



## Description of fatal occupational injury rates in five selected European Union countries: Austria, Finland, France, Spain and Sweden

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### Abstract

*Background:* The aim of the paper was to describe occupational injury rates in five selected European Union countries, in order to detect some patterns in rate trends.

*Methods:* Fatal injury crude rates per country and year for the period were calculated using the number of fatal injuries, and the total of employment from the International Labour Organization database. Log-linear models were adjusted for each country, and annual change percentages were estimated.

*Results:* Rates have decreased in all selected countries. The magnitude of annual crude rate change percentages vary from –3.7 in Spain (1988–2001) to –6.7 in Sweden (1993–2001).

*Conclusion:* The observed fall of fatal occupational injury rates in all selected EU countries, jointly with other developed countries strengthen the hypothesis that trends could be real.

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## 1. Introduction

Fatal occupational injuries prevention is a high priority on the occupational health agenda for the 21st century (Benach et al., 2002). The total number of fatal occupational injuries worldwide has been estimated at 335,000 deaths (Takala, 1999). However, some evidences have shown a downward trend in fatal occupational injury rate in developed countries. In USA, rates declined an average of 3.3% annually between 1980 and 1996 (Loomis et al., 2003).

In the European Union (EU), the Eurostat has reported that fatal occupational injury rates declined from 6.1 per 100.000 persons in employment in 1994 to 4.8 in 1999 for the whole EU (Eurostat, 2003). This tendency would be more valuable if it contained data spanning a longer period of time using.

In order to assess this declining pattern in rates trends with data of a longer period of time in the EU countries, we examine fatal occupational injury rates in selected EU countries using the database of the International Labour Organization (ILO),<sup>1</sup> which has been collecting occupational injury data from its member states since the 70's.

## 2. Methods

The ILO database provides accessible information on the number of fatal occupational injuries and the number of workers for EU countries.<sup>1</sup> This information has not harmonized recording and notification systems, but it is based on a common guidance (International Labour Organization, 2003). The main characteristics of the fatal occupational injury data were reviewed for each one of the European Union (EU-15) countries, except Luxembourg (Table 1). The analysis presented in this paper has focused on countries, such as Austria, Finland, France, Spain and Sweden, which have very similar characteristics in terms of the case source (insurance records which is a compulsory requirement for workers' compensation), and in which commuting accidents are excluded, and data of occupational injury and employment are available for a long period of time without interruption.

Fatal occupational injury crude rates per country and year were calculated dividing fatal cases by total employment figures, including salaried- and self-employed. Rate trends of each country are represented graphically, starting the year with available data of both injury and employment.

Each series were analyzed through a log-linear model, assuming that fatal cases follow a Poisson distribution (Bailer et al., 1997). After adjusting the model per each country, an annual change rate percentage and their confidence interval at 95% was estimated. The period analysis for each country started the year in which last significant changes in the definition and reporting system was introduced.

## 3. Results

Rates have decreased in all selected countries (Fig. 1). Even in the case of Sweden where rate was very low at the beginning of the series: 3.6 per 100.000 workers in 1976. Spain shows the highest: 10.4 in 1987. At the end of the series, rates varied between 1.4 in Sweden (2000) and 6.4 in Spain (2001).

<sup>1</sup> <http://laborsta.ilo.org> (accessed on 30.01.03).

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