

**THE ECONOMIC VIEWPOINT IN
OCCUPATIONAL SAFETY AND HEALTH
SUPERVISION**

Memorandum

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Preface

The TALVA project (the name comes from the Finnish terms for economics and supervision) is a developing project of supervision, carried out by the Department for Occupational Safety and Health (OSH) in co-operation with the Occupational Safety and Health Inspectorates. The background to the project was the inspectorates' interest in the matter and the experiences and feedback from the previous project on working environment economics. The project's objective is to develop and intensify supervision by making use of the economic point of view and developed models.

This memorandum is one separate product of the TALVA project. The memorandum contains general information on working environment economics and tries to clarify questions presented in the OSH strategy, which relates to working environment economics and the economic point of view in supervision. The most important objective of the memorandum is to explain how economic thinking can be used in supervision and in the work of the OSH inspectorates.

Implementation of the principles presented in the memo will mean introduction of a line of action, which in many respects is a totally new one. The new strategy obliges us all to develop our activities in a client-centred way and to support the workplaces' own OSH activities. Economic thinking used in the right way makes operations more efficient and creates positive attitudes towards improvement of working conditions. The Department for Occupational Safety and Health hopes that the memorandum will be useful to developing operations in the inspectorates as well as to each inspector developing his or her skills.

This memorandum is produced for the purposes of the Finnish OSH administration. By publishing the report in English the Ministry of Social Affairs and Health wishes to promote a wider discussion about the possibilities to apply the economic approach in order to improve working conditions and well-being at workplaces.

Tampere, November 1999

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Director General

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APPENDIX: The Organisation of the TALVA project

1 INTRODUCTION

The central objective of the OSH administration according to the new strategy (1998) is to maintain and promote the workers' ability and functional capacity and to prevent accidents and occupational diseases. Prevention of work-induced musculo-skeletal disorders, mental well-being at work and workers' capabilities to cope with the work - as also control of work as a prerequisite for these - are the special goals for the development of occupational safety and health.

The main idea of the strategy is to support independent operations at workplaces and to develop the operations of the OSH administration on the basis of the needs and expectations of the clients. According to the mission of the OSH inspectorates "the inspectorate creates the necessary prerequisites for safe, healthy and work-capacity promoting working conditions, by supervising that OSH regulations are followed and by supporting the workplaces' own OSH activities in co-operation with the parties and experts of working life".

Working conditions have a great economic impact on the individual, society and the company, and on other organisations as well. The economic impacts of OSH extend over many levels. From the beginning of the 1990s the need to connect the economic thinking to the development of working conditions and occupational safety and health has become stronger. The Committee on Working Conditions discussed the matter extensively. Soon after that the OSH administration started a developing programme for working environment economics, and an objective of the OSH administration was confirmed in the budget, which was to decrease national economy losses caused by poor working conditions. Between 1994 and 1996 an extensive Project on Working Environment Economics, worked out by a tripartite work team, was carried out. In other countries and within the European Union, the economic impacts of working conditions and occupational safety and health have lately been of interest in many respects.

Also, the OSH inspectorates and the inspectors have been interested in making use of the economic way of thinking. It has been noticed, on the one hand, that working conditions and occupational safety and health can have a great economic impact on the targeted companies, and that it is good to know about the impacts. On the other hand it has become clear that economic motivation can be an important part of supervision and its intensification. Courses in the matter have been arranged in several inspectorates and working environment economics have, according to needs and possibilities, been connected as a part to other kind of training as well. In co-operation with some inspectorates different kinds of projects related to working environment economics have been carried out. The TALVA project started in 1997 with the aim to more purposefully develop supervision by making use of the economic way of thinking.

In the new occupational safety and health strategy two concrete objectives related to working environment economics have been set:

...”the OSH administration investigates the economic impact of working conditions and develops financial incentives for improving the working environment”.

...”the OSH administration gives the employer guidance and advice on how to carry out the necessary measures in an efficient and economical manner”.

This memorandum specifies and promotes for its part the application of the objectives mentioned in the strategy. The aim of the memorandum is to explain how economic thinking, along with the ethic objectives of the administration can be utilised within OSH supervision and in the operations of the OSH inspectorates in general. The purpose of the memorandum is not to give directions as to how to proceed in the matter but above all to lend support in developing supervision. Each inspectorate is reflecting over how economic thinking and implements for its support can be used and applied to the inspectorate’s own operations.

2 THE ECONOMIC POINT OF VIEW IN CHOOSING THE COURSE OF SUPERVISION ACTIVITIES OF THE OCCUPATIONAL SAFETY AND HEALTH INSPECTORATE

The new strategy emphasises the allocation of measures on important matters and the impacts of supervision, and the objectives of the whole activity. The economic way of thinking is based on the same principles as these.

The starting-point of choosing courses for the operations is the needs of society and working life. These needs are depicted by statistics on accidents at work, occupational diseases, morbidity and pensions, and many other statistics and studies on working conditions and their impacts. The information outlined by the Ministry of Social Affairs and Health and other quarters serves nation-wide planning as well as the inspectorates’ planning. The viewpoints of social economics are of great importance when choosing courses for the activity. A good basis for the decision on courses can be calculations, which depict economic losses the working conditions cause to society.

In addition, the OSH inspectorates use, if necessary, regional information as a basis for their own planning. The inspectors can receive direct information on the costs of absence due to sickness, accidents and labour turnover etc. of the workplaces and in this way the inspectorate can in time, compile more detailed branch-specific information on the economic impact of working conditions. One field of developing is to transfer the information the inspectors have compiled for the use of other inspectors in the inspectorate as well as for nation-wide use.

The most important criteria for choosing the courses of the OSH inspectorate’s activity are the extent and seriousness of the problems. Industry, occupation and work and operations can also serve as a basis for division. By aiming at effectiveness and activities with results, the OSH inspectorates proportion their own resources and skills to the needs of the clients and society and draw up their plans on the basis of this. In this way the objectives and means are

defined. In the choice of supervision measures and at an inspection the economic effects in companies and workplaces are of main importance.

When aiming at economy and effectiveness, an important activity form is supervision at the stage of planning and acquisition of production premises, machines and devices. This way it is possible to prevent in advance expensive alterations and costs due to poor working conditions.

3 TAKING ACCOUNT OF THE COMPANY ECONOMIC IMPACT OF WORKING CONDITIONS IN SUPERVISION ACTIVITIES

3.1 Planning of supervision

The needs and expectations of improvements in the working environment in companies and other organisations are largely connected to the economic importance of the respective matter or problem of the working environment. Therefore, the economic matters have an effect on the role of the administration in each situation and on the expediency and effectiveness of the supervision measures. The programme on working environment economics drawn up for the OSH administration contains three items as below:

- 1) Development of the working environment, which is *economically profitable for the company*: its realisation is of benefit for all, its implementation is a question of information and skill.
- 2) Development of the working environment, which is *profitable for the national economy but unprofitable for the company*: the government influences through regulations and supervision, development of new economic incentives is motivated.
- 3) *Economically unprofitable* development of the working environment: the government influences through regulations and supervision, should be carried out as economically as possible, development of new economic incentives might be necessary.

However, we have to remember that

Matters concerning safety and health are also matters of ethics.

The OSH inspectorate often realises its objectives by means of different projects. In this respect the lines of actions differ between inspectorates. When a project begins, the task of the project team is usually to plan partial tasks to reach the objective. At this point it is usually necessary to choose methods by means of which the object is aimed at and the supervision measures required in order to reach the objects. Attention paid to the economic

points of view in the planning of supervision measures can improve the efficiency of supervision.

The emphasis on supervision measures depending on the legitimacy of the object to be supervised in relation to the economic profitability of a measure can be depicted by a quadripartite chart (figure 1). Thus, the inspector will also have different roles in different situations. From the viewpoint of utilising the economic thinking the most interesting in figure 1 is field 2.

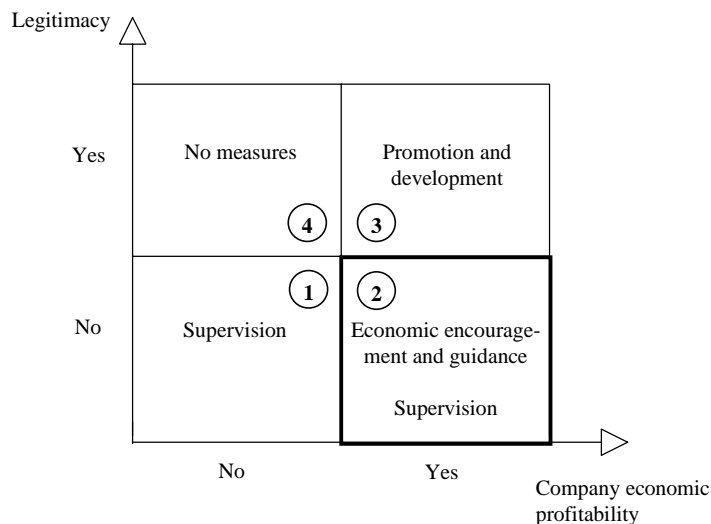


Figure 1. Emphasis on the supervision measures as interdependence between the action's economic profitability and the legitimacy of the object

Economic encouragement is naturally possible only in cases where the action is estimated to be economically profitable. When the object to be inspected is below the minimum requirements of the law, it is possible, in addition to drawing up records based on regulation, to motivate the workplace to take steps by economic reasons. The situation is completely different when the measures to be taken are unprofitable for the company. In this case the inspector should motivate the company, mainly by appealing to factors of health, safety and well-being, even if in this case it is important to keep the economic point of view in mind, and the aim is to promote economical and effective measures.

The improvement of the working environment is not always and does not have to be profitable for the company. Necessary input costs required by occupational safety and health are a part of the production costs. A poor planning or implementation of occupational safety measures causes, however, unnecessary costs. It is important for OSH and its image that also the safety inspector promotes the use of possible efficient and economical lines of action.

A comprehensive Nordic study revealed that supervision proceedings based on the specification of OSH problems and provisions mean the lowest costs for the company. The problems should be analysed carefully, but the decision-making should always be left to the

company. Thus the company can find the most economical solution to the problem. According to the study, this type of supervision method is the most economical, on condition that the requirement level set by the law for solving the problem is made unquestionably clear in the report. According to the study, an informal supervision method is not the most advantageous regarding the company's expenses, as persuasion leaves the employer unsure of the requirements. A consequence of this might be that the employer will not take steps, but is passive or delays. The inspector should not present ready ways and methods, because in that case analysing the problem and efforts to find technical innovations to solve it usually remain insignificant.

3.2 *A problem-wise viewpoint*

When deciding on the measure (approach) of supervision, it is important to know whether the solution of the problem referred to is profitable from the company's point of view. However, there is usually not an unambiguous answer to this. Economically profitable solutions usually call for measures which are taken proficiently and in a way that promotes the company's operations. On the basis of different studies it is still possible to specify the economic impacts of different matters and problems of the working environment in a way which can be of help when choosing the right measure (approach) of supervision.

In a Swedish study the profitability of improvements in the working environment and the difficulty of their technical implementations have been estimated. According to the results, the development of ergonomics proved to be technically a relatively easy and even economically profitable measure. Also removal of chemical dangers and improvement of ventilation are relatively profitable measures from the economic point of view. On the contrary, prevention of accidents and noise and vibration abatement are not economically equally profitable (figure 2). The fact that prevention of accidents proved to be economically unprofitable is partly due to the insurance system in Sweden at the time. According to the insurance system in question the greater part of the accident costs fall to society.

The figure is mainly meant as a thought-provoking implement and mostly depicts an assessment of the situation of some Swedish companies at the time. Yet, it is considered to rather well depict the profitability of different improvements in the working conditions. To assess the possibility of economic encouragement it is possible at the stage of supervision planning to analyse the position of typical OSH problems in question in the chart presented in figure 2. By means of the analysis it is possible to choose different measures (approaches) of supervision for different problems of occupational safety. When the problem takes position within the field of profitability, it is possible for the inspector to encourage the company on economic grounds and consequently improve the efficiency of supervision.

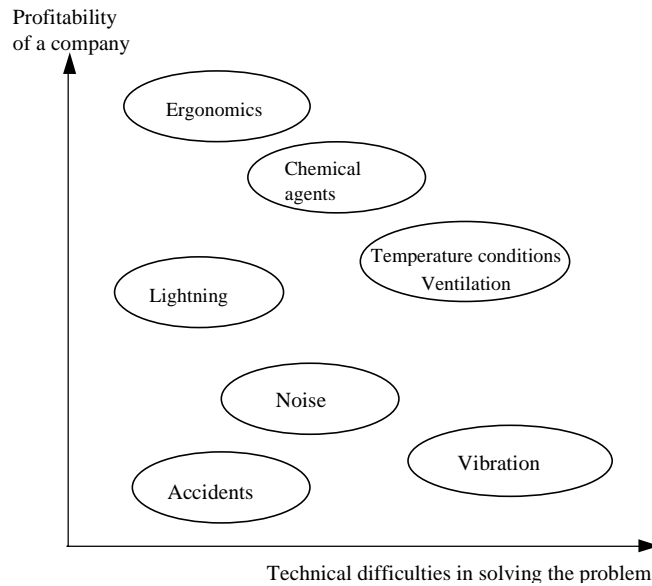


Figure 2. The profitability of improvements in the working conditions according to a Swedish study (SFO, 1987)

The growth of economic well-being is based on a continuous increase in the productivity. Productivity is comprised of many factors, and one group of factors is formed by different factors of working conditions. According to several studies, factors relating to personnel are important input objects in the working environment regarding productivity. Management and personnel participation, work contents and motivation, and workplace atmosphere have the strongest impact on productivity (figure 3).

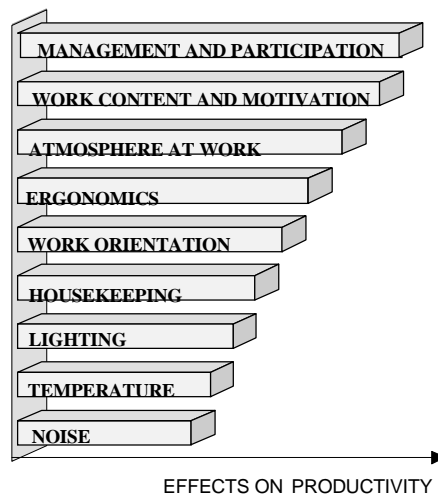


Figure 3. The impact of factors of the working environment on productivity (Economics of the Working Environment, Ministry of Social Affairs and Health 1997)

According to this viewpoint of productivity, mental well-being, work contents, versatility and organisation are crucial factors of occupational safety. There are reasons to take these matters into account and combine them with other fields of supervision in a suitable way.

Factors which have an impact on an employee's productivity can also be studied in the light of the results of an inquiry made in small and medium-sized enterprises (figure 4). It is understood from the triangle model based on the results that one or the prerequisites for good productivity is a situation in which basic matters related to work are in order. These basic matters are physical working conditions, relations between people, planning of work, job security and wages. A continuing growth of productivity requires work motivation, appreciation and feeling of affinity. A continuous improvement requires respect for people's needs of growth. When the inspector while supervising pays extensive attention, besides to the physical factors of working conditions, to mental well-being and work organisation, he or she can simultaneously affect the company's productivity factors in a positive way.

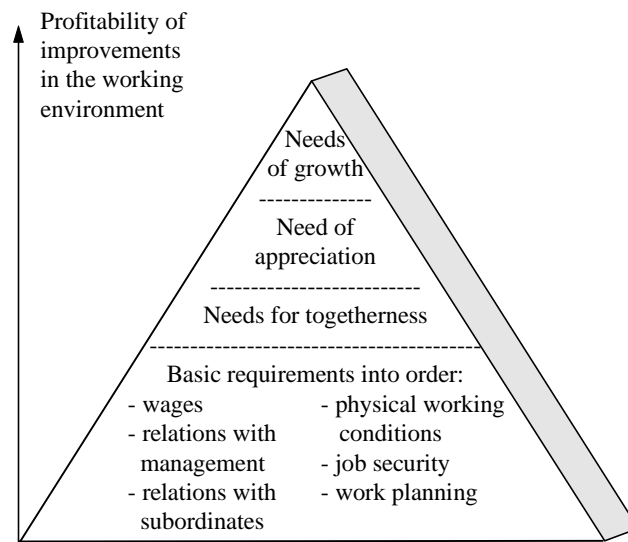


Figure 4. *The profitability of inputs in the working environment (Economics of the Working Environment, Ministry of Social Affairs and Health 1997)*

4.1 *Objectives and challenges of inspections*

OSH inspections are performed in workplaces very different in size, field of activity and company culture. The companies also vary concerning the profitability of operations and other economic viewpoints. Due to the differences of workplaces, even the expectations and needs related to occupational safety inspections vary. Moreover the requirements of expertise, customer services and authority activities are combined in the OSH inspection. In the activities of the authorities, the supervision of working conditions on the basis of legislation is accentuated, in customer service, meeting the needs of the company and co-operative dealing with matters, and in expert work, the diversified skills of the inspector. In order to meet these different challenges, the occupational skills of the inspector should be sufficiently comprehensive. A good inspector is able to manage the measures and implements most appropriate for the different situations. He or she should possess adequate know-how needed in different situations.

The most important objective of OSH inspections is to reach permanent positive changes, such as improved working conditions or initiating a process to develop working conditions at workplaces. This requires that the inspector in one way or the other is able to activate persons in charge at the workplace to independently start developing the working conditions. To enable matching of the objectives of the OSH administration and the needs of workplaces in a convenient way, the inspections should be as interactive as possible. The inspector and the workplace should together deal with occupational safety problems and their underlying factors and this way try to find permanent solutions to the problems. The task of the inspector is to support the workplace in developing the working conditions. However, in case the inspector finds health risks during inspections, he or she has the responsibility to give the employer instructions on how to eliminate the defects. Economical thinking can be brought out if necessary and if it is of use. The situation of reciprocity can be intensified by utilisation of different implements explaining cost effects. By means of these it is possible to have an integrated view of solutions improving the control of production and operations.

4.2 *Economic effects at the inspection situation*

Bringing out the economic point of view furthers the development and improvement of the OSH inspectorate's own operations and a better understanding of the subjects of supervision at an inspection. An inspection usually leads to some kind of measures in a company. Measures to secure safety, however, usually cause costs. Usually notice is only paid to costs and the advantages and savings that measures bring are not taken into account. As money is of central importance to company operations, emphasising advantages and savings due to OSH measures is a means of motivation for the inspector beside the traditional health and

safety arguments. The OSH administration has developed implements applicable for the inspectors to use. By means of these the inspector is able to concretise costs and advantages in conjunction with occupational safety and health. The success or failures experienced by the inspector can be explained by the adequacy of the "models" and implements available.

There is no use approaching a company by reiterating "occupational safety is always profitable" as that is not always the case. The inspector must choose an appropriate method of approach for the subject of supervision. Bringing out the economical viewpoints is not appropriate and not necessary at all inspections, especially if the economic advantage of an occupational safety measure is so small that it does not motivate for making changes. In cases like these, the motives are usually the viewpoints of health or appeal to the provisions of law. Within the framework of the co-operative project of the Department for Occupational Safety and Health and the OSH inspectorate of Turku and Pori, a summary was drawn up on the basis of compiled information (table 1) of which occupational safety measures are economically more profitable or more unprofitable for small-sized companies.

Table 1. Disposition of company economical profitability. Examples (publication of the OSH administration 132)

| WHAT IS PROFITABLE? | WHAT IS NOT PROFITABLE? |
|---|--|
| Concentration on larger issues and important aspects from an operational viewpoint - tidiness and order - routes and passages - production arrangements and material processes - improvement of the flow of information - improvement of the workplace atmosphere | Technical changes implemented in isolation from other operations - safety of machinery - chemical problems and dust - noise abatement (afterwards) |
| Listening to the personnel and personnel participation | Orders from inspectors or company officials |
| Employees taking responsibility for their own health and safety | Statutory OSH organisation and patronage |
| Analysis of problems and identification of the basic causes | Requiring technical solutions based on laws and standards |
| Ergonomics - applying ergonomics to planning and purchases | Ergonomics - correction of separate work stations without considering the work processes |
| Occupational health service - active occupational health care aimed at prevention and rehabilitation | Occupational health service - occupational health care only meeting the minimum statutory requirements - concentration on medical treatment |

4.3 Available implements

In connection with the planning of supervision operations, the inspector has to reflect upon which procedures and means he is going to use during future workplace inspections. There is reason for the inspector to clarify what kinds of implements are useful in his or her job in particular. In this respect, the needs of the inspectors differ from each other as to education, expert field and task and procedures. The most important thing would be to have knowledge about the economic impacts in relation to working conditions and occupational safety. Also the models specifying the matter are important. A lot of literature on the subject has been published. The book "*Economics of the working environment*" published by the Ministry of Social Affairs and Health can be considered as the main source. The book is based on an extensive project on working environment economics, which was carried out in close co-operation with labour market organisations and some OSH inspectorates and inspectors. The book also contains calculation models and a lot of examples.

In addition other publications meant to be used by the inspectors have appeared. "*Models and calculations of working environment economics*" produced by the TALVA project, is a publication which helps the inspector to perceive the contents and possibilities of using different models and calculations. "*Less absenteeism - better use of skills*" is a publication by means of which the OSH inspector will be able to provide information and to start a discussion on the impact of sick leaves and disability on the company operations. For the use of inspectors in different courses and briefings a *series of transparencies* on important matters concerning working environment economics have been produced.

The TYTA model

The TYTA model is a computer programme by means of which it is possible to explain and evaluate costs due to sick leaves, accidents, labour turnover and disability, and input costs of occupational safety on an annual level. The model is applicable in big companies in which the number of sick leaves and accidents is high. By means of the model, the inspector is able to make the employer pay attention to costs caused by risks in the working environment and consequently motivate the employer to concentrate more on the improvement of working conditions. By using the TYTA model it is possible to make the company systematically follow up information on e.g. sick leaves, accidents and labour turnover. According to experience, the registration of such follow-up information is defective in most companies at the moment.

Example 1.

In 1995 in connection with an ordinary OSH inspection in a company dealing with cars, the inspectors told at the workplace about the development of accidents in the car business, disturbance and cost factors caused by accidents and absence due to sickness. The inspector talked about the impact of the working environment and working conditions on the company's result as well. At this point the TYTA model was also mentioned.

In the company in question, the rate of absence due to sickness and the number of accidents were relatively high. Because of this the company became interested in the calculation model and decided to take it into use. At the company's request, the inspectors paid the company one more visit, clarifying the model in greater detail. The company's office manager and the workshop manager, who also was the company's OSH manager, participated in the presentation of the model.

The company used the model during a follow-up period of three years (1995-1997). The company succeeded by means of the model to notice a number of costs and disturbances in the production caused by accidents and absence due to sickness. It succeeded to identify the factors, which caused the problems. The TYTA model was also used as a means to chart risks in connection with the plan of actions. On the basis of information received in this way, the company decided to concentrate on the order of the working environment, on job satisfaction and on activities to maintain work capacity. During the period of follow-up, absence due to sickness and accidents were reduced and became fixed at two thirds of the level of 1995 and were below the average of the companies included in the supervision project.

The Balloon Model

The balloon model is of use to the OSH inspector when explaining the costs and advantages of improvements in the working environment and separate occupational safety measures. By means of the model the consequences of the measures are studied. If a price for the measure can be determined, it is possible to draw up a cost-benefit calculation for the investments and to determine a period of repayment. The investment model can be used also in small companies and it is applicable to different fields.

Example 2

In a company dealing with wholesale business it was noticed at a workplace inspection that a lot of accidents occurred in the company. By drawing up a balloon model the company was encouraged to do independent safety work. The model was of help in showing and training to understand the economic impact and effects of OSH investments.

It was decided in the company to build a footbridge and estimate the building investment costs and benefits. At a negotiation the problems the present situation were specified: crossing traffic of forklift trucks and personnel and risk of slipping in the yard-area. It was discovered in the calculation that expenses are incurred by the costs of building planning, materials and work, while advantages are received by reducing absenteeism, speeding up work, energy savings and lengthening the service intervals of the forklift trucks and more efficient use of the stock space. On the basis of the costs-benefit calculation the period of repayment of investments was 2,1 years (25 months).

Example 3.

At a construction site the profitability of housekeeping was calculated by means of the cost-benefit analysis. By means of the calculation it was possible to show the losses caused by poor order to be threefold as compared with the investment costs. After

drawing up the calculation, considerable device investments for maintaining order were done at the construction site in question and the site was kept tidy ever since.

The information sheets of the working environment economics

The inspector's sheets of working environment economics are due to their concise form, a very useful implement for the inspector, by means of which he or she can give theoretical information and examples of practical cases. At present the information sheets contain four subjects: what does absenteeism cost, costs of a severe accident, improvement of the order of the production line of a workshop and the disorder of a shop's storage space and back room.

By the help of the implements, the inspector and the workplace can reach common ground. It is important that the inspectors have access to functional implements, which are also useful from the workplace's point of view. The use of the implements during inspections requires knowledge about them as well as reserved time for the presentation of them. Naturally this has to be taken into account already when measuring the resources and planning the inspection.

4.4 Making use of economic thinking in some contexts

This chapter deals with the importance of economic thinking and the possibilities of applying it from four different viewpoints with examples: the OSH action programme, promotion of mental well-being, accident prevention and ageing.

Occupational safety and health action programme

An important objective of the OSH action programme is to intensify operations and to solve and master the OSH problems at workplaces. Its aim is to make the occupational safety operation more forceful so that operations are in the first place directed to the objects which cause the employees notable health risks. This requires that the risks in the working environment will be charted and their extent estimated, and that necessary steps for controlling the risk will be taken.

The impacts of measures according to the OSH action programme can also be studied from the economic point of view. The inspector can advise the workplaces how to make use of economic thinking in connection with the drawing up of the action programme. Concerning planning and follow-up of the action programme, it is possible to estimate what kind of economic impacts will be reached by the elimination or reduction of health risks. To the probability and seriousness of health risks it is possible to add an estimation of their economic impact. It is, for example, possible to estimate cost effects in relation to a strain injury due to poor ergonomics.

Acknowledgement of notable economic risks can in many cases encourage the company to take steps in order to improve the working environment. As a result of the estimation of risks as part of the OSH action programme, an order of priorities for the prevention of risks and dangers can be set up. The knowledge of the different economic effects is important additional information when seeking to motivate the companies for carrying out risk management.

Accident prevention

Occupational accidents incur the Finnish economy costs reaching about two billion Finnish marks annually. The costs an accident incurs to the Finnish society vary between a few hundred or thousand marks up to many million marks. The cost of an accident leading to a sick leave of at least three days is FIM 30 000 on the average. The costs incurred to the company vary according to the individual case and insurance system applied.

Many big companies follow carefully their accident situation and even the costs of accidents. In some companies the wage system takes the accident situation of a department or unit into account. In conjunction with an inspection there is reason to deal with matters mentioned above. If it is necessary for the company to calculate the accident costs, the calculation model developed by the Ministry of Social Affairs and Health or the TYTA model can be offered to the company. In this case there is reason to emphasise the signification of indirect costs. There is also reason to pay attention to accident costs at inspections within construction and manufacturing, in particular. However, it is good to remember that less than 0,5% of the theoretical working hours in industry are lost due to accidents.

In a great number of workplaces the risk of accident is small, and in cases like this there is no reason to bring out the question of accident costs, except for accidents during work travelling. Even in SME's it might be inappropriate to deal with accident costs, as accidents are rare. In cases like this a holistic approach emphasising the connection between accidents and other disturbances and the significance of undisrupted production is more fruitful. In accident prevention the avoiding and minimising of human suffering is obviously the most important reason. The ethic viewpoint is primary in relation to the economic viewpoint.

Promotion of mental well-being

Mental well-being has an important, if not decisive, significance in the productivity and economic results of most companies and organisations.

Signs of a workplace's good state of mental well-being are the employees' positive experience of the working community, high work motivation, low absenteeism, tolerance of conflicts and uncertainty, reasonable staff turnover, and the organisation's ability for fruitful co-operation. Good working conditions, good management and good interaction have a positive effect on the employees' well-being and motivation, and through this on the quality and productivity of the operations.

The absence of mental well-being can be observed in different disturbances of the operations and production and in a negative impact on the work efficiency and the profitability of the company. A direct consequence can be high absenteeism, high staff turnover, willingness to premature retirement, increased number of visits to the company's health care, repeated difficult conflicts and the personnel's division into groups, and a general feeling of uncertainty and insecurity. Defects of the physical working conditions might make it difficult to carry out the job and cause unnecessary strain. Resources are used up in the same way by stress, burn out, conflicts of the working community, discrimination, bullying and threat of violence at the workplace.

Promotion of mental well-being is more a question of easily comprehensible and implementable changes in the lines of actions and developing interaction than of large economic inputs. Emphasising the economic significance of both positive and negative consequences may further initiation of necessary action of development at the workplace.

Ageing

An important matter of today for the OSH inspector is to pay attention to the working environment of the ageing employees. The inspector has to be aware of the factors which possibly limit the conditions for the ageing employee to work as well as of the economic underlying factors which might affect the ageing employee's position at the workplace.

A significant factor is the company's expenditure for retirement. The companies' costs due to employees' disability retirement vary depending on the size of the company. Small companies do not have extra costs when an employee retires with disability pension. When the number of employees varies between 51 and 999 the company's liability increases by the increasing number of employees. Large companies (more than 1000 employees) are responsible for the total costs of disability pensions. These factors, together with knowledge of the principles and possibilities to carry out activities to maintain working capacity, are significant when the inspector tries to motivate the company to take measures in order to maintain work capacity and to prevent premature retirement.

Follow-up of the total number of sick leaves and the prevention of these is also a part of the inspector's work. It is well founded to follow up and to attempt to reduce the number of sick leaves, particularly of the ageing employees. These measures require a follow-up system, which gives a sufficiently versatile and covering picture about the development of the situation. Different calculations on human resource accounting, such as personnel accounts and reports can help the inspector in this work.

5 SUMMARY AND CONCLUSIONS

The economic impact of working conditions and occupational safety and health is significant for society and the companies as well as for the employee. This matter has lately been brought out in our country as well as in other countries and in the EU, in a way which strongly has affected the OSH policy and practice. On the one hand it is a question of complex and different kinds of economic impact, the estimation and calculation of which is often difficult. On the other hand it is a question of everyday and very understandable matters, from which it is relatively easy to draw conclusions for e.g. the implementation of developing measures.

In the operations of the OSH administration the economic impact of working conditions and occupational safety and health are seen in many ways and on many levels. The central administration in particular is obliged to concentrate on the viewpoints of national economy, costs-benefit analyses related to regulation, and the development of possible new economic incentives. In supervision the viewpoints of national economy are important, but the matters of company economics are emphasised.

The utilisation of economic thinking is a big challenge to the OSH administration in the development and improvement of working conditions and occupational safety and health. However, it is an inevitable course of development, taking into account the tendencies of the new occupational safety and health strategy, particularly the requirements of the client's viewpoint and efficiency.

As a summary of the matters mentioned in the memo, we can assert that

- the strategy of occupational safety and health encourages the inclusion of the economic viewpoint in OSH supervision work
- the economic impacts should be studied from the viewpoint of both national and company economy
- the company economic significance of OSH is one of the most important factors to speed up the development of working conditions, but the company economic profitability of OSH shall not be exaggerated, and generalising should be avoided
- all measures of occupational safety and health are not and need not be profitable from the company's economic point of view
- the larger concept of working conditions we use, the more credibly we can explain that the development of working conditions is economically profitable
- the development of the working environment as a part of the development of other activities is more economical than as a separate operation
- by emphasis of the economic viewpoint, it is possible with good results to support and encourage the company to take measures in order to develop working conditions to reach the level required by law

- the inspection situation and its efficiency can be intensified by the utilisation of different implements.

The most important measures of the OSH administration and in supervision relating to the economics of working environment in the near future are:

- promotion of economic thinking requires continuous developing of occupational skills and critical evaluation of the methods
- spreading of economic knowledge related to working conditions to workplaces and interest groups
- training in the use of different implements, experimentation of these in different pilot projects and support to their wider usage
- bringing out the viewpoint in connection to the procedure of management by objectives.

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APPENDIX

The organisation of the TALVA project

Steering group

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Head of Inspectorate **Jaakko Itäkannas**, OSH Inspectorate of Uusimaa
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Project group

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Research Officer **Ulla Reina-Knuutila**, secretary of the project, Ministry of Social Affairs and Health
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