comprendre les risques professionnels en Europe
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Compensation of permanent impairment resulting from occupational injuries in Europe

Comparative analysis in ten European countries of the case studies submitted to the members of the European Forum of the insurance against accidents at work and occupational diseases

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EUROPEAN FORUM

of the insurance against accidents at work and occupational diseases

Contents

Foreword

The topic chosen by the French presidency for the Conference of the European Forum of the insurance against accidents at work and occupational diseases[1] held in Paris on 23 June 2009 was "Compensation of permanent impairment resulting from accidents at work and occupational diseases".

On this occasion, the representatives of the insurance organisations of ten European countries (**Germany, Austria, Belgium, Denmark, Finland, France, Italy, Luxembourg, Sweden and Switzerland**) presented, in two case studies, the benefits provided in their respective countries for job injury victims suffering a permanent disability.

This exercise made it possible to get a concrete idea of the systems of compensation of permanent impairment applying in each country. It was also an opportunity to discuss the advantages and disadvantages of each system.

This document aims to process the large quantity of information provided during this conference and the additional information collected afterwards from insurance organisations so as to enable a comparison of the existing compensation systems as a whole.

The objective is to examine the benefits provided to the victims in the case studies in the context of their overall system of compensation for permanent damages, in order to be able to assess not only the amount of the compensation, but also the conditions of allocation, the calculation procedures and events that could affect their payment.

To do so, the level of quality of the information was uniformised for the ten countries in question; the data are presented summarised in the form of comparative tables. Each table is followed by an analysis which underscores the common features and differences from one country to another, shows the consistency of each system of compensation and draws conclusions regarding their attractiveness for the victims.

(1) European Forum of the insurance against accidents at work and occupational diseases, whose Presidency rotates each year; in 2009, CNAMTS (National Health Insurance Fund for Employees) for France (http://www.europeanforum.org/)

Acknowledgements

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- for Switzerland: Philippe Calatayud

Introduction

Both during the European Forum Conference and in the present document, the ten European countries were broken down into two groups according to the way in which they compensate permanent disability. This is because there are constants in the compensation factors of the countries studied, which reflect two approaches underpinning compensation systems and which justify presenting them in separate tables.

The first group of countries, consisting of Germany, Austria, Belgium, France and Italy, pays overall compensation for permanent impairment: it is theoretically the loss of earning capacity that is compensated, knowing that medical criteria are the main factor for assessment of permanent disability and that this method leads to an overall (i.e. not separate) assessment of the occupational damage and physiological damage. In principle, compensation takes the form of a pension, the amount of which depends on the victim's wage.

Italy occupies a special position in this group of countries because, although formally it provides separate compensation for the loss of earning capacity and for physiological damage, the assessment of these two types of damage is interdependent, occupational damage being presumed whenever the medical disability rate exceeds a certain threshold. Since this separate compensation is more theoretical than real, Italy has been classified in the first group of countries.

The second group of countries, consisting of Denmark, Finland, Luxembourg, Sweden and Switzerland, provides completely separate compensation for the economic damage sustained by the victim and non-pecuniary damage (physiological damage, where applicable pain, etc.).

Generally, the benefit payments compensating for the loss of earning capacity are a wage-related pension; the benefit payments for physiological damage are often a lump sum payment, the amount of which does not depend on the victim's income.

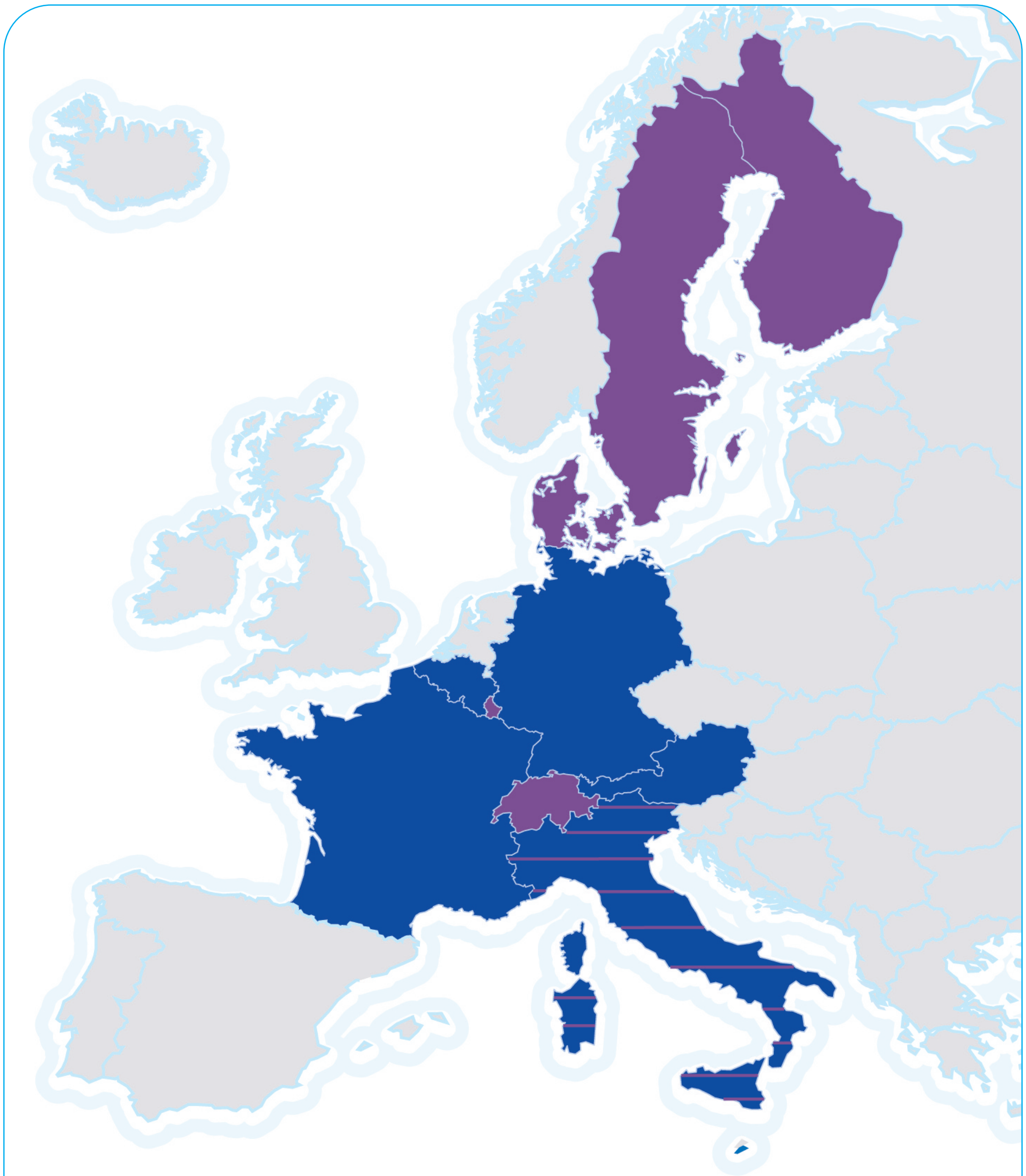
As a reminder, the case studies were produced so that each country might reveal the characteristics of the compensation for permanent damage sustained by an occupational injury victim. Accordingly, the other types of benefits provided by injury insurance, such as reimbursement of medical expenses, compensation related to temporary disability (i.e. paid until the date of medical stabilisation), rehabilitation of the victim or his (her) death (pension for the surviving spouse and orphans, death benefits) are excluded from the field of study.

Likewise, it should be emphasised that while the comparative study of benefit payments was carried out through the prism of two specific cases, these were designed to cover, insofar as possible, the situations most representative statistically of reality: on the one hand cases of minor permanent disabilities without loss of income, and on the other hand cases of more serious disabilities requiring rehabilitation with an effective loss of income.

Finally, the benefits were examined without taking into account the type of organisation awarding them in each country, whether they be public organisations, as in most countries, or private insurance companies (as in Belgium), or whether there be a dual system (Social Security and compulsory complementary insurance as in Sweden).

Overall or separate compensation for permanent impairment: geographic representation according to countries' group of membership

The ten European countries studied have been divided into two groups according to the way in which they compensate permanent disability following an accident at work globally or by separating the economic damage sustained by the victim and the non-pecuniary damage.



Overall compensation for permanent impairment:
GERMANY, AUSTRIA, BELGIUM, FRANCE, ITALY

Separate compensation for the economic damage and the non-pecuniary damage:
DENMARK, FINLAND, LUXEMBOURG, SWEDEN, SWITZERLAND

Insurance case studies

The two case studies below were submitted to the insurance organisations of ten European countries which participated in the Conference of the European Forum in 2009.

Case study 1

-> Minor permanent disability without loss of income

Mr Dubois is 30 years old. He is a carpenter and earns a monthly wage of €1,700 (i.e. he receives an annual salary of €20,400).
When cutting a wooden plank with a band saw in the company where he is employed, he suffers an amputation of the last phalanx of the right forefinger (he is right-handed).
Following 20 days' sick leave, he is fit to return to his former work station to perform the same work.

Case study 2

-> Incapacity for work resulting in a change of employment with income loss

Mrs Dupont is 52 years old; she is a sales representative.
Her pay consists of two parts: a fixed monthly wage of €2,000 and performance bonuses of about €2,000 per month (i.e. annual pay of €48,000).
She is the casualty of a car crash when going to visit a customer; she has a fracture of the pelvis with a rupture of the urethra.
After 12 months' sick leave and reeducation, her condition is considered as stabilised. The sequels of the injury are: chronic pains at the pelvis level, one leg shorter than the other, hence limping and problems urinating. These sequels contraindicate the prolonged sitting position and regular car driving. In these circumstances, Mrs Dupont, who was unable to be redeployed in her company, was dismissed for unfitness.
During her period of compensated unemployment, she underwent vocational training and was thus able to find, in another company, an administrative job in a sedentary station for which she receives a fixed monthly wage of €2,500 (i.e. annual pay of €30,000).

Methodological notes

Since the case studies were presented in 2009, it is the legislative and regulatory provisions in force that year that were applied, except for Luxembourg where an in-depth reform of the compensation system was adopted on 12 May 2010 to come into force on 1st January 2011 and for which it was chosen to take into account the provisions which will be applicable very shortly.

As regards the types of damage, different expressions are used in this document according to the context or the countries concerned: occupational damage, economic damage or loss of earning capacity which refer to a first concept on the one hand; physiological damage, immaterial damage or non-pecuniary damage which refer to a second concept on the other hand.

The compensation rules set out in this document apply to accidents at work as well as occupational diseases even if the case studies deal with the consequences of accidents at work.

1. Assessment of permanent disability

The assessment of permanent damage is the initial step of the insurance case management. The table below shows synthetically the national approaches used.

1.1 PROCEDURES FOR ASSESSMENT OF PERMANENT DISABILITY

Assessment tools and criteria

First group of countries

COUNTRIES	PERMANENT IMPAIRMENT	
GERMANY	Disability scale + assessment relative to the labour market	
AUSTRIA		
BELGIUM		
FRANCE	Indicative disability scale + possibility of an occupational coefficient	
ITALY	**For biological damage:** scale (about 400 injuries)	**For financial consequences of biological damage:** biological damage rate + table of coefficients

Second group of countries

COUNTRIES	LOSS OF EARNING CAPACITY	NON-PECUNIARY DAMAGE
DENMARK	**For loss of earning capacity:** comparison between wage before injury and new wage but also allowance for age and capacity for retraining	**For permanent damage:** rate of the medical scale reduced by 1% per year from the victim's 39th birthday
FINLAND	**For actual loss of earnings:** comparison between wage before injury and new wage	**Allocation for disability:** scale consisting of 20 categories depending on seriousness
SWEDEN	**For loss of earning capacity:** comparison between wage before injury and new earning capacity (new wage or fictitious wage if unemployment)	**For disability:** medical disability and age scales **For pain:** scale and length of time for medical stabilisation
SWITZERLAND	**For disability:** comparison between income without and despite the injury (8,000 technical data sheets)	**For bodily harm:** scale
LUXEMBOURG	**For loss of income:** comparison between wage before injury and new wage	**For physiological damage & loss of amenities of life:** scale from 1% to 100% **For physical pain:** scale from 1 to 7 (from €600 to €50,000) **For disfiguration damage:** scale from 1 to 7 (from €400 to €52,500)

First group of countries

Germany, Austria, Belgium and France have an overall approach to compensation for the permanent damage caused by an occupational injury, in other words these countries make a single assessment of the damage and offer the victim a single financial payment.

Fundamentally, the compensation covers the occupational damage, in other words the permanent repercussions that the occupational injury may have on the victim's ability to work.

In these countries, the occupational damage is in principle assessed according to the personal characteristics of the victim, such as the nature and degree of the disability, age, gender, occupational proficiency, potential for rehabilitation, and their value in the general job market.

In practice, it is mainly physical damage that impacts the result of the permanent disability assessment, to the extent that it is basically a medical scale which serves as the main tool for the expert.

Generally, socioeconomic factors play only a secondary role and are used to adjust the disability rate initially determined: this may be an assessment of the victim's ability to work in the job market given his (her) permanent disability, or else the victim's ability to continue performing the same job and/or to retrain (as in France[2] with the application of an "occupational coefficient").

In the Italian system[3], it is "biological damage" that constitutes the legal basis for compensation of permanent disability. This damage is first assessed by means of a scale, i.e. disabilities harming the psycho-physical integrity of the victim, including disfiguration damage and sexual/reproduction damage.

If the medical rate of disability thus obtained exceeds a threshold determined by law, the pecuniary consequences of the "biological damage" are estimated. There is therefore no concrete assessment of occupational damage, but the biological damage assessment is alone used as a calculation base to determine the bodily harm on the one hand and the economic damage on the other hand.

(2) For the administrative department it is a matter of adding or not a few points to the permanent disability rate determined by the medical adviser according to the indicative disability scale in order to take account of the loss of job or the loss of pay in the case of job change.

(3) On the basis of the 2000 compensation reform applicable to accidents at work and occupational diseases occurring from 2002

Second group of countries

Denmark, Finland, Luxembourg, Sweden and Switzerland have a completely different approach to compensation for permanent damage since they pay completely separate compensation for occupational damage and physiological damage.

These countries assess occupational damage on the one hand, i.e. the consequences of the injury for earning capacity, which clearly corresponds to an economic concept (and not a medical concept). To do so, they assess the concrete loss of earning capacity, the victim's occupational situation being always studied on a case by case basis. The concept of loss of earning capacity and the assessment method used may vary slightly from one country to another.

In Finland, Luxembourg and Sweden, assessment of the loss of earning capacity generally involves a comparison between the wage that the victim received before the occurrence of the occupational injury (the amount of which is updated at the time of the assessment in Finland) and the wage received at the time of the assessment; this therefore means the effective loss of wages sustained by the victim due to the consequences of his (her) injury.

Switzerland and Denmark first assess the income that the victim can still earn in the job market taking into account their disability caused by the injury. The criteria used for this exercise are the victim's training, occupational proficiency, injuries, age and capacity for rehabilitation (in Switzerland, more than 8,000 sheets containing concrete descriptions of work stations and the corresponding wage statistics are used to assess the loss of earning capacity). This potential earning capacity is then compared with the earnings that the victim would have received if the injury or disease had not occurred. In both these countries, the occupational damage is therefore more an assessment of the victim's remaining earning capacity, a more abstract concept than the effective loss of income.

In this group of countries, the result of the assessment is often expressed as an absolute value (e.g. actual or presumed loss of €10,000/year), and then, where applicable, converted into a rate for the purpose of calculating benefits.

On the other hand, the countries of the second group also pay compensation - separately - for the non-pecuniary damage sustained by the victim as a result of the occupational injury: decline in physical and mental capabilities, or even disfiguration damage and pretium doloris.

In some countries, it is truly the decline in physical and mental functions that is compensated, while in others it is more the consequences of the damage on the victim's quality of life. This implies that each country uses a different name for the corresponding benefits: compensation for bodily harm in Switzerland, disability benefits in Finland, benefits for permanent damage in Denmark. Luxembourg and Sweden, for their part, pay separate compensation for several types of non-pecuniary damage: physiological damage and loss of amenities of life, physical pain and disfiguration damage in Luxembourg, and bodily harm and loss of amenities of life on the one hand, and pretium doloris on the other hand in Sweden[4].

Specific medical scales for occupational injuries are used as a tool for assessment in all these countries, except for Sweden where the common-law scales are used.

All these scales take into account only the criterion of the seriousness of the injury/damage at the assessment stage; only the Swedish scale for disability compensation (bodily harm and loss of amenities of life) also factors in the gender and age of the victim at this stage.

(4) In Sweden, the occupational injury and disease insurance system in fact pays compensation only for the loss of income. It is a contractual TFA complementary insurance (no-fault liability system), funded by the employers and covering nearly all employees, which covers compensation for other damage such as the loss of income not covered due to the ceiling applicable to Social Security benefits, but also immaterial damage.

1.2 APPLICATION OF THE PROCEDURES FOR ASSESSMENT OF PERMANENT DISABILITY TO THE CASE STUDIES

<table>
<tr><th></th><th colspan="2">Mr DUBOIS</th><th colspan="2">Mrs DUPONT</th></tr>
<tr><td colspan="5">First group of countries</td></tr>
<tr><td>GERMANY</td><td colspan="2">Not given, since the minimum rate taken into account to give entitlement to compensation is not reached (20%)</td><td colspan="2">40% during 1 year, then 30%</td></tr>
<tr><td>AUSTRIA</td><td colspan="2">20%</td><td colspan="2">30% during 2 years, then 20%</td></tr>
<tr><td>BELGIUM</td><td colspan="2">3%</td><td colspan="2">5%</td></tr>
<tr><td>FRANCE</td><td colspan="2">7%</td><td colspan="2">28% (9% limping + 10% incontinence + 5% pelvis pain + 4% occupational coefficient)</td></tr>
<tr><td>ITALY</td><td>Biological damage: disability < minimum disability category for compensation (6%)</td><td>Non-pecuniary damage: disability < minimum disability category for compensation (16%)</td><td>18%</td><td>Based on biological damage</td></tr>
<tr><td colspan="5">Second group of countries</td></tr>
<tr><td>COUNTRY</td><td>LOSS OF EARNING CAPACITY</td><td>NON-PECUNIARY DAMAGE</td><td>LOSS OF EARNING CAPACITY</td><td>NON-PECUNIARY DAMAGE</td></tr>
<tr><td>DENMARK</td><td rowspan="5">No loss of earning capacity</td><td>5%</td><td>40%</td><td>13%
(=8% for incontinence
+ 12% for pain
- 7% due to age)</td></tr>
<tr><td>FINLAND</td><td>Disability < minimum disability category for compensation (1/20)</td><td>40%
85% during unemployment</td><td>Category 6/20 of the scale</td></tr>
<tr><td>SWEDEN</td><td>4% mutilation</td><td>Actual loss of income, i.e. 37.5%</td><td>10% mutilation
+ not given for suffering</td></tr>
<tr><td>SWITZERLAND</td><td>2.5%</td><td>40%
45% during unemployment</td><td>35%</td></tr>
<tr><td>LUXEMBOURG</td><td>Physiological damage & loss of amenities of life: not given
Pain: level 3/7
Disfiguration damage: level 1/7</td><td>Actual loss of income, i.e. 37.5%
(during training: pending pension)</td><td>Physiological damage & loss of amenities of life: 30%
Pain: level 5/7
Disfiguration damage: level 2/7</td></tr>
</table>

Application to the case studies of the principles of permanent damage assessment leads to relatively uniform results within each group of countries.

First group of countries

Mr Dubois, who sustained slight permanent damage (amputation of the last phalanx of the forefinger) and kept his job, was awarded a permanent disability rate lower than the minimum rate taken into account for compensation in Germany, Austria and Italy. Belgium and France award him rates of 3% and 7% respectively.

As regards Mrs Dubois, who sustained greater damage, had to leave her job and, after a training period, found another less well paid job, her permanent disability was assessed at between 5% in Belgium and 30% in Germany.

Note that in Germany and Austria, a higher rate had initially been awarded to her, but this rate was lowered by 10 percentage points following a period of one year for Germany and two years for Austria. This adjustment was applied to take into account the victim's gradual adaptation to living with her disability.

Second group of countries

In those countries that compensate occupational damage and non-pecuniary damage separately, Mr Dubois obtained no recognition for any loss of earning capacity and will receive no benefits on this account in any of the five countries.

By way of compensation for non-pecuniary damage, the countries in question award him a low disability rate (between 2.5% in Switzerland and 5% in Denmark); only Finland makes no allowance for the physiological damage that he sustained, since it is too slight.

As regards Mrs Dupont, all the countries award her roughly the same rate for loss of earning capacity, namely between 37.5% and 40%, depending on whether the country (as in Finland and Switzerland), in its calculations, re-evaluates or not, on the day of the assessment (i.e. at medical stabilisation), the amount of the wage received by the victim before his (her) occupational injury, and depending on whether or not the national regulations include rules for "rounding off" the rates based on the calculations (as in Denmark where the degrees of loss of earning capacity are expressed in 5% increments).

It is less easy to make comparisons regarding the assessment of non-pecuniary damage in that some countries such as Sweden and Luxembourg include in this assessment several types of damage (physiological damage, pain, disfiguration damage), the nature of the damage compensated may vary from one country to another (bodily harm versus loss of amenities of life), and all the countries do not express their assessment in the form of a rate (e.g. Finland, partly Luxembourg).

2. Economic parameters for calculation of compensation

Apart from the nature of the damages entitled to compensation and their method of assessment, each country has its own rules for calculating benefits which reflect their concept of compensation for permanent disability:

- Should compensation be paid for minor disabilities which in fact have little effect on the victim's ability to work?

- Should compensation be paid in proportion to the seriousness of the damage (i.e. linearly) or should the most severe disability categories be weighted?

- Should the amount of benefits be limited so as to provide victims with a satisfactory replacement income or should one ensure that they are restored to a wealth situation as close as possible to their situation before the occurrence of the injury?

- Should compensation be paid in the form of a pension or by awarding a lump sum?

- Regarding compensation for physiological damage (for Italy and the countries of group 2), what monetary value should be assigned to each injury?

By giving priority to pensions rather than to lump sum payments, by setting a minimum rate giving entitlement to compensation and/or a ceiling for the wage insured or the pension paid, by introducing a weighting factor in the formula for calculating pensions, each country has modelled its benefit payments according to its insurance priorities.

First group of countries: overall compensation for permanent disability

COUNTRY	MINIMUM PERMANENT DISABILITY RATE FOR COMPENSATION	FORM OF BENEFITS	CALCULATION BASE (REFERENCE WAGE / TOOL)	METHOD OF CALCULATING THE BENEFITS
GERMANY	20%	Pension	Gross wage for the 12 months preceding the injury Annual pension with a 2004 ceiling of between €41,600 and €56,000) according to the BG*	2/3 of the wage x permanent disability rate
AUSTRIA	20%	Pension (14 payments per year)	Gross wage for the 12 months preceding the injury Annual pension with a 2009 ceiling of €56,280	2/3 of the wage x permanent disability rate If permanent disability between 50% and 70%, pension increased by 20% If permanent disability rate > 70%, pension increased by 50%
BELGIUM	-	Pension	Gross wage for the 12 months preceding the injury Annual wage with a 2009 ceiling of €36,809.73	Wage x permanent disability rate If permanent disability < 5%, pension reduced by half If permanent disability ≥ 5% and < 10%, pension reduced by one-quarter
FRANCE	-	If permanent disability < 10%: lump sum (independent of income) If permanent disability ≥ 10%: pension (quarterly, if permanent disability < 50%, monthly, if permanent disability > 50%)	Gross wage for the 12 months preceding the injury Wage used as a basis for the calculation ("useful wage"): the part of pay up to twice the minimum wage (in 2009: €17,038) is fully allowed for (i.e. up to €34,077). The part exceeding twice the minimum wage and up to 8 times said wage (i.e. €136,304) will be taken into account for one-third. The part exceeding 8 times the minimum wage is not taken into account	"Useful wage" x "useful rate" Rate used as a basis for the calculation ("Useful rate"): If disability rates <50%, the useful rate corresponds to half of the initial rate If disability rate > 50%, the part exceeding 50% is multiplied by 1.5, to which is added 25% (corresponding to half of the part below 50%)
ITALY	6% of biological damage	Lump sum if 6% ≤ permanent disability ≤ 15%	Scale with 400 headings associated with a permaent disability rate	Calculation of the lump sum: scale with permanent disability rate, gender and age Calculation of the pension: permanent disability rate as sole criterion
	16% of biological damage (presumption of financial consequences)	Pension	Gross wage for the 12 months preceding the injury Annual wage with a 2009 ceiling of €26,648	Wage x weighting factor x permanent disability rate (factors of 0.4 to 1 depending on the permanent disability rate, presumed to reflect the capacity for continuing to perform the same work)

*BG: *Berufsgenossenschaft*, professional association of legal insurance against accidents at work and occupational diseases

Second group of countries: separate compensation for occupational damage and non-pecuniary damage

COUNTRY		MINIMUM PERMANENT DISABILITY RATE FOR COMPENSATION	FORM OF BENEFITS	CALCULATION BASE (REFERENCE WAGE / TOOL)	METHOD OF CALCULATING THE BENEFITS
DENMARK	LEC*	15% of the loss of earning capacity	Pension converted to lump sum payment if rate < 50%	Gross wage for the 12 months preceding the injury Annual wage with a 2009 ceiling of €58,217	80% of wage x degree of loss of earning capacity
DENMARK	NPD**	5% of disability	Lump sum	Medical scale from 5% to 100%	Base 100% = €97,093 (in 2009) Reduction of 1% per year from age 39
FINLAND	LEC	10% of the loss of earning capacity and 5% of the actual loss of income	Pension	Gross wage for the 12 months preceding the injury No wage ceiling	85% of the loss of earning capacity
FINLAND	NPD	Not applicable	Lump sum for disability < 10/20 If disability between 11 & 20: up to the victim	Disability scale (20 categories)	Depending on the category of the disability, actuarial data (age and gender) and a constant (minimum annual wage)
SWEDEN	LEC	1/15th of lost earnings	Social Security: pension TFA: pension usually converted into a lump sum	Gross wage for the 12 months preceding the injury Insured annual wage with a 2009 ceiling of €34,339 for Social Security TFA: no ceiling	By Social Security agency: 100% lost earnings +by TFA: difference between wage before injury and Social Security pension
SWEDEN	NPD	Scale 1 of disability	TFA: lump sum for mutilation + lump sum for pain	Scale for mutiliation and scale for pain	According to scales and age
SWITZERLAND	LEC	10% of the loss of earning capacity	Disability pension	Gross wage for the 12 months preceding the injury Insured annual wage with a 2009 ceiling of €86,000	80% of wage x disability rate
SWITZERLAND	NPD	5% bodily harm	Lump sum for bodily harm	Medical scale from 5% to 100%	Base for 100% = €86,000 (in 2009)
LUXEMBOURG	LEC	10% for loss of income and 10% for physiological damage & loss of amenities of life	Pension	Gross wage for the 12 months preceding the injury Annual pension with a 2009 ceiling of €103,488	Actual loss of income: difference between wage before injury and income after medical stabilisation (during rehabilitation: pending pension of 85% of the full pension)
LUXEMBOURG	NPD	-	Physiological damage & loss of amenities of life: pension except if permanent disability rate ≤ 20%: lump sum Pain: lump sum Disfiguration damage: lump sum	Scale for physiological damage & loss of amenities of life Scale for pain Scale for disfiguration damage	For 10% of physical damaage & loss of amenities of life: €5,291.50/year Other damages: lump sum payments

*LEC: Loss of earning capacity **NPD: non-pecuniary damage

Benefits for occupational damage (permanent disability for the countries of the first group and loss of earning capacity for the countries of the group)

To be entitled to compensation for occupational damage, eight of the ten European countries in question require a minimum disability rate (a rate which may reflect sometimes a basically medical disability as in the countries of Group 1, and sometimes a loss of earning capacity or an actual loss of income as in the countries of Group 2 - see supra).

The only exceptions are France and Belgium, which offer the possibility of compensation as of the first degree of disability. The minimum rate set in all the other countries ranges from 1/15th (i.e. 6.66%) in Sweden to 20% in Germany and Austria.

In the countries in question, the existence of a minimum rate rules out compensation for minor disabilities which in theory cause no occupational damage (for countries of Group 1) and minor losses of earning capacity (for the countries of Group 2).

As regards the form taken by the benefits, it is a pension in all the countries. France, however, which pays compensation as of 1% of disability, pays a fixed lump sum when the disability is below 10%. In Denmark, the pension is capitalised (the victim's income is therefore taken into account in the capitalisation factors) for all losses of earning capacity of less than 50%. Note that, in Belgium, the procedure of a lump sum payment for disabilities of less than 10% was abolished in 1963 for occupational diseases and in 1988 for accidents at work.

As regards calculation of the pension properly speaking, all the countries take into account two factors: the victim's permanent disability rate[5] and the reference wage.

Regarding the reference wage, this is everywhere the gross annual wage received by the victim during the last twelve months preceding the injury (in Finland, the amount of this wage is updated on the date of calculation of the compensation).

All the countries have established a pension limitation mechanism, except for Finland and Sweden. In Sweden, the ceiling set on the pension paid by the Social Security system is neutralised by the TFA complementary insurance which supplements the basic pension without limitation up to the amount of the actual loss of income. However, this second pension is usually capitalised.

Depending on the country's legislation, the limitation mechanism may be a ceiling on the wage insured (Austria, Belgium, Germany, Italy, Denmark, Sweden for the Social Security pension, Switzerland, France via the "useful wage" practice) or a ceiling on the amount of the pension (Luxembourg).

Most countries introduce a third factor which has the effect of limiting the amount of the pension: a coefficient which weights the insured wage linearly (only a certain percentage of the wage is taken into account for calculating the pension) or a variable coefficient which weights, according to the disability rate initially determined, the result of the calculation or the rate itself.

Germany and Austria apply to the insured wage a coefficient of 2/3, Denmark and Switzerland of 4/5, and Finland of 85%. Other countries apply a coefficient varying depending on the disability rate: Belgium reduces the pension by half if the disability rate is less than 5% and by one-quarter if it is between 5% and 10%. In France, the initial disability rate is reduced by half for the part below 50% and increased by half for the part above 50%. The Italian system assigns decreasing coefficients according to the category of disability (from a coefficient of 1 for the 86-100% disability category to 0.4 for the 16-20% category). Finally, in Austria the pension is increased by 20% if the disability is greater than or equal to 50%, and by 50% if the disability is greater than or equal to 70%.

Benefits for non-pecuniary damage

While six of the ten countries studied pay separate compensation for the non-pecuniary damage sustained by the victim, the level of benefits varies greatly from one country to another. The benefits are based on the national medical scales applicable in each country.

Nearly all these countries compensate physiological damage by a lump sum payment (Denmark, Finland, Sweden and Switzerland). However, Finland allows the insured to choose between a lump sum and a pension if their damage is serious (disability categories 11 to 20).

On the other hand, Italy - a country in which the accident insurance organisation primarily compensates biological damage - pays a pension above a 16% disability rate, or a fixed lump sum in the case of a lower disability rate. Note that there are two scales to calculate the benefits for biological damage: one for minor disabilities (rate below 16%), which, in addition to the injury severity, factors in the gender and age of the victim, and a second scale for disabilities above 16% which takes into account only the injury severity.

Luxembourg also pays a pension for physiological damage and loss of amenities of life above 20%, and capitalises the pension if the rate is less than or equal to 20%.

(5) In the countries of Group 1, this rate represents the overall assessment of the various damages sustained, while in the countries of Group 2, it expresses only the loss of earning capacity.

2.2 APPLICATION OF THE GENERAL RULES TO THE CASE STUDIES

<table>
<tr><th></th><th colspan="2">Mr DUBOIS</th><th colspan="2">Mrs DUPONT</th></tr>
<tr><td colspan="5">First group of countries</td></tr>
<tr><td>GERMANY</td><td colspan="2">-</td><td colspan="2">Annual pension of €9,600 (€12,800 the first year)</td></tr>
<tr><td>AUSTRIA</td><td colspan="2">Provisional monthly pension during 9 months converted into a lump sum of between €1,942 and €2,317, depending on the season of the year at the time of calculation (special Christmas and summer wages)</td><td colspan="2">Annual pension of €6,420.55 (€9,599.84 per year for the first two years)</td></tr>
<tr><td>BELGIUM</td><td colspan="2">Annual pension of €306 (€215.72/year at retirement)</td><td colspan="2">Annual pension of €1,376.61 (€359.54/year at retirement)</td></tr>
<tr><td>FRANCE</td><td colspan="2">Lump sum of €2,742</td><td colspan="2">Annual pension of €5,420</td></tr>
<tr><td>ITALY</td><td colspan="2">-</td><td colspan="2">Annual pension of €4,492.08 (€1,239.50 for biological damage + €3,252.58 for occupational damage)</td></tr>
<tr><td colspan="5">Second group of countries</td></tr>
<tr><td>COUNTRY</td><td>LOSS OF EARNING CAPACITY</td><td>NON-PECUNIARY DAMAGE</td><td>LOSS OF EARNING CAPACITY</td><td>NON-PECUNIARY DAMAGE</td></tr>
<tr><td>DENMARK</td><td rowspan="5">-</td><td>Lump sum of €4,854.70</td><td>Annual pension of €15,882.24 converted into a lump sum = €97,740</td><td>Lump sum of €16,895</td></tr>
<tr><td>FINLAND</td><td>-</td><td>Annual pension of €16,320 (€40,800 before new job, non-cumulative with unemployment benefits)</td><td>Lump sum of €11,157</td></tr>
<tr><td>SWEDEN</td><td>TFA: lump sum of €4,022 for mutilation + lump sum of €173 for pain and suffering during recuperation period</td><td>Annual Social Security pension of €12,037 + annual TFA complementary system pension of €5,963 (€23,430/year before new job)</td><td>TFA: lump sum of €9,845 for mutilation + lump sum of €2,920 for pain and suffering during recuperation period</td></tr>
<tr><td>SWITZERLAND</td><td>-</td><td>Annual pension of €15,360 (€17,280 before new job)</td><td>Lump sum of €30,100</td></tr>
<tr><td>LUXEMBOURG</td><td>Lump sum of €8,249 of which:
- physiological damage & loss of amenities of life: €4,849.24
- pain: €3,000
- disfiguration damage: €400</td><td>Annual pension of €18,000 (€40,800/year before new job)</td><td>Physiological damage & loss of amenities of life: annual pension of €2,914
Pain: lump sum of €15,000
Disfiguration damage: lump sum of €1,000</td></tr>
</table>

Case of Mr Dubois

It is not very easy to compare the compensation for very minor disabilities such as that of Mr Dubois, because only three of the five countries forming each group pay benefits, with different forms and levels and for different damages.

Austria and France offer, as compensation for permanent disability, a lump sum of similar level (between €2,000 and €3,000). Belgium, for its part, pays an annual pension of €300, the amount of which will be reduced at the time of retirement. As regards Denmark, Sweden and Luxembourg, they pay a lump sum as compensation for non-pecuniary damage (from €4,200 to €8,200).

The other countries pay no compensation for Mr Dubois' disability.

Case of Mrs Dupont

The observed differences between the two groups of countries regarding the amount of benefits are more significant for a case of average permanent disability with loss of income such as that of Mrs Dupont.

For Group 1, the annual pension for permanent disability ranges between €1,400 and €9,600, i.e. an average of €5,460.

For the second group of countries, the pension for loss of earning capacity is in a range from €15,360 to €18,000, to which is added a lump sum for non-pecuniary damage for an amount ranging between €11,000 and €30,100 (with the exception of Luxembourg which pays its benefits in the form of an annual pension of €2,900).

However, this difference between the two groups of countries in the order of magnitude of compensation should be greatly relativised in light of the respective factors impacting compensation over time (see infra).

3. Evolution of compensation

In addition to determining at a time T (generally at the end of medical stabilisation) the compensation for permanent impairment, an accurate comparison of the systems requires examining the mechanisms or events that could affect its amount or its permanence, especially when the compensation is paid in the form of a pension.

First group of countries: overall compensation for permanent disability				
COUNTRY	**PENSION REVALUATION**	**TAX AND SOCIAL SECURITY CONTRIBUTIONS**	**POTENTIAL FOR COMBINING WITH OTHER INCOME**	**POTENTIAL FOR REVISION OF THE AMOUNT OF BENEFITS**
GERMANY	Not given	None	With wage: yes With retirement pension: yes, but retirement pension reduced	Not given
AUSTRIA	Each year according to the cost of living index	None	With wage / retirement pension: yes	Provisional rate during two years revisable each month, then only each year only if change in state of health
BELGIUM	Indexing on cost of living if permanent disability ≥ 16%	Income tax (except for permanent disability < 20%) and Social Security contributions on pension	With wage: yes With retirement pension: yes, but amount of accident pension reduced	Revisable downward and upward (in this case only after a period of 3 years)
FRANCE	Each year according to the consumer price index	None	With wage / retirement pension: yes	Revisable upward and downward (in this case only if improvement in clinical physical condition)
ITALY	Each year according to the cost of living index	None	With wage / retirement pension: yes	On request in the event of deterioration in state of health; biological damage rate can be reduced if clear improvement in the state of health (during 10 years for occupational injuries) Pension for occupational damage not revisable if higher wage

Second group of countries: separate compensation for occupational damage and non-pecuniary damage					
COUNTRY		PENSION REVALUATION	TAX AND SOCIAL SECURITY CONTRIBUTIONS	POTENTIAL FOR COMBINING WITH OTHER INCOME	POTENTIAL FOR REVISION OF THE AMOUNT OF BENEFITS
DENMARK	LEC*	Each year depending on wage growth	Income tax (unless capitalised pension)	With wage: yes With retirement pension: no	Within a period of 5 years downward or upward (exceptionally after that)
	NPD**	Not applicable	Lump sum: no	Not applicable	Not given
FINLAND	LEC	Each year, according to a specific pension index (consumer prices for 80% and wage growth for 20%)	Income tax	With wage: yes With retirement pension: yes, but amount reduced at age 65	If pay increases. If pay decreases, not possible unless reduction due to deterioration in the state of health related to the injury
	NPD	Not applicable	Lump sum: no	Not applicable	If deterioration of at least 2 categories of disability: new lump sum from which the lump sum already paid will be deducted
SWEDEN	LEC	Each year, depending on the trend in consumer prices and partly depending on wage growth	Income tax for Social Security and TFA pensions If TFA pension capitalised, income tax for 60% of this lump sum	With wage: yes With retirement pension (age 65): no for Social Security pension, TFA pension reduced by half	Revaluation if working capacity changes, on request or automatically
	NPD	Not applicable	TFA lump sum: no	Not applicable	Not given
SWITZERLAND	LEC	On average every two years according to the consumer price index	Income tax	With wage: yes With retirement pension: life annuity but adjustable within the limit of 90% of insured earnings	In the event of a change in state of health or earning capacity; on request or automatically, upward or downward if 5% change in loss of earning capacity; not possible after retirement
	NPD	Not applicable	Lump sum: no	Not applicable	Not given
LUXEMBOURG	LEC	Indexing on cost of living (when change in the index)	Income tax and Social Security contributions	With wage: yes With retirement pension (age 65): no	Pension revisable automatically within 3 years after determining the pension (conditions yet to be defined) and if major change in the loss of income
	NPD	Indexing on cost of living (when change in the index)	Pension for physiological damage & loss of amenities of life: no Lump sum: no	With wage/retirement pension: yes	Pension for physiological damage & loss of amenities of life: on request, in cases of permanent deterioration in state of health of at least 10% relative to the rate set previously

*LEC: Loss of earning capacity **NPD: non-pecuniary damage

3.1 CHANGES IN PENSION OVER TIME

There is great uniformity within each group of countries regarding the taxability of benefits and the compatibility of an occupational injury pension with other income such as a wage or retirement pension.

In the first group of countries, the permanent disability pension is subject to no compulsory deductions such as income tax or Social Security contributions, except in Belgium where the tax exemption applies only to pensions for minor disabilities.

This pension, moreover, can be completely cumulated with the victim's wage, and then with his (her) old age pension (although its amount will be reduced in Germany and Belgium on the occasion of retirement).

These two factors illustrate the "compensatory" nature of permanent disability benefits in these countries, since it compensates both categories of damage (occupational and non-pecuniary) while being free of the customary characteristics associated with a replacement income (generally taxable and non-cumulative with a pension).

In all the countries of the second group, on the other hand, the pension for loss of earning capacity is subject to income tax.

Although this pension can logically be cumulated with the victim's income, as in the countries of the first group, it is no longer paid at the retirement age (in Denmark and Sweden), or its amount is adjusted to prevent possible over-compensation (in Finland and Switzerland).

This underscores the fact that this pension acts merely as a replacement income by compensating for the lost earnings as a consequence of the injury; it is no longer applicable (with reservations for Finland and Switzerland) when the person becomes a pensioner and is assumed to no longer have any earning capacity.

By the same reasoning, for tax purposes the pension is treated, before its extinguishment, as earned income.

This fundamental distinction between the two groups of countries points to potential benefits of performing projections based on these factors (tax treatment, life expectancy, etc.) in order to express what the victim could claim to actually receive from each system during his (her) life.

3.2 POTENTIAL FOR REVISION OF BENEFITS

Theoretically, in all the countries studied it is possible to revise the amount of the pension depending on the personal situation of the beneficiary. Generally, this revision is possible both upward and downward.

Two types of event can create the conditions for a revision procedure: a marked change in the victim's state of health (which will have an influence on their earning capacity) and, for the countries of the second group only, a marked change in their income.

However, it would seem that although the possibility of a revision is provided for in all the legislative systems, in practice not all the countries make use of it.

It is certain that when the victim's state of health deteriorates significantly, everywhere the victim will be entitled to request a revision of the amount of their pension. It may be assumed that such cases are not frequent to the extent that the permanent disability is assessed and the amount of the pension is calculated after medical stabilisation of the state of health of accident victims, which is therefore presumed not to change.

On the other hand, in cases where the victim's state of health improves significantly, it appears that the countries of the first group (in the absence of information from the victim, who in fact has no interest in providing it) lack resources to consider the possibility of a revision of the permanent disability rate initially awarded.

For the countries of the second group, the question is less relevant to the extent that physiological damage is generally compensated in the form of a lump sum payment, the amount of which cannot be revised by the insurer.

Nevertheless, it may be wondered whether revision procedures are frequent when the reason cited is a major change in the victim's loss of income (irrespective of whether or not there has been a change in their state of health).

This case probably seldom arises in the countries of the first group to the extent that the basis for assessment of the permanent disability giving entitlement to the pension is the medical condition of the accident victim, and not specifically their loss of income (even though the pension compensates occupational and physiological damage together).

In the second group of countries, the amount of the pension depends directly on the victim's loss of income/actual earning capacity. It is therefore legitimate that the amount of this pension should be revisable in the event of a significant change in this factor.

It appears that the countries of the second group regularly perform this type of revision.

In Switzerland, the beneficiary of the pension is followed up by the insurance organisation until their retirement age, from which time the amount of the pension will no longer be revisable. There is a legal obligation for each pensioner to notify their insurer of any improvement in their state of health and/or a change in their occupational situation. But there is also a system of planning for automatic revision, which is established when the benefits are determined, according to the pensioner's profile, their age, and their chances of becoming rehabilitated or not. In practice, a first revision takes place generally 3 to 4 years after determining the pension, then one or two other revisions are often scheduled until the beneficiary reaches retirement age.

In Denmark, Finland and Sweden, there is no specific system for checking changes in the earning capacity of pension beneficiaries. But in fact the insurer performs checks by examining certain cases when it thinks appropriate. Pension beneficiaries are supposed to inform the insurer of a change (even positive) in their earning capacity. And the insurer can always ask for information concerning the victim's income.

In Sweden, the Social Security agency can contact the victim every year or every two years in order to verify that the pension paid still covers their loss of earning capacity; it also has information available from the tax authorities and the employer. Now, it occurs fairly frequently that the earning capacity of the accident victim changes positively, which leads to a downward revision of the amount of the pension. The supplementary pension (when it is not capitalised) paid by the TFA complementary system can likewise be revised.

It should be specified that in Denmark, losses of working capacity ranging between 15% and 50%, i.e. the majority of cases, are compensated in the form of a lump sum payment. In practice, in this country, revisions consist mainly of requests for capitalisation of pension payments.

In Finland, practices differ depending on the insurance companies (private). Generally, an annual check-up is performed for those victims still having an earning capacity and a job, at least during the first years of payment of the pension. For those persons sustaining a total loss of earning capacity, a review of their situation is performed after several years.

In Luxembourg, the 2010 compensation reform provides for automatic revision of the pension in the three years following its determination in the event of a major change in the loss of income, but the precise conditions still remain to be defined.

We may specify that some countries set time conditions for the possibility of revision (during ten years in Italy for pensions compensating biological damage following an accident at work, during five years in Denmark, possible in Switzerland only before retirement, etc.) and/or require a qualified change in the loss of income or the state of health (in Luxembourg, at least 10% of permanent deterioration in the state of health to revise the amount of the pension for physiological damage and loss of amenities of life).

Few countries (Finland and Luxembourg) mentioned the possibility of a revaluation of the benefits for physiological damage.

Conclusion

This overview of the principles of compensation for permanent impairment and their application to the two case studies shows that two systems coexist in Europe. The first system is based on overall compensation for the occupational and physiological damage sustained by the victim, generally in the form of a life annuity. The second system compensates separately the loss of earning capacity (in the form of a pension which is generally no longer paid at retirement age) and non-pecuniary damage (usually in the form of a lump sum payment).

Each of these two approaches has advantages and disadvantages.
The first system can prove more favourable in certain cases where the victim sustains a slight permanent disability (except for those countries that set a high minimum rate for entitlement to compensation). Moreover, the fact that the pension is an annuity and is almost always nontaxable is a definite advantage considering the compensation paid over time. Finally, the fact that the possibilities for downward revision of the amount of the pension are more theoretical than practical ensures the victim of a financial advantage in the case of an improvement in their state of health and/or job income.

In contrast, the countries adopting the second system in theory offer benefits of a far higher level whenever the victim sustains an actual loss of earning capacity. It can also be considered that the second system is more easily understandable (because more personalised) to the extent that the occupational situation of the victim is examined on a case by case basis and the amounts corresponding to the scales applied to non-pecuniary damage are often similar to those found in common law.

For the victim, from a financial viewpoint, the advantage of being insured and compensated in a country of the first or second group of course depends on the parameters of each specific case.

This comparison also shows that some countries concentrate a high level of compensation in a limited period of time (until retirement), while others spread the payment of compensation over time, on a lower level but for the duration of the victim's life.

It is therefore appropriate to consider the amount of compensation received by the victim at the end of the compensation process.

Purely as an illustration, a comparison was made between the total amount that Mrs Dupont will receive from the injury insurance organisation during her life - exclusively by way of compensation for her permanent damage - in France, country of the first group and in Sweden, country of the second group (see table next page).

These two countries were chosen from the ten countries studied in this document partly because their applicable principles and conditions of compensation seem to be representative of their family of countries, and also because the level of benefits offered based on the case studies is a median within the groups to which they belong.

This simulation shows that despite the numerous differences between the first and second groups of countries (to which France and Sweden belong respectively) in the concept and parameters of compensation systems, the final level of compensation is similar.

Finally, it should be noted that in recent decades the trend in European countries has been to move gradually from the system of overall compensation to a system of separate compensation for damage. Following Switzerland in 1984, Italy in 2000 completely reformed its system of compensation for permanent damage by adopting separate compensation for occupational damage and biological damage, but on the basis of a single assessment. Just recently, Luxembourg likewise converted to separate compensation for various damages.

It may be assumed that this growing individualisation of compensation systems is part of the general trend to alignment on mechanisms stemming from civil law. However, this trend does not necessarily mean that there is an important difference in the level of compensation as shown in the simulation next page, at least as regards this specific case.

Comparison between France and Sweden of the total of amount of the compensation paid to Mrs Dupont		
	FRANCE	**SWEDEN**
From entering her new job (age 54)[a] to retirement age: 65[b]		
Principles	Nontaxable monthly life annuity, revalued each year	• Lump sum for "mutilation" damage + lump sum for "pain sustained until medical stabilisation" damage by TFA complementary system • Monthly pensions from the Social Security system and the complementary system corresponding to the actual loss of income until retirement age
Calculation procedures	Annual basis of pension: €5,400 Revaluation each year by 1.62%[c] Duration: 11 years	• Total lump sum of €12,765 • Annual basis of pension: €18,000 (€12,037 by Social Security system + €5,963 by complementary system)[c] Revaluation each year by 2.3% Duration: 11 years. Average rate of taxation of earned income: 30%
TOTAL 1	**€64,452**	**€168,456**
From retirement age to death (age 87)[d]		
Principles	Combination of retirement pension and accident pension	Extinguishment of the pension paid by the Social Security system and survival of half of the pension (revalued) paid by TFA
Calculation procedures	Annual basis: €5,400 Revaluation each year by 1.62% Duration: 22 years	Annual basis: €3,742 Revaluation each year by 2.3% Duration: 22 years
TOTAL 2	**€168,703**	**€73,946**
TOTAL (1+2)	**€233,155**	**€242,402**

(a) The outline of the case of Mrs Dupont does not specify the length of the period of unemployment and training that she underwent between her dismissal and entering her new job. For the purposes of this simulation, it is postulated that this period lasted one year and that Mrs Dupont found a job again at age 54.

(b) In France, retirement has no effect on payment of the life annuity; in Sweden, the legal retirement age of Mrs Dupont is set at 65.

(c) Since it was not possible to apply future rates of revaluation of injury pensions, the average rate over the last 10 years was applied starting from the first pension payment for France. Sweden indicated an average revaluation rate of 2.3% in recent years.

(d) It is postulated that the death of Mrs Dupont will occur at age 87 (life expectancy for women currently aged 50/60 in France - source: INSEE). The French value is applied to Sweden too.

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