An International Comparison of Occupational Disease and Injury Compensation Schemes.

A Research Report prepared for the Industrial Injuries Advisory Council (IIAC)

March 2007

David Walters
Cardiff Work Environment Research Centre
Cardiff University

Table of Contents

Executive Summary

Main Report

International Comparison of Occupational Disease and Injury Compensation Schemes.

David Walters
Cardiff University

EXECUTIVE SUMMARY

Objectives

This Executive Summary summarises the main findings of a report commissioned by the Industrial Injuries Advisory Council to contribute to a better understanding of possible advantages and disadvantages of occupational disease and injury compensation schemes in other countries.

It outlines the history, legal basis and general coverage of public systems for recompensing workers injured or made ill by their work in Europe and also includes some information from Australian and Canadian sources. It reviews the kinds of harm covered in different national systems and how such coverage is defined and applied in practice. Questions on administration, funding, expenditure, benefits, tax status and structure are addressed as well as the extent to which prevention, rehabilitation, retraining and return to work are within the remit of national systems. The study was informed by a review of published sources and a limited number of interviews with key informants in selected countries.

Features of national systems

With the exception of the Netherlands and Greece, continental EU countries, Canada and Australasia all have legally mandated systems for providing benefits for workers who suffer injury or disease that is attributed to their work. In all cases, ameliorating the financial consequences for the victims of accidents at work was the original aim of such benefits and in all cases this was extended later to the consequences of occupationally related diseases and accidents on the way to or from work. Benefits may be in the form of health care/medical expenses (such as in Germany, Austria, Switzerland) and financial benefits for lost earnings (in all countries). Their legal basis is usually found in social or labour protection laws, the origins of which are of long standing in most countries.

There are broadly two main bases for workers' compensation systems in continental Europe. One is modelled on the German approach with self-governed insurance associations funded by employers' contributions, providing a comprehensive prevention, rehabilitation and compensation service. In the second form, the state administers the system for compensating occupational injuries and disease as part of its wider provision for social security and levies contributions from employers to finance it. In many countries in Europe nowadays their systems are a mixture of these two approaches with both the state and private insurance systems involved.

Financial benefits are generally awarded for either temporary or permanent disability, based on calculations that take some account of the salary received by the victim prior to the disabling harm. In addition, there is a presumption evident in most systems that compensation for harm resulting from work should be distinguished —usually by benefits that are financially greater — from other social security benefits. In many countries work injury/disease insurance systems nowadays do more than merely treat and compensate harm, they are also involved in preventive and rehabilitation work.

Definitions of injuries and diseases eligible for compensation

Accidental injuries at work: An 'accident' is variously defined but in all countries it refers to a sudden event at the workplace or during work activity that causes an injury. In all continental European systems there is a presumption that if an injury is the result of an accident that took place at the workplace and in working time, its victim is entitled to receive the appropriate benefits. In some countries however, the victim's own behaviour can weaken the their claim. In contrast with that of the UK, in most continental European systems 'commuting' accidents are included within the definition of eligibility for benefits.

Occupational diseases: All countries have a list of conditions they recognise as 'occupational'. Developing and updating the occupational disease list is undertaken in different ways and by different authorities but since it is normally appended to regulatory provisions, in all countries the responsibility of the state is involved. Advisory committees that are engaged with such activities also vary in composition in different countries.

The role of the occupational disease list in determining specific cases of compensation varies. At one extreme is found the 'open system' in which each claim for benefits for an occupationally caused harm is treated on its own merits, such as in Sweden where the occupational disease list concerns only infectious diseases and all other conditions that could possibly arise from workplace exposures are treated individually. At the other extreme, the French list of 112 occupational diseases appended to its Social Security Code specifies symptoms or pathological lesions required to be present, the type of work that is known to cause the condition and the time limits for compensation claims. In theory, any disease meeting the medical, occupational and administrative criteria given in the list is systematically presumed to be occupational in origin, without it having to be proven. In other EU 15 countries the function of the 'list' falls somewhere between these extremes in decisions concerning the eligibility of conditions. A trend evident in many countries has been the increasing recourse to 'open' systems in recent years. Despite this, well over 90 per cent of diseases recognised as occupational remain on the basis of their inclusion in the national list. Whether on a list or identified individually as part of a mixed system the process by which evidence is assessed and decisions taken as to the 'occupational' cause of a condition in most cases concerns two issues — the extent to which a condition can be ascribed to an occupational cause and the extent to which a claimant can show they have experienced such conditions. The means by which the first

of these issues is resolved in most countries, as in the UK, is defined in legislation or the guidance to it. Determining the recognition of occupational associations with the cause of conditions involves review of epidemiological and other scientific/medical evidence and the achievement of broad expert agreement concerning increased risk in relation to occupational exposure. It does not appear to follow exactly the rule adopted in the UK, but there are broad similarities in the approach in all countries in as far as there is emphasis on the need for robust evidence of occupational risk and consensus of expert opinion.

There are some differences concerning the extent to which claimants must to show evidence of experiencing conditions leading to disease. In Belgium, Italy and Luxembourg, it is sufficient for victims to demonstrate that they are suffering from a disease on the list and that they have been exposed to a corresponding risk or done a job also on the list. In France the content of the Tables of prescribed diseases are intended to be an irrebuttable presumption of attribution, In Austria, Denmark, Finland, Germany, Switzerland, Portugal, Spain and Switzerland the list serves as a guide to insurance organisations investigating the claim that the disease is occupationally caused. They will seek to establish if the could have been caused by a causal agent marked on the national list while at the same time searching to find whether there are extra-occupational factors that could cause the disease.

Administration of national schemes

Infrastructures: There are differences in the detailed arrangements and institutional actors involved in their governance and administration in different countries Different approaches also result from the extent of country federalisation and regional autonomy. In other cases such as in Germany, the sector focus is well developed in addition to regionalisation. Other differences between countries are evident in the mix of public and private insurance organisations that make up their systems.

Additional provision —in some countries, the traditional system of social insurance for incapacity resulting from occupational injury and disease, which is designed to make up for lost earnings is supplemented by additional schemes usually resulting from agreements between the labour market actors, to provide additional benefits for their members.

Funding: Insurance schemes for compensating occupational injuries and diseases are funded by employers' contributions (and those of the self-employed where they are insured) in all EU-15 countries. In certain countries the State also contributes; that is the case for example concerning asbestos diseases in France, or for the self-employed in agriculture in Germany and Finland. In Norway, employers contribute only one third of the financing of the state scheme, the other two thirds coming from a National Insurance Fee paid by all taxpayers and a state subsidy. However, the employers fund the total cost of the private Occupational Injuries and Diseases Insurance.

Criteria for setting premiums: There are broadly two approaches concerning the pricing of injury and disease insurance. In one, employers' contribution rates vary according to the nature of their business and the extent of claims relating to their enterprises. In the other a single rate is applied to all enterprises whatever the activity and its risks.

Costs: The cost of compensating occupational diseases is greater than that for occupational injuries, accounting for over three quarters of the total costs of compensation in most countries. There is considerable variation between countries in part attributed to the nature of occupational diseases recognised in different countries, the burden of previously recognised claims for conditions and present day differences in what are recognised as eligible for compensation. Further reasons can be attributed to differences in the extent of reparations provided for by the compensation systems of different countries. There are variations in the extent and timing of payments for temporary disabilities and the amounts paid for permanent disabilities also varies between countries. Fluctuations that occur in national costs are partly explained by changes in criteria for recognition, including the recognition of more expensive conditions. All this not withstanding, the UK spends considerably lower proportion of its GDP on sickness/invalidity/occupational injury benefits than other European countries and this would appear to be the case still.

Diseases caused by asbestos have become especially expensive; when they are added to other diseases of the respiratory tract, overall respiratory diseases are on average by far the highest cost of compensation in Europe. These are followed by musculo-skeletal conditions and then by skin diseases and occupational deafness. However, these figures mask substantial differences of detail that exist between countries.

Administrative costs range between five to ten per cent of the budget, while those countries in which prevention activities are also performed by these organisations, their costs are between one to five per cent. These are substantially higher than the two per cent administrative cost of the IIDB in the UK.

Benefits : There is considerable variation between the maximum earnings taken into account in different countries but in all cases the sums involved are greater than provided under the IIDB in the UK.

Benefits may be temporary or permanent. In cases of inability to work following an occupational injury, in some countries the employer is required by law or collective agreement to continue to pay the victim's salary for an initial period, after which, benefits from the occupational injury and disease insurance system will take over. Daily benefits are calculated as a percentage of the victim's reference earnings (ranging from 50 per cent in Austria to the total of the ceiling earnings in Luxembourg and Finland).

Two main approaches to calculating permanent benefits can be seen in continental European countries. In Austria, Belgium, France, Germany, Luxembourg, Portugal and Spain, the calculation is based on recompensing victims for their loss of earning capacity. However, in practice assessment is according to an essentially medical indicative scale

that is also meant to allow for the job capabilities and qualifications of the claimant. A medical assessor will determine the disability rate according to the listing of the injury in a national scale and this rate used by administrators to calculate the appropriate level of benefit. In Denmark, Finland, Italy, Sweden and Switzerland, victims receive compensation for both loss of earnings capacity and in addition for the lasting damage to physical or mental integrity. However, the distinguishing feature of this second group of countries is that their systems also pay compensation separately for physiological harm suffered by the claimant, either as reduced physical and mental function or as recompense for reduced quality of life.

Financial payments are normally in the form of a pension, but lump sums may be paid if the permanent disability rate is low or moderate.

In Germany, when vocational reintegration measures are underway, the insurance system pays a 'transitional benefit' so they are not financially disadvantaged in comparison with their entitlement to injury benefit. Beneficiaries receive 70-80 per cent of the injury benefit.

There are benefits available for surviving spouses and dependents where a person has died as the result of a workplace injury or disease and third party help and material damage in most systems, although in some countries there may be further benefits available.

Tax and social security contributions: Belgium is the only country in Western Europe which pensions were subject to social security payments. In a number of other countries however, pensions are subject to income tax (unless taken in the form of a lump sum). In Austria, France, Germany, Italy, Luxembourg and Portugal they are exempt from both tax and social security as is the case for a pension for total permanent disability in Spain. In Norway, national insurance scheme benefits are not subject to tax, unlike those provided though private insurers.

Prevention, rehabilitation, retraining and return to work.

Organisations involved in many countries also play a proactive role in helping injury and disease victims return to work and in improving the work environment in order to prevent the occurrence of injuries and ill-health. This appears most developed in Germany, where the legally mandated role of the insurance organisations extends not only to specific initiatives on rehabilitation and prevention but into regulation and regulatory inspection. In other countries with systems modelled along German lines, a similar degree of engagement in preventive and rehabilitation initiatives is found but not to the extent of involvement in regulation and inspection.

Conclusions

It is difficult to appreciate the significance of the role of work injury/disease benefit systems in other countries without an understanding of their place the wider framework

of social insurance/welfare and health care systems and their role in the systems for regulating the work environment and working conditions.

The Industrial Injuries and Disablement Benefit (IIDB) scheme is based on a conceptualisation of compensating occupational injury and disease that is quite different to the predominant models of social insurance found in other countries. It allows for considerably lower benefits that are not earnings related and represents lower proportional expenditure on this form of support for workers harmed at work than found elsewhere in Europe. Furthermore it makes no provision for either prevention or rehabilitation.

However, there are many common elements in discussions in the UK and other countries concerning the relevance of compensation systems to the current nature of work and its health consequences. They include issues of affordability, and efficiency and there are commonly perceived weaknesses in cover and redress of harm in most systems. The legacy of the industrial era remains widespread and conditions that are eligible for compensation are still based on lists primarily constructed of the 'classic' industrial diseases. This means that as the industrial workforce declines the number of claims for such conditions (and therefore costs of compensation) are unlikely to increase dramatically. But at the same time it means that the relevance of compensation systems to modern forms of work-related ill-health is limited. It also means that the gender distribution of successful claimants under these systems will be predominantly male. The move to 'open' systems partially addresses this problem but evidence suggests that it does not do so entirely and it also suggests that it creates new problems of consistency and comparability in assessment and awards.

How compensation systems deal with current conditions of ill-health associated with work is a major issue for all systems. While in some countries there is evidence that prevalent conditions like MSDs now feature more prominently than in the past, other conditions such as stress related ones represent an important challenge and there is little evidence anywhere that compensation systems have succeeded in addressing it adequately.

Women are less successful than men in receiving benefits under most compensation systems. This in part reflects the industrial bias of list based systems compensating occupational diseases, but it is also a consequence of the particular difficulties in demonstrating occupational causation in the conditions such as stress and MSD, especially prevalent in occupations in which women are most significantly represented.

A trend evident in several countries is some reorientation of national 'no fault' compensation systems towards a closer fit with civil law models. Perceived inadequacies in levels of compensation available through social insurance combined with perceptions of injustice over employer immunity from redress under the civil law have led to these changes.

Reforms to address various of the above issues have recently taken place, are currently underway, are planned or have been demanded in a number of other European countries.

In the related critical research literature, accounts have drawn attention to the small number of claims for benefits compared with the known much larger occurrence of occupationally related ill-health. Factors suggested to explain this, include, limitations in medical recognition of occupational causes, ignorance of workers concerning the hazards of their work and their entitlements to compensation, complexity of administration of compensation systems and fears of victimisation. Not only does the complexity of making a claim exclude many, but the claim process may also have negative consequences for recovery and return to work. Moreover, the use of experience rating by some insurance systems weakens the advantages of no fault systems since it provides a strong incentive for employers to contest claims.

The costs of compensation systems do not appear to be a special cause for concern amongst those responsible for their administration in Europe, although employers and their organisations complain about premiums in some countries. Elsewhere, and especially in the US, costs have been the focus for debate, as has the relationship between workers compensation and the speed and likelihood of return to work. While no clear consensus emerges from this literature, there is concern that some forms of workers' compensation may fail to provide appropriate incentive and support for rehabilitation and return to work.

Growth in precarious employment in advanced market economies has the potential to erode coverage of workers compensation systems as well as weakening processes for making claims, ensuring equitable treatment of injured workers and delivering efficient return-to-work and rehabilitation practices There is some further evidence that the costs of compensating injured workers are as a result being shifted further from workers compensation systems to those concerned with public health or social security.

All of this suggests that while there are some obvious points of comparison and contrast between the UK and other countries, further investigation is warranted if the lessons it may be possible to learn from international comparisons are to be maximised.

An International Comparison of Occupational Disease and Injury Compensation Schemes.

Research Report

Introduction

The Industrial Injuries Disablement Benefit Scheme is currently under review by the Department for Work and Pensions. A Consultation Document seeking views on options for reform was published at the end of January 2007 (DWP 2007). The role of the Industrial Injuries Advisory Council in this review is as an expert advisory body on the Scheme. This research report was commissioned by the Council to contribute to a better understanding of possible advantages and disadvantages of occupational disease and injury compensation schemes in other countries and to inform its input into the review.

Objectives of the Study

The objectives of the study were to investigate the key features of disease and injury benefit and/or compensation schemes in selected countries in Europe, as well as in Canada, Australia and New Zealand. The key questions to be answered were:

i) Is there an occupational disease and injury benefit or compensation scheme in the countries studied?

ii) Does the scheme distinguish occupational accidents from occupational diseases?

iii) How are accidents defined? How are diseases classified as occupational (i.e. is there a list of diseases)?

iv) If there is a list of diseases for which benefits or compensation is payable, what is the level of evidence required to attribute the disease to occupation (e.g. IIAC bases its decisions for prescription where there is robust epidemiological evidence of a greater than doubled risk of the disease in an exposed occupational group compared to an unexposed group or the general population)?

v) Who is covered?

vi) How is the Scheme funded?

vii) Who administers the Scheme?
Is the administration of the Scheme independent of the funder?

viii) Is there a scientific advisory body similar to IIAC? Is this body independent of the funder?

ix) What are the available benefits?

x) Is there provision within the scheme to promote rehabilitation, retraining, retention and/or prevention?

xi) What is the tax status of the benefits available?

xii) What is the total expenditure of the scheme? What proportion is spent on administration and on payments to claimants?

In addition to addressing these questions the following report also presents a discussion of several key issues concerning workers compensation systems that have been the focus for discussion in recent international research literature on the subject. They include issues of costs, access, and coverage.

Structure of the report

The following report provides information addressing the study questions posed above. This material has been grouped first into a general introductory section outlining the history, legal basis and general coverage of public systems for recompensing workers injured or made ill by their work. This is followed by a review of the kinds of harm covered in different national systems and how such coverage is defined and applied in practice. Questions on the administration of different national schemes are then addressed, particular attention being paid to how schemes are funded, which institutions administer them, the nature of the benefits paid and their tax status, overall expenditure on national schemes and the proportion spent on administrative aspects in comparison with that spent on benefits. Finally, some consideration is given to other aspects of national schemes, such as the extent to which they cater for prevention, rehabilitation, retraining and return to work. This material forms the basis for a discussion of comparative advantages and disadvantages of other national schemes. It should be noted that the limited time available for the production of the report has meant that the information collected is neither comprehensive or complete, inferences drawn from it are impressionistic and further work is warranted to confirm and develop its findings.

Methods

The study was essentially a review of published sources of information followed up with a limited number of interviews with key informants in selected countries. In the main, continental western European countries are the sources for the factual information concerning the structure and operation of national systems, however research literature and critical commentary from a small number of experts in Australia and Canada, interviewed by telephone and e-mail is included. Time constraints meant that the latter sources could not provide more than indicative commentary. As a consequence, no attempt has been made to provide comprehensive accounts of the structure and operation of national systems in these countries. Information and analysis from these sources is largely used for comparison with the more detailed information on European systems in the following report.

Key informants that participated in the study are listed in Annex 2.

A note on sources: The published sources of information on occupational disease and injury compensation schemes in other countries are essentially of two kinds. There is a small specialist literature addressing socio-legal or medically orientated aspects. While this literature deals in considerable depth with its subject, and has an analytical approach, the main focus of its interest is somewhat different from that of the questions that this report set out to answer. It was therefore of limited direct usefulness, although some studies helped to provide useful context. The second source consists largely of information published by the organisations responsible for administering occupational disease and injury compensation schemes, or international observatories of such schemes. The national sources have limited and rather general information about the features of the systems available in English, its range and quality varying considerably between countries. The international overviews are similarly limited in depth and incomplete in their coverage. Such information is mainly descriptive, with little analytical treatment, but it was nevertheless often a useful source of information relevant to this inquiry and this was especially true for the publications of the *Groupement de l'Institution Prevention de la Securite sociale pour l'Europe (Eurogip).*

The drawbacks of these sources of information meant that it was necessary to undertake further correspondence and interviews with selected informants in several countries including Australia, Canada, France, Germany, Norway and Sweden. Key informants were selected on the basis that the systems in their countries were of special interest in the context of the study. This proved to be a useful means of extracting further relevant information on national systems in these countries as well as of considerable help in understanding the nuances of that already available. In addition, the interviews were especially helpful in understanding what informed opinion in various countries saw as the particular advantages and disadvantages of their national schemes. In the time available only a limited number of such interviews was possible. As a result, although the following report does not present a comprehensive picture of injury and disease compensations systems in Europe, it does provide an impressionistic comparative overview that is thought to be a reasonably accurate indication of key issues for European national systems at the present time.

General features of national occupational injury and disease compensation systems

Continental EU countries, Canada and Australasia all have legally mandated systems for providing benefits for workers who suffer injury or disease that is attributed to their work.[1] In all cases, ameliorating the financial consequences for the victims of accidents at work was the original aim of such benefits and in all cases this was extended later to the consequences of occupationally related diseases and in most countries, further broadened to include the consequences of accidents on the way to or from work. Benefits may be in the form of health care/medical expenses and financial benefits for lost

[1] The Netherlands and Greece are exceptions, in that in these countries benefits for workers injured or made ill during the course of their employment are covered by general sickness and invalidity insurance schemes and are not (or in the case of the Netherlands, since 1967 are no longer) the subject of separate schemes.

earnings. Their legal basis is usually found in social or labour protection laws, the origins of which are of long standing in most countries, indeed, in many countries it constitutes the oldest form of social insurance, dating from the late 19th and early 20th centuries.

There are broadly two main bases for workers' compensation systems in continental Europe. One is modelled on the German approach with self-governed insurance associations funded by employers' contributions, providing a comprehensive prevention, rehabilitation and compensation service. In the second form, the state administers the system for compensating occupational injuries and disease and levies contributions from employers to finance it, such as in Sweden. In many countries in Europe nowadays their systems are a mixture of these two approaches with both the state and private insurance systems involved.

It follows from their origins and purposes that the primary coverage of these social insurance systems was that of employed persons in private sector industry. This is still the basis of coverage; while it has extended to provide benefits for public sector employees, those in agriculture and even in some cases, the self employed, parts or all of these sectors still remain outside the general coverage of this form of social insurance and subject to separate schemes in many countries. It also follows that workers that are unable to demonstrate a legal form of employment in relation to a claim for benefits for harm incurred while engaged in work activity are ineligible for these types of benefits under most systems.[2]

Table 1: Coverage of public injury and disease benefit systems in continental EU 15 countries (excluding Greece and the Netherlands), Austria and Norway

Country	Coverage	Coverage of additional schemes
Austria	Wage-earners in private sector industry, commerce and services. Some self employed included	Agriculture, the public sector, railways. Also city of Vienna has an independent scheme for its civil servants
Belgium	Wage earners in private sector industry commerce and agriculture	Public sector, civil service, self employed
Denmark	All private and public sector employees and agriculture. Some self-employed (e.g., in fishing)	
Finland	All wage earners except farmers and their families	Voluntary schemes for the self-employed (estimated that 40% of self-employed are insured)
France	Private sector employees	Voluntary schemes for the

[2] Germany appears to be exceptional in this respect. If a social insurance claim is shown to be related to an incident in or on the way to or from work, it will eventually find its way to the *Berufsgenossenschaften* even if the claim is initially made to another branch of the social insurance system and regardless of whether the worker concerned was legally employed at the time.

		self-employed. Separate schemes for the public sector
Germany	Employees, students and school children	Voluntary schemes for the self-employed. Agriculture and public sector have separate coverage.
Italy	Private sector employees, agriculture and some parts of the public sector. Some of the self-employed in the crafts trades	
Luxembourg	Private sector employees	Separate special scheme for public sector employees and students
Norway	All employees, students and school children, military personnel, fishing and voluntary fire fighters	Self employed covered on voluntary basis
Portugal	All workers are covered including the self employed	
Spain	Private sector employees, some groups of self-employed such as fishing.	Voluntary schemes for the self-employed
Sweden	All employees and schoolchildren	Additional 'top-up' schemes cover 'most' employees

In Austria (after the fifth week), Germany, Belgium (for work injuries), Spain, Finland, Luxembourg, Portugal and Switzerland, the occupational injury/disease insurance system bears the full responsibility for the cost of health care for victims. In most other countries it supplements the health insurance system, covering additional medical expenses not provided for under this system. Financial benefits are available for victims of occupational injuries and diseases in all systems and are generally awarded for either temporary or permanent disability, based on calculations that take some account of the salary received by the victim prior to the disabling harm. In addition, there is a presumption evident in most systems that compensation for harm resulting from work should be distinguished —usually by benefits that are financially greater — from other social security benefits.

The ethical basis of these long-standing systems is the belief that workers should not be economically disadvantaged as a result of injury or disease caused by or at their work. Compensation is therefore generally aimed at replacing loss of earnings and earning capacity. It is additional to other forms of social security. Employers have a social responsibility to ensure that workers harmed while in their employ are not financially disadvantaged by a resulting incapacity for work and so they are required to make contributions towards an insurance scheme that is able to provide such benefits. The insurance associations created to operate systems in most countries are managed jointly by representatives of employers and labour (although in Portugal it is managed on a tripartite basis with the inclusion of representation of the state). At the same time, those

systems that are based on the 'Bismarck' conception[3] of ensuring social peace by ameliorating possible conflict between workers and employers are 'no fault' systems in which employers discharge legal and social responsibilities by making their contributions to the scheme under which they are insured and in return they are not subject to civil actions for having caused harm. Such no-fault systems are deeply embedded in values espoused by the social system of countries such as Germany and are still widely regarded there as making a significant contribution to social peace in the relations between capital and labour.

This is of course both an oversimplification and in a number of respects a somewhat inaccurate picture of current reality. In many countries work injury/disease insurance systems nowadays do more than merely treat and compensate harm, they are also involved in preventive and rehabilitation work. The payment of a benefit designed to replace lost earnings and earning capacity has proved inadequate compensation for many victims and the protection of employers from civil redress is seen as inappropriate in certain cases. It also masks the practice in some countries of assessing the benefit to be granted on the basis of medical evidence of the extent of disability. At the same time costs of insurance systems have risen and the appropriateness of individual employer contributions have also become increasingly debated.

Tensions in existing systems are therefore evident in a number of ways and it is noted that movement towards a closer alignment with the benefits available under civil law is a common trend observed several European countries (*Eurogip* 2005).

Definitions of injuries and diseases in the coverage of national systems

Accidental injuries at work: An 'accident' is variously defined but in all countries it refers to a sudden event at the workplace or during work activity that causes an injury. In all continental European systems there is a presumption that if an injury is the result of an accident that took place at the workplace and in working time, its victim is entitled to receive the appropriate benefits. In some countries however, the victim's own behaviour can weaken their claim. Intentional acts cannot be compensated (except in Denmark). In Spain 'rash carelessness' on the part of the victim is grounds to prevent compensation for injury. 'Gross negligence' in Denmark and Finland and in France, 'inexcusable fault', may be grounds for reduced benefits while in Germany, Austria and Luxembourg, if the reasons for the victim's fault are shown to be extra-occupational in nature, the injury may not be recognised as occupational (*Eurogip* 2005:21).

One feature of continental systems that contrasts with that of the UK concerns the treatment of accidents that have occurred while the victim was on the way to or from work. In most continental European systems 'commuting' accidents are included within the definition of eligibility for benefits, although the victim must be able to demonstrate that the journey in question was directly to or from work.

[3] Dating from the 1884 Industrial Accidents Act in Germany which introduced the co-operative accident insurance associations (*Berufsgenossenschaften*) under public law and funded by employers in different sectors of industry (*HVBG* undated)

Occupational diseases: The classification of occupational diseases in different EU countries is more varied. All countries have a list of conditions they recognise as 'occupational'. Developing and updating the occupational disease list is undertaken in different ways and by different authorities, but since it is normally appended to regulatory provisions, in all countries the state is involved. Advisory committees that are engaged with such activities also vary in composition in different countries. In Germany the relevant committee is composed of medical experts only whereas in other countries it may include the representation of employers and labour, such as in Denmark, or representation from social insurance funds, such as in France.

The role of the occupational disease list in determining specific cases of compensation varies. As far as the legal/administrative principles of different systems are concerned, there are two extremes. At one extreme is found the 'open system' in which each claim for benefits for an occupationally caused harm is treated on its own merits, such as in Sweden where the occupational disease list concerns only infectious diseases and all other conditions that could possibly arise from workplace exposures are treated individually. At the other extreme, the French list of 112 occupational diseases appended to its Social Security Code specifies symptoms or pathological lesions required to be present, the type of work that is known to cause the condition and the time limits for compensation claims. In theory, any disease meeting the medical, occupational and administrative criteria given in the list is systematically presumed to be occupational in origin, without it having to be proven (INRS, 2003). In other EU 15 countries the function of the 'list' falls somewhere between these extremes in decisions concerning the eligibility of conditions. Finland for example has a list of conditions that is indicative only and its system does not exclude any other condition. In practice therefore, like Sweden it has an open system. Most other countries where there are lists also have the possibility of conditions being occupationally related on a case-by-case basis. Even in France, the realities of the decision-making system are far less certain than implied by the systematic presumption of its legal/administrative principles and since 1993 there has also been the possibility of conditions that are not on the list being recognised as 'occupational' under the '*systeme complementaire'*. Originally, recognition of diseases not on the list required evidence that work was the direct cause of either death or a permanent incapacity of 66 per cent. In 2002, Decree No 2002-543 of 18 April lowered the percentage incapacity requirement to 22 per cent (*Eurogip* 2002:47).

Despite the opening up of list based systems however, evidence from claims records in a number of EU countries shows that in those countries where lists have played a significant role historically such as in France, Germany, Austria and Belgium, well over 90 per cent of diseases recognised as occupational remain on the basis of their inclusion in the national list (Munich Re 2002:22).

There is also a list drawn up by the European Commission based on Recommendations made in 1962 and 1966 and most recently in 1990. In 2002, the main list contained 92 diseases considered to be directly associated with occupational activities. A second list of 49 diseases included those suspected of having an occupational cause that might be

subsequently added to the main list. Because they are based on a CEC Recommendation, these lists have the status of no more than guidance to member states. Nor were they primarily designed with eligibility for benefits in mind, being intended as support for prevention systems rather than those dealing with compensation. Nevertheless, they may have helped to influence the decisions of some countries to move from list-based approaches to mixed systems, which has been a general trend observed over the last 30 years (Munich Re 2002:22).

Whether on a list or identified individually as part of a mixed system the process by which evidence is assessed and decisions taken as to the 'occupational' cause of a condition in most cases concerns two issues — the extent to which a condition can be ascribed to an occupational cause and the extent to which a claimant can show they have experienced such conditions. The means by which the first of these issues is resolved in most countries, as in the UK, is defined in legislation or the guidance to it. Determining the recognition of occupational associations with the cause of conditions involves review of epidemiological and other scientific/medical evidence and the achievement of broad expert agreement concerning increased risk in relation to occupational exposure. However, the operation of this process is somewhat opaque in many countries and it has proved difficult to obtain a documented position on the exact balance of ways in which a presumption of occupational risk is determined. It does not appear to follow exactly the rule adopted in the UK, where decisions for prescription are based on robust epidemiological evidence of a greater than doubled risk of the disease in an exposed occupational group compared to an unexposed group or the general population. However, there are broad similarities in the approach in all countries in as far as there is emphasis on the need for robust evidence of occupational risk and consensus of expert opinion.

Countries vary in the way in which they address the second issue — concerning the extent to which claimants' must show evidence of experiencing work conditions leading to disease. In Belgium, Italy and Luxembourg, both the occupational risks of a disease and the occupations in which such risks occur are defined on the list of prescribed diseases appended to legislation as in the UK. It is therefore sufficient for victims in these countries to demonstrate that they are suffering from a disease on the list and that they have been exposed to a corresponding risk or done a job also on the list (although the insurer or employer may submit evidence to the contrary). In France the content of the Tables of prescribed diseases are intended to furnish an irrebuttable presumption of attribution, provided all the recorded requirements are met in terms of the existence of the disease, the duration of exposure and the occupation in question. In Austria, Denmark, Finland, Germany, Switzerland, Portugal, Spain and Switzerland the list serves as a guide to the insurance organisation investigating the claim that the disease is occupationally caused and it will seek to establish if the disease in question could have been caused by a causal agent marked on the national list while at the same time searching to find whether there are extra-occupational factors that could cause the disease. In Denmark and Portugal, as in the UK, extra-occupational factors such as the claimant's medical history may be taken into account and benefits may be assessed as applicable only to the proportion of the condition that was caused by work (*Eurogip* 2005:22).

All this contributes to differences in the number of claims for compensation for occupational diseases and the recognition rates for such claims. Based on *Eurogip* (2002) data, Table 2 illustrates this variation across 12 countries for the year 2000.

Table 2: Claims filed and claims recognised 2000

Country	**Number of Claims**	**Claims per 100,000 covered**	**Claims Recognised**	**% Claims Recognised**
Austria	3040	103	1268	42
Belgium	6575	277	2661	41
Denmark	13,748	545	3138	23
Finland	5540	238	1495	27
France	40000	237	29918	75
Germany	71172	211	16414	23
Italy	28723	160	5941	20
Portugal	2796	55	1370	49
Sweden	13030	309	5840	45
Switzerland*	4537	136	3644	80

*Swiss data for 1999
Source *Eurogip* 2002:30-36

The administration of national schemes

Infrastructures: While injury and disease compensation systems are established by legislation in all countries, there are differences in the detailed arrangements and institutional actors involved in their governance and administration in different countries as is illustrated in Table 3.

Table 3: The administration of nine continental European injury and disease social insurance compensation systems

Country	**Organisations administering the schemes**	**Governing body**	**Advisory bodies**
Austria	AUVA and specific schemes for farmers, railway workers and civil servants	AASSI, *Hauptverband der österreichischen Sozialversicherungsträger*)	?
Belgium	National Social Security Office Occupational diseases	Ministry of Social Affairs, Public Health and Environment	Scientific Committee within the Occupational Disease Fund

	covered by the Occupational Diseases Fund		
Denmark	National Insurance Board for Employment Injuries and Occupational Diseases. Labour Market Occupational Diseases Fund collects insurance contributions from employers	Ministry of Social Affairs	Commission for Occupational Diseases
France	National Health Insurance Fund (CNAM) Regional Health Insurance Funds (CRAM) and local organisation (CPAM)	Ministry of Employment and Social Affairs	High Council for the Prevention of Occupational Disease, also INRS, the state research and information service on OHS
Germany	Sectoral Occupational Accident Insurance Funds *(Berufsgenossenschaften)* co-ordinated by national HVBG in the private sector, agriculture and the public sector have separate structures.	Federal Ministry of Labour and Social Affairs	Commission on Working Groups of the Occupational Accidents and Disease Insurance Technical Commission
Italy	INAIL	Ministry of Labour	?
Norway	National Insurance Scheme (state system) Occupational Injury and Diseases Insurance (private insurance companies)	Department for Work and Inclusion	No advisory body
Spain	Mutual Accident Insurance Companies (The 'Mutuas')	Ministry of Labour and Social Affairs	?
Sweden	Regional Social Security Agencies	National Insurance Board	National and Regional bodies

In addition different approaches result from the extent of country federalisation and regional autonomy, leading to variations between countries concerning the extent of centralisation of schemes, with some countries such as Sweden and France having highly regionalised administrative structures and others, such as Germany, having a well developed sectoral focus in addition to regionalisation. In the case of Sweden such regionalisation, in which there are 21 different regions, in combination with the open system of decision making on claims has resulted in considerable variation between regions in the outcomes of claims, leading in turn to public and political concern. In Germany the large number of self-governed insurance associations that deal separately

with different industrial and commercial sectors as well as those in agriculture and the public sector — the latter of which are organised separately in different federal states — creates concerns about the overall costs of the system and the complexities of its administration. *Berufsgenossenschaften* serving declining sectors of the economy such as mining, face serious financial difficulties as a result of the imbalance between existing contributions from employers in these sectors and the mounting legacy of claims for disease benefits that relate to exposures in the past. A consequence of this is the trend towards amalgamation and reorganisation of the German injury and disease insurance system that will see increasing mergers between previously separate *BGen*. In the future this is expected to include integration between the public and private sector system, leading to an overall streamlining of provision.

Other differences between countries are evident in the mix of public and private insurance organisations that make up their systems. In Belgium for example, there is a separate scheme for occupational accidents – the Communal Insurance Scheme – that is based on private employers' insurance and a state system — the Occupational Diseases Fund — that covers occupational diseases for industrial and commercial sector workers. This is the case too in Portugal. Also in Denmark, private insurers are the risk carriers for occupational accidents while occupational diseases are insured by specific funds financed by contributions from employers. In Norway and Finland insurers are risk carriers for both accidents and disease, but in Norway there is both a state system and a private employers' insurance system that 'tops up' the state system.

Additional provision — as noted elsewhere in some countries, the traditional system of social insurance for incapacity resulting from occupational injury and disease, which is designed to make up for lost earnings is supplemented by additional schemes usually resulting from agreements between the labour market actors, to provide additional benefits for their members. In Sweden for example, persons having higher incomes than those covered by the general system for compensation, may be able to achieve higher pensions through the Labour Market Insurance scheme operated jointly by the social partners (Swedish Employers Confederation and the Swedish Confederation of Trade Unions (LO) and the Council for Negotiation and Cooperation (the White Collar Employee organization or PTK[4]). Known as AFA Insurance, this scheme takes over from the public Social Insurance Agency when its ceiling level is reached and guarantees payment up to 100 per cent equivalent of the claimants' former earnings. AFA Insurance also pays lump sum 'damages' for pain, suffering and loss of life opportunities. AFA Insurance is funded on the basis of a levy on employers. However, from a trade union point of view it is also seen as trade union members' money - since by agreement it has been invested in AFA Insurance rather than been the subject of pay negotiation.

As also previously noted, in several countries studied, it is possible to claim industrial injury or disease benefit and sue the employer under civil liability laws, but while there

[4] PTK — The Council for Negotiation and Co-operation (PTK) was formerly knows as the Federation of Salaried Employees in Industry and Services. It is a joint organisation of 27 member unions, representing 700 000 salaried employees in the private sector.

has been some growth in significance of recourse to civil litigation in continental European countries, social insurance still dominates approaches to compensation in most cases.

Funding: Specific insurance schemes for compensating occupational injuries and diseases are funded by employers' contributions (and those of the self-employed where they are insured) in all EU-15 countries. In France 15 per cent of receipts are paid by the state as a result of various exemptions from employers' social security contributions (*Eurogip* 2004). In certain countries in addition the State also contributes; that is the case for example concerning asbestos diseases in France, or for the self-employed in agriculture in Germany and Finland. In Norway, employers contribute only one third of the financing of the state scheme, the other two thirds coming from a National Insurance Fee paid by all taxpayers and a state subsidy. However, the employers fund the total cost of the private Occupational Injuries and Diseases Insurance through their premiums. In some countries the insurance systems have other sources of funding such as from interest income and actions against third parties. These are normally quite small (representing between 1-3 per cent of overall receipts in France) but in Switzerland since 2000, income from interest has amounted to more than a quarter of the total received by the organisation in charge of occupational injuries insurance (*Schweizerische Unfallversicherungsanstalt – SUVA*).

Criteria for setting premiums: There are broadly two approaches concerning the pricing of injury and disease insurance. In one, employers' contribution rates vary according to the nature of their business and the extent of claims relating to their enterprises. In the other a single rate is applied to all enterprises whatever the activity and its risks.

In the former case, in some countries rates differ according to the kind of activity undertaken such as in Switzerland, Italy, Germany, Spain and Denmark. In Denmark contribution rates are calculated on the basis of costs of occupational diseases over the previous three years and the level of employment in each branch of activity. In Germany and Switzerland, in addition to the risk classes that are set according to activity, there is a merit rating that allows for the specific performance of an enterprise in relation to accidents at work to be taken into account. In some CRAMs in France for a number of years there has been the possibility of reduced premiums that are linked to evidence of preventive health and safety management systems being in place.

Where single rates apply to all enterprises they are based on a percentage of the payroll. For example in Sweden it was 1.38 for several years until 2003 when it was reduced to 0.68 per cent of the payroll as a consequences of surpluses generated in the late 1990s. In Austria, it is1.4 per cent and for accidents at work only, in Portugal and Belgium it was 0.5 per cent and 1.1 per cent respectively (*Eurogip* 2004). In Sweden there has been criticism that such approaches do not encourage preventive measures, but conversely, it is argued that introducing a differentiated approach would be more expensive to manage and would also compromise the principle of systematic redistribution among risk groups that is fundamental to the social insurance system.

In its survey of costs and funding of injury and disease compensation systems in 13 continental European countries the *Eurogip* (2004) reported general support for the funding arrangements for these systems. It noted specific criticisms levelled by employers in countries such as Austria, where it has been argued that employers' contribution rates are too high. The survey showed that, at the time it was undertaken, in several countries, such as Spain, Sweden, and Austria, insurance schemes generated a financial surplus. This is not a steady condition; periodic fluctuations occur and in these countries, as well as in others, there are times when there are annual deficits. However, such deficits do not appear to have provoked serious concerns over funding mechanisms.

Costs: In all cases when accidents and diseases are managed in the same insurance organisation, employers' contributions cover both and no distinction is made between them. However, the cost of compensating occupational diseases is greater than that for occupational injuries, accounting for over three quarters of the total costs of compensation in most countries.[5] Table 4 shows the costs to insurance organisations of occupational diseases in seven European countries in 2000, based on benefits in kind such as health care, prostheses, vaccinations etc, rehabilitation, payments for temporary disabilities, pensions and capital payments in cases of permanent disability, benefits to legal beneficiaries and funeral expenses.

Table 4 Costs to insurance organisations for compensation and rehabilitation in seven countries 2000

Country	Cost in million €	Insured population	Ratio per 100,000 in million €	% paid in benefits	% used in prevention costs	% used in management costs#
Germany	1,223	34,000,000	3.59	71.2	6.5	10.1
Austria	23.3	4,248,360	0.69	88	5	7
Belgium	334	2,656,456	12.57	94	*	6
Denmark	67	2,523,878	2.65	90.5	1	8.5
France	Costs	calculated	differently	72	4	6
Italy	1,069	18,300,000	5.84	*	*	*
Portugal	36.7	5,113,100	0.72	95	*	5
Switzerland	46.52	3,442,331	2.11	90	*	10

*separate figures for prevention costs not available
not shown in the table are amounts that insurance organisations are required to transfer to other organisations (for example transfers between the insurance organisation for occupational injury and disease and health insurance organisations or special pension funds). Nor are the amounts transferred to the organisations' reserves shown.
Source: Eurogip 2004

[5] However, this masks significant sectoral differences related to incidence. In Finland for example it has been shown that injuries in agriculture represented 92 per cent of claims and 71 per cent of costs (Rautiainen *et al* 2006)

The Table shows considerable variation between different countries. Reasons for the variation can be in part attributed to the nature of occupational diseases recognised in different countries which in turn is a reflection of previous industrial histories, for example, that of mining in Belgium and Germany, and the continued burden of previously recognised claims for conditions that are a consequence of these differences. It is also caused by present day differences in what are recognised as eligible for compensation in different countries (in Belgium the high cost of the system is partially explained by its recognition of large number of claims for lumbar osteoarthritis). Further reasons can be attributed to differences in the extent of reparations provided for by the compensation systems of different countries, Thus, for example, most of the costs of health care are covered by health insurance systems or by the National Health Service in countries such as Belgium, Denmark and Italy, but are borne by the occupational injury and disease insurance system in the case of Germany and largely in Austria too. There are variations between systems in the extent and timing of payments for temporary disabilities and of course, the amounts paid for permanent disabilities also varies between countries. Reasons for variation in management costs can also be found in differences in the structure and functions of different national systems. It is not clear to what extent these 'management costs' are comparable with the activities covered by the administration of the IDB in the UK, but it seems that their costs may be considerably higher than the 2 per cent of the total budget that is used in the administration in the UK (DWP 2007:21).

These differences in relation to injury and disease benefits also need to be seen in the context of overall differences in the costs of social security expenditure. It was well established in the 1990s that the UK spent a considerably lower proportion of its GDP on sickness/invalidity/occupational injury benefits than other European countries as is shown in Table 5.

Table 5 Sickness invalidity and occupational injury benefits as % GDP in 1993

Country	Sickness invalidity and occupational injury benefits as % GDP 1993	Sickness invalidity and occupational injury benefits as % of all social protection benefits 1993
UK	8.4	31.3
Denmark	9.1	28.1
Netherlands	14.2	44.5
Belgium	8.9	34.5
France	10.0	34.1
Germany	11.4	38.4
Mean EU 12 countries	9.4	35.2

Source: Eurostat (2000)

Despite these various differences in overall costs, *Eurogip* points out that trends in countries such as Switzerland, Denmark, Austria, Germany and Belgium have been relatively stable from the second half of the 1990s. Fluctuations that occurred are partly explained by changes in criteria for recognition, including the recognition of more expensive conditions. In France Italy and Portugal there were increases in the costs of compensation for occupational diseases over the same period, explained by the impact of increased recognition of asbestos related conditions (in France), increases in the number of insured persons, changes to conditions for recognition as well as increases in earnings on which pensions are based.

Sweden provides an interesting example of political/legislative influence on claims and their costs. The favourable rules of evidence in the original Work Injury Insurance Act 1976 were held responsible for major increases in the number of successful claims in the 1980s and this caused the coalition government of the early 1990s to introduce changed provisions in 1993, which limited the scope of work injury/disease benefits and altered the rule of evidence so that a two-step process was introduced. In this process, first it had to be established whether the insured person has suffered an injury or harm at work. The second step was to assess whether the injury/harm was caused by that harmful influence at work (this assessment involved a judgement of whether there were stronger grounds for such a presumption than not). In the case of occupational diseases, the rule of evidence could not be applied until the harmful influence had been established. These changes resulted in a spectacular decrease in the number of successful claims but created a further political debate concerning the restrictive effect of the new measures, especially in relation to musculoskeletal diseases that mainly affected women. As a result, under the Social Democrat government in 2002 further reforms were introduced broadening the scope of the rule of evidence. The two step approach was changed into a single step in which an injury is presumed to be work-related if the grounds for considering it to be so are stronger those for not considering it so. The number of successful claims has risen as a result.

Eurogip (2004) data on the differences between the costs of specific occupational diseases in six European countries (Germany, Belgium, Denmark, France, Italy and Switzerland) suggest that on average diseases caused by asbestos have become especially expensive (23 percent); when these are added to those caused by exposure to silica (12 per cent) and to other diseases of the respiratory tract (6.3 per cent), overall respiratory diseases are on average by far the highest cost of compensation. These are followed by musculo-skeletal conditions (21 per cent) and then by skin diseases (10 per cent) and occupational deafness (10per cent). However, these figures mask substantial differences of detail that exist between countries – in France for example, nearly half the costs of occupational disease claims between 1999 and 2001 was for diseases caused by exposure to asbestos and over one third were related to musculo-skeletal conditions.[6] In Sweden and Denmark musculoskeletal conditions were the most expensive for compensation while in Germany and Belgium, the most expensive were diseases caused by exposure to

[6] However, this might be slightly misleading, the cost of claims for silicosis does not appear in the Eurogip data on France because French miners have separate insurance arrangements. Nevertheless other sources confirm the continuing high costs associated with asbestos disease (Paillereau 2007)

silica. Once again, these differences in the costs of compensation for different diseases in different countries are largely explained by the nature of past and present industry and differences in the criteria for the recognition of occupational diseases,

The major expense for insurance organisations in all cases is the payment of benefits. Administrative costs range between five to ten per cent of the budget, while those countries in which prevention activities are also performed by these organisations, their costs are between one to five per cent. The *Eurogip* figures in Table 4 do not distinguish between benefits and prevention costs for four countries. This is usually because prevention is not one of the functions of the insurance organisation concerned.

Benefits

Arrangements concerning health care and other medical expenses have already been outlined. Financial payments to claimants, ameliorating the consequences of injury or disease, are the subject of the following section.

Eurogip (2005) compared arrangements for financial benefits EU 15 countries, Austria and Switzerland. Its overview notes that since most financial benefits are to replace lost earnings, they are calculated on the basis of a reference wage, which reflects the gross wage received by victims in the year previous to their claim. Generally minimum and maximum earnings to be taken into account in this calculation are fixed (Finland and Portugal are exceptional in that there is no set maximum earnings in the calculation in these countries).

Table A. 1 in Annex 1 shows the maximum and minimum earnings that were taken into account in 12 continental European countries when calculating awards for either temporary or permanent disabilities for the year 2000. It illustrates both the considerable variations between the maximum earnings taken into account in different countries as well as the fact that in all cases the sums involved are far greater than provided under the IIDB in the UK.

Temporary disability benefits: In cases of inability to work following an occupational injury, in some countries the employer is required by law or collective agreement to continue to pay the victim's salary for an initial period, after which, benefits from the occupational injury and disease insurance system will take over. This is the case in Austria, Belgium, Denmark, Germany and Luxembourg (although in the latter only permanent employees are covered), where the full earnings of the victim must be maintained and in Italy and Sweden where part of the earnings are maintained. The length of this initial period varies between countries from a few days to months. If the incapacity is temporary, following the initial period of continued payment of earnings by the employer, or in countries in which employers do not have such obligations, from the first day of temporary incapacity, daily benefits are paid by the occupational injury and disease insurance organisation (or through the health insurance organisation as in Denmark and Sweden). These are calculated as a percentage of the victim's reference earnings (ranging from 50 per cent in Austria to the total of the ceiling earnings in

Luxembourg and Finland). In Austria, France, Italy and Portugal, benefits may be increased if they are still claimed after a certain period (between 28 days to one year depending on the country).

The period for which these temporary payments are made is fixed by law in some countries, in others such payments may continue until recovery or medical stabilisation. In all cases, after this point, if the victim has not recovered they may be eligible for a benefit for permanent disability.

Table A. 2 in Annex 1 based on the *Eurogip* (2005) data summarises the arrangements for 12 continental European countries

In Germany, when vocational reintegration measures are underway, the insurance system pays a 'transitional benefit' so they are not financially disadvantaged in comparison with their entitlement to injury benefit. Beneficiaries receive 70-80 per cent of the injury benefit (HVBG 1996). According to the HVBG, in 2005 the *BGen* spent 2.5 billion Euro on their rehabilitation services compared with 5 billion Euro on compensation, 0.7 billion on prevention and 1.1 billion on administration (Eichendorf 2006).

Permanent disability benefits: While there is considerable variation in national systems for financially compensating victims of occupational injury and disease, following *Eurogip* (2005), two main approaches to calculating compensation can be seen in continental European countries (Table A3 in Annex 1).

In Austria, Belgium, France, Germany, Luxembourg, Portugal and Spain,[7] the calculation is based on recompensing victims for their loss of earning capacity. In these countries principles for assessing damage to victims take account of the personal characteristics of the victim and their value in the labour market. This includes the nature of the damage, the potential for rehabilitation as well as the age, gender, training and work capabilities of the victim. However, in practice assessment is according to an essentially medical indicative scale that is also meant to allow for the job capabilities and qualifications of the claimant. A medical assessor will determine the disability rate according to the listing of the injury in a national scale and this rate used by administrators to calculate the appropriate level of benefit. Socio-economic factors are only likely to be relevant in a minority of cases, usually to determine whether special circumstances warrant a correction to the assessment. In Spain and Portugal whether the victim is able to carry on their usual occupation is included in the calculation, distinguishing between partial or total permanent disability from exercising a usual occupation and absolute permanent disability.

In Denmark, Finland, Italy, Sweden and Switzerland, victims receive compensation for both loss of earnings capacity and in addition for the lasting damage to physical or mental

[7] In Spain there is a provision for payments for permanent disabilities that represent a reduction in the victims' physical integrity. But the size of these payments is so small in comparison with those resulting from compensation for loss of earnings capacity that Spain has been included in this group.

integrity. In terms of loss of earning capacity, the income that a victim can still earn is compared with the income they would have earned if they had not suffered the accident or disease in question. Even if a claimant has been forced to change jobs as the result of an injury or disease, if there is no evidence of reduced earnings then they will not qualify for compensation for loss of earning capacity. A claimant's earning capacity following an injury or disease is assessed according to training experience, job capability, injuries/disease, age and capacity for rehabilitation. These criteria are used to assess limitations caused by the sequels to an occupational injury/disease on the claimant's earning potential and not as adjustment factors to an essentially medical assessment, as is the case in the former group of countries. However, the distinguishing feature of this second group of countries is that their systems also pay compensation separately for physiological harm suffered by the claimant, either as reduced physical and mental function or as recompense for reduced quality of life.

In Sweden this latter compensation is achieved through the complementary labour market AFA Insurance arrangements described previously, which as well as providing compensation beyond the ceiling level for loss of earnings, also extends cover to damages for pain, suffering, bodily harm and loss of amenity, to levels comparable with that available through the civil law. In Finland so called 'handicap benefits' are available for claimants with permanent discomforting damage. In Denmark there are benefits for physiological damage where it affects the claimant's everyday life, while in Italy, although formerly separate, physiological damage and loss of earnings are now addressed together in one overall pension, the assessment of physiological damage forming the basis of the award for loss of earning capacity, that is, according to a medical disability rate and the extent to which a claimant is able to continue in his or her normal work.

Compensation is calculated on the basis of a disability rate based on either medical or earnings disability or on actual loss of earnings. The minimum disability rate required before a claimant qualifies for benefits varies. For example, it is 10 per cent loss of earnings capacity and 5 per cent loss of actual income in Finland, 6.6 per cent lost earnings in Sweden, rising to 20 per cent in Austria and Germany and 33 per cent in Spain. In some other countries such as Belgium, France, Luxembourg and Portugal, compensation is available for loss of earnings capacity from the first per cent of permanent disability.

Compensation is then worked out on the basis of the disability rate, the earnings received before the injury/disease (capped with reference to a ceiling maximum in most countries as shown in Tables A.1 and A.4) and a maximum coefficient of compensation. As shown in Table A. 3, in some countries the disability rate initially allocated may be weighted to provide enhanced compensation for major disabilities and vice versa for minor ones. For example in Austria, an additional 20 per cent is added to the pension if the disability is 50 per cent or more and a 50 per cent added if it is greater than 70 per cent. In France, the initial disability rate is reduced by half for the disability that is less than 50 per cent and increased by half for the part that is greater than 50 per cent.

Financial payments are normally in the form of a pension, but lump sums may be paid if the permanent disability rate is low or moderate. For example, in France and Luxembourg this is the case if the rate is lower than 10 per cent, in Portugal if it is lower than 30 per cent and in Denmark if it is lower than 50 per cent. In most countries, subject to certain conditions, lump sum payments may be made if requested. Such limiting conditions may include the extent of the disability rate, or the age of the claimant. In a number of countries such optional redemption only applies to part of the pension sum.

Other beneficiaries and benefits: These are mainly available for surviving spouses and dependents where a person has died as the result of a workplace injury or disease, third party help and material damage, although in some countries there may be further benefits available. Compensation for surviving spouses/partners may be subject to the legal status of the spouse (or in some cases ex-spouse if they are receiving alimony). It is calculated based on the injury pension of the deceased and in some countries it may be age dependent. It may further depend on the existence of children and on the presence of work disability in the surviving spouse. It may be a life annuity or for a fixed period of time usually dependent on the age of the beneficiary. For dependent children, benefits are expressed as percentages of the deceased's reference wage usually paid until the child is adult, but may be extended for continuing studies or if the dependent is disabled. Benefits are also available for third party assistance in most countries according to the extent of physical dependency. In Luxembourg there may be the possibility of repayments for material damage up to a ceiling of two and a half times the minimum legal wage.

Tax and social security contributions and occupational injury and disease pensions: Data is summarised in Table A 5. It shows that Belgium was the only country in the *Eurogip* (2005) survey in which pensions were subject to social security payments. In a number of other countries however, pensions were subject to income tax (unless taken in the form of a lump sum). In Austria, France, Germany, Italy, Luxembourg and Portugal they were exempt from both tax and social security as is the case for a pension for total permanent disability in Spain. In Norway, national insurance scheme benefits are not subject to tax, unlike those provided though private insurers. The effect of the receipt of benefits on other taxed earnings is not entirely clear. However, in some countries they are taken into account in the assessment of taxable earnings from other sources.

Other aspects of national schemes: prevention, rehabilitation, retraining and return to work.

Occupational injury and disease insurance systems were originally designed to compensate victims for loss of earnings as a consequence of their inability to work following the harm they suffered and this still remains their principal feature. However, the organisations involved in many countries also play a proactive role in helping injury and disease victims return to work and in improving the work environment in order to prevent the occurrence of injuries and ill-health.

Perhaps the most developed form in which this occurs is found in Germany, where the sectorally based employers' liability insurance associations (*Bgen*) make up a major

element of the dual system for regulating the work environment that is a characteristic feature of the German system. Here, the legally mandated role of the insurance organisations extends not only to specific initiatives on rehabilitation and prevention but into regulation and regulatory inspection, since the insurance system and its sectoral organisation has the capacity to set rules and require compliance from the enterprises covered. The whole system appears to be substantially resourced and its sectoral basis allows for detailed focus on the specific risks and prevention strategies that are appropriate to particular sectors and branches of economic activity, as well as for co-operative approaches with employers, trade organisations and trade unions at these levels (Schaapman 2002).

In other countries that have occupational injury and disease compensation systems modelled along German lines, a similar degree of engagement in preventive and rehabilitation initiatives are found and there are some prominent examples of progressive initiatives to address current issues. For example the AUVA Safe system in Austria provides a free support service for health and safety management in small firms with less than 50 workers (Walters 2006). In France prevention is the responsibility of the insurance system and the practice of linking financial incentives in the form of reduced insurance premiums to evidence of arrangements in place to manage health and safety is well established in some CRAMs. In Italy INAIL provided a substantial information and support network for health and safety. Indeed, in many of these countries the role of the occupational injury and disease insurance systems is so deeply embedded in the fabric of national support for occupational health and safety, interlinked with the provision of preventive services, setting standards, the education and training of specialists and both the provision of and support for research on health and safety issues, that it is not possible to fully appreciate its significance without a wider understanding of the structure and operation of the health and safety system as a whole. However, nowhere is its role extended into regulation and inspection to the extent that it is in Germany.

Rehabilitation is also a prominent feature of the German system. It is a 'first principle' that there should be 'rehabilitation before pension' and to this end the *Berufsgenossenschaften* approach provides a 'curative system' in which curative treatment is closely interlinked with vocational services providing occupational rehabilitation. The aim is to reintegrate the injured/diseased person into working life in accordance with their performance potential and wherever possible, on a permanent basis. Measures include those geared towards maintaining former employment or finding new employment, initiation courses, further training, initial training, retraining, reintegration subsidies for the employer and assistance from a '*Berufshelfer*'. Reintegration takes account of the individual's suitability, preferences and previous position (HVBG 1996). The benefits system in Germany is also geared towards supporting the process of rehabilitation through the payment of the transitional benefits previously mentioned. German assessment of the role of the *Bgen* is generally positive concerning the success of rehabilitation strategies, however, Waddel *et al* (2002:238-40) in their international review, question whether existing evidence entirely supports this view and at least one recent German study would seem to express similar concern (Zelle *et al* 2005).

In countries such as Austria and Switzerland that are based on the German model, rehabilitation is also an important objective, which as in Germany, is pursued separately by occupational injury and disease insurance organisations, whereas in other countries of continental Europe it is largely a function of other parts of the social insurance system or shared between them and the occupational injury and disease insurance organisations.

In Norway rehabilitation is handled by other parts of its national insurance scheme, while in Sweden, an interrelationship between provisions on industrial injury benefits, wider social security measures and those on employers' duties to provide a safe and healthy work environment has been sought. Since the 1990s, legislation has given employers increased responsibilities for vocational rehabilitation and work re-placement. At the same time social security facilities and initiatives providing rehabilitation were increased, however results have proved to be mixed (MISSOC 1998). Indeed, observers of the Swedish system interviewed in the present study expressed some doubt that provisions for rehabilitation were achieving their maximum effect. In Finland the occupational injury and disease pension institutions provide rehabilitation services that must ensure that claimants' prospects for rehabilitation have been fully investigated before disability pensions are awarded. A special allowance is also payable during periods of rehabilitation. In France there is a complex arrangement of organisations involved in rehabilitation and a prominent role for medical monitoring

Discussion

It is difficult to appreciate the significance of the role of work injury/disease benefit systems in other countries without an understanding of their place the wider framework of social insurance/welfare and health care systems and their role in the systems for regulating the work environment and working conditions in different countries. In many countries and especially in those modelled on the German approach the occupational injury and disease compensation system is closely bound up with other elements of these systems for addressing health and safety at work, including standard setting, research, education and training and in Germany itself, regulation and regulatory inspection. A further point to note concerning the German system ands others based on it is that mutual insurance associations like the *Bgen*, although financed from the contributions of employers, are managed jointly by their representatives and those of employees, thus ensuring some degree of representation of both employer and employee interests that has potential to span issues of compensation, rehabilitation and prevention.

When comparing arrangements for work injury/disease benefits in other countries with the Industrial Injuries and Disablement Benefit (IIDB) scheme in the UK it is immediately apparent that the British system is based on a conceptualisation of compensating occupational injury and disease that is quite different to the predominant models of social insurance found in other countries. Partly as a consequence, it allows for considerably lower benefits than other European systems and represents lower proportional expenditure on this form of support for workers harmed at work than found elsewhere in Europe. At the same time, in contrast with some other EU countries, the

IIDB makes no provision for either prevention or rehabilitation. Of course, these elements and the regulation, inspection, research, education and communication that go with them are addressed in other parts of the UK system, but this separation makes it very difficult to meaningfully compare the distribution on the various elements of support for health at work between the UK and other countries. More significantly, it is possible that this separation hinders the development of a more joined up approach to systems to improve prevention, rehabilitation and compensation in the UK. Such approaches are notable in some continental European countries like France and Germany, where for example in Germany the recent initiative on Work and Health (*IGA*) has a range of common projects and activities between social insurance organisations and federal bodies, including shared campaigns such as the current initiatives focussed on skin and research on the ageing work population. Also in Germany and in some other countries, joined up initiatives are especially evident at sectoral level and undoubtedly the sectoral organisation of the *Bgen* has contributed to making this possible (Walters 2006).

Having noted these contrasts, there are many common elements in discussions concerning the relevance of compensation systems to the current nature of work and its health consequences between the UK and other countries. It is further the case that, as in the UK, reform of present systems is planned or called for in a number of European countries. This has also been true for some time for systems in other advanced market economies outside Europe (see for example Sullivan (ed) 2000 for Canada; Guthrie *et al* 2006 on Western Australia; Klein and Krohm 2006, internationally)). Such reform seeks to address issues of affordability, and efficiency while at the same time dealing with perceived weaknesses in cover and notions of justice in the redress of harm.

As is evident from the statistics on the costs of claims for occupational diseases, conditions associated with heavy industry and mining still dominate compensation claims in many countries in ways similar to that found in the UK. This legacy of the industrial era has a number of effects. First, it means that as long as conditions that are eligible for compensation are based on lists primarily constructed of the 'classic' industrial diseases, the number of claims (and therefore costs of compensation) are unlikely to increase dramatically, unless, as seen in France, exceptional cases such as the recognition of the extent of the problems associated with past exposure to asbestos and consequent public and political pressures come into play. It also means that the gender distribution of successful claimants under these systems will be predominantly male. Second, it creates some problems for sector-based systems such as found in Germany because while the industrial sectors from which such conditions tend to arise are declining the number of cases eligible for compensation are not. The *Bgen* address this problem through arrangements to distribute claims costs amongst organisations covering other sectors. The planned mergers of currently sector-based organisations will help this process. Third, since criteria for recognition of causation are by definition likely to favour well established and historical associations between exposures and diseases, it follows that prescribed diseases in list based systems are likely to be dominated by conditions associated with a previous industrial era rather than the present day economy. The move to 'open' systems partially addresses this problem but evidence suggests that it does not do so entirely. Statistics indicate that the older 'listed' conditions still dominate amongst

recognised claims and this is clearly brought about by features of the administration of systems rather than having anything to do with the comparative prevalence of these forms of occupationally related ill-health.

How compensation systems deal with the predominant current conditions of ill-health associated with work is a major issue for all systems. In some countries there is evidence from successful claims that MSDs now feature more prominently than in the past and there has been increased acceptance of occupational causality in relation to them. Dealing with stress related conditions still represents a significant challenge in all countries however, as has been widely noted in compensation systems in advanced market economies world-wide (Sullivan (ed) 2000). Although claims relating to stress are possible under the 'open' procedures in a number of countries, there is little evidence anywhere that compensation systems have succeeded in addressing it adequately. The literature is in broad agreement that while there have been considerable advances in understandings of the relationship between work and mental health, there are significant problems for compensation systems for which no convenient policy solutions are at hand. This is especially so for chronic stress and this seems set to continue to represent a challenge in the future (Gnam 2000). There is also some evidence that while there is an imbalance in successful compensation claims in general in favour of men, caused by the industrial bias of traditional occupational diseases, it is especially extreme in relation to stress related claims (Lippel 1999). It is suggested that as with MSDs there is a particular difficulty in demonstrating occupational links for women suffering such conditions (Guthrie and Jansz 2006). In countries such as Sweden such imbalance is of sufficient concern to be a significant factor in calls for reform (Westerholm 2007).

A further problem evident in countries in which open systems predominate, such as in Sweden concerns issues of consistency in the settlement of claims. In Sweden this problem is exacerbated by the regional administration of the system and as previously noted, considerable differences in the nature and extent of settlement of claims between regions has prompted public controversy and calls for reform. However, the problem is also one of uncertainty associated with both the occupational causes of certain conditions such as stress as well as the prognosis concerning their duration, in satisfyingcriteria for compensation. In Sweden, research is currently underway to produce criteria documentation and guidelines that intended to aid in establishing consistent approaches, publication of which is anticipated during 2007 (Westerholm 2007).

Another trend that is evident in several countries is some reorientation of national 'no fault' compensation systems towards a closer fit with civil law models. Perceived inadequacies in levels of compensation available through social insurance combined with perceptions of injustice over employer immunity from redress under the civil law have led to changes. For example, although in six EU 15 countries, Germany, Belgium, France, Italy Luxembourg and Sweden as well as in Austria, employers are still generally protected from civil actions being taken against them to prove further financial liability for the harm caused, there are some exceptions to this principle in these countries, for example covering certain cases of commuting accidents in Germany Belgium and France, as well as where there is serious ('inexcusable') fault and/or an offence committed by the

employer. Serious or intentional fault/offences can also lead to the possibility of civil claims in Luxembourg, Italy and Sweden. It seems to be the case that the trend across these countries is for such exceptional circumstances to become recognised more frequently than in the past as a means of improving financial benefits that go beyond those available for loss of earnings (*Eurogip* 2005).

In three continental EU 15 countries there is no employer immunity conferred through the presence of social insurance. In Spain, the Social Security Act 1966 abolished employers' immunity and provided that workers could demand appropriate compensation through criminal or civil proceedings. In Denmark victims can use the courts to make a claim for compensation where employers have failed to comply with regulatory requirements on OHS. In Finland employers may have a civil liability for benefits in excess of those provided for under social insurance arrangements insurance. Again, in these countries, as in the ones in which some measure of employers immunity is still in place, is towards finding ways to provide additional financial benefits for victims of occupational accidents and disease that goes beyond the reparation available though work injury/disease insurance benefits.

Changes in the laws of several countries have occurred over the last few years in relation to these issues. For example in Italy an Act in 2000 (that came into force in 2002) in which the concept of loss of earning capacity was replaced by that of biological damage, has the effect that insurance organisation now pays compensation chiefly for physical and psychological harm to victims and in practice this increases the compensation available for permanent disability (*Eurogip* 2005:27). In Denmark, reforms introduced in 2004 included compensation for future medical treatment and compensation, at the same level as that available through civil law, for survivors of a death caused by intentional fault or gross negligence on the part of the employer. These changes along with increases from 2002 in the level of compensation payable through the social insurance system helped bring the two systems into closer alignment (*Eurogip* 2005:27).

Another issue that has received quite a lot of attention in the literature concerns the costs of compensation systems. Although systems in the United States are outside the scope of the present review, the costs of its various compensation systems have been addressed extensively in the international literature as well as on the extent to which they support or delay return to work. Much of this work focuses on the cause of increased costs and the means with which they are addressed (see for example Neumark *et al* 1991, Spieler and Burton 1998 Bernacki 2004, Green-McKenzie *et al* 2004), although other researchers have argued that workers' compensation covers less than a half of such cost (Leigh *et al* 2001). Indeed, in a further US study Leigh and Robbins (2004) argue that comparison of epidemiological and workers compensation estimates of the costs of occupational deaths and diseases shows substantial cost shifting from workers' compensation systems to individual workers, their families, private medical insurance and taxpayers.

US reviews have suggested a positive relationship between increases in benefits and increased claims (Loeser *et al* 1995). In contrast, in Australia, Tito (2000) has pointed out that there is no evidence that payment of compensation delays return to work or that the

lack of compensation pressures patients into returning, or which of these is medically ideal (referenced in Waddell *et a*l 2002). While no clear consensus emerges from this literature, it is evident that there has been concern that some forms of workers' compensation may fail to provide appropriate incentive and support for rehabilitation and return to work (see for example, Horn and Glass 1971 Brewin *et al*, 1983; Mendelson 1983). Similar concerns have also been expressed by European researchers, such as Pernille Lysgaard *et al* (2005) in Denmark. A recent German study argues that aspects of the German system militate against return to work amongst polytrauma accident victims, despite inclusion of rehabilitation as a major aim of the system. The authors of this study emphasise the role of psychosocial factors in influencing outcomes, suggesting, in common with US authors, that 'secondary gain' (Fishbain *et al* 1995) is a significant factor. They argue that earlier intervention of professional psychosocial support would help to improve outcomes (Zelle *et al* 2005). In somewhat similar vein but with a victim orientated perspective, Tito argues ' A crucial challenge for health professionals and compensation administrators is how to minimise the additional disabling impact of compensation processes so that all injured people have to deal with is the original injury' (quoted in Waddell *et al* 2002).

Despite the recognition of these problems and the reforms to deal with them, generally the administratively based sources of information on the organisation and operation of compensation systems in Europe are fairly positive about the affordability and structuring of present day systems in advanced market economies. At the same time they offer relatively little in the way critical analysis of the extent to which these systems succeed in serving the victims of occupational accidents and diseases in the societies in which they operate. In contrast, findings in the research literature are somewhat at odds with the complacency of administrative accounts. For example, several studies have drawn attention to the small number of claims for benefits compared with the known much larger occurrence of occupationally related ill-health (Biddle *et al* 1998). In France Thebaud-Mony (1994) suggested several factors to explain this, including the limitations of the experience and ability of doctors to recognise occupational causes, the ignorance of workers concerning both the hazards of their work and their entitlements to compensation, exacerbated by the complexity of the administration of the system for compensation and fears of victimisation by employers. She also suggested that delays in the settlement of claims, exclusion of claims because of false information from employers, and contradiction between the principle of presumption of occupational cause that is found in the French list based system and the medico-legal practice of seeking expert medical testimony to prove causality, all contributed to deny victims compensation. Furthermore her studies demonstrated that the processes by which claims were rejected were not evaluated and therefore such practices continued unchallenged. While the French system has been reformed since Thebaud Mony's studies, more recent research demonstrates that it continues to operate in many ways that deny victims compensation (Daubas-Letourneux, 2005). Also, current data on occupationally related ill-health, the number of claims made for occupational disease and numbers of claims recognised continues to demonstrate that only a small fraction of people whose health is damaged by their work seek compensation and recognition of such claims rarely exceeds 50 per cent in any European system.

Lippel (1999), reflecting on Canadian experience, makes the point that not only does the complexity of making a claim exclude many, but it may also have negative consequences for recovery and return to work. She further points out that while one of the great virtues of 'no fault' systems for compensation is that they act to eliminate adversarial approaches to claims, the use of experience-rating by some insurance systems destroys this advantage since it provides a strong incentive for employers to contest claims (see also Ison 1986a). In Australia Roberts-Yates (2003) identified several factors in relation to claims management and rehabilitation that contributed to a negative experience for injured workers and obstructed speedy and satisfactory claims resolution. They included erratic payments of economic benefits, indifferent case managers, stigmatisation of claimants and negative or suspicious responses from service providers and professionals. Guthrie (2002) has suggested that power imbalances between claimants and compensation insurers in Australia and more widely are important influences on how claims are resolved.

In a further study Lippel (2004) argues that surveillance of injured workers practiced in some provinces in Canada violates fundamental human rights, contributes to the stigmatisation of injured workers and acts as a barrier to their return to work. Campolieti (2005) shows in her recent study that there is a strong union effect on claims, with unionised workers have shorter claims than non-unionised workers. Given the decline in unionisation in most advanced market economies and the rise of neo-liberal economic rationalities, this finding gives claimants little room for comfort, a point developed by MacEachen (2000) in a study of the operation of workers compensation in Canada. She comments that while others have tackled macrostructural reasons for malfunctioning of systems, her own analysis points to an alternative micropolitical explanation in which a shift from welfarist to neoliberal rationalities increases the tendency of managers to regard claimants as neglectful of their own bodies and increases attribution of blame to failure of workers to discharge their own responsibilities to avoid risk, contributing to more adversarial claims resolution.

The practice of experience rating also has its critics who argue that as well as the more adversarial approaches by employers and insurers towards victims of injury and disease that are seeking compensation, the incentivisation of prevention that is intended by such systems, in practice may encourage falsified reporting and misguided decisions based on such data (Thomason and Pozzebon 2002; Ison 1986b; Ison 2001).

Finally, attention in the literature has also concerned the impact of changes in the nature of employment and labour market on the coverage and use of compensation systems for injury and ill health for the increasing number of workers that do not work in conventional employment relationships. A number of researchers have argued that growth in precarious employment in advanced market economies has eroded the coverage of workers compensation systems, creating administration difficulties undermining coverage and compulsory insurance objectives as well as weakening processes for making claims, ensuring equitable treatment of injured workers and delivering efficient return-to-work and rehabilitation practices (Quinlan and Mayhew

1999; Plumb and Cowell 1998) There is some further evidence that the costs of compensating injured workers are as a result being shifted from workers compensations systems to those concerned with public health or social security (Purse 1998). Relatedly, it has been noted that compliance with employment security provisions in relation to return to work following injuries is neither monitored or enforced with any vigour in most systems (Purse 2002). In a recent study, Quinlan (2004) argues that while the picture is far from uniform in different countries there is nevertheless sufficient evidence to confirm these earlier findings and to suggest that, at very least, further investigation is warranted. Guthrie and Quinlan (2005) further argue that in the case of the eligibility of illegal workers for compensation for occupational injury or disease, there many ambiguities in the law that need to be addressed. They suggest that at least in Australia and the US, expansion of coverage of workers compensation provisions is required as well as stricter controls on employers who fail to properly insure their activities in relation to illegal workers.

Conclusions

It is difficult to appreciate the significance of the role of work injury/disease benefit systems in other countries without an understanding of their place the wider framework of social insurance/welfare and health care systems and their role in the systems for regulating the work environment and working conditions.

The Industrial Injuries and Disablement Benefit (IIDB) scheme is based on a conceptualisation of compensating occupational injury and disease that is quite different to the predominant models of social insurance found in other countries. It allows for considerably lower benefits that are not earnings related and represents lower proportional expenditure on this form of support for workers harmed at work than found elsewhere in Europe. Furthermore it makes no provision for either prevention or rehabilitation.

However, there are many common elements in discussions in the UK and other countries concerning the relevance of compensation systems to the current nature of work and its health consequences. They include issues of affordability and efficiency and there are commonly perceived weaknesses in cover and redress of harm in most systems. The legacy of the industrial era remains widespread and conditions that are eligible for compensation are still based on lists primarily constructed of the ‘classic’ industrial diseases. This means that as the industrial workforce declines the number of claims for such conditions (and therefore costs of compensation) are unlikely to increase dramatically. But at the same time it means that the relevance of compensation systems to modern forms of work-related ill-health is limited. It also means that the gender distribution of successful claimants under these systems will be predominantly male. The move to ‘open’ systems partially addresses this problem but evidence suggests that it does not do so entirely and it also suggests that it creates new problems of consistency and comparability in assessment and awards.

How compensation systems deal with current conditions of ill-health associated with work is a major issue for all systems. While in some countries there is evidence that prevalent conditions like MSDs now feature more prominently than in the past, other conditions such as stress related ones represent an important challenge and there is little evidence anywhere that compensation systems have succeeded in addressing it adequately.

Women are less successful than men in receiving benefits under most compensation systems. This in part reflects the industrial bias of list based systems compensating occupational diseases, but it is also a consequence of the particular difficulties in demonstrating occupational causation in the conditions such as stress and MSD, especially prevalent in occupations in which women are most significantly represented.

Another trend that is evident in several countries is some reorientation of national 'no fault' compensation systems towards a closer fit with civil law models. Perceived inadequacies in levels of compensation available through social insurance combined with perceptions of injustice over employer immunity from redress under the civil law have led to these changes.

It is further clear that reforms to address various of these issues have recently taken place, are currently underway, are planned or have been demanded in a number of other European countries.

Finally, in the related critical research literature, accounts have drawn attention to the small number of claims for benefits compared with the known much larger occurrence of occupationally related ill-health. Factors suggested to explain this, include, limitations in medical recognition of occupational causes, ignorance of workers concerning the hazards of their work and their entitlements to compensation, complexity of administration of compensation systems and fears of victimisation. Not only does the complexity of making a claim exclude many, but the claim process may also have negative consequences for recovery and return to work. Moreover, the use of experience rating by some insurance systems weakens the advantages of no fault systems since it provides a strong incentive for employers to contest claims.

The costs of compensation systems do not appear to be a special cause for concern amongst those responsible for their administration in Europe, although employers and their organisations complain about premiums in some countries. Elsewhere, and especially in the US, costs have been the focus for debate, as has the relationship between workers compensation and the speed and likelihood of return to work. While no clear consensus emerges from this literature, there is concern that some forms of workers' compensation may fail to provide appropriate incentive and support for rehabilitation and return to work and that compensation systems generally need to support injured workers in their recovery and not act as a barrier to it.

Growth in precarious employment in advanced market economies has the potential to erode coverage of workers compensation systems as well as weakening processes for

making claims, ensuring equitable treatment of injured workers and delivering efficient return-to-work and rehabilitation practices There is some further evidence that the costs of compensating injured workers are as a result being shifted further from workers compensation systems to those concerned with public health or social security.

All of this suggests that while there are some obvious points of comparison and contrast between the UK and other countries, further investigation is warranted if the lessons it may be possible to learn from international comparisons are to be maximised.

References

Bernackie, E. J (2004) Factors influencing the costs of workers' compensation, *Clin. Occup. Environ. Med*, 4(2) v-vi: 249-57.

Biddle, J., Roberts, K., Roseeman, K. and Welch, E (1998) 'What percentage of workers with work-related illnesses re3cieve workers' compensation benefits?', *Journal of Occupational and Environmental Medicine* 40 (4): 325-31.

Brewin, C.R, Robson, M.J. and Shapiro, D.A. (1983) Social and psychological determinants of recovery from industrial injuries, *Injury*, 14: 451-55.

Campolieti, M. (2005) Unions and the duration of workers' compensation claims, *Industrial Relations*, 44 (4): 625-653.

Daubas-Letourneux, V. (2005) *Connaissance des accidents du travail et parcours d'accidentes*, unpublished PhD thesis, University of Nantes,

DWP (Department for Work and Pensions) (2007) *The Industrial Injuries Disablement Benefit Scheme — a Consultation Paper,* Department for Work and Pensions, London

Eichendorf W. (2006) Power point presentation, Eichendorf 10/2006, slide 190, HVBG, Sankt Augustin.

Eurogip (2002) *Occupational Diseases in 15 European Countries: Data 1990-2000, New Developments 1999-2002 Eurogip*-01/E, *Eurogip*, Paris.

Eurogip (2004) *Costs and funding of occupational diseases in Europe, Eurogip*-08/E, *Eurogip*, Paris.

Eurogip (2005) *Accidents at work and occupational diseases: flat rate or full reparation*? *Eurogip*-21/E, *Eurogip*, Paris.

Eurostat (2000) *Social Protection Expenditure and Receipts 1990-1998*, European Commission, Luxembourg.

Fishbain, D.A., Rosomoff, H.L, Cutler, R. B and Rosomoff, R.S. (1995) Secondary gain concept: a review of the scientific evidence, *Clin. J. Pain*, 11: 6-21.

Gnam, W. (2000) Pychiatric disability and workers' compensation, in Sullivan, T. (ed) *Injury and the New World of Work*, UCB Press, Toronto.

Green-McKenzie, J., Kiselica, D. and Watkins, M. Managing workers' compensation costs: success of initiatives to change outcomes, *Clin. Occup. Environ. Med.* 4(2):vi-vii, 295-308.

Guthrie, R. (2002) Negotiation, power in conciliation and review of compensation claims, *Law and Policy*, 24 (3): 229-68.

Guthrie, R. and Jansz, J. (2006) Women's experience in the workers' compensation system, Journal of occupational Rehabilitation, 16 (3): 474-88.

Guthrie, R., Purse K. and P. Lurie (2006)Worker Compensation Western Australia; A Case Study 1993 - 2004 *Australian Bulletin of Labour* 32(1) 62-73.

Guthrie, R. and Quinlan, M. (2005) ' The occupational safety and health rights and workers' compensation entitlements of illegal immigrants: an emerging challenge', *Policy and Practice in Health and Safety* 03-2:41-62.

Horn, C.V. and Glass, A (1971) Analysis of factors concerned with delay in return to workafter injury and their relation to claims for compensation, *Injury*, 3: 9-12.

HVBG (Haupterband der gewerblichen *Berufsgenossenschaften*) (1996) *Health and Safety at Work: System and Statistics*, HVBG Sankt Augustin.

HVBG (Haupterband der gewerblichen *Berufsgenossenschaften*) (undated) The financing of the *Berufsgenossenschaften* in Germany, HVBG Sankt Augustin.

INRS (2003) Translation of extracts from '*Les Maladies Professionnelles'* Aide-memoire juridique, TJ19, July 2003, on en.inrs.fr (12/2006)

Ison, T. G. (1986a) The significance of experience rating, *Osgoode Hall Law Journal*, 24(4): 723-42.

Ison T. G. (1986b) The therapeutic significance of compensation structures, *Canadian Bar Review,* 64: 605-37.

Ison, T.G. (2001) A review of workers' compensation: foundations for reform, *Osgoode Hall Law Journal*, 39 (1) :229-238.

Klein, R.W. and Krohm, G (2006) Alternative funding mechanisms for workers' compensation: an international comparison, *International Social Security Review*, 59 (4): 3-19.

Leigh, J.P., Cone, J.E. and Harrison, R. (2001) Costs of occupational Injuries and illnesses in California, *Preventive Medicine*, 32: 393-406.

Leigh, J.P. and Robbins, J.A. (2004) Occupational disease and workers' compensation: coverage, costs and consequences, *Millbank Quarterly*, 82 (4) 689-721.

Lippel, K (1999) 'Therapeutic and anti-therapeutic consequences of workers compensation', *International Journal of Law and Psychiatry,* 22, 5-6 pp 521-546.

Lippel, K. (1999) Workers' compensation and stress: gender and access to compensation, *International Journal of Law and Psychiatry,* 22:1-79

Lippel, K. (2004) The private policing of injured workers in Canada: legitimate management practices or human rights violations? *Policy and Practice in Health and Safety*, 01.(2): 97-118.

Loeser, J. D., Henderlite, S.E. and Conrad, D. A. (1995) Incentive effects of workers' compensation benefits: a literature synthesis, *Med. Care Res. Rev*. 52: 34-59.

MacEachen, E. (2000) The mundane administration of worker bodies: from welfarism to neoliberalism, *Health, Risk and Society*, 2 (3): 315-27.

Mendelson, G. (1983) The effect of compensation and litigation on disability following compensable injuries, *Am. J. Forensic Psychiatry*, 4: 97-112.

MISSOC (Mutual Information System on Social Protection in the Member States of the European Union) (1998) *Social Protection in the Member States of the Union: Situation and Evolution* European Commission, Directorate General Employment and Social Affairs, Brussels.

Munich Re Group (2002) *Occupational Diseases: How are they Covered under Workers' Compensation Systems*, Munich Re, Munich.

Neumark, D., Johnson, R.W., Bresnitz, B. A Frumkin, H., Hodgson, M. and Needleman, C. (1991) Costs of occupational injury and illness in Pennsylvania, J. *Occup. Med*., 3: 971-76

Paillereau, G. (2007) Occupational Health on the Rails: Beware of oncoming reforms… *Policy and Practice in Occupatonal Health and Safety, Special Issue on Occupational Health Services*, 5.1.

Pernille Lysgaard, A., Fongager, K. and Nielsen, N. (2005) Effects of financial compensation on vocational rehabilitation, *Journal of Rehabilitation Medicine,* 37 (6): 388-391.

Plumb, J. and Cowell, J. (1998) An overview of workers' compensation, *Occupational Medicine: State of the Art Reviews* 13, 241-271.

Purse, K. (1998) Workers' compensation, employment security and the return to work process, *Economic and Labour Relations Review* 9 (2)- 246-261.

Purse, K. (2002) Workers' compensation-based employment security for injured worker: a review of the legislation and enforcement *Journal of Occupational Health and Safety – Australia and New Zealand*, 18(1): 61-66.

Quinlan, M. (2004) 'Workers' compensation and the challenges posed by changing patterns of work: evidence from Australia', *Policy and Practice in Health and Safety* 02-1: 25-52.

Quinlan, M and Mayhew, C. (1999) Precarious employment and workers' compensation, *International Journal of Law and Psychiatry*, 22, 5-6:491-520.

Rautiainen, R.H., Ohsfeldt, R., Sprince, N.l., Donham, K.J., Burmeister, L.F., Reynolds, S.J, Saarimki, P. and Zwerling, C. (2006) Cost of compensated injuries and occupational diseases in agriculture in Finland, *Journal of Agromedicine* 10 (3): 21-29.

Roberts-Yates, C. (2003) Theconcerns and issues of injured workers in relation to claims/injury management and rehabilitation: the need for new operational frameworks, *Disability and Rehabilitation*, 25 (16) 898-907.

Schaapman, M (2002) Germany: occupational health and safety discourses and the implementation of the framework directive, in Walters, D. R. (ed) *Regulating Health and Safety Management in the European Union*, Peter Lang, Brussels.

Spieler, E.A and Burton, J.F. (1998) 'Compensation for disabled workers: workers' compensation', in *New Approaches to Disability in the Workplace*, eds. Thomason, T, Burton, J.F., and Hyatt, D.E., Industrial Relations Research Association Madison.

Sullivan, T. (ed) *Injury and the New World of Work*, UCB Press, Toronto.

Thomason, T. and Pozzebon, S. (2002) Determinants of firm workplace health and safety claims management practices, *Industrial and Labour Relations Review*, 5 (2): 286-307.

Tito, F. (2000) The consumer's perspective, in *Law Money and Medicine — Forum on Compensable Disability*, Royal Australian College of Physicians, Sydney, referenced in Waddell *et al* (2002).

Waddell, G., Aylward, M. and Sawney, P. (2002) *Back pain, incapacity for work and social security benefits: an international literature review and analysis*, Royal Society of Medicine Press, London.

Walters, D. R (2006) 'The efficacy of strategies for chemical risk management in small enterprises in Europe: evidence for success?' *Policy and Practice in Health and Safety*, 4.1: 81-116.

Westerholm, P. (2007) personal communication.

Wright, M. and Marsden, S. (2002) *Changing business behaviour- would bearing the true cost of poor health and safety performance make a difference?* Contract Research Report 436, HSE Books, Sudbury.

Zelle, B. A.,Panzica, M., Vogt, M.T. Sittaro, N.A., Krettek, C. and Pape, H.C. (2005) Influence of workers' compensation eligibility upon functional recovery 10 to 28 years after polytrauma, *American Journal of Surgery*, 190:30-36.

Annex 1

Eurogip Comparative continental European data on occupational injury and disease claims (Tables adapted from *Accidents at work and occupational diseases: flat rate or full reparation*? *Eurogip*-21/E, *2005*

Table A1: Maximum and minimum earnings insured in the case of temporary disability (monthly basis and permanent disability (annual basis) in 2004

Country	Average gross annual wage in 2000[8]	Type of disability	Floor	Ceiling
Germany	Not available	Temporary	-	Between €4,160 and €5,600 a month depending on the BG[9]
		Permanent	€17,388 per year (West) €14,616 per year (East)	Between €62,400 and €84,000 per year depending on the BG
Austria	Not available	Temporary	-	€3,450 per month
		Permanent	-	€48,300 per year
Belgium	€31,644	Temporary	-	€2,729 per month
		Permanent	-	€32,748 per year (2005)
Denmark	€39,515	Temporary	-	Maximum benefits: €418 per week
		Permanent	€18,938 per year	€50,905 per year
Spain	€17,432	Temporary	€537.30 per month	€2,731.50 per month
		Permanent	€6,447 per year	€32,778 per year
Finland	€27,398	Temporary	€767 per month	-
		Permanent	€9,210 per year	-
France	€26,521	Temporary	-	€2,476 per month
		Permanent	€15,660.57 per year	€62,328 per year[10]
Italy	€19,991	Temporary	€1,009 per month	€1,873 per month
		Permanent	€12,106.50 per year	€22,483.50 per year
Luxembourg (2005)	€35,910	Temporary	€1,466.77 per month	€7,333.85 per month
		Permanent	€17,601.24 per year	€88,006.20 per year
Portugal	€12,620	Temporary	-	-
		Permanent	-	-
Switzerland	€43,683	Temporary	-	€5,911 per month
		Permanent	-	€70,939 per year
Sweden (2003)	€31,621	Temporary	€88 per month	€2,729 per month
		Permanent	€1,055 per year	€32, 750 per year

Source: Eurogip 2005

[8] *Revenus annuels bruts (année 2000),* Anne Paternoster, EUROSTAT, 2003.

[9] Berufsgenossenschaften: German occupational risk insurance organisations, organised by sector of activity.

[10] For a wage ranging from €31,321.14 to €125,284.56 per year, only one-third of the wage is taken into account for the calculation base.

Table A2: Temporary disability compensation in 2004

Country	Waiting period	Paying organisation	Amount of daily benefits (% reference wage)	Max duration of payment (from the day of the injury or diagnosis of the disease
Germany	-	Employer	Wage maintenance	6 weeks minimum
		Occ Inj ins	80%	78 weeks
Austria	-	Employer	Wage maintenance	8 weeks minimum
		Sickness ins Occ Inj ins	50% during 42 days 60% later on 60%	26 weeks Possible extension only if hospitalisation
Belgium	-	Employer	Wage maintenance	1 month
		Occ Inj ins	90%	Until healing/med stabilisation
Denmark	-	Employer	Wage maintenance	2 weeks
		Sickness ins	Flat rate based on wage (max: €418 per week) often supplemented by the firm	52 weeks (possible extension by 26 weeks)
Spain	-	Occ Inj ins	75%	12 months (possible extension by 6 months)
Finland	-[11]	Occ Inj ins	Flat rate based on wage[12] 100% of net wages	First 4 weeks after that, for 1 year
France	-	Occ Inj ins	60% 80%	28 days Until med stabilisation/healing
Italy	3 days	Employer	60% wage maintenance	3 days
		Occ Inj ins	60% 75%	90 days Until med stabilisation/healing
Luxembourg (May 2005)	-	Employer	Wage maintenance	Current month + at least following 3 months
		Occ Inj ins	Wage maintenance	52 weeks
Portugal	-	Occ Inj ins	70% 75%	12 months Until med stabilisation/ healing
Switzerland	3 days	Occ Inj ins	80%	Until healing/med stabilisation
Sweden	1 day[13]	Employer	80% wage maintenance	From day 2 to 14
		Sickness ins	80%	Until healing/med stabilisation

[11] But the disability must last at least 3 days.

[12] The amount per day depends on annual income:
- if income less than €1,026 (and provided that the sick leave lasts more than 55 days) = €11.45
- if income ranges between €1,027 and €26,720 = 70% of 1/300th of income above
- if income ranges between €26,721 and €41,110 = €62.35 + 40% of 1/300th of income above €26,720
- if income exceeds €41,110 = €81.53 + 25% of 1/300th of income above €41,110.

[13] Compensation is paid for this waiting day afterward, once the occupational nature of the accident or disease has been recognised.

Table A3: Calculation of compensation for permanent disability
W = wages (with a maximum ceiling where applicable)
PD rate = permanent disability rate

Country	Compensation for loss of earning capacity		Compensation for physiological damage	
	Required minimum rate	**Pension calculation**	**Required minimum rate**	**Amount of the lump sum** (2004)
Germany	20%	W X PD rate X 66.66%	-	-
Austria	20%	W X PD rate X 66.66% - *if rate ≥50%: 20% supplement added to pension* - *if rate ≥70%: 50% supplement*	-	-
Belgium	-	W X PD rate *(except for PD rate <10%)*	-	-
Denmark	15%	W X PD rate X 80%	5%	Min: €4,237.65 Max: €84,753
Spain	33%	- Absolute PD: W X 100% - Total PD for exercise of one's usual occupation: W X 55% - Partial PD for exercise of one's usual occupation: lump sum of 24 monthly wage payments	-	Min: €216 Max: €4,039
Finland	10% reduction in working capacity 5% reduction in annual wages	W X PD rate X 85%		Min: €921 Max: €5,526
France	-	W X reduced rate *(the disability rate is reduced by half for the part less than 50% and increased for the part greater than 50%)* If PD rate <10%: lump sum	-	-
Italy	16%	W X PD rate X coefficient based on PD rate 16-20: 0.4 21-25: 0.5 26-35: 0.6 36-50: 0.7 51-70: 0.8 71-85: 0.9 86-100: 1	6%	If 6% ≤PD rate ≤15%: lump sum Min: €2,479 Max: €24,402 If PD rate >15%: pension min: €1,032/year max: €14,719/year
Luxembourg	-	W X PD rate X 85.6%	-	-
Portugal	-	W X PD rate X 70% - in case of total disability for any work: 80% wages - if total disability for customary work between 50% and 70% of wage according to PD rate If PD rate ≥70%: allocation of €4,279.20	-	-
Switzerland	10%	W X PD rate X 80%	5%	Min: €3,547 Max: €70,939
Sweden	6.66% Loss of earnings	100% of lost wages *(system coordinated with disability insurance benefits, and paying a pension only if greater than the disability pension)*	AFA	

Source: Eurogip 2005

Table A4: Examples of compensation for loss of earning capacity (as a % of the reference wage) in 2004

Country	Maximum annual pension (for total disability)	Permanent disability rate				
		100%	**75%**	**50%**	**25%**	**10%**
Germany	Between €41,600 and €56,000 depending on the BG	66.66%	50%	33%	17%	-
Austria	€48,300	100%	75%	50%	16.5%	-
Belgium	€32,748	100%	75%	50%	25%	10%
Denmark	€40,724	80%	60%	40%	20%	-
Spain	€29,205	Inability to exercise one's customary occupation:				
		55%	partial: lump sum equivalent to 24 monthly wage payments		-	-
		Inability to perform any type of work:				
		100%	partial: 55%		-	-
Finland	No wage ceiling	85%	64%	42.5%	21%	8.5%
France	€62,642	100%	62.5%	25%	12.5%	5%
Italy	€22,483	100%	67.5%	35%	12.5%	-
Luxembourg (2005)	€75,333	85.6%	64%	43%	21.5%	8.5%
Portugal	No wage ceiling	Inability to exercise one's customary occupation:				
		between 50% and 70% of the wage depending on residual ability			lump sum compensation	
		Inability to perform any type of work:				
		80% + lump sum of €4,279	60% + lump sum of €4,279	40%	lump sum compensation	
Switzerland	€56,751	80%	60%	40%	20%	8%
Sweden[14]	€32,750	100%	70%	50%	25%	10%

Source: Eurogip 2005

[14] Contractual complementary insurance supplements the compensation for lost earnings by taking into account the amount exceeding the ceiling of the standard scheme.

Table A5: Benefits subject to Social Security contributions or income tax

Country	Type of benefits	Subject to Social Security contributions	Subject to income tax
Germany	Daily benefits	X	
	Pension		
Austria	Daily benefits		
	Pension		
Belgium	Daily benefits	X	X (except if disability <20% and except for retired people and widow/er)
	Pension	X	X
Denmark	Daily benefits		X
	Pension		X
	Lump sum		
Spain	Daily benefits	X	X
	Pension		X (except in case of absolute permanent disability)
	Lump sum (rate <33%)		
Finland	Daily benefits		X
	Pension		X
France	Daily benefits	X	
	Pension		
Italy	Daily benefits		X
	Pension or lump sum		
Luxembourg	Daily benefits	X	X
	Pension		
Portugal	Daily benefits		
	Pension		
Switzerland	Daily benefits		X
	Pension		X
	Lump sum		
Sweden	Daily benefits		X
	Pension		X
	Lump sum (TFA)		

Source: Eurogip 2005

Annex 2

Participants in the study

The author would like to acknowledge the contributions made to this report by the following persons who took part in face-to-face or telephone interviews and/or correspondence on the various issues addressed in the preceding pages. At the same time, the findings expressed here and any inaccuracies they contain remain the responsibility of the author.

Australia – Michael Quinlan, University of New South Wales
Canada – Katherine Lippel, University of Quebec
France – Annie Thebaud Mony, University of Paris XIII and Veronica Daubas-Letourneux,
Germany – Andreas Bahemann, Bundesagentur für ArbeitRegionaldirektion NRW; Sven Timm, HVBG; Henning Wriedt, Beratungs- und Informationsstelle Arbeit & Gesundheit Hamburg; Marina Schröder, DGB-Bundesvorstand
Norway - Søren Brage, University of Oslo
Sweden – Kaj Frick, Peter Westerholm, National Institute for Working Life; Jorma Styf, Goteborg University and Sahlgrenska University Hospital
Europe generally – Isabelle Leleu, Eurogip