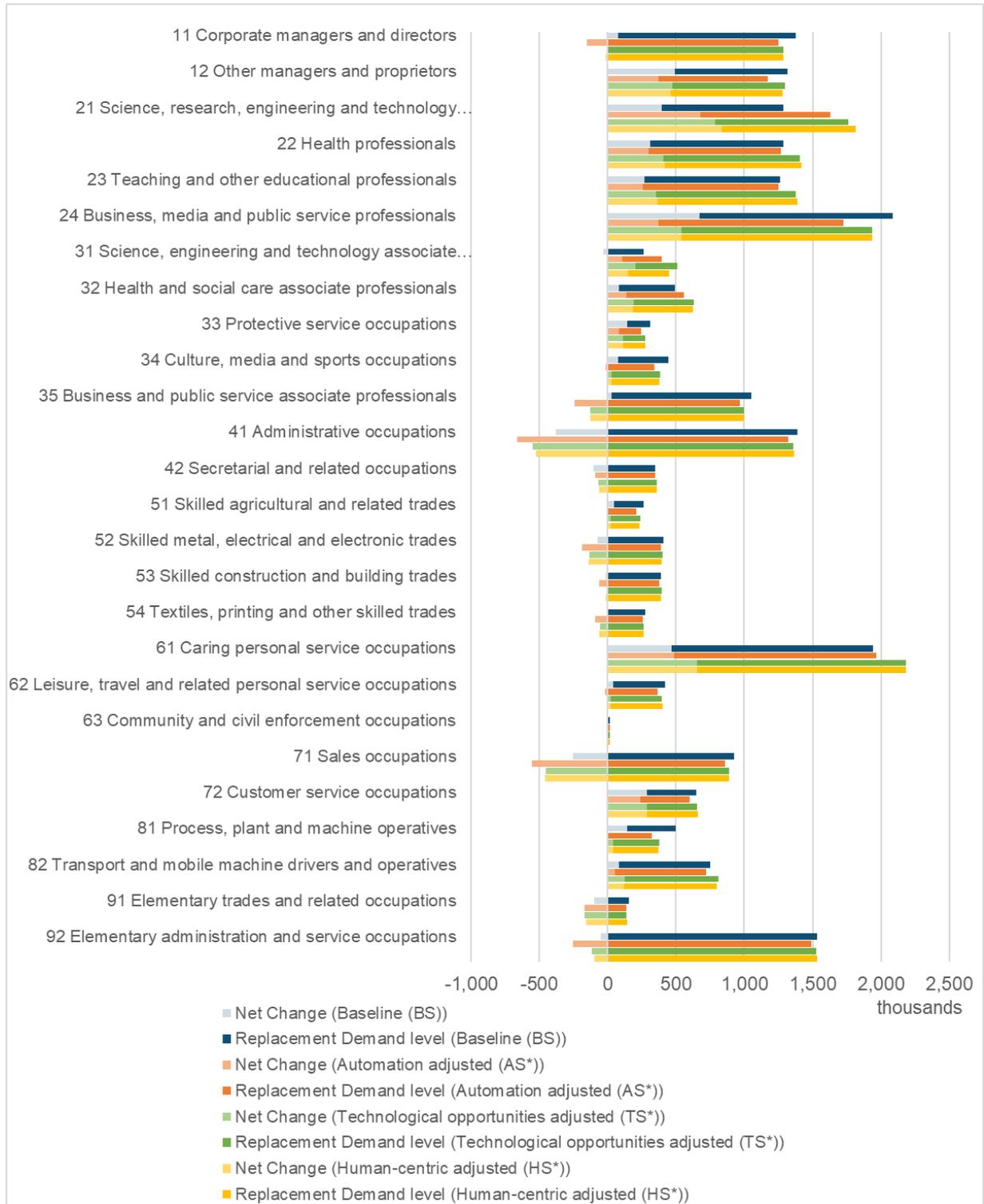
Source: IER estimates

Figure 5.8: Net changes in employment, Sub-major Groups, 2020-2035



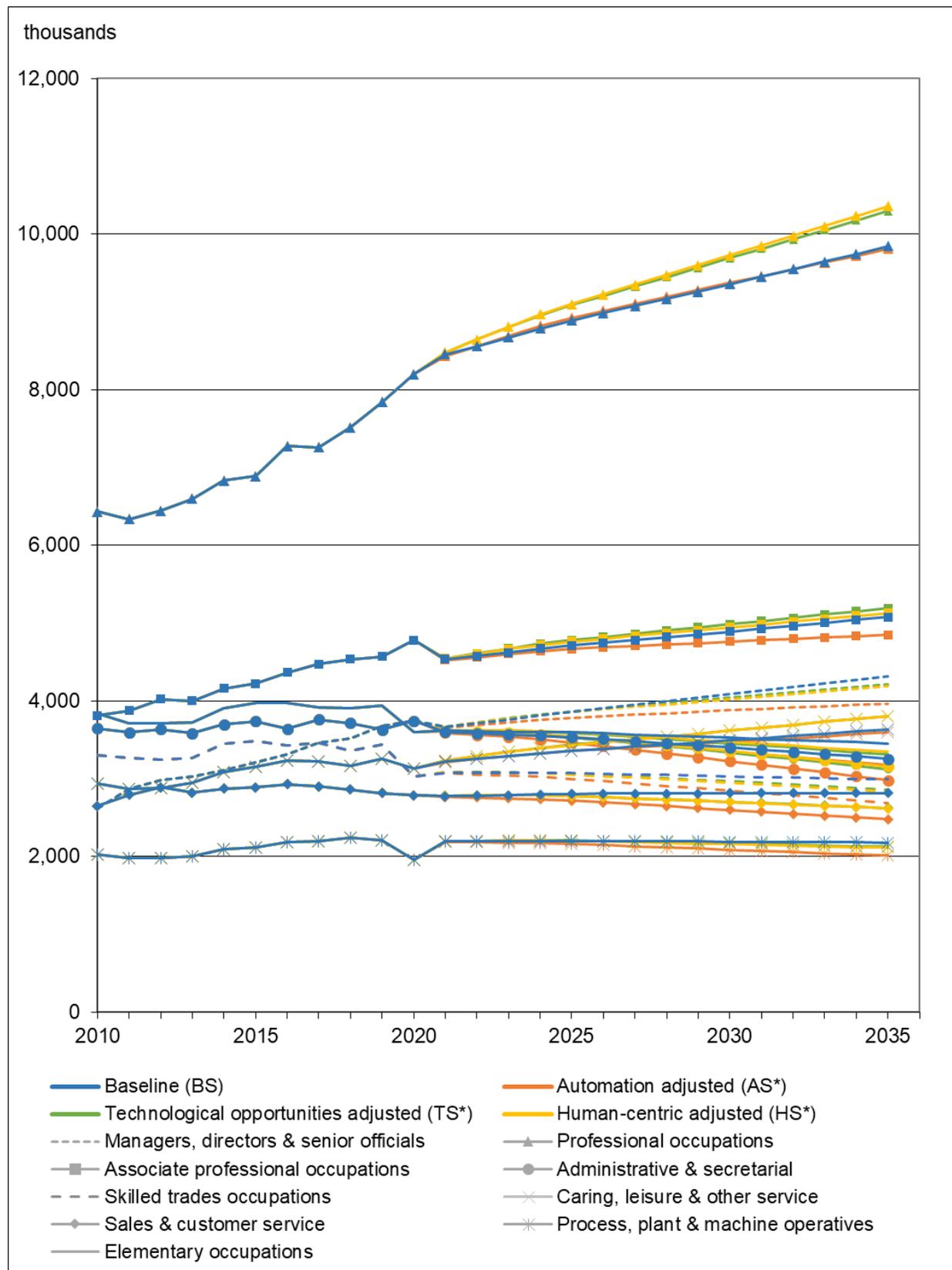
Source: IER estimates

Figure 5.9: Net requirements by SOC2020 Sub-major Groups compared across scenarios, 2020-2035



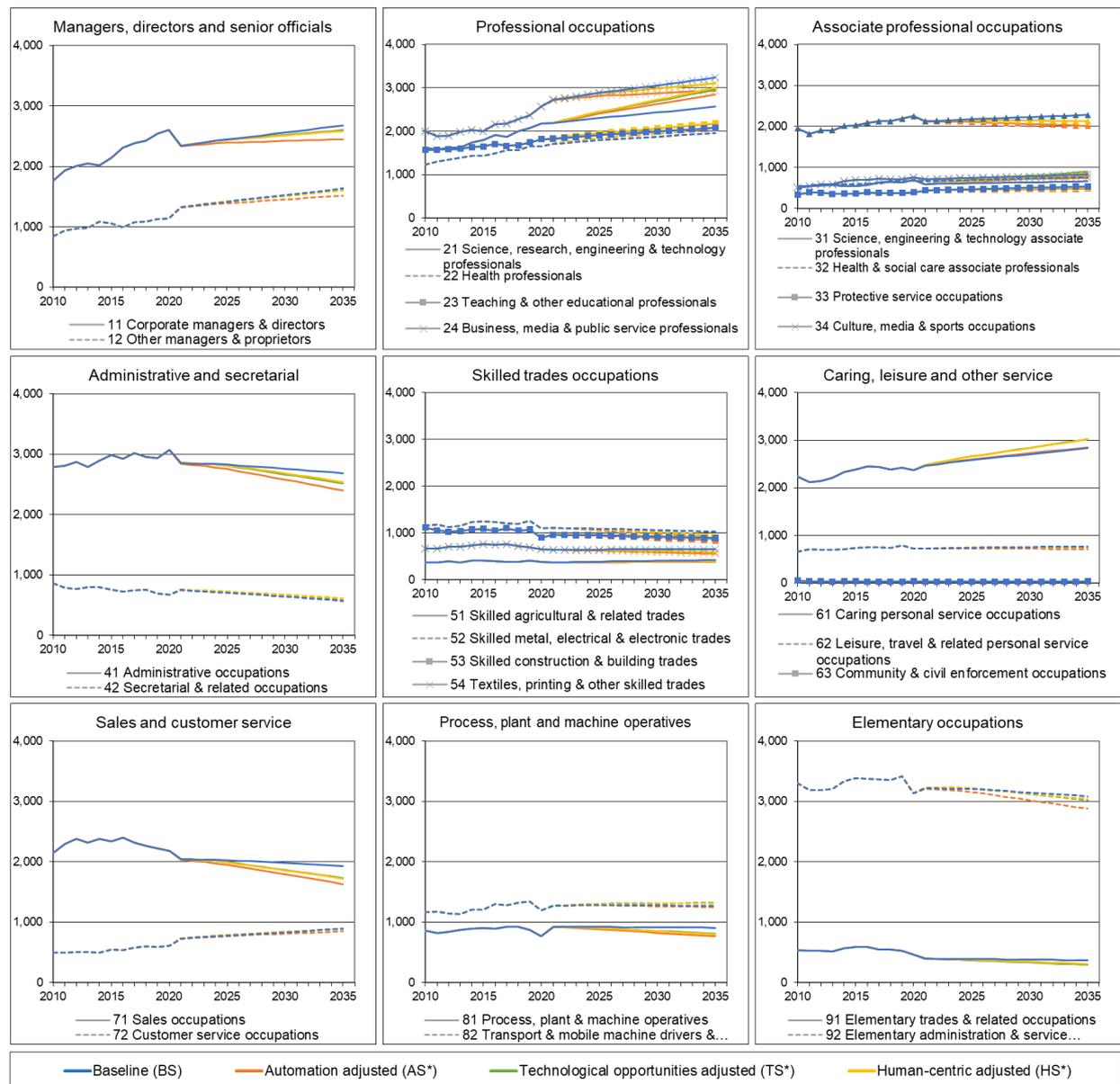
Source: IER estimates

Figure 5.10: Time series profiles, Major Groups, 2020-35



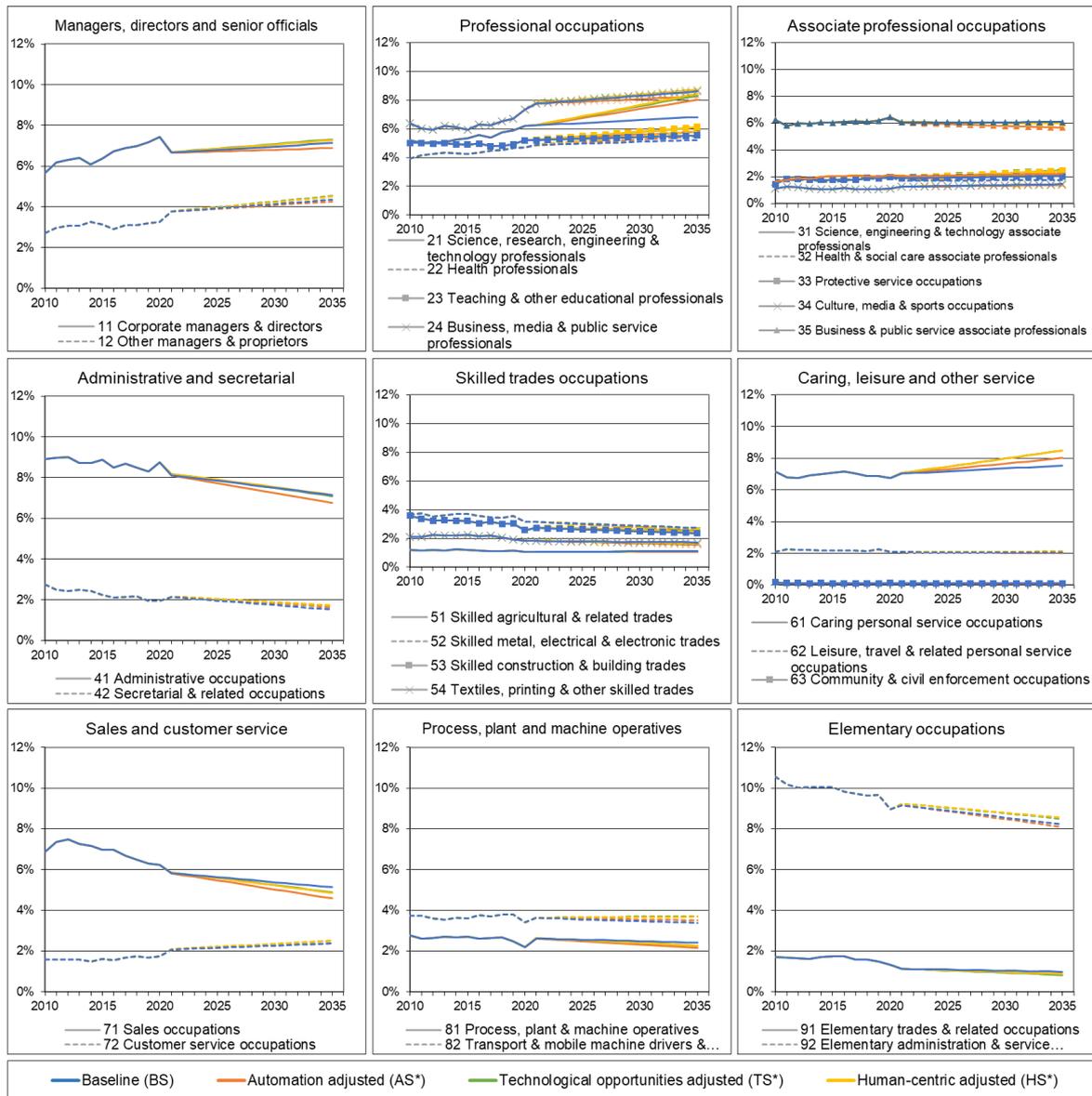
Source: IER estimates

Figure 5.11: Time series profiles, Sub-major groups, 000s



Source: IER estimates

Figure 5.12: Time series profiles, Sub-major groups, percentage shares



Source: IER estimates

Table 5.7: Comparison between *Automation adjusted scenario*, *Technological opportunities adjusted scenario* and *Human-centric adjusted scenario*

Differences compared with Automation adjusted (AS*)

Human-centric adjusted (HS*)

Males and Females

Levels (000s)	2025	2035
Managers, directors and senior officials	75	223
Professional occupations	178	548
Associate professional occupations	95	277
Administrative and secretarial	76	174
Skilled trades occupations	55	143
Caring, leisure and other service	75	212
Sales and customer service	58	142
Process, plant and machine operatives	38	102
Elementary occupations	71	173
All occupations	721	1,994

Differences compared with Automation adjusted (AS*)

Technological opportunities adjusted (TS*)

Males and Females

Levels (000s)	2025	2035
Managers, directors and senior officials	84	251
Professional occupations	164	485
Associate professional occupations	114	338
Administrative and secretarial	67	143
Skilled trades occupations	65	171
Caring, leisure and other service	75	211
Sales and customer service	59	145
Process, plant and machine operatives	43	114
Elementary occupations	62	139
All occupations	734	1,999

Table 6.9 Employment level (positive) differences between *Baseline projections* and *Automation scenarios* (000s)

Males and Females	2035	
	<i>Baseline projections</i> BS	Automation adjusted scenario AS* - BS
Levels (000s)		
2134 Programmers and software development professionals	551	61
3131 IT operations technicians	129	28
2132 IT managers	235	26
3132 IT user support technicians	108	23
2133 IT business analysts, architects and systems designers	165	18
2139 Information technology professionals n.e.c.	163	18
3120 CAD, drawing and architectural technicians	83	18
3133 Database administrators and web content technicians	81	17
2121 Civil engineers	136	15
2131 IT project managers	135	15
3111 Laboratory technicians	66	14
2142 Graphic and multimedia designers	120	13
2161 Research and development (R&D) managers	114	13
3113 Engineering technicians	52	11
3229 Welfare and housing associate professionals n.e.c.	155	11
2129 Engineering professionals n.e.c.	88	10
3119 Science, engineering and production technicians n.e.c.	46	10
2122 Mechanical engineers	86	10
6135 Care workers and home carers	1,173	8
2162 Other researchers, unspecified discipline	68	8

Source: IER estimates

Table 6.10 Employment level (positive) differences between *Baseline projections* and *Technological opportunities scenarios* (000s)

Males and Females	2035	
	<i>Baseline projections</i> BS	Technological opportunities adjusted TS* - BS
2134 Programmers and software development professionals	551	85
6135 Care workers and home carers	1,173	79
3131 IT operations technicians	129	46
3132 IT user support technicians	108	39
2132 IT managers	235	36
3120 CAD, drawing and architectural technicians	83	30
3133 Database administrators and web content technicians	81	29
6112 Teaching assistants	381	26
2133 IT business analysts, architects and systems designers	165	25
2139 Information technology professionals n.e.c.	163	25
2313 Secondary education teaching professionals	577	24
3111 Laboratory technicians	66	24
2314 Primary education teaching professionals	528	22
6131 Nursing auxiliaries and assistants	331	22
2237 Other nursing professionals	434	22
3229 Welfare and housing associate professionals n.e.c.	155	22
2121 Civil engineers	136	21
2131 IT project managers	135	21
3113 Engineering technicians	52	19
2142 Graphic and multimedia designers	120	19

Source: IER estimates

Table 6.11 Employment level (positive) differences between *Baseline projections* and *Human-centric scenarios* (000s)

Males and Females	2035	
	<i>Baseline projections</i> BS	Human-centric adjusted HS*-BS
Levels (000s)		
2134 Programmers and software development professionals	551	95
6135 Care workers and home carers	1,173	79
2132 IT managers	235	40
3131 IT operations technicians	129	36
3132 IT user support technicians	108	30
2133 IT business analysts, architects and systems designers	165	28
2139 Information technology professionals n.e.c.	163	28
2313 Secondary education teaching professionals	577	27
6112 Teaching assistants	381	26
2314 Primary education teaching professionals	528	25
2237 Other nursing professionals	434	24
2121 Civil engineers	136	23
3120 CAD, drawing and architectural technicians	83	23
2131 IT project managers	135	23
3133 Database administrators and web content technicians	81	23
6131 Nursing auxiliaries and assistants	331	22
3229 Welfare and housing associate professionals n.e.c.	155	21
2142 Graphic and multimedia designers	120	21
2161 Research and development (R&D) managers	114	19
3111 Laboratory technicians	66	19

Source: IER estimates

Table 6.12 Employment level (negative) differences between *Baseline projections* and *Automation scenarios* (000s)

Males and Females	2035	
	<i>Baseline projections</i> BS	Automation adjusted scenario AS* - BS
Levels (000s)		
7111 Sales and retail assistants	1,160	-179
4159 Other administrative occupations n.e.c.	541	-57
4122 Book-keepers, payroll managers and wages clerks	512	-54
9223 Cleaners and domestics	570	-38
9252 Warehouse operatives	509	-34
7132 Sales supervisors - retail and wholesale	217	-33
3556 Sales accounts and business development managers	282	-33
1131 Financial managers and directors	381	-33
9263 Kitchen and catering assistants	487	-33
2422 Finance and investment analysts and advisers	352	-32
5434 Chefs	222	-31
8111 Food, drink and tobacco process operatives	186	-30
1150 Managers and directors in retail and wholesale	337	-29
2440 Business and financial project management professionals	304	-28
7219 Customer service occupations n.e.c.	552	-27
1132 Marketing, sales and advertising directors	307	-26
5241 Electricians and electrical fitters	228	-26
1121 Production managers and directors in manufacturing	296	-25
9129 Elementary construction occupations n.e.c.	122	-25
3312 Police officers (sergeant and below)	225	-24

Source: IER estimates

Table 6.13 Employment level (negative) differences between *Baseline projections* and *Technological opportunities scenarios* (000s)

Males and Females	2035	
	<i>Baseline projections</i> BS	<i>Technological opportunities adjusted</i> TS* - BS
Levels (000s)		
7111 Sales and retail assistants	1,160	-118
4159 Other administrative occupations n.e.c.	541	-34
4122 Book-keepers, payroll managers and wages clerks	512	-32
9129 Elementary construction occupations n.e.c.	122	-25
7132 Sales supervisors - retail and wholesale	217	-22
8111 Food, drink and tobacco process operatives	186	-21
5434 Chefs	222	-20
3556 Sales accounts and business development managers	282	-19
9132 Packers, bottlers, canners and fillers	84	-17
7112 Retail cashiers and check-out operators	143	-14
2422 Finance and investment analysts and advisers	352	-14
4141 Office managers	217	-14
4111 National government administrative occupations	212	-13
5241 Electricians and electrical fitters	228	-13
3574 Other vocational and industrial trainers	192	-13
3312 Police officers (sergeant and below)	225	-13
4129 Financial administrative occupations n.e.c.	201	-13
2440 Business and financial project management professionals	304	-12
9223 Cleaners and domestics	570	-12
3571 Human resources and industrial relations officers	175	-12

Source: IER estimates

Table 6.14 Employment level (negative) differences between *Baseline projections* and *Human-centric scenarios* (000s)

Males and Females	2035	
	<i>Baseline projections</i> BS	Human-centric adjusted HS*-BS
Levels (000s)		
7111 Sales and retail assistants	1,160	-122
4159 Other administrative occupations n.e.c.	541	-29
4122 Book-keepers, payroll managers and wages clerks	512	-27
7132 Sales supervisors - retail and wholesale	217	-23
8111 Food, drink and tobacco process operatives	186	-21
5434 Chefs	222	-20
9129 Elementary construction occupations n.e.c.	122	-19
3556 Sales accounts and business development managers	282	-19
5241 Electricians and electrical fitters	228	-16
7112 Retail cashiers and check-out operators	143	-15
2422 Finance and investment analysts and advisers	352	-14
3312 Police officers (sergeant and below)	225	-13
9132 Packers, bottlers, canners and fillers	84	-13
1131 Financial managers and directors	381	-13
3574 Other vocational and industrial trainers	192	-13
2440 Business and financial project management professionals	304	-12
7131 Shopkeepers and owners - retail and wholesale	115	-12
5113 Gardeners and landscape gardeners	188	-12
3571 Human resources and industrial relations officers	175	-12
1150 Managers and directors in retail and wholesale	337	-12

Source: IER estimates

Table 6.15 Percentage (positive) impact, *Automation adjusted scenario* (per cent)

% impact compared with <i>Baseline projections</i> in 2035	Automation adjusted AS*
3133. Database administrators and web content technicians	17.6
3116. Planning, process and production technicians	17.6
3132. It user support technicians	17.6
3131. It operations technicians	17.6
3114. Building and civil engineering technicians	17.6
3120. Cad, drawing and architectural technicians	17.6
3115. Quality assurance technicians	17.6
3111. Laboratory technicians	17.6
3119. Science, engineering and production technicians n.e.c.	17.6
3112. Electrical and electronics technicians	17.6
3113. Engineering technicians	17.6
2113. Biochemists and biomedical scientists	10.0
2136. It quality and testing professionals	10.0
2131. It project managers	10.0
2133. It business analysts, architects and systems designers	10.0
2134. Programmers and software development professionals	10.0
2139. Information technology professionals n.e.c.	10.0
2132. It managers	10.0
2137. It network professionals	10.0
2135. Cyber security professionals	10.0

Source: IER estimates

Table 6.16 Percentage (negative) impact, *Automation adjusted scenario* (per cent)

% impact compared with <i>Baseline projections</i> in 2035	Automation adjusted AS*
9139. Elementary process plant occupations n.e.c.	-25.2
9129. Elementary construction occupations n.e.c.	-25.2
9121. Groundworkers	-25.2
9132. Packers, bottlers, canners and fillers	-25.2
9111. Farm workers	-25.2
9119. Fishing and other elementary agriculture occupations n.e.c.	-25.2
9112. Forestry and related workers	-25.2
9131. Industrial cleaning process occupations	-25.2
8159. Construction operatives n.e.c.	-18.9
8131. Paper and wood machine operatives	-18.9
8145. Tyre, exhaust and windscreen fitters	-18.9
8133. Energy plant operatives	-18.9
8115. Metal making and treating process operatives	-18.9
8152. Road construction operatives	-18.9
8119. Process operatives n.e.c.	-18.9
8134. Water and sewerage plant operatives	-18.9
8112. Textile process operatives	-18.9
8139. Plant and machine operatives n.e.c.	-18.9
8114. Plastics process operatives	-18.9
8120. Metal working machine operatives	-18.9

Source: IER estimates

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