



European Agency  
for Safety and Health  
at Work

**Economic Impact of  
Occupational Safety and  
Health in the Member  
States of the  
European Union**



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# **Economic Impact of Occupational Safety and Health in the Member States of the European Union**



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## TABLE OF CONTENTS

	Page	
Summary .....	7	
1. Introduction .....	11	
<b>Part 1. Considerations regarding the costs and benefits of OSH measures</b>		
2. Topicality of costs and benefits .....	14	
3. Impact of Cost-benefit analysis in decision-making .....	16	
4. Aims of Cost-benefit analysis .....	18	
<b>Part 2. The Economic Impact of Occupational Safety and Health Policy</b>		
5. Methods and content .....	26	
6. Costs of work-related illness and occupational accidents .....	28	
7. Instruments with which enterprises can estimate costs and benefits .....	32	
<b>Part 3. Use of financial incentives</b>		
8. Subsidies .....	38	
9. Financial sanctions as part of enforcement .....	42	
10. Incentives in social insurance schemes .....	46	
11. Selecting contractors on the basis of OSH criteria .....	52	
<b>Part 4. European Level</b>		
12. Initiatives at European level .....	56	
<b>Part 5. Conclusions</b> .....		62
<b>Annexes.</b>		
Annex I Definitions .....	66	
Annex II Abbreviations .....	68	



## SUMMARY

### *Introduction*

This report on the Economic Impact of Occupational Safety and Health in the Member States of the European Union summarises the second major information project undertaken under the auspices of the Agency since it started work in September 1996. The aim of this project has been to produce an overview of how economic factors are related to the formulation of occupational safety and health policy in the Member States.

The results from this project show that estimating the cost and benefits of OSH measures has become an important issue in most Member States of the European Union and that the attention paid to it is still increasing. At the same time it should also be recognised that most Member States stress the importance of ethical considerations when it comes to the formulation of OSH policy.

### *Considerations regarding the costs and benefits of OSH measures*

In some Member States the assessment of the economic impact is one of the standard pieces of information considered in political decision-

making. However, the way economic assessment influences decision-making varies from one Member State to another. In general, in seeking consensus with social partners, Cost-benefit analyses (CBA) influence the solutions adopted; although several Member States clearly point out that CBA are not the major factor in decision-making. Nonetheless it seems that the clarity provided by economic assessments makes it easier to reach viable compromises. This methodology serves as a quality check in which the efficiency of a measure is considered systematically.

### *The Economic Impact of Occupational Safety and Health Policy*

In order to have information available about the effects of measures (such as introducing new or adapting existing regulations) it is in many Member States common to prepare an evaluation before introducing the legislation (ex ante). In some Member States such an ex-ante impact assessment is done on a routine basis, and sometimes it is even mandatory. The scope of the assessments varies from country to country and may also vary with the nature of the measure and the severity of the problem in question. Assessment of other measures such as campaigns etc. occurs on a much lesser scale.

Measures can also be assessed afterwards (ex post). The goal of ex-post assessment can be to test the effectivity and efficiency of the measure. The results of CBA after implementation can be used in adjusting the measures in question. Usually it is legislation that is assessed. Few countries evaluate other types of measures in this way.

In ex-ante and indeed in ex-post evaluations the benefits are hard to estimate. One of the problems is that the benefits of prevention may only become apparent after a long time. In general it can be said that due to lack of reliable data and to difficulties in isolating relevant factors it is difficult to produce this kind of evaluation.

In addition to the approaches mentioned above it is also possible to measure the performance of the existing occupational safety and health systems in the Member States. This can for instance be done using economic efficiency indicators.

Although this possibility exists it must be concluded that this type of evaluation has so far not received much attention. In most Member States, no efficiency assessment instruments for the occupational safety and health system are available.

In order to assess the economic impact of OSH measures the underlying concepts of cost and benefits have to be specified. Usually a clear distinction is made between the costs of



implementing OSH measures (prevention costs) and the benefits after implementation. The approach to assessing the costs and benefits varies from country to country and may also vary according to the nature of the measure. Avoided costs of illness is a common category in estimating the benefits. Reduction of health care costs and the costs of rehabilitation are estimated to a lesser extent. On the whole there is little experience in quantifying effects on productivity and product quality.

In most Member States, the state or private health insurance organisations publish statistics on the number of occupational accidents and negative health effects on an annual basis. Usually, statistics on the numbers of working days lost and the number of disability pensions awarded as a result of these occupational accidents and health risks are available too. Depending on the Member State there may be more information available. Although it is very likely that these statistics do not identify all the costs of work-related illness completely, they are often used as a basis for estimating the costs of work-related illness as a percentage of Gross National Product.

Some Member States themselves estimate the costs of work-related illness as a percentage of Gross National Product. Reported percentages range from 2.6 to 3.8. Estimates were made for other Member States for the purposes of this

project. They are based on the total of reported data on costs and on statistics. Percentages in these cases ranged from 0.4 to 4.0. Regarding the percentages mentioned it must be emphasised that due to differences in calculation methods comparisons and bench marking between Member States is not possible at this moment.

For individual enterprises it is more important to know if specific investment in OSH measures will lower their costs. In most Member States instruments exist or are being developed that assist enterprises in these evaluations. The instruments used are often developed with the support of national administrations or with help from insurance funds.

A specific problem has been recognised in relation to small and medium-sized enterprises. These enterprises mostly lack the financial and personnel resources to apply these methods appropriately. Large firms often have the resources to develop these methods themselves or have the funds to hire private advisory firms to develop these methods for them.

Finally, it has to be concluded that no quantitative data is available in the Member States about the extent to which these instruments that calculate the impact of risks and OSH measures are used.

### *Use of financial incentives*

Financial incentives can also be applied directly in order to promote prevention measures. Three main categories of financial measure can be distinguished:

- subsidies;
- financial penalties and administrative fines as enforcement measures;
- incentives in social insurance schemes.

Subsidies for individual enterprises can be used to lower the costs to employers of investing in preventive OSH measures, and thereby promote the development, sale or purchase and application of these measures. The results of the survey show that in many Member States financial incentives are provided by reducing the costs of technical support or the establishment of subsidy programmes. Relatively little use is made so far of tax-based measures. However, all in all, positive incentives to encourage the development, sale or purchase of safe and healthy products, production methods, work organisation, machines etc. exist in a majority of Member States.

It also became clear that the effects of this kind of financial incentive are evaluated in only a few Member States. Regarding the future of subsidy arrangements, there seem to be different trends in



Europe. In some Member States subsidy funds are under pressure, while in others new measures are being introduced.

Another type of financial incentive to persuade enterprises to undertake OSH measures involves financial penalties (imposed by courts) and administrative fines (imposed by inspectorates) as part of enforcement. Member States have well-developed systems for the imposition of financial penalties and administrative fines on individual enterprises. Nonetheless financial sanctions seem to be used in a rather moderate way. Compliance with the legislation in enterprises is the main objective of enforcement.

There are some Member States that indicate that the level of the financial sanction is too low to work as a deterrent and that have taken steps to raise these sanctions. Furthermore, there seems to be an increasing interest in the imposition of administrative fines by administrations themselves instead of, or in addition to, bringing offences to court.

Insurance schemes—whether they are run by public administrations, social partners or private organisations—can play an important role in improving occupational safety and health as they have a direct interest in bringing down the number of occupational diseases and accidents. Insurance for occupational diseases or accidents is often a

statutory obligation. This does not necessarily mean that the insurance of occupational injuries is part of a national social security system. In some Member States private insurance companies under public supervision (semi-public) are responsible for these insurances.

Levying premiums offers the opportunity to create financial incentives to encourage preventive action in companies. In a majority of the European Member States financial incentives exist in mandatory social insurance schemes. Member States report a variety of incentives. Differentiation of premiums for insuring against occupational accidents and diseases is the most common incentives. In general the Member States do not foresee major changes in the level or nature of these incentives although there seems to be a trend towards greater differentiation of premiums.

Insurance against occupational diseases and accidents is not only provided by mandatory social insurance schemes, but sometimes also by voluntary private insurance schemes. Here too the most common instrument is differentiation of premium. However, the scope private insurance schemes have to improve safety and health through financial incentives is limited. Especially for smaller firms, the cost of insurance is related to sector-wide experience of claims rather than assessment of the effectiveness of the individual firms' safety and health performance.

A rather new and different approach to promoting occupational safety and health in enterprises involves public organisations—in their capacity as private entities—in selecting contractors or suppliers of products, goods and services on the basis of their performance regarding occupational safety and health. These practices sometimes have a somewhat legalistic approach. For example, a public organisation may require a contractor to comply with statutory OSH provisions or it might be prohibited for contracts to be awarded to companies that have been found guilty of offences concerning OSH. Public organisations may even ask for OSH standards that go beyond the minimum levels set by regulations or demand that specific initiatives are undertaken that support the practical implementation of safety and health at the workplace (for example training programmes or campaigns).

### *Initiatives at European level*

The last issue dealt with in this survey concerns the fact that Member States were asked which initiatives could be undertaken at the European level in relation to the economic aspects of occupational safety and health. Many Member States especially recognised the need for exchange of information about estimating the cost and benefits of measures by national administrations. With regard to methodology development at the



national level, it is the view of many Member States that a methodology is needed that would make it possible to assess the impact of applying EU directives using common factors that would allow for comparisons.

Development of methodology or instruments to be used at the company level is suggested by a number of countries. Some stressed the importance of simple models for cost-benefit analysis, also to be used by SMEs in their day-to-day practice.

The dissemination of information on financial incentives is supported by most Member States. Some Member States suggest more research and dissemination of empirical evidence of the effectiveness of insurance-based incentive systems

# 1

## INTRODUCTION

One of the main tasks of the European Agency for Safety and Health at Work is to support the exchange of information between European Member States. An important tool to be used in this context is the organisation of information projects on specific issues. This report on the Economic Impact of Occupational Safety and Health summarises the second major information project undertaken under the auspices of the Agency since it started work in September 1996.

The report is based on the results of a questionnaire that was drawn up in cooperation with representatives of all European Member States and then answered by all Member States. In these answers the viewpoints of the social partners and other organisations are also taken into account. The complete replies from the Member States can be found on the Agency's web site.

The aim of this project has been to produce an overview of how economic aspects are related to the formulation of occupational safety and health policy in the Member States. This report will also be the basis for the selection of further activities in this area.

The issue of assessing the cost and benefits of occupational safety and health has raised much



interest over the last few years. A major international conference on the subject was organised in 1997 during the Dutch Presidency of the European Union. Furthermore, the Luxembourg Advisory Committee for Safety and Health at Work addressed a related issue. It set up an Ad Hoc Group on "Socio-economic appraisal of occupational safety and health legislation" in order to prepare a report for the Committee. Furthermore note was taken of the planned SHAPE project financed by the European Commission in order to avoid overlap in activities.

This project of the Agency and its network took into account the results from the conference and the work of the Advisory Committee but was intended at the same time to broaden the issue for several reasons. First, it should be recognised that the improvement of OSH cannot simply be reduced to a technical issue about cost and benefits. Cost and benefits can only facilitate a discussion about preferences for measures. Second, many other economic issues are also important in relation to occupational safety and health, for example the role of financial incentives (subsidies and financial sanctions) and the potential role of national and other insurance organisations.

The aim of the present project is to provide information about the way economic factors play a role in the formulation of OSH policy at national

level. These factors can be rather diverse. In this report the following are highlighted:

- current considerations regarding the cost and benefits of OSH measures, dealing with questions such as the importance attached to costs and benefits in the Member States and the impact of CBA in policy development. It looks more in depth at the actual use of this type of analysis in the development of OSH policy (the extent to which CBA is used before and after measures);
- secondly, it deals with the contents (that is the elements) of CBA. Furthermore, the report provides an overview of national practices regarding estimates of the economic impact of occupational safety and health, especially the costs of work-related health risks. It is also intended to provide information about the extent to which CBA is used at company level;
- thirdly, the report gives an overview of the way other financial incentives such as subsidies, financial sanctions in enforcement and incentives in insurance schemes are applied. It also provides information about examples of practices in the Member States through which contractors are selected on basis of their OSH performances;
- lastly, it summarises suggestions from Member States regarding issues that could be dealt with at European level.

Part 1. **CONSIDERATIONS REGARDING THE COSTS  
AND BENEFITS OF OSH MEASURES**



## 2 TOPICALITY OF COSTS AND BENEFITS

The improvement of occupational safety and health has a long tradition in Europe. Measures at national and European level have resulted in relatively high levels of protection for workers. Economic considerations regarding the application of new measures are usually taken into account in one way or another, though mostly implicitly

At present there is a substantial interest in estimating the costs and benefits of OSH measures. Many Member States indicate that economic impact is a key issue at the moment. In others the interest in cost-benefit analysis is growing. Few countries indicate that it is not a major or increasingly important topic.

Some countries seek to raise public awareness about the benefits of occupational safety and health, for instance through campaigns intended to emphasise to companies the importance of good safety and health at work (United Kingdom). In several countries information on costs and benefits is disseminated. It is noted that employers are interested in instruments to assess costs and benefits at company level. In some countries (Finland, the Netherlands) this interest is encouraged by national administrations that

support the development of instruments to assess costs and benefits at company level.

The increased interest is not surprising, as investments in OSH presupposes reallocation of financial and human resources, at company, national and international level. Considerations regarding cost-effectiveness are therefore of importance. A complicating factor is that the benefits of these measures, whether to the individual company or to society as a whole, is not always immediately known.

In the discussion with social partners about action the issue of costs and benefits is often raised. In particular, the anticipated high costs and the impact on small and medium-sized enterprises is a topic for debate.

Despite the fact that CBA is generally seen as important in most countries of the European Union, the importance of ethical considerations is also stressed. It is not always necessary to expect the economic returns from measures to exceed the costs incurred, as in some cases the social risks can be so great that action has to be undertaken.

## Question

**Is the estimation of the costs and benefits of occupational safety and health measures a major topic at the moment? What are the expectations for the future?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>↳ it is not an explicit priority</li> <li>↳ normally little consideration is given to the benefits</li> <li>↳ the anticipated high costs for SMEs are often addressed in the political debate</li> <li>↳ estimates of costs are of growing importance</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>↳ it is a key topic and will become politically important in the future</li> <li>↳ financial resources are scarce, so proof is needed that measures are cost effective</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>↳ two kinds of cost figures raise interest: the overall costs of sickness to society and costs to business of new regulations</li> <li>↳ costs to business of amendments to Working Conditions Act have been debated in media</li> <li>↳ interest of social partners is expected to remain at the same level</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>↳ there is increasing interest, with the focus on the importance of working conditions to the national economy</li> <li>↳ discussion is encouraged by the OSH administration, by the development of models to be used by enterprises</li> <li>↳ economic impact of psychological well-being and ergonomics has raised discussion on OSH</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>↳ the issue is gradually gaining importance at national level</li> <li>↳ cost-benefit analysis is considered important to encourage social partners and companies to improve OSH. It results in all costs and benefits being made visible</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>↳ estimation of costs and benefits is a major topic</li> <li>↳ the evidence of financial advantages of measures in the area of OSH will become of greater importance for both individual companies and the national economy</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>↳ estimation of costs and benefits is increasingly important</li> <li>↳ in the future it is expected that the results of cost-benefit analysis will increasingly motivate employers to improve the working environment</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>↳ OSH only now beginning to arouse broader public interest; attention is focused on legal &amp; moral issues</li> <li>↳ increasing attention from employers perspective to importance of proper cost benefit analysis of OSH matters</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>↳ the topic is becoming more important</li> <li>↳ research has been funded which reveals the impact of EU regulations on SMEs (which are prevalent in Italy)</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>↳ there is increasing interest in the estimation of the costs (not benefits) of OSH</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>↳ estimating costs and benefits is becoming more important. This trend is expected to continue (e.g. research, dissemination of information, etc.)</li> <li>↳ importance is twofold:             <ul style="list-style-type: none"> <li>– cost-benefit considerations can encourage companies to improve OSH</li> <li>– introducing market elements could support the aim of reducing detailed legislation as the interest of employers would be increased</li> </ul> </li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>↳ cost estimation is important as this represents the burden on both the social security system and on companies; it may affect competitiveness</li> <li>↳ in the discussion, the benefits are not given due consideration</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>↳ the topic does not attract public attention. Legal and moral arguments prevail</li> <li>↳ from an employers' point of view, the interest in instruments for economic assessment is considerable</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>↳ there is an increasing interest from the OSH authorities in informing the public about the utility of improving working conditions by using CBA</li> <li>↳ employers are interested in models for estimating costs and benefits</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>↳ it is likely to remain a topical issue</li> <li>↳ cost-benefit analysis of legislation is routine</li> <li>↳ between 15 and 35 analyses are carried out each year</li> </ul>



# 3.

## IMPACT OF COST-BENEFIT ANALYSIS IN DECISION-MAKING

As shown in Chapter 2 there is an increased interest in cost-benefit analysis. Another interesting issue is whether CBA has a real impact on decision-making about new measures, and in what way it influences decision-making. The relevance of assessing the economic impact can only be appreciated to the extent that it influences political decision-making.

In the Member States initiatives for new legislation or changes in existing legislation usually take into consideration opinions of those that would be affected. Economic considerations are usually involved in discussions with social partners about new initiatives in one way or another.

In some Member States (Denmark, United Kingdom) assessment of the economic impact is one of the standard pieces of information considered in political decision-making. However, the way economic assessments influence decision-making varies from one Member State to another. In general, where consensus with social partners is sought CBA usually influences the solutions adopted (Spain, Denmark).

However, several Member States also make it clear that cost-benefit analysis is not the major factor in decision-making. It seems that the clarity provided by economic assessments makes it easier to reach viable compromises (Denmark). The methodology of assessing costs and benefits serves as a quality check in which the effectiveness is reconsidered.

In some Member States economic impact assessment is specifically meant to improve the effectiveness of legislation and to ensure that no unnecessary additional financial burden is created (the Netherlands). Using an assessment method allows the socio-economic balance to be improved, as economic consequences are considered in a systematic way.

So far the assumption has been that cost-benefit analysis only influences decision-making if a formalised method is used. Nonetheless its impact on decision-making can be substantial even if there are no formalised methods (France).

Furthermore, most Member States consider that cost-benefit analysis will continue to be an important element in policy development and may indeed become even more important.

It can be concluded that in most Member States economic arguments play a significant role in discussions about new initiatives for OSH measures/legislation in one way or another. Cost-

benefit analysis often has a role in the drafting process of new legislation, in “fine tuning” the final proposals for legislation. However, it can also be mentioned that there is no indication that introducing legislation occurs only on the basis of economic arguments.

## Question

**To what extent do results of cost-benefit analyses affect the final decision to introduce legislation or other initiatives? Are they likely to be more significant in the future?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>due to budgetary situation restrictive approach is expected for measures that impose additional financial burden on the public budget</li> <li>cost estimates will become more important</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>CBA is not a basic factor in decision-making, priority is given to moral considerations and public awareness</li> <li>CBA is aimed at convincing employers to operate OSH policy and that this will not harm their competitiveness. It is also aimed at political decision-makers, to show that prevention is an investment</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>costs to industry are important in political decision-making</li> <li>claims that costs are excessive have to be specified, which makes it easier to reach a compromise with the social partners</li> <li>the procedure is a quality check on proposals</li> <li>no changes for the future are expected</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>the significance and quality of analyses depend on the decision-makers needs in every case</li> <li>at best, analysis has an impact during the drafting process. Proposals are often discussed with social partners in which economic factors are included; separate CBA is not necessarily important</li> <li>importance of CBA will probably increase</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>although not formalised, economic impact analysis plays an important role. However, priorities are also given to human and social aspects</li> <li>consultation in which social partners give their reactions on human, social and financial impact is mandatory</li> <li>an economic impact assessment is likely to be developed</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>the results have an impact insofar as provisions in new OSH legislation are worded so as to achieve flexibility and cost-effectiveness in the companies, while at the same time ensuring that OSH provisions are highly efficient from the employees' point of view</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>they do not affect the decision on introducing legislation or not, but in many cases they affect significantly the decision on the scope or the strictness of a certain regulation or other initiative</li> <li>in the future it is expected that they will have a broader impact</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>CBA is not formally a part of the decision-making process at present, although the economic impact of measures does influence policy formulation to some extent</li> <li>it is expected that greater analytical rigour will have to be brought to bear on this area in future</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>estimation of costs and benefits of OSH is becoming more important; the need for CBA was recently pointed out by the Italian Parliament</li> <li>the Ministries of Labour and Health aim to identify homogeneous criteria to rationalise the exploitation of public resources</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>cost-benefit analysis has little effect on decision-making during policy development</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>results of CBA can influence decision-making, especially if they allow economic consequences to be considered in a more systematic way, resulting in a better socio-economic balance</li> <li>CBA will become more important in the future</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>OSH regulation development is discussed by government and social partners; economic and social aspects are taken into consideration</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>in seeking consensus with social partners, estimates usually influence the solutions adopted</li> <li>in the field of OSH it is not expected that economic criteria will become determining factors</li> <li>there is concern to improve the quality of regulations, inter alia by assessing the economic impact</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>the costs affect the decision to some extent</li> <li>in the future, cost and benefits are likely to become more significant</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>the cost-benefit analysis is one of the pieces of information that is considered in reaching a decision on proposed legislation</li> <li>no change is expected</li> </ul>



## AIMS OF COST-BENEFIT ANALYSIS

As can be concluded from Chapter 2 and Chapter 3, economic considerations are of growing importance in taking measures to improve occupational safety and health. These considerations usually focus on the introduction or amendment of legislation. This chapter deals with the different types of cost-benefit analysis. The following types can be identified:

- estimates before OSH measures are introduced;
- estimates after OSH measures have been introduced;
- indicators for the economic efficiency of occupational safety and health systems.

### *4.1 Estimation of cost and benefits before measures are introduced*

In order to have information available about the effects of measures (such as new or amended regulations) it is common in many Member States to prepare an evaluation before introducing the legislation (ex ante).

In some Member States (United Kingdom, Denmark) such an ex-ante impact assessment is often routine, and sometimes even mandatory. Economic considerations can play a part. In various countries, the involvement of the social partners is part of the procedure. Costs and benefits can be part of the consultation.

Differences exist between Member States in the extent to which certain kinds of new legislation are evaluated. For instance in Denmark the implementation of EU directives is not covered by assessments, whilst it is in other Member States. Generally, campaigns etc. are assessed to a much lesser extent.

The scope of the assessments varies from country to country and may also vary with the nature of the measures and the severity of the problem in question.

Assessments of the economic impact of new OSH regulations or initiatives can be carried out at national level, sector level and enterprise level. In most Member States the focus is on the costs and benefits at national level. Costs to authorities and/or to the national economy are estimated in these cases. A breakdown by economic sector or industry is made in some Member States (Finland, United Kingdom). The consequences for individual companies are only estimated in special cases in some countries. However, in some Member States

the effects on SMEs are explicitly part of an ex-ante evaluation process (Germany, Finland, the United Kingdom).

## Question

**Do national occupational safety and health administrations estimate the costs and/or benefits of measures before introducing them? Is this done on a routine basis? Is this expected to change in the future?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>estimates of financial consequences for the Federal budget and budgets of regional authorities are compulsory</li> <li>costs for private sector resulting from OSH provisions are not estimated</li> <li>no changes are anticipated</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>no prior estimate of costs and benefits is made of measures implemented by the technical or medical inspectorate</li> <li>when costs have to be estimated, the focus is on employers and the sector in question</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>the assessment of socio-economic costs has been mandatory since 1981</li> <li>guidelines and campaigns are not routinely assessed; no assessments are carried out in respect of EU directives</li> <li>assessments are carried out in cooperation with social partners</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>new regulations must be evaluated as part of drafting process. Economic effects of campaigns are not assessed on a routine basis</li> <li>estimates relate to the national economy and public finance, but sector and/or company assessments should often be taken into account</li> <li>aim is to put more emphasis on CBA</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>assessment of the impact of new regulations is now mandatory at national level as far as possible, regulations with minor effects are not included</li> <li>assessments are difficult to carry out</li> <li>in order to know the needs of target groups, campaigns are evaluated ex-ante; economic considerations form part of this</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>necessity and effectiveness are evaluated using a catalogue which includes costs and benefits for SMEs in particular</li> <li>the cost effects of regulations have to be documented as they affect both administrations and companies</li> <li>there is no routine practice in estimating the costs and benefits of OSH measures</li> <li>methods are being developed</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>financial consequences for state budget must be always estimated when new legislation is introduced</li> <li>other cost-benefit aspects are usually estimated during the debates in SYAE</li> <li>costs of non-legislative measures (campaigns, publications, training, etc.) are not usually estimated</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>no ex-ante evaluations performed</li> <li>it is expected that CBA will become a more common tool as methodologies develop in this area in future</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>no ex-ante evaluations performed</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>no ex-ante evaluations performed</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>new regulations and changes in regulations are evaluated in accordance with mandatory procedures; however, extensive assessments are only carried out if high costs are expected</li> <li>ex-ante assessments for OSH regulation have been carried out twice, at national and sector level</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>estimates are not made on a routine basis; they depend on the objectives</li> <li>normally foreseeable benefits are included</li> <li>estimates of costs to the administration are made</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>for regulations with the force of law, economic impact has to be assessed using of a checklist</li> <li>OSH measures follow a procedure in which costs are discussed</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>assessments have been carried out routinely for a long time (as required by law)</li> <li>cost calculations are made at national level</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>cost-benefit analysis is a routine part of the development of legislation</li> <li>estimates apply to society as a whole but always show separately the costs to industry; they can also be broken down, e.g. by sector</li> </ul>



#### *4.2 Estimation of cost and benefits after implementation*

Member States were asked about economic evaluations after the implementation of measures. The goal of ex-post assessment can be to test - on the basis of the outcome of the assessment - the effectiveness of the measure. Usually these assessments are done in respect of legislation. Only in a few countries are other types of measure evaluated in this way (campaigns, Denmark). The results of CBA after implementation can be used to adjust the measures in question.

In some Member States (France, Belgium, the Netherlands) the effectiveness of OSH regulations is monitored using data from Labour Inspectorates, but the indicators concentrate on safety and health effects rather than the economic implications.

In some other Member States evaluations are made only under special circumstances or by way of an experiment (Spain, Finland, Germany). In the United Kingdom ex-post analyses are carried out in respect of all significant regulations.

As in the case of ex-ante evaluations, here too the benefits are hard to estimate. One of the problems in ex-post evaluation is that positive economic results often become visible only after a period of time. More generally, it can be mentioned that it is

difficult to make this kind of evaluation because of a lack of data. This hinders the verification of the outcome of a measure against the initial estimates.

All in all it can be concluded that an explicit comparison between goals and results of a measure is only made on a routine basis in one country (the United Kingdom).

Regarding the future, it seems that most countries have no plans to perform ex-post evaluations on a routine basis.

## Question

**Do national occupational safety and health administrations estimate the costs and/or benefits of measures after introducing them. Is this done on a routine basis? Is this expected to change in the future?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>no estimates are made after measures are introduced; no change is expected</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>the Labour Inspectorate records what is done to implement measures; in the case of checking safety conditions the cost of personnel is monitored</li> <li>method applies at national, sector and company level</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>ex-post evaluations are not made on a routine basis, but in the 1980s some benefit evaluations were conducted</li> <li>campaigns are evaluated, but focus is mostly on level of compliance or exposure</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>ex-post evaluations are not usually carried out</li> <li>there are no routines and no plans to perform ex-post evaluations</li> <li>done once, may increase in the future</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>due to difficulties in measurement and non-economic goals of OSH measures, only a few ex-post assessments are made</li> <li>although no model is available, the labour inspectorate provides quantitative and qualitative information. Statistics on occupational accidents provide information on macro-economic effects</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>evaluation after implementation only in individual cases, estimates of financial implications are generally not provided</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>no estimates on a routine base</li> <li>reactions of the SYAE members after the implementation of a measure can be considered as an indirect evaluation of it</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>no ex-post evaluations are performed</li> <li>it is expected that CBA will become a more common tool as methodologies develop in this area in future</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>no ex-post evaluations are performed</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>until now, no ex-post evaluations have been performed</li> <li>in 1998, analysis of 4 examples is planned</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>data collection on investment costs for OSH measures has been carried out twice on an experimental basis</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>normally a comparative balance is produced between objectives and actual results</li> <li>in evaluations account is taken of statistics (national, sector and company level), number of workers and involvement of social partners</li> <li>social partners are involved in evaluations</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>no routine ex-post evaluations exist, some experimental assessments have been performed</li> <li>it is hoped that a methodology for assessment at national and sector level will become available</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>ex-post evaluations are not performed on a regular basis</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>all significant regulations are evaluated to see if they meet their objectives and to check for unforeseen problems</li> <li>evaluations also look at actual costs and benefits against those predicted, though broad comparisons only can be made</li> </ul>



### *4.3 Measuring the economic efficiency of national occupational safety and health systems.*

So far it has been the different types of evaluation of legislation and other measures which have been the subject of attention. In addition to these approaches it is also possible to measure the performance of the existing occupational safety and health systems in the Member States. This can for instance be done using economic efficiency indicators. Member States were asked to give information on the existing instruments.

Some Member States indicate that quantitative and qualitative data collected by labour inspectorates or contained in statistics on accidents and occupational diseases can provide some information on macro-economic consequences (Luxembourg, Finland, Greece, Denmark).

An indicator used in the Netherlands is the ratio between costs for prevention and the corrective costs (e.g. costs of occupational accidents and work-related illness).

A specific set of efficiency indicators and a methodology to measure these indicators is being developed in Germany. This methodology is

broad-based and relates, for example, the number of health problems to production output.

In general it can be concluded that this type of evaluation has so far not received much attention in the Member States of the European Union and that in most Member States no instruments for assessing the efficiency of the occupational safety and health system are available.

## Question

**Do instruments exist to measure the economic efficiency of national occupational safety and health systems? To what extent are they related to economic output?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>no instruments are available, but efficiency of measures can be deduced from statistics on accidents and health and from questionnaires</li> <li>calculations on the internal efficiency of the administrations are being developed</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>no specific instruments are available but efficiency of measures can be deduced from statistics on accidents and health</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>some instruments to measure macro-economic and micro-economic efficiency have been developed</li> <li>the methods are broad-based, as indicators indicate e.g. the number of health problems induced per unit of production</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> <li>indicative data are derived from the reports of the labour inspectorates</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> <li>indicative data is derived from the statistics on accidents and ill health</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>the ratio preventive costs/correction costs can be seen as an efficiency indicator at national level. One attempt to estimate this ratio has been made. However, there is insufficient data for a reliable indication of this ratio</li> <li>for the future, improving the reliability of calculations is important</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>no instruments are available</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>if efficiency is defined as the cost-benefit ratio, no estimates have yet been made</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>attempts are being made to calculate the efficiency of the administration</li> <li>the OSH administration is required annually to report both effects and productivity to the government</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>estimates of costs of accidents and ill health can be taken as an indirect indicator</li> </ul>

## Part 2.

# THE ECONOMIC IMPACT OF OCCUPATIONAL SAFETY AND HEALTH POLICY



# 5 METHODS AND CONTENT

There are methods which can help to establish the systematic analysis of costs and benefits, both ex-ante and ex-post. Specific/formalised methods for assessing the economic impact of new measures exist in a minority of the Member States. The method adopted depends on the nature of the problem and its potential economic impact. Though specific/formalised methods are not available in most of the Member States, many of them state that the current practices of policy development often do include a structured approach, for instance using a checklist, a catalogue or consultation procedures.

Member States were asked to indicate which specific elements are part of any method that assesses the costs and benefits of prevention with regard to occupational safety and health. More specifically, the question focused on the inclusion of social and other aspects such as improved product quality and increased competitiveness.

In assessments of the economic impact of measures the concepts of costs and benefits have to be distinguished. Usually a clear distinction is made between the costs of implementing OSH measures (prevention costs) and the benefits after implementation. Benefits can consist of many elements. The approach used in assessing the cost of measures varies from country to country and may also vary with the nature of the measure. For

example, the following aspects are usually included in prevention costs:

- investments in technology and production equipment (by employers);
- costs of external services;
- costs of additional work time;
- extra charges per worker (e.g. for extra medical surveillance).

Estimating the benefits proves particularly difficult. Some Member States estimate the benefits of the avoided costs of illness (Spain, Luxembourg, the Netherlands). In practice, benefits mostly include reductions in the costs of sick leave. Reductions in health care costs and rehabilitation costs are also estimated in some countries. In the United Kingdom monetary values of grief and suffering are included (indirectly).

On the whole there is little experience in quantifying effects on productivity and product quality. As a result, the effects of new regulations on companies' competitiveness are not included in economic impact assessments. In a few countries (Sweden, France, the Netherlands) case studies or retrospective studies are done, but it seems that the results are difficult to translate into a general methodology. In the United Kingdom it is concluded that the direct costs to companies can be taken as an indicator for the short-term effects on competitiveness.

All methodologies calculate the direct reduction of costs to society or to companies. Indirect or "secondary" effects on employment, national welfare and national competitiveness are mostly not included.

In estimating the benefits of preventive measures, many problems are indicated by Member States:

- it is indicated by several countries that the scope of an economic impact assessment is often limited by the availability of reliable data;
- it is difficult to isolate relevant factors;
- the benefits of prevention may only become apparent after a long time;
- the value of human life is difficult to express in terms of money, though it is indicated that it should be part of considerations;
- putting a financial value on health damage is difficult and not always desirable.

Those countries that have long experience of economic impact assessments indicate that the methodology is not likely to change in the near future unless new data becomes available. Research may not lead to changes in current procedures. In a few Member States, the current approach is too recent to be changed in the near future (Belgium, the Netherlands). Of the Member States that do not have a specific methodology, some indicate that there are plans to develop one.

## Question

**Do national OSH administrations use specific methodologies to assess the costs and benefits of measures? Are social costs, competitiveness, the environment or product quality included in the concept of benefits?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>no formalised methodology exists at the moment</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>no formalised methodology exists</li> <li>focus is on direct costs to employers and sector; cost estimate from number of workers involved and cost per employee</li> <li>benefits are not taken into account</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>analyses are performed</li> <li>costs: equipment, disposable equipment or external services, costs of substitute products, maintenance and energy, additional work time</li> <li>benefits: reduction of costs for health care and rehabilitation, sick leave, early retirement and death</li> <li>only first order effects</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>method used depends on the issue involved. Principles are described in a guide</li> <li>usually all aspects are considered, but which costs and benefits are included (in terms of money) is decided on a case by case basis</li> <li>value of human life not always expressed in terms of money</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>no specific methods exist</li> <li>absence of specific methodology is explained by the difficulty of isolating relevant factors, which is accentuated by the complexity of the French system</li> <li>transposition of systems from other countries seems to be difficult</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>no specific methodology exists</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>macro-economic approach (social costs, general economic indicators)</li> <li>the intention is to establish a systematic method based on national and EU experience</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>no specific methodology exists</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>no specific methodology exists</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>no formalised methodology exists</li> <li>the benefits are the avoided costs of illness</li> <li>aim is to ensure that costs are turned into benefits</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>aspects depend on nature of regulation in question; standard assessment focuses on primary effects</li> <li>of ill health and medical costs are usually not included</li> <li>costs of absenteeism and disability are included</li> <li>increased productivity is used in case studies only</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>though no specific methodology exists, a number of aspects are included in the assessment of benefits from a measure, such as improved life expectancy, quality of life, reduced sickness, less public spending and also lower costs to business and improved productivity and quality</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>no standard method exists</li> <li>when new regulations are discussed with social partners, social costs are taken into account in qualitative terms</li> <li>the quantitative benefits, considered to be the reduction in the costs incurred as a result of occupational accidents, are also taken into account</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>social costs are taken into account</li> <li>where data is available, increased productivity or competitiveness are also included</li> <li>attempts have been made to value human life in terms of money</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>a wide view is taken, the scope is limited by the availability of data</li> <li>medical costs included, compensation payments excluded as money value for grief / suffering is included</li> <li>direct costs to business can be taken as a indicator of short-term impact on industry's cost-base and competitiveness</li> <li>secondary effects (e.g. employment) are not counted</li> </ul>



# 6

## **COSTS OF WORK-RELATED ILLNESS AND OCCUPATIONAL ACCIDENTS**

### *6.1 Existence of estimates*

A major issue regarding the economic impact of occupational safety and health is the estimation of the total costs of work-related illness and occupational accidents. There have been attempts to estimate these costs in many Member States.

In order to estimate the costs of work-related illnesses, two approaches are used. The first estimates the total financial costs of social insurance for occupational accidents and diseases. The second involves an assessment of socio-economic costs, in which the monetary effects on society are estimated.

In most Member States, the national or private health insurance organisations publish statistics on the number of occupational accidents and health risks on an annual basis. Further, costs of claims are summarised in the total annual amount paid out in claims.

In addition, statistics are published in most Member States on the number of working days lost and of disability pensions awarded as a result of

these occupational accidents and health risks. The costs of health care facilities are often available. These statistics are frequently also broken down by diagnosis categories and categories of the working population or parts of it (industrial sectors).

However the picture given by these statistics is often not complete. Most Member States report underestimation of costs. In some this is due to the fact that employers or employees do not report accidents or illnesses to the authorities. Other Member States report that not all industrial sectors are covered by the published figures. Finally some Member States report that only a limited range of OSH risks are included in the insurance figures. This lack of information makes comparisons between the statistics of these Member States difficult.

Furthermore, it should be noted that national or sectoral statistics do not indicate the total cost of work-related illnesses to society.

To fill in the gap between the costs reported by the official statistics and the socio-economic costs to society, studies were conducted in some Member States (Italy, the Netherlands, the United Kingdom, Luxembourg, and Finland) in which an attempt was made to estimate the complete picture. These estimates included company costs, costs to the victim and their social environment, prevention expenses, and other indirect costs such as medical

services, social security and insurance systems. In the United Kingdom even an amount to reflect the pain, grief and suffering involved is included in the calculations. The final conclusion of these studies is that the costs of OSH risks to society are likely to be far higher than is estimated from national statistics alone.

## Question

### To what extent have there been estimates of the costs of work-related illness?

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>➤ accident insurance institutions can identify costs of medical treatment due to accidents, rehabilitation measures, pension payments and days of absenteeism</li> <li>➤ academic research has been carried out into the impact of industrial accidents on the economy as a whole</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>➤ the costs of illness due to OSH hazards can only be estimated</li> <li>➤ direct costs are generally expressed in terms of the social impact of the harm suffered</li> <li>➤ expenditure is broken down by NACE sector, type of occupational disease, occupation and type of chemical, physical and biological agent</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>➤ the DWES published cost-of-illness estimates for the costs of work-related diseases and work accidents in 1994</li> <li>➤ the estimates include both socio-economic costs and public expenditure (financial costs) of work-related disease</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>➤ in 1994 the Department for OSH made a calculation of the costs in 1992 to the national economy of work-related diseases and occupational accidents</li> <li>➤ there are a number of research studies, practical calculations and case studies on the economic impact of OSH at enterprise level</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>➤ estimates have been made through the CNAM</li> <li>➤ a recent public report gives figures of around ECU 0.2 billion (FRF 1.2 billion)</li> <li>➤ the real magnitude of the costs of unclaimed accidents and unidentified work-related diseases, which are covered by the public social security system are unknown</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>➤ BAUA produces regular estimates of the costs resulting from individual work-related health risks, based on the number of lost working days. These costs can be specified and calculated according to types of diseases. Exact calculations are documented by the Berufsgenossenschaften</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>➤ such estimates are usually made by the social insurance organisations</li> <li>➤ social costs of accidents and diseases are included every year in the annual national social budget</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>➤ the Insurance Federation publishes annual statistics showing the number and costs of employers' liability claims</li> <li>➤ the costs of claims are summarised in the total amount paid out plus the movement in technical reserves during that period</li> <li>➤ numbers and costs are not broken down by accident or health risk</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>➤ INAIL estimates the total costs of accidents and occupational diseases, including insurance charges, companies' indirect charges, prevention expenses, proportion of damage falling on victim and economic costs borne by the public purse</li> <li>➤ direct and indirect costs of multifactor pathologies (life and working conditions) is the subject of attention</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>➤ estimates are made by the Accident Insurance Association (AAA)</li> <li>➤ the damage caused to victims, companies and the national economy, is estimated at four times the costs borne by the AAA</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>➤ estimates are carried out on the basis of 5 factors: sick leave and invalidity, health care costs, preventive actions by third parties and by companies, and other costs</li> <li>➤ costs of prevention do not exceed 20% of the total costs</li> <li>➤ costs of sick leave and invalidity can be broken down by diagnosis category</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>➤ direct costs arising from work accidents and social security costs of compensation for occupational illness are calculated</li> <li>➤ figures are an underestimate, because of underreporting both of work accidents and of occupational illness</li> <li>➤ it is also important to consider the estimates of costs due to absenteeism</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>➤ direct costs of occupational accidents and illnesses have been estimated by analysing social security accounts, including costs of disability, health care/drugs and survivors' pensions</li> <li>➤ indirect costs are assessed by estimating data, such as numbers of working days lost as a result of occupational accidents and illnesses</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>➤ some calculations of the costs of specific work-related risks have been made at national, sectoral and enterprise level</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>➤ HSE publishes estimates of the total costs to employers, economy and society, of work accidents and work-related ill health</li> <li>➤ this study quantifies costs to all affected parties, including employers, medical services, social security and insurance systems and victims</li> <li>➤ an amount to reflect the pain, grief and suffering is included</li> </ul>



## 6.2 Results of estimates

Member States were also asked for the results of cost estimates for work-related health risks.

Most Member States were able to give some indication of the costs of specific work-related health risks. They calculated these costs in their own currency or in ECU. Here the results are presented in ECU (1995 exchange rates).

One group of countries was able to give estimates themselves of the cost of work-related illness as a percentage of Gross National Product (GNP). Reported percentages range for most countries from 2.6 to 3.8 % (with a wide variety of cost factors included). The figure for the United Kingdom is estimated between 1 and 2 percent if costs for pain and suffering are left out.

Another group of Member States presented data on specific cost categories. Estimations were therefore, for purposes of this project, based on total reported cost data as a proportion of GNP. Percentages ranged from 0.4 to 4.0.

It must be emphasised that for both groups it is difficult to make strict comparisons between Member States at present. The information provided did not always provide sufficient insight into the way the calculations were carried out, what

data were used and which cost factors were included or excluded.

The methods of estimation vary too greatly to permit strict comparison between Member States. Nonetheless, it is believed that the range of indications of the costs of work-related risks gives an approximation of the real costs involved.

## Question

### What were the results of these estimates?<sup>1</sup>

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>➔ an employee organisation estimates economy losses of at least ECU 2.2 billion (a year) and company losses of about ECU 0.4 billion at least due to occupational accidents</li> <li>➔ indirect estimation 1.4% of GNP</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>➔ direct costs of occupational accidents amount to ECU 750 billion. Including indirect costs the figure is ECU 3 billion</li> <li>➔ direct costs of occupational diseases are ECU 375 million, sick leave adds ECU 250 million (total: ECU 625 million)</li> <li>➔ indirect estimation 2.3% of GNP</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>➔ the total figure for the social costs of work-related diseases and work accidents is ECU 3 billion per year (1992 level), which is 2.7% of GNP</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>➔ the economic calculation from the year 1994 reveals about ECU 3.1 billion, which accounts for almost 3.8% of Finnish GNP; costs can be broken down by diagnosis categories</li> <li>➔ new calculations made by the Ministry indicate that the costs have decreased while GNP has increased</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>➔ results are only available for insurance costs</li> <li>➔ statistics available only covered private sector employees</li> <li>➔ insurance costs of work accidents and work-related diseases are about ECU 7 billion (FRF 44 billion)</li> <li>➔ indirect estimation 0.6% of GNP</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>➔ the sum total of all days lost on account of unfitness for work reflects the production loss from the production factor labour and amounted to ECU 45 billion in 1995</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>➔ the annual results fluctuate</li> <li>➔ no direct link to occupational safety and health because of other interfering factors</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>➔ costs of claims in 1996: ECU 184 million due to accidents or health risks</li> <li>➔ indirect estimation 0.4% of GNP</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>➔ total cost of accidents and occupational illnesses to public purse in 1996 amounted to ECU 28 billion, broken down as ECU 4.6 billion due to occupational diseases and the remainder to accidents</li> <li>➔ indirect estimation 3.2% of GNP</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>➔ costs of work-related illness and work accidents amounted to ECU 86 million</li> <li>➔ damage is globally estimated at ECU 172-344 million (1.3% - 2.5% of GNP)</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>➔ total costs of work-related health risks are about ECU 7.5 billion (2.6% of GNP)</li> <li>➔ costs of sick leave and invalidity: 4.9 billion, health care 0.6 billion; costs of preventive actions: 1.6 billion, other costs 0.5 billion (ECU)</li> <li>➔ estimates of cost to employers, workers and society are not made</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>➔ the direct costs arising from work accidents amounted to ECU 0.3 billion; the social security costs of compensation for occupational illness were of the order of ECU 30 million</li> <li>➔ indirect estimation 0.4% of GNP</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>➔ most recent estimates of the total costs of occupational accidents and illnesses suggest a little bit less than 3% of GNP</li> <li>➔ these costs have shown a downward trend since 1992</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>➔ the total annual costs of reported injuries is ECU 7.2 billion (approximately 3-4% of GNP)</li> <li>➔ another calculation has been made showing annual costs of about ECU 0.6 billion for allergic diseases of the upper respiratory passages</li> <li>➔ indirect estimation 4.0% of GNP</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>➔ in 1990 the costs were: <ul style="list-style-type: none"> <li>- to employers: ECU 6.3-12.6 billion;</li> <li>- to victims/family: ECU 6.3 billion;</li> <li>- to economy: ECU 8.4-16.8 billion (1-2% national output);</li> <li>- additional sum for pain, grief and suffering: ECU 15.4 - 22.4 billion</li> </ul> </li> <li>➔ indirect estimation 1.1% of GNP<sup>2</sup></li> </ul>

<sup>1</sup> Exchange rate and GNP of year mentioned by Member State. If no year was provided 1995 was taken as base year (data source: Eurostat, Facts through figures, 1997).

<sup>2</sup> Low estimate: pain, grief and suffering excluded.

# 7

## INSTRUMENTS WITH WHICH ENTERPRISES CAN ESTIMATE COSTS AND BENEFITS

### *7.1 Instruments for use by enterprises*

In Chapter 6 estimates were presented regarding the costs of work-related health risks as a percentage of GNP. For individual enterprises such a concept is too difficult to work with. For them it is more important to know if specific investment in OSH measures will reduce their costs or give them a competitive advantage, for example as a result of less sick leave or fewer accidents at work. For this purpose there is a need for instruments that can help enterprises to address these questions.

From the table it can be concluded that in most Member States instruments exist or are being developed that help enterprises evaluate the costs and benefits of measures. These instruments are often developed with the support of national administrations or insurance funds.

In most Member States the private or public insurance companies return company figures to the enterprises. On the basis of these figures enterprises can calculate their OSH risks. Such an approach is especially useful for large companies



because of its global nature. Estimates of the costs to small and medium-sized enterprises can be unreliable, as large incidents or injuries to a few employees may have a large impact in relative terms.

On the basis of statistics returned by insurance companies, enterprises can estimate the benefits of investments in preventive actions. However, this method is not part of the national policy of most Member States, though governments, insurance companies and employers' and employees' organisations consider it to be a positive development.

Here too there is a problem in relation to small and medium-sized enterprises. These enterprises mostly lack the financial and personnel resources to apply these methods appropriately. Easily accessible and applicable methods are being developed for these sectors in some Member States (Austria, Finland). Large firms often have the resources to develop these methods themselves or have the funds to hire private consultancies to do it for them.

## Question

**To what extent do instruments exist which enterprises can use to calculate the impact of occupational safety and health measures themselves?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>in 1996 a booklet with a diskette was published by the Wirtschaftsförderungsinstitut, to enable individual entrepreneurs to draw up a CBA for OSH measures</li> <li>AUVA offers companies a programme for calculating the costs of accidents and has developed models for cost-benefit analysis for specific issues</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>one instrument used to calculate a measure's impact is based on general and analytical accounting and examination of companies' annual accounts</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>models have been published which focus on easy to quantify components, i.e. sick leave, personnel turnover costs, costs of preventive activities and safety-related education or instruction programmes</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>enterprises are offered different kinds of instruments</li> <li>instruments developed by the Ministry include calculating costs of sick leave, accidents, staff turnover and disability pensions in connection with OSH</li> <li>there are also models to deal with productivity effects</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>no general method exists in France, though recently evaluation instruments have been developed, particularly for small and medium-sized enterprises</li> <li>the social insurance system enables large enterprises to calculate the impact of OSH indirectly</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>instruments for CBA of an enterprise's OSH measures have been developed and tested (e.g. extended economic efficiency calculations, micro-economic monitoring, efficiency monitoring procedures for the total OSH system).</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>enterprises have their own approaches for calculating the impact</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>companies can calculate the impact of occupational safety and health measures by examining their claims and costs year on year</li> <li>problems with this method arise when one large personal injury in a company distorts the figures of that company</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>no national models exist</li> <li>continuous and sophisticated monitoring of costs is considered fundamental</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>no national models exist</li> <li>enterprise models will be assessed in 1998</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>a model for the calculation of costs and prevention of sick leave has been developed</li> <li>a micro simulation model for estimating OSH risks with and without preventive improvements has been developed. Measures such as improved productivity are included</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>large firms with over 100 workers are required by law to produce a yearly social balance which is sent to the Ministry of Labour</li> <li>the social balance sheet has to include reports on accidents, occupational illness, absenteeism, the costs of spending on safety equipment, direct social costs and indirect social costs</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>Spanish firms, specially the large ones, use different methods, usually involving a comparison of costs of preventive measures with costs incurred as a result of occupational accidents</li> <li>costs of preventive measures are easily identified in the enterprises' accounts and include investments as well as expenditure on safety personnel, external consultancy services, training, etc.</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>a number of instruments have been developed for this purpose by, for instance, Stockholm University and the Joint Industrial Safety Council</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>a leaflet for small firms, and a more detailed booklet, set out ideas for calculating the costs of accidents and ill health</li> <li>material has also been published by the Trades Union Council on the costs of musculo-skeletal disorders</li> </ul>



## *7.2 Use of instruments*

No quantitative data is available in the Member States about the extent to which these instruments are used to calculate the impact of risks and OSH measures. However, several Member States report the impression that the use of these instruments is growing. This impression is mostly based on the simple fact that in these countries instruments for Cost-Benefits Analysis have been developed in recent years

One problem which was identified is the lack of resources in small and medium-sized enterprises. However, it is also recognised that in large firms, mostly in high hazard industries, methods are used in a more structured basis.

## Question

### To what extent are instruments used by enterprises to calculate the impact of occupational safety and health measures?

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>the booklet published by the "Wirtschaftsförderungsinstitut" has been well received in large companies and has also been used</li> <li>small and medium-sized enterprises tend to make less use of this instrument owing to their limited resources in terms of personnel and time</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>the instrument used to calculate a measure's impact is based on general and analytical accounting and examination of companies' annual accounts</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>use of "OSH accounting" systems has increased during the last 5 years, especially in municipalities and local government institutions</li> <li>in the private sector, some of the major Danish companies have included OSH indicators in their annual "environmental accounts"</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>there is no precise information about the numbers of users of the different models</li> <li>some large enterprises have themselves developed models</li> <li>interest of OSH economics has risen, and the use and number of instruments has increased</li> <li>the aim of models is to improve the total productivity, not only minimising costs to enterprises</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>as a result of a modification of the insurance rules of CNAM, an indirect evaluation instrument has been developed to assess the impact of measures taken in the field of OSH; however, only large enterprises benefit from this model</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>to promote their use and application there are plans to present them at the German OSH Exhibition and through software distribution</li> <li>such instruments are only used and tested by big enterprises and in the framework of research projects or subsidised programmes</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>in several cases enterprises have asked for contributions from universities or scientific institutions</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>many larger companies evaluate OSH measures as part of their cost control procedures</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>large companies use their own methods or look at the experiences of other countries</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>large companies use their own methods</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>the model for the calculation of costs and the prevention of sick leave is used by professionals, for example the occupational safety and health services.</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>large firms with over 100 workers (about two thousand, employing about 800,000 workers) are required by law to produce a yearly social balance which is sent to the Ministry of Labour</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>the real concern of enterprises is to know the trends in costs over time, which means that the same assessment method needs always to be used; reductions in costs due to the introduction of preventive measures can only be assessed if the calculation method stays the same</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>to some extent</li> <li>attempts are being made to establish incentives for calculating the impact of OSH measures</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>firms in some high hazard industries use sophisticated techniques to judge whether particular safety measures are worth implementing</li> <li>these have acquired substantial expertise in financial appraisal and quantified risk assessment</li> <li>HSE's experience is that the use of safety appraisals in the high hazard industries is increasing</li> </ul>

## Part 3. **USE OF FINANCIAL INCENTIVES**



# 8

## SUBSIDIES

So far attention has been devoted to considerations regarding the costs and benefits of OSH measures and assessment of the economic impact of OSH. Another issue is the direct application of financial incentives themselves in order to promote prevention measures. Three main categories of financial incentive can be distinguished:

- subsidies;
- penalties or fines as part of enforcement;
- incentives in social insurance schemes.

### *8.1 Prevalence of subsidies*

Subsidies for individual enterprises can be used to reduce the costs of investments in preventive OSH measures, thereby promoting the development, sale or purchase of these measures. The creation and application of subsidies can be organised:

- directly by national authorities;
- by national OSH institutions etc.;
- via funds set up by public authorities or insurance organisations.

In the Netherlands and Portugal specific tax measures are taken to encourage OSH investments. The aims of these incentives are for instance to promote improvements in the working environment, the development of technical solutions and better levels of protection and, more indirectly, the modernisation of firms, the use of safe and clean technologies and the use of low risk technologies and work equipment.

In most Member States there are a wide range of activities subsidised by national institutes and other intermediary organisations (France, Germany). These include measures such as providing information, providing technical assistance, organising training activities and activities to promote compliance with the regulations.

In a number of Member States funds exist that aim to support a broad range of prevention activities. In some cases there are programmes to facilitate the removal of specific negative working conditions (Denmark). In some countries (Spain) positive incentives are planned specifically in the promotion of OSH development in small and medium-sized enterprises.

It can be concluded that incentives are usually provided by reducing the costs of technical support or the establishment of subsidy programmes. Relatively little use has been made so far of tax-

based measures. However, all in all, positive incentives to encourage the development, sale or purchase of safe and healthy products, production methods, work organisation, machines, etc. exist in a majority of Member States.

## Question

**To what extent do investment subsidies exist to promote the development, sale or purchase of safe and healthy products, production methods, work organisation, machines, etc.?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>the statutory accident insurance bodies are unable to grant subsidies or sponsorship of this kind</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>promotion of safety and health is not subsidised</li> <li>a fund for the humanisation of work existed at the beginning of the eighties. It financed projects in enterprises going further than strict application of the regulations, but the project was not pursued further</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>the "Fund for monotonous repetitive work" supports development projects aimed at removing or reducing monotonous repetitive work which is hazardous to health</li> <li>various appropriations for the financial years 1996-2000 exist covering: lifting of persons, rehabilitation and job enrichment and organisation development</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>different kinds of subsidies are available. Most significant financier is TSR, separate research funds for state employment and agriculture. Also Ministry of Trade and Industry grants subsidies</li> <li>enterprises are supported through programmes for working life and productivity</li> <li>the TDC finances the development of production methods</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>two types of technical assistance are offered by CRAMs and by ANACT: (part of the Labour Ministry)</li> <li>CRAMs also provide financial assistance in form of refunds, loans and grants</li> <li>subsidies within the FACT exist for innovative operations</li> <li>support via CRAMs and ANACT has increased slightly in the last few years</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>in several "Länder" special programmes regarding safety and health at work finance pilot projects in small and medium-sized enterprises</li> <li>by using low-risk technologies and work equipment and/or humane work organisation these projects improve both OSH and the economic efficiency of the enterprises</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>there is a policy to support investments for the improvement of safety and health conditions through national and community resources</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>there are no such subsidies available</li> <li>there are a range of state programmes aimed at improving quality management and work methods in enterprises which impact on OSH</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>some measures exist at regional level</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>training activities are organised by the AAA</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>agricultural enterprises were able to receive temporary financial support for OSH investments in 1996 and 1997</li> <li>a recently introduced tax regulation (FARBO) encourages enterprises to invest in certain aspects of OSH</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>tax concessions for firms making the investments listed. Support for modernisation of firms from the Community Support Framework for Portugal (up to 1999)</li> <li>these programmes include specific measures: support for the development of safety at work, use of safe and clean technologies or the promotion of occupational training</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>Spanish Act on Prevention of Risks at Work says that a foundation to promote the improvement of OSH will be set up</li> <li>this Act makes it possible to grant financial incentives to SMEs to promote improvements in OSH</li> <li>some autonomous communities also have grants for specific programmes and intend to continue with this in the future</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>in Sweden substantial resources are devoted to the working environment and working life issues</li> <li>both the former Working Environment Fund and the former Working Life Fund had considerable resources (the Working Life Fund SEK 11 billion and 25,000 projects)</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>there are no such subsidy programmes in the UK</li> </ul>



## *8.2 Effects of subsidies and future developments*

Subsidies for promoting investment in measures to improve occupational safety and health exist in a majority of Member States. In some, such financial arrangements are a relative new instrument; others have a long-standing tradition of subsidising OSH prevention measures.

The results from this survey show that the effects of measures undertaken as a result of subsidies are occasionally evaluated in only a few Member States (Germany, the Netherlands and Denmark). For some countries subsidised projects are relatively new and have not yet been evaluated. In the countries where these projects have existed for a longer period, they were found to have a positive effect, for instance improving working conditions and the working situation and leading to the development of new products made using low-risk technologies and work equipment.

Regarding the future of subsidy arrangements, there seems to be a number of different trends in Europe. In some Member States subsidy funds are under pressure, while in others (Finland, the Netherlands, Spain) new measures are being introduced.

## Question

**What has been the effect of these measures? Is this financial support likely to continue or change in the near future?**

<p><b>Austria</b></p>	<p><b>Belgium</b></p>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>↳ the arrangements are quite recent and have not been evaluated yet</li> <li>↳ the appropriations are given for a limited time, and were not designed as permanent measures</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>↳ most subsidies had a significant impact on the working community involved</li> <li>↳ the aim of some subsidies is also to disseminate the experience gained from projects</li> <li>↳ the amount of subsidies paid to enterprises has been increased recently</li> <li>↳ emphasis is often on projects that have an impact on workers welfare</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>↳ it is made easier for enterprises to take measures to improve working conditions by technical and organisational modernisation</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>↳ OSH improved</li> <li>↳ improved production methods and development of new products secured jobs</li> <li>↳ decision to continue programmes is responsibility of federal "Länder"</li> <li>↳ it is to be expected that the financial support will be reduced</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>↳ significant response from enterprises with positive results for OSH</li> <li>↳ subsidy projects will continue</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>↳ no specific programme of subsidies in place</li> <li>↳ general modernisation of working methods and plant etc has improved OSH within enterprises</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>↳ not yet assessable</li> <li>↳ probably it will be increased by the Ministry of Industry</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>↳ no financial support exists</li> <li>↳ no assessment of the effects</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>↳ the measures taken are relatively new; no effects are known yet.</li> <li>↳ in the past technological subsidies promoted the development of new OSH friendly machines</li> <li>↳ tax regulation and subsidies for technological improvements are expected to be continued</li> </ul>	<p><b>Portugal</b></p>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>↳ the foundation to promote the improvement of safety and health at work has not yet been set up and therefore it is impossible to assess the impact of the measures</li> <li>↳ some autonomous communities intend to continue the financial support in the future</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>↳ results have been positive</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>↳ not applicable</li> </ul>



## 9 FINANCIAL SANCTIONS AS PART OF ENFORCEMENT

In Chapter 8 subsidies were described as a financial tool that could promote OSH prevention measures. Another type of financial incentive to persuade enterprises to undertake OSH measures is by means of financial penalties (here defined as a financial sanction imposed by a court) and administrative fines (here defined as a financial sanction imposed directly by inspectorates) in enforcement practices.

### *9.1 Financial penalties or administrative fines*

There are two ways to apply financial sanctions. Enforcement authorities can bring violations of law to court. However, they have a “conservative” attitude toward using this approach, as it involves uncertainty about the chances of success and the time scale involved. Further, it seems that rather different levels of fines exist in the case of violations of the law. Some Member States adhere to the principle that the violation involved must not be profitable, and savings made by the employer prior to the violation are taken into account when sentence is passed.

Another approach involves administrations themselves imposing financial sanctions (administrative fines). This can lead to a more intensive use of such instruments. If violations are rectified or measures taken, lower fines (if any) may be imposed. However, fines can be higher in the case of repeated infringements. Differences exist between the Member States in the way these administrative fines are imposed.

From the replies of the Member States as summarised in the table it is clear that they have well-developed systems for the imposition of financial penalties and administrative fines on individual enterprises. Nonetheless, it should be stressed that this does not imply that enforcement focuses only on imposing penalties or fines. Financial sanctions seem to be applied in a moderate way. Compliance with the legislation in enterprises is the main objective of enforcement. Only in a minority of situations are penalties or fines used, and usually only after the efforts of labour inspectorates to encourage compliance in other ways have failed.

## Question

### To what extent are financial penalties and administrative fines used in the enforcement of legislation?

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>penalties exist for administrative infringements on the part of employers and employees</li> <li>they exist also for persons operating safety centres or industrial medical centres</li> <li>penalties are higher in case of repeated infringements (amounts are specified)</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>administrative fines can result from action by the labour inspectorate</li> <li>penal sanctions fall within the jurisdiction of the courts, which fix the sum of any fines</li> <li>where the public prosecutor's office refrains from initiating prosecution, an administrative fine may be levied</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>in 1996 DWES recommended that the prosecution authorities bring charges against 447 enterprises or individuals</li> <li>proposed penalty depends on risk involved and seriousness of violation. Basic principle is that violations of legislation must not be profitable</li> <li>usually, the penalty proposed is about ECU 1300</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>penalties for labour offences are based on the criminal code</li> <li>the penal scale is from day-fine to imprisonment for not more than 1 year. Pecuniary penalties can also be used for safety offences</li> <li>the OSH administration can use conditional administrative fines in enforcement of OSH</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>financial penalties are imposed by the courts; the size depends on seriousness and number of employees put at risk</li> <li>administrative sanctions, such as suspension of work activities, particularly in the construction sector, also have a significant financial impact</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>in the framework of enforcement of public OSH authorities' orders, administrative fines and prison sentences may be imposed</li> <li>in certain cases it is also possible to seize unlawful profits</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>administrative and penal sanctions are provided for by law; administrative sanctions (fines and stoppages of operations) are imposed by inspectors, mostly in sectors with high risk activities (mainly construction and shipbuilding); penalties (usually imprisonment) are imposed by the courts</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>financial penalties are not often imposed (35 cases in 1996)</li> <li>hazard inspectors may also order suspension of particular work which can also have a significant financial impact</li> <li>injured parties can also secure financial compensation through the civil courts</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>instructions are given to transgressors and reported to the Public Prosecutor; if violation is eliminated, fines are discussed administratively and may be reduced to a certain minimum</li> <li>in 1996 about 15,000 fines out of a total of 38,000 relating to verified violations followed these instruction procedures</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>fines imposed by AAA (up to 10,000 ECU)</li> <li>100% increase of the enterprise premiums for a maximum of 5 years</li> <li>administrative measures are often imposed by labour inspectorates to encourage compliance</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>violation of legislation can be subject to sanctions. Financial penalties are imposed for serious violations</li> <li>mostly agreement is reached on improvement, warnings are given or orders issued. Only in a minority of cases are financial penalties imposed (2,000 involving a total amount of ECU 1.4 to 2.3 million)</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>compliance may be secured through training or the use of penalties</li> <li>penalties may vary according to the seriousness of the offence</li> <li>where there is a serious hazard, Inspectors may also order suspension of working</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>Act on Prevention of Occupational Risks classes infringements depending on nature of obligation</li> <li>fines for infringements may be applied at 3 levels</li> <li>in 1997, more than 22,000 fines were imposed involving a total amount of ECU 43 million</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>some sections in the regulations can lead to penalties</li> <li>civil courts pass judgement on these offences which may result in imprisonment or fines</li> <li>majority of Inspectorate's injunctions may be the subject of subpoenas</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>a financial penalty is the most common penalty imposed by the courts, although other penalties are available</li> <li>people who suffer work injuries or work-related ill health can also secure personal injury compensation through the courts</li> </ul>



## *9.2 Effects of financial sanctions and future developments*

The application of financial sanctions is one of the instruments available to the authorities to encourage improvements in occupational safety and health. Despite the fact that well developed systems for the application of financial sanctions exist, relatively little is known about the precise impact of this type of measure. Most Member States do not know the exact effects of the financial sanctions imposed.

Some Member States (Ireland) indicate that the existing financial sanctions are rather low to act as a serious deterrent, or that their imposition by the courts is too uncertain and long a procedure and therefore inefficient (the Netherlands). Others argue that it is not the financial sanction as such, but the publicity around a court case that seems to have the major impact (Finland, Luxembourg).

Some Member States report that the measures have had a positive effect on the OSH situation. Furthermore, there seems to be a trend towards increasing the level of financial sanctions (the Netherlands, France, the United Kingdom). Other Member States have no plans to increase financial sanctions as they have only recently changed their regulations in this respect (Belgium, Spain, and Denmark).

## Question

**What has been the effect of these measures? Are any changes likely in the extent to which these sanctions are applied or the level of sanctions imposed?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>↳ in the past few years the number of infringements of occupational safety and health regulations identified has tended to decrease</li> <li>↳ there are no current plans to change the existing penalty provisions, although demands for changes are being heard in some quarters</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>↳ the effect of these measures on employers is not known</li> <li>↳ the new law on the welfare of workers at work (1996) increased the penal sanctions. It now covers the employer, his agents or representatives, any outside company, the project supervisor, the client, and sub-contractors, including the self-employed</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>↳ no quantitative data is available</li> <li>↳ penalty provisions were expanded in 1997</li> <li>↳ the main purpose of the amendment is to influence the general level of financial penalties, which it is assumed will increase</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>↳ trials are usually rather efficient mainly because of publicity</li> <li>↳ OSH administration's sanctions make its own activities more effective</li> <li>↳ renewal of criminal code is too recent to evaluate</li> <li>↳ a change is prepared, so that fines can be imposed directly</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>↳ these measures have a deterrent effect</li> <li>↳ a number of penal sanctions have recently been tightened</li> <li>↳ no plans to amend the enforcement procedures are expected</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>↳ the consequence of the measures is that as a rule enterprises comply with law</li> <li>↳ the measures contribute to the fact that in general in German enterprises occupational safety and health provisions are extensively implemented</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>↳ financial penalties have been found to make an important contribution to the implementation of legislation by employers</li> <li>↳ they will continue to be applied with readjustments in the levels of fines every 4-5 years (last readjustment was made in 1994)</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>↳ financial penalties, where applied, are generally low and do not act as a deterrent</li> <li>↳ there appears to be a common view that financial penalties should be increased to the point where they act as deterrent</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>↳ historically fines have been effective as a general psychological deterrent, but this effect cannot be quantified</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>↳ the effects of penalties and fines are limited but positive</li> <li>↳ bad publicity around a court case is efficient</li> <li>↳ the doctrine of courts regarding penalties may change</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>↳ the introduction of an administrative penalty is expected in a planned amendment to the Working Conditions Act. With this additional instrument the Labour Inspectorate will be able to impose fines directly upon the employer</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>↳ existence of penalties encourages risk prevention and the improvement of safety and health conditions</li> <li>↳ it is planned to revise the amounts of the penalties set in the oldest legislation</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>↳ the effect of administrative fines has not been assessed independently of other measures</li> <li>↳ the law on the Prevention of Occupational Risks came into force in 1996 and there is unlikely to be any change in maximum fines in the near future</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>↳ no evaluation has been made so far</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>↳ no evaluations have been carried out</li> <li>↳ there are no plans to increase the maximum fines, but Ministers have expressed the wish to see an increase in the actual level of financial penalties imposed within the existing limits</li> </ul>

# 10

## INCENTIVES IN SOCIAL INSURANCE SCHEMES

So far no explicit reference has been made to the potential role of social insurance schemes (including social security) in relation to occupational safety and health. Attention has focused mainly on the role of direct measures by national or regional authorities. Nonetheless, it should be stressed that social insurance schemes (whether run by public administrations, social partners or private organisations) can play an important role in encouraging improvements in occupational safety and health, especially as they have a direct interest in bringing down the number of occupational diseases and accidents.

In this context Member States were asked to give a short description of the main features of the social insurance system in relation to OSH and to indicate to what extent financial incentives exist within these schemes that improve OSH. Furthermore, Member States were asked about possible future changes in the level of these incentives.

### *10.1 Main features of social insurance system*

In the European Member States social insurance systems deal with the financial consequences of



occupational accidents and diseases for employees. Social insurance for occupational diseases or accidents is often a statutory obligation. This does not necessarily mean that the insurance of occupational injuries is part of a national social security system. In some Member States private insurance companies under public supervision (semi-public) are responsible for these insurances. Some Member States have separate insurance systems for occupational accidents and occupational diseases.

In some Member States (United Kingdom) employees with occupational injuries may also be able to claim compensation through the courts if they can prove that the employer was negligent in meeting their duty of care to the employee.

## Short description of the social insurance system as regards occupational accidents and diseases

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>statutory obligation</li> <li>covers only standard benefits</li> <li>accident insurance is directed at preventive and curative care and compensation</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>dual system: occupational diseases covered by social insurance scheme, occupational accidents covered by private insurance schemes</li> <li>occupational diseases fund is aimed at curative care and compensation</li> <li>compensation is paid and the costs of treatment are reimbursed if one can prove that exposure occurred; if not on the list, victim must prove that disease stems from job</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>most important financial incentive is that employers pay costs of sick leave during first two weeks (private) or full sickness period (public employers)</li> <li>the compulsory system of employer liability insurance for work accidents is a private insurance arrangement</li> <li>compulsory employer liability insurance for occupational diseases is taken care of by a reinsurance body.</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>accident insurance system is obligatory and statutory</li> <li>private insurance companies under public supervision are responsible for accident insurance</li> <li>employees insurance; entrepreneurs and their family members are in general not covered by a obligatory insurance scheme (except farmers)</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>risk for occupational injuries (accidents and diseases) is covered by the national security system</li> <li>the majority of workers are insured by the CNAM</li> <li>it indemnifies injured workers and fixes the rate of insurance contributions paid by enterprises</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>Accident Insurance Funds are corporations under public law and self governed by the social partners</li> <li>accident insurance is structured according to sectors of economy</li> <li>statutory task is to prevent accidents, occupational diseases and work-related health hazards, and to alleviate their consequences</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>compulsory public social security schemes</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>there is a system of compulsory social insurance to which both employers and employees contribute</li> <li>employees who suffer workplace injuries or diseases are eligible for certain social security payments</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>insurance is compulsory and covers all accidents at work, as well as all diseases recognised as directly related to work</li> <li>managed by INAIL, operating under the auspices of the Ministry of Labour</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>managed by the Accident Assurance association (AAA) operating under the auspices of the government</li> <li>obligatory and statutory system</li> <li>employees insurance</li> <li>insurance covers occupational accidents and diseases</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>the social insurance system makes no distinction between sickness and disability due to work related causes or due to other causes</li> <li>employers have to pay the costs of sick leave during the first year of sickness</li> <li>employees' disablement insurance covers sickness and disability for those who have been sick for a period longer than a year</li> <li>medical costs are covered by national or private insurance schemes, depending on income</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>private insurance system against accidents coordinated by the Instituto de Portugal</li> <li>occupational illness comes under the social security system through the National Centre for Protection from Occupational Risks, which is financed through employers' contributions</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>compulsory scheme as part of the social security system</li> <li>usually, insurance is guaranteed by the Mutual Association for Occupational Injuries and Diseases (independent employers' association set up for joint management of liabilities). Sometimes, it is guaranteed by the body responsible for the social-security system</li> <li>insurance aimed at preventive and curative care and compensation</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>work injury insurance is obligatory for all persons gainfully employed and it is financed through social contributions from employers</li> <li>the insurance is co-ordinated with the regular sickness benefit</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>in addition to general disablement benefits, specific benefits are available for people disabled as result of work accidents of suffering from specified occupational diseases</li> <li>compulsory insurance system in which employers are required to take out insurance to cover their liability for injury or ill health suffered by their employees at work</li> </ul>



## 10.2 Incentives in social insurance

Social insurance systems that cover the costs of occupational diseases and accidents, involve substantial financial resources that are collected through contributions from employers and workers.

Levying premiums offers the opportunity to create financial incentives to encourage preventive action in companies. A small majority of the European Member States have mandatory financial incentives built into social insurance schemes. They report a variety of such incentives. The differentiation of premiums for insuring against occupational accidents and diseases or of contributions to the social security system is the most common.

The differentiation in premium or contribution usually depends to some extent on the companies' behaviour or results with regard to occupational safety and health. The indicators that determine the premiums vary. The premium differentiation can be related to the risk level in different sectors or indeed to the risk level or working conditions in individual enterprises. The latter is only the case for larger companies. In some countries, the size of the premiums depends on the degree of compliance with the regulations, whilst in others it

is the extent to which appropriate safety and health measures are implemented that is decisive.

In some Member States social insurance systems include, besides the above-mentioned differentiation in premiums or contributions, other tools to encourage companies to improve safety and health at work; these include:

- advances or grants for preventive action;
- partial compensation for employers for the costs of an occupational health service;
- obligation to pay the costs of periods of absence on account of illness;
- reclamation of costs in case of gross negligence by the employer.

In general the Member States do not foresee any major changes in the level or nature of these incentives. However, there seems to be a trend towards greater differentiation of premiums for insuring against occupational accidents and diseases. In Sweden the introduction of financial incentives is the subject of debate.

## Question

**To what extent do financial incentives exist in social insurance schemes to improve occupational safety and health? Do you foresee changes in either the incidence or the level of these incentives?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>the social insurance institutions may take action to recover from the employer social insurance benefits paid in the case of industrial accidents or occupational diseases, in cases of gross negligence or wilful provocation</li> <li>no changes are foreseen</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>the Occupational Disease Fund does not include financial incentives</li> <li>no changes are expected in the Occupational Disease Fund's policy on prevention. However, varying contributions to the Fund according to an enterprise's efforts on prevention is a possibility</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>neither social insurance schemes nor social benefit systems contain specific financial incentives</li> <li>most important financial incentive is that employers pay costs of sick leave during first two weeks (private) or full sickness period (public employers)</li> <li>no changes are expected</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>compensation to employers for costs of occupational health service</li> <li>accident insurance schemes include incentives for large companies, special tariff systems where premiums are based on accidents</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>CRAMs provide financial incentives for SMEs in the form of advances or grants</li> <li>no substantial changes are expected</li> <li>larger enterprises can benefit from refunds on their insurance contributions if they take measures to improve OSH</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>contribution reflects the difference in extent and costs of accident prevention in individual company</li> <li>an additional system involving the imposition of supplements on or the granting of discounts to the insured company rewards effort put into OSH measures</li> <li>incentives are reviewed regularly and adjusted to risk tariff</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>IKA imposes an occupational risk contribution on employers which is related to OSH standards in the enterprise</li> <li>this incentive has not been successful so far</li> <li>new incentives are under investigation</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>there are no specific incentives in the social insurance schemes</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>the premium paid by employers to INAIL is calculated on the basis of the total amount of salaries, at a variable rate depending on specific risks</li> <li>INAIL introduced 3 kinds of incentives: rate differentiation, SMEs' premium and building sector premium</li> <li>rate differentiation depends on the application in full of prevention regulations</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>no incentive exists</li> <li>levying of premiums by risk sectors offers a kind of financial incentive</li> <li>more company- oriented levying is under discussion</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>employers pay at least 70% of the wages during first year of sick leave but can insure against this. Premium is based on the level of sick leave</li> <li>after first year Disablement Benefits Act insurance covers sickness and disability. Premium related to number of disabled persons who left company in last five years</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>financial incentives to improve occupational safety and health do not exist in the Portuguese social insurance schemes</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>insurance may be reduced by up to 10% if effective preventive measures are used or raised by up to 20% for enterprises that fail to comply</li> <li>the amount of benefit payable will be increased by 30-50% when the injury or illness is the result of failure to comply</li> <li>changes are foreseen from 1998</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>no financial incentives exist in the social insurance schemes</li> <li>financial incentives are the subject of debate</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>there are no financial incentives in the UK social security system. Compensation is paid by the state from general taxation</li> </ul>



### 10.3 Private insurance schemes

European Member States not only have mandatory social insurance schemes, but sometimes also voluntary private insurance schemes that include financial incentives to encourage companies to improve the level of occupational safety and health. The most important incentives used in private insurance schemes are:

- differentiation of premiums for insuring the costs of, for example, sick leave and medical treatment that are related to occupational accidents and diseases;
- differentiation of premiums for insuring against claims of employees against their employer in the case of occupational accidents and diseases.

The scope for financial incentives provided by private insurance schemes to improve safety and health is limited. In most cases, especially for smaller firms, the cost of insurance is related to sector-wide experience of claims rather than assessment of the effectiveness of the individual firm's safety and health performance.

There is more scope for private insurers to offer incentives to large employers who operate risk management systems recognised by the insurer. For other - smaller - companies, however,

insurance premiums often take account only of the risks involved and pay almost no attention to a company's prevention efforts. Moreover, since the cost of insurance is linked to market forces, incentives linked to safety and health performance tend to be overshadowed by fluctuations in costs caused by market conditions.

Although there is a trend in some Member States towards more flexible insurance premiums, not many changes are expected in either the level or the incidence of these financial incentives in private insurance schemes.

## Question

**To what extent do financial incentives exist in private insurance schemes in order to improve safety and health? Do you foresee changes in either the incidence or the level of these incentives?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>not known if there are financial incentives in private insurance schemes specifically geared to occupational safety and health measures</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>good results concerning occupational accidents are taken into account by insurers. Premiums may vary by up to 15%</li> <li>premiums for small firms do not vary much</li> <li>there is a trend towards taking into account the risks involved and a company's prevention efforts</li> </ul>	<p><b>Denmark</b></p>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>private insurance schemes do not include features that affect OSH</li> <li>no changes in prevailing practices are expected in the near future</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>the risk of occupational injuries (accidents and diseases) is covered by the national social security system and not by private insurance schemes</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>companies are obliged to join a statutory accident insurance scheme. Private accident insurance schemes do not use financial incentives to try and improve occupational safety and health in companies</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>private insurance organisations usually take into account the treatment of OSH matters by the insured enterprise, as well as results relating to the insurance subject (e.g. progress of accidents)</li> <li>no data available on future developments</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>financial incentives exist to the extent that claims costs are linked to premium levels.</li> <li>pilot scheme has been developed whereby certain new SMEs which agree to undertake an approved course in OSH and subsequently put in place an appropriate Safety Management system are then offered reduced insurance premiums</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>no financial incentives or rate discounts</li> <li>the premium is fixed on the basis of the concrete risk being covered</li> <li>the adoption of safety and health measures can be a factor in the application of a more favourable premium</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>enterprises must by law affiliate to the AAA</li> <li>no private insurance schemes exist</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>insurers determine the premium for insurance against payment of sick leave in the company</li> <li>companies can also choose to pay the costs of sick leave themselves or to insure only part of the costs</li> <li>further changes are not expected</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>introduction of premiums graduated according to the risk of work accidents within the firm in 1998</li> <li>premiums will be assessed by reference to the activity pursued and the conditions of prevention at the workplace</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>the risk of occupational accidents and diseases is not covered by private insurance schemes</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>no financial incentives exist</li> <li>private insurance systems do not include features that affect safety and health</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>scope for financial incentives within insurance is very limited</li> <li>especially for smaller firms, the cost of insurance is related to historical or sector-wide experience of claims</li> </ul>

# 11

## SELECTING CONTRACTORS ON BASIS OF OSH CRITERIA

A rather new and somewhat different approach is to promote occupational safety and health in enterprises by selecting contractors or suppliers of products, goods and services on the basis of their performance regarding safety and health at work. In the context of this project Member States were asked whether public organisations (at national, regional or local level) - acting in their capacity as private organisations - select contractors or suppliers on the basis of OSH criteria.

The results of this survey show that many Member States have some experience in this regard.

Sometimes a legalistic approach is taken in which public organisations requires the contractor to comply with OSH legislation. In some Member States there is specific legislation to prohibit public organisations from awarding contracts to anyone who has been found guilty of offences concerning safety and health at work (Spain). Sometimes the specifications for public contracts impose the obligation to comply with safety and health regulations during the execution of works. In other Member States, it is left up to the discretion (or initiative) of the public organisations in question to take account of contractors' safety and health performance.



Public organisations, in their capacity as private organisations, may also require OSH standards that go beyond the minimum set by regulations or demand specific initiatives that support the practical implementation of OSH at the workplace - for example training programmes or campaigns (the Netherlands).

There are several reasons why it can be considered important for contractors' safety and health performance to be taken into consideration in awarding contracts.

Firstly, public organisations (national and local) - acting as private organisations - can contract out substantial amounts of work. Contracts between public organisations and contractors can be relatively big or the kind of work/service required rather specific. It can create an incentive to have good safety and health performance in certain sectors. Secondly, contracting good companies may function as an example of good working practice for others.

## Question

**To what extent do public organisations - acting as private organisations - select contractors on the basis of safety and health standards in the purchase of goods and services?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>in some individual cases the parties to a contract are obliged to comply with the relevant occupational safety and health regulations</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>procurement procedures govern the purchase of work equipment and personal/collective protection equipment in the public sector</li> <li>principal employer must reject sub-contractors whom he knows to have a poor safety and health record</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>OSH variables are included in purchasing policy guides for state and local authorities, mostly with respect to products</li> <li>quantitative data on the conditions imposed are not available</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>it is not common to impose such conditions</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>contractors must comply with welfare regulations. These include occupational safety and health</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>whenever public authorities award contracts, the contract includes binding preconditions that statutory provisions, including OSH regulations, have to be complied with</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>all authorities impose conditions concerning OSH</li> <li>contracts are strictly implemented in the case of the purchase of goods or services for which certain requirements or standards are provided for by legislation (e.g. construction, equipment, etc.)</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>some organisations request a copy of the supplier's safety statement before purchasing services/goods</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>the legislation in force requires that tender forms stipulate that safety regulations must be respected in accordance with the European Directives</li> <li>a national association (ITACA) was recently founded to define and develop transparent administrative procedures of high quality in public tenders</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>the AAA imposes its own accident prevention rules on contractors</li> <li>large companies impose their OSH standards on contractors</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>several examples exist where authorities as private organisations impose conditions on contractors about safety and health standards for the purchase of goods and services, for example regarding cleaning services and dredging</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>all authority bodies must comply with the specific legislation covering public-works schemes and the acquisition of goods or services</li> <li>for products, these must guarantee a range of technical safety specifications in accordance with European or national standards</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>public administrations are prohibited from awarding contracts to anyone who has been found guilty of offences concerning OSH. The specifications for public contracts lay down obligation to comply with OSH regulations during the execution of works</li> <li>products offered to public administrations must comply with safety specifications</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>it is not common to impose such conditions</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>all businesses, including local authorities, have certain responsibilities for the actions of their contractors under safety and health legislation. How authorities seek to influence contractors is largely a matter for the individual authority</li> </ul>

# Part 4. EUROPEAN LEVEL

# 12

## INITIATIVES AT EUROPEAN LEVEL

Member States were asked which initiatives could be undertaken at European level regarding the economic aspects of occupational safety and health.

According to most Member States, there is a need for exchanges of information about estimating the cost and benefits of measures taken by national administrations. This is seen as helpful, and should in the view of some countries be more strongly pursued. In particular, economic assessments of EU directives, information at the macro level and studies of specific measures were mentioned.

With regard to methodology development at national level, it is the view of many Member States that a methodology is needed that would make it possible to assess the impact of applying EU directives using common factors that would allow for comparisons. Finland recommended further harmonisation of statistics between the Member States, such as the quantification of the incidence of work-related sickness. These data were mentioned as basic preconditions for subsequent economic analysis and for assessing the costs and benefits of current or proposed European Directives. At the moment, any estimation of



comparable European figures is both difficult and laborious.

Development of methodology or instruments to be used at company level is suggested by a number of countries. Some Member States (Italy, the Netherlands) stressed the importance of simple models for cost-benefit analysis, also to be used by SMEs in their day-to-day practice. These practical and simple methods should explicitly address benefits other than the reduction of sick leave, such as productivity, product/service quality and competitiveness. Methods and instruments in this area would be less influenced by national legislation and could be disseminated more easily. Greece suggested that the social partners should be involved, in order to add their own figures, views and experiences, in any future activity affecting economic aspects at European level.

In addition to methodology development (for both national and company levels), a wide range of different suggestions were made for initiatives to be taken at the European level, such as:

- evaluation of measures with respect to productivity and competitiveness;
- guidelines for homogeneous indicators, improvement of comparability;
- database of measures, costs and effectiveness;

— pilot projects, research

— exchange of successful methods and examples.

The dissemination of information on financial incentives is supported by most Member States. Some Member States suggest more research and dissemination of empirical evidence of the effectiveness of insurance-based incentive systems.

The SHAPE project will also produce relevant information on methodologies. This project - financed by the European Commission - is intended to develop and test methodologies for occupational safety and health cost-benefit analyses.

**TABLE. OVERVIEW OF INITIATIVES AT EUROPEAN LEVEL SUGGESTED BY MEMBER STATES**

	AU	BE	DK	FI	FR	GE	GR	IR	IT	LUX	NL	PT	ES	SW	UK
Estimates regarding EU directives and dissemination thereof	●		●	●	●	●							●		●
Dissemination of estimates and data at national level	●			●	●	●	●		●			●	●		●
Development and experiences of methodologies (macro level)					●	●			●	●					●
Harmonisation of data, improvement of comparability				●					●	●			●		●
Development and comparison of methods instruments for companies			●	●	●	●			●			●			●
Dissemination of good examples, pilot projects, databases				●	●		●		●	●	●		●	●	●
Information on case studies, dissemination to SMEs									●		●				
Estimate of benefits, effects on productivity and quality		●	●	●					●	●		●			
Effectiveness, efficiency indicators				●		●									
Economic incentives	●			●	●										●
Research projects					●			●	●						●

## Question

**Which initiatives could be undertaken at European level regarding exchanges of information about estimating the cost and benefits of measures taken by national administrations?**

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>it is not possible for estimates of this kind to be carried out. At best, they would lead to the provision of misleading information, an exchange of information appears unnecessary</li> </ul>	<p><b>Belgium</b></p>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>the EU Commission could disseminate the final documents on the impact assessment of EU directives</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>all analyses of impacts should be easily available</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>exchange of information between national administrations may be helpful (statistical surveys, methodological experiments, etc.)</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>exchanges of information on these issues should be more strongly pursued</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>dissemination and exchange of information among national administrations with examples and comments (either through documents, the Internet or visit programmes)</li> <li>collection of data, views and suggestions from the social partners and from the social security organisations</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>there appears to be very little information available on the above costs/benefits. Perhaps funding for research should be made available</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>the dissemination of information to SMEs, using simple language, first of all through the European Agency Network, but also directly through the INAIL and the Chambers of Commerce INFO Centres</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>the SHAPE project of NIA TNO commissioned by DG-V could be used for this purpose</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>the dissemination of information on case material seems particularly valuable. This information can be of educational value. Obtaining sufficient case material is extremely expensive. Samples of the available international knowledge could be useful</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>initiatives contributing to the exchange and dissemination of information on cost-benefit analysis are of great importance, both for administrations and for companies</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>promoting the provision of maximum information on the experiences of national administrations as regards estimating the cost and benefits of public measures</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>dissemination of estimates and data at national level</li> <li>more information and analysis of the impact of economic incentives on OSH</li> <li>increased exchange of experience using different methods and models</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>information on specific studies designed to assess the costs and benefits of measures may be helpful</li> <li>experience with methodology and results could be more widely shared.</li> <li>activity on the costs of poor safety and health should concentrate, in the short to medium term, on the dissemination of national studies</li> </ul>

## Question

### Which initiatives could be undertaken at the European Level regarding the calculation of poor OSH and the development and use of methodologies to estimate costs and benefits?

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>↳ calculations of this kind at European level could be useful</li> <li>↳ the meaningfulness of estimates of this kind is limited</li> <li>↳ concrete consequences should be clarified in advance before cost-benefit analyses are developed</li> <li>↳ new methodologies must not result in additional work</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>↳ priority should be given to evaluating how measures affect competition, employment levels, productivity and product quality</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>↳ further developments should focus on the quantification of the incidence of work-related sickness</li> <li>↳ at enterprise level "benefit" components other than sick leave are needed</li> <li>↳ further development of practical and simple methods to include productivity and product/service quality in company-level calculations is needed</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>↳ harmonisation of statistics is a prerequisite for comparability. Economic calculations and comments on these calculations should be easily available</li> <li>↳ methods for calculating and estimating the costs and benefits of OSH should be assessed and developed through European cooperation</li> <li>↳ successful methods should be disseminated</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>↳ use of expert groups is recommended to develop a methodology to evaluate the costs and benefits of safety and health at work within the advisory committee on safety and health at work in Luxembourg</li> <li>↳ pilot projects in enterprises are suggested to test methodologies to estimate these costs and benefits</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>↳ comparison and critical evaluation of appropriate instruments e.g. by setting up a suitable information network</li> <li>↳ European efforts should primarily focus on developing the methodology for estimating the costs and benefits of OSH and describing their advantages</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>↳ dissemination and exchange of information among national administrations with examples and comments (documents, the Internet or visit programmes)</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>↳ there appears to be very little information available on the above costs/benefits. Perhaps funding for research should be made available</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>↳ the preparation of guidelines for the identification of homogeneous indicators to estimate costs and benefits</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>↳ establish EU statistics on the nature and location of injuries</li> <li>↳ evaluate standard sick leave</li> <li>↳ costs of OSH compared to working hours gained (working time minus sick leave losses)</li> </ul>
<p><b>Netherlands</b></p> <ul style="list-style-type: none"> <li>↳ the gathering of periodic estimates on cost and effectiveness at enterprise-level for the different kinds of health risk and the different sectors of industry and sizes of enterprises is recommended</li> <li>↳ database of measures, the costs and effectiveness for certain risks</li> </ul>	<p><b>Portugal</b></p> <ul style="list-style-type: none"> <li>↳ special care should be taken in defining the parameters for estimating benefits</li> </ul>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>↳ developing a methodology that would make it possible to assess the impact of applying EU directives, using common factors that would allow for comparisons</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>↳ a European model should be aimed at</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>↳ at present, any estimation of consistent pan-European figures is likely to be both difficult and resource-intensive. Further work on experience in assessing the costs and benefits of current or proposed European Directives would be especially helpful</li> </ul>

## Question

### Which initiatives would be feasible concerning information about the use of financial incentives or other instruments?

<p><b>Austria</b></p> <ul style="list-style-type: none"> <li>the collection, processing and dissemination of information of this kind could be carried out by the Agency</li> </ul>	<p><b>Belgium</b></p> <ul style="list-style-type: none"> <li>positive towards any European-level initiative in this field</li> </ul>	<p><b>Denmark</b></p> <ul style="list-style-type: none"> <li>more empirical evidence of the effectiveness of insurance-based incentive schemes</li> </ul>	<p><b>Finland</b></p> <ul style="list-style-type: none"> <li>research on incentives used at present; study their significance more thoroughly and widely</li> <li>comparative studies of the economic impacts of different kinds of measures</li> <li>a study of the interaction between working conditions and productivity could be conducted on a cooperative basis</li> </ul>	<p><b>France</b></p> <ul style="list-style-type: none"> <li>open to development European projects such as SHAPE on the basis of evaluations discussed within the Advisory Committee in Luxembourg</li> </ul>
<p><b>Germany</b></p> <ul style="list-style-type: none"> <li>the development of overall economic efficiency indicators should be considered; for this purpose, safety and health information should be increasingly combined with economic data (e.g. periods of unfitnes for work in relation to production)</li> </ul>	<p><b>Greece</b></p> <ul style="list-style-type: none"> <li>dissemination and exchange of information among national administrations with examples and comments (either through documents, the Internet or visit programmes)</li> </ul>	<p><b>Ireland</b></p> <ul style="list-style-type: none"> <li>there appears to be very little information available on the above costs/benefits. Perhaps funding for research should be made available</li> </ul>	<p><b>Italy</b></p> <ul style="list-style-type: none"> <li>the identification of all European financial sources directly or indirectly supporting and developing occupational safety and health (research, education, structural funds)</li> </ul>	<p><b>Luxembourg</b></p> <ul style="list-style-type: none"> <li>the (existing) SHAPE project is of importance</li> <li>dissemination of information through the Agency's network</li> </ul>
<p><b>Netherlands</b></p>	<p><b>Portugal</b></p>	<p><b>Spain</b></p> <ul style="list-style-type: none"> <li>promoting the provision of information on the practices employed by enterprises to calculate the impact of preventive measures on their financial results</li> </ul>	<p><b>Sweden</b></p> <ul style="list-style-type: none"> <li>sharing of the results of studies on financial incentives and their impact on OSH</li> </ul>	<p><b>United Kingdom</b></p> <ul style="list-style-type: none"> <li>any work on financial incentives should take full account of the work carried out by the European Foundation, to avoid duplication</li> <li>devising simple methodologies for firms making day-to-day decisions, especially for SMEs; the SHAPE research project may provide, in time, relevant information</li> </ul>

# Part 5. **CONCLUSIONS**



## CONCLUSIONS

### *Considerations regarding the costs and benefits of OSH measures*

1. The economic impact, and more specifically the estimating of the costs and benefits of occupational safety and health, has become an important issue in most Member States of the European Union and the attention paid to it is still increasing.
2. In Member States different financial incentives and instruments are used in occupational safety and health policy. Cost-benefit analysis (CBA) is the best known tool at the moment. However, other incentives such as the use of subsidies and financial sanctions are also important.
3. In some Member States the assessment of the economic impact is one of the standard pieces of information used in political decision-making. However, the way economic assessments influence decision-making varies from one Member State to another
4. Although CBA is seen as an important part of the decision-making process on new measures in most Member States, the impression is that ethical considerations are still predominant.

### *The Economic Impact of Occupational Safety and Health Policy*

5. In many Member States Cost-benefit analysis before a measure is taken is often routine, and is sometimes even mandatory. Other measures such as campaigns etc. are assessed much less frequently.
6. Cost-benefit analysis is carried out after implementation of an OSH measure in only a few Member States.
7. The way assessments are performed varies from one country to another and may also vary according to the nature of the measure. Estimating the benefits proves particularly difficult. Social aspects are usually to some extent included.
8. Member States indicate that there are many problems involved in estimating the benefits, including a lack of reliable data, difficulties in isolating relevant factors, and the fact that benefits often become apparent only after some time.
9. Some Member States have estimated the cost of work-related illness as a percentage of Gross National Product. Reported percentages range from 2.6 to 3.8 (with a variety of cost factors included). For other Member States estimates were based on the total of the reported cost data

as a proportion of GNP. Percentages ranged then from 0.4 to 4.0.

10. The methods of estimating the costs of work-related illness as a percentage of GNP vary too greatly to permit strict comparison between Member States. Nonetheless, it is believed that the range of indications of the costs of work-related risks gives an approximation of the real costs involved.
11. For individual enterprises it is more important to know if specific investment in OSH measures will lower their costs. In most Member States instruments exist, or are being developed, which give support to enterprises in evaluating the costs and benefits of measures. Small and medium-sized enterprises often lack the financial and personnel resources to apply these methods appropriately.

### *Use of financial incentives*

12. Subsidies that promote the development, sale or purchase of safe and healthy products, production methods, work organisation, machines etc. exist in a majority of Member States. However, only in a few Member States are the effects of measures undertaken as a consequence of subsidy evaluated.



13. Regarding the future of subsidy arrangements, there seem to be a number of different trends in Europe. In some Member States subsidy funds are under pressure; while in others new measures are being taken.
14. The Member States have well-developed systems for the imposition of financial penalties and administrative fines on individual enterprises. Nonetheless, they seem to be applied in a rather moderate way. Compliance with the legislation is the main objective of enforcement.
15. Some Member States indicate that the level of financial sanctions is too low to work as a deterrent and that they have therefore taken initiatives to increase them. Furthermore, there seems to be an increasing interest among administrations in using administrative fines themselves instead of, or in addition to, bringing offenders to court.
16. In a small majority of the European Member States financial incentives form part of mandatory social insurance schemes for occupational diseases and accidents. They report a variety of incentives. Differentiation of premium is the most common incentive.
17. Smaller firms are especially affected by the fact that financial incentives in premium policy are

usually more related to sector-wide experience of claims than to assessment of the effectiveness of the individual organisation's safety and health arrangements.

18. A rather new and different approach to promoting occupational safety and health in enterprises involves public organisations - in their capacity as private entities - selecting contractors or suppliers of products, goods and services on the basis of their performance regarding safety and health at work.
19. Many Member States recognise the need to exchange information about estimating the cost and benefits of measures. Many Member States stress the importance of a methodology to assess the impact of EU directives.

### *Initiatives at European level*

20. A further development of instruments to be used at company level is suggested. Some Member States stressed the importance of simple models for Cost-benefit analysis, that can be used by SMEs in their day-to-day practice.

# ANNEXES



## DEFINITIONS<sup>1</sup>

### **Absenteeism**

Temporary absence from work due to both sick leave and non-specific absence from work.

### **Administrative fines**

Financial sanctions imposed directly by an inspectorate

### **Benefits**

The benefits of an activity or policy can be assessed from the difference between the total corrective costs in the situation before and after measures plus the monetary value of other improvements that can be related to the project or policy.

### **Cost-benefit analysis (CBA)**

A technique for evaluation of the total costs and benefits in monetary units at the level of society or of a specific project. CBA compares the prevention costs with the benefits (i.e. reduction in corrective costs plus additional gains).

### **Cost-of-illness (COI)**

A method of adding costs that can be associated with diseases and illnesses.

COI analysis quantifies the magnitude of the problem, while other methods must be used to choose between solutions. COI analysis can involve both financial and socio-economic costs, according to the agent(s) for whom the calculation is performed. In a cost-of-illness methodology “costs” are the resources used that can be associated with specific health outcomes.

### **Costs**

The money value of resources used. In this project, the term preventive costs is used to mean the use of resources for preventive action and corrective costs to describe the consequences of accidents and the incidence of sickness.

### **Early retirement**

Any permanent withdrawal from working life before “normal” retirement age (as defined by national habits and legislation). As a health indicator, early retirement is often defined as persons receiving disability pensions.

### **Financial costs**

Expenditure (in monetary terms) for one economic agent, i.e. the enterprise, the individual or the public sector. Financial costs include transfers between agents, as opposed to social costs.

### **Financial penalties**

Financial sanctions imposed by a court.

### **Human cost**

A term used in socio-economic calculations to describe the value of quality of life (which includes mental and physical health) as such. The term “grief and suffering” or “healthy life expectancy” may also be used to describe the same phenomena. Human costs may be quantified by willingness to pay methods.

### **Non-medical rehabilitation**

Expenditures incurred to create opportunities for disabled persons to perform normal activities, such as workplace or housing conversions and occupational rehabilitation.

### **Occupational accident**

A sudden event, caused by external circumstances which took place in connection with work. The effects of accidents may be: ill health or injury, damage to

<sup>1</sup> This annex is partly based on the European Foundation's report «A model for assessing the costs of stressors at national level»



property, plant, products or the environment, production losses or increased liabilities.

### ***Occupational diseases***

Diseases of workers that are known (or presumed) to be caused by unfavourable working conditions. Occupational illnesses are officially recognised by authorities or insurance schemes, whereas work-related diseases are not.

### ***Opportunity costs (of accidents or occupational diseases)***

Lost business opportunities (orders, sales) that would probably not have not been lost if no accident or occupational disease had occurred.

### ***Output loss***

A method used to establish the money value of working time lost due to sickness. The value of a working hour (week, year) lost is assumed to be the marginal output (production) of the worker.

### ***Payback Period***

Simple indicator used in cost-benefit analysis to compare cash flows (income and expenditure) related to projects, investments or policies. No indicators include the effect of time.

### ***Permanent disability***

Persons having an incapacity to work due to health problems. The incapacity may be partial, so that permanent disability may be used both for people who have taken early retirement for health reasons and for working people with a chronic disease or injury.

### ***Personnel turnover***

The turnover of workers in a stable employment situation - i.e. excluding the effects of job growth or contraction in the company, and excluding purely seasonal variations in employment. In most cases measured by the number of workers resigning as a percentage of the workforce. As a safety and health variable, the turnover rate should be compared with a "normal" rate or with a realistic goal for the firm. Excessive personnel turnover can only be considered a cost at company level.

### ***Productivity***

The volume of output per input unit. Labour productivity (output per hour) is most often used in international comparisons, but capital productivity, e.g. measured by capital utilisation rates could also be measured. Productivity can be measured in units and in money values.

### ***Return on Investment***

Indicator used in cost-benefit analysis (mostly at company level) to compare cash flows (income and expenditure) related to projects, investments or policies. This indicator includes the effect of time.

### ***Socio-economic costs***

In a cost-of-illness framework, socio-economic costs are the total welfare losses that are the undesired by-products of the economic processes (externalities). Socio-economic costs may include corrective costs in the health system, potential output losses in the labour market or in household production and human costs. If socio-economic costs can be avoided, they can be used to quantify the benefit side in a cost-benefit analysis.

### ***Willingness-to-pay (WTP)***

A method of assessing goods that have no market price, mostly used to value environmental goods, safety and health. If fully informed of the risks and their consequences, most studies show that a population is willing to pay more to reduce a risk, compared to the direct financial losses they are likely to suffer. WTP is assessed through interviews or questionnaires ("contingency valuation").

### ***Work-related illness***

Illnesses that are at least in part caused by the conditions at work.



## ABBREVIATIONS

**AAA** Association d'Assurance contre les Accidents (Luxembourg accident insurance association)

**ANACT** Agence nationale pour l'amélioration des conditions de travail (French national agency for the improvement of working conditions)

**AUVA** Allgemeine Unfallsversicherungsanstalt (Austrian industrial accident insurance institution)

**BAUA** Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (German Federal Institute for Occupational Safety and Health)

**CBA** Cost-Benefit Analysis

**CNAM** Caisse nationale d'assurance maladie (French national health insurance fund)

**CRAM** Caisses régionales d'assurance de maladie (French regional health insurance funds)

**DWES** Danish working environment service

**ECU** European Currency Unit

**EUROSTAT** Statistical Office of the European Communities

**FACT** Fonds pour l'amélioration des conditions de travail (French Ministry of Labour, Fund for the Improvement of Working Conditions)

**GNP** Gross National Product

**HSE** Health and Safety Executive (UK)

**IKA** Social Security Institution (Greece)

**INAIL** Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (National Italian Institution for Insurance against Accidents at work)

**ITACA** Istituto per la Trasparenza, l'Aggiornamento e la Certificazione degli Appalti (Institute for the transparency, updating and certification of contracts)

**NACE** Nomenclature générale des activités économiques dans les états membres (General industrial classification of economic activities)

**NIA-TNO** Netherlands Institute of Working Conditions/Organisation for Applied Scientific Research

**OSH** Occupational Safety and Health

**SHAPE** Safety & Health and Performance and Enterprises

**SME** Small and medium-sized enterprises

**SYAE** Council for safety and health at work (Greece)

**TDC** Technological Development Centre

**TSR** Työsuoselurahasto (Finnish working environment fund)

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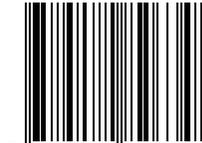
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