



STRUCTURE OF EARNINGS STATISTICS 2002

QUALITY REPORT

(Commission Regulation (CE) N° 72/2002, of 16 January 2002)

PORTUGAL

SES 2002 QUALITY REPORT

Part A – Grossed up results: tabular analyses

(a) Full-time employees

By band of hourly earnings and by sex

Hourly Earnings (Band)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 2,00	11012	0,6	9449	0,9	1564	0,2
2,00 - 2,49	259575	15,3	105730	10,1	153844	23,6
2,50 - 2,99	264836	15,6	138826	13,3	126010	19,4
3,00 - 3,49	231372	13,6	143515	13,7	87857	13,5
3,50 - 3,99	176172	10,4	113905	10,9	62267	9,6
4,00 - 4,99	219799	12,9	156740	15,0	63058	9,7
5,00 - 6,99	224815	13,2	160271	15,3	64544	9,9
7,00 - 9,99	154631	9,1	107699	10,3	46933	7,2
10,00 - 14,99	95971	5,7	66109	6,3	29862	4,6
15,00 - 19,99	29206	1,7	21484	2,1	7721	1,2
20,00 - 29,99	21165	1,2	15530	1,5	5635	0,9
30,00 or more	9301	0,5	7713	0,7	1589	0,2
Total	1697856	100	1046972	100,0	650884	100,0
Mean	5,25		5,70		4,53	
Median	3,71		4,06		3,21	

By band of monthly earnings and by sex

Monthly Earnings (Band)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 300,00	6187	0,4	6187	0,6	0	0,0
300,00 - 347,99	18500	1,1	8765	0,8	9736	1,5
348,00 - 399,99	161082	9,5	71653	6,8	89429	13,7
400,00 - 449,99	167434	9,9	65547	6,3	101887	15,7
450,00 - 499,99	153691	9,1	83918	8,0	69773	10,7
500,00 - 599,99	267242	15,7	163472	15,6	103771	15,9
600,00 - 699,99	187912	11,1	122845	11,7	65067	10,0
700,00 - 999,99	319068	18,8	227403	21,7	91665	14,1
1000,00 - 1499,99	218176	12,9	155682	14,9	62494	9,6
1500,00 - 1999,99	94991	5,6	64497	6,2	30494	4,7
2000,00 - 2999,99	64492	3,8	47111	4,5	17382	2,7
3000,00 or more	39078	2,3	29891	2,9	9188	1,4
Total	1697856	100,0	1046972	100,0	650884	100,0
Mean	889,28		968,71		761,52	
Median	634,00		700,00		547,00	

By band of annual gross earnings and by sex

Annual Earnings (Band)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 4000,00	109808	6,5	61983	5,9	47825	7,3
4000,00 - 4999,99	69293	4,1	36957	3,5	32335	5,0
5000,00 - 6999,99	343685	20,2	149835	14,3	193851	29,8
7000,00 - 9999,99	458504	27,0	282153	26,9	176351	27,1
10000,00 - 13999,99	286030	16,8	204348	19,5	81682	12,5
14000,00 - 19999,99	195134	11,5	140607	13,4	54527	8,4
20000,00 - 29999,99	139158	8,2	99735	9,5	39423	6,1
30000,00 or more	96243	5,7	71354	6,8	24889	3,8
TOTAL	1697856	100,0	1046972	100,0	650884	100,0
Mean	12525,77		13747,88		10559,96	
Median	8950,00		9881,00		7594,00	

By band of annual holidays

Holidays (Ent)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 10 Days	154086	9,1	97616	9,3	56470	8,7
10 - 19 Days	92225	5,4	55544	5,3	36681	5,6
20 - 24 Days	1365997	80,5	839293	80,2	526704	80,9
25 - 29 Days	77369	4,6	49233	4,7	28136	4,3
30 or more Days	8179	0,5	5286	0,5	2893	0,4
Total	1697856	100,0	1046972	100,0	650884	100,0
Mean	19,99		19,97		20,03	
Median	22,00		22,00		22,00	

By band of monthly hours paid and by sex

Monthly Paid Hours	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 130 Hours						
130 - 139						
140 - 149	168	0,0	168	0,0	0	0,0
150 - 159	60994	3,6	38128	3,6	22867	3,5
160 - 169	561127	33,0	319841	30,5	241286	37,1
170 - 179	981758	57,8	617619	59,0	364140	55,9
180 or more	93808	5,5	71217	6,8	22591	3,5
TOTAL	1697856	100,0	1046972	100,0	650884	100,0
Mean	170		171		169	
Median	173		173		173	

By NACE Rev. 1 Section and by NUTS level 1

NACE Rev. 1	PT		PT1		PT2		PT3	
	N	Freq (%)	N	Freq (%)	N	Freq (%)	N	Freq (%)
C	12116	0,7	11673	0,7	283	1,0	160	0,4
D	648509	38,2	638770	39,2	5256	18,5	4482	11,2
E	13585	0,8	11764	0,7	786	2,8	1035	2,6
F	237940	14,0	220838	13,6	7235	25,4	9867	24,6
G	329768	19,4	314800	19,3	7041	24,7	7927	19,7
H	103428	6,1	92297	5,7	2061	7,2	9070	22,6
I	129849	7,6	123455	7,6	2929	10,3	3465	8,6
J	75719	4,5	73357	4,5	1221	4,3	1141	2,8
K	146942	8,7	142253	8,7	1669	5,9	3020	7,5
TOTAL	1697856	100,0	1629208	100,0	28480	100,0	40168	100,0

By NACE Rev. 1 Section and by sex

NACE Rev. 1	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
C	12116	0,7	10341	1,0	1774	0,3
D	648509	38,2	352633	33,7	295876	45,5
E	13585	0,8	11311	1,1	2274	0,3
F	237940	14,0	216678	20,7	21262	3,3
G	329768	19,4	185315	17,7	144453	22,2
H	103428	6,1	43896	4,2	59532	9,1
I	129849	7,6	99838	9,5	30011	4,6
J	75719	4,5	44847	4,3	30873	4,7
K	146942	8,7	82113	7,8	64829	10,0
TOTAL	1697856	100,0	1046972	100,0	650884	100,0

By Occupation (ISCO 88) and by sex

ISCO 88	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
MG1	43597	2,6	31298	3,0	12299	1,9
MG2	64370	3,8	43990	4,2	20380	3,1
MG3	188683	11,1	135549	12,9	53135	8,2
MG4	279459	16,5	126235	12,1	153223	23,5
MG5	192321	11,3	78205	7,5	114116	17,5
MG6	175	0,0	130	0,0	45	0,0
MG7	455482	26,8	313112	29,9	142370	21,9
MG8	243587	14,3	189546	18,1	54040	8,3
MG9	230182	13,6	128906	12,3	101275	15,6
TOTAL	1697856	100,0	1046972	100,0	650884	100,0

By ISCED 97 level and by sex

ISCED LEVEL	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
ISCED 0 and 1	929398	54,7	596486	57,0	332912	51,1
ISCED 2	316579	18,6	196423	18,8	120156	18,5
ISCED 3	303554	17,9	165370	15,8	138184	21,2
ISCED 5B	41621	2,5	24988	2,4	16633	2,6
ISCED 5A	106703	6,3	63705	6,1	42998	6,6
TOTAL	1697856	100,0	1046972	100,0	650884	100,0

By age band and by sex

Age	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
15 - 24 Years	227242	13,4	129089	12,3	98153	15,1
25 - 54 Years	1343697	79,1	821813	78,5	521884	80,2
55 - 64 Years	116046	6,8	88040	8,4	28006	4,3
65 or more Years	10871	0,6	8030	0,8	2841	0,4
Total	1697856	100,0	1046972	100,0	650884	100,0
Mean	36,96		38,04		35,23	
Median	36,00		37,00		34,00	

By length of service and by sex

Length of Service	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 10 Years	1164794	68,6	1164794	68,6	462391	71,0
10 - 19 Years	320269	18,9	320269	18,9	120947	18,6
20 - 29 Years	146667	8,6	146667	8,6	45516	7,0
30 - 39 Years	61058	3,6	61058	3,6	20824	3,2
40 or more Years	5068	0,3	5068	0,3	1207	0,2
TOTAL	1697856	100,0	1697856	100,0	650884	100,0
Mean	7,8		8,2		7,3	
Median	4,0		4,0		4,0	

By size class of the enterprise

Size Class	Employees	
	N	Freq (%)
E10_49	708896	41,8
E50_249	477218	28,1
E250_499	140196	8,3
E500_999	101477	6,0
E1000	270068	15,9
Total	1697856	100,0

Number of Part-time employees

By band of hourly earnings and by sex

Hourly Earnings (Band)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 2,00	570	1,0	451	4,5	119	0,2
2,00 - 2,49	2423	4,1	1896	18,8	527	1,1
2,50 - 2,99	4724	8,1	2134	21,1	2590	5,3
3,00 - 3,49	3711	6,3	1089	10,8	2622	5,4
3,50 - 3,99	20088	34,3	771	7,6	19317	39,8
4,00 - 4,99	20952	35,8	1010	10,0	19942	41,1
5,00 - 6,99	2799	4,8	531	5,3	2267	4,7
7,00 - 9,99	1978	3,4	1204	11,9	774	1,6
10,00 - 14,99	443	0,8	266	2,6	177	0,4
15,00 - 19,99	859	1,5	688	6,8	171	0,4
20,00 - 29,99	54	0,1	54	0,5	0	0,0
30,00 or more	0	0,0	0	0,0	0	0,0
Total	58601	100,0	10094	100,0	48506	100,0
Mean	5,65		6,99		5,37	
Median	4,97		3,83		4,97	

By band of monthly earnings and by sex

Monthly Earnings (Band)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 300,00	14566	24,9	3307	32,8	11259	23,2
300,00 - 347,99	8404	14,3	1828	18,1	6576	13,6
348,00 - 399,99	7558	12,9	567	5,6	6991	14,4
400,00 - 449,99	4986	8,5	858	8,5	4127	8,5
450,00 - 499,99	7455	12,7	636	6,3	6819	14,1
500,00 - 599,99	4798	8,2	1032	10,2	3766	7,8
600,00 - 699,99	2786	4,8	62	0,6	2724	5,6
700,00 - 999,99	6375	10,9	617	6,1	5759	11,9
1000,00 - 1499,99	1175	2,0	831	8,2	345	0,7
1500,00 - 1999,99	318	0,5	291	2,9	26	0,1
2000,00 - 2999,99	180	0,3	65	0,6	114	0,2
3000,00 or more	0	0,0	0	0,0	0	0,0
Total	58601	100,0	10094	100,0	48506	100,0
Mean	441,04		488,30		431,21	
Median	384,00		343,00		390,00	

By band of annual gross earnings and by sex

Annual Earnings (Band)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 4000,00	22400	38,2	4246	42,1	18154	37,4
4000,00 - 4999,99	6012	10,3	1144	11,3	4868	10,0
5000,00 - 6999,99	12765	21,8	2299	22,8	10465	21,6
7000,00 - 9999,99	12926	22,1	1061	10,5	11866	24,5
10000,00 - 13999,99	3189	5,4	529	5,2	2660	5,5
14000,00 - 19999,99	992	1,7	653	6,5	340	0,7
20000,00 - 29999,99	152	0,3	97	1,0	55	0,1
30000,00 or more	164	0,3	65	0,6	99	0,2
TOTAL	58601	100,0	10094	100,0	48506	100,0
Mean	5576,26		5802,80		5529,11	
Median	5115,00		4488,00		5194,00	

By band of annual holidays

Holidays (Ent)	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 10 Days	37158	63,4	6642	65,8	30516	62,9
10 - 19 Days	21372	36,5	3452	34,2	17920	36,9
20 - 24 Days	70	0,1	0	0,0	70	0,1
25 - 29 Days	0	0,0	0	0,0	0	0,0
30 or more Days	0	0,0	0	0,0	0	0,0
Total	58601	100,0	10094	100,0	48506	100,0
Mean	6,92		6,45		7,02	
Median	7,00		7,00		7,00	

By band of monthly hours paid and by sex

Monthly Paid Hours	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 130 Hours	53178	90,7	9298	92,1	43880	90,5
130 - 139	5325	9,1	755	7,5	4570	9,4
140 - 149	77	0,1	41	0,4	36	0,1
150 - 159	20	0,0	0	0,0	20	0,0
160 - 169	0	0,0	0	0,0	0	0,0
170 - 179	0	0,0	0	0,0	0	0,0
180 or more	0	0,0	0	0,0	0	0,0
TOTAL	58601	100,0	10094	100,0	48506	100,0
Mean	82		84		81	
Median	81		86		78	

By NACE Rev. 1 Section and by NUTS level 1

NACE Rev. 1	PT		PT1		PT2		PT3	
	N	Freq (%)	N	Freq (%)	N	Freq (%)	N	Freq (%)
C	80	0,1	80	0,1	0	0,0	0	0,0
D	2969	5,1	2749	4,8	195	21,8	25	5,6
E	0	0,0	0	0,0	0	0,0	0	0,0
F	2175	3,7	2126	3,7	29	3,2	21	4,7
G	6924	11,8	6462	11,3	433	48,6	29	6,6
H	4093	7,0	3841	6,7	29	3,2	223	50,4
I	920	1,6	898	1,6	23	2,6	0	0,0
J	242	0,4	231	0,4	9	1,0	2	0,5
K	41197	70,3	40879	71,4	174	19,6	143	32,4
TOTAL	58601	100,0	57267	100,0	891	100,0	443	100,0

By NACE Rev. 1 Section and by sex

NACE Rev. 1	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
C	80	0,1	37	0,4	44	0,1
D	2969	5,1	1044	10,3	1924	4,0
E	0	0,0	0	0,0	0	0,0
F	2175	3,7	1538	15,2	638	1,3
G	6924	11,8	1390	13,8	5534	11,4
H	4093	7,0	2823	28,0	1270	2,6
I	920	1,6	187	1,8	734	1,5
J	242	0,4	22	0,2	219	0,5
K	41197	70,3	3053	30,2	38144	78,6
TOTAL	58601	100,0	10094	100,0	48506	100,0

By Occupation (ISCO 88) and by sex

ISCO 88	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
MG1	329	0,6	302	3,0	26	0,1
MG2	2480	4,2	1753	17,4	727	1,5
MG3	793	1,4	415	4,1	378	0,8
MG4	5852	10,0	1007	10,0	4845	10,0
MG5	8992	15,3	3070	30,4	5922	12,2
MG6	0	0,0	0	0,0	0	0,0
MG7	1175	2,0	374	3,7	800	1,6
MG8	288	0,5	182	1,8	106	0,2
MG9	38692	66,0	2990	29,6	35702	73,6
TOTAL	58601	100,0	10094	100,0	48506	100,0

By ISCED 97 level and by sex

ISCED LEVEL	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
ISCED 0 and 1	37908	64,7	2095	20,8	35814	73,8
ISCED 2	6320	10,8	2650	26,3	3669	7,6
ISCED 3	9691	16,5	3475	34,4	6215	12,8
ISCED 5B	733	1,3	393	3,9	340	0,7
ISCED 5A	3949	6,7	1481	14,7	2468	5,1
TOTAL	58601	100,0	10094	100,0	48506	100,0

By age band and by sex

Age	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
15 - 24 Years	11274	19,2	3762	37,3	7512	15,5
25 - 54 Years	40204	68,6	5445	53,9	34758	71,7
55 - 64 Years	6404	10,9	649	6,4	5754	11,9
65 or more Years	719	1,2	237	2,3	482	1,0
Total	58601	100,0	10094	100,0	48506	100,0
Mean	37,34		32,18		38,41	
Median	37,00		28,00		38,00	

By length of service and by sex

Lenght of Service	Total		M		F	
	N	Freq (%)	N	Freq (%)	N	Freq (%)
Less than 10 Years	54785	93,5	8739	86,6	46046	94,9
10 - 19 Years	2910	5,0	1002	9,9	1908	3,9
20 - 29 Years	785	1,3	353	3,5	432	0,9
30 - 39 Years	115	0,2	0	0,0	115	0,2
40 or more Years	5	0,0	0	0,0	5	0,0
TOTAL	58601	100,0	10094	100,0	48506	100,0
Mean	2,03		3,36		1,75	
Median	1,00		1,00		0,00	

By size class of the enterprise

Size Class	Employees	
	N	Freq (%)
E10_49	8497	14,5
E50_249	7623	13,0
E250_499	7548	12,9
E500_999	4064	6,9
E1000	30870	52,7
Total	58601	100,0

Part B

1. Relevance

The Structure of Earnings Statistics in Portugal are obtained by combining two sources: (a) an administrative source which provide micro data on enterprises, local units and employees, covering all the European required information on monthly earnings and hours paid, as well as the demographic information characterizing the employee, in existence since 1981; (b) a specific survey to collect the missing information, regarding the variables on an annual basis and also Social Security and Income taxes.

At present, there is no information available on the satisfaction of users regarding SES. Here are presented the main users of equivalent SES data in the administrative source (other usages are not referred). Being the only source that provides micro data on the composition of earnings and employee' variables, besides employer's characteristics, (with annual periodicity), this information is regarded by users as of the most utility. One aspect that has been felt as being missing is the availability of annual data on earnings, since the last SES related to 1995.

The main users of this kind of data are:

The Ministry of Labour, for the analysis of wage formation, minimum wage regulation and labour market analysis. The information required regards tabular data and micro data.

Research bodies of Universities, for specific studies and modelling on this domain, with emphasis for the use micro data.

Employers' associations and Unions, with relevance for data for labour negotiations. The information is provided on requirement, on tabular form.

2. Accuracy

2.1. Sampling errors

2.1.1. Probability sampling

2.1.1.1. Sampling errors

Coefficients of variation:

The coefficient of variation of the estimator for the total of a variable X is calculated according to the formula

$$E.R.A.(X) = \frac{\sqrt{\text{vâr}(\hat{X})}}{\hat{X}} 100$$

Estimator for the total

The estimator for the total population X is the Horvitz – Thompson estimator given by

$$\hat{x} = \sum_{i=1}^n x_i \times w_i$$

Where

- i index for the employee i
- n number of employees in the responses
- w_i weight of the employee

Variance estimator

The variance estimator $\widehat{\text{var}}(\hat{x})$ is of a difficult calculation, hence the use of a proxy:

For the i th employee in the different response local units, is calculated a variable

$$t_i = n \times x_i \times w_i$$

for $i = 1, \dots, n$

Each t_i is an estimator for the total population and its average is the Horvitz – Thompson estimator. The t sample variance is defined by

$$s_t^2 = \frac{1}{n-1} \sum_{i=1}^n (t_i - \hat{x})^2$$

The proxy variance estimator is

$$\widetilde{\text{var}}(\hat{x}) = \left(\frac{N-n}{N} \right) \frac{s_t^2}{n}$$

For a domain D , the responses will be n_D and the universe will be N_D . This value is obtained through the weights:

the weights for the domain are added $D(N_D = \sum_{i=1}^{n_D} w_i)$.

Estimator for the total – domain D

The estimator for the total in domain D will be

$$\hat{x}_D = \sum_{i=1}^{n_D} x_i \times w_i$$

For the i th employee in the different response local units, is calculated a variable

$$t_{D_i} = n_D \times x_i \times w_i$$

for $i = 1, \dots, n_D$

Each t_D is an estimator for the total population and its average is the Horvitz – Thompson estimator. The t_D sample variance is defined by

$$s_{iD}^2 = \frac{1}{n_D - 1} \sum_{i=1}^{n_D} (t_{Di} - \hat{x}_D)^2$$

The proxy variance estimator is

$$\tilde{\text{var}}(\hat{x}_D) = \left(\frac{N_D - n_D}{N_D} \right) \frac{s_{iD}^2}{n_D}$$

(a) Coefficients of variation for monthly earnings of full-time and part-time employees

By NACE Rev. 1 Section and by sex

NACE	Full-time			Part-time		
	Total	Males	Females	Total	Males	Females
C to K	2,03	2,54	3,38	24,20	44,13	28,51
C	11,95	12,55	37,97	187,42	401,92	251,16
D	2,58	3,17	4,35	46,42	74,62	59,64
E	8,36	9,13	20,73	-	-	-
F	11,23	11,70	39,94	155,56	179,66	329,24
G	8,61	10,58	14,61	62,50	99,25	78,14
H	11,22	18,08	14,29	56,88	101,16	59,28
I	6,32	7,30	12,60	89,93	135,44	116,63
J	3,63	5,14	5,06	53,52	169,97	57,75
K	9,68	12,58	15,15	37,49	99,68	40,22

By ISCO 88 (1 digit level) and by sex

ISCO 88	Full-time			Part-time		
	Total	Males	Females	Total	Males	Females
TOTAL	2,03	2,54	3,38	24,20	44,13	28,51
MG1	10,80	12,67	20,63	207,56	261,90	334,47
MG2	9,84	12,09	16,95	120,27	139,06	250,18
MG3	5,43	6,31	10,68	107,55	126,99	200,46
MG4	4,17	6,05	5,76	91,59	144,86	113,78
MG5	9,82	14,07	13,64	49,49	81,33	62,55
MG6	83,28	89,96	255,92	-	-	-
MG7	4,34	5,17	8,03	126,30	180,44	177,91
MG8	4,27	5,08	7,78	80,35	92,02	174,55
MG9	6,43	8,79	9,42	32,88	96,66	34,91

By age band and by sex

Age Band	Full-time			Part-time		
	Total	Males	Females	Total	Males	Females
TOTAL	2,03	2,54	3,38	24,20	44,13	28,51
15 - 24 Years	6,61	8,49	10,53	51,10	81,81	65,46
25 - 54 Years	2,24	2,84	3,65	30,22	57,45	34,87
55 - 64 Years	6,99	7,68	16,57	72,30	159,63	80,55
65 or + Years	29,58	30,46	92,03	158,50	229,66	226,99

By NACE Rev. 1 Section and by NUTS level 1 (optional item)

NACE	Full-time				Part-time			
	PT	PT1	PT2	PT3	PT	PT1	PT2	PT3
C to K	2,03	2,27	3,69	5,30	24,20	28,53	25,36	37,57
C	11,95	12,89	23,48	73,39	187,42	187,42	-	-
D	2,58	2,69	6,71	11,18	46,42	57,09	68,59	87,02
E	8,36	11,87	11,39	10,76	-	-	-	-
F	11,23	15,09	10,49	20,45	155,56	178,37	195,26	0,00
G	8,61	11,08	9,66	10,24	62,50	89,53	51,04	128,98
H	11,22	16,02	13,83	13,78	56,88	77,37	353,13	47,03
I	6,32	7,22	11,20	15,15	89,93	101,63	113,36	-
J	3,63	3,80	10,54	21,25	53,52	65,13	44,74	0,00
K	9,68	11,34	10,21	17,87	37,49	40,98	30,07	105,21

(b) Coefficients of variation for monthly paid hours of full-time employees
By NACE Rev. 1 Section and by sex

NACE	Full-time		
	Total	Males	Females
C to K	2,04	2,55	3,39
C	12,08	12,69	38,35
D	2,59	3,19	4,36
E	8,26	9,03	20,42
F	11,25	11,72	39,99
G	8,60	10,57	14,60
H	11,23	18,12	14,30
I	6,33	7,31	12,61
J	3,62	5,13	5,06
K	9,68	12,58	15,13

By ISCO 88 (1 digit level) and by sex

ISCO 88	Full-time		
	Total	Males	Females
TOTAL	2,04	2,55	3,39
MG1	10,78	12,66	20,59
MG2	9,87	12,13	16,98
MG3	5,45	6,34	10,70
MG4	4,19	6,07	5,79
MG5	9,85	14,12	13,66
MG6	83,54	90,13	255,90
MG7	4,36	5,18	8,04
MG8	4,28	5,10	7,78
MG9	6,44	8,82	9,43

By age band and by sex

Age Band	Full-time		
	Total	Males	Females
TOTAL	2,04	2,55	3,39
15 - 24 Years	6,62	8,50	10,55
25 - 54 Years	2,25	2,85	3,66
55 - 64 Years	7,03	7,73	16,65
65 or + Years	29,75	30,61	92,42

By NACE Rev. 1 Section and by NUTS level

NACE	Full-time			
	PT	PT1	PT2	PT3
C to K	2,04	2,28	3,67	5,32
C	12,08	13,04	23,30	73,49
D	2,59	2,71	6,60	11,13
E	8,26	11,76	11,22	10,67
F	11,25	15,11	10,47	20,51
G	8,60	11,08	9,67	10,19
H	11,23	16,02	13,85	13,72
I	6,33	7,22	10,85	15,11
J	3,62	3,80	10,55	21,24
K	9,68	11,35	9,94	17,82

2.2. Non-sampling errors

2.2.1. Coverage errors

The information on activity, region and number of employees in the sampling frame is comprehensively updated annually, at the time of the statistical treatment of the administrative source Quadros de Pessoal and also on the basis of information collected by surveys and other sources. For the administrative source, 80% of the enterprises deliver coded data (web form or download of specifically formatted files). The remaining 20% is coded by the DGEEP. The variables economic activity and region are validated, namely regarding the scope of the Collective Labour Regulation Instrument (collective agreements and other) which applies to the activity and region concerned. More than 96% of the total employees are covered by those Instruments.

The survey questionnaire asks for information on the changes in the economic activity, the region and actual number of employees. The results were checked against the information for 2002 Quadros de Pessoal.

Regarding over coverage, only 7 local units in the sample belonging to one enterprise were found to be of a NACE Section not covered by the survey. Also 35 enterprises (with only one local unit), at the time of the survey were also out of scope, since they had less than 10 employees.

As for activity misclassification, and since the sample was stratified at Division level, no situations were found. Changes in the address of local units were checked against Quadros de Pessoal.

Under coverage is of difficult access since, with the results of Quadros de Pessoal 2002, for the units that were then in the scope of the survey, it was not possible to know if they had changed the activity performed.

The SES data were re-weighted on the basis of the values for the stratifying variables on the register updated with 2002 Quadros de Pessoal results, taking into account the corrections mentioned above.

2.2.2. Measurement errors and processing errors

The questionnaire used for the administrative source is in place for 22 years, with some minor changes during this period. Enterprises are used to it, although sometimes their personnel registers do not contain all the information on the employees, as is the case of occupation, age and length of service.

Regarding this variables, the imputation was done only for SES data. The percentage of imputed cases for the variable age was 0,06%. For length of service it was 0,07% and for occupation 0,8%.

The overall rate of checks failed in the administrative source (covering all variables, respondents errors and data-entry errors) was 8% . The number of employees involved was 2700000.

Regarding the survey questionnaire, respondents did not raise special questions. When analysing the responses, the variable “period to which the annual earnings refer” showed some inconsistency, but, since the number of days of holidays, the number of days of absence due to sickness (paid and not paid) as well as other days of absence were asked and were usually correct, it was possible to correct that variable.

The overall rate of checks failed in the sample survey was 4,5% and the coherence checks between the administrative source data on monthly earnings and survey data on annual earnings was 3%.

The rate of imputation for monthly earnings (for employees that were not at work for part of the reference month and consequently did not receive complete earnings for that month) was 8%. The imputation was made on the basis of the earnings hourly rate for the period they had worked and had been paid during the reference month.

2.2.3. Non-response errors

Unit response rate for the survey – 62% response, corresponding to 68% of the expected employees in the sample.

Unit response rate in the administrative source – data for 1 enterprise with about 1000 employees could not be retrieved because it did not fill the requirements.

The responses (local units and employees) were re-weighted on the basis of the final results of the administrative source (comprehensively treated) of local units in the survey scope and of the actual number of employees in the surveyed unit.

The response rates for the variables monthly earnings and monthly hours paid, deriving from the administrative source, was 100%, as those are considered mandatory variables in that source. Also for annual earnings, obtained through sample survey, the variable was mandatory and non-responses were not allowed.

Imputation of item non-response of variables obtained through the administrative source (occupation, age, length of service, education) was done taking into account auxiliary variables, (e. g. earnings, education, age for occupation; length of service for age; age for length of service, etc) and applying the proportion of the known cases in the responses.

Social security taxes non-responses (obtained by the survey) were imputed on the basis of the standard social security tax supported by the employee (11% of earnings).

Income taxes were imputed on the basis of an average family situation tax for the corresponding monthly earnings.

2.2.4. Model assumption errors

As most of the information requested for Statistics on the Structure and Distribution of Earnings was available in Portugal as the result of an administrative source designated as “Quadros de Pessoal”, the option was to obtain data on the structure of earnings through

“Quadros de Pessoal” and to complete the information required by means of a specific sample survey.

The aim of this chapter is to present the sources used and the process of data linkage, to assure the comparability of the collected variables.

2.2.4.1. Quadros de Pessoal (Lists of Personnel)

This administrative source was created for purposes of inspection the accomplishment of labour legislation and has been statistically treated since 1981, although it had previous legal existence. The statistical use was established by Decree n° 380/80, from September the 17th.

In 1993 new legislation was issued to permit certain minor adjustments: Decree n 332/93, from September the 25th, which refers to the information to be collected from 1994 onwards. The most significant modification introduced was the changing of the reference period from April to October of each year. In 2000, by a “Portaria” n° 785/2000, of September the 19th, new variables were introduced: type of employment contract and whether full-time or part-time work.

By this last regulation, enterprises with 10 or more employees should deliver data by electronic means, through a specific web site. Other size class enterprises can use this form of data transmission. Relating to the total source, 80% of the enterprises deliver data by electronic via.

According to legislation, all entities (enterprises and other institutions) occupying employees are complied to deliver to the now called Ministry of Labour and Social Solidarity, the forms containing the lists of personnel having a labour contract with the enterprise for the month of October of each year. Excluded from this obligation are the enterprises in Agriculture, Forestry and Fishing which do not employ permanent workers, as well as Central and Local Public Administration and Private Domestic Services.

Also according to legislation, the enterprises will fill in, for each local unit, and within the local unit, for each collective agreement or administrative regulation, all employees in the reference month. Employees not covered by specific labour regulations should be filled in separately. This fact allows for data on collective agreements, and legislation defines that the resulting information will be provided, on request, to the Social Partners, as a base for collective negotiation.

This process and the subsequent statistical treatment will enable the collection of individual information for each of the statistical units considered: enterprise, local unit, employee (and also for each collective agreement).

The dealing with “Quadros de Pessoal” in a statistical perspective is carried out by the General Direction for Studies, Statistics and Planning (DGEEP) of the Ministry of Labour, for enterprises or local units located in the mainland. The Autonomous Regions of Açores and Madeira collect data for those units which are situated there and, by the end of the process, these data are delivered to the DGEEP so that the final linkage can be made and information for the total country is available.

This source covers all entities with 1 or more employees, with the exceptions mentioned above. Until now and due to the obligation of covering all collective agreements, even those with a minor number of workers involved, the dealing of data collected is done in a

comprehensible way. Even so, the resulting information is usually available one year after the reference month.

The variables collected related to the enterprise or the local unit are as follows:

- name and address (and consequently, regional location);
- main economic industry;
- size of the units in terms of the number of occupied persons and employees;
- collective agreements or administrative regulations existing in the units;
- main Employers Association of the enterprise;
- juridical nature of the enterprise;
- year of legal coming into existence of the enterprise;
- form of financial control.

The variables related to each of the persons occupied in the reference month are the following:

- social security code number;
- collective agreement or administrative regulation applied;
- occupational category within the collective agreement or regulation;
- occupation;
- occupational status (self employed, employee, other);
- highest completed level of formal education;
- gender;
- date of birth;
- date of coming into the enterprise;
- type of employment contract;
- Full-time or Part-time;
- monthly value for basic pay;
- monthly value for all other regular payments, excluding overtime;

- monthly value of payments for overtime;
- monthly number of paid hours, excluding overtime;
- monthly overtime hours;
- normal weekly hours of work.

2.2.4.2. Structure of Earnings Survey 2002

As some of the variables requested at European level were not available through “Quadros de Pessoal”, it was decided to carry out a specific sample survey in order to collect the missing information. That information consisted mostly of annual data on earnings, and social security payments and income tax payments.

The scope of the survey covers industries comprised in Sections C to K of NACE Rev. 1 and employees in local units with 10 or more persons occupied.

The sample was designed as a two degree cluster sample and the frame used were the registers of local units updated with the results of “Quadros de Pessoal” 2002.

The primary units (local units) were stratified according to NACE Rev. 1 at two digit level (Division), seven size classes (10 to 19 persons occupied, 20 to 49, 50 to 99, 100 to 199, 200 to 499, 500 to 999, and 1000 or more persons occupied). As for the regional level, three separate samples were designed: for the Mainland, Açores and Madeira. The total sample size, at this degree, was 12500 local units.

For the secondary units, it was requested that the local units performed the selection of the employees in the sample, according to the given procedures, which were to select employees having a contract with the enterprise in October 2002 that were born in some specific months. Those months varied with the size class of the local unit. This method should provide a number of employees in the sample circa 92000 employees.

Non-response in a given strata was handled by applying to the non respondent units the average value for the variables resulting from the respondent units.

The response rate for the local units was 62% (corresponding to 68% of the expected employees).

For the Survey, the questions included were the following:

Relating to the local unit:

- principal market for the company products (optional European variable)
- total number of employees (optional).

Relating to the employee:

- social security code (1);

- gender (1);
- date of birth (1);
- date of coming into the enterprise (1);
- entitled number of days of paid holidays;
- period to which annual earnings correspond;
- total annual gross earnings;
- of which irregular bonuses, separated by bonus paid at fixed periods, profit sharing and other irregular bonuses;
- social security payments (by the employee);
- income tax payments.

2.2.4.3. Linkage of the two sources

Data collected through the survey for a certain employee was linked to the information available in “Quadros de Pessoal” October 2002 for the same employee. That connection was possible using a combination of four variables as key link: social security code, gender, date of birth and date of coming into the enterprise.

In linking the information, the coherence of certain variables deriving from the two sources was checked.

Final results were obtained after estimating procedures applied to data collected for the local units and employees in the sample. Variables such as economic activity, size class and region were re-weighted based on the comprehensible information resulting from 2002 “Quadros de Pessoal”.

Variables which had to be converted into Eurostat classifications

Collective agreement on pay covering the employees of the reporting unit - The type of collective labour regulations existing in Portugal and that can be identified through “Quadros de Pessoal” do not fit in exactly with the four categories specified at Community level, although they were integrated in those categories after a specific analysis of the scope of all collective agreements. The type of agreements that can be isolated within the administrative source are briefly described as follows:

- Enterprise agreement - is signed by a single employer and by one or more trade unions;
- Collective enterprises agreement - is signed by two or more employers of an individual industry (not necessarily covering all enterprises of that industry) and one or more trade unions;

- Collective agreement - signed by one or more employer's associations and one or more trade unions;
- Administrative labour regulation - reflects two kinds of situations: one, when the employees do not have a capacity for negotiation; the other, when there is a break in the collective negotiation between the partners involved. In either case the initiative of regulation belongs to the Labour Ministry.

Total number of persons employed in the reporting unit during the reference month - The total number of persons employed in the local unit, at national level, do not include trainees without an employment contract and voluntary workers. Only employees, active proprietors, family workers and co-operative active members are considered, but only employees were surveyed.

Highest completed level of education and training - this information, referring to formal education and collected in "Quadros de Pessoal" with greater desegregation for third level qualifications, does not present figures for ISCED 4, due to the national formal education system. Post graduation qualifications (ISCED 6) are not isolated in "Quadros de Pessoal". Through this source it does not seem possible to obtain significant figures for this level, because persons with such qualifications can be found mostly in investigation departments or universities, entities which are not part of its scope at the moment.

Type of employment contract - for this variable only three hypotheses were considered: indefinite duration contract, contract with a fixed term (fixed duration or completion of a certain task, return of an employee) and other contracts (active co-operative members, not specified situations). Apprenticeship contracts, corresponding to training contracts usually assuming a dual apprenticeship system, in the school and in the enterprise, are not covered by "Quadros de Pessoal" as the persons involved in this system are not considered employees, are not paid by the enterprise and for Social Security purposes also do not count as employees.

Reflection of absences on monthly earnings - three situations, concerning monthly earnings and hours paid for, can be isolated in "Quadros de Pessoal", by analysing the individual information on normal weekly hours of work, monthly hours paid for excluding overtime and monthly basic wage pay. (a) The first situation corresponds to employees being paid the complete basic wage in the reference month (a deduction of three days pay is allowed) and consequently having filled in complete hours paid for; (b) then there can be employees who did not receive complete monthly basic wage and consequently have reduced hours paid for; (c) employees who have a contract with the enterprise in the reference month but who have not received any pay and have no hours paid for. For employees who did not receive complete pay during the reference month, the earnings were imputed using the hourly rate payment they had for the period they had worked and received payment, on the basis of the working time in the local unit.

Employees who did not receive pay during the reference month were excluded from the survey.

3. Timeliness and punctuality

<u>Survey phases</u>	<u>Effective dates</u>
Sending out of questionnaires by mail	15 – 25 June 2003
Deadline for responses	31 July 2003
Sending out reminders	6 – 10 October 2003
Design of ITC tools – survey data entry and plausibility checks September 2003	1 June – 15 September 2003
Designing of ITC tools – linkage with administrative source November 2004	1 September – 30 November 2004
Designing of ITC tools – Eurostat transmission requirements April 2005	15 March - 15 April 2005
Statistical staff team available for questionnaire check and data entry	February 2004
Analysis of questionnaires, data entry, validation	1 February – 31 July 2004
Completion of administrative source statistical treatment	31 August 2004
Analysis of coherence survey data/administrative source data March 2005	15 January – 31 March 2005
Imputation of variable non-response	1 - 15 April 2005
Weighting	16 - 26 April 2005
Applying Eurostat checks and conversion of variables 2005	27 April – 10 May 2005
Transmission to Eurostat	11 May 2005
Publication of synthetic results	December 2005

4. Accessibility and clarity

No information is sent to responding units, only on demand.

Synthetic results *Síntese Estatística* is published on DGEEP website, an alert is sent to the habitual users of DGEEP statistical information. The printed publication will be distributed to habitual users (Ministry of Labour, INE, other Ministries, Research Bodies, Unions and Employers Associations).

The printed publication contains a chapter on the concepts and methodologies used.

5. Comparability

5.1. Geographical comparability

The SES 2002 data for Portugal cover NACE Sections C to K and the sampling units are local units belonging to enterprises with 10 or more employees, stratified by size of the enterprise, NACE and NUTS level 2 of the local unit.

The classifications used and the definitions of the variables are in accordance with the European concepts.

No data is available for the variable “payments for shift work”, since the information on employees’ characteristics and monthly earnings and hours paid is derived from the administrative source Quadros de Pessoal.

5.2. Comparability overtime

The coverage, statistical units and definition of the common variables are identical to those used for SES 1995. The methodology to collect data (administrative source combined with a specific survey to collect annual variables and information on income taxes and social security taxes) was also maintained.

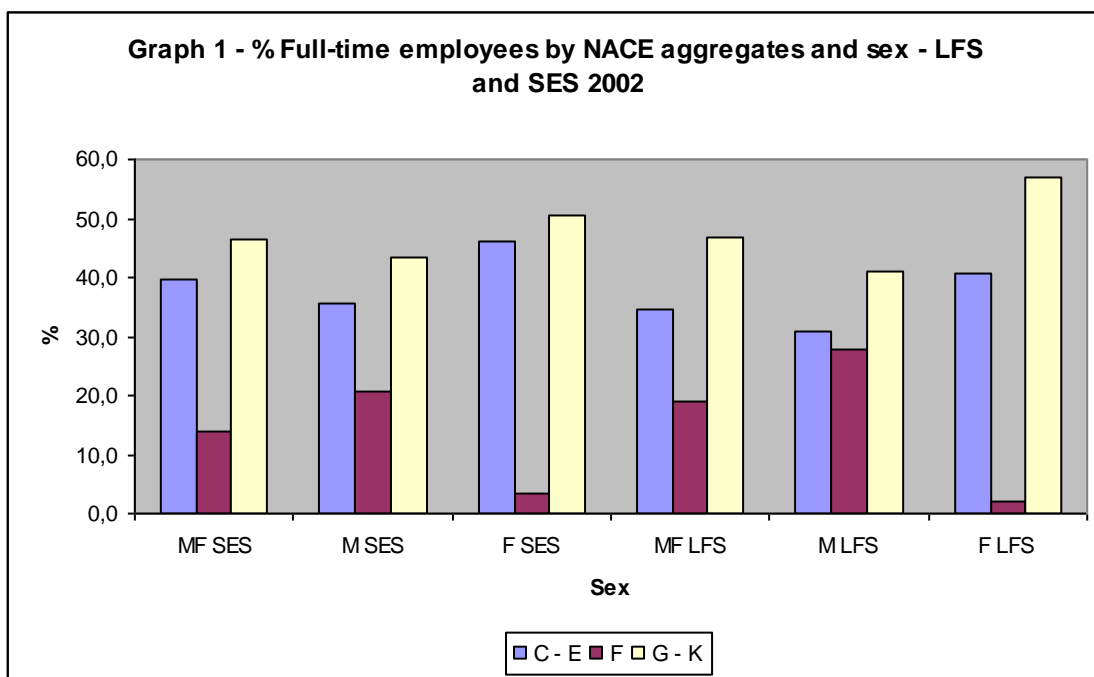
6. Coherence

6.1. Coherence with the structure of employees in the LFS for the same year

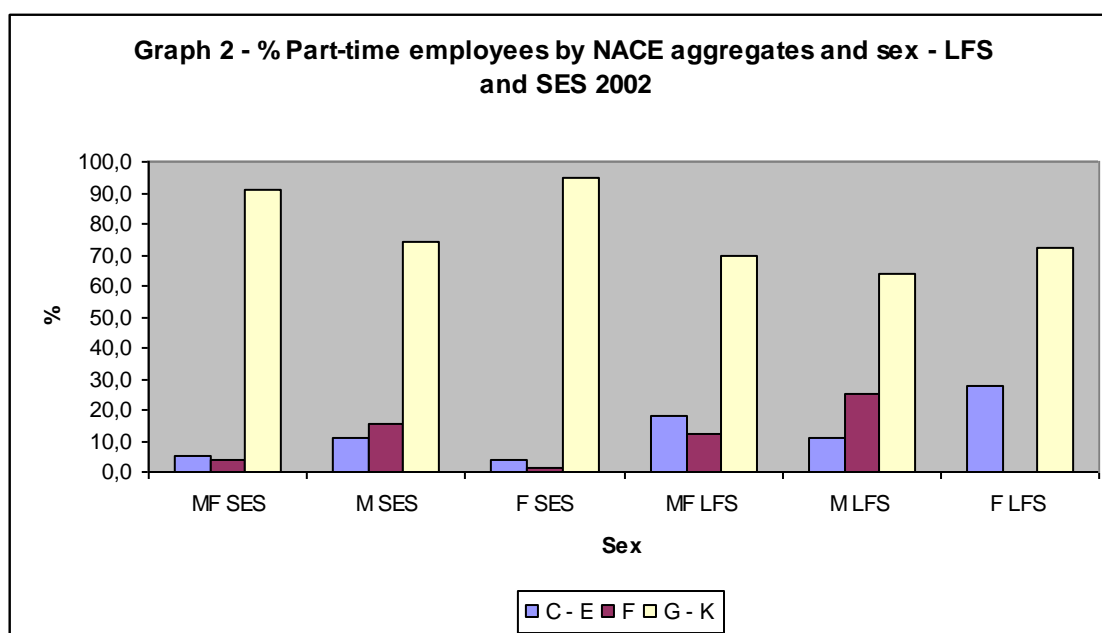
The comparison of data was done using SES data and the average of quarterly LFS figures. Since available LFS data for the required breakdowns included cells that didn’t add up for the total (due to weighting and rounding effects) and also figures that were not disseminated, the comparisons were calculated for the required variables, on a pair wise basis.

When analysing these comparisons, one has to take into account the differences between the two sources, beginning with the observation unit. Also the scopes of both surveys differ significantly: the LFS covers the whole economy, the SES covers NACE Rev. 1 Sections C to K and enterprises with 10 or more employees.

Structure of full-time employees by economic activity and sex

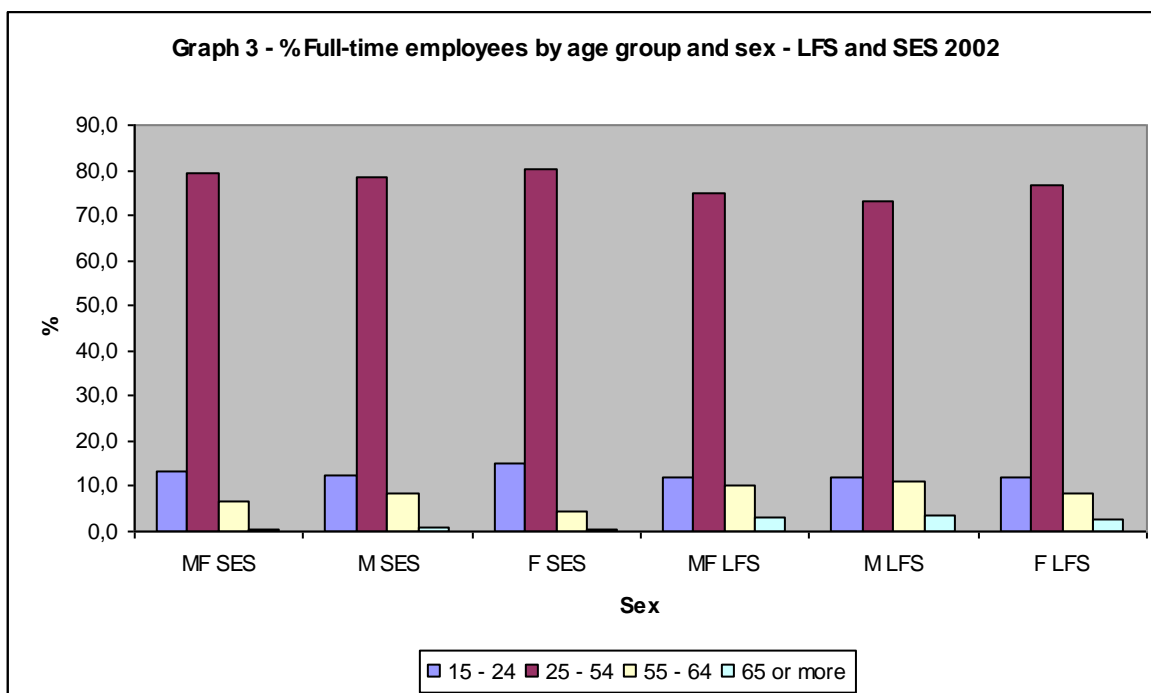


Structure of part-time employees by economic activity and by sex



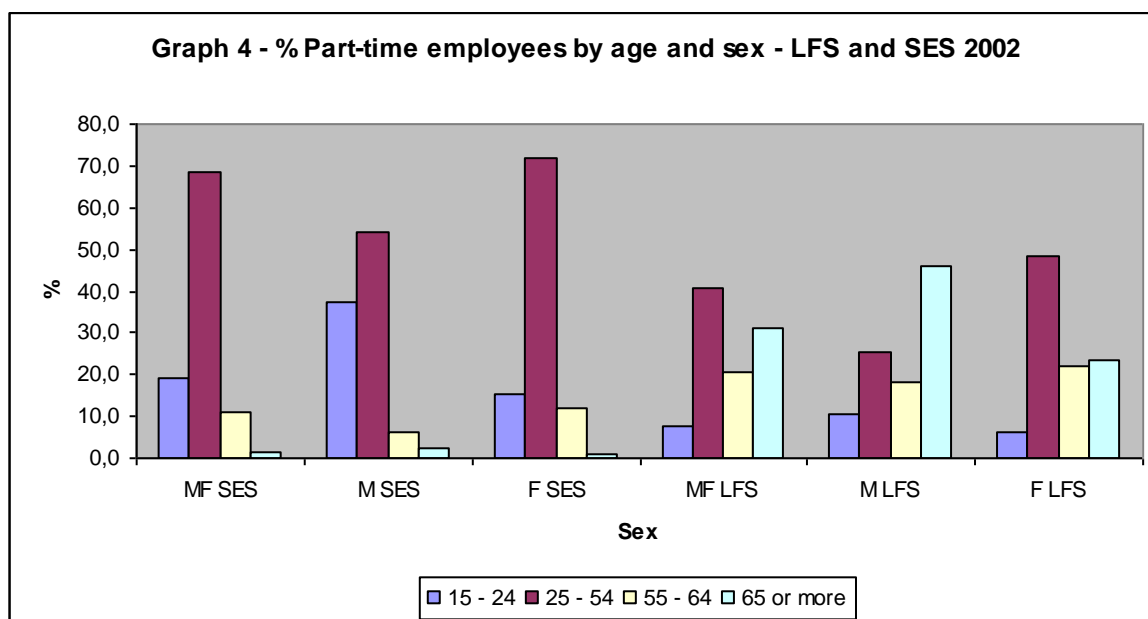
Structure of full-time employees by age and by sex

Graph 3 - % Full-time employees by age group and sex - LFS and SES 2002

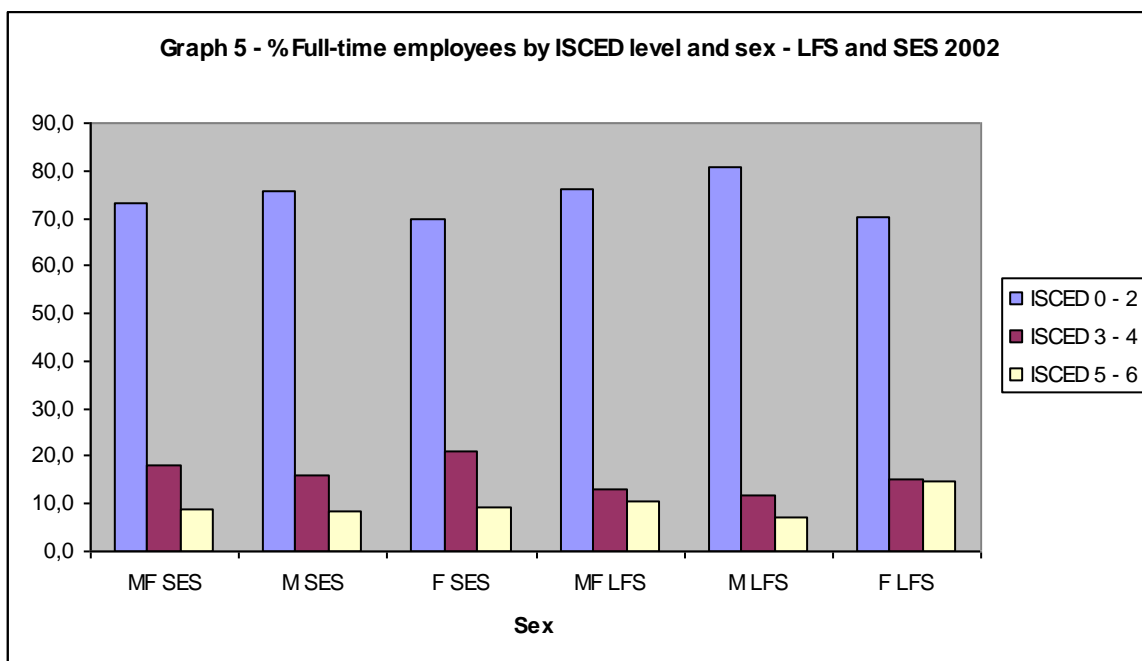


Structure of part-time employees by age and by sex

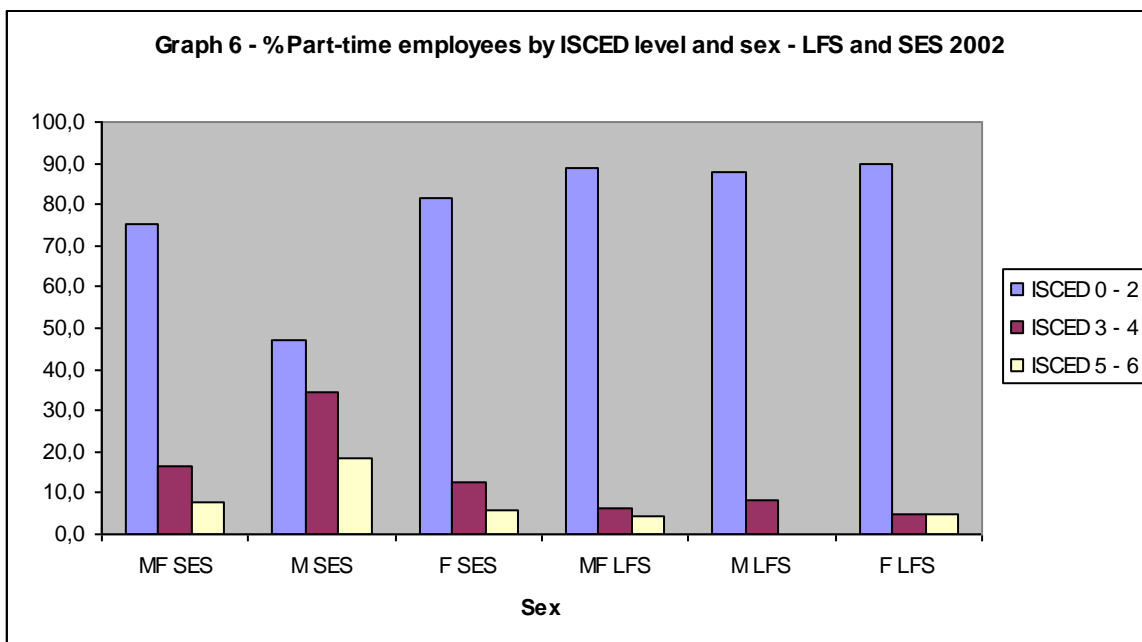
Graph 4 - % Part-time employees by age and sex - LFS and SES 2002



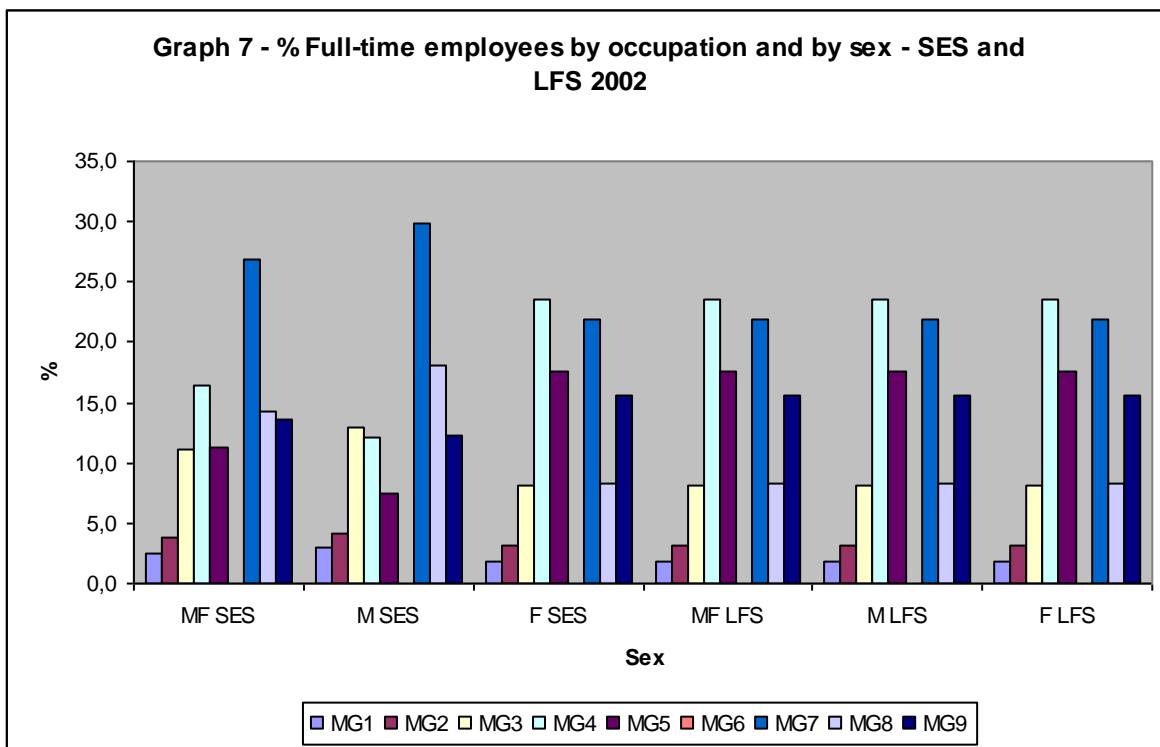
Structure of full-time employees by ISCED level and by sex



Structure of part-time employees by ISCED level and sex



Structure of full-time employees by ISCO 88 and by sex



Structure of part-time employees by ISCO 88 and by sex

