HSE
Health & Safety Executive

LEVELS AND TRENDS IN WORKPLACE INJURY: REPORTED INJURIES AND THE LABOUR FORCE SURVEY

Introduction

1. The results of the Labour Force Survey (LFS) and the flow of injury reports under RIDDOR form the two main sources of workplace injury information for HSE and local authorities. The two sources have complementary roles in the direction of resources, guidance of operations, the monitoring of safety performance in Great Britain, and comparisons with other countries in Europe and the USA. Injury statistics from both sources indicate levels and trends in workplace injury, and the extent of reporting of non-fatal injuries by employers. The information from the LFS informed the Commission's review of RIDDOR and will continue to inform the ongoing monitoring of employer reporting. Further information on the LFS is given in the technical note at the end of this fact sheet.

2. Information from the Labour Force Survey is available for 1989/90 and then for each year from 1993/94, with the latest results relating to the 1996/97 year. Rates of injury for the years since 1989/90 are presented as three year moving averages. This means combining the first three surveys (1993/94, 1994/95 and 1995/96) to give estimated rates of injury centred on 1994/95. Then, for each subsequent year, the first survey is dropped from the 3 year average and the most recent survey added (i.e. 1994/95, 1995/96 and 1996/97 combined to produce an estimate centred on 1995/96). This produces relatively stable trends, reducing year on year fluctuations in results due to errors associated with a sample survey. This fact sheet, therefore, presents rates of injury for 1989/90, and then smoothed rates of injury for the years 1994/95 and 1995/96. Further information on this technique is given in the technical note.

Total levels of workplace injury

3. The results of the Labour Force Survey indicate that, in 1995/96, about 1.06 million employed people suffered a workplace injury in Great Britain. Of these, 940 000 were to employees, and 120 000 to self-employed people. There were 403 000 injuries which led to more than 3 days absence from work and would then become reportable to HSE or a local authority under RIDDOR. The number of injuries are difficult to interpret without allowing for the associated levels of employment. Table 1, therefore, displays rates of injury for the categories of total workplace injury and reportable injury, and for employees and self-employed people. Rates of injury are the number of injuries expressed per 100,000 employed people. For example, there were 403 000 reportable injuries from a working population of 24.5 million, giving a rate of 1640 reportable injuries per 100,000 employed people.

Table 1: Rates of total workplace injury from the Labour Force Survey, employees and self-employed people, 1995/96

Category of injury	*Employees*	*Self-employed*	*All employed people*
All work related	4,390	3,740	4,310
Reportable	1,680	1,370	1,640

4. LFS results indicate that rates of injury are not uniformly lower or higher for self-employed people than for employees, and so for results published in this fact sheet, information for employees and self-employed people has been combined to provide rates of injury for people in employment.

Trends in the levels of reportable injury

5. The comparison of trends in injury rates from RIDDOR and the LFS will reflect their different nature. For example, the LFS is essentially a household respondent's view of workplace injury, while reported injuries reflect the characteristics of employers or businesses which comply with the reporting regulations.

6 year trends, 1989/90 - 1995/96

6. Both sources show that rates of non-fatal injury have fallen since 1989/90. The LFS shows that the rate of all work-related injury has fallen by 29% since 1989/90, and the rate of reportable injury has fallen by 34%. The rate of injury reported by employers and others under RIDDOR has also fallen but only by 18%. This smaller reduction suggests an improvement in employer reporting since 1989/90. Table 2 presents trends in rates of injury since 1989/90.

Table 2: Trends in injury rates, LFS and RIDDOR

	1989/90	**1995/96**	**Change %**
Labour Force Survey			
All work related injuries	6,080	4,310	-29%
Reportable injuries	2,480	1,640	-34%
Reported under RIDDOR	835	684	-18%

7. The results of the LFS indicate a substantial reduction in injury rates since 1989/90 for all main industries. However, rates of reported injury have either not fallen as much, or have actually risen since 1989/90 (in some parts of the service sector). This feature suggests an improvement in employer reporting of non-fatal injuries for these industries. Table 3 and figure 1 display trends in injury rates for different industries.

8. The main features are:

- in the construction and extraction & utility supply industries, both the LFS and reported injuries show a substantial fall in the rate of non-fatal injury since 1989/90;

However, for other industries, the rate of reported injury has either not fallen as fast as the LFS rate, or actually increased, indicating an improvement in employer reporting:

- both sources show a fall in rates for consumer/leisure services, education, manufacturing, and public administration and defence; however the rates of reported injury have not fallen as fast as the LFS rates;

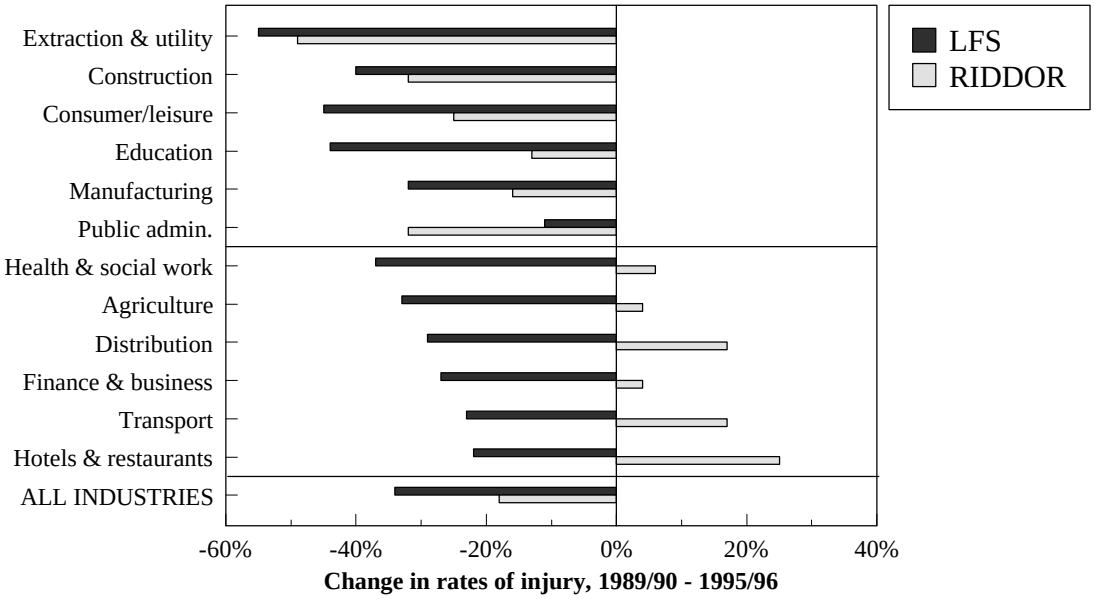
- for the industries of health and social work, agriculture, distribution & repair, finance and business, transport and communication, and hotels and restaurants, the LFS shows a fall in non-fatal injury rates, whereas reported injuries show an increase.

Table 3: Rates of reportable non-fatal injury from the LFS and RIDDOR, 1989/90 to 1995/96

Industry	*Labour Force Survey*[(a)]		*RIDDOR*[(b)]	
	1995/96	*Change since 1989/90*	*1995/96*	*Change since 1989/90*
Extraction and utility supply[(c)]	1,910	-55%	1,637	-49%
Construction	2,890	-40%	1,254	-32%
Consumer/leisure services	1,350	-45%	450	-25%
Education	740	-44%	325	-13%
Manufacturing	2,130	-32%	1,198	-16%
Public admin. & defence	1,870	-11%	1,151	-32%
Health & social work	1,830	-37%	579	6%
Agriculture	2,180	-33%	656	4%
Distribution and repair	1,440	-29%	477	17%
Finance & business	760	-27%	81	4%
Transport, storage & communication	2,440	-23%	1,398	17%
Hotels & restaurants	1,450	-22%	244	25%
ALL INDUSTRIES	**1,640**	-34%	684	-18%

(a) Rate of injury expressed per 100,000 workers (employees and self-employed combined).
(b) Rate of injury expressed per 100,000 employees
(c) Mining, quarrying, gas, electricity and water supply industries

Figure 1: Changes in rates of non-fatal injury for RIDDOR and the LFS, 1989/90 - 1995/96



Trends 1994/95 to 1995/96

9. The Labour Force Survey can also show recent trends in the levels of non-fatal injury to employed people in different industries, and these can be compared with the equivalent rates of reported injury. However, the different nature of the information from the LFS and RIDDOR will be particularly evident when looking at year on year changes, with the two sources giving small though different directions in the rates of injury for some industries. Table 4 presents rates of injury from both the LFS and RIDDOR for 1994/95 and 1995/96.

10. Overall, the LFS is showing a small but significant fall of 5% in the rate of injury in the year to 1995/96, with the rate of reported injury also showing a small fall (of 7%). Both the LFS and reported injuries show a drop in the rate of non-fatal injury in the year to 1995/96 for the following industries:

- Consumer/leisure services
- Construction
- Extraction and utility supply
- Manufacturing
- Health & social work
- Hotels & restaurants
- Public admin. & defence
- Transport, storage & communication

11. Both sources show no substantial change in the rates of injury for the distribution and repair industry. However for the education and finance & business industries, the LFS is showing either no change or a small rise in the rate of injury, whereas reported injuries show a fall.

Table 4: Rates of reportable non-fatal injury from the LFS and RIDDOR, 1994/95 to 1995/96

Industry	*Labour Force Survey*			*RIDDOR*		
	1994/95	*1995/96*	*Change %*	*1994/95*	*1995/96*	*Change %*
Consumer/leisure services	1,640	1,350	-17%	491	450	-8%
Construction	3,370	2,890	-14%	1,361	1,254	-8%
Extraction and utility supply	2,200	1,910	-13%	1,782	1,637	-8%
Manufacturing	2,230	2,130	-5%	1,333	1,198	-10%
Health & social work	1,920	1,830	-5%	623	579	-7%
Hotels & restaurants	1,480	1,450	-2%	270	244	-10%
Public admin. & defence	1,910	1,870	-2%	1,249	1,151	-8%
Transport, storage & communication	2,460	2,440	-1%	1,498	1,398	-7%
Distribution and repair	1,470	1,440	-1%	474	477	1%
Education	740	740	0%	361	325	-10%
Finance & business	750	760	2%	89	81	-9%
Agriculture	2,290	2,180	-5%	584	656	12%
ALL INDUSTRIES	**1,740**	**1,640**	**-5%**	**738**	**684**	**-7%**

Reporting of injuries under RIDDOR

12. The LFS indicates that, in 1995/96, there were 403,000 reportable injuries to workers, of which 361,000 injuries were to employees. Employers, however, made injury reports on only 147,000 employees, indicating that they report around 40% of injuries to employees that they should under RIDDOR. The position is worse for self-employed people who made 3,560 non-fatal injury reports in 1995/96, compared with 43,000 injuries estimated by the LFS. This suggests a reporting level of less than 10%.

13. The level of reporting varies substantially between industries. Table 5 presents, for main industries, the number of reportable injuries estimated to have occurred from the LFS and the associated rate of reportable injury. Table 5 also gives the rate of reported injury, and the implied percentage of injuries reported to enforcing authorities.

14. The reporting levels in Figure 2 confirm the suspected low reporting in agriculture and parts of the services sector. There are relatively high levels of employer reporting in the extraction and utility supply industry, as well as in public administration and defence, the transport and communication industries, and manufacturing.

Figure 2: Reporting levels by industry, 1995/96

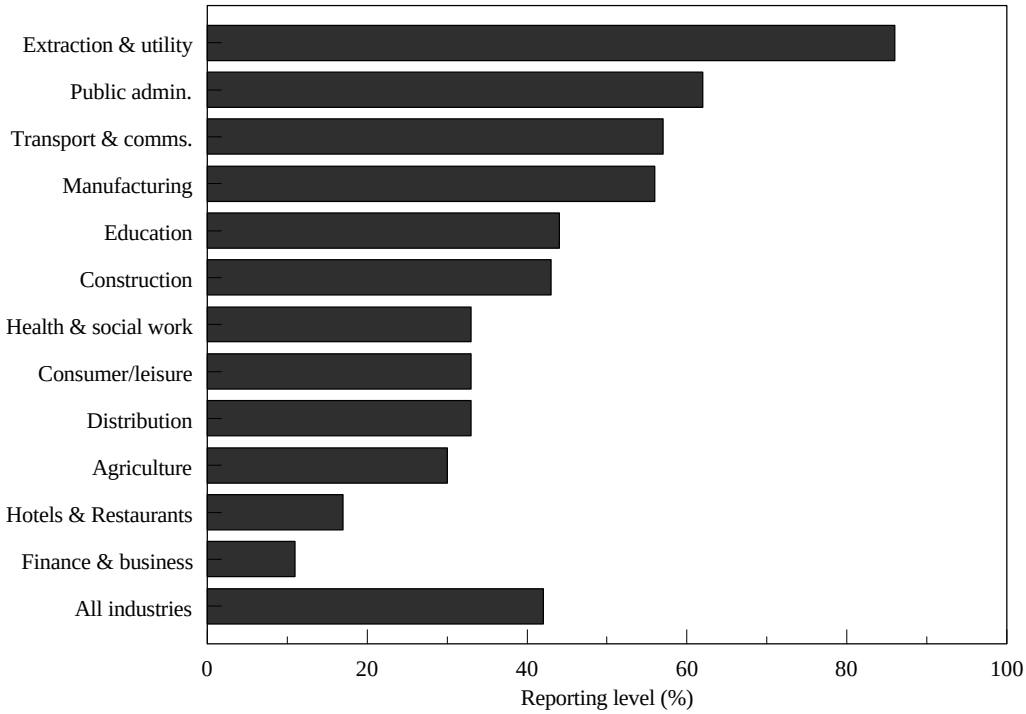


Table 5: Numbers and rates of reportable injury from the LFS and RIDDOR, and reporting levels, 1995/96

Industry	***Estimated No***	***LFS Rate***	***RIDDOR Rate***	***Reporting %***
Agriculture	9,800	2,180	656	30%
Extraction and utility supply	5 700	1 910	1 637	86%
Manufacturing	99,000	2,130	1,198	56%
Construction	43,300	2,890	1,254	43%
Distribution and repair	56,200	1,450	477	33%
Hotels & restaurants	15,800	1,450	244	17%
Transport, storage & communication	38,000	2,440	1,398	57%
Finance & business	26,500	760	81	11%
Public admin. & defence	26,700	1,870	1,151	62%
Education	13,700	740	325	44%
Health & social work	48,400	1,830	579	33%
Consumer/leisure services	19,600	1,350	450	33%
ALL INDUSTRIES	**403,400**	**1,640**	**684**	**42%**

Trends in reporting levels

15. Over the six year period since 1989/90, there have been substantial increases in the levels of reporting of injuries for most industries. Table 6 shows the changes in reporting levels since 1989/90. In particular:

- the level of reporting has improved by one quarter from 34% in 1989/90 to 42% in 1995/96;
- the largest proportionate increases in reporting are for those industries which had the lowest levels of reporting in 1989/90, namely the agriculture and all service sector industries (except public administration);

16. There has been little change in the levels of reporting of injuries by employers in the year to 1995/96, with 42% of injuries overall being reported, the same proportion as in 1994/95.

Table 6: Trends in the levels of reporting of injuries, 1989/90 to 1995/96

Industry	***Percentage of injuries reported to enforcing authorities***	
	1989/90 %	***1995/96*** *%*
Finance & business	7%	11%
Hotels & restaurants	10%	17%
Health & social work	19%	32%
Agriculture	20%	30%
Distribution and repair	20%	33%
Consumer/leisure services	24%	33%
Education	29%	44%
Transport, storage & communication	37%	57%
Construction	38%	43%
Manufacturing	46%	56%
Extraction and utility supply	76%	86%
Public admin. & defence	81%	62%
ALL INDUSTRIES	34%	42%

Orders of risks

17. Non-fatal injuries reported under RIDDOR give a good indication of the risks and kinds of injury which should be reported. The LFS confirms that, in general, reported injuries show which industries carry the highest and lowest risks of non-fatal injury. For example, both the LFS and reported injuries show that:

- the highest risk industries are the construction, transport & communications and manufacturing industries;
- the lowest risks are in finance and business and in education.

18. However, the LFS and reported injuries disagree on the order of risk for agriculture, with the LFS showing a relatively high rate of injury, and reported injuries a relatively low rate. This reflects the fact that reporting levels are low for this industry, despite it being a relatively high risk industry.

19. The results of the LFS also show that industries can be divided into six groups according to risk. Within each group, industries carry a similar level of risk, but between the groups, there are different levels of risk . These groups are displayed in figure 3 and Table 7. Two industries are judged to have genuinely different rates of injury if their LFS rates of injury are statistically significant at the 5% level of a standard test for the difference of two binomial proportions.

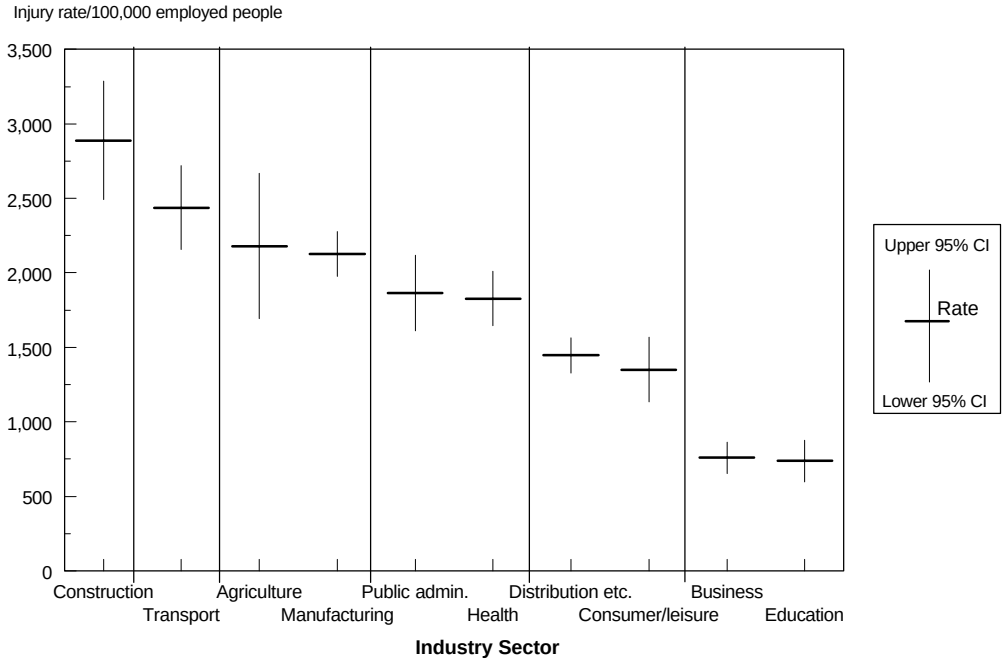
20. There were too few cases of injury from the extraction and utility supply industry to include this industry in the above analysis. The rate of injury for this industry in 1995/96 was 1,910, with a confidence interval of 1,350 to 2,480. For the coal and lignite mining industry, the rate of injury was 3,780, with a relatively wide confidence interval of 1,060 to 6,490.

Table 7: LFS injuries and rates grouped by risk, 1995/96

Group	*Industries*	*LFS Injury Rate*	*95% Confidence Interval*
1	Construction	2,890	2,490 - 3,290
2	Transport and communications	2,440	2,160 - 2,720
3	Manufacturing	2,130	1,980 - 2,280
	Agriculture[(a)]	2,180	1,690 - 2,670
4	Public admin. & defence	1,870	1,610 - 2,120
	Health and social work	1,830	1,650 - 2,010
5	Distribution, repair, hotels & restaurants	1,450	1,330 - 1,570
	Consumer/leisure services	1,350	1,140 - 1,570
6	Finance and business	760	650 - 870
	Education	740	600 - 880

(a) The rate of injury in agriculture has a relatively wide confidence interval indicating that the industry could belong to groups 2, 3 or 4.

Figure 3: Grouped Injury Rates and 95% Confidence Intervals, 1995/96



Relative risks

21. The LFS suggests that reported injuries do not always reflect the risk of injury relative to other industries. Table 8 shows the risk of injury relative to the manufacturing industry for LFS and RIDDOR rates.

Table 8: Risk of non-fatal injury relative to the manufacturing sector, 1995/96

Industry	***Relative Risk based on the LFS***	***Relative Risk based on reported injuries***
Construction	136	105
Transport, storage and communications	115	117
Agriculture	102	55
Manufacturing	100	100
Public admin. and defence	88	96
Health and social work	86	48
Distribution, repair, hotels &	68	35
Consumer/leisure services	64	38
Business	36	7
Education	35	27
All industries	**77**	**57**

22. These results show that reported injuries understate the risk of injury for many industries:

- the LFS indicates that the risk of injury in construction is around one third higher than in manufacturing, whereas reported injuries suggest a risk similar to manufacturing;
- the LFS suggests that the risk of injury in agriculture is about the same as in manufacturing, whilst reported injuries indicate the risk to be around half;
- for health and social work, the LFS suggests the risk of injury to be 86% of that for manufacturing, whereas reported injuries suggest just less than half of the risk;
- in the consumer/leisure services and distribution, repair and hotels and restaurants industries, LFS rates suggest about two thirds of the risk of manufacturing, whereas reported injuries suggest just over one third;
- the LFS shows the risk of injury in the business sector to be just over one third that for manufacturing, whilst reported injuries suggest only 7% of the risk.

Types of injury

23. The results of the 1990 LFS and a hospital study indicated that injuries reported by employers to HSE are broadly representative, in terms of the nature of injury and kind of accident, of those which should be reported under RIDDOR. The 1990 supplement of questions allowed the identification of 4 broad natures of injury: amputation; fracture (of bones); contact with harmful substances (including burns, shocks) and sprains, strains and other injuries. Reported injuries (1989/90) and LFS cases of injury are similar in terms of their distribution in these four categories of nature of injury. This is shown in Table 9.

Table 9: Comparison of reportable injuries by type of injury, 1990

Type of injury	***Reportable injuries from the LFS***	***Reported under RIDDOR %***
Amputation	1.0	1.0
Fracture	16.5	15.4
of wrist/ankle	*4.1*	*3.7*
of other bones	*12.4*	*11.7*
Harmful contact	5.0	4.2
Other	77.5	79.4
All types (000s)	**581.7**	**175.2**

24. In 1993 HSE commissioned research into the injuries suffered by people at work and treated at a local teaching hospital. The study identified the commonest kinds of accident (slipping, handling, struck by moving objects), in injuries which were reportable. These commonest kinds occurred in similar proportions as those injuries which were identified as having been reported to HSE. The study also provided a similar finding in terms of the commonest natures of injury (fracture, sprain/strain, lacerations/bruising), supporting the findings of the 1990 LFS.

Absence from work following an injury

25. The LFS indicates that injured workers are now less likely to take more than three days absence from work following a workplace injury than they were 6 years ago. This changing pattern of absence is reflected in all main industries and in both small and large workplaces.

26. In 1995/96, the LFS showed that 39% of workers injured in the workplace took more than three days absence and hence suffered an injury reportable under RIDDOR. This compares with 42% in 1989/90. In contrast, 47% of injured workers did not take a full day off work in 1995/96, compared with 41% 6 years ago. Table 10 presents information on the amount of time taken off work since 1989/90.

Table 10: Time taken off work following a workplace injury

	1989/90	1994/95	1995/96
No full days off	41%	46%	47%
1 - 3 full days off	18%	14%	15%
Over 3 full days off	42%	40%	39%

27. One result of this feature is that the LFS rate of reportable injury is falling faster than the rate of all workplace injury. An adjustment can be made to the rate of reportable injury to show what the 1995/96 rate would have been if the pattern of absence had not changed since 1989/90. This adjustment shows that the rate of reportable injury in 1995/96 would have been 1,760 (compared with the actual rate of 1,640).

28. If we apply this adjusted rate to the levels of reporting, this shows that, if absence patterns had not changed, the level of reporting in 1995/96 would have been 39% (compared with the actual level of 42%).

29. In summary, the LFS shows that levels of reporting have risen from 34% in 1989/90 to 42% in 1995/96. However, it appears that one third of this increase in reporting can be explained by a shift in absence patterns, with workers now less likely to take more than three days off work.

30. HSE's questions on the LFS cannot determine the reasons for this shift in absence patterns, but potential reasons include:

- workers may now be suffering less serious injuries than in earlier years;
- they may be taking shorter time to recover from their injuries than before; or
- workers may feel more pressure to return to work earlier than in previous years.

Technical note

31. The Labour Force Survey is a survey of around 60,000 private households throughout Great Britain. Interviewers from the Office for National Statistics ask each household member a range of questions on topics including: household characteristics, employment history and education and training. From 1992 onwards, the survey has been conducted on a quarterly basis in Great Britain. Each quarter's LFS sample of 60,000 households is made up of 5 "waves", each of approximately 12,000 private households. Each wave is interviewed in 5 successive quarters, such that in any one quarter, one wave will be receiving their first interview, one wave their second, and so on, with one wave receiving their fifth and final interview.

32. A systematic random sample design is used for the survey and it is therefore representative of the whole of Great Britain. Each person in the survey is given a weight or "grossing factor" related to that person's age, sex, region and residence. All estimates based on the LFS are subject to sampling error.

33. HSE has placed four questions on workplace injuries on the winter quarters of the LFS since 1993/94, with the latest questions relating to the winter quarter 1996/97. The questions ask respondents if they had suffered an accident in the twelve months before the LFS interview, that resulted in injury at work or in the course of work. Injury rates are derived as the ratio of the estimated number of employed people who have suffered a workplace injury in the 12 months prior to the interview, to the estimated number of people employed at the time of the LFS interview. This approach to deriving an incidence rate of injury is described in a special feature to the Employment Gazette[(4)].

34. Where a household member is not available for interview, a proxy response from another household member can be taken. On average, about one third of all interviews are proxy interviews. Rates of injury can be lower in interviews with people who act as proxy than in personal interviews. The effect of proxy interviews on LFS rates of injury is relatively small (for example the rate including proxy respondents in the manufacturing industry is about 5% higher than the rate excluding proxy responses) except for interviews within households where people work in the construction industry. In this industry, proxy respondents appear to have limited knowledge of workplace accidents. All injury rates for the construction industry in this chapter have therefore been adjusted to allow for the problems associated with proxy response.

35. To minimise the effect of sample error on rates of injury, LFS rates from 1993/94 onwards are displayed as 3 year moving averages. This means combining the first three surveys (1993/94, 1994/95 and 1995/96) to give estimated rates of injury centred on 1994/95. Then, for each subsequent year, the first survey is dropped from the 3 year average and the most recent survey added (i.e. 1994/95, 1995/96 and 1996/97 combined to produce an estimate centred on 1995/96). Rates of injury for individual industries produced as 3 year moving averages have coefficients of variation of between 3% and 10%. The coefficients of variation for rates of injury from each individual year's survey are between 10% and 20%.

36. LFS results indicate that rates of injury are not uniformly lower or higher for self-employed people than for employees. For example, the self-employed rate is higher than the employee rate in the construction industry, whereas the self-employed rate is lower than the employee rate in service industries. One reason for these differences is that self-employed people

are in mainly higher risk occupations than employees in the construction industry, and mainly lower risk occupations in service industries.

37. For results published in this fact sheet, information for employees and self-employed people has been combined to provide rates of injury for people in employment. Such aggregate rates are dominated by employees. The use of aggregate rates reduces the sampling error of the estimates, and makes little difference to the analysis and conclusions from the LFS.

Criteria for distinguishing injury rates between two industries in Table 7

38. Two industries are judged to have genuinely different rates of injury if their LFS rates of injury are statistically significant at the 5% level of a standard test for the difference of two binomial proportions.

39. The injury rates for construction and transport, and for manufacturing and public administration & defence are not significantly different at the 5% level, however the rates would be judged to be different at the 10% level.