

Statistical analysis of socio-economic costs of accidents at work in the European Union



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Luxembourg: Office for Official Publications of the European Communities, 2004

ISSN 1725-065X
ISBN 92-894-8168-4

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**STATISTICAL ANALYSIS OF SOCIO-ECONOMIC COSTS
OF ACCIDENTS AT WORK IN THE EUROPEAN UNION**

Final report – July 2004

The views expressed in this document are the author's and do not necessarily reflect the opinion of the European Commission

PREFACE

This project *Statistical analysis of the socio-economic costs of accidents at work* has been conducted by Eurostat, unit D6 Health and food safety with technical and financial support of Directorate General Employment and Social Affairs, unit D4 Health, safety and hygiene at work.

On 11 March 2002 the Commission adopted a new Community Strategy on Health and Safety at Work 2002-2006^{1,2}. The strategy calls to step up work in hand on harmonisation of statistics in the field of health and safety at work. The strategy also adopts a global approach to well-being at work, is based on consolidating a culture of risk prevention by combining a variety of political instruments and points out that an ambitious social policy is a factor in the competitiveness equation while having a “non-policy” engenders costs on economies and societies. At company level, “non-quality” gives the enterprise a poor public image. In the strategy the Commission sets up a goal of improving the fund of knowledge on the economic and social cost of occupational accidents and illnesses. Within the context of the Community Statistical Programme 2003-2007³ actions are launched on statistics of health and safety at work, including socioeconomic costs of health and safety.

Systematic information on costs of accidents at work is not available from administrative statistical data sources or regular surveys on health and safety at work. Also the initial literature study performed in this prospect revealed a lack of comprehensive studies in this domain. This project produced a preliminary model to estimate these costs at EU level by a number of variables. The model was based on cost data from a questionnaire survey and administrative statistical data on numbers and characteristics of accidents at work and on labour costs.

Despite the preliminary nature of the model and the estimates, the results are interesting by giving a cost perspective to safety at work matters. We have the pleasure to present the results of this project which aims to enable companies, authorities and all those involved in prevention of accidents at work at society or company level to get a quantitative overview of the total costs of accidents at work and document the potential benefits of their efficient prevention.

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¹ Communication from the Commission COM(2002) 118 final of 11.03.2002

² Council Resolution 2002/C 161/01

³ Decision 2367/2002/EC of the European Parliament and the Council of 16.12.2002

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1. INTRODUCTION

According to the European Statistics on Accidents at Work (ESAW), every year in the 15 Member States of the EU before accession about 5 million workers are victims of accidents at work leading to more than three days of absence from work; furthermore, about 5000 workers are killed in accidents at work. Besides the human suffering, these accidents have a strong economic impact on business.

On 11 March 2002 the Commission adopted a new Community Strategy on Health and Safety at Work 2002-2006⁴. The strategy adopts a global approach to well-being at work, is based on consolidating a culture of risk prevention by combining a variety of political instruments and points out that an ambitious social policy is a factor in the competitiveness equation while having a “non-policy” engenders costs on economies and societies. The strategy also points out that at company level, “non-quality” gives the enterprise a poor public image. In the strategy the Commission sets up a goal of improving the fund of knowledge on the economic and social cost of occupational accidents and illnesses. The new strategy was endorsed by the Council⁵, which points out that it is necessary to integrate health and safety at work into business management and other activities giving rise to a systematic approach of well-being at work and stresses the need to show that an effective policy on health and safety at work is a factor in competitiveness while, conversely, lack of political intervention makes for increased costs.

Systematic information on costs of accidents at work is not available from administrative statistical data sources or regular surveys on health and safety at work. In this context, a study was carried out to develop a pilot model to estimate the costs of accidents at work. The model was developed in order to enable companies, authorities and all those involved in prevention of accidents at work at society or company level to get a quantitative overview of the total costs of accidents at work and document the potential benefits of their efficient prevention. It will help to demonstrate that "good safety and health is good business" as prevention of work related injuries not only reduces costs, but also contributes to improve a company's performance.

To reach this objective, the first step of the project consisted of collecting and analysing existing information on costs of accidents at work and on factors that influence these costs. A literature search and various consultations were carried out and a series of studies were identified (see bibliographic references and summaries of studies in annex 2). Nevertheless, only very few comprehensive and systematic analyses were identified. The search identified three existing models : the TYTA model of the Finnish Ministry of social affairs and health, the British Telecom's Health and Safety Accident Cost Model and the HSE model (see detailed description of these models in annex 3).

In a second step, a questionnaire study was planned based on the information acquired in step one. The study was performed among companies and among victims of accidents at work to collect quantitative information on the various types of costs of different accidents at work. In a third step, the parameters of a pilot model were established according to the data of step two. In a fourth step, the model was

⁴ Communication from the Commission COM(2002) 118 final of 11.03.2002

⁵ Council Resolution 2002/C 161/01

applied on the statistical information of the ESAW database to estimate the costs of accidents at work in the 15 Member States of the EU before accession. Finally, the uncertainties, compromises and problems of the model were listed to facilitate improvements in future efforts.

The study was performed by Arianell Groupe Transiciel and was coordinated by unit D-6 "Health and food safety" of Eurostat.

2. METHODOLOGY

2.1 OVERVIEW

The data used to estimate the costs of accidents at work were the following :

1. **European Statistics on Accidents at Work (ESAW) database** for the reference year 2000, covering the 15 Member States of the EU before accession for fatal accidents at work and non-fatal accidents at work with more than 3 days lost. These data were complemented with the data of the 1999 Labour Force Survey ad hoc module as regards accidents at work with less than 4 days lost. The data included:
 - 5 237 fatal accidents at work
 - 4 815 616 non-fatal accidents at work with more than 3 days lost; of which 141 431 represented more than 6 months' or permanent incapacity to work
 - 2 752 237 non-fatal accidents with less than 4 days lost

These data and their methodology of collection are described in the ESAW methodology ⁶ and in the Panorama "Work and Health in the EU: A statistical portrait"⁷.

2. **Questionnaire survey** to assess the various direct and indirect costs of accidents at work from the point of view of the company and the victim (performed in 2003).
 - 100 questionnaires were sent to companies in Italy and Luxembourg and 200 in Portugal;
 - 100 questionnaires were sent to victims of accidents at work in Italy and 200 in Portugal;
 - for the companies 56 (response rate 56%) replies were received in Italy, 46 (46%) in Luxembourg and 187 (94%) in Portugal;
 - for the victims 41 (41%) replies were received in Italy and 176 (87%) in Portugal.

The survey among companies is further described in the following chapters. The survey among victims is described in annexes 9, 10.

3. **New Cronos reference database** was used to estimate the labour costs by economic activity and country. The detailed extraction path was the following:

- **theme** : Theme3 – Population and Social Conditions
- **domain** : lacosts – Labour costs
- **collect** : y2000 – survey 2000
- **group** : nat00 – National data
- **table** : n00cost – Labour cost, wages and salaries, direct remuneration

⁶ European Commission, European statistics on accidents at work (ESAW) Methodology – 2001 Edition. ISBN 92-894-3228-4.

⁷ European Commission, "Work and health in the EU, A statistical portrait". Eurostat Panorama series, , 2003 Edition, ISBN 92-894-7006-2

2.2 THE QUESTIONNAIRE SURVEY

The first step of the project consisted of collecting existing information on costs of accidents at work and on factors that influence these costs. A literature search and various consultations were carried out and a series of studies were identified, including three preliminary models for calculating costs of accidents at work at company level. Bibliographic references and summaries of studies are given in annex 2. More detailed descriptions are given for three existing models (annex 3).

Based on the above mentioned information, draft questionnaires were developed to collect quantitative information on the various types of costs of different accidents at work for companies and for victims. The members of the following expert groups were asked to indicate national experts that could be interviewed for the draft questionnaire and the approach:

- DG Employment and Social Affairs, Advisory Committee on Safety, Hygiene and Health Protection at Work ;
- Eurostat, Task Force of European Statistics on Accidents at Work (ESAW).

The list of persons and institutions/companies providing information or interviewed is given in annex 1.

2.2.1 *Questionnaire for companies*

The final questionnaire for the companies (annex 4) included 32 questions covering the following topics:

- contact information;
- characteristics of the company;
- characteristics of the chosen accident at work;
- characteristics of the victim of the accident and injury;
- estimates concerning various specific costs of the chose accident at work;
- general information concerning the costs of accidents at work in the company.

The types of costs specifically asked in the questionnaire were the following:

- Material damage (i.e. products and raw materials destroyed at the time of the accident);
- Damage of the structures (i.e. machines, equipment, buildings, vehicles destroyed at the time of the accident);
- Repair costs;
- Rental costs of temporary equipment, machines, buildings or vehicles;
- Production losses due to a production stop or slow down;
- Replacement of persons: - Extra salary costs;

- Replacement of persons: - Costs of training and adaptation of a new worker;
- Loss of customers or orders;
- Court expenses;
- Administrative costs (expenses to facilitate the return to work, costs reporting the accident, costs of reorganising the production after the accident);
- Loss in terms of image;
- Other costs.

The questionnaires for victims is presented in annex 5.

2.2.2 Execution of the questionnaire survey

The members of the ESAW Task Force group were asked to consider whether the survey could be carried out in their country. Finally three countries participated in the company survey (Italy, Luxembourg and Portugal). The companies were selected in such a way that they recently experienced an accident at work. They were asked to provide the cost information for the most recent accident at work or the accident at work that they knew best in their company.

The questionnaires were prepared in English and French by Arianell. The national translations were prepared by the institutions co-ordinating the national surveys:

INAIL, Italy (questionnaire in Italian)

Association des assurances contre les accidents, Luxembourg (only the original French questionnaire was used)

Ministério do Trabalho e da Solidarieda de Social, Portugal (questionnaire in Portuguese)

The surveys were performed as postal surveys in Italy and Luxembourg and as face-to-face interviews in Portugal. For the companies 56 (response rate 56%) replies were received in Italy, 45 (45%) in Luxembourg and 188 (94%) in Portugal.

2.3 ESTIMATION OF COSTS

Overall, the costs of accidents at work in EU15 were calculated by using the following steps:

- Estimation of immediate costs of accidents at work (less than 1 year of lost working time)
 1. Based on the above company questionnaire survey information, an estimation was made for the ratio between all other costs of accidents at work and the costs directly related to lost working time.
 2. Based on the ESAW database (number of accidents and number of days lost), the costs directly related to lost working time were estimated (lost time x unit cost of working time)

3. The costs of all other costs were estimated by multiplying the lost working time costs of step 2 by the ration of step 1.
- Estimation of the long-term costs (more than 1 year of lost working time).
4. The costs of lost working time due to permanent incapacity were estimated based on the information on numbers of accidents at work with permanent incapacity and age of the victim from the ESAW database (lost time until the age of 65 x unit cost of working time).
 5. The costs of lost working time due to fatal accidents at work were estimated based on the information on numbers of fatal accidents at work and age of the victim from the ESAW database (lost time until the age of 65 x unit cost of working time).

The mathematical format of this theoretical model is presented in annex 6.

The following paragraphs describe the details of each of the above steps. As it was not possible to completely ensure that the costs specified by the victims do not overlap with the costs specified by the companies, the victim part of the study is presented separately and these costs are not added to the costs specified by the companies. The aim of the victim part of the estimation is therefore only to describe the costs from the point of view of the victim (see annex 9).

2.3.1 Estimation of costs of accidents at work for companies

The aim of this part is to present the final model used to evaluate the labour costs and others costs from the point of view of companies.

2.3.1.1 Estimation of the relation between costs due to lost working time and all the other costs of accidents at work to companies

The summary distribution of the costs by type of cost from the company questionnaires is presented in annex 7. As the number of questionnaires was limited, all the different types of costs were combined for the statistical analysis. Thereafter the accidents described in the company questionnaires were grouped into 5 groups according to lost working time.

For each group the following ratios were calculated:

1. The proportion of accidents for which the companies reported costs other than those related directly to lost working time.
2. The ratio between all these other costs and the costs related to lost working time for those accidents for which there were costs other than those related to lost working time. The costs of lost working time were estimated by multiplying the number of days lost by the unit cost of one day lost (see point 2.3.1.2 for details).

At least some costs other than those due to lost working time were reported in 46% of accidents and the ratio of these costs in relation to the costs due to lost working time was the highest (586%) in accidents with less than 3 days lost and the lowest (39%) in accidents with at least 3 months lost. The following proportions/ratios were obtained:

Table 1. The number and proportion of accidents reported to have also costs other than those related to lost working time.

Number of days lost	All accidents in the questionnaires	Accidents with other costs than those due lost to working time	Proportion of accidents with other costs (Ratio 1)
	N (%) (1)	N (%) (2)	(2)/(1)*100
<= 3 days	45 (16%)	8 (6%)	17.78%
4 - 13 days	70 (25%)	38 (30%)	54.29%
14 days – <=1 month	72 (26%)	47 (36%)	65.28%
>1 month – <=3 months	49 (18%)	20 (15%)	40.82%
>3 months – >=6 months and permanent incapacity	42 (15%)	16 (12%)	38.09%
All*	278 (100%)	129 (100%)	46.40%

*Note: Period is missing in 8 cases and 3 fatal accidents where not included in the total

Table 2. The ratio between all other costs and the costs due to lost working time.

Number of days lost	Total other costs	Total costs due to lost working time (only those accidents for which other costs >0)	Ratio between other costs and costs due to lost working time (Ratio 2)
	(1)	(2)	[(1)/(2)]*100
< 3 days	3141	540	582%
4 - 13 days	39635	19511	203%
14 days – <=1 month	101649	63900	159%
>1 – <=3 months	30518	67218	45%
>3 – <=6 months and permanent incapacity	67252	1770375	39%

The costs other than those directly related to days lost were then estimated by multiplying the costs due to the days lost by these two ratios (see section 2.3.1.3). The above ratios specific to each category of days lost were applied to all NACE categories and all countries.

2.3.1.2 Estimation of costs directly due to lost working time

The costs due to lost working time were estimated by multiplying the days lost in each accident of the ESAW database by the unit daily labour cost. Accidents with missing information for days lost were redistributed according to the distribution of the accidents with known number of days lost of the same country. For countries with no information on days lost (DE, IE NL, PT, FI and UK) the distribution of the countries with known values was applied to the total number of accidents of each country. Accidents with less than 4 days lost are not included in the ESAW data

collection. Their number was estimated based on the 1999 LFS ad hoc module⁸. According to that survey, such accidents account for 36.37% of all accidents at work. This fraction was applied to all countries and all NACE sections. The numbers of accidents at work by NACE division and number of days lost are given in table 3.

Table 3. Number of accidents at work by category of days lost and by NACE, EU15, 2000.

	0 - 3 d	4d - 6d	7d - 13d	14d - 20d	21d - 1m	1m - 3m	3m - 6m	6m - and Perm. Inc.	Total (>3d)	Total (>0d)
Nace	(36.37%)	(11.41%)	(12.84%)	(8.00%)	(7.69%)	(14.72%)	(4.37%)	(4.61%)	(63.63%)	(100.00%)
-: Missing	18106	6258	9629	4776	3315	5087	752	1860	31677	49782
A: Agriculture, hunting and forestry	195156	35910	89236	60350	45373	83399	14053	13107	341429	536584
B: Fishing	4630	534	1699	1279	1035	3093	315	145	8101	12732
C: Mining and quarrying	19549	5125	9865	4715	3301	9287	1080	829	34201	53750
D: Manufacturing	759577	248494	425539	208395	131955	247044	33880	33588	1328895	2088472
E: Electricity, gas and water supply	9788	2914	4933	2629	1784	3730	616	519	17125	26913
F: Construction	483469	128216	257330	128943	86779	186963	29643	27964	845838	1329307
G: Wholesale and retail trade, repair...	309896	92125	174484	84928	55560	105188	15788	14097	542170	852066
H: Hotels and restaurants	122041	32783	73547	34691	21541	40955	5972	4023	213512	335553
I: Transport, storage and communication	256922	69005	121659	71190	51536	102550	18329	15222	449490	706411
J: Financial intermediation	15436	5138	7176	3958	2736	6043	977	976	27005	42441
K: Real estate, renting and business	178923	52645	94158	47600	33213	64389	11470	9554	313030	491953
L: Public administration and defence	96303	30215	47146	26101	17781	38059	5370	3811	168483	264786
M: Education	42173	15415	18109	11712	7016	16769	2455	2306	73782	115955
N: Health and social work	130441	47493	55629	36289	22675	49936	8601	7586	228208	358649
O: Other community, social and personal	105756	29589	52550	29548	21104	40400	6503	5328	185022	290778
P: Private households with employed pers	3884	733	1613	1020	775	1688	498	467	6795	10679
Q: Other services	489	143	229	127	102	166	42	45	855	1344
All	2752537	802733	1444531	758250	507580	1004746	156345	141431	4815616	7568153

Note: d: days, m: month, perm. Inc.: Permanent Incapacity

The annual labour costs were retrieved from the New Cronos database. The data for companies with 50-249 employees were used. The indicator used was the total labour cost. The costs were available by Member State and by NACE 1-digit category for the year 2000. If information was missing for a NACE category in a given country, the unit labour costs was estimated by the average of that country (NACE sectors C to K) and the EU15 ratio between the NACE sector in question and the EU15 average (NACE C to K). For Finland and Belgium, the unit labour cost information was not available and the EU15 values were used. As the days lost in the ESAW database are calculated as calendar days (not working days), the unit daily labour cost was calculated by dividing the annual labour cost by the number of calendar days in 2000 (366 days). Labour costs include compensation of employees, with wages and salaries in cash and in kind, employers' social contributions, vocational training costs, other expenditures and taxes relating to employment regarded as labour costs less any subsidies received. The annual labour costs used are given in table 4.

The total costs due to lost working time were calculated by multiplying the days lost of each accident in table 3 by the unit daily labour cost based on table 4. In the calculations, the centre of class was used as the number of days lost for each of the days lost categories of table 3 (9 months was used for the accidents with more than 6 months lost).

⁸ European Commission, European Social Statistics – Accidents at work and work related health problems ISBN 92-894-3601-8

Table 4. Annual labour costs by Member State and economic activity in 2000. Eurostat, New Cronos database.

NACE	EU15		AT	DE	DK	ES	FR	GR	IE	IT	LU	NL	BE	PT	SE	UK	FI
	Value	%															
A: Agriculture, hunting and forestry	36205		40333	37718	45660	23788	37378	18299	32009	31208	41032	38883	36205	13643	49726	45842	36205
B: Fishing	36205		40333	37718	45660	23788	37378	18299	32009	31208	41032	38883	36205	13643	49726	45842	36205
C: Mining and quarrying	41199	(113.79%)	45897	43317	47339	27920	39430	23262	35770	39564	46692	60023	36205	11280	56585	57590	41199
D: Manufacturing	36205	(100.00%)	39579	37897	42488	25068	32681	16873	30944	29816	35084	39119	36205	11421	45750	41762	36205
E: Electricity, gas and water supply	33937	(93.74%)	37806	45337	48369	39897	45281	23600	47566	39144	38461	54103	33937	14718	46610	72408	33937
F: Construction	46130	(127.41%)	38056	36256	44892	20241	36939	15240	36063	31712	30047	38464	46130	13194	49726	47430	46130
G: Wholesale and retail trade, repair...	36205		39719	36374	47268	24399	33798	19349	30984	32574	29650	37430	36205	17254	49797	44072	36205
H: Hotels and restaurants	35601	(98.33%)	23898	24005	33436	18482	32255	23073	20975	24714	23785	23100	35601	12076	36674	28756	35601
I: Transport, storage and communication	24814	(68.54%)	35235	25851	45268	24688	25618	16427	28882	32740	32351	37678	24814	16554	45021	44136	24814
J: Financial intermediation	35300	(97.50%)	58976	51535	55029	39923	57550	37364	55457	53481	71045	54949	35300	39483	81627	83515	35300
K: Real estate, renting and business	59108	(163.26%)	48116	61578	49740	22253	47512	21937	38415	33891	42224	39750	59108	16478	56916	51841	59108
L: Public administration and defence	43970	(121.45%)	48983	45808	55453	28890	45394	22223	38874	37902	49832	47222	43970	16569	60390	55674	43970
M: Education	36205	(100.00%)	40333	37718	45660	23578	37378	18299	32009	31208	41032	38883	36205	13643	49726	37451	36205
N: Health and social work	30546	(84.37%)	34029	31823	38523	19946	31535	15439	27006	26330	34618	32805	30546	11511	41953	27641	30546
O: Other community, social and personal	25800	(71.26%)	28742	26879	32538	22598	26636	13040	22810	22240	29240	27709	25800	9722	35435	42103	25800
P: Private households with employed pers	35552	(98.20%)	40333	37718	45660	23788	37378	18299	32009	31208	41032	38883	36205	13643	49726	45842	36205
C to K	36205	(100)	40333	37718	45660	23788	37378	18299	32009	31208	41032	38883	36205	13643	49726	45842	36205

* for NACE A, B and G, the average of NACE c to k was used. The percentages in the EU15 column refer to the ratio between the labour cost of the NACE category and the labour cost of total of NACE C to K:

2.3.1.3 Estimation of costs other than those due to lost working time

The proportion of accidents having other types of costs and the ratios “all other costs / costs of lost working time” obtained in step 1 were applied to the costs of lost working time estimated in step 2. The same proportions and ratios were applied to all countries and all economic activities (NACE). The specific proportion and ratio of each accident type category (by number of days lost) was applied to the relevant category obtained in step 2 tables 1 and 2. For example, for each country and economic activity, 54% of all accidents with 4 to 13 days lost have also costs other than those due to lost working time and for these accidents the “other costs” are 2.03 times the costs due to lost working time.

2.3.1.4 Costs of accidents leading to permanent incapacity

The above estimations of costs due to lost working time and other costs of accidents at work included only temporary accidents at work and the first year of lost working time of permanent accidents at work (the centre of class duration of 9 months was applied to the category “more than 6 months lost or permanent incapacity”).

For accidents at work with permanent incapacity only the costs due to lost working time were estimated.

To estimate the long-term costs of accidents at work leading to permanent incapacity, the number of years of lost working time was estimated according to the age of the victim and by assuming a retirement age of 65 years. The costs of lost working time were estimated by multiplying the NACE and country specific annual labour costs by the number of years lost of each accident.

The ESAW database includes information on permanent accidents at work reported by the national authorities as “more than 6 months lost or permanent incapacity”. The definition of permanent incapacity varies between the national systems, it includes cases with a 100% permanent incapacity to work as well as cases with only a mild but permanent incapacity due to an accident at work. In most systems the lowest percentage of incapacity eligible for permanent recognition is around 10%.

Based on the 1999 LFS ad hoc module, 0.2% of victims of all accidents at work (with or without days lost) estimate that they can never return to work.

For the estimation of the number of accidents at work with permanent incapacity in 2000 the following assumptions were made:

- 0.2% of all accidents at work in each NACE category and in each country result to a 100% incapacity to work.
- if the number of cases of accidents with “more than 6 months lost or permanent incapacity” in the ESAW database 2000 for a given country is higher than the above number, the remaining accidents are estimated to represent an average permanent incapacity of 15% only (instead of 100%).

Thereafter the costs of lost labour because of accidents at work with permanent incapacity were calculated by multiplying the lost years in each case by the annual labour cost specific to that accident victim (NACE and country specific). Taking into account the above estimations it was considered that the cost is either 100% or 15% of the lost labour cost according to the group into which the accident in question belonged to.

In the above calculations the costs of lost working years were calculated using only labour cost data of the year 2000. No future increases in labour costs were taken into account, and no discounting effect was included. Concerning the age of the victims for permanent incapacity to work, the centre of class was used to estimate the number of years lost to estimate the labour cost of each category of age.

2.3.1.5 Costs of fatal accidents at work

For fatal accidents at work only the costs due to lost working time were estimated. The number of years of lost working time was estimated according to the age of the victim and by assuming a retirement age of 65 years. The costs of lost working time were estimated by multiplying the NACE and country specific annual labour costs by the number of years lost of each fatal accident similarly as for accidents with permanent incapacity to work in point 2.3.1.4.

3. RESULTS

This chapter presents the main results obtained by applying the methodology explained above for the ESAW 2000 database. The results are presented at the level of EU15. More detailed results are given in annex 8.

It should be underlined that the results obtained are partly based on estimates calculated from a small number of survey responses. These figures should preferably be validated by a new survey with more cases of accidents to confirm the ratios calculated in the methodology and used to make estimates.

The results from the point of view of the victims of accidents at work are presented in annexes 10.

The summary of the results is presented in table 5. Accidents at work were estimated to have caused costs of 55 billion euros in EU15 in 2000. Most of these costs (88%) were due to lost working time (labour cost). However, one must bear in mind that for accidents with permanent incapacity to work and fatal accidents at work, the questionnaire information did not allow to estimate costs other than those resulting from lost working time. From all economic activities, most costs were caused in manufacturing and construction, which also accounted for the largest number of accidents at work.

Table 5: Number of accidents at work, costs due to lost working time (labour cost) and other costs in 2000. EU15 level results by economic activity and severity of accident. (in 1000 euros)

		Temporary (< 1 year)	Permanent 100%	Permanent 15%	Fatal	Total
Missing	Number of accidents	49 782	100	1 721	88	
	Labour costs total	108 327	82 753	224 192	57 396	472 667
	Other costs	42 390				42 390
	Total costs	150 717	82 753	224 192	57 396	515 057
A	Number of accidents	536 584	1 073	11 658	651	
	Labour costs total	1 346 629	727 309	1 114 719	387 436	3 576 093
	Other costs	526 010				526 010
	Total costs	1 872 639	727 309	1 114 719	387 436	4 102 103
B	Number of accidents	12 732	25	106	49	
	Labour costs total	23 162	19 818	12 086	27 374	82 441
	Other costs	8 543				8 543
	Total costs	31 706	19 818	12 086	27 374	90 984
C	Number of accidents	53 750	107	712	87	
	Labour costs total	118 844	113 303	104 060	71 089	407 296
	Other costs	47 612				47 612
	Total costs	166 456	113 303	104 060	71 089	454 909
D	Number of accidents	2 088 472	4 177	30 077	976	
	Labour costs total	3 875 844	3 667 145	3 865 855	750 504	12 159 347
	Other costs	1 751 342				1 751 342
	Total costs	5 627 186	3 667 145	3 865 855	750 504	13 910 689
E	Number of accidents	26 913	53	466	42	
	Labour costs total	62 179	50 526	63 125	36 599	212 430
	Other costs	26 579				26 579
	Total costs	88 758	50 526	63 125	36 599	239 009
F	Number of accidents	1 329 307	2 659	24 797	1 279	
	Labour costs total	2 830 676	2 400 200	3 243 898	971 666	9 446 439
	Other costs	1 131 773				1 131 773
	Total costs	3 962 449	2 400 200	3 243 898	971 666	10 578 213
G	Number of accidents	852 066	1 704	12 651	461	
	Labour costs total	1 678 946	1 643 581	1 715 082	360 331	5 397 940
	Other costs	739 211				739 211
	Total costs	2 418 157	1 643 581	1 715 082	360 331	6 137 150
H	Number of accidents	335 553	671	3 571	73	
	Labour costs total	499 385	481 276	387 334	43 932	1 411 928
	Other costs	228 762				228 762
	Total costs	728 146	481 276	387 334	43 932	1 640 688
I	Number of accidents	706 411	1 413	13 658	865	
	Labour costs total	1 685 901	1 023 198	1 404 415	20 910	4 134 424
	Other costs	669 092				669 092
	Total costs	2 354 994	1 023 198	1 404 415	20 910	4 803 517

		Temporary (< 1 year)	Permanent 100%	Permanent 15%	Fatal	Total
J	Number of accidents	42 441	85	877	23	
	Labour costs total	142 921	105 595	162 287	23 868	434 671
	Other costs	57 656				57 656
	Total costs	200 577	105 595	162 287	23 868	492 327
K	Number of accidents	491 953	984	8 635	248	
	Labour costs total	1 133 377	1 144 136	1 587 991	246 621	4 112 125
	Other costs	479 001				479 001
	Total costs	1 612 378	1 144 136	1 587 991	246 621	4 591 126
L	Number of accidents	264 786	530	3 361	116	
	Labour costs total	556 701	534 610	492 989	98 677	1 682 978
	Other costs	239 447				239 447
	Total costs	796 149	534 610	492 989	98 677	1 922 425
M	Number of accidents	115 955	232	2 058	26	
	Labour costs total	247 469	188 233	247 706	21 002	704 410
	Other costs	98 889				98 889
	Total costs	346 358	188 233	247 706	21 002	803 299
N	Number of accidents	358 649	717	6 827	77	
	Labour costs total	703 914	502 673	742 241	57 846	2 006 675
	Other costs	272 990				272 990
	Total costs	976 905	502 673	742 241	57 846	2 279 665
O	Number of accidents	290 778	582	4 763	147	
	Labour costs total	656 119	397 179	477 149	90 060	1 620 506
	Other costs	274 143				274 143
	Total costs	930 261	397 179	477 149	90 060	1 894 649
P	Number of accidents	10 679	22	421	5	
	Labour costs total	34 905	14 761	41 419	1 939	93 024
	Other costs	11 055				11 055
	Total costs	45 960	14 761	41 419	1 939	104 079
Q	Number of accidents	1 344	3	41	4	
	Labour costs total	3 505	2 692	6 322	4 236	16 754
	Other costs	1 303				1 303
	Total costs	4 807	2 692	6 322	4 236	18 057
TOTAL	Number of accidents	7 568 153	15 136	126 399	5 237	
	Labour costs total	15 708 804	13 098 989	15 892 868	3 835 173	48 535 835
	Other costs	6 605 798				6 605 798
	Total costs	22 314 602	13 098 989	15 892 868	3 835 173	55 141 633

3.1 ACCIDENTS RESULTING IN TEMPORARY INCAPACITY TO WORK

Table 6 shows the number of accidents and the costs for the about 7.5 million accidents with temporary incapacity to work (and the first year of accidents with permanent incapacity to work). Costs other than those directly related to lost working time (labour cost) accounted for 70% of the total costs of 22 billion euros of these accidents. According to the questionnaire information, from 18% (accidents with less than 4 days lost) to 65% (accidents with 14 to 30 days lost) of accidents caused costs other than labour cost. Among accidents with such other costs, these costs were 6 times higher than the labour costs among accidents with less than 4 days lost, while they corresponded only to about 40% of the labour costs among accidents with more than 6 months lost. The detailed distribution of costs of accidents with temporary incapacity is given in tables 20 and 21 of annex 8.

Table 6: Number of accidents, costs due to lost working time (labour cost) and other costs of accidents at work resulting in temporary incapacity to work. EU15 level results by duration of incapacity to work(in 1000 euros)

	0-3d	4d - 6d	7d - 13d	14d - 20d	21d - 1m	1m - 3m	3m - 6m	6m - and perm. inc.*	Total
% of acc. With other costs (Ratio1)	17.78%	54.29%	54.29%	65.28%	65.28%	40.82%	38.09%	38.09%	
Other costs/labour costs (Ratio2)	581.59%	203.15%	203.15%	159.07%	159.07%	45.40%	39.47%	39.47%	
Number of accidents	2 752 537	802 733	1 444 531	758 250	507 580	1 004 746	156 345	141 431	7 568 153
Labour costs total	373 663	371 064	1 290 104	1 219 125	1 189 743	5 497 209	2 020 632	3 747 264	15 708 804
Other costs	386 392	409 247	1 422 858	1 265 950	1 235 440	1 018 758	303 784	563 368	6 605 798
Total costs	760 055	780 310	2 712 962	2 485 075	2 425 183	6 515 967	2 324 416	4 310 633	22 314 602

* includes the first year for cases with permanent incapacity to work.

3.2 ACCIDENTS RESULTING IN PERMANENT INCAPACITY TO WORK

The costs of lost working time (labour cost) due to accidents at work resulting in permanent incapacity to work were estimated assuming a retirement age of 65 years. Roughly 141 000 of such accidents at work were estimated to result in costs of 29 billion euros (table 7). It must be underlined that the data concerning the level of permanent incapacity were not accurate enough for exact estimates. Therefore the accidents were assumed to result either to total incapacity to work or to a rather mild incapacity to work, i.e. 15% (see methodology). On the other hand it was not possible to estimate costs other than labour costs for these accidents. The number accidents at work with permanent incapacity increases considerably with age, Nevertheless, the total number of working years lost and therefore also the highest costs were due to accidents among those aged 25-34 years and those aged 35-44 years. The detailed distribution of costs due to accidents at work with permanent incapacity to work is given in tables 22 and 23 of Annex 8.

Table 7: Number and costs of accidents at work resulting in permanent incapacity to work by age. EU15 in 2000 (in 1000 euros)

Center of class	0-14	15-17	18-24	25-34	35-44	45-54	55-64	65+	Total
Number of year lost	14 (51)	16 (49)	21.5 (44)	29 (36)	39 (26)	49 (16)	59 (6)	65 (0)	
Number of accidents (100% inc. to work)	7	81	1 172	3 358	4 076	4 180	2 037	225	15 136
Costs (1000 euros)	14 371	143 376	1 875 166	4 386 301	3 829 507	2 405 306	444 962		13 098 989
Number of accidents (15% inc. to work)	7	708	9 320	27 795	33 869	35 682	16 846	2 172	126 399
Costs (1000 euros)	1 711	182 984	2 193 345	5 306 878	4 653 472	3 018 779	535 698		15 892 868
Total costs (1000 euros)	16 082	326 360	4 068 512	9 693 179	8 482 979	5 424 085	980 660		28 991 857

3.3 FATAL ACCIDENTS AT WORK

The costs of lost working time (labour cost) due to fatal accidents at work were estimated assuming a retirement age of 65 years. The 5237 fatal accidents at work were estimated to result in a cost of 3.8 billion euros (table 6). The number of fatal accidents at work increases importantly with age, but the total number of working years lost and therefore also the highest costs were due to fatal accidents at work among those aged 25-34 years and those aged 35-44 years. The detailed distribution of costs due to fatal accidents at work is given in tables 24 and 25 of Annex 8.

Table 8: Number of accidents, years lost and costs of fatal accidents at work by age. EU15 in 2000, (in 1000 euros)

Class of age of Victims	0-14	15-17	18-24	25-34	35-44	45-54	55-64	65+	Total age known
<i>Center of class</i>	14	16	21.5	29	39	49	59	65	
<i>Number of year lost</i>	51.00	49.00	43.50	36.00	26.00	16.00	6.00	0.00	
N. of accidents	16	26	458	1 078	1 321	1 339	821	178	5 237
Number of years lost	826	1 291	19 911	38 796	34 341	21 427	4 928		121 520
Labour costs (1000 euros)	24 579	43 141	624 625	1 199 404	1 091 657	692 296	159 471		3 835 173

4. DISCUSSION

Systematic information on costs of accidents at work is not available from administrative statistical data sources or regular surveys on health and safety at work. This project produced a preliminary model to estimate these costs at EU level by a number of variables. The model was based on cost data from a questionnaire survey and administrative statistical data on numbers and characteristics of accidents at work and on labour costs. The initial literature study performed in this prospect revealed a lack of comprehensive studies in this domain. Despite the preliminary nature of the model and the estimates, the results are interesting by giving a cost perspective to safety at work matters. Nevertheless it is only fair to critically review some of the limitations of the study.

- The empirical data from the questionnaire survey was based on a very small sample size. Therefore it is obvious that even if no confidence limits are given, the statistical precision of the results is not ideal. The number of individual responses concerning a certain type of costs or a certain type of accident was very low. Therefore most of the coefficients of the model could not be calculated separately for different costs, for different types of accidents or for different types of companies or sectors of economic activities. It is obvious that for example costs due to lost material could be quite different for different types of accidents.
- The questionnaire survey was performed only in a few Member States and the results had to be extrapolated to the other Member States. An adjustment could be made for differences in labour costs between the countries, but quite obviously there are other differences which should have been taken into account.
- It proved difficult both for the companies and the victims to exactly estimate the various costs of accidents at work. This task was further complicated by the fact that many of the cost are at least partly reimbursed by an insurance. For some types of costs the exact amount could still be retrieved from documents related to the insurance, while for some costs neither the company nor the victim was in a position to provide an accurate estimate. A typical example of this problem is related to one major element of total costs, i.e. the costs of health care and rehabilitation. It is very difficult to assess the real health care costs of accidents at work in a reliable way. A real cost of a hospital day, an emergency visit or a rehabilitation course is usually much higher than what is actually paid between any of the players, as part of the cost remain to be paid by the society maintaining the health care system. In this respect there are obvious differences between the systems of the Member States.
- The statistical data on accidents at work resulting in permanent incapacity to work was not detailed enough to accurately estimate the theoretical costs of lost working time for these cases and assumptions had to be made. These concerned the permanent nature of incapacity to work which was classified as “more than 6 months or permanent” and the distribution of level of permanent incapacity (100% or less, see methodology). As the costs due to permanent incapacity constitute an important proportion of the total costs of accidents at

work, the accuracy and level of detail of this statistical information should be improved.

- In the estimates the labour costs were calculated based on the labour cost and the lost working time. This is a theoretical approach. There are important differences between the Member States on how the costs of lost working time are actually dealt with between the society, the employer, the victim and the private/public insurance handling the reimbursements. Depending on the insurance system, the validity of the theoretical approach used may also vary according to whether the accident resulted in a short or long incapacity or full or partial permanent incapacity or death. In any case all these costs are probably not directly evident for the employer because of the insurance and the overall distribution of these costs between the society, the employer, the insurance for accidents at work and the general social security system.
- Not all effects of accidents at work can be measured in costs. The victims were asked to estimate in financial terms also various effects related to quality of life. This proved too difficult and such effects are not taken into account in the model.

Given all the uncertainties listed above, the estimate of 55 billion euros for the costs of accidents at work in EU15 in 2000 must be interpreted with caution. At least as regards costs of health care and rehabilitation it probably underestimates the real costs for the reason pointed out above. Nevertheless the estimate corresponds to 0.64% of the GDP of about 8500 billion euros for EU15 in 2000. One must bear in mind that the estimate only concerns accidents at work, non-accidental work-related health problems are not covered. Such problems quite probably cause even more losses of working time or costs of health care. Depending on the survey such problems are estimated to cause 1.6 to 2.2. times more days of temporary incapacity to work than do accidents at work, while there are 2.4 times more people reporting long-standing health problems or disability due to work-related diseases than due to accidents at work.⁹ This indicates that work-related non-accidental health problems may cause at least two times more temporary and permanent incapacity as compared to accidents at work.

A more accurate estimation of socio-economic costs of work-related ill-health necessitates the validation of the present estimates concerning accidents at work (a larger survey preferably with face-to-face interviews to increase the quality of the answers) and inclusion of an analysis concerning the non-accidental work-related health problems. It would be useful also to collect information from the insurance systems which by definition should possess information on these costs.

⁹ European Commission, Panorama of the European Union, Population and Social Conditions " Work and health in the EU, A statistical portrait", 2003 Edition, ISBN 92-894-7006-2

ANNEX 1:
CONTACTS ESTABLISHED FOR THE STUDY

In order to specify more precisely the objectives of the study and to ensure that the results satisfy the needs, several contacts were made. The **DG Employment and Social Affairs, Unit D4 Health, safety and hygiene at work** participated from the beginning of the study and contributed to reaching the objectives and definitions of costs that needed to be taken into account.

The members of the following expert groups were asked to indicate national experts that could be interviewed for the draft questionnaire and the approach:

- DG Employment and Social Affairs, Advisory Committee on Safety, Hygiene and Health Protection at Work
- Eurostat, Task Force of European Statistics on Accidents at Work (ESAW),

The **ESAW Task Force representatives** were also contacted for the possibilities to organise the questionnaire surveys in their countries.

In the following tables are listed the companies/institutions and the experts that were contacted for various purposes during the project.

Contacts made via the ESAW representatives (possible organisation of the surveys, information on national studies conducted)

Spain	Ministerio de Trabajo y asuntos Sociales espana
Greece	Ministry of Labour and Social Affairs ELLAS
Portugal	Ministério do Trabalho e da Solidarieda de Social
Italy	INAIL (Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro)
Finland	Statistics Finland and Federation of Accident Insurance Institutions
Luxembourg	Association d'assurance contre les accidents
France	CNAMTS (Caisse Nationale d'Assurance Maladie des Travailleurs Salariés) – Direction des risques professionnels
United Kingdom	Health and Safety Executive

Contacts made via the representative members of employers and employees in the "Advisory Committee on Safety, Hygiene and Health Protection at Work"

Sweden	Royal Institute of Technology
	The association of Swedish Engineering Industries
United Kingdom	ETNO (European Telecommunications Network Operators' Association)
Ireland	IBEC
Denmark	Danish Employers' Confederation
	FTF Denmark
Germany	European chemical industry, Council (CEAC) Health, Safety and Environment
Finland	Employers' confederation of service industries
	Finnish Social Insurance Institution
	Finnish Institute of Occupational health
	Ministry of Social affairs and health
Spain	Universal de todas las provincias espanolas

Interviews took place in Sweden, Finland, Germany with experts in this domain. British Telecom's Representative Office experts were met in Luxembourg. E-mail Contacts were made with experts from Portugal, Austria and British Airports Authority.

Companies and associations contacted to be interviewed on the topic

Sweden	IPF, Uppsala Science Park
	Stockholm University, School of Business
Finland	Federation of Accident Insurance Institutions
	Manufacturing sector – Metso Paper Oy Rautpohja
	Construction sector – SRV Viitaset Oy
	Construction sector - NCC
	Borealis-group
	FIOH: The Finnish Institution of Occupational Health
	Manufacturing sector – Kvaener Masa - Yards
Portugal	APETT – service sector –Portuguese Association of Companies of Temporary Work
	APECA – service sector – Portuguese Association of Companies of Accountancy, Auditor ship and Administration
	APCMC – Construction sector - Portuguese Association of Traders of Construction Materials
	ANTRAM – Transportation sector – National association of Public Merchandises Transporters
Germany	Bayer AG
United Kingdom	BT Representative Office
	British Airports Authority
Austria	Diewerstatt
	MAHLE Filtersysteme Gm bh

Research carried out by three National Institutes have been taken into account.

Germany	HVBG -Hauptverband der gewerblichen Berufsgenossenschaften
Netherlands	TNO Work & Employment
Austria	AUVA Allgemeine Unfallversicherungsanstalt Hauptstelle

List of companies/persons interviewed as regards the draft questionnaire

Sweden	Mr. Ulf Jhanson	IPF, Uppsala Science Park
	Mr. Jan-Erik Gröjer	Stockholm University, School of Business
	Mrs. Paula Liukkonen	Stockholm University, School of Business
	Mr. Björn Hammar	The association of Swedish Engineering Industries
Finland	Mr. Jarmo Jacobsson	Federation of Accident Insurance Institutions
	Mr. Hannu Tarvainen	Federation of Accident Insurance Institutions
	Mr. Eero Halmetoja	Manufacturing sector – Metso Paper Oy Rautpohja
	Mr. Jari Korpisaari	Construction sector – SRV Viitokset Oy
	Mr. Ben Berglöv	Construction sector - NCC
	Mr. Veli-Mati Salo	Borealis-group
	Ms. Monica Bergström Mr. Simo Kaleva Mr. Tuula Räsänen	FIOH: The Finnish Institution of Occupational Health
	Mr. Ari Rajamaki	Manufacturing sector – Kvaener Masa - Yards
Germany	Dr. Peter G. Schmelzer	Bayer AG
United Kingdom	Mr. David Wallington	BT Representative Office
	Ms Silvester	BT Representative Office

List of companies / persons contacted for the study

List of contacts established with the committee of employer, committee of employees,

Sweden	Mr. Tore J Larsson	Royal Institute of Technology
United Kingdom	Mrs. Jane Murray	ETNO (European Telecommunications Network Operators' Association)
Ireland	Mr. Tony Briscoe	IBEC
Denmark	Mrs. Henriette Bennicke	Danish Employers' Confederation
	Mrs. Jan Kahr Frederiksen	FTF Denmark
Germany	Dr. Simon L. Cassidy	European chemical industry, Council (CEAC) Health, Safety and Environment
Finland	Mr. Raili Perimäki-Dietrich	Finnish Social Insurance Institution
	Mr. Rauno Toivonen	Finnish Institute of occupational health
	Mr. Antti Mähönen	Employers' confederation of service industries
	Mr. Kari Ilmonen	Ministry of Social Affairs and Health
Spain	Mr. Pere Teixido	Universal de todas las provincias españolas

List of contacts established with the ESAW Task Force

Spain	Mrs. Teresa Santa Cruz	Ministerio de trabajo y asuntos sociales española
Greece	Mr. Fotis Moschopoulos	Ministry of Labour and Social Affairs ELLAS
Portugal	Mrs. Maria Joao Rebelo	ICEP – depot de estatística do trabalho, emprego e form. professional
Italy	Mr. Gianfranco Ortolani	INAIL
Finland	Mr. Marko Ylitalo	Stat Finland
	Mr. Juha Hemminki	Federation of Accident Insurance Institutions
Luxembourg	Mr. Claude Seywert	Association d'assurance contre les accidents
France	Mr. Frédéric Gudin du Pavillon	CNAMTS
Austria	Ms. Beate Mayer	AUVA
United Kingdom	Mr. Chris Collinson	Health and Safety Executive

List of contacts established with other institutes

Germany	Mr. Karlheinz Meffert	HVBG -Hauptverband der gewerblichen Berufsgenossenschaften
Netherlands	Mr. Steven Dhondt Mr. Niek Steijger Mr. Martin Van de Bovenkamp Mr. Peter Smulders	TNO Work & Employment
Portugal	Mr. Marcelino Pena Costa	APETT – service sector –Portuguese Association of Companies of Temporary Work
	Dr. Almeida Serra	APECA – service sector – Portuguese Association of Companies of Accountancy, Auditorship and Administration
	Dr. José de Matos	APCMC – Construction sector - Portuguese Association of Traders of Construction Materials
	Dr. Francisco Costa Lopes	ANTRAM – Transportation sector – National association of Public Merchandises Transporters
Austria	Ms Maria Theresia Bretschneider Mr. Ing. Franz Mlinar	Diewerstatt MAHLE Filtersysteme GmbH
United Kingdom	Mr. Louis Smith	British Airports Authority

ANNEX 2:
BIBLIOGRAPHIC REFERENCES

I. BIBLIOGRAPHIC REFERENCES of the three studied models

1. Ministry of social affairs and health (Finland), 1997-1998. *The TYTA Model - Implement for Evaluating the Company's Working Environment Costs*

In 1997-1998 Finland's Ministry of Social Affairs and Health, Department for Occupational Safety and Health together with the OSH inspectorates, carried out a project with the aim of developing the labour inspection methods using the economic approach (the TALVA project). The TYTA model was part of this project and introduced a calculation tool for estimating the economic impacts of the working environment at company level. The TYTA model produces information on costs caused by absenteeism due to illness, accidents, turnover, disability and development of working conditions. At the same time the model is a tool for management to undertake steps related to the working environment and to develop working conditions. The aim of the model is to motivate companies to develop their working conditions.

2. Fiammetta Gordon, Davis Risley, *The costs to Britain of workplace accidents and work-related ill health in 1995/96*- HSE, Health and Safety Executive, The United Kingdom

HSE (Health and Safety Executive) put in place a methodology and calculation methods in order to measure the costs to Britain of workplace accidents and work-related ill health in 1995/1996. One of the factors allowing to make informed decisions about preventive measures and regulation of risk in work activities is the monetary evaluation of the costs of work-related illnesses and injuries; using a similar framework as previous HSE work in 1990 (Davies and Teasdale, 1994). It shows the extent of occupational injuries and illness, and identifies costs to individuals, employers and society. Cost estimates are then compared to previous British estimates and those made for other countries.

3. British Telecom – *Health and Safety Costing Model, Single and Multiple Accidents, May 2003*, produced by Group Operations Finance

In October 2002, BT decided to develop the basis of a model which would enable it to calculate the true costs of work accidents. The model focuses on physically proved costs. This way information is directly usable by business units. It breaks down the costs of work accidents into 3 cost headings: people resource costs, property damage costs and additional costs. The model is proving very valuable in targeting resources and identifying areas which warrant remedial action. The data is also likely to become a key performance indicator for health and safety within the business.

II. BIBLIOGRAPHIC REFERENCES ON OTHER STUDIES

4. Ministry of social affairs and health. *Economics of the working environment*

The objective of the project was determined in the following way: “The purpose of the project is to develop the occupational safety operations of workplaces by producing and disturbing information and models for action for the workplaces to consider and make more use of the financial importance of working conditions”

5. Dr. med. M. de Loës. *Work-Related Injuries From Mandatory Fitness Training Among Swedish Firemen* prepared by Karolinka Institutet, Dept of Public Health Sciences, Division of Social Medicine, Stockholm, Sweden

Three different types of costs. The two first are based on the number of days of sick-leave. Medical treatment – Production loss – Compensation for disfigurement and lasting non-financial loss. Material : all registered injuries in professional firemen in Sweden from 1992 to 1998 No comment concerning the costs but possibility to contact the author.

6. Jahangir Khan, M.Sc., Bjarne Jansson, Ph.D. *Risk level assessment and occupational health insurance expenditure : a gender imbalance*

It is tested whether occupational risk explains differences in reimbursements from occupational-injury insurance schemes in relation to socio-economic differences in all municipalities in Stockholm county, Sweden. An occupational risk level is formed, which considered the proportions of workers in various industrial sectors and the probability of a worker being injured in each. A regression analysis is performed, treating socioeconomic factors, occupational-risk level explains the pattern of payments to men but not to women. From a gender perspective, it can be concluded that women, as a group, are not compensated for their occupational risks to the same extent as men.

7. M. de Loës, B.Jansson. *Work-Related acute injuries from mandatory fitness training in the Swedish Police Force*

See comments below on Work-related Injuries From Mandatory Fitness Training Among Swedish Firemen

8. Bjarne Jansson, Bengt Springfeldt, Börje Bengtsson, Bo Landgren. *National costs surveillance of occupational injuries using a record linkage*

Total costs for killed and injured persons due to road traffic accidents and other accidents have been divided into three parts:

1. Expenses for hospital care, consultations with physicians, drugs, therapeutic aid,
2. Loss of production due to short term illness, permanent disability and premature death,

3. Costs associated with pain, suffering and grief (human value)

9. Bjarne Jansson PhD. *Research Program on Injury Prevention and Safety Promotion*

Presentation of the third comprehensive presentation of the area of safety promotion research of safety promotion research at Karolinska Institutet (Current programs, external funding and publications 2001-2003)

10. A. John Bailer (PhD), James F. Bena (MS), Leslie T. Stayner (PhD), William E. Halperin (MD, DrPH), and Robert M. Park (MS). *External Cause-Specific Summaries of Occupational Fatal Injuries. Part 1: an analysis of rates*

Fatalities from the National Traumatic Occupational Fatality database (years 1983-1994) serve as the basis for examining external cause of death code specific rates. Industries and occupations are compared with respect to rate and frequency of fatal injuries. In addition, external causes of injury (E-codes) are examined across all industries and occupations as well as within industries and occupations to evaluate which events would be identified by frequency ordered comparisons versus rate ordered comparisons.

11. A. John Bailer (PhD), James F. Bena (MS), Leslie T. Stayner (PhD), William E. Halperin (MD, DrPH), and Robert M. Park (MS). *External Cause-Specific Summaries of Occupational Fatal Injuries. Part 2: an analysis of rates*

Fatalities from the National traumatic Occupational Fatality surveillance system served as the basis for examining external cause (E-code) specific impact summaries. Years of potential life lost (YPLL) were calculated for fatal injuries in the years 1983-1994. Industries and occupations were compared with respect to frequency of fatal injuries. In addition, injuries in categories of external causes are examined across all industries and occupations.

12. Tore J. Larsson, Neville J. Betts. *The variation of occupational injury cost in Australia; Estimates based on a small empirical study*

In order to assess the 'direct' and 'indirect' costs associated with occupational injury in Australia, a sample of accidents were investigated with the help of in-depth interviews with victims, supervisors and managers in a number of small, medium-size and large industries in Victoria, Australia. The average costs for minor (≤ 7 days lost) and major (> 7 days lost) injuries was assessed, and the distribution between the injured individual, the production system and the compensation system in terms of meeting these costs was shown to vary considerably between the different Australian jurisdictions and workers' compensation systems. Substantial unpriced time was spent by injury victims and families as a consequence of the injury. A large proportion of the cost associated with occupational injury in Australia was paid by the injured individual.

13. Söderqvist, T. Rundmo, M. Aaltonen. *Costs of Occupational Accidents in the nordic Furniture Industry (Sweden, Norway, Finland)*

An empirical study of the costs of occupational accidents was carried out during 1986-87 in 57 furniture companies in Finland, Norway and Sweden, employing 5,000 cabinet-makers. The sample covered 18 percent of the furniture manufacturing industry in the three countries. The main objective of this study was to increase safety management motivation. The layout of the study was identical in all three. A total of 460 accidents were investigated. The consequences of each accident were identified and analyzed. The costing is based on three costing models, called the market pricing model, the accounting model, and the spare-capacity model. The latter was developed within the project and tested in Norway and Sweden

14. Torbjorn Rundmo, Anders Söderqvist. *Economics assessment of occupational injuries in furniture industries*

A total of 39 furniture manufacturing firms in Norway and Sweden were sampled for a study of occupational accidents. All injuries occurring in the course of one year were investigated (n=246) and accident costs were calculated. The firms studied covered 20% of the total number of employees in this industry. The main objective of this paper is to compare two models for costing accidents: the market-pricing model and the spare capacity model. The latter was devised in pursuit of the project aims. In-plant costs calculated with the psare-capacity model were two to five times those arrived at using the market-pricing model. The spare-capacity model most realistically reflected true costs. When the conventional market-pricing model was used, financial losses tended to be underestimated. A substantial portion of the total costs was borne by other than the employing firms

15. Gwendolyn Haile Cattledge, Aaron Schneiderman, Ronald Stanevich, Scoot Hendricks and Judith Greenwood. *Non Fatal occupational fall injuries in the west Virginia Construction industry*

Descriptive analyses were conducted using the West Virginia workers' compensation and supplemental injury records to assess nonfatal occupational falls from elevated work surfaces in the construction industry. These analyses are based on the 182 fall injuries. Most of these incidents occurred among young white males who were construction category (SIC-15).

16. Lobat Hashemi (MS), Barbara S. Webster (BSPT, PA-C). *Non-fatal workplace violence Workers' compensation claims (1993-1996)*

More is known about fatal workplace violence than non-fatal workplace violence (NFWV). This study provides descriptive information on the number and cost of NFWV claims filed with a large worker's compensation carrier. Employers should acknowledge that NFWV incidents occur, recognize that the majority of perpetrators are criminals or clients rather than employees, and develop appropriate prevention and intervention programs.

17. Judith E. Glazner (MS), Joleen Borgerding (BA), Jan T. Lowery (MPH), Jessica Bony (MHA), Kathryn L. Mueller (MD, MPH) and Kathleen Kreiss (MD). *Construction Injury Rates may exceed national estimates: evidence from the construction of Denver International Airport*

Comprehensive payroll data for all workers, who were paid standard Davis-Bacon wages, allowed calculation of person-hours at risk by job classification. Complete reporting, facilitated by a single workers' compensation plan covering all contracts and by an on-site medical clinic and designated provider system, allowed us to determine both total and lost-work-time (LWT) injury rates per 200,000 hours at risk by industrial sector, company size, and year of construction. Workers' compensation payment rates were calculated and compared with expected loss rates, derived by the National Council on Compensation Insurance, by sector, company size, and year.

18. Jan T. Lowery (MPH), Judith Glazner (MS), Joleen A. Borgerding (MS), Jessica Bondy (MSHA), Denis C. Lezotte (PhD), and Kathleen Kreiss (MD). *Analysis of Construction Injury Burden by Type of Work*

Injury rates and WC payment rates were calculated for 25 types of work based on claims and payroll data reported to DIA's owner-controlled insurance program according to National Council on Compensation Insurance job classifications. By linking DIA claims with corresponding lost-work-time (LWT) claims filed with Colorado's Workers' Compensation Division, we were also able to obtain and examine both total and median lost days for each type of work.

19. Evzen Hrnčir (MD, PhD) and Miroslav Cikrt (MD, DS). *The Occupational Disease and Injury Compensatory System in the Czech republic*

The article deals with methods of evaluation of occupational diseases and injuries in the Czech Republic (occupational injuries, occupational diseases and intoxications, other damage caused by work) and with the types of social and financial compensation of patients suffering from the above conditions

20. Niklas Krause (MD, MPH, PhD), John W. Franck (MD, CCFP, MSc, FRCP©), Lisa K. Dasinger (PhD), Terry J. Sullivan (PhD) and Sandra J. Sinclair (Dip P& OT, MSc). *Determinants of Duration of Disability and Return-to-Work after work related injury and illness: challenges for future research*

Review of the literature to identify research challenges originating from the multitude of disciplines, data sources, outcome measures, and methodological and analytical problems. The purpose of this review was to identify critical data and research needs in addressing the following question: what are the primary factors that affect the time lost from work, return-to-work (RTW), subsequent unemployment, and changes in occupation after disabling illness or injury.

21. Susan D. Keller (PhD). Quantifying Social Consequences of occupational injuries and illnesses: State of the Art and research agenda

Quantitative methods for describing the social effects of occupational injury and illness are evaluated including surveys of prevalence and ratings of severity of social role disability. The reliability and validity for the injured worker population of the most commonly used general and condition-specific role disability measures is reviewed and summarised. This review is used to support the development of a prototype strategy for quantifying the social consequences of occupational injuries and to identify areas of need for further research and development.

22. Philip J. W. Carrivick (MBBS), Andy H. Lee (PhD), Kelvin K. W. Yau (PhD). *Effectiveness of a workplace risk assessment team in reducing the rate, cost, and duration of occupational injury*

This study evaluated the effectiveness of a consultative workplace risk assessment team in reducing the rate and severity of injury among cleaners within a 600-bed hospital. Cohorts of cleaning services and orderly services staff ever employed within both a 4-year pre-intervention and a 3-year post-intervention period were assigned to the intervention and comparison groups, respectively

23. Johan Roels. *Economic aspects of occupational accidents*

Dissertation in the framework of a vocational training course leading to the achievement of a certificate for health and safety officers. The dissertation describes the economic aspects of occupational accidents at company level (micro level). In the first part the author describes the research that was done on occupational accidents from an economic perspective. In the second part the author gives the results of case studies he has done in 4 French companies and one Belgian. For each company he calculates the costs of the occupational accidents. The relate to the damages, production losses, medical costs...He also calculates the relation between the costs covered by the insurance and the costs covered by the company.

24. Ronlad C. Kessler (PhD), Catherine Barber (MPA), Arne Beck (PhD), Patricia Berglund (M. BA), Paul D. Cleary (PhD), David McKenas (MD), Nico Pronk (PhD), Gregory Simon (MD), Paul Stang (PhD), T. Bedirhan Ustun (MD), Phillip Wang (MD, ScD). *Annual dossier from PREVENT (CHAP 9: Que coûtent les accidents du travail ?) - The world health organisation Health and Work Performance Questionnaire (HPQ)*

This report describes the World Health Organization Health and Work Performance Questionnaire (HPQ), a self-report instrument designed to estimate the workplace costs of health problems in terms of reduced job performance, sickness absence, and work-related accidents-injuries. Calibration data are presented on the relationship between individual-level HPQ reports and archival measures of work performance and absenteeism obtained from employer archives in four groups: airline reservation agents (n=441), customer service representatives (n=505), automobile company executives (n=554), and railroad engineers (n=850). Good concordance is found between the HPQ and the archival measures in all four occupations. The paper closes with a brief discussion of the calibration methodology used to monetize HPQ reports and of future directions in substantive research based on the HPQ

25. Robert J. McCunney (MD, MPH). *Health and Productivity: a role for occupational health professionals*

The impressive economic gains achieved by many nations within the past decade have been attributed primarily to improvements in productivity from technical changes. The resultant low unemployment levels, however, emphasise the importance of human capital in the success of any enterprise. Concurrently, some economists have proposed an alternative economic view regarding the relationship between health and income, postulating that improvements in the health of the nation's population have a substantial effect on its economic viability. Such a view directly pertains to occupational health professionals, who are often charged with promoting the health of the worker. Although studies relating the beneficial impact of occupational health on productivity and human performance are limited, some efforts have shown impressive effects, as measured primarily by reduced absenteeism.

26. Robert J. McCunney (MD, MPH). *Multiple state hazard models and workers' compensation claims: an examination of workers compensation data from Ontario*

The recurrent nature of some workplace injuries has led some researchers to conclude that the first absence from work does not provide an accurate picture of an individual's claim, or employment history, after a workplace injury. In this paper I estimate a multiple state hazard which estimates the transitions between spells where the individual receives workers' compensation benefits and spells where the individual does not receive any workers' compensation benefits. I apply this model to a sample of claims from Ontario's Workplace Safety and Insurance Board.

27. N. Bull, T. Riise and B.E. Moen. *Occupational injuries to fisheries workers in Norway reported to insurance companies from 1991 to 1996*

Fisheries work is one of the occupations at highest risk for occupational accidents in many countries. It is necessary to understand the injuries in order to prevent them. This study of occupational injury claims by fisheries workers in Norway made to insurance companies from 1991 to 1996 analysed the workers' age, time of injury, injury type, part of the body involved, injury event and cost. The highest injury incidence rates were among the younger fisheries workers and during the winter months. Bruises and fractures were the most frequent injury types, and fingers and hands were most often affected, whereas falls and accidents related to machines were the most common causes. Safety measures should be taken on board to prevent falls and machine-related injuries, and young fisheries workers should have better on-the-job training.

28. M. Bryla, I. Rydlewska-Liszkowska, M.M. Smolen. *Occupational accidents in a selected chemical enterprise in Poland and an attempt to evaluate their economic effects*

A chemical plant in the Lodz area was chosen for the study. In 1998 it employed on average 1572 people (28% women); in 1989 there were 1434 employees (27.7% women). The plant was manufacturing (among other things) glass silk thread, polyamides and polyacrylonitril fibres. The plant was chosen because the levels of both occupational accidents and occupational hazards were similar to the average for the country. Absenteeism due to accidents, injuries and poisonings and its economic

effect were the subjects of the study. The impact of absenteeism accidents outside the plant was not taken into consideration

29. David Weil (PhD). *Valuing the Economic Consequences of work injury and illness: a comparison of methods and findings*

This paper compares methods of economic valuation, focusing in particular on how different methods diverge to varying degrees from measuring the “true” economic costs of injuries and illnesses. In so doing, it surveys the literature that has arisen in the past 25 years to measure different aspects of economic consequences. Estimates of the costs of injuries and fatalities tend to understate the true economic costs from a social welfare perspective, particularly in how they account for occupational fatalities and losses arising from work disabilities.

30. Allard E. Dembe (ScD). *The social consequences of occupational injuries and illnesses*

Most outcome studies of occupational injuries and illnesses have tended to focus on direct economic costs and duration of work disability. Rarely have the broader social consequences of work-related disorders or their impacts on injured workers’ families, coworkers, and community have investigated. This paper examines a wide range vocational function, and family and community relationships. Complex and multifactorial relationships are described whereby occupational injuries and illnesses produce a variety of social consequences involving filing and administration of workers’ compensation insurance claims, medical care experiences, domestic function and activities of daily living, psychological and behavioural responses, stress, vocational function, rehabilitation and return to work, and equity and social justice.

III. OTHER BIBLIOGRAPHIC REFERENCES

31. Allard E. Dembe (ScD). *The social consequences of occupational injuries and illnesses*
32. *PANORAMA OF THE EUROPEAN UNION. Work and Health in the EU: A statistical portrait*

ANNEX 3:
DESCRIPTION AND METHODOLOGY OF EXISTING MODELS

Before proposing a new model of costs by type of accident at work, the first step of the project consisted in gathering information on costs of accidents at work and on related topics. Research was carried out via Internet. Additional information was obtained via the contribution of ESAW representatives during the Task Force meeting and the collaboration of the representative members of employers and employees in the "Advisory Committee on Safety, Hygiene and Health Protection at Work" (see annex 1).

A series of studies were identified (see bibliographic references and summaries of studies in annex 2). These studies do not always lead to the definition of a model. They highlight the different aspects to be taken into account in the study and the way to measure accident costs. Few models exist and are implemented to estimate average unit cost per typical accident. Models are generally based on different levels of estimations. The relation between direct and indirect costs of accidents is very often estimated at once for all analyses and the resulting coefficient is used as a default value for estimating indirect costs. The method gives a rough picture of the indirect impact of accidents. If necessary, an estimate of the relation between direct and indirect costs is revised after some years. The problem is that the relation between direct and indirect costs varies very much depending on the type of accident.

Research from existing literature allowed identifying three main models. One studied model is the **TYTA model** (Ministry of social affairs and health (Finland), 1997-1998. *The TYTA Model - Implement for Evaluating the Company's Working Environment Costs*). In 1997-1998, Finland's Ministry of Social Affairs and Health, Department for Occupational Safety and Health together with the OSH inspectorates, carried out a project with the aim of developing the labour inspection methods using the economic approach (the TALVA project). The TYTA model was part of this project and introduced a calculation tool for estimating the economic impacts of the working environment at company level. The TYTA model produces information on costs caused by absenteeism due to illness, accidents, turnover, disability and development of working conditions. At the same time, the model is a tool for management to undertake steps related to the working environment and to improve working conditions. The aim of the model is to motivate companies to develop their working conditions.

Another model is the British Telecom's **Health and Safety Accident Cost Model** (British Telecom – *Health and Safety Costing Model, Single and Multiple Accidents, May 2003*, produced by Group Operations Finance). In October 2002, BT decided to develop the basis of a model which would enable to calculate the true costs of work accidents. The model focuses on physically proved costs. This way, the information is directly usable by business units. It breaks down the costs of work accidents into 3 cost headings: people resource costs, property damage costs and additional costs. The model is proving very valuable in targeting resources and identifying areas which warrant remedial action. The data is also likely to become a key performance indicator for health and safety within the business.

HSE (Health and Safety Executive) also put in place a methodology and calculation methods in order to measure the costs to Britain of workplace accidents and work-related ill health in 1995/1996 (Fiammetta Gordon, Davis Risley, *The costs to Britain of workplace accidents and work-related ill health in 1995/96*- HSE, Health and Safety Executive, The United Kingdom). One of the factors allowing to make informed decisions about preventative measures and regulation of risk in work activities is the monetary evaluation of the costs of work-related illnesses and

injuries; using a similar framework as previous HSE work in 1990 (Davies and Teasdale, 1994). It shows the extent of occupational injuries and illness, and identifies costs to individuals, employers and society. Cost estimates are then compared to previous British estimates and those made for other countries.

Each of these methods present different characteristics in terms of kinds of costs taken into account and types of accidents considered. A concise description of different models implemented is given below. For each model, the type of cost and accidents as well as the methodology of estimation is explained.

1. The TYTA model, Implement for Evaluating the Company's Working Environment Costs, Ministry of social affairs and health, international Publications 1999:3

The kind of costs considered are the following:

- Costs of absenteeism due to sickness: costs of absence day, direct costs, indirect costs, impact of absenteeism (short-term and long-term absenteeism)
- Accident costs: payroll costs of time of absence due to accident, indirect costs of an accident (compensation of absenteeism, loss of working hours of others, loss of property, output loss, higher insurance premium).
- Staff turnover and disability pension: cost of resigned employee, cost of resigned clerical employee, cost of disability pension/case, cost of new employee and cost of new clerical employee.

For each of them, a methodology of estimation has been defined

- **Model for calculate costs due to absenteeism:** the basis for estimating costs due to absenteeism is calculation of payroll costs during absenteeism (not calculation of payroll savings due to absenteeism). The additional costs of absenteeism are the sum of direct and indirect costs minus the regular wages/salaries. The direct costs are formed by wages during sick leave and indirect employee costs. A satisfying accuracy is reached when estimating an average payroll cost during sick leave by means of average earnings per hour and the coefficient of indirect employee costs.
- **Model for calculating accident costs:** There are a lot of theoretical models for calculating accident costs, but only a few which can be put into practice. Here, costs are calculated by means of a method according to which direct and indirect costs are first estimated and from this sum, compensations received from the accident insurance and regular wages are deducted, in the same way as calculating net costs of absenteeism due to sickness. The direct costs of accidents which correspond to the loss of working hours caused by the injured are calculated as direct costs of an accident. To enable estimation of indirect costs of accidents a lot of lists are drawn up and by means of these, it is possible to describe consequences of an accident with varying exactness. Most types of costs are typical of only very rare or very severe accidents. Consequently it is difficult to work out reliable and general instructions for estimating indirect cost of accidents.

- **Methodology to investigate accident costs on company level:** the objective is to choose a representative sample of accidents from company's accident statistics. The figures calculated are generalized to cover all accidents in the company. Accidents that are used for analysing accidents costs are divided into a small number of groups so that accidents with the same kind of consequences are put into one group. Different kinds of accidents are chosen for the calculation of costs so that standard prices and coefficients can be established according to the type of accident. When the sample has been chosen, the information on costs can be compiled and specific ratios between direct and indirect costs can be estimated.

The following types of accidents were considered:

- Work travel accidents;
- Heavy lifting;
- Accidents involving a machine;
- Accidents involving eyes;
- Slipping accident etc.;
- Other accidents.

2. The Health and Safety Accident Cost Model from British Telecom

The kinds of costs considered are the following:

- People resource costs (based upon data captured by Accenture): sick absence cost, management downtime cost of dealing with the incident;
- Property damage costs (this is currently limited to vehicle damage costs where there is sufficient data to enable granular costing): average cost of a vehicle repair for accidents through Accenture which involve a vehicle, the balance of vehicle repair costs which are not captured through the Accenture accident reporting process, third party claims costs resulting from incidents involving BT vehicles;
- Additional costs: costs of any associated legal activities and also the costs of Employers Liability and Personal Accident insurance claims.

For each of them, a methodology of estimation has been defined:

The methodology of estimation is not exactly the same whatever the kind of query used. Various kinds of queries are possible. The single query provides costs specific to an employee's details, the cause of accident, the injured body part, the number of sick days. It takes into account the fact that it is a reportable case or not, if a vehicle is involved, a third party vehicle is involved, a claim against employer liability or a claim against PA insurance. The multiple request provides summary results. Here is the mode of calculation of each cost:

- **Replacement labour cost of sick absence:** it is a sum of the replacement labour cost of sick absence by cause of injury and injured part of the body. For each cause of injury and injured part of the body, the replacement

labour cost of sick absence is estimated by multiplying the average sick absence days per accident by a cost multiplier (which is fixed whatever the kind of accident) and multiplied by a coefficient specific to the cause of the injury and to the injured part of the body. There is no explanation concerning the cost multiplier nor the coefficient specific to the cause of injury and to the injured part of the body.

- **Management downtime costs:** First, an estimate of the average sick absence days per accident specific to each category was made. In order to get this estimation, the average sick absence days per accident was used and was multiplied it to a coefficient specific to each category. Once the average sick absence days per category estimated, the financial costs estimations were used: if the number of sick days is inferior to six days, then the costs of management administration time is estimated to be equal to 2 hours of MPG4 plus 3 hours of NMG(C) plus 1 hour of safety consultant plus miscellaneous costs. It corresponds to total people resource costs. (MPG4 and NMG(C) corresponds apparently to different grades /job groups). The management administration time is the sum of all the management administration time for each category.
- **Cost of damage in vehicle related accidents / Costs of repairs – BT vehicle:** firstly the cost of repairs of BT vehicles are estimated by grade / job group. BT uses an estimation of the number of road traffic accidents by category and they multiply it either by the costs of repairs of liveried vehicles or the costs of repairs of unliveried vehicles (it depends on the grade of the person involved). Contrary to what is done concerning the single query, here, the cost of damage to vehicles only includes damage in vehicle related accidents. But, here, it is not an estimate by vehicle but a global estimate for “all British Telecom” from April 2002 to March 2003.
- **Cost of damage in vehicle related accidents / Costs of repairs – 3rd party claims:** Firstly, BT determines the number of road traffic accidents involving people with liveried vehicles and the number with unliveried vehicles. They multiply each number by the corresponding estimated costs of third party claims per total accident (either with liveried vehicle or unliveried vehicle).
- **Other vehicle incident costs (not linked to accident data) / costs of repairs – BT vehicle:** it is the subtraction of all costs of vehicle incidents relatively to costs of damage in vehicle related accidents (cost of repairs – BT vehicle).
- **Other vehicle incident costs (not linked to accident data) / costs of repairs – 3rd party claims:** it is the same subtraction than before but with costs of repairs of 3rd party claims, i.e. the subtraction of all costs of vehicle incidents relatively to costs of damage in vehicle related accidents (cost of repairs – BT vehicle).
- **Impact on vehicle provision policy (include cost of providing daily hire fleet):** it is based on an estimate by kind of vehicle (Fiesta, Escort, Astra, Transit, 1 tonne Transit, etc). The estimation by kind of vehicle is based on an annual cost multiplied by the number of vehicle of this kind and multiplied by the

percentage of usage related to accident. The impact on vehicle provision policy is the sum of all these estimations.

- **Additional costs / Legal costs:** it is a sum based on the estimation of the legal cost per accident multiplied by the number of accidents. The program gives the opportunity to specify different legal costs according to the injured body part.
- **Additional cost / cost of personal accident insurance:** it is a sum based on the estimation of the cost of personal accident insurance multiplied by the number of accidents. The costs of personal accident insurance are specific to the part of the body injured. So for the estimation, they multiply the number of accidents for each part of the body injured by the specific costs of personal accident insurance.
- **Additional cost / cost of employer's liability insurance:** it is a sum based on estimates by part of the body injured and cause of injury. It is the sum of all the estimations. Each specific estimate is the multiplication of a specific coefficient and the average sick absence days per accident and a cost multiplier. There is no explanation concerning how the specific coefficients are obtained.

The following types of accidents are considered

- Falls outside;
- Falls inside;
- Falls height;
- Acoustic shock;
- Road traffic accident;
- Handling;
- Objects falling;
- Sudden/awkward movements;
- Striking/stepping;
- Non RTA vehicle;
- Hand tools;
- Violence;
- Other.

3. The costs to Britain of workplace accidents and work-related ill health in 1995/96 - HSE, Health and Safety Executive, United Kingdom

The kind of costs considered are the following:

- costs to individuals of workplace injuries and work-related ill health: financial costs and 'human costs';
- **two types of financial costs** incurred by individuals: (a) loss of income and (b) extra expenditure taking into account :

- Extra purchases of medicines: for some people this could be significant, though for most it will not;
 - Costs of travel to hospital for treatment;
 - Increased shopping bills: while a person is incapacitated their household grocery bills may be increased as they may be forced to use more accessible but probably more expensive outlets;
 - Reduction in expenditure on travel to work;
- **Costs to employers:** costs resulting from absence from work, costs of replacing those who are forced to quit the job, damage to materials and equipment and compensation and insurance.
 - **Costs to society,** including those borne by the individuals (and their families and friends) and employers directly affected. Only direct costs to society are considered. It is broken down into three components : loss of output, other resource costs (damage, administration, medical treatment and HSE/local authority investigations) and human costs.

For each of them, a methodology of estimation has been defined:

- **Sick pay arrangements:** assumptions on the form of income received by people when absent from work have been made. Assumptions were based mainly on information from 1990 LFS using data averaged over two years and rounded to the nearest 5%. In order to calculate the total income lost when absent due to workplace injury and work-related ill health, the percentages breakdown of sources of income for absent workers, by duration of absence is used.
- **Extra purchases of medicine:** It is assumed that just one prescription (and that everyone has to pay for prescriptions) for certain categories of victims and an extra one for those absent for more than five working days due to an illness is issued. The unit costs of prescriptions have been estimated.
- **Cost of travel to hospital for treatment:** costs to health service have had to be estimated by assuming that a longer duration of incapacity is correlated with more treatment – as both relate to severity – and consequently with higher costs. The typical cost of a GP consultation was calculated by the Department of Health. Assuming that every GP visit results in a prescription that costs about £17.70, the total cost of a consultation is £27.30. A table of correspondence has been done between the treatment required and the different durations of absence.
- **Increased shopping bills:** It was assumed that for half of the absentees off for over a week, this adds 10% (£5.70) to normal weekly expenditure on food. The additional cost would be about £0.7 million for people injured and £1.3 for people with an illness.
- **Reduction in expenditure on travel to work:** it is assumed average daily costs of £1.40 for that, i.e. a £33.1 million saving. Weekly and season tickets will reduce this, but for some there may be extra costs for a while after they return to work (e.g. for those who normally walk or cycle).

- **Human costs:** putting a value on 'subjective' costs is much more difficult. It is sometimes suggested that court compensation awards can provide a possible measure of such losses. However, there are serious limitations to relying on court awards as a measure of welfare loss to individuals. These limitations are most obvious in the case of death where compensation awards cover only financial losses to dependants with a token supplement for the distress suffered by the family of the deceased. Economists have sought to obtain values for the cost of fatal and non-fatal injury to individuals based on what people are willing to pay to reduce their risk of being killed or injured, or what they are willing to accept for a small increase in such risks.
- **Costs of maintaining output:** the extra cost of maintaining output is partly offset by savings in payments to the absentee, the extent of which will depend on sick pay arrangements. The assumption is that the costs of maintaining output are equal to the normal cost of employing the absent worker, the result is that, on average, the net financial cost of absence is equal to the amount paid in sick pay by the employer (plus any administration costs).
- **Sick pay:** In addition to the wage paid, the cost to the employer of hiring a worker includes non-wage labour costs. Information on non-wage labour costs is available from the 1992 Labour Costs Survey (LCS), from which a 27% mark-up due to non-wage labour costs can be derived, on average. This figure has been used for the region and occupation breakdowns, and each industry's own mark-up in the industry breakdown where possible. Mark-ups vary from 18% in hotels and restaurants, to 36% in finance and business industry. Assumption is that non-wage labour costs are reduced proportionally when absentees receive part pay and are negligible when there is no sick pay;
- **Administration:** the employer also incurs an administrative cost in dealing with the absence, such as the calculation and payment of SSP (Statutory Sick pay), collection and processing of sick notes, possibly extra management time in rescheduling, etc. It is assumed that this takes, on average, about half an hour of an accounts and wages clerk's time per day of absence. Based upon NES data for this occupation plus non-wage labour costs, this is estimated to cost £4.25 per day. It should be noted that, to the extent that some of these costs are relatively fixed, they would not be reduced proportionally by a reduction in the number of work-related injuries and illness, since these account for a relatively small proportion of total absences.
- **Recruitment:** it is assumed that all employees leaving are replaced, which may be an overestimate. However, offsetting this, it has been taken no account of recruitment brought forward as a response to long absences, or of injured people who have to move to a different job within the same organisation. The extent of the cost of recruitment is uncertain and varies for different firms. Nevertheless, a national survey of labour turnover carried out by the Institute for Personnel development provides average turnover costs (per leaver), as reported by employers. For those who have to change job within the same organisation, it is assumed 60% of recruitment costs, to exclude leaving costs.
- **Damage associated with workplace injuries:** in the APAU case studies, the average cost of damage in the injury events was very much less than the average for non-injury events, because a large proportion of the injuries were caused by slips, falls or lifting, which involve little damage. The average cost of damage, once the costs of recovering production and replacing labour are excluded ranged from less than £1.20 to %3.60 (in 1995/96 prices). However, the injuries recorded in the case studies cannot be considered representative of

those in the LFS, since almost all in the case studies were minor and not reportable.

The following types of accidents are considered

- a work accident is defined as 'any unplanned event that resulted in injury or ill health of people, or damage or loss to property, plant, materials or the environment or a loss of business opportunity'.

- A work-related ill health is defined as 'any illness, disability or other physical problem that was caused or made worse by one's work'.

ANNEX 4:

FINAL QUESTIONNAIRE FOR THE COMPANIES

Dear Sir/Madam,

The Statistical Office of the European Communities has started a project aiming to analyse statistically the cost of accidents at work. The objective is to be able to better evaluate, target and control the European policies of prevention of accidents at work.

The attached questionnaire aims to increase our knowledge concerning the costs accidents at work cause to companies. The analysis of the answers to this questionnaire forms part of one of the first essential phases of the study. The following stages will study the costs for the individuals and for the society. The ultimate objective of the project is to set up European measures fulfilling the needs of each party (victims, company and society).

We hope that you as an expert having knowledge of the costs of accidents at work for your company, could help us by answering the questionnaire. We collect information on the following topics:

- The characteristics of your company,
- The characteristics of the most recent accident at work or another accident at work that you now well in your company,
- General information concerning the costs of accidents at work in your company,
- Possible studies undertaken within your company/group to study the cost of accidents at work.

The results obtained will be used to set up a model to estimate the costs of accidents at work.

We will take into account the confidential nature of your information. In order to guarantee the confidentiality of your information, Eurostat and the contracting company associated with this project commit themselves to setting up safeguard procedures for the anonymity of your data. Access to confidential information will be limited to only persons directly involved in the project. The publication of results will meticulously be checked in order to avoid any disclosure of confidential information^{10, 11}.

¹⁰ Council Regulation (EC) No 322/97 of 17 February 1997 on Community Statistics - Official Journal L 052 , 22/02/1997 P. 0001 - 0007

¹¹ Council Regulation (Euratom, EEC) No 1588/90 of 11 June 1990 on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities - Official Journal L 151 , 15/06/1990 P. 0001 - 0004

We would be grateful to you, as far as possible, for forwarding your answers before the 31st of August to Ariane II to the person mentioned below.

Thank you in advance for your participation in this survey.

Best regards

INSTITUTION AND PERSON IN CHARGE OF THE PROJECT

[National institute]

Please specify

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QUESTIONNAIRE

COSTS OF ACCIDENTS AT WORK FOR THE COMPANY

This questionnaire constitutes one of the first phases of the project. It is probable that the replies to certain questions require additional clarification in order to be interpreted correctly. With a view to having more detailed information, it is possible that we would like to have direct contacts with you. Therefore we kindly ask you to provide us the following information:

Group:	
Company:	
Miss <input type="checkbox"/> Madam <input type="checkbox"/> Mr <input type="checkbox"/>	
Name:	
Function:	
Telephone:	
E-mail:	
Address:	
Country:	
Periods or moments of the day during which you would prefer being contacted:	

1. Characteristics of your company

The costs of accidents at work vary between companies and according to their sector of activity or their size. Costs also vary in function of production costs of the companies, the value of their machinery, of their equipment or of other aspects of this type. Within the framework of the identification of the costs according to the types of accident, it is essential to take into account these characteristics of your company. The first part of the questionnaire aims to acquire this type of information.

1.1 What is the sector of activity of the local unit ¹² of your company?

Agriculture, hunting and forestry	<input type="checkbox"/>
Fishing	<input type="checkbox"/>
Mining and quarrying	<input type="checkbox"/>
Manufacturing	<input type="checkbox"/>
Electricity, gas and water supply	<input type="checkbox"/>
Construction	<input type="checkbox"/>
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	<input type="checkbox"/>
Hotels and restaurants	<input type="checkbox"/>
Transport, storage and communication	<input type="checkbox"/>
Financial intermediation	<input type="checkbox"/>
Real estate, renting and business activities	<input type="checkbox"/>
Public administration and defense	<input type="checkbox"/>
Education	<input type="checkbox"/>
Health and social work	<input type="checkbox"/>
Other community, social and personal service activities	<input type="checkbox"/>
Private households with employed persons	<input type="checkbox"/>
Extra-territorial organisations and bodies	<input type="checkbox"/>

¹² The local unit to be considered is a geographically identified location where the job is mainly carried out or is based. If a person works at several places or in residence, the local unit is the place from where instructions emanate or from where the work is organised.

1.2 What is the size of the local unit¹³ of your company?

0 employee ¹⁴	<input type="checkbox"/>
1-9 employees ¹⁵	<input type="checkbox"/>
10-49 employees ¹⁵	<input type="checkbox"/>
50-249 employees ¹⁵	<input type="checkbox"/>
250-499 employees ¹⁵	<input type="checkbox"/>
500 employees or more ¹⁵	<input type="checkbox"/>
Size not exactly known but less than 10 employees	<input type="checkbox"/>
Size not exactly known but more than 9 employees	<input type="checkbox"/>
Unknown size	<input type="checkbox"/>

1.3 If you are a manufacturing company, what are your average production costs by hour¹⁶?

1.4 What is your turnover for the year 2002?

1.5 What is your gross profit margin for the year 2002?

1.6 In your opinion, which is approximately the total price of your equipment?

1.7 What is the average age of your equipment?

¹³ The local unit to be considered is a geographically identified location where the job is mainly carried out or is based. If a person works at several places or in residence, the local unit is the place from where instructions emanate or from where the work is organised.

¹⁴ Self-employed person without salaried

¹⁵ Full-time equivalent

¹⁶ Please include direct costs (labour costs, equipment and raw material) associated direct costs and indirect costs (administrative costs)

2. Characteristics and costs of the most recent accident at work or the one that you know best in your company

In order to perform a reliable analysis of the costs of accidents at work, it is essential to know the characteristics of these accidents. The aim of this part is to describe an event, recent or known in your company, having had as a consequence one or more accidents at work. This also involves detailing all the consequences of this event while stressing in particular the accident at work. Lastly, this part of the questionnaire aims to consider the costs generated by this incident. From the estimates of costs obtained, it will be easier to target the European prevention policies on the types of most expensive accidents.

DESCRIPTION OF AN EVENT HAVING HAD AS A CONSEQUENCE ONE OR MORE ACCIDENTS AT WORK

2.1 Please describe here with your own words a recent event (or one that you know well) having had as a consequence one or more accidents at work in your company?

2.2 Where did the accident at work take place?

Place of the accident	Tick the box corresponding to the situation
Usual workstation or within the usual local unit of work	<input type="checkbox"/>
Occasional or mobile workstation or in a journey on behalf of the employer	<input type="checkbox"/>
Another workstation to be specified:	<input type="checkbox"/>

2.3 What were the circumstances ¹⁷ associated with the accident?

Circumstances of the accident	Tick the box corresponding to the situation
Buildings, structures, surfaces – at ground or floor level (indoor or outdoor, fixed or mobile, temporary or not) (ex: slip, falls at ground level, stepping on an object)	<input type="checkbox"/>
Buildings, structures, surfaces – above or below ground or floor level (indoor or outdoor) (ex: falls from height, falling in stairs)	<input type="checkbox"/>
Systems for the supply and distribution of materials, pipe networks (ex: fixed or mobile gas, air, liquid, or solid agent supply systems, sewers, drains)	<input type="checkbox"/>
Motors, systems for energy transmission and storage (ex: power generators, mechanical, pneumatic, hydraulic or electric energy suppliers, batteries, accumulators)	<input type="checkbox"/>
Handtools (ex: sawing or drilling handtools, painting tools, kitchen tools, surgical tools, cleaning tools, welding tools, sewing tools)	<input type="checkbox"/>
Machines and equipment - portable or mobile, not handtools (ex: portable or mobile machines in construction, agriculture, mining, floor cleaning machines)	<input type="checkbox"/>
Machines and equipment – fixed, not handtools (ex: machines of chemical processes, ovens, driers, refrigerators, pressing or crushing machines, grinding, drilling, polishing, cutting machines, packing machines)	<input type="checkbox"/>
Conveying, transport and storage systems (ex: conveyors, cableways, elevators, cranes, trucks, containers, silos, shelving, pallet racks)	<input type="checkbox"/>
Land vehicles (ex: road accident, light vehicles powered or not, roller skates)	<input type="checkbox"/>
Other transport vehicles (ex: air crash, suspended rails, sea vehicles)	<input type="checkbox"/>
Materials, objects, products, machine components, debris, dust (ex: building materials, stored products, loads, farm or breeding products)	<input type="checkbox"/>
Chemical, explosive, radioactive, biological substances (ex: contact with dangerous substances)	<input type="checkbox"/>
Safety devices and equipment (ex: safety devices for machines or individuals, emergency devices)	<input type="checkbox"/>
Office equipment, personal equipment, sport equipment, weapons, domestic appliances (ex: furniture, office equipment, clothing, music instruments, weapons)	<input type="checkbox"/>
Living organisms and human beings (ex: trees, plants, animals, puncture by an insect, micro-organisms, kick, throttling)	<input type="checkbox"/>
Bulk waste (ex: bulk waste from raw materials, products, chemicals, plants, animals)	<input type="checkbox"/>
Physical phenomena and element (ex: noise, natural radiation, light rain, snow, natural disasters)	<input type="checkbox"/>
Other material agents not listed in this classification to be specified:	<input type="checkbox"/>

¹⁷ the circumstances of the accident describe the tool, the object, the instrument or circumstances connected with the cause of the accident

DESCRIPTION OF THE ACCIDENT AT WORK

2.4 How many people were victims of an accident at work following this event?

If the event led to several accidents, please specify in the following questions the characteristics specific to the victim most severely injured.

2.5 What was the age of the victim at the time of the accident?

Age groups	Tick the box corresponding to the situation
0–17 years	<input type="checkbox"/>
18–24 years	<input type="checkbox"/>
25–34 years	<input type="checkbox"/>
35–44 years	<input type="checkbox"/>
45–54 years	<input type="checkbox"/>
55–64 years	<input type="checkbox"/>
65 years or more	<input type="checkbox"/>
Age unknown	<input type="checkbox"/>

2.6 What was the sex of the victim?

Sex	Tick the box corresponding to the situation
Man	<input type="checkbox"/>
Woman	<input type="checkbox"/>

2.7 What was the occupation of the victim at the time of the accident?

Occupations	Tick the box corresponding to the situation
Legislators, senior officials and managers (<i>ex: Permanent secretary, senior official, mayor, director and chief executive</i>)	<input type="checkbox"/>
Professionals (<i>ex: Physicist, mathematician, architect, biologist, doctor, nursing and midwifery professional, teaching professional, accountant, lawyer, economist</i>)	<input type="checkbox"/>
Technicians and associate professionals (<i>ex technician, computer associate professional, photographer, midwifery associate professional, teaching associate professional, insurance representatives, estate agent, travel consultant and organizer</i>)	<input type="checkbox"/>
Clerks (<i>ex: secretary and key-board operating clerk, accounting and book keeping clerk, stock clerk</i>)	<input type="checkbox"/>
Service workers and shop and market sales workers (<i>ex: travel attendant, travel steward, travel guide, cook, child care worker, personal care, hairdresser, fire-fighter, police officer, prison guard, model, salesperson, demonstrator</i>)	<input type="checkbox"/>
Skilled agricultural and fishery workers	<input type="checkbox"/>
Craft and related trades workers (<i>ex: miner, quarry worker, stone splitter, builder, carpenter, bricklayer, roofer, glazier, plumber, painter and related worker, metal moulder and coremaker, compositor, butcher, baker, sewer, wood treater</i>)	<input type="checkbox"/>
Plant and machine operators and assemblers (<i>ex: mining plant operator, metal drawer and extruder, papermaking-plant operator, industrial robot operator, machine-tool operator, electrical-equipment assembler, locomotive engine driver, bus and tram driver, heavy truck and lorry driver, motorized farm and forestry plant operator, ships' deck crew and related worker</i>)	<input type="checkbox"/>
Elementary occupations, non-skilled labourers (<i>ex: street vendor, door-to-door and telephone salesperson, agricultural, fishery and related labourer, mining and quarrying labourer, manufacturing labourer, transport labourer and freight handler</i>)	<input type="checkbox"/>
Armed forces	<input type="checkbox"/>
Other to be specified:	<input type="checkbox"/>

2.8 What was the type of the injury?

Type of the injury	Tick the box corresponding to the situation
Wounds and superficial injuries	<input type="checkbox"/>
Bone fractures	<input type="checkbox"/>
Dislocations, sprains and strains	<input type="checkbox"/>
Traumatic amputations (loss of body parts)	<input type="checkbox"/>
Concussions and internal injuries	<input type="checkbox"/>
Burns, scalds and frostbites	<input type="checkbox"/>
Poisonings and infections	<input type="checkbox"/>
Drowning and asphyxiations	<input type="checkbox"/>
Effects of sound, vibration and pressure	<input type="checkbox"/>
Effects of temperature extremes, light and radiation	<input type="checkbox"/>
Shocks	<input type="checkbox"/>
Multiple injuries ¹⁸	<input type="checkbox"/>
Other to be specified:	<input type="checkbox"/>

2.9 What was the injured body part?

Body part	Tick the box corresponding to the situation
Head	<input type="checkbox"/>
Neck, including spine and vertebra in the neck	<input type="checkbox"/>
Back, including spine and vertebra in the back	<input type="checkbox"/>
Torso and organs	<input type="checkbox"/>
Upper limbs	<input type="checkbox"/>
Lower limbs	<input type="checkbox"/>
Whole body and multiple sites ¹⁹	<input type="checkbox"/>
Other location to be specified:	<input type="checkbox"/>

¹⁸ When several parts of the body or several injuries are concerned, it is advisable to give the body part of the most serious lesion: for example, amputation precedes the fracture, which precedes the wound, etc. When it is not possible to indicate the main part of body injured, one can use "multiple sites" code.

¹⁹ In cases where several parts of the body have been injured, the site which has been most seriously injured should be chosen e.g. an amputation precedes bone fracture, which precedes wounds etc. In other cases a code for multiple sites should be used at the appropriate level of the classification. In cases where larger parts of the body have been affected, e.g. injuries caused by burns or skalds, a code for multiple sites should be used as well.

2.10 During how many days ²⁰ did the victim stay out of work?

Number of days	Tick the box corresponding to the situation
Less than 1 day	<input type="checkbox"/>
1 to 3 days	<input type="checkbox"/>
4 to 6 days	<input type="checkbox"/>
7 to 13 days	<input type="checkbox"/>
14 to 20 days	<input type="checkbox"/>
From 21 days to 1 month	<input type="checkbox"/>
From 1 to 3 months	<input type="checkbox"/>
From 3 to 6 months	<input type="checkbox"/>
Permanent incapacity (to work) or 183 days or more lost (6 months' absence or more)	<input type="checkbox"/>
Fatal accident	<input type="checkbox"/>

2.11 Could you describe in a few words the other consequences of this event (for example damage to the equipment, buildings or products)?

²⁰ The number of days without working refers to the number of calendar days of work incapacity of the victim following an accident at work including Saturdays, Sundays, Holidays.

ESTIMATE OF THE COSTS GENERATED BY THIS EVENT

2.12 In the following table, please estimate in Euro, the various costs generated by this event. If you are not in a position to specify these costs in Euro, please use the unit which you think is appropriate and specify it below:

Unit (if other than Euro):

Types of costs	Total value	Value refunded by insurance
Material damage (i.e. products and raw materials destroyed at the time of the accident)		
Damage of the structures (i.e. machines, equipment, buildings, vehicles destroyed at the time of the accident)		
Repair costs		
Rental costs of temporary equipment, machines, buildings or vehicles		
Production losses due to cessation or slow down of production		
Replacement of persons: - Extra salary costs		
Replacement of persons: - Costs of training and adaptation of a new worker		
Loss of customers or orders		
Court expenses		
Administrative costs (expenses to facilitate the return to work, costs of reporting the accident, costs of reorganising the production after the accident)		
Loss in terms of image		
Other costs, specify please:		

2.13 Comments:

3. General information concerning the costs of accidents at work in your company

This part of the questionnaire aims to identify the types of accidents and the types of costs which we should pay attention to. The objective here is to acquire overall information for all the accidents at work and all the costs associated for each company.

3.1 What are, according to you, the most important costs of accidents at work in your company? (Mark in the decreasing order of importance, 1 = the most important, 2 = the second most important, etc.)

Types of costs	Order
Material damage (i.e. products and raw materials destroyed at the time of the accident)	
Damage of the structures (i.e. machines, equipment, buildings, vehicles destroyed at the time of the accident)	
Repair costs	
Rental costs of temporary equipment, machines, buildings or vehicles	
Production losses due to cessation or slow down of production	
Replacement of persons: - Extra salary costs	
Replacement of persons: - Costs of training and adaptation of a new worker	
Loss of customers or orders	
Court expenses	
Administrative costs (expenses to facilitate the return to work, costs of reporting the accident, costs of reorganising the production after the accident)	
Loss in terms of image	
Other costs, specify please:	

3.2 What are, according to you, the costs of the accidents at work, not mentioned in the previous table, which your company has also experienced? What is their order of importance?

3.3 What are, according to you, the accidents at work which are the most expensive ones for the company according to the circumstances of the accident (Mark in the decreasing order of importance, 1 = the most important, 2 = the second most important, etc.)?

Circumstances of the accident	Importance order
Buildings, structures, surfaces – at ground or floor level (indoor or outdoor, fixed or mobile, temporary or not) (ex: <i>slip, falls at ground level, stepping on an object</i>)	
Buildings, structures, surfaces – above or below ground or floor level (indoor or outdoor) (ex: <i>falls from height, falling in stairs</i>)	
Systems for the supply and distribution of materials, pipe networks (ex: <i>fixed or mobile gas, air, liquid, or solid agent supply systems, sewers, drains</i>)	
Motors, systems for energy transmission and storage (ex: <i>power generators, mechanical, pneumatic, hydraulic or electric energy suppliers, batteries, accumulators</i>)	
Handtools (ex: <i>sawing or drilling handtools, painting tools, kitchen tools, surgical tools, cleaning tools, welding tools, sewing tools</i>)	
Machines and equipment - portable or mobile, not handtools (ex: <i>portable or mobile machines in construction, agriculture, mining, floor cleaning machines</i>)	
Machines and equipment – fixed, not handtools (ex: <i>machines of chemical processes, ovens, driers, refrigerators, pressing or crushing machines, grinding, drilling, polishing, cutting machines, packing machines</i>)	
Conveying, transport and storage systems (ex: <i>conveyors, cableways, elevators, cranes, trucks, containers, silos, shelving, pallet racks</i>)	
Land vehicles (ex: <i>road accident, light vehicles powered or not, roller skates</i>)	
Other transport vehicles (ex: <i>air crash, suspended rails, sea vehicles</i>)	
Materials, objects, products, machine components, debris, dust (ex: <i>building materials, stored products, loads, farm or breeding products</i>)	
Chemical, explosive, radioactive, biological substances (ex: <i>contact with dangerous substances</i>)	
Safety devices and equipment (ex: <i>safety devices for machines or individuals, emergency devices</i>)	
Office equipment, personal equipment, sport equipment, weapons, domestic appliances (ex: <i>furniture, office equipment, clothing, music instruments, weapons</i>)	
Living organisms and human beings (ex: <i>trees, plants, animals, puncture by an insect, micro-organisms, kick, throttling</i>)	
Bulk waste (ex: <i>bulk waste from raw materials, products, chemicals, plants, animals</i>)	
Physical phenomena and element (ex: <i>noise, natural radiation, light rain, snow, natural disasters</i>)	
Other material agents not listed in this classification to be specified:	

Comments:

3.4 What are, according to you, the other factors having a significant impact on the cost of the accidents at work?

4. Possible studies undertaken in your company/group on the costs of the accidents at work

The cost of the accidents at work for the company is an actual issue. The accidents at work can have important effects on the performances of the companies. Many companies have become aware of this and have set up studies in order to be able better to quantify the consequences of accidents at work and to prevent the subsequent costs. The aim of this part of the questionnaire is to obtain information on this subject.

4.1 Has your company already undertaken studies on the cost of the accidents at work?

Yes No

If no, pass to the question 4.7

4.2 Did this (these) study(ies) cover(s) all types of accidents at work?

Yes No

If no, what types of accidents at work did it cover?

4.3 Did this (or these) study (ies) cover(s) all the costs of the accidents at work?

Yes No

If no, what types of costs did it cover?

4.4 What are the main results obtained from this (or these) study (ies)?

4.5 Do you have a report of this (or these) study (ies)?

Yes No

If so, we would be particularly grateful if you could attach this report or parts of it when you send back your filled questionnaire to us²¹.

4.6 Did you set up measures based on to these results?

Yes No

If so,

- What are these measures?
- Did you observe progress in terms of limitation of the costs?
- Would you be able to quantify these improvements below (in Euro)?

4.7 Does your company have a regular control system for the cost of the accidents at work?

Yes No

4.8 How much human resources (in man-months per year) does your company allocate for the prevention of the accidents to work?

²¹ Access to the documents and information that you will provide us will be limited to persons directly involved in the project. Methodology, the results and comments of your studies will not be disseminated (except if contrary indication from you).

5. Your opinion interests us

Analyzing the costs of the accidents at work requires the contribution of all and we are aware of it. If you have remarks, opinions or an advice which you think would be useful for us in conducting our study, do not hesitate to inform us of it in this part of the questionnaire:

ANNEX 5:
FINAL QUESTIONNAIRE FOR THE VICTIMS

Dear Sir/Madam,

The Statistical Office of the European Communities has started a project aiming to analyze statistically the cost of accidents at work. The objective is to be able to better evaluate, target and control the European policies of prevention of accidents at work.

The attached questionnaire aims to increase our knowledge concerning the costs that accidents at work can cause to the victims. It forms part of one of the first phases of the study. The ultimate objective of the project is to set up European measures fulfilling the needs of each of the parties involved (victims, society and companies).

As a person having undergone an accident at work, we would appreciate to know your experiences on the costs of accidents at work. For this reason, we kindly ask you to answer the questionnaire. For our study it is important to collect information on the following topics:

- The characteristics and circumstances of your accident,
- The direct financial costs the accident caused to you,
- The costs in terms of quality of life.

The results obtained will be used to set up a model to estimate of the costs of accidents at work.

According to Article 8 – rights concerning privacy and family life - of the European Convention of Human rights, any person is entitled to rights in respect of her private and family life. Therefore your participation in this questionnaire survey is voluntary. As we believe that your experience would be useful for the improvement of the current situation in occupational safety and health, we sincerely hope that you would participate. We will take into account the confidential nature of your information. In order to guarantee the confidentiality of your information, Eurostat and the contracting company performing the study (Ariane II) commit themselves to setting up safeguard procedures for the anonymity of your data^{22, 23}. Access to confidential information will be limited to

²² Council Regulation (EC) No 322/97 of 17 February 1997 on Community Statistics - Official Journal L 052 , 22/02/1997 P. 0001 - 0007

²³ Council Regulation (Euratom, EEC) No 1588/90 of 11 June 1990 on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities - Official Journal L 151 , 15/06/1990 P. 0001 - 0004

persons directly involved in the project. The publication of results will meticulously be checked in order to avoid any disclosure of confidential information.

We would be grateful to you if you could forward your answers before [...] to [...] using the attached prepaid envelopes. The answers to the questionnaires will then be transmitted to Ariane II to the contact person mentioned below.

Thank you in advance for your participation.

Best regards

INSTITUTIONS AND PEOPLE IN CHARGE OF THE PROJECT

[National institute]

Please specify

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QUESTIONNAIRE

COSTS OF ACCIDENTS AT WORK FOR THE INDIVIDUALS

This questionnaire constitutes one of the first phases of the project. There is not much information on costs of accidents at work for victims. It is possible that the answers to certain questions require additional clarification in order to be interpreted correctly. With a view to having more detailed information, it is possible that we would like to have direct contacts with you.

Would you accept that we later contact you directly?

Yes No

If yes, please specify your details below:

If, you don't want us to contact you, please start to answer only from the next page

Your identity:

Miss <input type="checkbox"/>	Madam <input type="checkbox"/>	Mr <input type="checkbox"/>
Name:		
First name:		
Telephone:		
Address:		
Country:		
Period or moments of the day during which you would prefer being contacted		

1. Information on your most recent accident at work

For a reliable analysis of the costs of the accidents at work, it is essential to know the characteristics of each accident. The aim of this first part is to describe the details of your most recent accident at work.

1.1 What is your gender:

Man Woman

1.2 What is your age?

Age	Tick the box corresponding to your situation
0-17 years	<input type="checkbox"/>
18-24 years	<input type="checkbox"/>
25-34 years	<input type="checkbox"/>
35-44 years	<input type="checkbox"/>
45-54 years	<input type="checkbox"/>
55-64 years	<input type="checkbox"/>
65 years or more	<input type="checkbox"/>

1.3 Please explain in a few words your work and tasks in the job that you held at the time of the accident:

1.4 Please specify the year of the accident?

1.5 What was your occupation at the time of the accident?

Occupations	Tick the box corresponding to your situation
Legislators, senior officials and managers (<i>ex: Permanent secretary, senior official, mayor, director and chief executive</i>)	<input type="checkbox"/>
Professionals (<i>ex: Physicist, mathematician, architect, biologist, doctor, nursing and midwifery professional, teaching professional, accountant, lawyer, economist</i>)	<input type="checkbox"/>
Technicians and associate professionals (<i>ex: technician, computer associate professional, photographer, midwifery associate professional, teaching associate professional, insurance representatives, estate agent, travel consultant and organizer</i>)	<input type="checkbox"/>
Clerks (<i>ex: secretary and key-board operating clerk, accounting and book keeping clerk, stock clerk</i>)	<input type="checkbox"/>
Service workers and shop and market sales workers (<i>ex: travel attendant, travel steward, travel guide, cook, child care worker, personal care, hairdresser, fire-fighter, police officer, prison guard, model, salesperson, demonstrator</i>)	<input type="checkbox"/>
Skilled agricultural and fishery workers	<input type="checkbox"/>
Craft and related trades workers (<i>ex: miner, quarry worker, stone splitter, builder, carpenter, bricklayer, roofer, glazier, plumber, painter and related worker, metal moulder and coremaker, compositor, butcher, baker, sewer, wood treater</i>)	<input type="checkbox"/>
Plant and machine operators and assemblers (<i>ex: mining plant operator, metal drawer and extruder, papermaking-plant operator, industrial robot operator, machine-tool operator, electrical-equipment assembler, locomotive engine driver, bus and tram driver, heavy truck and lorry driver, motorized farm and forestry plant operator, ships' deck crew and related worker</i>)	<input type="checkbox"/>
Elementary occupations, non-skilled (<i>ex: street vendor, door-to-door and telephone salesperson, agricultural, fishery and related labourer, mining and quarrying labourer, manufacturing labourer, transport labourer and freight handler</i>)	<input type="checkbox"/>
Armed forces	<input type="checkbox"/>
Other, please specify:	<input type="checkbox"/>

1.6 What was the economic activity of the local unit²⁴ where you worked in the company at the time of the accident?

Agriculture, hunting and forestry	<input type="checkbox"/>
Fishing	<input type="checkbox"/>
Mining and quarrying	<input type="checkbox"/>
Manufacturing	<input type="checkbox"/>
Electricity, gas and water supply	<input type="checkbox"/>
Construction	<input type="checkbox"/>
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	<input type="checkbox"/>
Hotels and restaurants	<input type="checkbox"/>
Transport, storage and communication	<input type="checkbox"/>
Financial intermediation	<input type="checkbox"/>
Real estate, renting and business activities	<input type="checkbox"/>
Public administration and defence	<input type="checkbox"/>
Education	<input type="checkbox"/>
Health and social work	<input type="checkbox"/>
Other community, social and personal service activities	<input type="checkbox"/>
Private households with employed persons	<input type="checkbox"/>
Extra-territorial organisations and bodies	<input type="checkbox"/>

1.7 What was the size of the local unit of the company²⁵ at the time of the accident?

0 employees ²⁶	<input type="checkbox"/>
1-9 employees ²⁷	<input type="checkbox"/>
10-49 employees ²⁷	<input type="checkbox"/>
50-249 employees ²⁷	<input type="checkbox"/>
250-499 employees ²⁷	<input type="checkbox"/>
500 employees or more ²⁷	<input type="checkbox"/>
Size not exactly known but less than 10 employees	<input type="checkbox"/>
Size not exactly known but more than 9 employees	<input type="checkbox"/>
Unknown size	<input type="checkbox"/>

²⁴ This involves the "economic" principal activity of the local unit of the company in which you worked. The local unit to be taken into account is a topographically identified place where the activity is mainly carried out or is based. If you work at several places or in residence, the local unit is the place from which you received the instructions or work was organised.

²⁵ Specify as far as possible the true interval. If you do not know this information, please specify at least if the size were strictly smaller than or then higher than 9.

²⁶ Self-employed persons without employees

²⁷ Equivalent of full-time employment

1.8 Please describe here with your own words the event which had as a consequence your accident at work?

1.9 What was the type of your injury?

Type of the injury	Tick the box corresponding to your situation
Wounds and superficial injuries	<input type="checkbox"/>
Bone fractures	<input type="checkbox"/>
Dislocations, sprains and strains	<input type="checkbox"/>
Traumatic amputations (loss of body parts)	<input type="checkbox"/>
Concussions and internal injuries	<input type="checkbox"/>
Burns, scalds and frostbites	<input type="checkbox"/>
Poisonings and infections	<input type="checkbox"/>
Drownings and asphyxiations	<input type="checkbox"/>
Effects of sound, vibration and pressure	<input type="checkbox"/>
Effects of temperature extremes, light and radiation	<input type="checkbox"/>
Shocks	<input type="checkbox"/>
Multiple injuries ²⁸	<input type="checkbox"/>
Other, please specify:	<input type="checkbox"/>

1.10 What was the location of your injury?

Location of the injury	Tick the box corresponding to your situation
Head	<input type="checkbox"/>
Neck, including spine and vertebra in the neck	<input type="checkbox"/>
Back, including spine and vertebra in the back	<input type="checkbox"/>
Torso and organs	<input type="checkbox"/>
Upper limbs	<input type="checkbox"/>
Lower limbs	<input type="checkbox"/>
Whole body or multiple sites ²⁹	<input type="checkbox"/>
Other, please specify:	<input type="checkbox"/>

²⁸ When several parts of the body or several injuries are concerned, it is advisable to give the body part of the most serious lesion: for example, amputation precedes the fracture, which precedes the wound, etc. When it is not possible to indicate the main part of body injured, one can use "multiple sites" code.

²⁹ In cases where several parts of the body have been injured, the site which has been most seriously injured should be chosen e.g. an amputation precedes bone fracture, which precedes wounds etc. In other cases a code for multiple sites should be used at the appropriate level of the classification. In cases where larger parts of the body have been affected, e.g. injuries caused by burns or skalds, a code for multiple sites should be used as well.

1.11 Where did the accident take place?

Place of the accident	Tick the box corresponding to your situation
Usual workstation or within the usual local unit of work	<input type="checkbox"/>
Occasional or mobile workstation or in a journey on behalf of the employer	<input type="checkbox"/>
Another workstation to be specified:	<input type="checkbox"/>

1.12 What were the circumstances ³⁰ associated with your accident?

Circumstance of the accident	Tick the box corresponding to the situation
Buildings, structures, surfaces – at ground or floor level (indoor or outdoor, fixed or mobile, temporary or not) <i>(ex: slip, falls at ground level, stepping on an object)</i>	<input type="checkbox"/>
Buildings, structures, surfaces – above or below ground or floor level (indoor or outdoor) <i>(ex: falls from height, falling in stairs)</i>	<input type="checkbox"/>
Systems for the supply and distribution of materials, pipe networks <i>(ex: fixed or mobile gas, air, liquid, or solid agent supply systems, sewers, drains)</i>	<input type="checkbox"/>
Motors, systems for energy transmission and storage <i>(ex: power generators, mechanical, pneumatic, hydraulic or electric energy suppliers, batteries, accumulators)</i>	<input type="checkbox"/>
Handtools <i>(ex: sawing or drilling handtools, painting tools, kitchen tools, surgical tools, cleaning tools, welding tools, sewing tools)</i>	<input type="checkbox"/>
Machines and equipment - portable or mobile, not handtools <i>(ex: portable or mobile machines in construction, agriculture, mining, floor cleaning machines)</i>	<input type="checkbox"/>
Machines and equipment – fixed, not handtools <i>(ex: machines of chemical processes, ovens, driers, refrigerators, pressing or crushing machines, grinding, drilling, polishing, cutting machines, packing machines)</i>	<input type="checkbox"/>
Conveying, transport and storage systems <i>(ex: conveyors, cableways, elevators, cranes, trucks, containers, silos, shelving, pallet racks)</i>	<input type="checkbox"/>
Land vehicles <i>(ex: road accident, light vehicles powered or not, roller skates)</i>	<input type="checkbox"/>
Other transport vehicles <i>(ex: air crash, suspended rails, sea vehicles)</i>	<input type="checkbox"/>
Materials, objects, products, machine components, debris, dust <i>(ex: building materials, stored products, loads, farm or breeding products)</i>	<input type="checkbox"/>
Chemical, explosive, radioactive, biological substances <i>(ex: contact with dangerous substances)</i>	<input type="checkbox"/>
Safety devices and equipment <i>(ex: safety devices for machines or individuals, emergency devices)</i>	<input type="checkbox"/>
Office equipment, personal equipment, sport equipment, weapons, domestic appliances <i>(ex: furniture, office equipment, clothing, music instruments, weapons)</i>	<input type="checkbox"/>
Living organisms and human beings <i>(ex: trees, plants, animals, puncture by an insect, micro-organisms, kick, throttling)</i>	<input type="checkbox"/>
Bulk waste <i>(ex: bulk waste from raw materials, products, chemicals, plants, animals)</i>	<input type="checkbox"/>
Physical phenomena and element <i>(ex: noise, natural radiation, light rain, snow, natural disasters)</i>	<input type="checkbox"/>
Other material agents not listed in this classification to be specified:	<input type="checkbox"/>

³⁰ the circumstances of the accident describe the tool, the object, the instrument or circumstances connected with the cause of the accident

1.13 During how many days ³¹ did you stay out of work because of the accident?

Number of days	Tick the box corresponding to your situation
Less than 1 day	<input type="checkbox"/>
1 to 3 days	<input type="checkbox"/>
4 to 6 days	<input type="checkbox"/>
7 to 13 days	<input type="checkbox"/>
14 to 20 days	<input type="checkbox"/>
From 21 days to 1 month	<input type="checkbox"/>
From 1 to 3 months	<input type="checkbox"/>
From 3 to 6 months	<input type="checkbox"/>
Permanent disability (of work) or at least 183 days (6 months)	<input type="checkbox"/>

³¹ The number of days without working refers to the number of calendar days of work incapacity of the victim following an accident at work including Saturdays, Sundays, Holidays.

2. Financial costs of your accident at work

This part of the questionnaire aims to quantify the financial costs of your accident at work. The questions address only costs that you had to pay yourself or your personal losses of income which were due to the accident. We would ask you not to include costs that were compensated to you by a medical institution, by public (i.e. Social Security) or private insurance, by your employer or another institution. The questions that follow refer primarily to the health care costs and to those specific to your professional life.

We ask you to express the costs in Euros. If you would like to give them in some other monetary unit, please specify below the unit which you use. As far as possible please express your costs in the same monetary unit throughout the questionnaire.

Unit (other than Euro):

2.1 Following this accident, did you have health care costs that were not refunded to you?

Yes No

If so, what were the costs?

2.2 Following your accident, were you obliged to visit a rehabilitation centre owing to your disability?

Yes No

If so, what were the costs (non-refunded)?

2.3 Did you temporarily stop working or work less than usually because of your accident?

Yes No

If so, for how long a time did you stop working or work less than usually?

How much would you estimate was your monthly loss of income due to this cessation or reduction of work?

Did you receive financial compensation for that loss of income?

- Total compensation
- Partial compensation
- No compensation

2.4 Did you loose your job because of your accident?

Yes No

If so,

- Did you remain unemployed because of your accident?

Yes No

- If so,

- How long did you remain unemployed because of your accident?

- What was your net monthly income in your old employment before the accident?

If you do not wish to give exactly your old income, please provide an order of magnitude:

Net monthly salary	Tick the corresponding box
Less than 900 Euros	<input type="checkbox"/>
Between 900 and 1200 Euros	<input type="checkbox"/>
Between 1200 and 1500 Euros	<input type="checkbox"/>
Between 1500 and 2000 Euros	<input type="checkbox"/>
Between 2000 and 3000 Euros	<input type="checkbox"/>
More than 3000 Euros	<input type="checkbox"/>

- **Did you receive any compensation for that loss of income?**
 - Total compensation
 - Partial compensation
 - No compensation
- **Have you found a new employment?**
Yes No
- **If so,**
 - **How much less do you earn now than in your old job (If you earn more than in your old job, please say it)?**

2.5 Did you have to retire earlier than your normal retirement age because of your accident?

Yes No

If so,

- **At which age did you retire because of your accident?**
- **How much less is your net monthly pension than was your net monthly income in the job that you held before you had to retire?**

2.6 Has your accident had consequences on your career other than those mentioned above?

Yes No

If so,

Please explain what are these consequences?

Do you think that it is relevant to express these consequences in terms of monetary value?

Yes No

If so, what would be the value of these losses in Euros ³²?

2.7 Because of the accident at work, did you have costs (not refunded) due to legal actions at court?

Yes No

If so, what were the costs?

2.8 Because of the accident at work, did you have other financial costs (not refunded)?

Yes No

If so, which were the costs and how much were they?

³² If you have had legal actions to get compensation for these costs, you may give the value that was estimated for these costs in that process

3. Costs in terms of quality of life changes due to your accident at work

Apart from the effects on your professional life and your work environment, your accident at work probably had effects on other areas of your life as well. As we aim to estimate all costs of accidents at work, we would like to know your experience on such consequences of your accident at work. These consequences are not necessarily easy to estimate in financial terms, but they may nevertheless have had an important impact on your quality of life.

3.1 Did your accident cause you any physical disability?

Yes No

If so,

Please explain what kind of physical disability it caused?

Do you think that it is relevant to express financially such consequences or at least a part of them?

Yes No

If so, what would be your estimate in Euros for these consequences³³?

3.2 Did your accident have effects on your family life?

Yes No

If so,

Please explain what kind of effects it had?

Do you think that it is relevant to express financially such consequences or at least a part of them?

Yes No

If so, what would be your estimate in Euros for these consequences³³?

³³ If you have had legal actions to get compensation for these costs, you may give the value that was estimated for these costs in that process

3.3 Did your accident have effects on your social life (other than family life)?

Yes No

If so,

Please explain what kind of effects it had?

Do you think that it is relevant to express financially such consequences or at least a part of them?

Yes No

If so, what would be your estimate in Euros for these consequences³⁴?

3.4 Your accident most likely had consequences in terms of sorrow, suffering and/or of pain. Do you think that it is relevant to express financially such consequences or at least a part of them?

Yes No

If so, what would be your estimate in Euros for these consequences³⁴?

3.5 Did your accident have consequences in terms of time available?

Yes not

If so,

Please explain what kind of effects it had?

Do you think that it is relevant to express financially such consequences or at least a part of them?

Yes not

If so, what would be your estimate in Euros for these consequences³⁴?

³⁴ If you have had legal actions to get compensation for these costs, you may give the value that was estimated for these costs in that process

3.6 Did your accident have other consequences which you would like to mention?

Yes not

If so,

Please explain what kind of effects it had?

Do you think that it is relevant to express financially such consequences or at least a part of them?

Yes not

If so, what would be your estimate in Euros for these consequences ³⁵?

³⁵ If you have had legal actions to get compensation for these costs, you may give the value that was estimated for these costs in that process

4. Your opinion interests us

A reliable and exhaustive analysis of the costs of the accidents at work requires all the possible contributions. If you have remarks, opinions or advice, which you consider useful to us, we would appreciate them. Please write them down here:

ANNEX 6:

DESCRIPTION OF THE THEORETICAL MODEL FOR ESTIMATION OF SOCIO-ECONOMIC COSTS OF ACCIDENTS AT WORK

1. Accidents resulting in temporary incapacity to work (and the first year of accidents with permanent incapacity to work)

1.1. Labour cost

The labour costs were estimated by the number of accidents, the number of days lost (ESAW) and the unit daily labour cost (New Cronos, Labour costs).

• LCT(i,n,m): Total labour costs of accidents with temporary incapacity

$$LCT_{(i,n,m)} = N_{(i,n,m)} * DLC_{(n,m)} * C_{(i,n,m)}$$

n: NACE

i: category of days lost

m: Member States

N: Number of accidents at work

C(*i*): Number of days lost (center of the each class *I* was used)

*DLC*_(*n,m*) is the daily labour cost from New Cronos database, by NACE and Member State. As the ESAW database gives the days lost as calendar days, the annual value from New Cronos was divided by 366 (number of days in 2000).

1.2. Costs other than labour costs

The proportion of accidents with costs other than labour costs and the mean ratio between these other costs and the labour costs were estimated based on the questionnaire information.

• R₁(i): Proportion of accident with other cost than labour cost by category of days lost

$$R_1(i) = \frac{N_{AOC(i)}}{N_{(i)}}$$

• R₂(i): Mean ratio between all other costs and labour costs by category of days lost

$$R_2(i) = \frac{\sum OC_{AOC(i)}}{\sum LC(i)}$$

LC: Labour Costs due to the accident

N: Number of accidents at work

OC: costs other than labour costs

i: category of days lost

AOC refers to accidents with other costs > 0

Only accidents with other costs > 0 were taken into account in

Ratio2

The other costs were calculated by multiplying the labour costs of step 1.1 by the ratios R1 and R2.

• **OCT_{AOC (i,n,m)}: Costs other than labour cost**

$$OCT_{AOC (i,n,m)} = LC_{(i,n,m)} * R_{1(i)} * R_{2(i)}$$

n: NACE

i: category of days lost

m: Member State

LC: Total labour costs estimated

R1: Proportion of accidents with other cost than labour cost

R2: Mean ratio between other costs and labour costs

AOC means "accident with other cost than labour cost"

1.3. Total costs of accidents with temporary incapacity to work

$$TCT_{(i,m,n)} = LCT_{(i,m,n)} + OCT_{(i,m,n)}$$

i: category of days lost

n: NACE

m: Member State

TCT: Total costs of accidents with temporary incapacity

LCT: Labour costs of accidents with temporary incapacity

OCT: Other costs of accidents with temporary incapacity

2. Accidents at work resulting in permanent incapacity to work

The lost labour costs were estimated from the number of accidents and age of the victim (ESAW) as well as a theoretical age of retirement. For cases with permanent partial incapacity to work only 15% of the labour costs were estimated while for cases with permanent total incapacity to work the loss was estimated as 100% (in most insurance systems the minimum level of incapacity to be assessed as a permanent case is around 10% of incapacity). The numbers of permanent cases with total and partial incapacity to work had to be estimated. Based on the LFS ad hoc module of 1999 it was assumed that 0.2% of all accidents lead to permanent total incapacity to work, and the rest of the permanent cases in the ESAW database were assumed to represent an average of 15% of incapacity.

• **LPC: Labour cost for accidents with permanent incapacity**

$$LCP_{(c,m,n)} = N_{(c,m,n)} * IP_{(c,m,n)} * YLc_{(c,m,n)} * Yc_{(c,m,n)}$$

n: NACE

c: age category

m: Member State

N: Number of accidents

IP: the degree of permanent incapacity (15% and 100% were used)

YLc: the yearly labour cost from New Cronos

Yc: lost working years (age of retirement (65 years) minus age of the victim (center of age category was used))

3. Fatal accidents at work

The lost labour costs were estimated from the number of accidents and age of the victim (ESAW) as well as a theoretical age of retirement.

- **LCF(a,n): Labour costs for Fatal accidents**

$$LCF_{(c,m,n)} = Yc_{(c,m,n)} * YLc_{(m,n)}$$

n: NACE

c: age category

m: Member State

Yc : lost working years (age of retirement (65 years) minus age of the victim (center of age category was used))

YLc: the Yearly Labour cost from New Cronos

For the extreme age categories (0-14 years) and (65 year and more), the center of the age category was not used for the age of the victim (14 years and 65 years were used respectively).

4. Total costs of accidents at work

The total costs of accidents at work were calculated as the sum of the costs of temporary, permanent and fatal accidents at work.

- **TC: Total costs of accidents at work**

$$TC_{(m,n)} = TCT_{(i,m,n)} + LCP_{(m,n)} + LCF_{(m,n)}$$

n: NACE

m: Member State

TCT: Total costs of accidents at work with temporary incapacity

LCP: Labour costs of accidents at work with permanent incapacity

LCF: Labour costs of fatal accidents at work

ANNEX 7:

SUMMARY DESCRIPTION OF ANSWERS TO THE QUESTIONNAIRES FOR COMPANIES

Description of the distribution of answers of the company questionnaires by background variables, duration of absence and existence / lack of costs

Table 9: Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by economic activity (NACE) and duration of incapacity to work

Duration of absence	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Agriculture, hunting and forestry	11	6			2	0	5	3	2	2	2	1		
Fishing	1	1			1	1								
Mining and quarrying	1	1					1	1						
Manufacturing	133	59	20	2	41	24	27	16	20	7	24	10	1	0
Hotels and restaurants	6	2	3	2					2	0			1	0
Electricity, gas and water supply	64	28	8	2	12	6	16	10	12	6	13	4	3	0
Construction	32	12	9	1	4	2	10	8	6	1	2	0	1	0
Wholesale and retail trade, repair of motor vehicle, motorcycles and personal household goods	7	4	1	0	1	0	5	4	0	0	0	0	0	0
Hotels and restaurants	22	11	3	1	5	3	4	1	6	4	1	1	3	1
Transport, storage and communication	2	1	1	0			1	1						
Financial intermediation	5	2			3	1	1	1	1	0				
Real estate, renting and business activities														
Public administration and defense														
Education														
Health and social work														
Other community, social and personal service activities	2	1			1	1							1	0
Private household with employed persons	2	2					1	1			1	1		
Extra-territorial organisations and bodies	1	1					1	1						
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 10 : Total number of accidents (N. acc.) and number of accidents with reported costs ((N. acc.-costs >0) by size of company and duration of incapacity to work

Duration of absence	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
0 employee (works alone)														
1-9 employees	62	41	5	1	18	14	25	21	9	4	4	1	1	0
10-49 employees	86	37	12	1	17	11	23	16	14	5	17	4	3	0
50-249 employees	48	18	11	5	11	3	9	3	9	4	5	3	3	0
250-499 employees	60	23	10	0	14	4	11	6	6	5	11	7	1	1
500 employees or more	31	11	6	1	9	5	4	1	4	2	6	2	2	0
Size not exactly known but less than 10 employees														
Size not exactly known but more than 9 employees	2	1	1	0	1	1								
Unknown size														
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 11 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by place of accident and duration of incapacity to work

Duration of absence	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Usual workstation or within the usual unit of work	214	97	35	5	54	29	55	36	34	13	32	14	4	
Occasional or mobile workstation or in a journey on behalf of the employer	68	31	8	2	14	7	17	11	15	7	11	3	3	1
Another workstation to be specified	3	3	1	1	2	2	0	0	0	0	0	0	0	
Missing	4	0	1		0		0		0		0		3	
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 12 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by circumstances of accident and duration of incapacity to work

Circumstances of accident	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Buildings, structures, surfaces - at ground or floor level	36	12	5	1	5	1	12	6	5	1	8	3	1	0
Buildings, structures, surfaces - above or below ground or floor level	26	12	3	0	4	2	8	5	7	1	4	4		
Systems for the supply and distribution of materials, pipe networks	3	1	2	1			1	0						
Motors, systems for energy transmission and storage	7	2	1	0					2	1	4	1		
Handtools	35	13	8	2	14	6	10	5	1	0	2	0		
Machines and equipment - portable or mobile, not handtools	20	8	3	0	4	1	6	4	3	3	4	0		
Machines and equipment - fixed, not handtools	42	19	7	1	9	6	8	6	7	1	9	5	2	0
Conveying, transport and storage systems	31	13	5	0	9	5	6	2	8	5	3	1		
Land vehicles	28	19	4	2	6	5	6	6	6	4	4	1	2	1
Other transport vehicles	1	0					1	0						
Materials, objects, products, machine components, debris, dust	31	19	3	1	12	7	9	8	6	2	1	1		
Chemical, explosive, radioactive, biological substances	7	4	1	0	2	1	3	3	1	0	0	0		
Safety devices and equipment	2	1									2	1		
Office equipment, personal equipment, sport equipment, weapons, domestic appliances	3	0	2	0									1	0
Living organisms and human being	1	1							1	1				
Bulk waste	5	4			3	3	1	1			1	0		
Physical phenomena and element	1	1					1	1						
Other material agents not listed in this classification	2	1			1	0			1	1				
Missing	8	1	1	0	1	1			1	0	1	0	4	0
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 13 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by age of victim and duration of incapacity to work

Age of victim	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
0-17 years	1	1									1	1		
18-24 years	56	34	7	0	10	7	23	19	10	5	5	2	1	1
25-34 years	77	32	13	4	23	11	14	8	9	4	17	5	1	0
35-44 years	68	21	16	2	17	6	9	4	17	5	8	4	1	0
45-54 years	66	36	6	1	18	12	21	14	8	4	11	5	2	0
55-64 years	14	5	2	1	1	1	4	1	5	2	1	0	1	0
65 years or more	1	1					1	1						
Age unknown	1	0	1	0										
Missing	5	1			1	1							4	0
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 14 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by sex of victim and duration of incapacity to work

Sex of victim	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Male	234	111	34	7	54	30	60	39	47	20	34	14	5	1
Female	51	20	11	1	16	8	12	8	2	0	9	3	1	0
Missing	4	0											4	0
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 15 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by profession of victim (ISCO) and duration of incapacity to

Profession of victim (ISCO)	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Legislators, senior officials and managers														
Professionals														
Technicians and associate professionals	9	3	1	0	2	1	2	0	1	1	2	1	1	0
Clerks	8	2	7	1	0	0	1	1	0	0	0	0	0	0
Service workers and shop and market sales workers	26	18	1	0	5	4	13	11	6	2	1	1	1	0
Skilled agricultural and fishery workers	9	6			1	0	4	3	2	2	2	1	1	0
Craft and related trades workers	116	53	19	5	31	18	16	11	25	9	23	10	2	0
Plant and machine operators and assemblers	63	37	9	0	18	12	22	19	6	3	8	3	3	0
Elementary occupations, non-skilled labourers	39	9	3	0	11	3	11	2	8	3	6	1	1	0
Armed forces														
Other	15	3	5	2	2	0	3	0	1	0	1	0	3	1
Missing	4	0											4	0
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

work

Table 16 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by type of injury and duration of incapacity to work

Type of injury	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Wounds and superficial injuries	107	56	26	5	39	24	32	24	8	2	2	1	1	0
Bone fractures	52	21	2	0	2	0	8	3	17	9	21	9	2	0
Dislocations, sprains and strains	64	30	12	2	21	12	21	13	5	2	5	1	1	0
Traumatic amputations	14	3	1	0	0	0	2	1	5	1	5	1	1	0
Concussions and internal injuries	15	5			4	1	3	0	6	2	2	2	1	0
Burns, scalds and frostbites	10	6			2	0	5	5	2	1	1	0	0	0
Poisonings and infections	2	1			1	1					1	0		
Drowning and asphyxiations														
Effects of sound, vibration and pressure														
Effects of temperature extremes, light and radiation														
Shocks	4	0	1						1		2			
Multiple injuries	7	6					1	1	2	2	3	2	1	1
Other	9	3	3	1	1	0			2	1	1	1	2	0
Missing	5	0							1	0			4	0
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 17 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by body part and duration of incapacity to work

Body part	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Head	35	16	15	4	7	5	6	4	5	2	2	1		
Neck, including spine and vertebra in the neck	3	3	1	1	1	1			1	1				
Back, including spine and vertebra in the back	27	11	5	1	11	6	5	3	2	0	4	1		
Torso and organs	11	8			1	0	5	4	1	1	4	3		
Upper limbs	120	48	19	1	30	14	33	22	23	6	13	5	2	0
Lower limbs	56	29	2	0	15	9	18	9	11	6	9	5	1	0
Whole body and multiple sites	19	12	1	1	3	1	5	5	3	3	5	1	2	1
Other	12	4	1	0	2	2			2	1	6	1	1	0
Missing	6	0	1	0					1	0			4	0
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Table 18 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by country and duration of incapacity to work

Country	All		0-3 days		4-13 days		14-30 days		1-3 months		+3 months - and permanent incapacity		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Italy	56	54	0	0	18	18	30	30	6	4	2	2		
Luxembourg	46	15	13	3	11	4	3	1	7	4	8	3	4	
Portugal	187	62	32	5	41	16	39	16	36	12	33	12	6	1
TOTAL	289	131	45	8	70	38	72	47	49	20	43	17	10	1

Descriptive information of different types of costs reported in the company questionnaires

Table 19 : Number of accidents with reported costs (N.), mean costs (euro) and range of costs (euro) by type of costs and duration of incapacity to work

Types of costs	All				0-3 days				4-13 days				14-30 days				1-3 months				+3 months - and permanent incapacity								
	N.	Mean	Min	Max	N.	Mean	Min	Max	N.	Mean	Min	Max	N.	Mean	Min	Max	N.	Mean	Min	Max	N.	Mean	Min	Max	N.	Mean	Min	Max	
TOTAL - All types of costs combined *	131	1857	2	25000	8	393	2	1080	38	1043	5	3700	47	2163	5	25000	20	1526	50	4000	17	4003	5	24740					
Material damage																													
Damage of the structures																													
Repair costs	12	969	50	3000	1	75	75	75	3	1000	700	1500	3	933	500	1300	3	750	50	1450	2	1750	500	3000					
Rental costs of temporary equipment, machines, buildings or vehicles	1	5905	5905	5905									1	5905	5905	5905													
Production losses due to cessation or slow down of production	70	2058	20	20000	2	600	500	700	20	1613	50	3200	37	2236	20	20000	7	1713	90	3500	4	3970	800	10080					
Replacement of persons																													
- Extra salary costs	38	1607	40	15000	6	307	40	750	12	352	64	1500	6	450	150	1000	7	1627	313	4000	7	5846	1300	15000					
- Costs of training and adaptation of a new worker	6	1220	150	3000									1	150	150	150	3	1307	320	3000	2	1625	750	2500					
Loss of customers or orders																													
Court expenses	2	595	190	1000													1	190	190	190	1	1000	1000	1000					
Administrative costs	35	346	2	5000	2	14	2	25	9	18	5	50	11	671	2	5000	7	111	25	480	5	700	5	3360					
Loss in terms of image																													
Other costs																													

* In the total row all costs of one individual questionnaire were combined when calculating the mean and the range

ANNEX 8:

ESTIMATED COSTS OF ACCIDENTS AT WORK IN EU15 BY ECONOMIC ACTIVITY AND COUNTRY

Note : Details in the following tables are hidden in some cells because of the low number of accidents but they are include in the total of costs.

Table 20 :EU15 : number and costs (1000 euros) of accidents at work with temporary incapacity to work by economic activity (NACE) and age of the victim

		0-3d	4d - 6d	7d - 13d	14d - 20d	21d - 1m	1m - 3m	3m - 6m	6m - and perm. inc.	Total
	% of acc. With other costs (Ratio1)	17.78%	54.29%	54.29%	65.28%	65.28%	40.82%	38.09%	38.09%	
NACE	other costs/labour costs (Ratio2)	581.59%	203.15%	203.15%	159.07%	159.07%	45.40%	39.47%	39.47%	
Missing	Number of accidents	18106	6258	9629	4776	3315	5087	752	1860	49782
	Labour costs total	2 333	2 735	8 147	7 115	7 237	26 621	8 738	45 401	108 327
	Other costs	2 412	3 016	8 985	7 389	7 515	4 933	1 314	6 826	42 390
	Total costs	4 745	5 751	17 132	14 504	14 752	31 554	10 052	52 226	150 717
A	Number of accidents	195 156	35 910	89 236	60 350	45 373	83 399	14 053	13 107	536 584
	Labour costs total	27 722	17 273	84 290	100 053	109 121	473 152	187 456	347 561	1 346 629
	Other costs	28 666	19 051	92 964	103 896	113 312	87 686	28 182	52 253	526 010
	Total costs	56 388	36 324	177 254	203 950	222 433	560 837	215 639	399 814	1 872 639
B	Number of accidents	4 630	534	1 699	1 279	1 035	3 093	315	145	12 732
	Labour costs total	467	191	1 142	1 544	1 777	12 277	2 873	2 891	23 162
	Other costs	483	210	1 259	1 604	1 845	2 275	432	435	8 543
	Total costs	950	401	2 401	3 148	3 622	14 553	3 305	3 326	37 706
C	Number of accidents	19 549	5 125	9 865	4 715	3 301	9 287	1 080	829	53 750
	Labour costs total	2 891	2 549	9 683	7 591	7 884	51 344	13 888	23 014	118 844
	Other costs	2 989	2 811	10 679	7 883	8 187	9 515	2 088	3 460	47 612
	Total costs	5 879	5 361	20 361	15 474	16 072	60 859	15 976	26 474	166 456
D	Number of accidents	759 577	248 494	425 539	208 395	131 955	247 044	33 880	33 588	2 088 472
	Labour costs total	101 430	113 445	374 400	332 501	306 452	1 339 850	431 449	876 315	3 875 844
	Other costs	104 886	125 119	412 927	345 273	318 223	248 305	64 865	131 746	1 751 342
	Total costs	206 316	238 564	787 327	677 774	624 675	1 588 155	496 313	1 008 061	5 627 186
E	Number of accidents	9 788	2 914	4 933	2 629	1 784	3 730	616	519	26 913
	Labour costs total	1 718	1 740	5 741	4 457	4 377	21 173	8 285	14 688	62 179
	Other costs	1 777	1 919	6 332	4 629	4 545	3 924	1 246	2 208	26 579
	Total costs	3 495	3 658	12 073	9 086	8 922	25 096	9 531	16 896	88 758
F	Number of accidents	483 469	128 216	257 330	128 943	86 779	186 963	29 643	27 964	1 329 307
	Labour costs total	62 756	56 594	219 048	200 247	197 768	992 464	373 726	728 074	2 830 676
	Other costs	64 894	62 417	241 589	207 938	205 364	183 326	56 186	109 459	1 131 773
	Total costs	127 650	119 011	460 637	408 184	403 131	1 176 390	429 912	837 533	3 962 449
G	Number of accidents	309 896	92 125	174 484	84 928	55 560	105 188	15 788	14 097	852 066
	Labour costs total	42 391	42 830	157 051	137 414	131 319	579 779	206 615	381 543	1 678 946
	Other costs	43 835	47 238	173 212	142 691	136 363	107 446	31 063	57 362	739 211
	Total costs	86 227	90 068	330 263	280 105	267 682	687 225	237 677	438 910	2 418 157
H	Number of accidents	122 041	32 783	73 547	34 691	21 541	40 955	5 972	4 023	335 553
	Labour costs total	12 355	11 227	49 347	46 424	42 128	183 655	64 844	89 405	499 385
	Other costs	12 776	12 382	54 425	48 207	43 746	34 035	9 749	13 441	228 762
	Total costs	25 131	23 609	103 773	94 630	85 874	217 691	74 593	102 846	728 146
I	Number of accidents	256 922	69 005	121 659	71 190	51 536	102 550	18 329	15 222	706 411
	Labour costs total	37 185	33 917	116 472	120 143	126 248	591 876	245 902	414 158	1 685 901
	Other costs	38 452	37 407	128 458	124 757	131 097	109 688	36 969	62 265	669 092
	Total costs	75 637	71 323	244 930	244 900	257 344	701 565	282 872	476 423	2 354 994
J	Number of accidents	15 436	5 138	7 176	3 958	2 736	6 043	977	976	42 441
	Labour costs total	3 598	4 031	11 179	9 431	9 473	48 957	18 358	37 894	142 921
	Other costs	3 721	4 446	12 330	9 793	9 837	9 073	2 760	5 697	57 656
	Total costs	7 319	8 478	23 509	19 224	19 310	58 029	21 118	43 591	200 577
K	Number of accidents	178 923	52 645	94 158	47 600	33 213	64 389	11 470	9 554	491 953
	Labour costs total	28 978	29 305	100 353	81 801	83 114	372 688	158 784	278 355	1 133 377
	Other costs	29 965	32 321	110 679	84 943	86 306	69 068	23 872	41 848	479 001
	Total costs	58 943	61 626	211 032	166 743	169 419	441 756	182 656	320 203	1 612 378
L	Number of accidents	96 303	30 215	47 146	26 101	17 781	38 059	5 370	3 811	264 786
	Labour costs total	13 982	15 234	45 217	44 423	43 675	216 547	71 860	105 762	556 701
	Other costs	14 458	16 802	49 870	46 129	45 353	40 131	10 804	15 900	239 447
	Total costs	28 440	32 036	95 087	90 552	89 028	256 678	82 664	121 662	796 149
M	Number of accidents	42 173	15 415	18 109	11 712	7 016	16 769	2 455	2 306	115 955
	Labour costs total	5 657	7 030	16 010	19 110	16 349	92 806	31 246	59 259	247 469
	Other costs	5 850	7 754	17 658	19 845	16 977	17 199	4 698	8 909	98 889
	Total costs	11 508	14 784	33 668	38 955	33 326	170 006	35 943	68 168	346 358
N	Number of accidents	130 441	47 493	55 629	36 289	22 675	49 936	8 601	7 586	358 649
	Labour costs total	14 197	17 944	39 738	54 361	48 154	246 721	101 135	181 664	703 914
	Other costs	14 681	19 790	43 827	56 449	50 003	45 723	15 205	27 312	272 990
	Total costs	28 878	37 734	83 566	110 810	98 157	292 444	116 340	208 976	976 905
O	Number of accidents	105 756	29 589	52 550	29 548	21 104	40 400	6 503	5 328	290 778
	Labour costs total	15 377	14 591	50 542	50 605	52 521	236 870	88 279	147 334	656 119
	Other costs	15 901	16 092	55 743	52 549	54 538	43 897	13 272	22 150	274 143
	Total costs	31 279	30 683	106 285	103 153	107 058	280 768	101 551	169 484	930 261
P	Number of accidents	3 884	733	1 613	1 020	775	1 688	498	467	10 679
	Labour costs total	555	359	1 523	1 693	1 901	9 470	6 647	12 756	34 905
	Other costs	574	396	1 680	1 759	1 974	1 755	999	1 918	11 055
	Total costs	1 128	756	3 204	3 452	3 875	11 226	7 646	14 674	45 960
Q	Number of accidents	489	143	229	127	102	166	42	45	1 344
	Labour costs total	70	69	218	211	247	958	546	1 186	3 505
	Other costs	72	76	241	220	256	177	82	178	1 303
	Total costs	142	145	459	431	503	1 135	628	1 364	4 807
Total	Number of accidents	2 752 537	802 733	1 444 531	758 250	507 580	1 004 746	156 345	141 431	7 568 153
	Labour costs total	373 663	371 064	1 290 104	1 219 125	1 189 743	5 497 209	2 020 632	3 747 264	15 708 804
	Other costs	386 392	409 247	1 422 858	1 265 950	1 235 440	1 018 758	303 784	563 368	6 605 798
	Total costs	760 055	780 310	2 712 962	2 485 075	2 425 183	6 515 967	2 324 416	4 310 633	22 314 602

Note: The labour costs and other costs were estimated also for the first year of the accidents with permanent incapacity

Table 21: EU-15 : number and costs (1000 euros) of accidents at work with temporary incapacity to work by country and age of the victim

		0-3d	4d - 6d	7d - 13d	14d - 20d	21d - 1m	1m - 3m	3m - 6m	6m - and perm. inc.	Total
	% of acc. With other costs (Ratio1)	17.78%	54.29%	54.29%	65.28%	65.28%	40.82%	38.09%	38.09%	
Country	other costs/labour costs (Ratio2)	581.59%	203.15%	203.15%	159.07%	159.07%	45.40%	39.47%	39.47%	
BE	Number of accidents	55 380	18 658	28 149	13 349	9 701	13 687	1 470	11 874	152 268
	Labour costs total	8 068	9 082	27 370	22 643	24 025	80 320	19 541	315 944	506 993
	Other costs	8 343	10 016	30 187	23 513	24 948	14 885	2 938	47 499	162 329
	Total costs	16 411	19 098	57 557	46 156	48 973	95 205	22 479	363 443	669 322
DK	Number of accidents	40 869	43 347		16 308		11 586		260	112 370
	Labour costs total	7 034	24 787		34 786		85 792		8 793	161 192
	Other costs	7 274	27 337		36 123		15 899		1 322	87 955
	Total costs	14 308	52 124		70 909		101 691		10 115	249 147
DE	Number of accidents	814 318	233 741	420 656	225 128	152 498	303 121	46 866	42 653	2 238 963
	Labour costs total	120 424	114 866	414 944	388 165	384 228	1 809 342	633 405	1 158 114	5 023 487
	Other costs	124 527	126 685	457 642	403 074	398 986	335 312	95 227	174 112	2 115 566
	Total costs	244 951	241 551	872 586	791 239	783 214	2 144 654	728 632	1 332 226	7 139 053
EL	Number of accidents	22 344	5 028	15 520	12 552	3 257	2 387	299	47	61 435
	Labour costs total	1 579	1 182	7 348	10 454	3 943	6 832	1 933	596	33 867
	Other costs	1 632	1 303	8 104	10 856	4 094	1 266	291	90	27 637
	Total costs	3 211	2 485	15 453	21 311	8 037	8 098	2 223	685	61 503
ES	Number of accidents	432 457	97 555	252 069	105 095	71 617	207 788	18 077	4 391	1 189 049
	Labour costs total	40 736	30 675	158 206	119 545	118 706	817 124	161 269	78 355	1 524 616
	Other costs	42 124	33 831	174 486	124 137	123 265	151 432	24 245	11 780	685 301
	Total costs	82 861	64 506	332 692	243 682	241 971	968 556	185 514	90 135	2 209 917
FR	Number of accidents	418 917	125 872	220 733	112 662	80 928	129 783	34 322	28 604	1 151 820
	Labour costs total	62 203	62 296	217 758	201 339	210 742	801 832	481 052	801 813	2 839 034
	Other costs	64 322	68 706	240 165	209 072	218 836	148 598	72 322	120 546	1 142 567
	Total costs	126 525	131 002	457 923	410 410	429 578	950 430	553 374	922 358	3 981 600
IE	Number of accidents	6 453	1 874	3 364	1 773	1 194	2 388	367	329	17 742
	Labour costs total	842	812	2 924	2 689	2 648	12 611	4 397	7 937	34 861
	Other costs	870	896	3 225	2 793	2 750	2 337	661	1 193	14 725
	Total costs	1 712	1 708	6 149	5 482	5 398	14 948	5 058	9 130	49 586
IT	Number of accidents	410 652	110 215	212 520	120 769	87 621	140 990	21 797	24 531	1 129 095
	Labour costs total	51 979	46 281	178 769	180 214	180 522	727 343	255 101	574 191	2 204 400
	Other costs	53 750	51 044	197 164	187 136	197 840	134 793	38 352	86 325	946 404
	Total costs	105 728	97 325	375 933	367 350	388 363	862 136	293 453	660 516	3 150 804
LU	Number of accidents	6 065	4 106	3 876	1 107	956	531	30	5	16 676
	Labour costs total	845	1 895	3 594	1 812	2 279	3 072	365	153	14 035
	Other costs	874	2 090	3 964	1 882	2 367	569	58	23	11 826
	Total costs	1 719	3 985	7 558	3 694	4 647	3 641	443	176	25 862
NL	Number of accidents	111 160	33 498	58 966	30 279	20 329	39 514	6 223	5 666	305 636
	Labour costs total	17 491	17 557	61 880	55 513	54 409	250 840	89 625	163 588	710 902
	Other costs	18 087	19 364	68 248	57 645	56 499	46 486	13 474	24 594	304 397
	Total costs	35 578	36 921	130 128	113 157	110 908	297 326	103 099	188 182	1 015 299
AT	Number of accidents	57 208	16 163	34 745	17 845	10 112	15 187	4 107	1 928	157 294
	Labour costs total	9 167	8 641	37 032	34 413	28 415	101 253	62 116	58 309	339 346
	Other costs	9 479	9 530	40 843	35 735	29 506	18 765	9 339	8 766	161 963
	Total costs	18 646	18 170	77 875	70 149	57 927	120 018	71 454	67 075	501 308
PT	Number of accidents	98 655	28 935	53 489	26 849	17 852	35 205	5 251	5 016	271 253
	Labour costs total	5 438	5 288	19 594	17 261	16 789	78 610	26 854	51 025	220 861
	Other costs	5 623	5 832	21 611	17 924	17 434	14 568	4 037	7 671	94 701
	Total costs	11 061	11 120	41 205	35 185	34 223	93 178	30 892	58 696	315 562
FI	Number of accidents	34 303	10 226	18 086	9 340	6 252	12 501	1 912	1 697	94 317
	Labour costs total	4 967	4 923	17 438	15 761	15 413	73 181	25 480	45 197	202 361
	Other costs	5 136	5 430	19 233	16 366	16 005	13 562	3 831	6 795	86 358
	Total costs	10 104	10 353	36 671	32 127	31 417	86 743	29 311	51 992	288 719
SE	Number of accidents	29 633	9 293	10 463	6 516	6 262	11 994	3 558	3 757	81 477
	Labour costs total	5 559	5 713	13 027	15 491	21 695	98 585	66 351	140 122	366 544
	Other costs	5 749	6 300	14 368	16 086	22 528	18 270	9 975	21 066	114 343
	Total costs	11 308	12 013	27 395	31 577	44 224	116 855	76 326	161 188	480 887
UK	Number of accidents	214 125	64 224	111 893	58 677	39 000	78 084	12 065	10 672	588 740
	Labour costs total	37 330	37 067	130 219	119 037	115 928	550 473	193 124	343 128	1 526 306
	Other costs	38 602	40 881	143 619	123 609	120 381	102 015	29 035	51 586	649 728
	Total costs	75 931	77 948	273 838	242 647	236 309	652 488	222 159	394 714	2 176 034
EU15	Number of accidents	2 752 537	802 733	1 444 531	758 250	507 580	1 004 746	156 345	141 431	7 568 153
	Labour costs total	373 663	371 064	1 290 104	1 219 125	1 189 743	5 497 209	2 020 632	3 747 264	15 708 804
	Other costs	386 392	409 247	1 422 858	1 265 950	1 235 440	1 078 758	303 784	563 368	6 605 798
	Total costs	760 055	780 310	2 712 962	2 485 075	2 425 183	6 575 967	2 324 416	4 310 633	22 314 602

Note: The labour costs and other costs were estimated also for the first year of the accidents with permanent incapacity

Table 22 :EU-15 : number and costs (1000 euros) of accidents at work with permanent incapacity to work by economic activity (NACE) and age of the victim

NACE	Center of class	0-14	15-17	18-24	25-34	35-44	45-54	55-64	65+	Total
		H	K	L	M	N	O	P	Q	
		(50)	(49)	(44)	(36)	(26)	(16)	(6)	(0)	
- Missing	Number of accidents (100% inc. to work)			10	25	26	25	11		100
	Costs (1000 euros)			13 785	28 309	20 799	12 323	2 007		82 753
	Number of accidents (15% inc. to work)		21	186	467	459	422	157	6	1 721
	Costs (1000 euros)		5 016	39 779	82 486	58 541	33 072	4 508		224 192
	Total costs (1000 euros)	4 685	6 651	53 564	110 795	79 340	45 396	6 514		306 946
A	Number of accidents (100% inc. to work)		7	45	148	214	300	256	104	1 073
	Costs (1000 euros)		13 063	73 868	199 822	207 995	177 009	55 532		727 309
	Number of accidents (15% inc. to work)		62	448	1 536	2 262	3 259	2 831	1 260	11 658
	Costs (1000 euros)		17 132	106 675	302 252	319 277	280 202	89 182		1 114 719
	Total costs (1000 euros)	30 195	180 563	502 074	527 271	457 211	144 714			1 842 028
B	Number of accidents (100% inc. to work)				4	7	8	4		25
	Costs (1000 euros)				5 189	6 203	4 935	990		19 818
	Number of accidents (15% inc. to work)			8	21	30	29	18		106
	Costs (1000 euros)			48	1 627	3 587	3 956	2 350	518	12 086
	Total costs (1000 euros)	48	4 129	8 776	10 159	7 284	1 507			31 904
C	Number of accidents (100% inc. to work)			4	23	43	29	7		107
	Costs (1000 euros)			309	7 321	36 089	48 162	19 645	1 777	113 303
	Number of accidents (15% inc. to work)			34	142	241	226	58	9	712
	Costs (1000 euros)			9 045	31 497	38 645	22 120	2 106		104 060
	Total costs (1000 euros)	955	16 367	67 586	86 808	41 765	3 883			217 364
D	Number of accidents (100% inc. to work)	5	27	368	978	1 133	1 179	455	32	4 177
	Costs (1000 euros)	10 124	45 428	570 264	1 240 930	1 040 272	662 409	97 718		3 667 145
	Number of accidents (15% inc. to work)		216	2 603	7 221	8 145	8 647	3 018	227	30 077
	Costs (1000 euros)		53 734	583 204	1 336 627	1 088 972	709 430	93 373		3 865 856
	Total costs (1000 euros)	10 638	99 162	1 153 468	2 577 558	2 129 244	1 371 839	191 091		7 532 999
E	Number of accidents (100% inc. to work)				10	14	20	7		53
	Costs (1000 euros)				15 001	15 230	13 453	1 819		50 526
	Number of accidents (15% inc. to work)			21	72	126	181	63		466
	Costs (1000 euros)			5 530	15 963	20 773	18 288	2 415		63 125
	Total costs (1000 euros)	119	270	10 321	30 964	36 003	31 741	4 234		113 651
F	Number of accidents (100% inc. to work)		17	208	601	709	718	388	18	2 659
	Costs (1000 euros)	234	29 485	347 550	818 468	692 259	425 609	86 595		2 400 200
	Number of accidents (15% inc. to work)		190	1 792	5 516	6 532	7 001	3 588	176	24 797
	Costs (1000 euros)		51 619	435 639	1 097 628	932 083	610 648	115 873		3 243 898
	Total costs (1000 euros)	641	81 104	783 189	1 916 096	1 624 342	1 036 257	202 469		5 644 098
G	Number of accidents (100% inc. to work)		12	154	464	458	402	199	15	1 704
	Costs (1000 euros)		23 807	259 260	632 199	445 717	237 616	44 982		1 643 581
	Number of accidents (15% inc. to work)		87	1 034	3 347	3 456	3 165	1 456	105	12 651
	Costs (1000 euros)		22 881	242 715	646 429	483 151	272 290	47 616		1 715 082
	Total costs (1000 euros)	46 688	501 975	1 278 628	928 868	509 906	92 598			3 358 663
H	Number of accidents (100% inc. to work)		7	86	151	174	161	84	8	671
	Costs (1000 euros)		9 889	106 372	152 065	126 916	72 093	13 941		481 276
	Number of accidents (15% inc. to work)		40	433	841	925	853	437	41	3 571
	Costs (1000 euros)		8 273	79 979	128 721	101 880	57 530	10 950		387 334
	Total costs (1000 euros)	18 163	186 351	280 786	228 796	129 623	24 891			868 610
I	Number of accidents (100% inc. to work)		66	321	429	419	169	8		1 413
	Costs (1000 euros)		90 930	356 406	337 460	203 311	31 737			1 023 198
	Number of accidents (15% inc. to work)		26	660	3 093	4 163	4 060	1 579	77	13 658
	Costs (1000 euros)		5 209	123 032	481 250	469 064	283 365	42 495		1 404 415
	Total costs (1000 euros)	8 562	213 962	837 656	806 524	486 676	74 232			2 427 613
J	Number of accidents (100% inc. to work)				14	24	33	11		85
	Costs (1000 euros)				29 047	35 584	30 209	3 651		105 595
	Number of accidents (15% inc. to work)			27	149	250	347	101		877
	Costs (1000 euros)			9 699	45 335	54 734	47 314	5 204		162 267
	Total costs (1000 euros)			16 802	74 382	90 319	77 523	8 856		267 882
K	Number of accidents (100% inc. to work)			106	252	259	249	108	9	984
	Costs (1000 euros)			212 984	413 192	304 298	179 983	29 528		1 144 136
	Number of accidents (15% inc. to work)		14	1 042	2 226	2 303	2 131	838	80	8 635
	Costs (1000 euros)		5 058	330 612	566 096	416 543	235 032	34 650		1 587 991
	Total costs (1000 euros)		9 209	543 596	979 288	720 841	415 015	64 178		2 732 127
L	Number of accidents (100% inc. to work)		22	79	156	167	99	6		530
	Costs (1000 euros)		45 161	137 040	194 686	125 476	28 433			534 610
	Number of accidents (15% inc. to work)		4	162	503	965	1 078	627	23	3 361
	Costs (1000 euros)		1 421	49 627	125 779	172 587	117 392	26 185		492 989
	Total costs (1000 euros)		5 234	94 788	262 819	367 273	242 868	54 617		1 027 600
M	Number of accidents (100% inc. to work)		14	29	62	78	41	5		232
	Costs (1000 euros)		23 978	39 680	61 563	47 235	9 587			188 233
	Number of accidents (15% inc. to work)		33	125	247	555	707	360	31	2 058
	Costs (1000 euros)		9 067	30 559	50 405	81 462	63 838	12 375		247 706
	Total costs (1000 euros)		15 257	54 537	90 085	143 025	111 072	21 962		435 939
N	Number of accidents (100% inc. to work)			32	127	207	232	113	6	717
	Costs (1000 euros)			44 193	143 932	171 882	120 065	22 168		502 673
	Number of accidents (15% inc. to work)			341	1 299	2 046	2 135	977	26	6 827
	Costs (1000 euros)			70 325	222 245	254 511	165 639	28 884		742 241
	Total costs (1000 euros)		1 063	114 518	366 177	426 402	285 703	51 052		1 244 914
O	Number of accidents (100% inc. to work)			50	132	157	153	78	11	582
	Costs (1000 euros)			63 188	135 435	115 353	68 451	13 040		397 179
	Number of accidents (15% inc. to work)		10	388	1 066	1 309	1 263	638	87	4 763
	Costs (1000 euros)		2 085	71 290	160 974	142 462	84 350	15 988		477 149
	Total costs (1000 euros)		3 798	134 478	296 409	257 815	152 801	29 028		874 328
P	Number of accidents (100% inc. to work)					5	8	6		22
	Costs (1000 euros)					4 628	5 173	1 357		14 761
	Number of accidents (15% inc. to work)			8	36	94	168	94	20	421
	Costs (1000 euros)			2 090	7 337	13 684	15 109	3 198		41 419
	Total costs (1000 euros)			3 167	9 863	18 312	20 282	4 555		56 180
Q	Number of accidents (100% inc. to work)									3
	Costs (1000 euros)									2 692
	Number of accidents (15% inc. to work)			8	11	8	9	5		41
	Costs (1000 euros)			1 919	2 268	1 147	811	177		6 322
	Total costs (1000 euros)			2 738	3 237	1 637	1 123	278		9 013
TOTAL	Number of accidents (100% inc. to work)	7	81	1 172	3 358	4 076	4 180	2 037	225	15 136
	Costs (1000 euros)	14 371	143 376	1 875 166	4 386 301	3 829 507	2 405 306	444 962		13 098 989
	Number of accidents (15% inc. to work)	7	708	9 320	27 795	33 869	35 682	16 846	2 172	126 399
	Costs (1000 euros)	1 711	182 984	2 193 345	5 306 878	4 653 472	3 018 779	535 698		15 892 868
	Total costs (1000 euros)	16 082	326 360	4 068 512	9 693 179	8 482 979	5 424 085	980 660		28 991 857

Table 23 : EU-15 : number and costs (1000 euros) of accidents at work with permanent incapacity to work by country and age of the victim

Country	Center of class	0-14	15-17	18-24	25-34	35-44	45-54	55-64	65+	Total	
		14	16	215	29	39	49	59	65		
		(51)	(43)	(44)	(36)	(26)	(16)	(6)	(9)		
BE	Number of accidents (100% inc. to work)			39	93	93	63	14		305	
	Costs (1000 euros)			71 725	131 369	92 856	38 374	3 152		341 417	
	Number of accidents (15% inc. to work)		139	1 471	3 487	3 256	2 542	634	41	11 569	
	Costs (1000 euros)		39 146	391 595	735 475	488 352	233 544	21 805		1 909 917	
	Total costs (1000 euros)		43 087	463 320	866 844	581 209	271 918	24 957		2 251 334	
DK	Number of accidents (100% inc. to work)	6		19	52	45	58	36	9	225	
	Costs (1000 euros)	13 500	114	36 361	78 517	51 710	39 899	9 398		229 499	
	Number of accidents (15% inc. to work)			4	8	6	8	7		35	
	Costs (1000 euros)			968	1 827	1 077	900	273		5 334	
	Total costs (1000 euros)	13 790	114	37 329	80 344	52 787	40 799	9 671		234 833	
DE	Number of accidents (100% inc. to work)		23	316	969	1 218	1 271	602	79	4 479	
	Costs (1000 euros)		40 547	476 359	1 201 690	1 090 270	706 284	126 117		3 641 761	
	Number of accidents (15% inc. to work)		193	2 583	8 132	10 321	10 877	5 298	770	38 175	
	Costs (1000 euros)		50 990	586 434	1 507 939	1 380 346	903 625	166 383		4 596 470	
	Total costs (1000 euros)	1 247	91 537	1 062 793	2 709 629	2 470 616	1 609 909	292 501		8 238 231	
EL	Number of accidents (100% inc. to work)			10	29	34	34	15		123	
	Costs (1000 euros)			7 428	17 809	15 117	9 457	1 537		51 996	
	Number of accidents (15% inc. to work)										
	Costs (1000 euros)										
	Total costs (1000 euros)	14	634	7 428	17 809	15 117	9 457	1 537		51 996	
ES	Number of accidents (100% inc. to work)		15	242	565	643	554	345	15	2 378	
	Costs (1000 euros)		32 497	459 918	907 588	742 381	391 556	92 043		2 625 983	
	Number of accidents (15% inc. to work)		11	195	469	548	478	299	13	2 013	
	Costs (1000 euros)		3 792	55 552	113 105	95 086	50 692	11 966		330 193	
	Total costs (1000 euros)	36 289	515 470	1 020 693	837 467	442 247	104 010			2 956 175	
FR	Number of accidents (100% inc. to work)		9	173	521	645	686	256	14	2 304	
	Costs (1000 euros)		14 709	275 011	667 562	595 238	389 968	55 032		1 997 519	
	Number of accidents (15% inc. to work)		98	1 914	5 890	7 355	7 923	2 962	158	26 300	
	Costs (1000 euros)		25 318	458 293	1 133 136	1 019 746	677 028	95 816		3 409 337	
	Total costs (1000 euros)	40 027	733 303	1 800 697	1 614 984	1 066 996	150 848			5 406 856	
IE	Number of accidents (100% inc. to work)				8	10	10	5		35	
	Costs (1000 euros)				268	3 586	8 926	8 081	5 234	905	27 003
	Number of accidents (15% inc. to work)			21	64	80	84	40	5	294	
	Costs (1000 euros)			4 356	11 063	10 089	6 603	1 163		33 605	
	Total costs (1000 euros)	5	597	7 942	19 989	18 170	11 837	2 068		60 608	
IT	Number of accidents (100% inc. to work)		15	137	442	560	651	377	77	2 258	
	Costs (1000 euros)		21 834	182 602	489 822	451 583	324 824	70 211		1 540 974	
	Number of accidents (15% inc. to work)		135	1 268	4 167	5 370	6 409	3 989	934	22 273	
	Costs (1000 euros)		30 317	254 892	699 342	654 855	483 143	112 261		2 235 030	
	Total costs (1000 euros)	319	52 150	437 494	1 189 165	1 106 437	807 967	182 472		3 776 004	
LU	Number of accidents (100% inc. to work)				8	9	9	4		33	
	Costs (1000 euros)				9 158	8 060	5 112	913		27 421	
	Number of accidents (15% inc. to work)										
	Costs (1000 euros)										
	Total costs (1000 euros)		264	3 913	9 158	8 060	5 112	913		27 421	
NL	Number of accidents (100% inc. to work)			54	144	167	167	70	7	611	
	Costs (1000 euros)			90 164	199 486	167 611	103 323	16 259		582 213	
	Number of accidents (15% inc. to work)		23	441	1 181	1 376	1 379	590	64	5 055	
	Costs (1000 euros)		6 459	111 283	246 587	207 942	128 666	20 520		721 678	
	Total costs (1000 euros)	336	11 715	201 446	446 073	375 553	231 989	36 779		1 303 891	
AT	Number of accidents (100% inc. to work)		4	21	73	89	93	33		314	
	Costs (1000 euros)		6 684	36 038	104 932	90 197	59 099	7 756		304 706	
	Number of accidents (15% inc. to work)		23	90	366	434	525	173		1 613	
	Costs (1000 euros)		6 727	23 041	79 373	66 180	49 947	6 093		231 360	
	Total costs (1000 euros)	13 411	59 080	184 304	156 376	109 046	13 849			536 066	
PT	Number of accidents (100% inc. to work)			45	127	147	149	65	6	543	
	Costs (1000 euros)			25 884	61 897	51 478	31 962	5 272		178 707	
	Number of accidents (15% inc. to work)		28	362	1 044	1 208	1 230	546	54	4 474	
	Costs (1000 euros)		2 721	31 842	76 743	63 943	39 915	6 699		221 983	
	Total costs (1000 euros)	177	4 876	57 726	138 640	115 421	71 877	11 971		400 690	
FI	Number of accidents (100% inc. to work)			14	42	52	54	24		189	
	Costs (1000 euros)			24 420	58 029	52 407	33 318	5 706		175 621	
	Number of accidents (15% inc. to work)		7	111	332	416	431	195	15	1 509	
	Costs (1000 euros)		2 075	29 053	69 559	62 573	39 924	6 882		210 067	
	Total costs (1000 euros)	3 816	53 473	127 589	114 979	73 242	12 588			385 688	
SE	Number of accidents (100% inc. to work)			7	26	40	50	40		163	
	Costs (1000 euros)			15 111	43 209	48 495	37 788	11 369		155 971	
	Number of accidents (15% inc. to work)			157	563	880	1 111	879	5	3 594	
	Costs (1000 euros)			48 334	142 668	160 959	124 510	37 514		513 985	
	Total costs (1000 euros)	63 445	185 877	209 454	162 297	48 882				669 955	
UK	Number of accidents (100% inc. to work)		6	90	262	325	331	151	13	1 177	
	Costs (1000 euros)		88	12 733	166 647	406 306	364 024	229 109	39 292		1 218 199
	Number of accidents (15% inc. to work)			49	703	2 092	2 619	2 685	1 236	110	9 494
	Costs (1000 euros)			103	15 110	197 704	490 061	442 325	280 281	48 324	1 473 908
	Total costs (1000 euros)	191	27 843	364 350	896 367	806 349	509 390	87 616		2 692 106	
TOTAL	Number of accidents (100% inc. to work)	7	81	1 172	3 358	4 076	4 180	2 037	225	15 136	
	Costs (1000 euros)	14 371	143 376	1 875 166	4 386 301	3 829 507	2 405 306	444 962		13 098 989	
	Number of accidents (15% inc. to work)	7	708	9 320	27 795	33 869	35 682	16 846	2 172	126 399	
	Costs (1000 euros)	1 711	182 984	2 193 345	5 306 878	4 653 472	3 018 779	535 698		15 892 868	
	Total costs (1000 euros)	16 082	326 360	4 068 512	9 693 179	8 482 979	5 424 085	980 660		28 991 857	

Table 24 : EU-15 : Number and costs (1000 euros) of fatal accidents at work by economic activity (NACE) and age of the victim

		0-14	15-17	18-24	25-34	35-44	45-54	55-64	65+	Total age known
		14	16	21.5	29	39	49	59	65	
NACE	Number of year lost	51.00	43.00	43.50	36.00	26.00	16.00	6.00	0.00	
* Missing	N. of accidents				22	24	21	14		88
	Number of years lost				775	614	343	86		2 101
	Labour costs (1000 euros)				19 555	15 656	9 326	2 223		57 396
A	N. of accidents			36	80	116	151	147		651
	Number of years lost			1 574	2 694	3 023	2 409	684		11 041
	Labour costs (1000 euros)			55 105	103 011	107 047	82 809	31 104		387 436
B	N. of accidents				11	16	15	5		49
	Number of years lost				413	422	241	31		1 152
	Labour costs (1000 euros)				10 941	8 634	5 473	1 033		27 374
C	N. of accidents			4	12	30	27	10		87
	Number of years lost			174	432	787	424	62		1 976
	Labour costs (1000 euros)			6 372	16 415	28 250	15 182	2 134		71 089
D	N. of accidents			102	233	238	265	122		976
	Number of years lost			4 441	8 403	6 198	4 232	735		24 207
	Labour costs (1000 euros)			135 257	254 918	196 153	134 485	22 584		750 504
E	N. of accidents					16	19			42
	Number of years lost					416	304			890
	Labour costs (1000 euros)					17 130	12 256			36 599
F	N. of accidents			114	278	337	326	190		1 279
	Number of years lost			4 957	9 992	8 772	5 213	1 143		30 789
	Labour costs (1000 euros)			160 636	306 931	277 255	168 146	37 378		971 666
G	N. of accidents			55	97	114	118	70		461
	Number of years lost			2 412	3 482	2 963	1 894	418		11 419
	Labour costs (1000 euros)			76 456	103 703	98 577	60 802	14 164		360 331
H	N. of accidents			11	16	19	9	15		73
	Number of years lost			491	561	494	149	89		1 832
	Labour costs (1000 euros)			11 685	11 882	13 616	3 501	2 037		43 932
I	N. of accidents			69	185	265	213	139		885
	Number of years lost			3 018	6 671	6 877	3 412	832		20 910
	Labour costs (1000 euros)			84 155	185 038	192 631	96 249	23 986		584 598
J	N. of accidents					5	7	7		23
	Number of years lost					130	112	42		443
	Labour costs (1000 euros)					7 381	6 081	2 365		23 868
K	N. of accidents			25	59	55	71	30		248
	Number of years lost			1 093	2 124	1 437	1 139	182		6 179
	Labour costs (1000 euros)			39 134	88 898	58 064	46 738	6 365		246 621
L	N. of accidents			5	21	28	35	24		116
	Number of years lost			225	746	727	563	143		2 404
	Labour costs (1000 euros)			10 756	30 302	29 434	22 740	5 445		98 677
M	N. of accidents			4	7		4	7		26
	Number of years lost			174	252		64	42		610
	Labour costs (1000 euros)			6 264	8 260		2 299	1 585		21 002
N	N. of accidents			10	19	15	25	8		77
	Number of years lost			435	684	390	400	48		1 957
	Labour costs (1000 euros)			13 012	20 098	11 201	12 081	1 455		57 846
O	N. of accidents			14	33	36	31	27		147
	Number of years lost			609	1 188	936	496	162		3 440
	Labour costs (1000 euros)			14 613	30 972	25 025	12 949	4 437		90 060
P	N. of accidents									5
	Number of years lost									54
	Labour costs (1000 euros)									1 939
Q	N. of accidents									4
	Number of years lost									117
	Labour costs (1000 euros)									4 236
Total	N. of accidents	16	26	458	1 078	1 321	1 339	821	178	5 237
	Number of years lost	826	1 291	19 911	38 796	34 341	21 427	4 928		121 520
	Labour costs (1000 euros)	24 579	43 141	624 625	1 199 404	1 091 657	692 296	159 471		3 835 173

Table 25 : EU-15 : Number and costs (1000 euros) of fatal accidents at work by country and age of the victim

Country	Number of year lost	0-14	15-17	18-24	25-34	35-44	45-54	55-64	65+	Total age known
		14	16	21.5	29	39	49	59	65	
BE	N. of accidents			17	31	27	29		8	115
	Number of years lost			740	1 116	702	464		48	3 070
	Labour costs (1000 euros)			29 844	44 302	25 044	17 083		1 592	117 865
DK	N. of accidents			6	11	15	15		13	68
	Number of years lost			268	381	377	247		79	1 505
	Labour costs (1000 euros)			12 393	16 803	17 174	10 806		3 574	67 944
DE	N. of accidents			92	177	265	236		198	1 018
	Number of years lost			3 981	6 365	6 900	3 778		1 188	22 518
	Labour costs (1000 euros)			132 686	216 290	232 202	129 999		40 910	762 840
EL	N. of accidents			4	15	16	17		5	57
	Number of years lost			174	540	416	272		30	1 432
	Labour costs (1000 euros)			2 750	9 826	7 117	4 443		495	24 631
ES	N. of accidents			76	203	233	177		105	803
	Number of years lost			3 306	7 308	6 058	2 832		630	20 477
	Labour costs (1000 euros)			75 402	169 965	142 964	67 315		14 908	478 875
FR	N. of accidents			64	174	210	278		112	851
	Number of years lost			2 784	6 264	5 460	4 448		672	19 624
	Labour costs (1000 euros)			96 856	222 427	194 435	159 649		24 011	704 827
IE	N. of accidents			6	9	9	4		2	30
	Number of years lost			224	234	136	27		27	701
	Labour costs (1000 euros)			7 510	7 926	4 737	1 014			23 939
IT	N. of accidents			112	264	266	299		200	1 202
	Number of years lost			4 872	9 504	6 916	4 784		1 200	27 570
	Labour costs (1000 euros)			151 132	297 366	217 261	150 966		37 891	863 493
LU	N. of accidents									15
	Number of years lost									374
	Labour costs (1000 euros)									12 998
NL	N. of accidents			11	19	29	41			103
	Number of years lost			465	698	752	651			2 728
	Labour costs (1000 euros)			17 815	26 625	29 676	26 071			106 481
AT	N. of accidents			15	43	72	50		31	236
	Number of years lost			653	1 548	1 872	800		186	5 208
	Labour costs (1000 euros)			25 920	60 006	72 037	31 676		7 274	202 699
PT	N. of accidents			30	79	76	87		63	354
	Number of years lost			1 316	2 849	1 984	1 387		380	8 230
	Labour costs (1000 euros)			19 275	38 548	27 251	19 068		5 339	114 055
FI	N. of accidents			4	14	19	19		5	47
	Number of years lost			144	364	304	30		30	1 022
	Labour costs (1000 euros)			6 863	13 322	11 142	1 146			38 908
SE	N. of accidents			6	4	10	11		20	58
	Number of years lost			261	144	260	176		120	1 010
	Labour costs (1000 euros)			12 572	6 822	13 200	8 613		5 879	49 327
UK	N. of accidents			20	44	72	69		57	280
	Number of years lost			882	1 568	1 865	1 100		339	5 853
	Labour costs (1000 euros)			40 569	71 164	85 557	49 109		15 439	266 293
Total	N. of accidents	16	26	468	1 078	1 321	1 339	821	178	5 237
	Number of days lost	826	1 291	19 911	38 796	34 341	21 427	4 928		121 520
	Labour costs (1000 euros)	24 579	43 141	624 625	1 199 404	1 091 657	692 296	159 471		3 835 173

Table 26 : EU-15 : All accidents at work - number of accidents at work, costs due to lost working time (labour cost) and other costs in 2000. EU-15 level results by economic activity (NACE) and severity of accident (in 1000 euros)

NACE		Temporary (< 1 year)	Permanent 100%	Permanent 15%	Fatal	Total
Missing	Number of accidents	49 782	100	1 721	88	
	Labour costs total	106 327	62 753	224 192	57 396	472 667
	Other costs	42 390				42 390
	Total costs	150 717	62 753	224 192	57 396	515 057
A	Number of accidents	536 584	1 073	11 658	651	
	Labour costs total	1 346 629	727 309	1 114 719	387 436	3 576 093
	Other costs	526 010				526 010
	Total costs	1 872 639	727 309	1 114 719	387 436	4 102 103
B	Number of accidents	12 732	25	106	49	
	Labour costs total	23 162	19 818	12 086	27 374	82 441
	Other costs	8 543				8 543
	Total costs	31 706	19 818	12 086	27 374	90 984
C	Number of accidents	53 750	107	712	87	
	Labour costs total	118 844	113 303	104 060	71 089	407 296
	Other costs	47 612				47 612
	Total costs	166 456	113 303	104 060	71 089	454 909
D	Number of accidents	2 088 472	4 177	30 077	976	
	Labour costs total	3 875 844	3 667 145	3 865 855	750 504	12 159 347
	Other costs	1 751 342				1 751 342
	Total costs	5 627 186	3 667 145	3 865 855	750 504	13 910 689
E	Number of accidents	26 913	53	466	42	
	Labour costs total	62 179	50 526	63 125	36 599	212 430
	Other costs	26 579				26 579
	Total costs	88 758	50 526	63 125	36 599	239 009
F	Number of accidents	1 329 307	2 659	24 797	1 279	
	Labour costs total	2 830 676	2 400 200	3 243 898	971 666	9 446 439
	Other costs	1 131 773				1 131 773
	Total costs	3 962 449	2 400 200	3 243 898	971 666	10 578 213
G	Number of accidents	852 066	1 704	12 651	461	
	Labour costs total	1 678 946	1 643 581	1 715 082	360 331	5 397 940
	Other costs	739 211				739 211
	Total costs	2 418 157	1 643 581	1 715 082	360 331	6 137 150
H	Number of accidents	335 553	671	3 571	73	
	Labour costs total	499 385	481 276	387 334	43 932	1 411 926
	Other costs	228 762				228 762
	Total costs	728 146	481 276	387 334	43 932	1 640 688
I	Number of accidents	706 411	1 413	13 658	885	
	Labour costs total	1 685 901	1 023 198	1 404 415	20 910	4 134 424
	Other costs	669 092				669 092
	Total costs	2 354 994	1 023 198	1 404 415	20 910	4 803 517
J	Number of accidents	42 441	85	877	23	
	Labour costs total	142 921	105 595	162 287	23 868	434 671
	Other costs	57 656				57 656
	Total costs	200 577	105 595	162 287	23 868	492 327
K	Number of accidents	491 953	984	8 635	248	
	Labour costs total	1 133 377	1 144 136	1 587 991	246 621	4 112 125
	Other costs	479 001				479 001
	Total costs	1 612 378	1 144 136	1 587 991	246 621	4 591 126
L	Number of accidents	264 786	530	3 361	116	
	Labour costs total	556 701	534 610	492 989	98 677	1 682 978
	Other costs	239 447				239 447
	Total costs	796 149	534 610	492 989	98 677	1 922 425
M	Number of accidents	115 955	232	2 058	26	
	Labour costs total	247 469	188 233	247 706	21 002	704 410
	Other costs	96 889				96 889
	Total costs	346 358	188 233	247 706	21 002	803 299
N	Number of accidents	358 649	717	6 827	77	
	Labour costs total	703 914	502 673	742 241	57 846	2 006 675
	Other costs	272 990				272 990
	Total costs	976 905	502 673	742 241	57 846	2 279 665
O	Number of accidents	290 778	582	4 763	147	
	Labour costs total	656 119	397 179	477 149	90 060	1 620 506
	Other costs	274 143				274 143
	Total costs	930 261	397 179	477 149	90 060	1 894 649
P	Number of accidents	10 679	22	421	5	
	Labour costs total	34 905	14 761	41 419	1 939	93 024
	Other costs	11 055				11 055
	Total costs	45 960	14 761	41 419	1 939	104 079
Q	Number of accidents	1 344	3	41	4	
	Labour costs total	3 505	2 692	6 322	4 236	16 754
	Other costs	1 303				1 303
	Total costs	4 807	2 692	6 322	4 236	18 057
TOTAL	Number of accidents	7 568 153	15 136	126 399	5 237	
	Labour costs total	15 708 804	13 098 989	15 892 868	3 835 173	48 535 835
	Other costs	6 605 798				6 605 798
	Total costs	22 314 602	13 098 989	15 892 868	3 835 173	55 141 633

Table 27 : EU-15 : all accidents at work - number of accidents at work, costs due to lost working time (labour cost) and other costs in 2000. EU-15 level results by country and severity of accident (in 1000 euros)

Country		Temporary (<i>< 1 year</i>)	Permanent 100%	Permanent 15%	Fatal	Total
BE	<i>Number of accidents</i>	152 268	305	11 569	115	
	Labour costs total	506 993	341 417	1 909 917	117 865	2 876 191
	Other costs	162 329				162 329
	Total costs	669 322	341 417	1 909 917	117 865	3 038 520
DK	<i>Number of accidents</i>	112 370	225	35	68	
	Labour costs total	161 192	229 499	5 334	67 944	463 969
	Other costs	87 955				87 955
	Total costs	249 147	229 499	5 334	67 944	551 924
DE	<i>Number of accidents</i>	2 238 983	4 479	38 175	1 018	
	Labour costs total	5 023 487	3 641 761	4 596 470	762 840	14 024 559
	Other costs	2 115 566				2 115 566
	Total costs	7 139 053	3 641 761	4 596 470	762 840	16 140 124
EL	<i>Number of accidents</i>	61 435	123		57	
	Labour costs total	33 867	51 996		24 631	110 494
	Other costs	27 637				27 637
	Total costs	61 503	51 996		24 631	138 130
ES	<i>Number of accidents</i>	1 189 049	2 378	2 013	803	
	Labour costs total	1 524 616	2 625 983	330 193	478 875	4 959 666
	Other costs	685 301				685 301
	Total costs	2 209 917	2 625 983	330 193	478 875	5 644 967
FR	<i>Number of accidents</i>	1 151 820	2 304	26 300	851	
	Labour costs total	2 839 034	1 997 519	3 409 337	704 827	8 950 717
	Other costs	1 142 567				1 142 567
	Total costs	3 981 600	1 997 519	3 409 337	704 827	10 093 284
IE	<i>Number of accidents</i>	17 742	35	294	30	
	Labour costs total	34 861	27 003	33 605	23 939	119 408
	Other costs	14 725				14 725
	Total costs	49 586	27 003	33 605	23 939	134 134
IT	<i>Number of accidents</i>	1 129 095	2 258	22 273	1 202	
	Labour costs total	2 204 400	1 540 974	2 235 030	863 493	6 843 897
	Other costs	946 404				946 404
	Total costs	3 150 804	1 540 974	2 235 030	863 493	7 790 301
LU	<i>Number of accidents</i>	16 676	33		15	
	Labour costs total	14 035	27 421		12 998	54 454
	Other costs	11 826				11 826
	Total costs	25 862	27 421		12 998	66 281
NL	<i>Number of accidents</i>	305 636	611	5 055	103	
	Labour costs total	710 902	582 213	721 678	106 481	2 121 274
	Other costs	304 397				304 397
	Total costs	1 015 299	582 213	721 678	106 481	2 425 670
AT	<i>Number of accidents</i>	157 294	314	1 613	236	
	Labour costs total	339 346	304 706	231 360	202 699	1 078 111
	Other costs	161 963				161 963
	Total costs	501 308	304 706	231 360	202 699	1 240 073
PT	<i>Number of accidents</i>	271 253	543	4 474	354	
	Labour costs total	220 861	178 707	221 983	114 055	735 605
	Other costs	94 701				94 701
	Total costs	315 562	178 707	221 983	114 055	830 306
FI	<i>Number of accidents</i>	94 317	189	1 509	47	
	Labour costs total	202 361	175 621	210 067	38 908	626 957
	Other costs	86 358				86 358
	Total costs	288 719	175 621	210 067	38 908	713 315
SE	<i>Number of accidents</i>	81 477	163	3 594	58	
	Labour costs total	366 544	155 971	513 985	49 327	1 085 826
	Other costs	114 343				114 343
	Total costs	480 887	155 971	513 985	49 327	1 200 170
UK	<i>Number of accidents</i>	588 740	1 177	9 494	280	
	Labour costs total	1 526 306	1 218 199	1 473 908	5 853	4 224 266
	Other costs	649 728				649 728
	Total costs	2 176 034	1 218 199	1 473 908	5 853	4 873 993
EU15	<i>Number of accidents</i>	7 568 153	15 136	126 399	5 237	
	Labour costs total	15 708 804	13 098 989	15 892 868	3 835 173	48 535 835
	Other costs	6 605 798				6 605 798
	Total costs	22 314 602	13 098 989	15 892 868	3 835 173	55 141 633

ANNEX 9:

**DESCRIPTION OF THE ESTIMATION OF COSTS OF ACCIDENTS AT
WORK FROM THE POINT OF VIEW OF THE VICTIMS**

Questionnaire for Victims

The final questionnaire for the victims is presented in annex 5. It included 27 questions covering the following topics:

- contact information;
- characteristics of the victim;
- characteristics of the employer;
- characteristics of the accident and injury;
- estimates concerning various specific costs and socio-economic consequences of the accident at work.

Concerning the costs for victims of accidents at work, a distinction was made between financial costs and costs in terms of quality of life changes due to the accident at work. Concerning financial costs, the following costs were mentioned in the questionnaire for victims:

Health care costs	Retirement earlier than the normal retirement age
Rehabilitation costs	Consequences on the career
Costs of temporary cessation of work or of reduced working hours	Costs of legal actions
Loss of job	Other financial costs

Concerning costs in terms of quality of life, it proved much more difficult to obtain reliable quantitative estimations. The respondents were asked to estimate in financial terms the costs of the following consequences: physical disability, family life consequences, effects on social life, consequences in terms of sorrow, suffering and/or of pain, in terms of time available and other consequences.

Execution of the questionnaire survey

The members of the ESAW Task Force group were asked to consider whether the survey could be carried out in their country. Finally two countries participated in the company survey (Italy and Portugal). The victims were selected so that they had had an accident at work recently and they were asked to provide the cost information for this most recent accident at work. For the victims 41 (41% response rate) replies were received in Italy and 174 (87% response rate) in Portugal. About 90% of the replies concerned accidents with at least 1 day of absence from work.

The questionnaires were prepared in English and French by Ariane II. The national translations were prepared by the institutions co-ordinating the national surveys:

INAIL, Italy (questionnaire in Italian)

Ministério do Trabalho e da Solidariedade de Social, Portugal (questionnaire in Portuguese)

The survey was performed as a postal survey in Italy and as face-to-face interviews in Portugal.

Estimation of costs of accidents at work for victims

The survey among victims was conducted only in Italy and Portugal. It should be noticed that as the number of answers was rather small, all these cost estimations were based on combined data from these two countries. Two types of costs were estimated: costs related to loss of income and all other costs. The detailed distribution of the answers is given in tables 36 to 46 of Annex 10.

For the victims, the long-term costs due to loss of income resulting from permanent incapacity were not estimated. This choice was made because it would have necessitated interviews of victims who had their accident a long time ago or an estimation based on the victim's assumption concerning the future losses of income. Neither of these approaches was considered reliable enough.

Estimation of loss of income directly due to lost working time

The accidents described in the victim questionnaires were grouped into the 2 categories according to lost working time: less or equal to one month and more than one month (accidents with no loss of working time were not taken into account). Furthermore the answers were also grouped according to whether the respondent reported that he/she had received a reimbursement for this loss of income (not at all, partial, total).

The first step was to evaluate the proportion of victims with loss of income due to lost working time (victim ratio 1 – table 28).

Table 28. The number and proportion of victims with a loss of income.

Number of days lost	All accidents with a loss of working time	Accidents with a loss of income	Proportion of accidents with loss of income (victim ratio 1)
	N (%) (1)	N (%) (2)	(2)/(1)*100
<= 1 month	98 (58%)	43 (54%)	43.88%
> 1 month	71 (42%)	36 (46%)	50.70%
All	169 (100%)	79 (100%)	

The proportion of victims with partial, no or total compensation due to loss of income was thereafter calculated (table 29).

Table 29. The distribution of accidents at work (with a loss of income) according to the reimbursement status.

	Number of victims with loss of income (N)	Type of reimbursement of lost income		
		Total compensation N (%)	Partial compensation N (%)	No compensation N (%)
TOTAL	79	7 (8.86)	37(46.84)	35 (44.30)

No accurate data on the level of partial reimbursement was available, and it was assumed that it would mean a reimbursement of 50% of the lost income.

The mean daily (accidents with less than one month of absence) or monthly (accidents with more than one month of absence) losses of income reported by the victims were calculated according to duration of absence and level of reimbursement (table 30).

Table 30 : Mean monthly loss of income by duration of absence and level of reimbursement.

	Victims with Partial reimbursement (the loss of income after reimbursement)			Victims with No reimbursement		
	Mean (euros)	Min (euros)	Max (euros)	Mean (euros)	Min (euros)	Max (euros)
<= 1 month (daily loss of income)	17.01	3.92	42.86	8.96	5.71	15
> 1 month (monthly loss of income)	507.14	300	800	425.18	45	3000

Finally, the costs of lost income were calculated by applying the above proportions to the accidents of the ESAW 2000 database. The proportion of accidents with a loss of income and the proportions of reimbursement were applied to the days lost data of ESAW database and multiplied by the unit loss of income from table 30. As the above proportions were estimated with data obtained from Portugal and Italy, the weighted average of the earnings in these countries was calculated (weighted in the ratio of the number of questionnaires). Thereafter, for each country, the earnings losses were estimated with this average earnings loss and the ratio between the earnings between the country and the average (coeff E - Table 31).

Data used were extracted from New Cronos (see part 1 – New Cronos references – p6) but the variable *indic_lc* represented earnings instead of the labour cost, for the NACE categories c to k combined.

Table 31 : The monthly earnings (New Cronos) and the ratios to adjust the loss of income :

Earnings for c to k NACE		
	Monthly	Coeff E
BE	3,095.44	2.19
DK	3,419.73	2.42
DE	2,461.54	1.74
EL	1,189.93	0.84
ES	1,484.23	1.05
FR	2,150.59	1.52
IE	2,299.70	1.63
IT	1,769.46	1.25
LU	2,898.91	2.05
NL	2,527.28	1.79
AT	2,479.47	1.75
PT	906.34	0.64
FI	3,095.44	2.19
SE	2,762.06	1.95
UK	3,120.55	2.21

Estimation of other costs than loss of income

The costs other than those due to lost income were either costs of health care or of rehabilitation. For other types of costs, the respondents did not report any concrete estimates of costs (see annex 5 for the detailed list of costs in the questionnaire).

The proportion of victims with other cost than loss of income was calculated (victim ratio 3- table 32).

Table 32 : Proportion of victims with other costs than loss of income (victim ratio 3).

Duration of absence	Number of victims with other costs	Total number of victims	Victim ratio 3
<= 1 month	28	138	20.29%
> 1 month	16	78	20.51%
Total	44	216	

The estimated (non-reimbursed) amount of these costs and the number of days lost was used to calculate the mean daily cost for such costs (table 33). The daily mean was calculated as it was assumed that on the average the amount of such costs would be related to the severity of the accident.

Table 33 : Mean daily cost of costs other than loss of income

Duration of absence	Other costs paid by victims
	<i>daily mean(euro)</i>
<= 1 month	11.03
> 1 month	3.09

The daily cost was thereafter applied to the data of days lost in the ESAW 2000 database. As there was no information available to adjust for the eventual differences between the countries, the same daily cost was applied to all countries.

Results of the estimation of costs of accidents at work from the point of view of victims

The aim of this part was to estimate the costs remaining to be paid by the victims. Table 34 presents the estimates concerning the costs due to loss of income and table 35 the estimates concerning all other costs. The costs due to loss of income were estimated at 1.18 billion and the other costs at around 0.18 billion in EU15 in 2000.

Table 34: Estimated loss of income of the victims due to accidents at work by compensation* status, days lost and country (1000 euros)

		0-3d	4d - 6d	7d - 13d	14d - 20d	21d - 1m	1m - 3m	3m - 6m	Perm. Inc.	Total
	<i>Center of class</i>	1.5	5	10	17.5	25.5	60.5	137.25	274.5	
	<i>Victim ratio 1: proportion of victims with loss of income</i>	43.88%					50.70%			
		<i>Loss of income by accident/ days</i>					<i>Loss of income by accident/ month</i>			
	<i>Mean loss of income, partially compensated</i>	25.51	85.04	170.08	297.64	433.70	507.14			
	<i>Mean loss of income, not compensated</i>	13.44	44.81	89.62	156.83	228.52	425.18			
BE	Nb of accidents	55 380	18 658	28 149	13 349	9 701	13 687	1 470	11 874	152 268
<i>Coef.</i>	Nb of accidents with loss of income	24 299	8 187	12 351	5 857	4 257	6 940	745	6 021	68 657
2.19	Mean loss of income, partially compensated	318	357	1 077	894	947	3 640	887	14 329	22 450
	Mean loss of income, no compensated	317	356	1 074	891	944	5 773	1 407	22 724	33 485
DK	Nb of accidents	40 869	43 347		16 308		11 586		260	112 370
<i>Coef.</i>	Nb of accidents with loss of income	17 932	19 020		7 156		5 874		132	50 114
2.42	Mean loss of income, partially compensated	259	916		1 207		3 404		347	6 134
	Mean loss of income, no compensated	258	913		1 203		5 399		550	8 323
DE	Nb of accidents	814 318	233 741	420 656	225 128	152 498	303 121	46 866	42 653	2 238 983
<i>Coef.</i>	Nb of accidents with loss of income	357 303	102 560	184 574	98 781	66 913	153 695	23 763	21 627	1 009 215
1.74	Mean loss of income, partially compensated	3 718	3 557	12 804	11 992	11 836	64 113	22 488	40 932	171 439
	Mean loss of income, no compensated	3 706	3 545	12 761	11 952	11 797	101 673	35 662	64 912	246 008
EL	Nb of accidents	22 344	5 028	15 520	12 552	3 257	2 387	299	47	61 435
<i>Coef.</i>	Nb of accidents with loss of income	9 804	2 206	6 810	5 508	1 429	1 210	152	24	27 143
0.84	Mean loss of income, partially compensated	49	37	228	323	122	244	69	22	1 095
	Mean loss of income, no compensated	49	37	228	322	122	387	110	34	1 289
ES	Nb of accidents	432 457	97 555	252 069	105 095	71 617	207 788	18 077	4 391	1 189 049
<i>Coef.</i>	Nb of accidents with loss of income	189 752	42 805	110 602	46 113	31 424	105 357	9 166	2 227	537 444
1.05	Mean loss of income, partially compensated	1 191	895	4 626	3 375	3 352	26 500	5 230	2 541	47 710
	Mean loss of income, no compensated	1 187	892	4 611	3 364	3 341	42 024	8 294	4 030	67 743
FR	Nb of accidents	418 917	125 872	220 733	112 662	80 928	129 783	34 322	28 604	1 151 820
<i>Coef.</i>	Nb of accidents with loss of income	183 810	55 229	96 852	49 433	35 509	65 805	17 403	14 503	518 546
1.52	Mean loss of income, partially compensated	1 671	1 674	5 870	5 243	5 488	23 983	14 388	23 982	82 298
	Mean loss of income, no compensated	1 665	1 668	5 850	5 226	5 470	38 033	22 817	38 032	118 761
IE	Nb of accidents	6 453	1 874	3 364	1 773	1 194	2 388	367	329	17 742
<i>Coef.</i>	Nb of accidents with loss of income	2 831	822	1 476	778	524	1 211	186	167	7 995
1.63	Mean loss of income, partially compensated	28	27	96	88	87	472	164	295	1 256
	Mean loss of income, no compensated	27	27	95	88	86	748	261	468	1 801
IT	Nb of accidents	410 852	110 215	212 520	120 769	87 621	140 990	21 797	24 531	1 129 095
<i>Coef.</i>	Nb of accidents with loss of income	180 184	48 359	93 249	52 990	36 446	71 488	11 052	12 438	508 207
1.25	Mean loss of income, partially compensated	1 348	1 206	4 650	4 624	4 889	21 436	7 518	16 923	62 593
	Mean loss of income, no compensated	1 343	1 202	4 634	4 609	4 872	33 995	11 923	26 837	89 415
LU	Nb of accidents	6 065	4 106	3 876	1 107	956	531	30	5	16 676
<i>Coef.</i>	Nb of accidents with loss of income	2 661	1 801	1 701	486	420	269	15	3	7 356
2.05	Mean loss of income, partially compensated	33	74	139	69	87	132	17	6	557
	Mean loss of income, no compensated	33	73	138	69	87	210	27	9	646
NL	Nb of accidents	111 160	33 498	58 966	30 279	20 329	39 514	6 223	5 666	305 636
<i>Coef.</i>	Nb of accidents with loss of income	48 774	14 698	25 873	13 286	8 920	20 035	3 156	2 873	137 615
1.79	Mean loss of income, partially compensated	521	523	1 843	1 656	1 620	8 581	3 066	5 583	23 392
	Mean loss of income, no compensated	519	522	1 837	1 650	1 615	13 608	4 862	8 853	33 465
AT	Nb of accidents	57 208	16 163	34 745	17 845	10 112	15 187	4 107	1 928	157 294
<i>Coef.</i>	Nb of accidents with loss of income	25 101	7 092	15 245	7 830	4 437	7 700	2 082	977	70 465
1.75	Mean loss of income, partially compensated	263	248	1 065	957	791	3 236	1 985	1 863	10 408
	Mean loss of income, no compensated	262	247	1 062	954	788	5 131	3 148	2 955	14 547
PT	Nb of accidents	98 655	28 935	53 489	26 849	17 852	35 205	5 251	5 016	271 253
<i>Coef.</i>	Nb of accidents with loss of income	43 287	12 696	23 470	11 781	7 833	17 851	2 662	2 543	122 123
0.64	Mean loss of income, partially compensated	166	162	599	527	510	2 742	928	1 772	7 406
	Mean loss of income, no compensated	165	162	597	525	508	4 348	1 471	2 811	10 588
FI	Nb of accidents	34 303	10 226	18 086	9 340	6 252	12 501	1 912	1 697	94 317
<i>Coef.</i>	Nb of accidents with loss of income	15 051	4 487	7 936	4 098	2 743	6 338	970	861	42 484
2.19	Mean loss of income, partially compensated	197	196	692	626	610	3 325	1 154	2 048	8 848
	Mean loss of income, no compensated	196	195	690	624	608	5 273	1 830	3 248	12 664
SE	Nb of accidents	29 633	9 293	10 463	6 516	6 262	11 994	3 558	3 757	81 477
<i>Coef.</i>	Nb of accidents with loss of income	13 002	4 078	4 591	2 859	2 748	6 081	1 804	1 905	37 068
1.95	Mean loss of income, partially compensated	152	159	357	389	545	2 847	1 916	4 046	10 411
	Mean loss of income, no compensated	151	158	356	388	544	4 514	3 038	6 416	15 566
UK	Nb of accidents	214 125	64 224	111 893	58 677	39 000	78 084	12 065	10 672	588 740
<i>Coef.</i>	Nb of accidents with loss of income	93 953	28 180	49 096	25 746	17 112	39 592	6 118	5 411	265 207
2.21	Mean loss of income, partially compensated	1 239	1 239	4 318	3 962	3 837	20 937	7 339	12 983	55 855
	Mean loss of income, no compensated	1 235	1 235	4 303	3 949	3 825	33 203	11 639	20 589	79 978
TOTAL	Nb of accidents	2 752 537	802 733	1 444 531	758 250	507 580	1 004 746	156 345	141 431	7 568 153
	Nb of accidents with loss of income	1 207 746	352 220	633 825	332 702	222 714	509 449	79 273	71 711	3 409 639
	Mean loss of income, partially compensated	11 152	11 269	38 365	35 933	34 721	185 590	67 149	127 672	511 852
	Mean loss of income, no compensated	11 115	11 232	38 237	35 814	34 606	294 318	106 488	202 469	734 279

*Note: the partial compensation was assumed to be 50% and this is taken into account in the calculation of loss of income.

Table 35: Estimated other costs of accidents at work to the victims by days lost and country (1000 euros)

	0-3d	4d - 6d	7d - 13d	14d - 20d	21d - 1m	1m - 3m	3m - 6m	Perm. Inc.	Total	
<i>Center of class</i>	1.5	5	10	17.5	25.5	60.5	137.25	274.5		
<i>Proportion of victims with other costs (Victim ratio 3)</i>	20.29%					20.51%				
<i>Daily cost (Euros)</i>	11.03					3.09				
BE	Nb of accidents	55 380	18 658	28 149	13 349	9 701	13 687	1 470	11 874	152 268
	Nb of accidents with other costs	11 237	3 786	5 711	2 709	1 968	2 807	301	2 435	30 955
	Nb of days	16 855	18 929	57 114	47 399	50 192	169 836	41 380	668 506	1 070 211
	Costs of accident	186	209	630	523	554	524	128	2 063	4 817
DK	Nb of accidents	40 869	43 347		16 308		11 586		260	112 370
	Nb of accidents with other costs	8 292	8 795		3 309		2 376		53	22 826
	Nb of days	12 438	43 975		57 907		143 761		14 645	272 728
	Costs of accident	137	485		639		444		45	1 750
DE	Nb of accidents	814 318	233 741	420 656	225 128	152 498	303 121	46 866	42 653	2 238 983
	Nb of accidents with other costs	165 225	47 426	85 351	45 679	30 942	62 170	9 612	8 748	455 153
	Nb of days	247 838	237 130	853 512	799 375	789 019	3 761 297	1 319 289	2 401 379	10 408 838
	Costs of accident	2 735	2 616	9 418	8 820	8 706	11 607	4 071	7 411	55 384
EL	Nb of accidents	22 344	5 028	15 520	12 552	3 257	2 387	299	47	61 435
	Nb of accidents with other costs	4 534	1 020	3 149	2 547	661	490	61	10	12 471
	Nb of days	6 800	5 101	31 490	44 571	16 853	29 622	8 417	2 629	145 484
	Costs of accident	75	56	347	492	186	91	26	8	1 282
ES	Nb of accidents	432 457	97 555	252 069	105 095	71 617	207 788	18 077	4 391	1 189 049
	Nb of accidents with other costs	87 746	19 794	51 145	21 324	14 531	42 617	3 708	901	241 765
	Nb of days	131 618	98 970	511 448	373 165	370 545	2 578 342	508 864	247 240	4 820 192
	Costs of accident	1 452	1 092	5 643	4 118	4 089	7 957	1 570	763	26 684
FR	Nb of accidents	418 917	125 872	220 733	112 662	80 928	129 783	34 322	28 604	1 151 820
	Nb of accidents with other costs	84 998	25 539	44 787	22 859	16 420	26 618	7 039	5 867	234 128
	Nb of days	127 497	127 697	447 867	400 035	418 718	1 610 417	966 155	1 610 378	5 708 765
	Costs of accident	1 407	1 409	4 942	4 414	4 620	4 970	2 982	4 970	29 713
IE	Nb of accidents	6 453	1 874	3 364	1 773	1 194	2 388	367	329	17 742
	Nb of accidents with other costs	1 309	380	683	360	242	490	75	68	3 607
	Nb of days	1 964	1 902	6 825	6 294	6 176	29 637	10 328	18 530	81 656
	Costs of accident	22	21	75	69	68	91	32	57	436
IT	Nb of accidents	410 852	110 215	212 520	120 769	87 621	140 990	21 797	24 531	1 129 095
	Nb of accidents with other costs	83 321	22 363	43 120	24 504	17 778	28 917	4 471	5 031	229 505
	Nb of days	124 982	111 813	431 204	428 819	453 348	1 749 478	613 595	1 381 103	5 294 341
	Costs of accident	1 379	1 234	4 758	4 732	5 002	5 399	1 894	4 262	28 659
LU	Nb of accidents	6 065	4 106	3 876	1 107	956	531	30	5	16 676
	Nb of accidents with other costs	1 231	833	786	225	194	109	6	1	3 385
	Nb of days	1 846	4 165	7 864	3 932	4 948	6 589	837	295	30 476
	Costs of accident	20	46	87	43	55	20	3	1	275
NL	Nb of accidents	111 160	33 498	58 966	30 279	20 329	39 514	6 223	5 666	305 636
	Nb of accidents with other costs	22 554	6 797	11 964	6 144	4 125	8 104	1 276	1 162	62 127
	Nb of days	33 831	33 984	119 643	107 514	105 181	490 307	175 190	318 990	1 384 642
	Costs of accident	373	375	1 320	1 186	1 161	1 513	541	984	7 453
AT	Nb of accidents	57 208	16 163	34 745	17 845	10 112	15 187	4 107	1 928	157 294
	Nb of accidents with other costs	11 607	3 279	7 050	3 621	2 052	3 115	842	395	31 962
	Nb of days	17 411	16 397	70 498	63 362	52 317	188 448	115 607	108 522	632 564
	Costs of accident	192	181	778	699	577	582	357	335	3 701
PT	Nb of accidents	98 655	28 935	53 489	26 849	17 852	35 205	5 251	5 016	271 253
	Nb of accidents with other costs	20 017	5 871	10 853	5 448	3 622	7 221	1 077	1 029	55 137
	Nb of days	30 026	29 355	108 530	95 335	92 364	436 848	147 811	282 419	1 222 687
	Costs of accident	331	324	1 198	1 052	1 019	1 348	456	872	6 600
FI	Nb of accidents	34 303	10 226	18 086	9 340	6 252	12 501	1 912	1 697	94 317
	Nb of accidents with other costs	6 960	2 075	3 670	1 895	1 268	2 564	392	348	19 172
	Nb of days	10 440	10 374	36 696	33 165	32 346	155 118	53 830	95 558	427 528
	Costs of accident	115	114	405	366	357	479	166	295	2 297
SE	Nb of accidents	29 633	9 293	10 463	6 516	6 262	11 994	3 558	3 757	81 477
	Nb of accidents with other costs	6 013	1 886	2 123	1 322	1 271	2 460	730	771	16 574
	Nb of days	9 019	9 428	21 230	23 135	32 401	148 828	100 166	211 534	555 741
	Costs of accident	100	104	234	255	358	459	309	653	2 472
UK	Nb of accidents	214 125	64 224	111 893	58 677	39 000	78 084	12 065	10 672	588 740
	Nb of accidents with other costs	43 446	13 031	22 703	11 906	7 913	16 015	2 475	2 189	119 677
	Nb of days	65 169	65 155	227 031	208 348	201 785	968 910	339 634	600 822	2 676 853
	Costs of accident	719	719	2 505	2 299	2 226	2 990	1 048	1 854	14 361
TOTAL	Nb of accidents	2 752 537	802 733	1 444 531	758 250	507 580	1 004 746	156 345	141 431	7 568 153
	Nb of accidents with other costs	558 490	162 875	293 095	153 849	102 988	206 073	32 066	29 007	1 538 444
	Nb of days	837 735	814 373	2 930 953	2 692 357	2 626 194	12 467 438	4 401 104	7 962 551	34 732 705
	Costs of accident	9 244	8 986	32 340	29 707	28 977	38 475	13 582	24 572	185 883

Discussion

The results are based on a very small number of answers and it was not possible to analyse different types of accidents, different sectors of economic activity or victims with different characteristics. It was also difficult for the victims to estimate exactly the different types of costs and also the respective parts thereof that had been reimbursed by an insurance. One must also bear in mind that results from these small samples in Italy and Portugal had to be extrapolated to the rest of EU-15 which is a process that includes a lot of uncertainties. A coarse adjustment could be made for the differences in the level of salaries between the countries, while it was impossible to estimate the influence of differences in the accident insurance systems, their reimbursement levels as well as the levels of costs of health care and other relevant costs. Therefore the results must be interpreted with caution. It is also to be underlined that the design of the victim study did not allow to estimate the long-term costs of accidents at work resulting in permanent incapacity to work. The results however indicate that in addition to negative effects in terms of quality of life and health, accidents at work also cause economical losses to the victims. Nevertheless if the costs of accidents at work for the victims (1.4 billion) are compared with the total costs of accidents at work (22 billion - see table 27 page 99; cases of temporary incapacity to work only), it seems that the majority of the costs do not, however, remain at the charge of the victims.

ANNEX 10:

**SUMMARY DESCRIPTION OF ANSWERS TO THE QUESTIONNAIRES
FOR VICTIMS**

Table 36 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by sex of victim and duration of incapacity to work

Sex of victim	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Male	146	64	88	36	57	28	1	
Female	71	32	50	20	21	12		
TOTAL	217	96	138	56	78	40	1	0

Table 37 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc.-costs >0) by age of victim and duration of incapacity to work

Age of victim	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
0-17 years	0	0						
18-24 years	16	7	8	5	8	2		
25-34 years	51	21	35	13	16	8		
35-44 years	58	18	44	12	13	6	1	0
45-54 years	60	28	33	16	27	12		
55-64 years	30	21	17	10	13	11		
65 years or more	2	1	1	0	1	1		
Age unknown	0	0						
TOTAL	217	96	138	56	78	40	1	0

Table 38 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by profession of victim (ISCO) and duration of incapacity to work

Profession of victim (ISCO)	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Legislators, senior officials and managers	2	0			2		0	
Professionals	0	0						
Technicians and associate professionals	14	4	9	1	5	3		
Clerks	9	2	8	1	1	1		
Service workers and shop and market sales workers	18	15	14	12	4	3		
Skilled agricultural and fishery workers	4	4	2	2	2	2		
Craft and related trades workers	95	35	62	20	33	15		
Plant and machine operators and assemblers	46	23	28	13	17	10	1	
Elementary occupations, non-skilled labourers	29	13	15	7	14	6		
Armed forces	0	0						
Other	0	0						
TOTAL	217	96	138	56	78	40	1	0

Table 39 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by economic activity (NACE) and duration of incapacity to work

Economic activity (NACE)	Duration of absence		<=1 month		>1 month		Unknown	
	All		N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
	N. acc.	N. acc. - costs>0						
Agriculture, hunting and forestry	8	6	3	2	5	4		
Fishing	0	0						
Mining and quarrying	2	2	1	1	1	1		
Manufacturing Hotels and restaurants	124	43	87	30	37	13		
Electricity, gas and water supply	11	7	7	4	3	3	1	0
Construction	22	8	9	1	13	7		
Wholesale and retail trade, repair of motor vehicle, motorcycles and personal household goods	22	14	16	10	6	4		
Hotels and restaurants	3	1	1	0	2	1		
Transport, storage and communication	14	9	7	4	7	5		
Financial intermediation	0	0						
Real estate, renting and business activities	3	1	2	0	1	1		
Public administration and defense	1	0			1			
Education	0	0						
Health and social work	0	0						
Other community, social and personal service activities	1	1	1	1				
Private household with employed persons	3	3	3	3				
Extra-territorial organisations and bodies	1	1			1	1		
Missing	2	0	1	0	1	0		
TOTAL	217	96	138	56	78	40	1	0

Table 40 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc.-costs >0) by size of company and duration of incapacity to work

Size of company	Duration of absence		<=1 month		>1 month		Unknown	
	All		N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
	N. acc.	N. acc. - costs>0						
0 employee (works alone)	3	0	1		2			
1-9 employees	44	25	26	14	18	11		
10-49 employees	58	29	36	18	21	11	1	0
50-249 employees	28	16	17	8	11	8		
250-499 employees	52	15	39	10	13	5		
500 employees or more	22	8	14	5	8	3		
Size not exactly known but less than 10 employees	0	0						
Size not exactly known but more than 9 employees	2	1	2	1				
Unknown size	7	2	2	0	5	2		
Missing	1	0	1	0				
TOTAL	217	96	138	56	78	40	1	0

Table 41 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by type of injury and duration of incapacity to work

Type of injury	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Wounds and superficial injuries	66	24	59	21	7	3		
Bone fractures	41	26	8	6	33	20		
Dislocations, sprains and strains	61	27	51	21	10	6		
Traumatic amputations	6	0			6	0		
Concussions and internal injuries	28	14	11	6	17	8		
Burns, scalds and frostbites	9	3	6	2	3	1		
Poisonings and infections	1	0	1	0				
Drowning and asphyxiations	0	0						
Effects of sound, vibration and pressure	0	0						
Effects of temperature extremes, light and radiation	1	0					1	0
Shocks	0	0						
Multiple injuries	3	2	1	0	2	2		
Other	0	0						
Missing	1	0	1	0				
TOTAL	217	96	138	56	78	40	1	0

Table 42 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by body part and duration of incapacity to work

Body part	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Head	28	12	22	10	6	2		
Neck, including spine and vertebra in the neck	4	1	3	1	1			
Back, including spine and vertebra in the back	20	8	12	3	8	5		
Torso and organs	10	6	5	3	5	3		
Upper limbs	87	40	59	25	28	15		
Lower limbs	61	27	34	13	27	14		
Whole body and multiple sites	7	2	3	1	3	1	1	
Other	0	0						
TOTAL	217	96	138	56	78	40	1	0

Table 43: Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by place of accident and duration of incapacity to work

Place of accident	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Usual workstation or within the usual unit of work	167	72	112	45	54	27	1	
Occasional or mobile workstation or in a journey on behalf of the employer	48	22	25	10	23	12		
Another workstation to be specified	1	1			1	1		
Missing	1	1	1	1				
TOTAL	217	96	138	56	78	40	1	0

Table 44 : Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs >0) by circumstances of accident and duration of incapacity to work

Circumstances of accident	Duration of absence		<=1 month		>1 month		Unknwon	
	All		<=1 month		>1 month		Unknwon	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Buildings, structures, surfaces - at ground or floor level	40	22	26	12	14	10		
Buildings, structures, surfaces - above or below ground or floor level	20	9	8	3	12	6		
Systems for the supply and distribution of materials, pipe network	1	1			1	1		
Motors, systems for energy transmission and storage	0	0						
Handtools	21	9	18	8	3	1		
Machines and equipment - portable or mobile, not handtools	11	4	7	1	4	3		
Machines and equipment - fixed, not handtools	40	12	26	9	14	3		
Conveying, transport and storage systems	14	8	7	5	7	3		
Land vehicles	13	10	7	6	6	4		
Other transport vehicles	2	0			2			
Materials, objects, products, machine components, debris, dust	38	17	29	11	9	6		
Chemical, explosive, radioactive, biological substances	5	1	3	1	2	0		
Safety devices and equipment	0	0						
Office equipment, personal equipment, sport equipment, weapons, domestic appliances	0	0						
Living organisms and human being	3	0	2	0	1	0		
Bilk waste	0	0						
Physical phenomena and element	2	1			1	1	1	0
Other material agents not listed in this classification	0	0						
Missing	7	2	5	0	2	2		
TOTAL	217	96	138	56	78	40	1	0

Table 45 :Total number of accidents (N. acc.) and number of accidents with reported costs (N. acc. -costs>0) by country and duration of incapacity to work

Country	Duration of absence		<=1 month		>1 month		Unknown	
	All		<=1 month		>1 month		Unknown	
	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0	N. acc.	N. acc. - costs>0
Italia	41	32	33	25	7	7	1	
Luxembourg	0	0						
Portugal	176	64	105	31	71	33		
TOTAL	217	96	138	56	78	40	1	0

Descriptive information of different types of costs reported in the victim questionnaires

Table 46 :Number of accidents with reported costs (N.), mean costs (euro) and range of costs (euro) by type of costs and duration of incapacity to work. Only costs which were not reimbursed

Duration of absence	All				<=1 month				>1 month			
	N.	Mean	Min	Max	N.	Mean	Min	Max	N.	Mean	Min	Max
Types of costs												
Financial Costs												
Health care costs	40	188	5	600	26	172	5	600	14	217	5	600
Rehabilitation costs	5	264	1	1 000	2	60	20	100	3	400	1	1 000
Costs due to legal actions at court												
Other financial costs												
Loss of income												
Total compensation	7	3 572	10	23 246	6	4 165	65	23 246	1	10	10	10
Partial compensation *	37	305	40	800	30	258	40	800	7	507	300	800
No compensation	35	375	45	3 000	7	176	100	330	28	425	45	3 000

* Total reported loss before reimbursement