An Assessment of the Cost of Reported Accidents in High-risk Workplaces

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Summary

This study addresses the cost of accidents to employers and employees in high-risk sectors. By facilitating a questionnaire to employers and employees who have reported a common type of accident, the evaluation of costs experienced allowed for the identification of certain trends.

The sectors covered are Construction, Agriculture, Hunting, Forestry, Mines and Quarries. These sectors are at significantly higher risk for a workplace accident. Research has shown that Small to Medium Enterprises within these sectors are especially at risk, therefore the primary focus was on SME's who reported a common type of accident and injury to the Health and Safety Authority. This was done to evaluate the cost of accidents to employers and employees in high-risk environments for 2002 and 2003.

Through the returned questionnaires, an average cost was arrived at which shows what employers can expect to pay if an accident occurs. The average cost for Construction in 2002 was 17,138 euros. Mines and Quarries had an average cost of 8725 euros for 2002 and 2003, while the Agriculture and Forestry average was 1969 euros for 2002 and 2003. The average cost allows for the implication of a total cost. If this figure is applied to the all of the reported accidents, the three sectors combined spent a total of 21,384,384 euros in Ireland for 2002 alone.

As a result of this research, it was evident that the cost to employers was highly dependent on the number of days the employee was absent with costs increasing significantly the longer the worker was absent. The highest costs were in

Construction mostly due to insurance premium increases and compensation paid to the injured. Mines and Quarries had the second highest costs also due to insurance and compensation. Agriculture and Forestry had the lowest reported costs with wages paid to the employee whilst unable to work being the primary contributor of costs.

The response rate from the injured parties was low, however, the results reveal that 19 % of those who responded claimed the injury had a great effect on their wellbeing. This shows that the cost of accidents goes beyond financial resources and more than financial motives should be considered when preventing accidents in the workplace.

Accidents can be expensive regardless of if a company is prosecuted or not. While one company reported costs of at least 70,000 euros for an accident involving a prosecution, a non-prosecuted company reported costs of 65,000 euros. The injured party may also face high costs. A victim of a non-prosecuted accident reported a loss of at least 71,000 euros, claiming the accident had a great effect on the wellbeing of him and his family.

Through the identification of employers and employees particularly at risk, more information was obtained which allowed for the assessment of the costs that have been faced through commonly occurring accidents. The results revealed that the financial and social costs to employers and employees is significant Through this assessment it is hoped that employers and employees will better understand the many costs involved in accidents and take the necessary provisions to prevent them.

Acknowledgements

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Chapter 1 Introduction

Accidents are reported to the HSA regularly, however, the financial and social costs of the accidents often go unknown. The objective of this research is to address the cost of accidents to employers and employees in high-risk sectors. The sectors covered in this research are Construction, Agriculture, Hunting and Forestry, Mines and Quarries. These sectors were chosen due to their high number of reported incidents.

The chosen population for this study are those who have experienced the most common types of accidents and injuries in the high-risk sectors at sites with less than 50 employees. It was primarily facilitated through a questionnaire which was posted to those who had reported incidents in 2002 and 2003 and fell within the population of interest. This report also contains more specific costs from two companies. The reported data has given a better understanding into the financial and social costs of accidents in high-risk sectors.

Through this assessment, employers and employees will better understand the many costs associated with accidents at work. It is hoped that through increased awareness, more preventative actions will be taken to avoid the accidents which can bring high financial and social costs.

Chapter 2 Methodology

Data was taken from the HSA computer system called SAFE (system for accident & field enforcement) on reported accidents. Employers are required to report accidents under the Safety Health and Welfare at Work Regulations, 1993 Article 59 1(a) and 1(b) which state the following:

Notification of Accidents and Dangerous Occurrences

Where-

(a) any accident occurs at a place of work as a result of which any person carrying out work at that place of work dies or is prevented from performing his normal work for more than three consecutive days, excluding the day of the accident but including any days which would not have been working days, or
(b) in the case of any person who is not at work but who as a result of an accident related to a place of work or work activity dies or suffers any injury or condition as a result of an accident which results in the person requiring treatment from registered medical practitioner or treatment in a hospital as an in-patient or an out-patient.

Information was taken from SAFE on the region, types of accidents, and nature of injuries. Through the data, certain trends were identified. Certain types of accidents and injuries were occurring more frequently than others.

The three most common types of accidents combined with the more frequently occurring injuries formed the basis for this study. This was done in an effort to target the costs employers are most likely to face when an accident occurs.

To obtain a population which meets the above profile, incident numbers were taken from the three most common types of accidents in each sector. It is important to note that all reported accidents are assigned an incident number for the sake of tracking. The incident numbers were then used to pull up an incident form. The incident forms were analyzed to determine three items: *1. the number of people at the base address*

2. the anticipated number of days until the employee was to return to normal duty 3. the type of injury. The incident forms which matched the target profile were selected and sent a questionnaire on the cost of the accident.

The number of people at the base address was important in order to remain within the confines of small to medium enterprises (SME's). The foundation for defining an SME is the number of employees. Micro enterprises have fewer than ten employees, small have fewer than fifty, and medium have fewer than 250 (National Competitiveness Council, 1998). SME's make up 90% of Europe's companies (OSHA). They are part of the population of interest because employees of SME's are at considerably higher risk for an accident. The following was reported (OSHA, 2001)

> Accident statistics remain at stubbornly high levels across the European Union. Every year about 5,500 people are killed in workplace accidents. There are over 4.5 million accidents that result in more than three days absence from work, amounting to some 146 million working days lost. While the problem affects all sectors of the economy, it is particularly acute in enterprises with less than 50 workers, where the incidence rate for fatal accidents is around double that of larger companies.
> (www.agency.osha.eu.int/news/press_releases/en/03_04_2001/)

For this study, enterprises with less than 50 people at the base site were examined by means of a questionnaire. Two large enterprises were also looked at for more specific costs, however, the main focus of this study was on those with less than 50 employees at the base site.

The *anticipated number of days until normal duty resumed,* was evaluated because originally this study had the aim to only address those who had an absence of 14 days or greater. The reason for this was to address more severe costs. However, this posed a problem because sometimes the information on days absent was not reported to the

HSA. Therefore those without the reported data were sent the questionnaire which contained a question requiring the number of days absent. The returned questionnaires contained answers which varied greatly on this question and the information seemed to be worthwhile as costs seemed to be dependent upon the number of days absent. Therefore, to increase the richness of the study, those who had an absence of 13 days of less were incorporated.

The method of using questionnaires was chosen over personal interviews because it addresses a larger population, which allows for certain trends to be identified and an average cost to be applied to the more frequently occurring accidents. The mail interview is usually low-cost, however, there is a high non-response rate. Two sectors (Construction, Agriculture and Forestry) were sent questionnaires by registered post which was not as inexpensive as regular post, but the response rate was higher for these two sectors.

Injured persons' reports were also obtained through the incident number. This was important in order to obtain the details necessary for the injured person. A questionnaire containing a cover letter with the incident date and place was sent to the injured party, which contained questions involving financial and social costs.

2.1 Construction

Because of the high number of incidents, 2002 alone provided enough incidents to facilitate the study, whereas with Agriculture, Hunting, Forestry, Mines and Quarries, 2003 needed to be incorporated to increase the population size.

The Construction sector's most common types of incidents for 2002 were *1. Injured while handling, lifting or carrying 2. Slips, trips or falls on same level 3. Fall from height.* Out of the 17 categories in SAFE for different types of accident, these three categories made up 58% of the total reported fatal and non-fatal accidents for 2002. The following examples are taken from SAFE to give an understanding of what an accident in the Construction sector might entail:

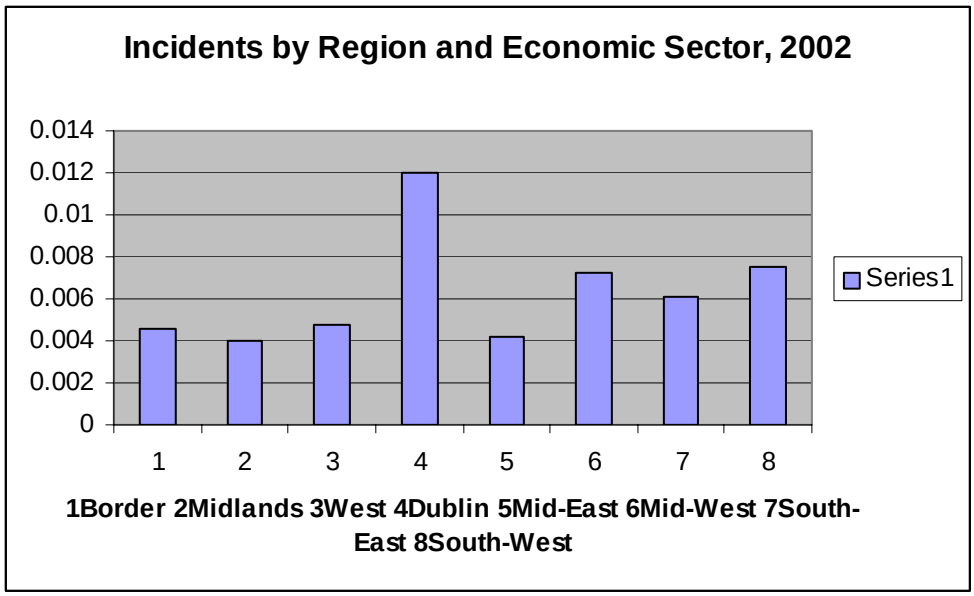
-Nicked right hand off of scaffolding causing laceration to hand.
-Hurt back while lifting 4" blocks
-The worker was handling a panel which slipped, cutting hand.
-Lost footing whilst carrying blocks. Blocks fell out of hand onto the workers leg.
-Tripped on a block of scaffolding, spraining ankle
-Manhole cover had been temporarily removed and covered with wood, in which the worker walked on wood causing it to break. The worker fell causing injury to hand/wrist.
-Tripped on stairs and fell down 23 steps, injuring shoulder.
-Entering attic on a ladder when part of the attic entrance collapsed, causing the worker to fall onto first floor landing, injuring his hand/wrist.

The most common types of injuries in the Construction sector are the following: *knee joint, lower leg, ankle area, back, spine, fingers, hand, lower arm, wrist, foot, shoulder, upper arm, and elbow*. These types of injuries made up 77% of injuries for 2002. This excludes *extensive points of the body, multiple points of the body, head, hip joint, thigh, knee cap, eyes, chest; neck, abdomen, and toes,* which constituted 23%.

Because this research has the aim to evaluate the most common costs to employers and employees, the population was taken from the most common type of accidents and injuries. For 2002, there were a total of 1195 non-fatal accidents reported to the HSA in the Construction sector. Of this total, 474 occurred in Dublin. Dublin constituted 39% of reported Construction accidents that occurred within the nation.

The graph below demonstrates the total number of reported incidents for 2002 given the 2002 data from the CSO for the number of persons in employment by sector and economic sector.

Figure 2.1



Dublin had the highest number of incidents per region for 2002. Because of this, the research sample was taken from 2002 incidents in Dublin who had experienced the three most common types of accidents, and who had experienced the most common types of injuries. Only those incidents that SAFE had a record of less than 50 people employed at the base site were used in the population.

Through this process, 79 relevant incidents were obtained for Construction. This means that there were a total of 79 accidents that fell into the population of interest. These employers were sent a questionnaire by registered post to assess the employer's costs.

The injured employees were also sent a questionnaire. The SAFE system did not have the address details of all 79 injured employees, therefore 67 of the 79 injured parties were sent a questionnaire.

2.2 Agriculture, Hunting, and Forestry

It is important to note that there were no hunting incidents used in the population. The reason for this is that no hunting incidents were reported that met our target profile. There were a total of 96 non-fatal accidents reported for 2002 and 56 non-fatal accidents reported for 2003 for the Agriculture, Hunting and Forestry sector.

Unlike Construction, 2002 and 2003 incidents from all regions were used in the population. This was done in an effort to increase the population size. Focusing on one particular year or region would have facilitated too small of group, limiting the response rate. Also, the SAFE system did not always contain a record for the number of employees. The number of employees was needed to stay in line with the SME target. Therefore the reported incidents in which there was no information regarding the number of employees were included in the population and sent a questionnaire. The questionnaire contained an item which asked for the number of employees at the base site. All returned questionnaires which reported having greater than 50 employees were taken out of the population to keep the target to SME's.

For Agriculture and Forestry, the three most common types of accidents were the same for 2002 and 2003. They were *1. Injured while handling, lifting, or carrying 2. Injured by an animal 3. Slips, trips or falls on same level.* They only made up three out of the 15 types of accident categories yet accounted for 42% of all reported fatal and non-fatal accidents. For 2003, they made up three of the 13 categories yet accounted for 55% of all fatal and non-fatal accidents. The following were taken from SAFE to give some examples of what an accident might entail.

-The worker was cleaning the stable when he got a kick from a horse, fracturing his arm.
-The worker slipped on metal filings on the floor
-Measuring logs in a log yard when a log rolled onto the workers foot, bruising it.
-Cutting rails when the workers finger came into contact with the saw blade leaving a severe open wound.
-Put hand in mower to free grass. Worker damaged three fingers.
-Emptying compost using a winch and net when the workers sleeve got caught in the winch, resulting in an amputation to his hand.

Because the details of the nature of injuries were limited in the SAFE system for Agriculture and Forestry, all injuries (other than head and eyes) were used in the sample. The reason for the exclusion of head and eyes is because they are easy to distinguish from other parts of the body and the two only constitute 6% of injuries. To include them would avoid the goal of targeting more common injuries. All other injuries are more difficult to define when there is limited data. For example, back and shoulder are not classified together and a back injury could often mean a shoulder injury. The same occurs with hand and fingers. Those that did not have any detail of the injury were excluded.

Through the filtering process by the use of the incident forms, a total of 44 incidents fell into the population of interest. The employers were sent a questionnaire by registered post to assess the cost of the accident.

The injured employee did not always report their address, therefore SAFE did not contain all 44 injured parties addresses. In some instances, the questionnaire was sent to the employer. The reasoning behind this was that often the injured employee was a farm-hand/labourer. The notion was that the employee would be able to easily obtain his/her post from work. A total of 41 injured parties were sent a questionnaire.

2.3 Mines and Quarries

Mines and Quarries had a total of 82 reported non-fatal accidents for 2002 and a total of 63 non-fatal reported accidents for 2003. As with Agriculture and Forestry, in an effort to increase the population size, all incidents reported for 2002 and 2003 that fell within the population of interest were used in the sample. Also, the incidents in which there was no information regarding the number of employees in SAFE were included in the population and sent a questionnaire. Those who reported more than 50 employees were later taken out of the population.

The three most common types of incidents differed slightly from 2002 to 2003. The three most common types of incidents for 2002 were *1. Slips, trips, and falls on same level 2. Injured while handling, lifting or carrying 3. Injured by falling object.* These types of accidents made up only three of the twelve categories for 2002 yet accounted for 57% of all fatal and non-fatal reported accidents for 2002. The most common type of accidents for 2003 were the same except *injured by a falling object* was replaced by *injured by hand tools*. The three accidents for 2003 made up only three of the thirteen accident categories yet accounted for 54% of all fatal and non-fatal reported accidents. For injuries included in the sample, the same criteria as Agriculture and Forestry were used because often the reported data in SAFE was limited. The types of accidents reported include the following:

-*Worker crushed fingers while operating a drilling rig.*
-*Worker was dismounting his machine when he missed the footing and fell from top step to quarry floor.*
-*Hurt back while operating a sledge hammer.*
-*Repairing conveyer belt when the worker slipped off his stand and injured his ankle.*

A total of 30 Mines and Quarries employers were sent a questionnaire by regular post. The injured employee was also sent a questionnaire, however, as with Agriculture and

Forestry, SAFE did not always have the details concerning the injured parties address. In some instances, the questionnaire was sent to the employers address. A total of 28 injured parties were sent a questionnaire.

2.4 Prosecuted Companies

Prosecutions involving non-fatal injury accidents from years 2001-2003 which fell into the relevant high-risk sectors and had less than 50 employees on site were sent a questionnaire by non-registered post. This data was obtained by going through the 2001, 2002, and 2003 Annual HSA Reports, which contain information on the prosecutions for that year. Through this process, nine companies were found to meet the desired profile. They were sent a questionnaire by regular post which had a cover letter attached stating the prosecution place and date (see appendix 2b).

2.5 Questionnaires

The questionnaires were effectively one page containing either one or two colours (see appendix 1a, 1b). This was done in an effort to encourage the participant to fill in the page. The questionnaires differed by colour and design so the identification of the appropriate sector could be obtained. All questionnaires included the Health, Safety, and Welfare at Work Act, 1989 Section 16(e) as a page header. This article gives the authority the right to conduct research.

The employer's questionnaire included a cover page (appendix 2a) which asked the employer to return the questionnaire within five working days. Most employers responded within two weeks of the send date. The injured parties' questionnaire also

had a cover letter (appendix 2c) attached stating that the questionnaire was entirely voluntary, and to please fill it out and return it as soon as possible.

The content of the questionnaire was based upon Ziene Mottiar's (2004) study on the cost of workplace accidents. This gave the information necessary to assess the employer and employee costs.

2.5.1 Cost to Employers (Mottiar 2004)

Cost of absence: cost of maintaining output is the same as the labour cost of employing the absent worker.

Sick pay: wages paid plus the non-wage labour costs that the employer has to pay.

Administration: 30 minutes a day for a wages clerk to deal with this issue.

Recruitment: national estimates of turnover costs by occupation weighted to the values according to the number of people who had to leave their jobs by occupations.

Damage: average cost per incident including all direct costs.

Non-injury accidents: one firm applied in each sector which is then used to calculate a total cost.

Compensation and insurance: compensation and legal costs using employer liability claims.

Preventative activities: costs to make sure the accident does not recur, training, and purchase of equipment.

To obtain information which only the employer could provide, questions were asked on sick pay, overtime wages to cover lost production, wages to replacement worker,

insurance premium increase, compensation paid to injured party, and preventative activities.

2.5.2 Cost to Injured Party (Mottiar, 2004)

When composing the questionnaire to the injured party, Mottiar suggests that the individuals involved are *those who require time off due to injury or illness and then return to the same job, those who have to change job or employer due to the injury, and those who leave the workplace altogether* (2004). The HSA does not have any record of this information. Therefore the questionnaire required this data from the recipient.

The following are the possible costs for the injured parties: loss of income, extra expenditures such as prescriptions, cost of travel to the hospital, increased shopping bills and a reduction in the travel cost to work. In an effort to obtain this information, the injured party was asked about loss of wages, expenditures due to medical and prescription bills, and to estimate the amount of any other costs. According to Mottiar, the most difficult cost to quantify is the human cost. The questionnaire included a question requesting information on current pain and the effects on the wellbeing of self and family.

2.6 Cost of accidents not included in this study

There are many other costs that accrue when accidents occur that this study does not incorporate. This is because certain costs would be difficult to measure by a questionnaire alone. More in-depth interviews with employers would be required to

obtain such information. The following are costs that are not included in this study, but would be useful to look at in the future.

…*interruption in Production immediately following the accident, morale effects on co-workers, personnel allocated to investigating and writing up the accident, damage to equipment and materials (if not identified and allocated through routine accounting procedures), reduction in product quality following the accident, reduced productivity of injured workers on light duty* (Peter Dorman, 2000).

Chapter 3 Results

The average cost was figured using the midpoint of the data set to find a central tendency. It should be noted that the data sets were very wide and due to this, the midpoint may not be an accurate representation of the actual cost to the employer. However, this process for analyzing the data allowed for the comparison of the cost depending on the number of days absent, and a comparison across sectors. This method also allowed for the implication of a total cost for the population. The questions where the recipient did not respond were assumed to be *none* (no cost) when figuring the average.

3.1 Construction

Of the 79 questionnaires sent, five were returned due to a problem with the address. Therefore this was taken out of the size of those surveyed, leaving 74. A total of 35 questionnaires were returned giving a total return rate of 47%. Two of the questionnaires were returned unanswered. This left a total of 33 questionnaires to base the data on. Therefore 45% of the population were used to create the results. The chart below shows the total answers given.

Table 3.1

1 Do you wish to remain anonymous?	**YES**	**NO**				
	97%	3%				
2 Absence due to injury	**0-13**	**14 – 21**	**>21**			
	33%	21%	45%			
3 Did employee perform normal duties upon returning to work	**YES**	**NO**	**Did not return**			
	73%	0	27%			
	0 – 500	**500-1000**	**1000-5000**	**>5000**	**NONE**	**not specified**
4 Sick Pay: Wages paid to employee whilst unable to work	12%	27%	36%	9%	15%	
5 Overtime wages to other staff to cover lost production	9%	0	6%	0	82%	3%
6 Wages to full time replacement worker while injured	3%	6%	24%	6%	55%	6%

party unable to perform normal duties						
	0 – 500	**500-5000**	**5000-50000**	**>50000**	**NONE**	
7 Insurance premium increase after incident	6%	6%	18%	3%	58%	9%
8 Compensation paid to injured party	3%	0	9%	6%	73%	9%
9 Preventative activities: Cost of training, new equipment, etc	18%	24%	6%	0	45%	6%
10 Do you feel the injured party would be willing to be	**YES**	**NO**	**UNSURE**			
contacted for further research?		67%	33%			

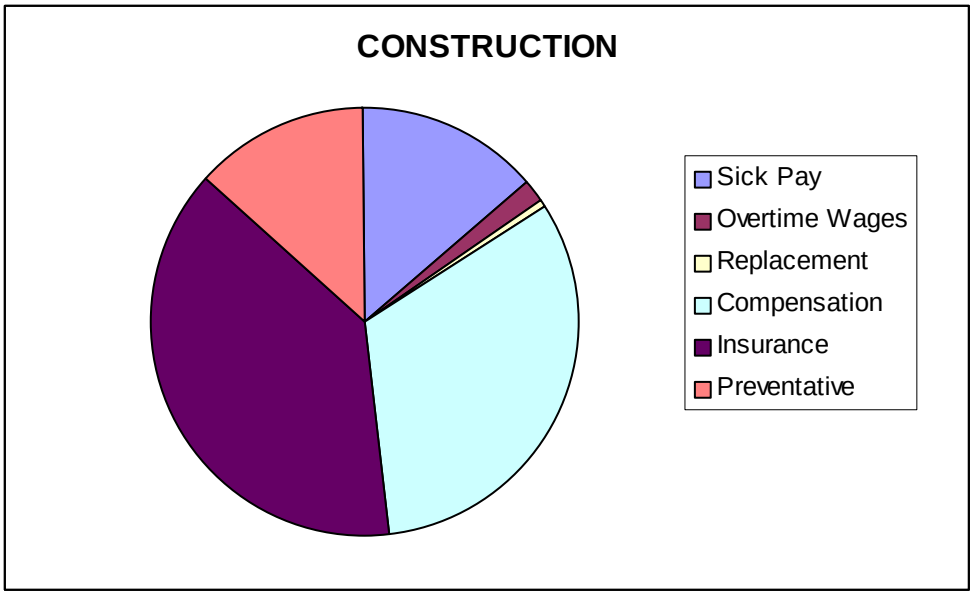
As mentioned, a mid-point was found for the figures which allowed a central tendency (average/mean) to be calculated. Of the 30 questionnaires, six were returned in which an open-group (ie.>5000) was ticked by the recipient. Due to the difficulty of calculating the mid-point for an open group, the lowest possible value was taken (ie.5000). One of the six recipients was reached by phone for clarification, however, the data for the other five was not obtainable. This means that 4% of the answers given may potentially have higher costs. The total average cost per accident for Construction was 17,138 euros. If this figure is applied to the population who reported the most common accidents, the total spent was 1,353,902 euros. If the average is applied to all reported accidents for 2002, the amount spent was 20,479,910 euros for 2002.

Table 3.2

CONSTRUCTION (euros)	**Sick Pay**	**Overtime Wages**	**Replacement**	**Compensation**	**Insurance**	**Preventative**	**Total Cost**
Total Reported Cost	**58,750**	**6,750**	**38,750**	**221,250**	**164,300**	**75,750**	**565,550**
Total number of respondents (33)	**33**	**33**	**33**	**33**	**33**	**33**	
Total average	**1780**	**205**	**1174**	**6705**	**4979**	**2295**	**17,138**
Total population cost (79)	**140,620**	**16,195**	**92,746**	**529,695**	**393,341**	**181,305**	**1,353,902**
Cost applied to all reported accidents for 2002 (1195)	**2,127,100**	**244,975**	**1,402,930**	**8,012,475**	**5,949,905**	**2,742,525**	**20,479,910**

As shown, most of the costs within the sector are due to insurance and compensation fees.

Figure 3.1



The chart below shows the average cost based on the number of days the employee was absent. This is the figure employers might expect to pay when an accident occurs.

Table 3.3

CONSTRUCTION	Sick Pay	Overtime wages	Wages to Replacement	Insurance Increase	Compensation to Injured	Preventative Activities	Total Cost
Average Cost (euros)	(wages)	(to other)					
0 - 13 DAYS ABSENT	500	68	91	68	23	318	1068
14 - 21 DAYS ABSENT	2036	0	964	393	0	464	3857
> 21 DAYS ABSENT	2600	400	2067	14,517	10,937	4600	35,121

The average cost for 2002 employers in the Construction sector who had an employee absent for more than 21 days was 35,121euros. Of these employees, approximately 47% did not return to work after the accident. For those absent between 14 – 21 days, the average cost was 3857 euros, while those absent 13 days or less had average costs of 1068 euros. The total average cost of an accident was 17,138 euros. The implication is that employers who have an injury occur to an employee will have a more than likely chance of spending the above costs depending on how many days the employee is absent.

To breakdown the results further, it is shown that 85% of the employers reported spending 500 euros or more. At least 61% of employers spent above 1000 euros for an accident last year, while at least 30% of employers spent more than 5000 euros for an accident. 21% spent above 10,000 euros and 9% spent above 50,000 euros.

3.2 Agriculture, Hunting, and Forestry

Of the 44 questionnaires sent, 30 (68%) were returned. Of the returned questionnaires, four had greater than 50 employees at the site. These questionnaires were taken out of the survey so that the research could remain consistent with the desired goal of analysing SME's. The response rate was therefore 65%. Two questionnaires were unanswered. Therefore 60% of the population (24) were used to create the results. The chart below shows the answers given.

Table 3.4

1 Do you wish to remain anonymous?	**YES**	**NO**				
	75%	25%				
2 Absence due to injury	**0-13**	**14 – 21**	**>21**			
	38%	17%	46%			
3 Did employee perform normal duties upon returning to work	**YES**	**NO**	**Did Not Return**			
	96%		4%			
	0 - 500	**500-1000**	**1000-5000**	**>5000**	**NONE**	**Not Specified**
4 Sick Pay: Wages paid to employee whilst unable to work	50%	17%	33%			
5 Overtime wages to other staff to cover lost production	42%	4%			54%	
6 Wages to full time replacement worker while injured	25%				71%	4%
party unable to perform normal duties if applicable						
	0 - 500	**500-5000**	**5000-50000**	**>50000**	**NONE**	
7 Insurance premium increase after incident	29%		4%		63%	4%
8 Compensation paid to injured party	21%	4%			71%	4%
9 Preventative activities: training, new equipment, etc	29%				71%	

10 Do you feel the injured party would be willing to be	YES	NO	UNSURE			
contacted for further research?	4%	46%	50%			

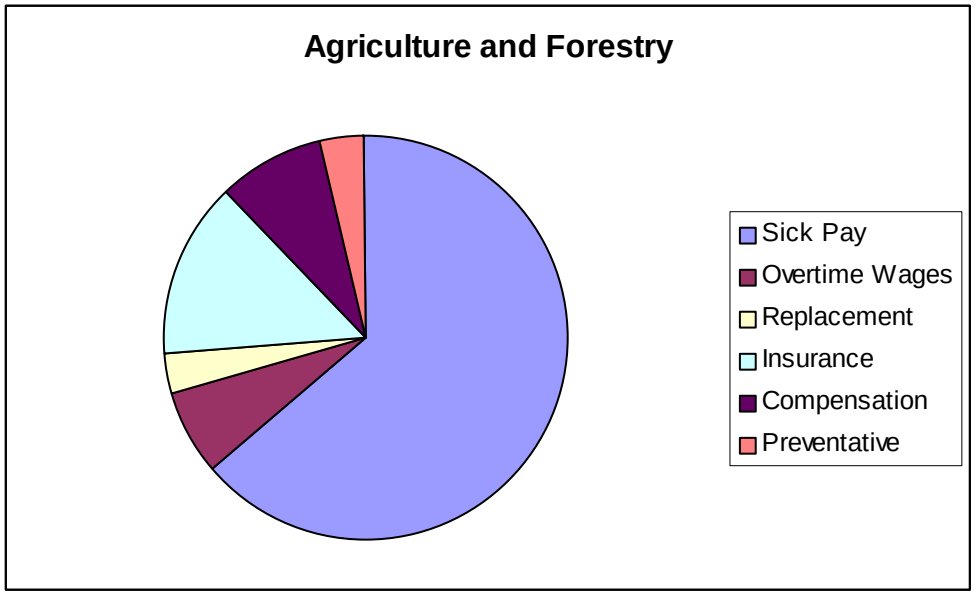
The total range of expenditures reported was between 0 and 5000 euros. The chart below gives the average cost to employers and a total cost for the 2002 and 2003 population. The total cost was calculated by multiplying the total average cost by 40 (the population size). If the figures below are applied to the total population, it can be concluded that the 40 employers for 2002 and 2003 who reported a common type of accident spent a total of 78,760 euros. If these figures are applied to all accidents reported for 2002 and 2003, the total spent was 299,288 euros.

Table 3.5

AGRICULTURE AND FORESTRY (euros)	Sick Pay	Overtime Wages	Replacement	Insurance	Compensation	Preventative	Total Cost
Total Reported Costs	107,201	3250	5818	6750	4000	1750	128,769
Total number of respondents (24)	24	24	24	24	24	24	
Total average per accident	1250	135	63	281	167	73	1969
Total population cost (40)	50,000	5400	2520	11,240	6680	2920	78,760
Cost applied to all 2002 and 2003 reported sector accidents (152)	190,000	20,520	9576	42,712	25,384	11,096	299,288

As shown, most of the costs are coming from sick pay and a small amount from insurance.

Figure 3.2



The average cost to an employer for an employee absent 21 days or more is 2659 euros. The average cost to those who are absent 14 - 21 days was 939 euros. An employee absent 13 days or less was 1585 euros. The total average cost for an accident in 2002 and 2003 was 3010 euros. Please note that one employer had ticked a data set of 5000 – 50,000 euros for an insurance premium increase for an employee who had been absent for 13 days or less. To make the data as accurate as possible, the employer was contacted for a more specific amount because it was not in congruence with what other employers had reported. The employer reported approximately 5000 euros. This was the only employer who reported any insurance costs for an absence of 0 – 13 days. This figure is the primary reason why it appears that the average cost is more expensive for 0 –13 days than 14 – 21 days.

Table 3.6

AGRICULTURE AND FORESTRY	Sick Pay	Overtime wages	Wages to Replacement	Insurance Increase	Compensation to Injured	Preventative Activities	Total Cost
Average Cost (euros)	(wages)	(to other)					
0 - 13 DAYS ABSENT	611	56	56	556	306		1585
14 - 21 DAYS ABSENT	500	125	63	63	63	125	939
> 21 DAYS ABSENT	2045	205	68	136	91	114	2659

At least 52% of employers spent over 500 euros in 2002 and 2003, while at least 39% spent over 1000 euros for an accident. Only 26% of the sample spent between 0 and 500 euros.

3.3 Mines and Quarries

Of the 30 questionnaires sent, 43% were returned. Of the returned questionnaires, two had greater than 50 employees and one was unanswered. As with Agriculture and Forestry, those with more than 50 employees were taken out of the population leaving a population size of 28 with 11 returned questionnaires (39%). One of the

questionnaires was returned unanswered, therefore the results are based upon 36% of the population. The chart below gives the answers reported.

Table 3.7

1 Do you wish to remain anonymous?	**YES**	**NO**				
	100%	0%				
2 Absence due to injury	**0-13**	**14 - 21**	**>21**			
	40%	20%	40%			
3 Did employee perform normal duties upon returning to work	**YES**	**NO**	**Did not return**			
	70%	20%	10%			
	0 – 500	**500-1000**	**1000-5000**	**>5000**	**NONE**	**not specified**
4 Sick Pay: Wages paid to employee whilst unable to work	30%	30%	30%		10%	
5 Overtime wages to other staff to cover lost production	30%	10%			50%	10%
6 Wages to full time replacement worker while injured party unable to perform normal duties if applicable	20%	0%	0%		80%	
	0 – 500	**500-5000**	**5000-50000**	**>50000**	**NONE**	
7 Insurance premium increase after incident	20%		10%		70%	
8 Compensation paid to injured party	20%	20%	10%		50%	
9 Preventative activities: Cost of training, new equipment, etc	30%	40%			30%	
10 Do you feel the injured party would be willing to be contacted for further research?	**YES**	**NO**	**UNSURE**			
		20%	80%			

The range of the reported costs was between 0 and 50,000 euros. Midpoints were taken from the ticked data sets to find the average costs. The total average cost for 2002 and 2003 was 8725 euros. With these figures applied, the total cost to the 28 employers (population of interest) was 244,300 euros. If these figures are applied to all the reported accidents in Mines and Quarries for 2002 and 2003, the total spent was 1,265,125 euros.

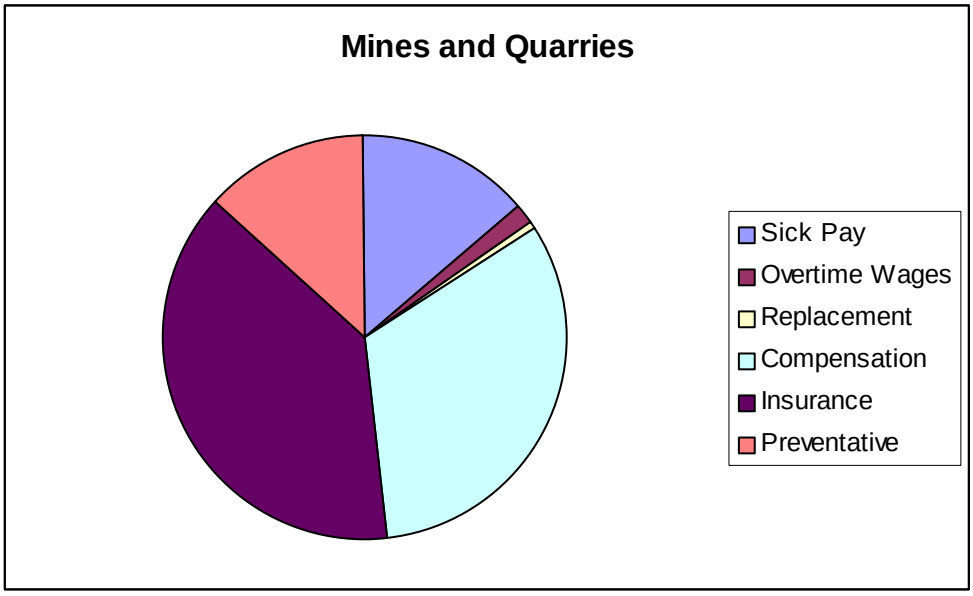
Table 3.8

MINES AND QUARRIES (euros)	**Sick Pay**	**Overtime Wages**	**Replacement**	**Compensation**	**Insurance**	**Preventative**	**Total Cost**
Total Cost	**25,500**	**2813**	**875**	**312,483**	**75,438**	**23,125**	**440,234**
Total number of respondents (10)	**10**	**10**	**10**	**10**	**10**	**10**	

Total average cost per accident	1200	150	50	2800	3350	1175	8725
Total population cost (28)	33,600	4200	1400	78,400	93,800	32,900	244,300
Cost applied to all 2002 and 2003 reported sector accidents (145)	174,000	21,750	7250	406,000	485,750	170,375	1,265,125

As shown, the majority of costs are coming from insurance and compensation

Figure 3.3



The average spent for those with an absence of more than 21 days was 18,314 euros. An absence of 14 - 21 days had an average cost of 3875 euros. Those with an absence of 13 days or less had an average cost of 1564 euros.

Table 3.9

MINES AND QUARRIES	Sick Pay	Overtime wages	Wages to Replacement	Insurance Increase	Compensation to Injured	Preventative Activities	Total Cost
Average Cost (euros)	(wages)	(to other)					
0 - 13 DAYS ABSENT	375	125	63	125	63	813	1564
14 – 21 DAYS ABSENT	750	125	125	1375		1500	3875
> 21 DAYS ABSENT	2250	188		7563	6938	1375	18,314

Breaking the results down further shows that at least 50% of employers reported expenditures over 1000 euros for an accident while at least 30% spent over 5000 euros. This implication is that approximately one out of three accidents will more than likely cost the employer above 5000 euros.

3.4 Prosecuted Companies

Of the nine prosecuted companies, three returned the questionnaire in which two were useful in determining relevant costs. The following illustrates the costs of the prosecution at Dublin District Court on 15th September, 2003 in relation to a construction worker who sustained serious injuries.

Sick pay: >20,000 euros
Wages to full time replacement worker while injured party unable to perform normal duties: >20,000 euros
Fines: None
Compensation paid to injured party: None yet
Insurance premium increase after incident: >20,000 euros
Preventative activities: 10,000 - 20,000 euros

The company reported having no fines, but our records conclude that there was a fine imposed of 500 euros. The above costs illustrate that the accident cost at least 70,000 euros to the company and this amount fails to take into account legal expenses which were not reported. The injured party did not return to work for the company after the incident.

The returned questionnaire by the second prosecuted company reported costs that amounted to at least 35,000 euros due to the accident. The employee did not return to work for the company after the incident.

Sick Pay: >20,000 euros
Wages to replacement worker or staff to cover lost production: None
Fines: 2000 – 10,000 euros
Legal Expenses: 2000 – 10,000 euros
Compensation paid to injured party: 10,000 – 50,000 euros
Insurance premium increase after incident: None
Preventative Activities: Cost of training, new equipment, etc: 1000 – 5000 Euros.

The above examples show severe financial costs, but the social costs to the employees must have been severe if they could not return to the same job.

3.5 Injured Parties

A total of 137 questionnaires were sent out to employees who had been injured. Only 12% of the injured party population returned the questionnaire. Seven were returned to the HSA as the recipient no longer lived at the address. It is difficult to say why there was such a low response rate from the injured parties. Potential possibilities for this may include that the population in the sectors of interest may be highly transient, and therefore did not receive the questionnaire. Other factors may involve ongoing civil cases, as one of the injured parties reported.

Because only 12% of questionnaires were returned, all sectors have been grouped together. The chart below shows the reported costs.

Table 3.10

1 Do you wish to remain anonymous?	**YES**	**NO**						
	25%	75%						
2 Absence due to injury (days)	**0-13**	**14 - 21**	**>21**					
	44%	6%	50%					
3 Were you able to perform normal duties upon	**YES**	**NO**	**Did Not Return**					
returning to work?	81%	13%	6%					
	YES	**NO**	**N/A**					
4 If you did not return, was it due to the injury?	6%		94%					
5 Did you eventually have to change	6%	94%						
Occupations due to the injury?								
6 Did you have to leave the workforce due	6%	94%						
to the injury?								
	0 – 500	**500-1000**	**1000-5000**	**5000-10,000**	**10,000-20,000**	**20,000-50,000**	**>50,000**	**None**

7 Loss of wages associated with the injury due	31%	6%	6%		6%		6%	44%
due to reduced labour hours/absence								
8 Expenditures due to medical bills and	56%		13%					31%
Prescriptions								
9 Other expenditures apart from the above	25%					6%		69%
Costs								
	YES	**NO**						
10 Are there current medical/prescription	6%	94%						
costs due to the injury?								
11 Do you currently suffer pain from the injury?	44%	56%						
	No Effect	**Some Effect**	**Great Effect**					
12 Effect on wellbeing of self	63%	19%	19%					
13 Effect on wellbeing of family	75%	13%	6%					
14 Would you be willing to let the HAS contact	**YES**	**NO**	**Not Answered**					
you for further research?	63%	25%	6%					

3.6 More specific costs

Two companies were asked to give more specific costs regarding an accident that has occurred. The two companies would not be considered SME's. They are large companies who have a network of small working sites. Both companies wish to remain anonymous.

3.6.1 Case One

The first company mentioned falls within the Mining sector and has current unsettled costs from the incident. There were less than 50 employees on site when the accident occurred.

The injured party was absent for more than 21 days, and when he returned, he was not able to perform normal duties. He alleges he is still injured. The accident happened

when the worker was trying to remove a rock which was preventing a weigh bin door at a loading pocket from opening. He was using a sledge hammer to free the rock and failed to isolate the air supply to the door operating cylinder. When the rock was removed, the back of the door cylinder struck him. The worker sustained serious injuries to his arm. The company claims that the injured party may not have been instructed properly on the procedure of opening the door. The following are the cost of the accident:

Reported Employer Costs:

Sick Pay: wages paid to employee whilst unable to work: 1000 – 5000 euros
Overtime wages to other staff to cover lost production: >5000 euros
Compensation paid to injured party: Not yet settled
Insurance premium increase after incident: None

Reported Injured Party Costs (these costs are included in the above reported injured party data):

Loss of wages associated with the injury due to reduced labour hours/absence: >50,000 euros
Expenditures due to medical bills and prescriptions since the injury: 1000 – 5000 euros
Any other expenditures apart from the above costs: 20,000 – 50,000 euros
Are there current medical/prescription costs due to the injury? No
Do you currently suffer pain from the injury? Yes
Effect on wellbeing of self: Great Effect
Effect on wellbeing of family: Great effect

3.6.2 Case Two

The following accident occurred in the Construction sector within the past twelve months. The accident was treated on a no-fault basis. The injured was a telescopic handler who left his machine to lift an oxygen cylinder onto a lifting cradle and sustained a back injury in the process. There was a suspected slipped disc in which he was sent for scans and various treatments over a period of time. The following includes some relevant costs that the previous examples have not, such as handling

fees and site disruption. The accident cost the company 29, 267 euros. The costs were reported as followed:

Gross payroll costs: 13,737 euros
Handling fee: 2845 euros
Agreed Settlement: 1445 euros
Loss of use of tele-porter: 7500 euros
Training replacement Driver: 590 euros
Site disruption est: 750 euros

Chapter 4 Discussion

4.1 The HSE and OSHA Cost Approach

The Health and Safety Authority Executive (HSE) in the United Kingdom and the Occupational Safety and Health Administration (OSHA) in the USA have instigated a method of evaluating the costs to employers via website. The employer can enter their details and retrieve information on how much accidents have or will cost. According to the HSE, the cost of accidents are dependent on organisational specific factors such as *the adequacy of your health and safety controls; the risks to which your employees are exposed; staff costs in your organisation; and the value of the products or services you generate* (www.hse.gov.uk/costs/accidentcost_calc/accident_costs_intro.asp). The OSHA 'Safety Pays' system takes a company's profit margin, the average cost of an injury, and the indirect cost multiplier (ratio of direct to indirect costs), to project the number of sales that would be needed to cover the cost of the accident. The current study differs in that it has taken the reported costs that employers have experienced by sector to determine an average for the population.

4.2 Research Figures Applied

This study was based upon high-risk sectors, high-risk companies, and accidents and injuries that occur most often. It allows for the conclusion that if the figures are applied, the employer is likely to face the relevant costs below when an accident occurs.

Table 4.1

Average Cost (EUROS)	Sick Pay	Overtime wages	Wages to Replacement	Insurance Increase	Compensation To Injured	Preventative Activities	Total Average Cost
Agriculture and Forestry	1250	135	63	281	167	73	1969
Mines and Quarries	1200	150	50	3350	2800	1175	8725
Construction	1780	205	1174	6705	4979	2295	17,138

If the average cost is applied to all of the reported accidents per sector, the cost of accidents to employers was tremendous.

Table 4.2

Total spent for all Reported Accidents	**TOTAL (euros)**
Construction (2002)	20,479,910
Agriculture, Hunting, and Forestry (2002-2003)	299,288
Mines and Quarries (2002-2003)	1,265,125

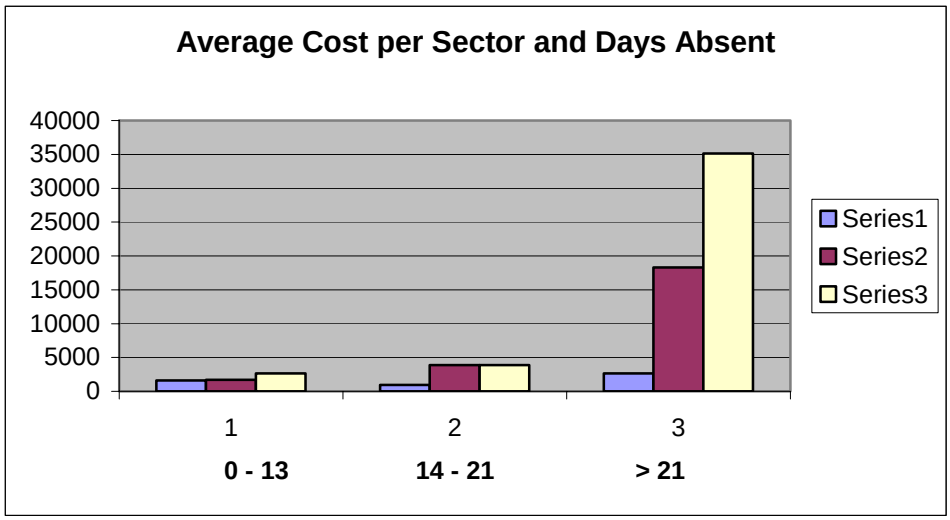
4.3 Days Absent and Cost

In all three sectors, the rate of expenditures increase with the number of days absent showing a relationship, except for in the case of Agriculture and Forestry. This is because there were very few absences between 14 – 21 days (only 17%), whereas there were many more (38%) absent between 0 – 13 days. The absences between 0 – 13 days gave more costs to assess which gave a higher result when configuring the average.

Table 4.3

AVERAGE COST and DAYS ABSENT (euros)			
	0 - 13	14 - 21	>21
Construction	1068	3857	35121
Agriculture and Forestry	1585	939	2659
Mines and Quarries	1564	3875	18314

Figure 4.1



From left to right: **Agriculture and Forestry, Mines and Quarries, Construction**

An absence of more than 21 days would generally be more serious and therefore the costs are much higher. The HSE has figured that a serious or major injury will typically cost the employer between 17,000 and 19,000 pounds which is approximately 25,000 to 28,000 euros. If we compare this with our figures, Mines and Quarries would have the closest average cost for over 21 days absent. Unlike the HSE figure, the current study has measured costs based upon sectors and the costs seem to be highly dependent on each sector.

4.4 Direct verses Indirect Costs

When an accident occurs, the direct costs are usually the most obvious to employers. They include compensation to the injured for medical bills, products and material wasted in the process, etc. Indirect costs are the not so obvious costs such as the work time lost as a result of the accident, the cost to train new employees, insurance cover and preventative activities. According to OSHA, *the lower the direct costs of an accident, the higher the ratio of indirect to direct costs* (www.osha.gov/SLTC/etools/safetyhealth/mod1_costs.html). For all the sectors,

indirect costs were greater than direct costs with insurance, sick pay, and preventative activities being significant sources. However, compensation (direct cost) was the second largest cost in Construction and Mines and Quarries. For Agriculture and Forestry, the cost increase was minimal, the primary source being wages paid to injured whilst unable to work (sick pay).

Wages paid to the injured party whilst unable to work was a consistent contributor of costs in all sectors. Jacobson and Mottiar (1997) study reinforced the significance of wages paid. There study of 14 firms across sectors in the Republic of Ireland for a period of 12 weeks revealed that 81.7% of the cost of time lost (as compared to management time loss, other) was due to the injured worker (www.dcu.ie/dcubs/research_papers/no21.htm).

It is difficult to say why employers in Construction are spending more. One explanation may be that 67 percent of the Agriculture and Forestry response were from farms who reported having less than 9 employees at the base site. This means that there is a high possibility that the farms are small and do not pay as high of insurance and compensation rates as Construction or Mines and Quarries. Another explanation might be the difference in interdependency. The following should be noted.

> Indirect costs are likely to be greater in industrial settings where the work process is highly interdependent. In extractive industries indirect costs will play a smaller role, yet they still shouldn't be ignored (Dorman 2000).

Agriculture is less interdependent (reciprocal tasking) than Construction or Mines and Quarries, which may explain why the cost of accidents within the sector appears to be less.

Although it appears that Agriculture and Forestry have the least amount of costs, a recent HSA study on fatalities showed that a broad classification of sector revealed that self-employed farmers are the single largest group for fatalities (HSA 2004). This leads to high social costs that cannot be measured statistically, but should be considered when evaluating the costs to this sector.

4.5 Social Costs

All accidents have the potential to have a high social cost. Often the Injured worker experiences the highest social cost. The worker may have to change jobs, or not have the ability to work at all. The following was reported by Eurostat (2000).

> Due to accidents at work, around 5% of people were forced to change their job or place of work or reduce their working hours. 0.2% stopped working permanently.

There was not a great enough response rate from the injured party to get an applicable estimate of the number of people who were not able to return to work due to the injury. Of the injured party response, at least 8% of those injured did not return to work. However, employers in Construction reported a total of 27% that did not return to work after the injury, which is significant. Agriculture and Forestry reported only 4% and Mines and Quarries only 10%. The details of why are not specifically known but there is the possibility that the worker experienced complication due to the injury, preventing them from returning to the same job. This would signify a great social cost to the injured party.

4.6 Prosecuted and non-prosecuted expenses

Accidents can be expensive regardless of whether the company is prosecuted or not. While one of the prosecuted companies covered in this study reported expenditures of

at least 70,000 euros for an accident, two non-prosecuted companies reported costs above 60,000 euros.

The details exhibited by the two non-prosecuted cases also demonstrate having severe costs. One of the company's spent a total of 29, 267 euros for the accident while the other non-prosecuted incident had severe financial and social costs to the victim who reported a total loss of at least 71,000 euros and a great effect on the wellbeing of him and his family.

4.7 Shortcomings of the Research

To achieve the highest amount of accuracy, a large number of employers would need to be surveyed and exact costs would be required to facilitate the study. Follow-up letters/phone calls would have been useful in getting a higher response rate to base the results on. Also a narrower range of data for groups should have been instated on the questionnaire. Too wide of range of data for groups ticked possibly weakened the accuracy of the results. Open groups (ie.>5000) should have been avoided. Open groups lead to the problem of not being able to determine how high or low the actual cost may be. It is important to stress, however, that the total response for Agriculture and Forestry had a range of only 0 – 5000 euros. Because the range is very low, the data is more likely to be accurate for this sector. It should also be noted although the wide range of data sets (ie.5000 – 50,000) weakened the results, it did make the questionnaire easy to fill out, potentially increasing the number of people who replied. Extracting exact cost figures would have been time consuming for the recipients, possibly decreasing the response rate.

All of the accidents reported that met the target profile (accidence of the most common occurrence) were sent a questionnaire. Companies who reported more than one accident were sent more than one questionnaire. This could have affected the accuracy of the data due to a tendency of the employer to report costs in the same way.

4.8 Answers not ticked

Often the questionnaires returned did not have all of the details asked filled in. When this occurred, it was sometimes due to the recipient claiming that the issue was not yet settled. There were a total of six questionnaires that had one or more answers where the situation was unresolved. This suggests that in some circumstances, an accident can have ongoing unsettlement which can be aggravating for both parties.

Chapter 5 Conclusion and Recommendations

As a result of this research, information was obtained on the cost of accidents based upon what employers reported. However, the costs were reported by questionnaires which can only give so much information. As noted, there are many costs which are not so obvious that occur when an accident happens such as interruption in productivity, effects on worker morale, and office procedures involved when dealing with an accident. The contact necessary to acquire such costs would be challenging to obtain, however a study such as this would be useful in showing the full picture.

Another result of this research was that costs vary greatly by sector. One possibility for this could be due to the way different companies record and report costs. There is the possibility that companies are not acknowledging all of the costs involved. For example, there is the potential that employers in the Agriculture and Forestry sector do not realise the many costs that are occurring as a result of an accident and this could be why the reported costs were lower than the other sectors. Information on cost systems companies use for recording accidents would be useful to generate an idea of how the costs are being acknowledged and broken down.

As the research showed, insurance was a major source of cost to employers. Further research into this area could be enlightening to see how insurance costs differ by sector and countries.

This research had the objective to show the costs to employees, however the response was small leaving inconclusive data for the actual population. Future studies using questionnaires to obtain the information may possibly be more useful if

reminders/follow-up letters are used. While this research did not yield significant data in this area, it is known that the social costs can be severe to the victims and their families. In-depth interviews of victims and their families would show a more complete picture regarding the effects of an accident. Such interviews would be useful in getting the attention of employers and employees who work in high-risk sectors.

Through the identification of employers and employees particularly at risk, more information was obtained which allowed for the assessment of the costs that have been faced through commonly occurring accidents. The ability to apply this data to the whole population reveals that the amount employers are spending on accidents is significant. However, the incentive for preventing accidents goes beyond financial implications. Many social costs are involved. It is hoped that through this assessment employers and employees will better understand the many costs accidents involve and take the necessary provisions to prevent workplace accidents.

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Health and Safety Authority
8th July 2004

Survey on the Cost of Accidents

Name of Company:

Date of Incident:
Please tick [√] the appropriate box

(1) Company name to remain anonymous?
[ ] Yes [ ] No

(2) Please estimate the amount of workers on site when the employee was injured
[ ] <10 [ ] 10 – 50 [ ] >50

(3) Estimate the length of time (days) the employee was absent from work due to injury
[ ] 0-13 [ ] 14-21 [ ] >21

(4) Did the employee perform normal duties upon returning to work?
[ ] Yes [ ] No [ ] Did not return

EMPLOYER COSTS (EUROS)
(5) Sick Pay: wages paid to employee whilst unable to work
[ ] 0-500 [ ] 500-1000 [ ] 1000-5000 [ ] >5000 [ ] None

(6) Overtime wages to other staff to cover lost production
[ ] 0-500 [ ] 500-1000 [ ] 1000-5000 [ ] >5000 [ ] None

(7) Wages to full time replacement worker while injured party unable to perform normal duties (if applicable).
[ ] 0-500 [ ] 500-1000 [ ] 1000-5000 [ ] >5000 [ ] None

(8) Compensation paid to injured party?
[ ] 0-500 [ ] 500-5000 [ ] 5000-50,000 [ ] >50000 [ ] None

(9) Insurance premium increase after incident?
[ ] 0-500 [ ] 500-5000 [ ] 5000-50,000 [ ] >50000 [ ] None

(10) Preventative Activities: Cost of training, new equipment etc
[ ] 0-500 [ ] 500-5000 [ ] 5000-50,000 [ ] >50000 [ ] None

(11) Do you feel the injured party would be willing to be contacted for further research?
[ ] Yes [ ] No [ ] unsure

APPENDIX 1b

Health and Safety Authority
July 19, 2004

Name:
Date of Incident:

Injury Details

Please tick [√] the appropriate box

(1) Do you wish to remain anonymous?
[ ] Yes [ ] No

(2) Please estimate the length of absence (days) due to the injury
[ ] 0-13 [ ] 14-21 [ ] >21

(3) Were you able to perform normal duties upon returning to work?
[ ] Yes [ ] No [ ] Did not return

(4) If you did not return, was it due to the injury?
[ ] Yes [ ] No [ ] N/A

(5) Did you eventually have to change occupations due to the injury?
[ ] Yes [ ] No

(6) Did you have to leave the workforce due to the injury?
[ ] Yes [ ] No

Financial Costs

*(please answer according to **your** costs, **not** the employer costs)*

(7) Please estimate the loss of wages associated with the injury due to reduced labour hours/absence.
[ ] 0–500 [ ] 500–1000 [ ] 1000–5000 [ ] 5000-10,000
[ ] 10,000-20,000 [ ] 20,000-50,000 [ ] >50,000 [ ] None

(8) Estimate your expenditures due to medical bills and prescriptions since the injury
[ ] 0–500 [ ] 500–1000 [ ] 1000–5000 [ ] 5000-10,000
[ ] 10,000-20,000 [ ] 20,000-50,000 [ ] >50,000 [ ] None

(9) Estimate any other expenditures apart from the above costs.
[ ] 0–500 [ ] 500–1000 [ ] 1000–5000 [ ] 5000-10,000
[ ] 10,000-20,000 [ ] 20,000-50,000 [ ] >50,000 [ ] None

(10) Are there current medical/prescription costs due to the injury?
[ ] Yes [ ] No

Social Costs

(11) Do you currently suffer pain from the injury?
[ ] Yes [ ] No

(12) Effect on wellbeing of self
[ ] no effect [ ] some effect [ ] great effect

(13) Effect on wellbeing of family
[ ] no effect [ ] some effect [ ] great effect

(14) Would you be willing to let the HSA contact you for further information concerning the incident?
[ ] Yes [ ] No

Achieving a Healthy and Safe working life – together

APPENDIX 2a

July 8th 2004

SAFETY & HEALTH AND WELFARE AT WORK ACT, 1989 SECTION 16(E)

Dear Sir/Madam

The Health & Safety Authority is currently carrying out research into the cost of accidents. The purpose of this research is to prepare case studies of high risk sectors showing the impact accidents have on costs to companies. By completing the attached survey (just one page) you will be contributing to increasing awareness of this topic which ultimately should positively effect the safety, health and welfare of persons at work. Your company name will remain anonymous.

A self addressed (prepaid) envelope is enclosed or you may prefer to fax the completed survey to the "Assistant Researcher" at 01-6147020. Please return within 4 working days of receipt.

Please complete the survey in relation to an incident that occurred at: -

Date:

Sincerely,

Martina Gormley	**Jamie Dalley**
Planning & Evaluation Manager	**Assistant Researcher**

APPENDIX 2b

July 15th 2004

SAFETY & HEALTH AND WELFARE AT WORK ACT, 1989 SECTION 16(E)

Dear Sir/Madam

The Health & Safety Authority is currently carrying out research into the cost of accidents. The purpose of this research is to prepare case studies of high risk sectors showing the impact accidents have on costs to companies. By completing the attached survey (just one page) you will be contributing to increasing awareness of this topic which ultimately should positively effect the safety, health and welfare of persons at work. Your company name will remain anonymous.

A self addressed (prepaid) envelope is enclosed or you may prefer to fax the completed survey to the "Assistant Researcher" at 01-6147020. Please return within 4 working days of receipt.

Please complete the survey in relation to a prosecution that occurred on: -

Date: Janruary 26th 2001

At: Dublin District Court

Sincerely,

Martina Gormley	**Jamie Dalley**
Planning & Evaluation Manager	**Assistant Researcher**

APPENDIX 2c

July 19th 2004

Dear

The Health & Safety Authority (HSA) is currently carrying out research into accidents. The HSA is given a function to carry out research in section 16 (e) of the Safety Health and Welfare at Work Act, 1989. The purpose of this research is to prepare profiles of high risk sectors showing the impact accidents have on costs of those injured (will remain anonymous) and the companies (can also remain anonymous).

Just in case you are wondering how did the HSA get your details? By law all employers are required to report to the HSA workplace accidents where the injured person is out of work for greater than 3 working days. This is how the HSA receives details such as name, address etc of injured person(s).

By completing the attached survey (just one page) you will be contributing to increasing awareness of this topic which ultimately should positively effect the safety, health and welfare of persons at work. You do not have to complete this questionnaire but it would greatly assist the HSA if you do. The provision of this information is entirely voluntary. Your name will remain anonymous.

A self addressed (prepaid) envelope is enclosed or you may prefer to fax the completed survey to the "Assistant Researcher" at 01-6147020. Please return as soon as possible.

Please complete the survey in relation to an incident that occurred at: -

Address :

Date of incident:

Sincerely,

Martina Gormley	**Jamie Dalley**
Planning & Evaluation Manager	**Assistant Researcher**