

Supplemental Material

Differences in mortality between temporary and permanent workers: results from the Rome Longitudinal Study.

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Supplementary Table 1. Characteristics by occupational sector in men, Rome 2001.

Men	N	Contract (% Temporary)	Education (% High)	Place of birth (% Abroad)	Age mean (sd)	Number of deaths	% CV deaths	% AC deaths
Fishing and agriculture	3,927	14.7	7.6	9.8	43.7 (10.9)	271	24.7	7.0
Agriculture, hunting, forestry	3620	14.9	7.5	9.6	44.0 (10.9)	250	26.0	6.8
Fishing, fish farming	307	12.4	8.1	11.4	40.9 (10.6)	21	9.5*	9.5*
Industry	44,568	9.7	18.2	4.8	42 (9.9)	1,897	26.5	6.9
Coal mining, oil extraction	1,829	6.2	29.3	4.6	45.7 (10)	86	24.4	4.7*
Food industry	3,979	10.0	12.0	5.2	41.7 (9.9)	171	26.9	7.6
Textile, leather industry	2,035	14.3	9.0	7.4	41.3 (10.5)	107	33.6	4.7*
Wood, wood products industry. publishing	5,174	9.5	9.2	3.6	42.2 (9.5)	225	28.0	4.4
Refinery, pharmaceutical, chemical industry	5,959	8.8	35.1	4.9	42.5 (9.8)	211	25.1	6.6
Non-metal mineral industry	1,348	13.8	7.8	7.6	41.5 (10.2)	71	38.0	5.6*
Steel industry	17,755	10.6	17.8	4.8	41.1 (9.8)	728	25.7	8.8
Furniture industry	1,651	13.3	6.8	7.6	41.1 (10.8)	89	18.0	5.6*
Production, distribution of electricity, water and gas	4,838	4.9	19.6	2.6	44 (9)	209	25.4	5.3
Building Constructions	21,058	14.2	10.2	7.1	41.5 (10.7)	1,047	27.7	8.2
Sales and Transport	79,626	11.0	9.4	5.6	41.1 (10.1)	3,265	26.3	6.9
Sale, maintenance, repair of motor vehicles, sale of fuel	8,449	11.6	6.1	4.8	40.3 (10.3)	345	22.3	5.8
Wholesale trade, intermediaries of trade	7,795	11.4	8.4	5.2	39.9 (10)	261	25.3	6.1
Retail trade	13,546	13.0	5.9	5.1	39.4 (10.4)	547	23.8	7.3
Hotels, camping, bars, restaurants	13,147	13.8	4.8	13.5	39.5 (10.2)	561	27.5	9.1
Transport	36,689	9.1	13.4	3.2	42.7 (9.8)	1,551	27.9	6.3
Credit, insurances and other services	51,771	9.2	32.4	3.1	41 (9.9)	1,806	26.4	4.9
Credit, insurance, monetary, financial intermediation	23,179	4.6	29.5	2.6	45 (9.3)	1,059	25.0	4.6
IT, research, development	18,870	11.4	35.0	3.0	36.9 (8.6)	383	29.8	5.7
Professional consulting, real estate, rental	9,722	15.6	34.1	4.4	39.1 (10.1)	364	26.6	4.7
Social services	117,812	7.8	29.7	4.2	44.2 (9.9)	5,910	26.6	5.6

Supplementary Table 1. *Continued*

	N	Contract (% Temporary)	Education (% High)	Place of birth (% Abroad)	Age mean (sd)	Number of deaths	% CV deaths	% AC deaths
Local, national, public administration	66,677	4.5	21.0	2.7	44 (9.8)	3,245	27.1	5.4
Public, private education	15,276	11.6	62.9	4.3	47.3 (9.6)	897	25.6	4.8
Health, social assistance	19,331	8.5	45.7	3.3	44.7 (9.4)	1,003	27.6	6.2
Political, trade union organizations	2,404	11.9	35.9	3.0	43.9 (10)	111	29.7	2.7*
Recreational, cultural, sports activities	5,143	27.1	22.8	5.5	41 (10)	217	22.6	9.7
Other service activities	4,939	12.2	5.5	4.9	40.3 (9.8)	211	21.8	8.5
Domestic services	4,042	11.5	4.9	32.1	42.9 (10.1)	226	26.1	3.5*
International organizations	1,892	12.2	32.2	20.6	44.7 (9.9)	94	27.7	7.4*

* Less than 10 deaths

CV cardiovascular

AC accidental

Supplementary Table 2. Characteristics by occupational sector in women, Rome 2001.

Women	N	Contract (% Temporary)	Education (% High)	Place of birth (% Abroad)	Age mean (sd)	Number of deaths	% CV deaths	% AC deaths
Fishing and agriculture	3,032	20.4	8.4	12.0	43.7 (10.3)	114	23.7	0.9*
Agriculture, haunting, forestry	2,917	20.3	7.9	12.2	43.9 (10.2)	113	24.0	0.9*
Fishing, fish farming	115	25.2	20.9	6.1	40.1 (10.9)	1	0.0	0.0
Industry	19,721	13.9	18.9	7.3	39.8 (9.4)	423	16.5	5.7
Coal mining, oil extraction	964	9.2	20.4	4.9	43 (9)	19	5.3*	0.0
Food industry	1,797	15.2	13.5	9.1	39.4 (9.9)	36	25.0*	11.1*
Textile, leather industry	3,553	18.7	6.3	9.8	40.1 (10.1)	96	16.7	4.2*
Wood, wood products industry, publishing	2,313	13.1	17.8	4.5	40.2 (9)	47	12.8*	4.3*
Refinery, pharmaceutical, chemical industry	3,360	13.0	37.6	7.2	38.6 (8.7)	61	21.3	9.8*
Non-metal mineral industry	393	16.5	13.0	11.2	39.3 (9.7)	13	0.0	15.4*
Steel industry	5,137	14.0	17.9	7.3	39.5 (9.3)	105	15.2	3.8*
Furniture industry	583	17.5	10.5	9.3	38.2 (9.6)	12	16.7*	8.3*
Production, distribution of electricity, water and gas	1,621	5.6	22.2	3.8	41.6 (8.6)	34	20.6*	2.9*
Building Constructions	3,612	14.3	15.9	4.1	38 (9)	74	16.2	4.1*
Sales and Transport	51,334	14.6	11.9	5.7	38.3 (9.5)	980	13.5	4.7
Sale, maintenance, repair of motor vehicles, sale of fuel	3,241	14.9	10.9	4.4	38.2 (9.5)	68	7.4*	5.9*
Wholesale trade, intermediaries of trade	5,755	13.3	9.6	5.3	37.7 (9.1)	105	16.2	5.7*
Retail trade	16,323	15.9	6.8	5.3	37.8 (9.9)	317	14.2	4.4
Hotels, camping, bars, restaurants	10,361	16.8	5.5	8.6	38.4 (9.8)	215	15.3	5.1
transport	15,654	12.0	22.6	4.7	39 (9.1)	275	11.6	4.0
Credit, insurances and other services	42,745	14.0	25.6	3.9	37.6 (8.8)	727	12.2	4.5
Credit, insurance, monetary, financial intermediation	16,469	8.3	23.2	3.6	40.4 (8.8)	359	13.1	3.1
IT, research, development	10,517	16.5	37.6	3.5	35.2 (7.5)	134	8.2	6.0*
Professional consulting, real estate, rental	15,759	18.2	20.1	4.4	36.4 (8.7)	234	13.2	6.0
Social services	154,755	12.5	33.0	6.3	43.3 (9.3)	4,493	14.8	3.4

Supplementary Table 1. Continued

	N	Contract (% Temporary)	Education (% High)	Place of birth (% Abroad)	Age mean (sd)	Number of deaths	% CV deaths	% AC deaths
Local, national, public administration	54,091	5.9	25.3	3.1	44.3 (8.6)	1,676	15.0	4.3
Public, private education	45,229	16.7	50.8	4.6	45.2 (9.2)	1,416	13.4	2.5
Health, social assistance	31,890	11.7	34.2	4.8	41.3 (9.3)	832	14.9	3.7
Political, trade union organizations	3,618	12.9	25.4	3.9	40.9 (9)	87	17.2	1.1*
Recreational, cultural, sports activities	5,433	31.2	31.9	6.0	38.8 (9.4)	117	9.4	4.3*
Other service activities	5,473	17.3	6.4	5.4	37.9 (9.9)	127	18.1	2.4*
Domestic services	9,021	18.8	5.5	40.4	42.4 (10.1)	238	21.0	3.4*
International organizations	1,981	17.6	41.5	39.0	43.6 (9.4)	35	5.7*	0.0

* Less than 10 deaths

CV cardiovascular

AC accidental

Table S3. Association between temporary employment and mortality in men and women. Rome 2001-2015

	Men									Women								
	Overall mortality			CV mortality			AC mortality			Overall mortality			CV mortality			AC mortality		
	HR	95% CI		HR	95% CI		HR	95% CI		HR	95% CI		HR	95% CI		HR	95% CI	
HR adjusted for age and level of education																		
Overall	1.13	1.06	1.20	1.25	1.11	1.41	1.31	1.06	1.61	1.01	0.93	1.10	0.97	0.77	1.22	1.35	0.95	1.93
Sector of employment*																		
Fishing and agriculture	0.85	0.57	1.25	1.33	0.68	2.59	1.02	0.28	3.69	0.67	0.39	1.18	0.47	0.14	1.57	-	-	-
Industry	1.21	1.02	1.42	1.11	0.80	1.54	1.61	0.98	2.64	0.98	0.71	1.36	1.52	0.76	3.05	2.19	0.80	6.02
Building Constructions	1.23	1.03	1.46	1.22	0.87	1.70	1.21	0.69	2.14	0.91	0.37	2.22	4.79	0.83	27.5	-	-	-
Sales and Transport	1.08	0.95	1.23	1.27	1.00	1.61	1.10	0.74	1.64	1.23	1.01	1.50	1.29	0.77	2.13	1.53	0.70	3.37
Credit, insurances and other services	1.09	0.88	1.35	1.20	0.79	1.81	0.98	0.43	2.24	0.88	0.67	1.17	0.80	0.34	1.88	0.96	0.31	2.90
Social services	1.13	1.01	1.26	1.29	1.05	1.59	1.38	0.95	2.00	0.99	0.89	1.11	0.82	0.60	1.13	1.27	0.78	2.06
HR adjusted for age, level of education, and place of birth																		
Overall	1.13	1.06	1.21	1.25	1.11	1.42	1.31	1.07	1.61	1.02	0.93	1.11	0.96	0.77	1.21	1.36	0.96	1.94
Sector of employment*																		
Fishing and agriculture	0.94	0.62	1.40	1.54	0.77	3.09	1.08	0.27	4.34	0.78	0.44	1.37	0.54	0.16	1.83	-	-	-
Industry	1.21	1.03	1.43	1.09	0.78	1.52	1.65	1.00	2.72	0.98	0.71	1.37	1.51	0.73	3.11	1.95	0.69	5.57
Building Constructions	1.22	1.02	1.46	1.20	0.85	1.69	1.26	0.71	2.24	1.12	0.42	3.01	3.95	0.58	27.1	-	-	-
Sales and Transport	1.08	0.95	1.23	1.27	1.00	1.61	1.10	0.74	1.64	1.24	1.02	1.51	1.28	0.77	2.14	1.54	0.70	3.41
Credit, insurances and other services	1.11	0.89	1.38	1.23	0.81	1.86	1.00	0.44	2.28	0.91	0.68	1.20	0.89	0.38	2.10	0.96	0.31	2.92
Social services	1.13	1.01	1.27	1.30	1.06	1.60	1.39	0.96	2.02	0.99	0.89	1.11	0.82	0.59	1.12	1.27	0.78	2.07

CV cardiovascular

AC accidental

*Sum of macro-sectors differs from the overall population because the international organizations sector, contributing with 94 and 35 deaths for men and women respectively, was not showed.

Table S4. Association between temporary employment and mortality in men and women. Rome, 2001-2006

	N	Overall mortality			N	CV mortality			N	AC mortality		
	deaths	HR	95% CI		deaths	HR	95% CI		deaths	HR	95% CI	
Men												
Overall	3,657	1.13	1.00	1.28	1,003	1.31	1.04	1.65	345	1.11	0.79	1.56
Sector of employment*												
Fishing and agriculture	66	1.40	0.72	2.69	14	3.25	1.00	10.6	6	1.12	0.13	10.03
Industry	477	1.18	0.85	1.63	161	1.40	0.82	2.37	52	1.12	0.48	2.61
Building Constructions	297	1.14	0.81	1.61	90	1.31	0.73	2.38	36	1.13	0.46	2.75
Sales and Transport	836	1.16	0.90	1.48	230	1.25	0.79	2.00	91	0.90	0.47	1.75
Credit, insurances and other services	439	1.42	0.96	2.09	110	2.07	1.03	4.14	37	1.41	0.50	4.00
Social services	1,517	0.92	0.73	1.17	391	0.85	0.52	1.39	122	1.01	0.52	1.97
Women												
Overall	1,638	1.01	0.84	1.20	222	1.16	0.74	1.83	94	1.61	0.93	2.77
Sector of employment*												
Fishing and agriculture	33	0.95	0.39	2.35	5	-	-	-	1	-	-	-
Industry	100	0.86	0.43	1.71	14	1.70	0.37	7.68	12	0.70	0.09	5.52
Building Constructions	19	1.31	0.29	5.94	2	16.8	1.03	274.5	-	-	-	-
Sales and Transport	245	1.38	0.95	2.00	36	1.05	0.37	3.02	14	2.31	0.63	8.43
Credit, insurances and other services	175	0.82	0.46	1.46	20	1.84	0.51	6.63	16	0.48	0.06	3.83
Social services	1,060	0.93	0.73	1.18	145	1.02	0.55	1.91	51	1.93	0.95	3.95

HR adjusted for age

CV cardiovascular

AC accidental

*Sum of macro-sectors differs from the overall population because the international organizations sector, contributing with 94 and 35 deaths for men and women respectively, was not showed.

Table S5. Association between temporary employment and mortality by sex and type of work, Rome 2001-2015

	Overall mortality					CV mortality				AC mortality			
	N	Deaths	HR	95% CI		Deaths	HR	95% CI		Deaths	HR	95% CI	
Men													
Overall	320,654	14,290	1.16	1.09	1.24	3,793	1.29	1.14	1.45	884	1.27	1.04	1.57
High-skill non manual	86,759	3,826	1.05	0.92	1.20	1,019	1.34	1.06	1.70	197	1.19	0.73	1.94
Low-skill non manual	94,764	3,989	1.14	0.99	1.31	1,037	1.15	0.88	1.51	244	1.37	0.89	2.11
Sales	37,183	1,452	1.22	1.02	1.46	367	1.33	0.94	1.89	115	1.75	1.07	2.87
Manual	86,555	4,646	1.16	1.05	1.28	1,273	1.24	1.03	1.50	296	1.22	0.88	1.69
Women													
Overall	277,180	6,846	1.03	0.95	1.12	997	1.02	0.81	1.28	262	1.34	0.94	1.91
High-skill non manual	61,000	1,502	0.97	0.80	1.19	188	1.22	0.72	2.10	45	1.72	0.75	3.97
Low-skill non manual	142,773	3,358	1.07	0.94	1.22	455	0.82	0.55	1.24	127	1.04	0.57	1.87
Sales	35,679	757	1.03	0.82	1.30	124	0.97	0.54	1.72	41	1.75	0.82	3.75
Manual	37,668	1,228	0.95	0.80	1.13	230	1.04	0.70	1.54	49	1.28	0.62	2.65

HR adjusted for age

CV cardiovascular

AC accidental