

**Appendix Table 1A. Employment Percentages by Industry Group in the Sample and Population**

Industry Group	Men		Women	
	Sample	Population	Sample	Population
Agriculture	0.59	2.06	0.32	1.05
Mining, oil extraction	4.11	1.71	1.94	0.55
Manufacturing	39.60	23.35	18.41	8.63
Energy	1.39	1.58	0.51	0.41
Construction	8.85	10.71	1.48	1.33
Wholesale, retail, hotels	8.49	16.65	9.77	19.72
Transport, communications	8.34	10.28	4.97	4.82
Finance, insurance, real estate	7.28	9.30	8.71	7.94
Public administration, service	21.35	24.36	53.90	55.56
Total	100.0	100.0	100.0	100.0
Total number of observations	350,999	958,583	234,011	873,189

*Source:* NHO 1997 and Statistics Norway 1997.

Note: The table reports the employment percentages for all workers in these sectors. In the empirical analysis we use only white collar workers. 21 percent of men in column 1 and 15 percent of women in column 3 are white collar workers in our sample.

**Appendix Table 2A. Description of Hierarchical Ranks**

Rank	Sample Job Titles and Codes in Rank
7 (Top)	Technical director (A0) Assistant director, Director of a major department (C0)
6	Chief engineer, Plant manager, Production manager, Chief researcher (A1) Chief work leader (e.g., Plant leader, Production leader) (B1) Head of department (C1)
5	Chief of a specific department (construction, laboratory, etc.) (A2)
4	Administrator, Engineer, etc. (A31/A32) Foreman (B2) Accountant, Shipper (C2)
3	Craftsman (A41/A42) Foreman, Shift foreman, Controller (B3) Skilled clerk, Accounting clerk, Logistics manager (C3) Shop manager (D1) Store manager (E1)
2	Technician (A5) Shop cashier, Sales assistant (D2) Storeman, Bookkeeper (E2) Various (F)
1 (Bottom)	Unskilled (technical) (A6) Unskilled (clerical) (C4)

**Appendix Table 3A. Summary of Plant-Year Measures of Female Representation**

	Share Female by Plant-Year				Observations
	All Ranks	Top 3 Ranks	Top Earners	Leaders	
1987	0.251	0.041	0.038	0.009	3640
1988	0.278	0.052	0.045	0.007	4491
1989	0.265	0.050	0.047	0.016	4421
1990	0.253	0.056	0.054	0.019	4320
1991	0.334	0.049	0.079	0.025	4535
1992	0.332	0.050	0.077	0.033	4718
1993	0.332	0.054	0.087	0.036	4613
1994	0.333	0.048	0.088	0.033	4877
1995	0.328	0.050	0.089	0.034	5389
1996	0.326	0.054	0.095	0.040	5479
1997	0.334	0.057	0.101	0.036	5610

*Notes:* Unweighted averages across establishments. The first column covers all ranks and the next 3 columns are for alternative measures of bosses: Top 3 Ranks is limited to ranks 5-7, Top Earners are in the top 20 percent of earners for the plant-year, and Leaders have leadership job functions.

**Appendix Table 4A. Gender Differences in Promotion Rates**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	-0.035***	-0.029***	-0.032***	-0.033***	-0.025***	-0.025***	-0.023***
	[0.0012]	[0.0012]	[0.0013]	[0.0013]	[0.0015]	[0.0015]	[0.0012]
Rank = 2	-0.025***	-0.026***	-0.029***	-0.030***	-0.029***	-0.029***	-0.017***
	[0.0048]	[0.0048]	[0.0050]	[0.0050]	[0.0050]	[0.0050]	[0.0049]
Rank = 3	-0.082***	-0.082***	-0.087***	-0.088***	-0.088***	-0.088***	-0.084***
	[0.0032]	[0.0032]	[0.0033]	[0.0034]	[0.0034]	[0.0034]	[0.0033]
Rank = 4	-0.13***	-0.13***	-0.14***	-0.14***	-0.14***	-0.14***	-0.13***
	[0.0036]	[0.0036]	[0.0038]	[0.0039]	[0.0039]	[0.0039]	[0.0038]
Rank = 5	-0.14***	-0.14***	-0.15***	-0.15***	-0.15***	-0.15***	-0.13***
	[0.0054]	[0.0056]	[0.0056]	[0.0056]	[0.0056]	[0.0056]	[0.0056]
Rank = 6	-0.19***	-0.19***	-0.21***	-0.21***	-0.21***	-0.21***	-0.19***
	[0.0044]	[0.0045]	[0.0050]	[0.0051]	[0.0051]	[0.0051]	[0.0049]
Years Experience		-0.0046***	-0.0048***	-0.0049***	-0.0049***	-0.0048***	-0.0065***
		[0.00053]	[0.00053]	[0.00053]	[0.00053]	[0.00053]	[0.00053]
Years Experience ^2		0.00015***	0.00015***	0.00015***	0.00015***	0.00015***	0.00018***
		[0.000013]	[0.000013]	[0.000013]	[0.000013]	[0.000014]	[0.000013]
Years Tenure		-0.0013***	-0.00048	-0.00050	-0.00056*	-0.00055*	-0.00065**
		[0.00033]	[0.00033]	[0.00033]	[0.00033]	[0.00033]	[0.00033]
Years Tenure Squared		0.000060***	0.000045***	0.000050***	0.000052***	0.000051***	0.000047***
		[0.000015]	[0.000016]	[0.000015]	[0.000015]	[0.000015]	[0.000015]
Rank Specific Tenure		-0.0042***	-0.0042***	-0.0040***	-0.0040***	-0.0040***	-0.0034***
		[0.00023]	[0.00023]	[0.00023]	[0.00023]	[0.00023]	[0.00023]
Working Part-Time		-0.024***	-0.027***	-0.029***	-0.028***	-0.028***	-0.037***
		[0.0016]	[0.0016]	[0.0016]	[0.0016]	[0.0016]	[0.0016]
High Wage for Rank							0.074***
							[0.0016]
Children under 17					0.0098***	0.0098***	
					[0.0011]	[0.0011]	
Children under 7					-0.0010	0.0012	
					[0.0011]	[0.0016]	
Female * Children under 17					-0.0083***	-0.0083***	
					[0.0019]	[0.0019]	
Female * Children under 7					-0.0088***	-0.018***	
					[0.0020]	[0.0030]	
Children under 7 Post-1992						-0.0045**	
						[0.0021]	
Female * Under 7 * Post-1992						0.016***	
						[0.0036]	
Firm FE	No	No	Yes	No	No	No	No
Plant FE	No	No	No	Yes	Yes	Yes	Yes
N	597,552	597,552	597,552	597,552	597,552	597,552	597,552
R <sup>2</sup>	0.046	0.049	0.067	0.072	0.072	0.072	0.085

Estimates from OLS models with standard errors clustered at the plant-rank-year level except the last column which uses the plant-year level. Part-time status is <37 hours per week. All models include industry, occupation, year, age, and schooling fixed effects. Controls are defined in period t for promotion outcomes between periods t and t+1.

**Appendix Table 5A. Gender Differences in Internal Promotion Rates**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	-0.028*** [0.0011]	-0.022*** [0.0012]	-0.025*** [0.0012]	-0.026*** [0.0012]	-0.020*** [0.0014]	-0.020*** [0.0014]	-0.017*** [0.0012]
Rank = 2	-0.024*** [0.0045]	-0.025*** [0.0045]	-0.027*** [0.0047]	-0.028*** [0.0047]	-0.027*** [0.0047]	-0.028*** [0.0047]	-0.017*** [0.0046]
Rank = 3	-0.073*** [0.0030]	-0.072*** [0.0030]	-0.077*** [0.0032]	-0.078*** [0.0032]	-0.078*** [0.0032]	-0.078*** [0.0032]	-0.075*** [0.0032]
Rank = 4	-0.11*** [0.0034]	-0.11*** [0.0034]	-0.12*** [0.0036]	-0.12*** [0.0036]	-0.12*** [0.0036]	-0.12*** [0.0036]	-0.11*** [0.0036]
Rank = 5	-0.12*** [0.0051]	-0.12*** [0.0053]	-0.13*** [0.0053]	-0.13*** [0.0053]	-0.13*** [0.0053]	-0.13*** [0.0053]	-0.11*** [0.0053]
Rank = 6	-0.17*** [0.0042]	-0.16*** [0.0042]	-0.18*** [0.0047]	-0.19*** [0.0048]	-0.19*** [0.0048]	-0.19*** [0.0048]	-0.16*** [0.0046]
Years Experience		-0.0032*** [0.00048]	-0.0032*** [0.00048]	-0.0032*** [0.00048]	-0.0032*** [0.00048]	-0.0032*** [0.00048]	-0.0046*** [0.00048]
Years Experience ^2		0.00011*** [0.000012]	0.00011*** [0.000012]	0.00011*** [0.000012]	0.00011*** [0.000012]	0.00011*** [0.000012]	0.00014*** [0.000012]
Years Tenure		-0.00018 [0.00031]	-0.00025 [0.00031]	-0.00032 [0.00031]	-0.00036 [0.00031]	-0.00035 [0.00031]	-0.00044 [0.00031]
Years Tenure Squared		0.000014 [0.000014]	0.000034** [0.000015]	0.000034** [0.000014]	0.000035** [0.000015]	0.000035** [0.000015]	0.000031** [0.000014]
Rank Specific Tenure		-0.0034*** [0.00022]	-0.0033*** [0.00021]	-0.0032*** [0.00021]	-0.0032*** [0.00021]	-0.0032*** [0.00021]	-0.0027*** [0.00021]
Working Part-Time		-0.019*** [0.0015]	-0.023*** [0.0015]	-0.024*** [0.0015]	-0.023*** [0.0015]	-0.024*** [0.0015]	-0.031*** [0.0015]
High Wage for Rank							0.064*** [0.0015]
Children under 17					0.0078*** [0.00099]	0.0079*** [0.00099]	
Children under 7					-0.0016 [0.0010]	-0.00094 [0.0015]	
Female * Children under 17					-0.0064*** [0.0017]	-0.0062*** [0.0017]	
Female * Children under 7					-0.0056*** [0.0019]	-0.011*** [0.0028]	
Children under 7 Post-1992						-0.0012 [0.0020]	
Female * Under 7 * Post-1992						0.0099*** [0.0034]	
Firm FE	No	No	Yes	No	No	No	No
Plant FE	No	No	No	Yes	Yes	Yes	Yes
N	597,552	597,552	597,552	597,552	597,552	597,552	597,552
R <sup>2</sup>	0.038	0.040	0.057	0.061	0.061	0.061	0.072

Estimates from OLS models with standard errors clustered at the plant-rank-year level except the last column which uses the plant-year level. Part-time status is <37 hours per week. All models include industry, occupation, year, age, and schooling fixed effects. Controls are defined in period t for promotion outcomes between periods t and t+1.

**Appendix Table 6A. Gender Differences in Mobility Rates (Outcome = Stay at Current Plant)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	0.0020 [0.0020]	0.00013 [0.0020]	0.0037** [0.0017]	0.0020 [0.0017]	0.0030 [0.0020]	0.0029 [0.0020]	0.0022 [0.0017]
Rank = 2	0.0053 [0.0085]	0.0025 [0.0085]	0.0062 [0.0080]	0.0039 [0.0073]	0.0036 [0.0073]	0.0035 [0.0073]	0.0042 [0.0073]
Rank = 3	0.012** [0.0055]	0.0058 [0.0056]	0.013** [0.0052]	0.012** [0.0049]	0.012** [0.0049]	0.012** [0.0049]	0.012** [0.0049]
Rank = 4	0.0099 [0.0071]	-0.0020 [0.0072]	0.0095 [0.0064]	0.0096 [0.0062]	0.0097 [0.0062]	0.0097 [0.0062]	0.0099 [0.0062]
Rank = 5	0.0021 [0.0086]	-0.014 [0.0088]	0.0023 [0.0080]	0.0058 [0.0078]	0.0064 [0.0078]	0.0064 [0.0078]	0.0065 [0.0079]
Rank = 6	-0.017** [0.0077]	-0.031*** [0.0077]	-0.0058 [0.0069]	-0.0086 [0.0066]	-0.0076 [0.0066]	-0.0076 [0.0066]	-0.0080 [0.0067]
Years Experience		-0.0016** [0.00080]	0.0013* [0.00069]	0.0018*** [0.00068]	0.0021*** [0.00068]	0.0021*** [0.00068]	0.0018*** [0.00068]
Years Experience ^2		0.000037* [0.000021]	-0.000026 [0.000018]	-0.000031* [0.000017]	-0.000031* [0.000017]	-0.000031* [0.000017]	-0.000030* [0.000017]
Years Tenure		0.012*** [0.00097]	0.0033*** [0.00074]	0.0021*** [0.00076]	0.0020*** [0.00076]	0.0020*** [0.00076]	0.0021*** [0.00076]
Years Tenure Squared		-0.00036*** [0.000043]	-0.000044 [0.000036]	-0.000035 [0.000035]	-0.000033 [0.000035]	-0.000033 [0.000035]	-0.000035 [0.000035]
Rank Specific Tenure		0.0076*** [0.00055]	0.0057*** [0.00040]	0.0050*** [0.00036]	0.0050*** [0.00037]	0.0050*** [0.00037]	0.0050*** [0.00037]
Working Part-Time		0.019*** [0.0030]	0.0017 [0.0026]	-0.00064 [0.0027]	0.00048 [0.0028]	0.00016 [0.0028]	-0.00083 [0.0028]
High Wage for Rank							0.0018 [0.0013]
Children under 17					-0.0058*** [0.0014]	-0.0058*** [0.0014]	
Children under 7					0.0024 [0.0015]	0.0036* [0.0019]	
Female * Children under 17					0.0067*** [0.0025]	0.0068*** [0.0025]	
Female * Children under 7					-0.016*** [0.0027]	-0.024*** [0.0040]	
Children under 7 Post-1992						-0.0024 [0.0026]	
Female * Under 7 * Post-1992						0.013*** [0.0049]	
Firm FE	No	No	Yes	No	No	No	No
Plant FE	No	No	No	Yes	Yes	Yes	Yes
N	597,552	597,552	597,552	597,552	597,552	597,552	597,552
R <sup>2</sup>	0.32	0.32	0.41	0.44	0.44	0.44	0.44

Estimates from OLS models with standard errors clustered at the plant-rank-year level except the last column which uses the plant-year level. Part-time status is <37 hours per week. All models include industry, occupation, year, age, and schooling fixed effects. Controls are defined in period t for mobility outcomes between periods t and t+1.