



10/2016

Réf. EUROGIP-118/E

OSH Indicators France Germany / 2010-2014

Accidents at work Statistics and financial highlights

Foreword

EUROSTAT, the Statistical Office of the European Union, has set up and maintains a database on accidents at work in the Member States of the EU according to the ESAW European methodology (*European Statistics on Accidents at Work*, SEAT in French)¹.

This methodology aims at harmonizing data to enable everyone to have consolidated information at European level and thus a comprehensive view on accidents at work and their incidence rate.

However, the insurance systems against accidents at work and the statistics recording systems in force in the Member States being very different from one another due to many factors (historical, economic, social ones), the comparability of data between countries remains limited.

To help decipher trends more easily and to allow for finer comparisons, EUROGIP has undertaken to publish bilateral indicators of accidents at work **in Germany and in France from 2010 to 2014**.

The information published in this document results from the exploitation and putting into perspective by EUROGIP of the official data of the competent organizations in both countries, namely the Occupational Risks Department of the National Health Insurance Fund for Employees (CNAMTS)² in France and *die Deutsche Gesetzliche Unfallversicherung* (DGUV) in Germany³.

The challenge for EUROGIP is to identify, among the data available for both countries, those making it possible to ensure comparability of data and a follow-up over time.

Therefore, this document not only presents statistical data but also financial elements, in particular the active pensions paid to the insured persons following an accident at work, a commuting accident or an occupational disease.

Lastly, it will be regularly updated to allow a coherent long-term follow-up of the information.

Acknowledgments

EUROGIP would like to thank DGUV and more particularly Christoph THOMANN, statistician, as well as Elke BIESEL, in charge of press relations, for their valuable contribution in drawing up this document.

¹ « European Statistics on Accidents at Work ». Launched in 1990, this project aims at « harmonizing data related to all the accidents at work with more than three days off work ». See Eurostat methodology: http://ec.europa.eu/eurostat/cache/metadata/fr/hsw_acc_work_esms.htm

² For a summary description of the French insurance system against occupational risks, reference may be made to the following publication: http://eurogip.fr/images/documents/4175/Eurogip_Point_Stat_Fra1214-112FR.pdf

³ For a summary description of the German insurance system against occupational risks, reference may be made to the following publication: http://eurogip.fr/images/publications/Eurogip_Point_Stat_All0912_93FR.pdf

Summary and key findings of the study

The study that EUROGIP publishes deals with the comparison of the accidents at work of the employees of the private sector during the period 2010-2014 in Germany and in France, and specifically in the following sectors: construction, wood and metal, transport, trade.

With regard to 2014, the major findings of the study are as follows:

- France records 3,027 accidents at work per 100,000 employees, Germany 2,326.
- France records 1.2 fatal accident at work per 100,000 employees compared to 1.3 in Germany.
- France records 397 commuting accidents per 100,000 employees compared to 453 in Germany.
- France records 1.5 fatal commuting accident per 100,000 employees compared to 0.9 in Germany.
- With a similar level of severity, France grants 18.6 pensions for accidents at work per 100,000 employees (compared to 39.1 in Germany) and 4.3 pensions for commuting accidents (13.2 in Germany).
- With a similar level of severity, the compensation for the victims is fairly the same. Thus, France provides to a pensioner of the accident insurance compensation of €6,688 per year, on average, compared to €6,611 in Germany, that is to say:
 - €4,965 for a victim of an accident at work, a commuting accident or an occupational disease in France (compared to €5,625 in Germany);
 - following a victim's death, €14,405 to an eligible party in France (compared to €12,511 in Germany).

The data presented are based on the contributions of the Occupational Risks Department of the National Health Insurance Fund for Employees (CNAMTS) in France and the *Deutsche Gesetzliche Unfallversicherung (DGUV)* in Germany.

This document will be regularly updated.

1. Comparison field of data

➤ Population observed

In France, the "Occupational Injuries" Branch (accidents at work/occupational diseases) covers 18.6 million employees of the private sector (industry, trade and services)⁴. The investigation of the notifications of accidents at work/occupational diseases and the compensation to the victims fall within the competence of the 102 Primary Health Insurance Funds (local organization), of the 20 Regional Directorates of the Medical Service and of the 5 General Health Insurance Funds (DOM-TOM – Overseas departments and territories). The Occupational Risks Department at CNAMTS centralizes the statistics on accidents at work/occupational diseases.

In Germany, *DGUV* heads a network of nine sectoral accident insurance funds (*Berufsgenossenschaften, BG*) which cover the employees of the private sector as well as a share of the self-employed workers and the workers in rehabilitation. These *BG* correspond more or less to the scopes of the French National Technical Committees (Comités techniques nationaux – CTN). In parallel, 25 public funds (*Unfallkassen*), organized on a regional basis, cover the employees of the public sector, the firemen, the railway workers, the pupils and students. *DGUV* collects the statistics on accidents at work and occupational accidents of the private sector employees (excluding agriculture).

In 2014, *DGUV* managed 67.1 million insurance contracts in the private sector, corresponding to 37.8 million employees and 24 million people in rehabilitation.

To ensure comparability of data between Germany and France, the present study focuses on the field of private sector employees.

It should therefore be noted that it does not take into account the public sector employees, the pupils and students as well as two sectors of great importance:

- The public service, which is not covered by the French general scheme and whose statistics are not published. Thus, we cannot establish a relevant comparison with Germany which insures its public employees via the *Unfallkassen*.
- Agriculture, a sector which is very much exposed to occupational risks in both countries but which is not attached to the Occupational Injuries Branch in France nor to the *BG* in Germany.

The case of the self-employed workers is more difficult to deal with. There were 0.9 million full-time equivalents in Germany in 2014, they constitute a not negligible part of the population who are covered by the *BG* but who are not insured by the French Occupational Injuries Branch.

Furthermore, Germany and France have a very different structure as regards labour market and paid employment. It is thus difficult to use the employee population as a basis to calculate the exposure level of private sector employees to occupational risks.

The study will then be based on full-time equivalents – FTE within this document, *Vollarbeiter* in German – which are 33.8 million in the private sector (of which 30.7 million employees), the calculation of which is made by *DGUV*. These figures of full-time equivalents are also provided by CNAMTS for France: 18.6 million in 2014.

⁴ MSA, the second social welfare scheme in France, covers the entire agricultural profession. Self-employed workers are insured by the social security scheme for self-employed workers (*Régime social des indépendants - RSI*). In 2014, there were 2.8 million contributors.

➤ **Categories of economic activities**

Table 1: GERMANY (2014) – Number of workers and employees in FTE per BG

Number	Berufsgenossenschaft (BG)	Number of workers FTE	Number of employees FTE	Part of employees
101	Raw materials and chemical industry	1,208,897	1,200,827	3.9%
102	Woodworking and metalworking industries	3,948,488	3,908,109	12.7%
103	Energy, textile, electrical and media products sectors	3,153,714	3,054,035	10.0%
104	Building trade	1,856,624	1,719,057	5.6%
105	Foodstuffs and catering industry	1,924,046	1,888,504	6.2%
106	Trade and distribution industry	4,312,027	4,132,271	13.5%
107	Transport industry	1,466,584	1,349,298	4.4%
108	Administrative sector	11,401,508	9,290,331	30.3%
109	Health and welfare services	4,547,241	4,128,112	13.5%
	Total	33,819,129	30,670,544	100%

It is important to note that the *BG* cover broader activities than suggested by the name of each one of them.

In France, the accident statistics of the private sector are presented across the nine big branches of activity or National Technical Committees (Comités techniques nationaux – CTN)⁵ and then by NAF⁶ code across each CTN.

The NAF codes are allocated by INSEE (Institut national de la statistique et des études économiques – National Institute for Statistics and Economic Studies) to the company according to its main sector of activity and also include employees who do not work directly in the field of activity (for example, each CTN includes categories called “offices”).

Focus on the FTE

In France, the number of employees is equal to the average of the number of employees present at the last day of each quarter of the year considered. The employees working full time present at the end of each quarter are counted for one, those working part-time are counted in proportion of the ratio between the duration mentioned in their employment contract and the statutory working time during the calendar quarter considered or, if it is below the statutory time, the normal duration of work done in the organization during that quarter. The CNAMTS statistics show that a full-time employee under the general scheme worked an average of 1,485 hours per year in 2014.

In Germany, the FTE more generally group together all insured persons (also including volunteers, people undergoing rehabilitation and nursing assistants). A FTE represents a person having a full activity, the reference index taking account of the working days, the holidays and the average length of sick leave as well as of the paid hours worked weekly. In 2014, the reference annual

⁵ The CTN are labour-management advisory organizations, organized by branches of activity, with the task to assist CNAMTS.

⁶ The French classification of activities 2nd revision (NAF rév. 2, 2008) is the INSEE national statistical classification of activities which has replaced since 1st January 2008 NAF rév. 1 dating back to 2003. It is divided into 21 sections (one letter), and 88 divisions (2 digits). For the comparison, the study groups together the activities observed at the level of the divisions.

duration for full-time work was 1,560 hours. This duration is calculated in Germany by reference to the average annual number of hours worked in the BG.

Table 2: GERMANY – Distribution of FTE according to the workers' status

FTE (private sector)	2010	2011	2012	2013	2014
<i>Employees</i>	28,551,499	29,228,189	29,704,392	30,514,240	30,670,544
<i>Self-employed</i>	1,036,905	977,707	940,021	942,663	923,338
<i>Other workers</i>	2,212,140	2,132,684	2,212,690	2,221,380	2,225,247
Total	31,800,544	32,338,580	32,857,103	33,678,283	33,819,129

Focus on the other workers

There is also a category which includes social workers, nursing assistants, volunteers, people undergoing rehabilitation, which were 2,225,247 in 2014.

Table 3: GERMANY – Counting of the other workers by DGUV

Other workers	FTE
Volunteer	0.1
Student	1
Rehabilitation	0.05

Table 4: GERMANY – Distribution of the "Other workers" according to the BG (2014)

Other workers	FTE other workers	Part (Total)	FTE BG	Part (BG)
<i>Raw materials and chemical industry</i>	832	0.0%	1,208,897	0.1%
<i>Woodworking and metalworking industries</i>	4,416	0.2%	3,948,488	0.1%
<i>Energy, textile, electrical and media products sectors</i>	1,805	0.1%	3,153,714	0.1%
<i>Building trade</i>	89,044	4.0%	1,856,624	4.8%
<i>Foodstuffs and catering industry</i>	9	0.0%	1,924,046	0.0%
<i>Trade and distribution industry</i>	6	0.0%	4,312,027	0.0%
<i>Transport industry</i>	8	0.0%	1,466,584	0.0%
<i>Administrative sector</i>	2,014,620	90.5%	11,401,508	17.7%
<i>Health and welfare services</i>	114,507	5.1%	4,547,241	2.5%
Total	2,225,247	100%	33,819,129	6.6%

These "other workers" mainly concentrate in the "Management" BG and do not introduce significant bias in the indicators, as shown in Table 4.

Focus on the self-employed workers

The German self-employed workers – which are 923,338 (Table 5) – were excluded from the study, they created a bias with the data of the French general scheme, from which they are excluded.

Table 5: GERMANY (2014) – Self-employed workers per BG

Self-employed	FTE self-employed	Part (Total)	FTE BG	Part (BG)
<i>Raw materials and chemical industry</i>	7,238	0.8%	1,208,897	0.6%
<i>Woodworking and metalworking industries</i>	35,963	3.9%	3,948,488	0.9%
<i>Energy, textile, electrical and media products sectors</i>	97,874	10.6%	3,153,714	3.1%
<i>Building trade</i>	48,523	5.3%	1,856,624	2.6%
<i>Foodstuffs and catering industry</i>	35,533	3.8%	1,924,046	1.8%
<i>Trade and distribution industry</i>	179,750	19.5%	4,312,027	4.2%
<i>Transport industry</i>	117,278	12.7%	1,466,584	8.0%
<i>Administrative sector</i>	96,557	10.5%	11,401,508	0.8%
<i>Health and welfare services</i>	304,622	33.0%	4,547,241	6.7%
Total	923,338	100%	33,819,129	2.7%

In order to establish a sound comparative basis, **four significant branches were selected and brought closer to the French data** on the basis of the French NAF activity code, keeping only the employed population as a basis. The sectors observed are:

- **Construction**, where the rate of accidents at work is the most important one, in France as well as in Germany.
- **“Wood and Metal”**, which accounts for an important share of paid employment in both countries.
- **Transport**, a sector exposed to occupational risks.
- **Trade**, which represents an important share of the German employee population (13.5%) and of the French one (15.5 %).

The five other German funds (101: Raw materials and Chemical industry; 103: Energy, Textile, Electronics, Media; 105: Food, Hotel industry; 108: Management and 109: Health and Social Security services) were excluded from the study because they group together sectors which are too unrelated.

Finally, a comparison will also be established globally although the respective weight of each sector strongly influences the number of accidents in both countries.

Table 6 presents the level of comparability between the four axes chosen and the NAF sections⁷.

Table 6: GERMANY (2014) – BG/NAF correspondences⁸

Construction BG		
NAF Section	Share of accidents at work	Share of commuting accidents
F. Construction	85.1%	56.4%
N. Administrative activities and ancillary services	11.5%	39.0%
<i>Other sections</i>	<i>3.4%</i>	<i>4.5%</i>

Transport BG		
NAF Section	Share of accidents at work	Share of commuting accidents
H. Transport and storage	82.1%	87.4%
D. Production and distribution of electricity, gas, steam and conditioned air	11.7%	8.2%
<i>Other sections</i>	<i>6.2%</i>	<i>4.4%</i>

Trade, Distribution BG		
NAF Section	Share of accidents at work	Share of commuting accidents
G. Trade; automobile and motorcycle repair	91.3%	93.5%
<i>Other sections</i>	<i>8.7%</i>	<i>6.5%</i>

Wood, Metal BG		
NAF Section	Share of accidents at work	Share of commuting accidents
C. Manufacturing industry	77.7%	77.9%
G. Trade; automobile and motorcycle repair	11.7%	13.4%
<i>Autres sections</i>	<i>10.6%</i>	<i>8.7%</i>

⁷ In this "France-Germany" study, reference is made to the French NAF sections. Note that the European classification of activities (NACE) has 615 classes with a code on 4 digital positions. NAF rév. 2, which has 732 subclasses, is directly nested in NACE rév. 2. NAF has 5 positions: the 4-digit NACE code supplemented by a national specific position in the form of a letter. To find out more: http://www.insee.fr/fr/service/default.asp?page=nous-contacter/faq/q42_9nacenaf.htm

⁸ The distribution of accidents per NAF section was provided by DGUV.

Table 7 presents the four comparison axes chosen as well as the employment data of the population once the statistics on the other workers and the self-employed workers have been excluded.

Table 7: FRANCE-GERMANY – Comparison of the economic sectors⁹

Berufsgenossenschaft (BG)	French equivalent (NAF)	Number of German employees	Number of French employees
102 Woodworking and metalworking industries	(1)	3,908,109	1,672,731
		12.7%	9.0%
104 Building trade	F. Construction N. Administrative services and support activities – 81. Services related to buildings and landscaping	1,719,057	1,871,755
		5.6%	10.1%
106 Trade and distribution industry	G. Trade	4,132,271	2,878,125
		13.5%	15.5%
107 Transport industry	H. Transport and Storage D. Production and distribution of electricity, gas, steam and air-conditioning	1,349,298	1,053,267
		4.4%	5.7%
	Subtotal	11,108,735	7,475,878
		36.2%	40.2%
	Total	30,670,544	18,604,198
		100.0%	100.0%

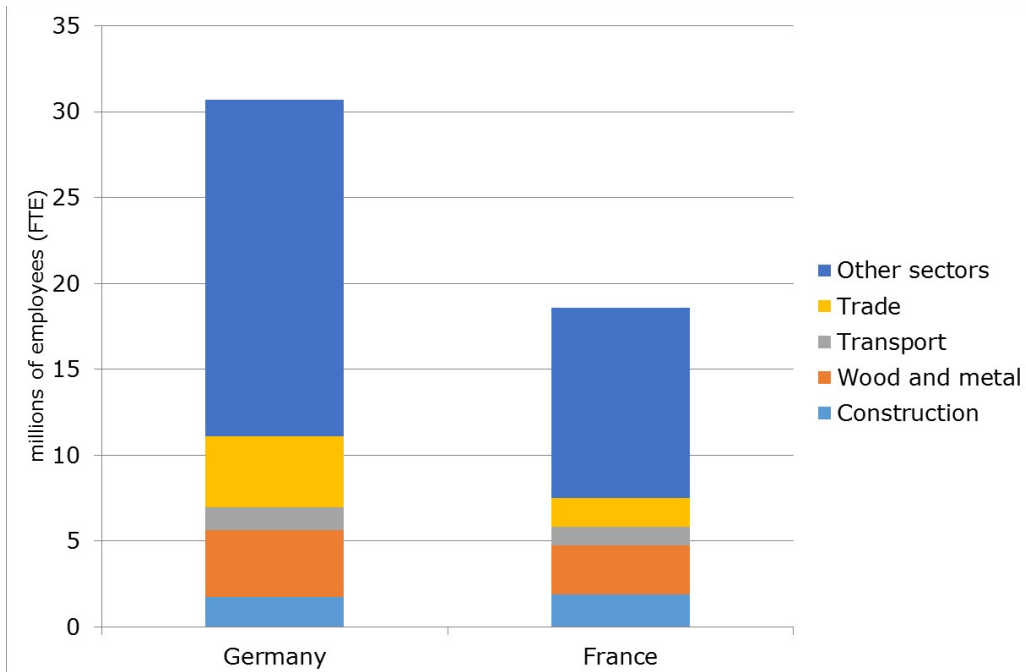
(1) The “Wood and Metal” category groups together the following NAF divisions (extracted from section C « Manufacturing industry »):

- 16: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 17: Manufacture of paper and paper products
- 23: Manufacture of other non-metallic mineral products
- 24: Metal industry
- 25: Manufacture of fabricated metal products, except machinery and equipment
- 26: Manufacture of computer, electronic and optical products
- 27: Manufacture of electrical equipment
- 28: Manufacture of machinery and equipment n.e.c.
- 29: Manufacture of motor vehicles, trailers and semi-trailers
- 30: Manufacture of other transport equipment
- 31: Manufacture of furniture
- 32: Other manufacturing
- 33: Repair and installation of machinery and equipment

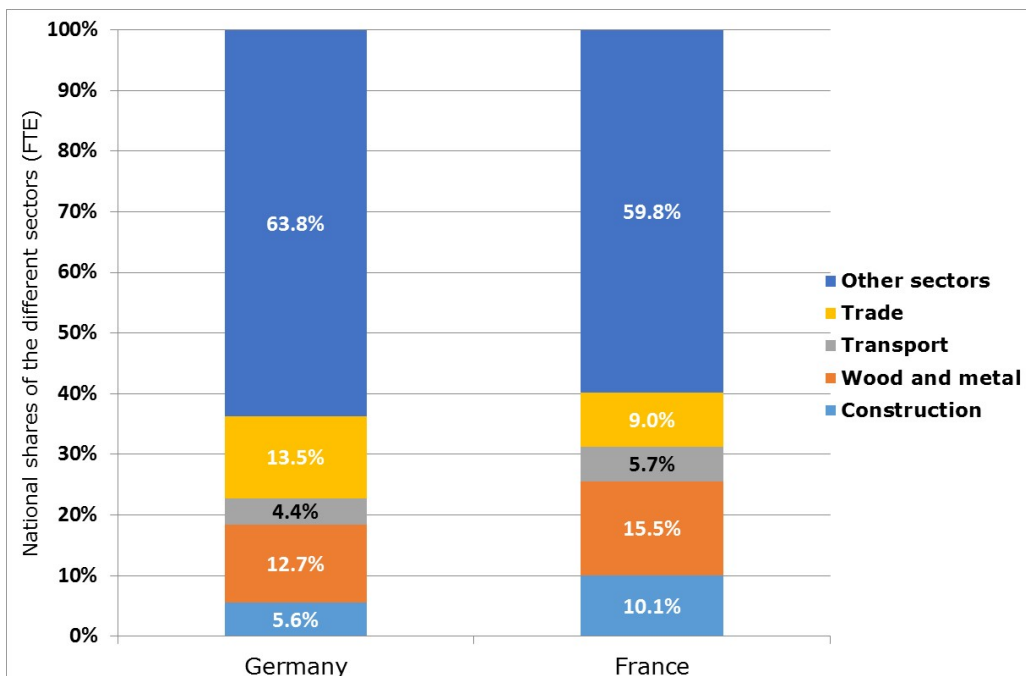
⁹ The share of construction in France seems more important as a result of the addition of N-81 division (due to the important share of German accidents in section N, see Table 6). Without it, construction would represent 7.9% of the French paid employment.

Figure 1: GERMANY-FRANCE – Number of people in work (FTE) according to the sectors in 2014

In million FTE employees



In national shares of the different sectors (FTE)



2. Accident data

➤ Exposure rate

To compare the exposure to occupational risks of two countries, we can relate the number of accidents to two data which are also strongly correlated:

- The number of employees in full-time equivalents,
- The number of hours worked.

These two data are available in both countries (Tables 8 and 9) and they are also equally relevant to measure the exposure level at the workplace of the insured population. Nonetheless, the number of accidents related to the FTE is more precise and more understandable for the reader.

The incidence rate is the number of accidents (accidents at work or commuting accidents, eventually fatal accidents according to the precision provided) of the private sector (or of a particular sector) per 100,000 FTE workers of the insured population of the country (or of a particular sector)¹⁰.

Table 8: GERMANY (2010-2014)

In millions	2010	2011	2012	2013	2014
Total population	81.8	80.3	80.5	80.8	81.2
Population insured against occupational risks	34.7	35.6	36.2	36.9	37.8
Full-time workers	28.6	29.2	29.7	30.5	30.7
Number of companies	3.31	3.23	3.22	3.25	3.32

Table 9: FRANCE (2010-2014)

In millions	2010	2011	2012	2013	2014
Population	64.6	64.9	65.2	65.6	66.1
Full-time workers	18.6	18.8	18.6	18.6	18.6
Number of worked hours	28,772	28,067	27,737	27,695	27,623
Number of enterprises	2.04	2.05	2.04	2.11	2.11

➤ Accidents at work

In Germany as in France, *an accident at work* is considered as an event of a short duration occurring during an occupational activity and causing physical or psychological harm. The expression « during an occupational activity » means while carrying out an occupational activity or during the period spent at the workplace. This definition includes the accidents which occur during a mission but excludes the commuting accidents (the definition of which is given below).

Nevertheless, if the notion of accident at work is identical in France and in Germany, their recording differs according to the two countries.

¹⁰ This definition differs from the definition of the French statistics which relates the number of lost-time accidents to 1,000 employees.

In France, the obligation for the employer to report applies for all the accidents which lead to a work absence or not. In Germany, the report of an accident to the insurer is not compulsory for the accidents with less than four days off work. A part of them is nevertheless recorded in other *DGUV* statistics as soon as they give rise to expenses.

Since France also records according to the ESAW European methodology (see p. 1) the accidents with more than 3 days off work, this basis was chosen in the rest of the study.

Table 10: GERMANY – Accidents at work 2010-2014

Work accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	755,631	754,231	725,601	719,488	713,542
Incidence rate per 100,000 FTE					
<i>All sectors</i>	2,646.6	2,580.5	2,442.7	2,357.9	2,326.5
<i>Construction</i>	7,238.3	6,896.7	6,088.1	6,025.4	5,920.4
<i>Wood and Metal</i>	4,254.1	4,298.3	4,081.3	3,826.4	3,937.2
<i>Transport</i>	4,481.6	4,522.7	4,362.9	4,108.2	4,007.0
<i>Trade</i>	2,792.1	2,804.9	2,553.9	2,553.1	2,436.9

Table 11: FRANCE – Accidents at work 2010-2014

Work accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	591,322	603,208	578,557	559,902	563,167
Incidence rate per 100,000 FTE					
<i>All sectors</i>	3,172.1	3,202.7	3,105.2	3,003.0	3,027.1
<i>Construction</i>	5,896.7	5,915.5	5,645.7	5,373.6	5,302.6
<i>Wood and Metal</i>	3,194.2	3,186.8	2,977.3	2,844.3	2,765.4
<i>Transport</i>	5,845.3	5,712.0	5,537.6	5,566.6	5,436.0
<i>Trade</i>	3,278.8	3,273.7	3,187.9	3,101.1	3,123.5

As a general rule, the number of accidents decreased in Germany and in France over the 2010-2014 period. Furthermore, this trend existed before the observation period and could reflect a better monitoring of occupational risks in both countries. Nevertheless, the incidence rate recently rose again in France in 2011 (+1%) and in 2014 (+1%), after two years of steady decline.

Between 2010 and 2014 one can observe a decrease of 42,089 accidents in Germany, of 28,155 in France. During this same period, the incidence rate decreased by 12.1% in Germany, by 4.6% in France, which indicates a reduction of exposure to occupational risks in both countries. However, France remains globally more exposed than Germany (the 2014 rate is 2,321.9 in Germany, 3,027.1 in France).

In both countries, the sector most exposed is construction where the incidence rate is the highest (1.8 time greater than the average in France, 2.5 times greater in Germany in 2014). However, it is in this sector that one can also observe the most significant reductions¹¹ (-10.1% in France compared to -18.2% in Germany since 2010).

It is to be noted that there is an important gap in the incidence rate in the transport sector (5,436.0 in France compared to 4,007.0 in Germany, which means a 35.7% higher rate in France).

¹¹ Prevention and targeting efforts have been made by both countries. It is a possible explanation for the decrease observed in the number of accidents.

Figure 2: GERMANY-FRANCE – Incidence rate of accidents at work per sector (2014)

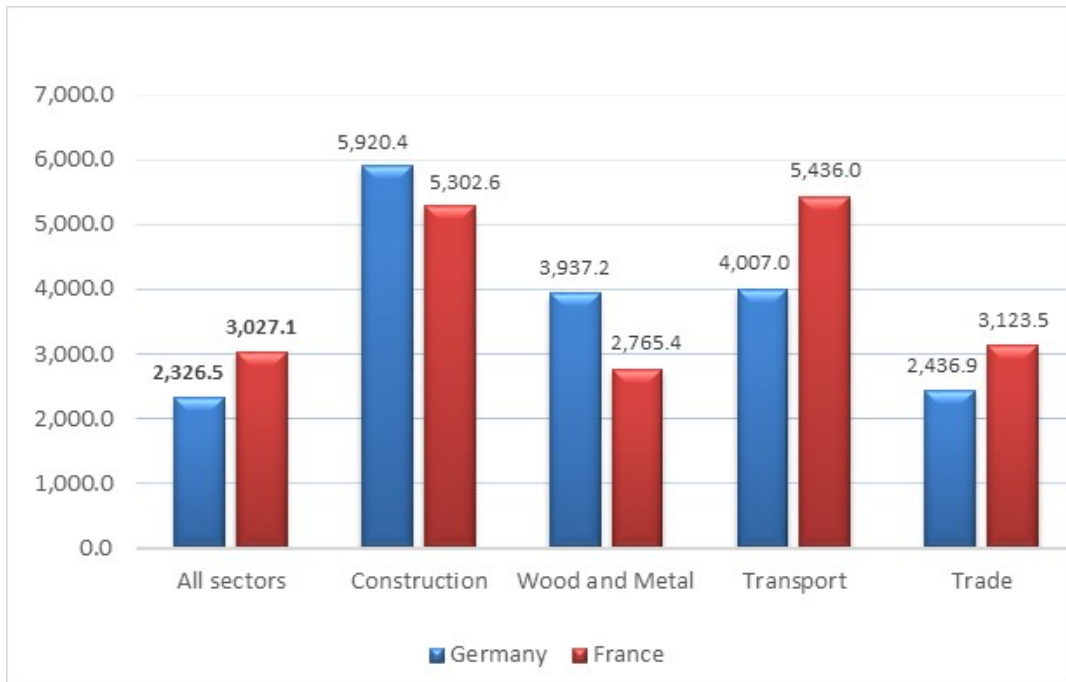


Figure 3: GERMANY-FRANCE – Evolution of accidents at work (2014)



➤ **Fatal accidents at work**

For the purposes of this study, any accident (accident at work or commuting accident according to the precision provided) leading to the victim's death and whose cause is identified as being occupational is considered as a *fatal accident*. This definition thus excludes the deaths related to faintness, heart attacks or suicides occurring at the workplace but whose occupational origin has not been established.

In France, any death at the workplace or related to the occupational activity is presumed to be a fatal accident at work (except when the death occurs after the setting of the state of consolidation, which represents a minority of cases).

In Germany, fatal accidents are recorded only if they occur within 30 days after the accident. Nevertheless, the number of the remaining cases being supposed to be low compared with all the fatal accidents, it should be pointed out in a first stage that the statistics of the two systems are comparable.

By contrast, in Germany the deaths whose occupational origin is not proven are not recorded as fatal accidents at work although they might have occurred at the workplace or during the professional activity of the employee. This difference generates an important bias with the French statistics.

To ensure comparability, the French data was adjusted in accordance with the German recording method. Faintness and suicides at the workplace being regulatory considered in France as accidents at work, it is necessary to exclude them from the scope of European comparisons, which is obtained by excluding the deaths whose circumstances are mainly coded under the material agent "lack of information".

A previous statistical treatment of the Occupational Risks Department made it possible to find a management rule to identify the deaths occurring after an accident at work or a commuting accident in the French data.

Table 12: GERMANY – Fatal accidents at work 2010-2014

Fatal work accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	431	389	406	347	392
Incidence rate per 100,000 FTE					
<i>All sectors</i>	1.5	1.3	1.4	1.1	1.3
<i>Construction</i>	6.0	5.5	4.9	4.4	4.5
<i>Wood and Metal</i>	1.3	1.4	1.4	1.3	1.3
<i>Transport</i>	8.2	6.8	7.1	5.7	6.6
<i>Trade</i>	1.6	1.1	1.5	0.9	1.2

Table 13: FRANCE – Fatal accidents at work 2010-2014

Fatal work accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	299	344	315	248	225
Incidence rate per 100,000 FTE					
<i>All sectors</i>	1.6	1.8	1.7	1.3	1.2
<i>Construction</i>	4.1	5.4	4.6	4.0	3.7
<i>Wood and Metal</i>	1.7	1.8	1.9	1.3	0.5
<i>Transport</i>	5.6	5.8	5.0	4.3	4.6
<i>Trade</i>	1.0	1.1	1.1	1.6	1.7

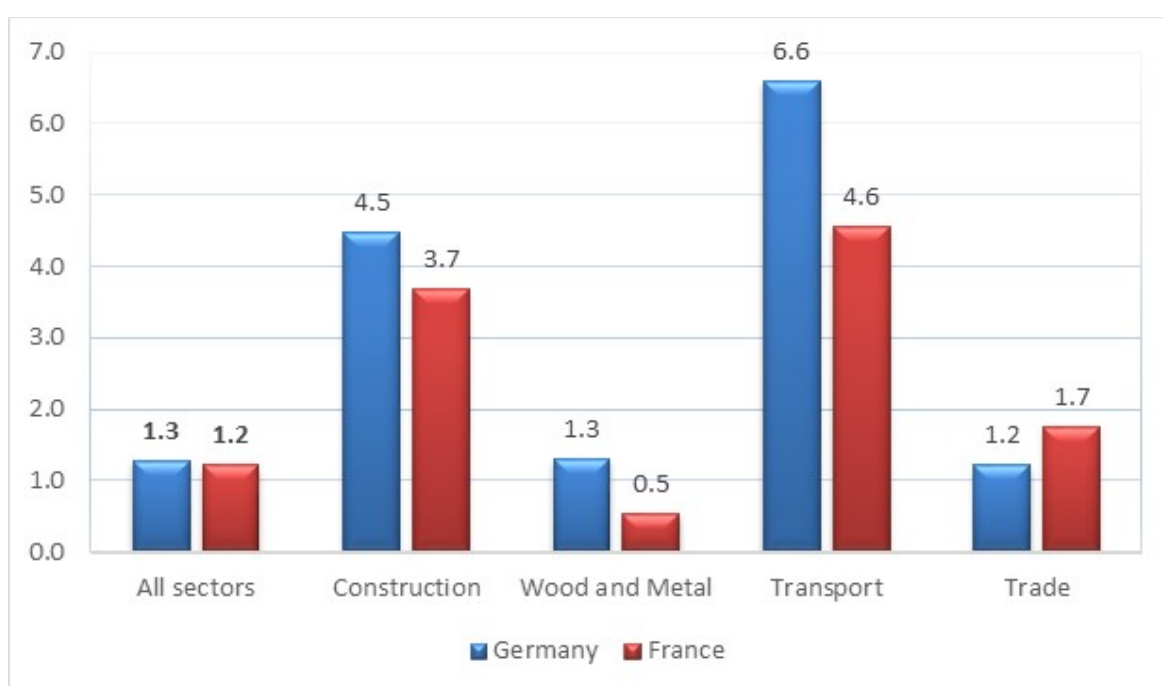
The rate of fatal accidents at work is generally declining during the period observed and in both countries.

In 2014, France (1.2) was slightly less exposed to fatal accidents than Germany (1.3) when it was still a long way behind in 2011 (1.8 compared to 1.3). However, there are significant disparities between sectors since France has a much lower rate in transport (4.6 compared to 6.6) but a higher one in trade (1.7 compared to 1.2) whose weight is more important in both countries.

It is noted that France has far fewer fatal accidents in transport but that it is much more exposed for all the accidents at work in this sector.

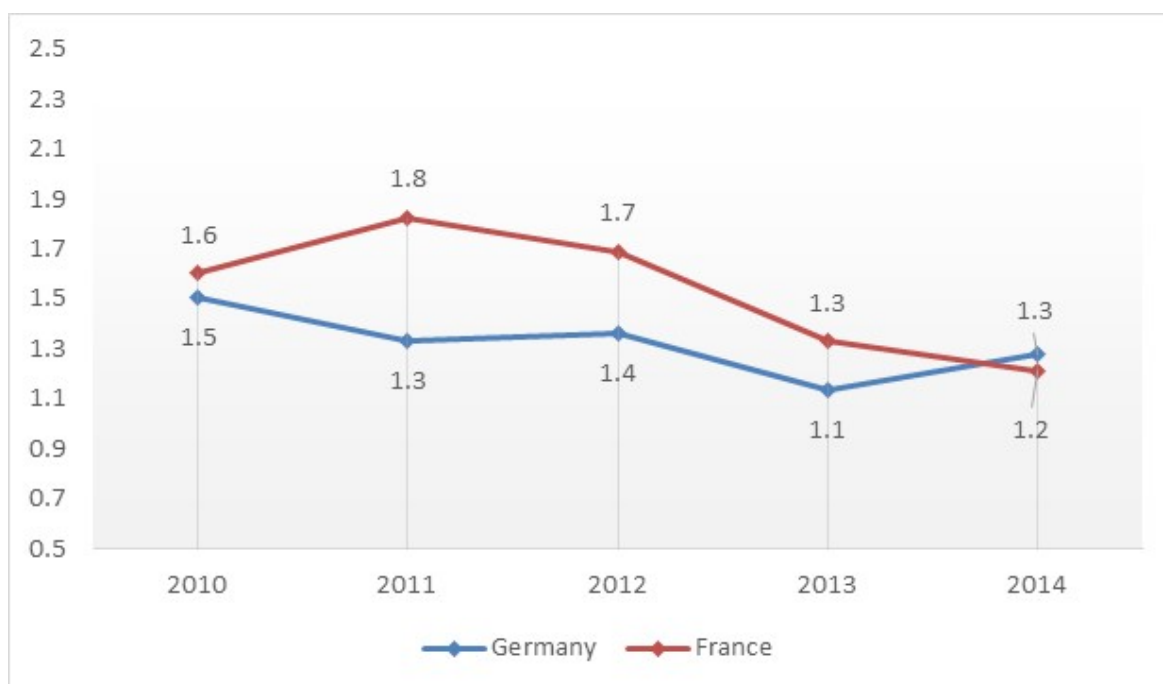
The rate of fatal accidents being based on a relatively low number of occurrences, it should be noted that its variations, more abrupt, are much more subject to new events and can only be analyzed over relatively long periods of time.

Figure 4: GERMANY-FRANCE – Incidence rate of fatal accidents at work per sector in 2014¹²



¹² The incidence rate of the French fatal accidents at work of the "Wood Metal" category seems low compared to the German rate. This difference could possibly be explained by the statistical reconstruction made for the purposes of the study (see Table 7). This also applies to the commuting accidents.

Figure 5: GERMANY-FRANCE – Evolution of fatal accidents at work between 2010 and 2014



➤ **Commuting accidents**

In both countries, a *commuting accident* is an accident which occurs during the journey between home and the workplace or between the workplace and a usual place for the lunch break. An accident having occurred during an unusual detour is not insured except if the necessity of this detour is proven.

Table 14: GERMANY – Commuting accidents (2010-2014)

Commuting accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	174,979	150,424	140,693	147,952	139,048
Incidence rate per 100,000 FTE					
<i>All sectors</i>	612.9	514.7	473.6	484.9	453.4
<i>Construction</i>	738.3	609.8	534.6	563.1	499.3
<i>Wood and Metal</i>	580.8	511.4	495.6	495.6	482.9
<i>Transport</i>	494.3	445.2	429.1	397.4	373.1
<i>Trade</i>	708.8	597.5	517.9	564.9	501.2

Table 15: FRANCE – Commuting accidents (2010-2014)

Commuting accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	83,408	84,839	76,783	79,547	73,850
Incidence rate per 100,000 FTE					
<i>All sectors</i>	447.4	450.4	412.1	426.6	397.0
<i>Construction</i>	457.6	453.5	397.7	392.2	359.8
<i>Wood and Metal</i>	294.8	290.0	263.6	276.8	249.4
<i>Transport</i>	447.1	474.6	421.1	442.7	390.4
<i>Trade</i>	487.5	481.2	443.1	458.3	426.3

During the 2010-2014 observation period, the commuting accidents and their incidence rate constantly declined in both countries (except in 2013 when there was a slight increase). Germany had a much higher rate than France in 2010 (612.9 compared to 447.4 which represents a 1.4 time higher incidence) but saw its rate sharply decrease the following year (514.7 in 2011 which represents a 16% decrease in one year). This high rate in 2010 reflects the very difficult traffic conditions with important snowfalls, particularly in Northern Germany. On average, the fall in the rate since 2010 is 26% in Germany, 11% in France.

A peak was observed in both countries in 2013 (Figure 7) due to severe winter conditions in the first quarter. The absence of snow and ice in 2014 contributed to a reduction of the incidence rate the following year.

Except the transport sector where it has a lower exposure rate (373.1 compared to 390.4), Germany has a higher incidence rate in the main sectors and in particular construction (499.3 compared to 359.8, which represents a 28% higher rate).

Figure 6: GERMANY-FRANCE – Incidence rate of commuting accidents per sector in 2014

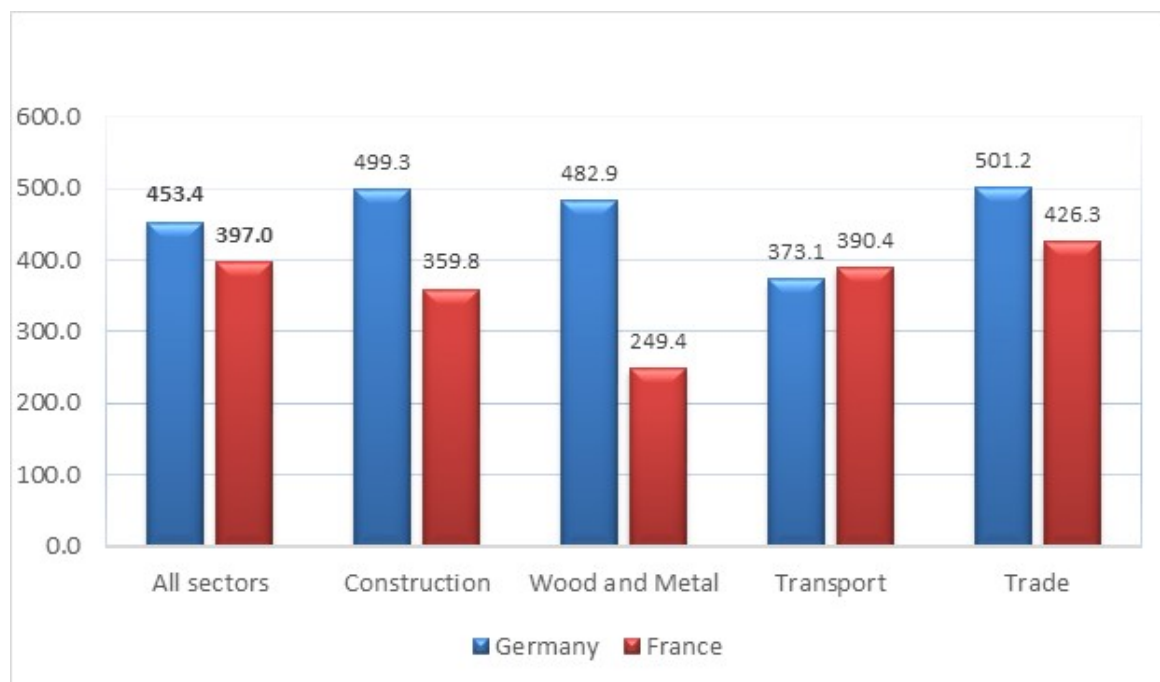
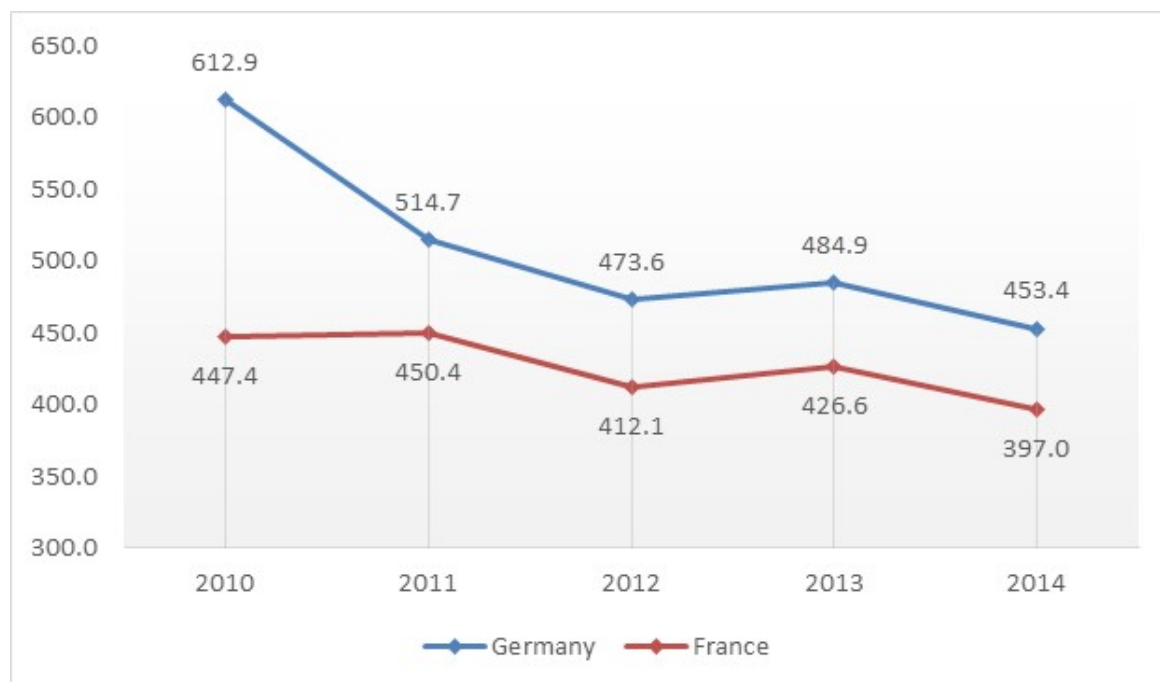


Figure 7: GERMANY-FRANCE – Evolution of commuting accidents between 2010 and 2014



Focus on the commuting accidents in Germany

Germany had in 2014 an incidence rate of commuting accidents which was high compared to France (453.4 compared to 397.0 in France). This situation can be partly explained by the non negligible share of part-time work in Germany: in 2014, 27% of all the employees were part-time workers¹³. In France, these workers represented 18.9%¹⁴ of the employee population.

Contrary to accidents at work, for which it is relevant to measure the incidence in relation to the full-time equivalents, commuting accidents are more difficult to compare with this indicator.

As a matter of fact, the total time spent at the workplace does not at all indicate the number of actual journeys of the worker. The influence of part-time work, and more generally of the country's structure of employment, causes substantial variations in the travelling time of employees.

According to the structure of employment of both countries, the FTE incidence rate can thus overestimate or underestimate the actual exposure of one country or the other. In our study, this could lead us to prefer, for example, the incidence rate based on the insured population.

A simulation based on the entire employee population causes significant variations in the German rate (368.1 instead of 453.4).

Nevertheless, the French data do not allow us to exclude part-time work in France which, although less important than in Germany, would add a strong statistical bias in this overview. Thus, the incidence rate based on the full-time equivalents remains the best possible indicator which is available.

¹³ This rate was provided by DGUV.

¹⁴ Source: INSEE (2014). This figure takes into account private and public sectors (which represents a total workforce of 25.8 million workers).

Fatal commuting accidents

Table 16: GERMANY – Fatal commuting accidents 2010-2014

Fatal commuting accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	317	325	340	276	267
Incidence rate per 100,000 FTE					
<i>All sectors</i>	1.1	1.1	1.1	0.9	0.9
<i>Construction</i>	2.3	1.9	2.1	1.7	1.4
<i>Wood and Metal</i>	1.3	1.7	1.8	1.3	1.5
<i>Transport</i>	0.9	0.8	1.3	1.0	1.0
<i>Trade</i>	1.3	1.2	1.2	1.0	0.9

Table 17: FRANCE – Fatal commuting accidents 2010-2014

Fatal commuting accidents	2010	2011	2012	2013	2014
<i>Recognized cases</i>	354	386	321	296	275
Incidence rate per 100,000 FTE					
<i>All sectors</i>	1.9	2.0	1.7	1.6	1.5
<i>Construction</i>	2.7	3.0	2.4	2.4	2.1
<i>Wood and Metal</i>	2.6	2.8	2.8	2.2	1.7
<i>Transport</i>	2.0	2.1	2.5	1.6	1.3
<i>Trade</i>	1.7	2.4	2.0	1.6	1.6

Since 2011, the number of fatal commuting accidents has been declining in Germany and in France.

However, there are in France much more fatal accidents per employee than in Germany (the rate was 1.5 in 2014 compared to 0.9 in Germany). All the main sectors are concerned and in particular construction (2.1 in France compared to 1.4 across the Rhine). This trend in the construction sector, confirmed by the previous years, may be surprising since France was far less exposed in this sector for all the non-fatal commuting accidents.

Figure 8: GERMANY-FRANCE – Incidence rate of fatal commuting accidents per sector in 2014

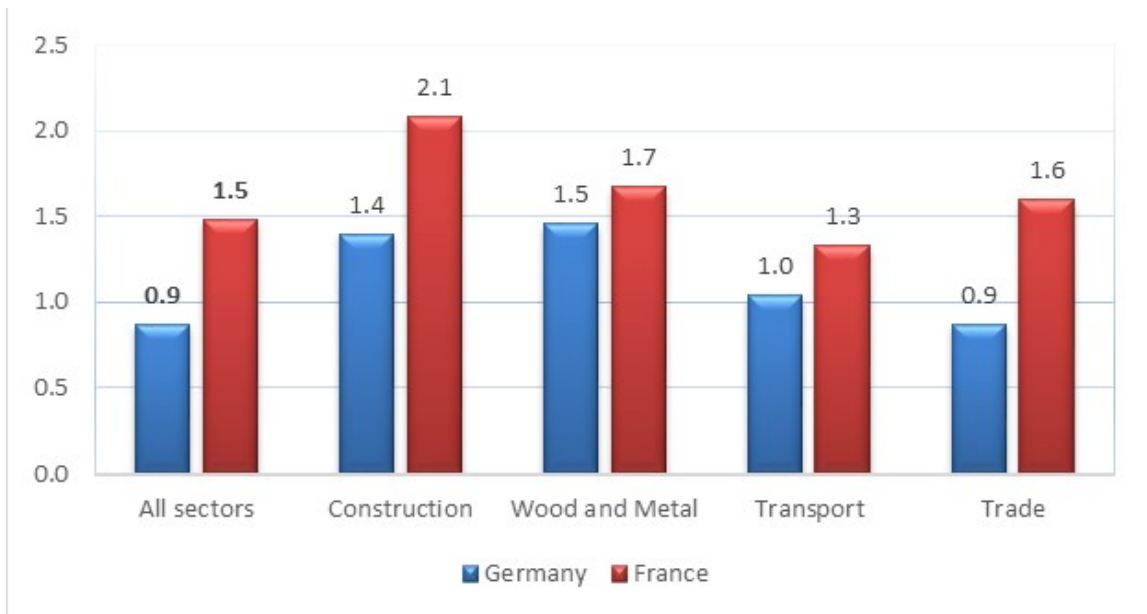
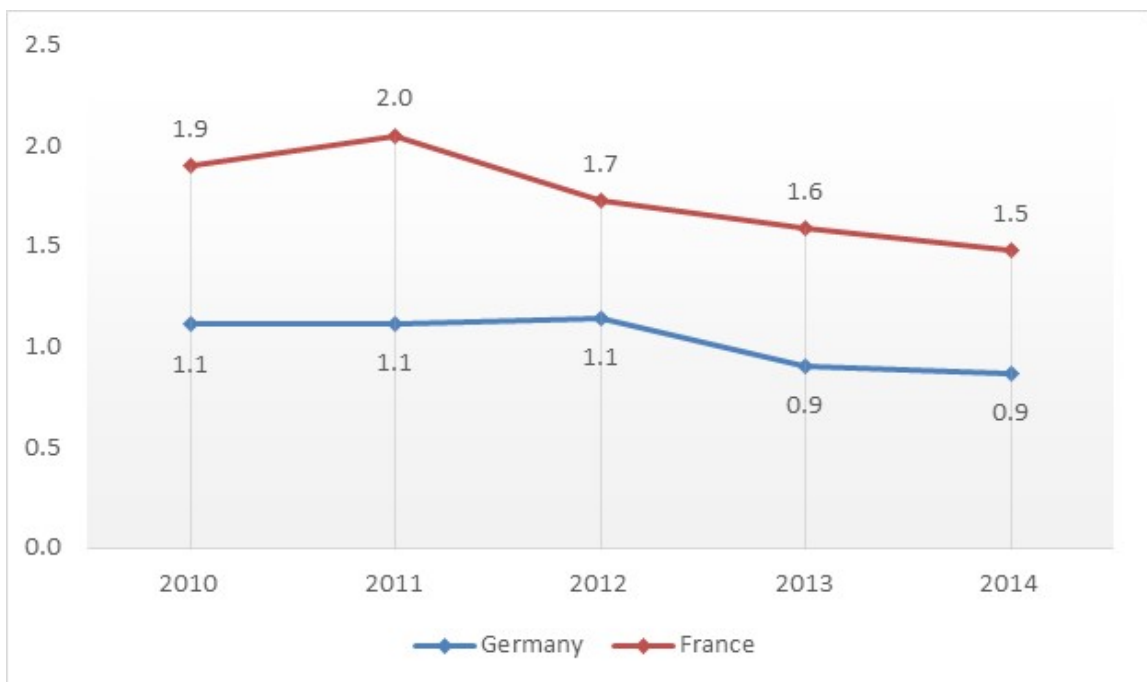


Figure 9: GERMANY-FRANCE – Evolution of fatal commuting accidents between 2010 and 2014



3. Compensation and financial elements

➤ New pensions for accidents at work

A *pension* is a benefit in cash paid after a recognized accident at work or commuting accident to the victim or his/her beneficiaries and which corresponds to the compensation of a permanent harm.

In France, a pension is granted to compensate a permanent disability. The latter is defined as all the irreversible sequels, following an accident at work, which cause a reduction of the physical or mental abilities. It is measured by a disability rate. Any permanent disability gives entitlement to compensation: either as a lump sum (for rates from 1 to 9%) or in the form of a life annuity (for rates above 10%).

In Germany, people do not talk of permanent disability as in France but of the loss of earning capacity, called "MdE" within this document (*Minderung der Erwerbsfähigkeit*). Its level is given by a rate which, if it is above 20% gives entitlement to the payment of a life annuity by the accident insurance¹⁵ if the sick leave lasted at least 26 weeks. Priority is here given to the victim's medical rehabilitation in order to prevent or delay his/her exit from the labour market. In fact, the German law is based on the principle called « Reha vor Rente » (rehabilitation before pension) where the first task is to restore the victim's earning capacity through rehabilitation and professional reintegration so that he/she can get his/her life back on track.

Hence, this German pension does not only compensate the loss of a direct income but also all the earning capacity lost by the victim while in France it compensates the mental and physical harm. These two concepts are different and should be compared cautiously.

The ratio of the new pensions is the number of new pensions (following an accident at work or a commuting accident) in the private sector (or in a particular sector), granted in a given year, per 100,000 employees (of the private sector or a particular sector) and whose French rate (permanent disability) or German rate (loss of earning capacity) is above 20%.

The number of new pensions whose rate of permanent disability is above 20% gives information on the number of severe accidents which occurred. We can see in the following tables that they follow the global trend of accidents, which has gone downwards for several years.

In Germany as in France, lots of pensions are not granted during the year of the accident. Consequently, the number of new pensions does not really "match" the FTE of the corresponding year.

This comparison should not lead us to escape the fact that the same case dealt with in France or in Germany will be assessed differently by the medical authorities: for example, the case of an accident at work with pelvic fracture and rupture of the urethra was granted a disability rate of 40% in Germany (reduced to 30% after one year) compared to 28% in France¹⁶.

¹⁵ There are also cases where "Stützrenten" are paid to pensioners even if the MdE is below 20%.

¹⁶ For more details, see the study "Compensation of permanent impairment resulting from occupational injuries in Europe, EUROGIP, December 2010.

The publication is available at the following address:
http://eurogip.fr/images/publications/Eurogip_Notecompensation_59E.pdf

Table 18: GERMANY – New pensions for accidents at work per sectors (2010-2014)

New pensions - work acc.	2010	2011	2012	2013	2014
<i>Pensions granted</i>	13,454	12,934	12,594	12,368	11,994
Pension ratios per 100,000 FTE					
<i>All sectors</i>	47.1	44.3	42.4	40.5	39.1
<i>Construction</i>	144.4	138.7	133.0	132.1	124.1
<i>Wood and Metal</i>	65.2	59.3	52.0	52.1	54.7
<i>Transport</i>	112.3	114.8	115.0	97.1	91.3
<i>Trade</i>	49.4	45.8	43.6	37.4	38.4

Table 19: FRANCE – New pensions for accidents at work per sectors (2010-2014)

New pensions - work acc.	2010	2011	2012	2013	2014
<i>Pensions granted</i>	4,544	4,046	3,823	3,641	3,467
Pension ratios per 100.000 FTE					
<i>All sectors</i>	24.4	21.5	20.5	19.5	18.6
<i>Construction</i>	63.1	57.4	52.5	51.4	48.8
<i>Wood and Metal</i>	26.1	23.7	23.4	19.6	20.3
<i>Transport</i>	41.1	40.2	39.7	36.2	34.9
<i>Trade</i>	22.0	19.1	18.6	18.4	16.5

The number of pensions granted for permanent disabilities related to accidents at work steadily declined from 2010 to 2014, in France and in Germany, presumably in relation to the fall in the number of accidents observed over the period (even if the proportions are not identical).

However, the new pension ratios are much higher in Germany than in France. There are several reasons for this:

- The pensions whose permanent disability rate is below 20% were excluded from the French statistics. In fact, in 2014 there were in France 37,778 new pensions, all rates combined, and 11,609 life annuities (rate above 10%).
- The set rates below 20% do not appear in the German statistics.

Figure 10: GERMANY-FRANCE – New pensions for accidents at work per sectors in 2014

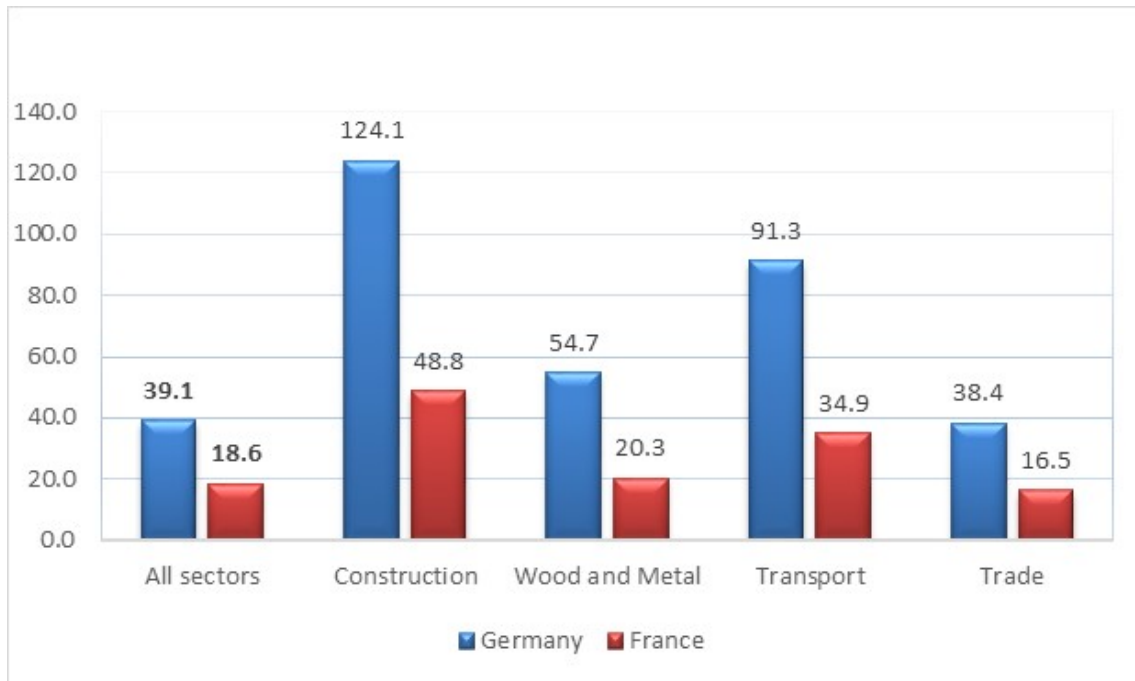


Figure 11: GERMANY-FRANCE - Evolution of new pensions for accidents at work 2010-2014

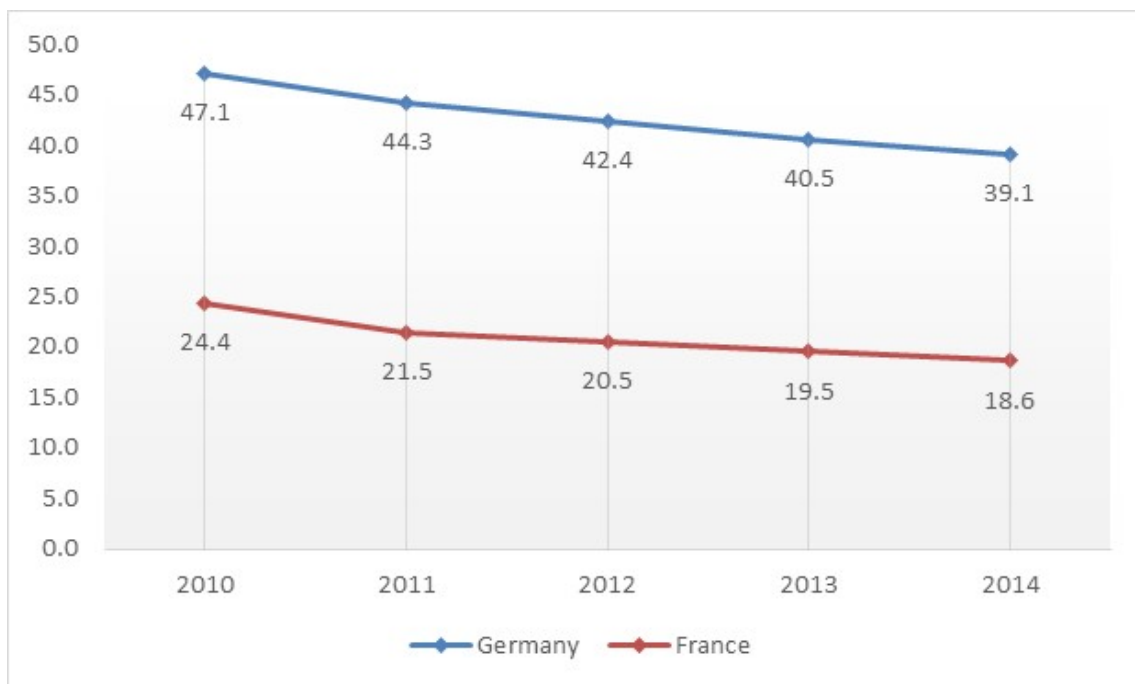
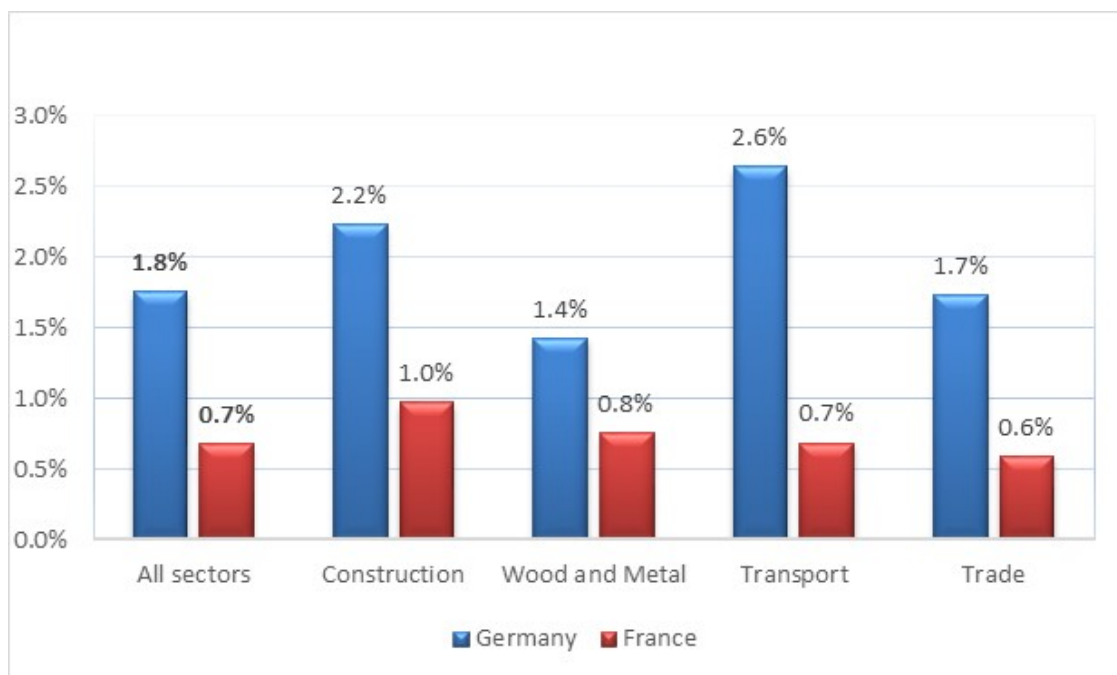


Figure 12 indicates the total of pensions for accidents at work in relation to all the accidents. Even though these rates are hardly comparable because of the difference in the allocation of new pensions, we can see that a more important share of serious German accidents is concentrated in transport (2.6% compared with an average of 1.8%) and construction (2.2%). In France, these rates are less scattered, even if construction always seems to be a sector where more accidents occur (1.0% compared with a national average of 0.7%).

Figure 12: GERMANY-FRANCE – Share of serious accidents at work per sector - Five-year average (2010-2014)



➤ **New pensions for commuting accidents**

Table 20: GERMANY – New pensions for commuting accidents 2010-2014

New pensions - commuting acc.	2010	2011	2012	2013	2014
<i>Pensions granted</i>	4,949	4,778	4,419	4,209	4,052
Pension ratios per 100,000 FTE					
<i>All sectors</i>	17.3	16.3	14.9	13.8	13.2
<i>Construction</i>	23.7	18.6	19.2	17.7	15.9
<i>Wood and Metal</i>	20.5	15.9	16.4	15.5	17.3
<i>Transport</i>	13.9	14.6	15.9	10.5	10.6
<i>Trade</i>	19.4	18.7	15.6	13.8	14.1

Table 21: FRANCE – New pensions for commuting accidents 2010-2014

New pensions - commuting acc.	2010	2011	2012	2013	2014
<i>Pensions granted</i>	997	961	962	891	794
Pension ratios per 100,000 FTE					
<i>All sectors</i>	5.3	5.1	5.2	4.8	4.3
<i>Construction</i>	7.4	6.8	6.3	5.9	5.9
<i>Wood and Metal</i>	5.0	5.0	4.1	4.5	4.5
<i>Transport</i>	6.4	5.8	5.2	5.1	5.1
<i>Trade</i>	5.8	5.3	5.0	4.6	4.4

The ratio of the new pensions for commuting accidents varies by a factor of three between France (4.3) and Germany (13.2). Between 2010 and 2014, it remained generally stable in France, it went down sharply in Germany, which would tend to show the overall decrease in serious accidents leading to permanent disability.

It should be noted that France paid a total of 7,290 new pensions for commuting accidents (all sectors combined) and 2,282 life annuities (rate above 10%).

Figure 13: GERMANY-FRANCE – New pensions for commuting accidents per sectors in 2014

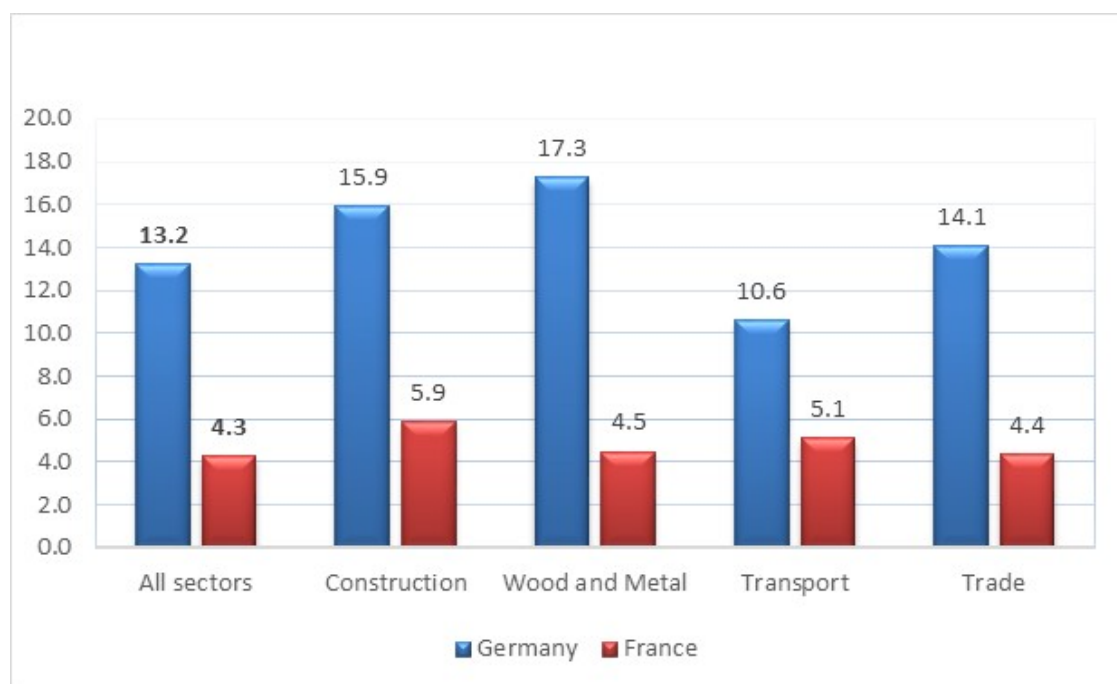
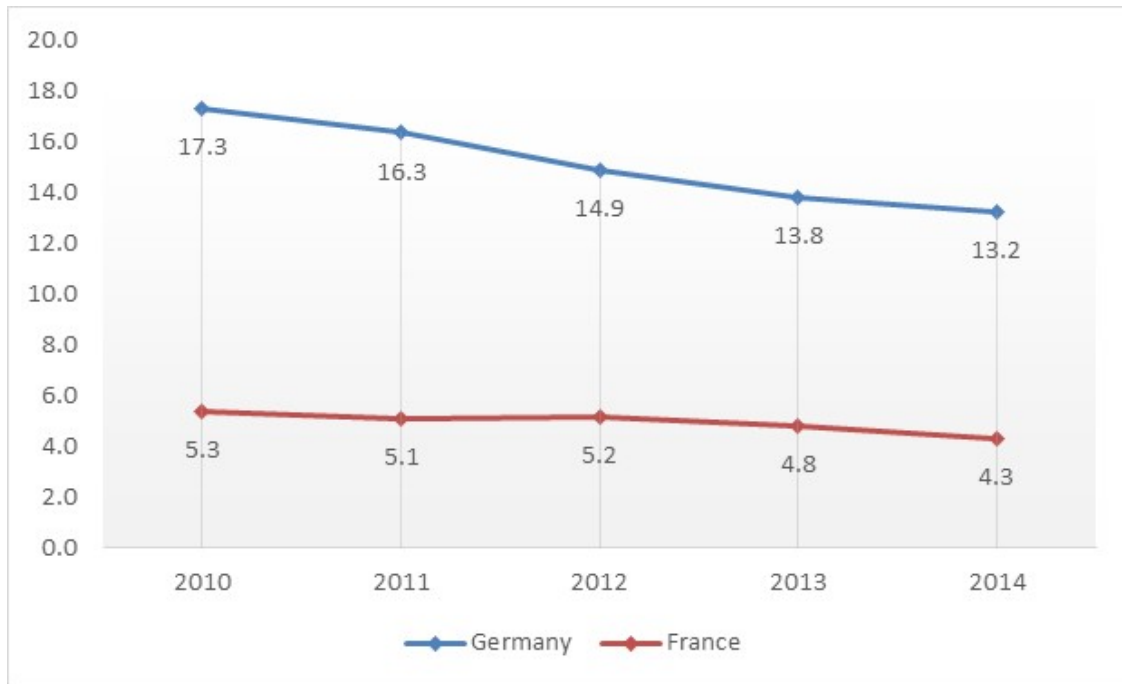
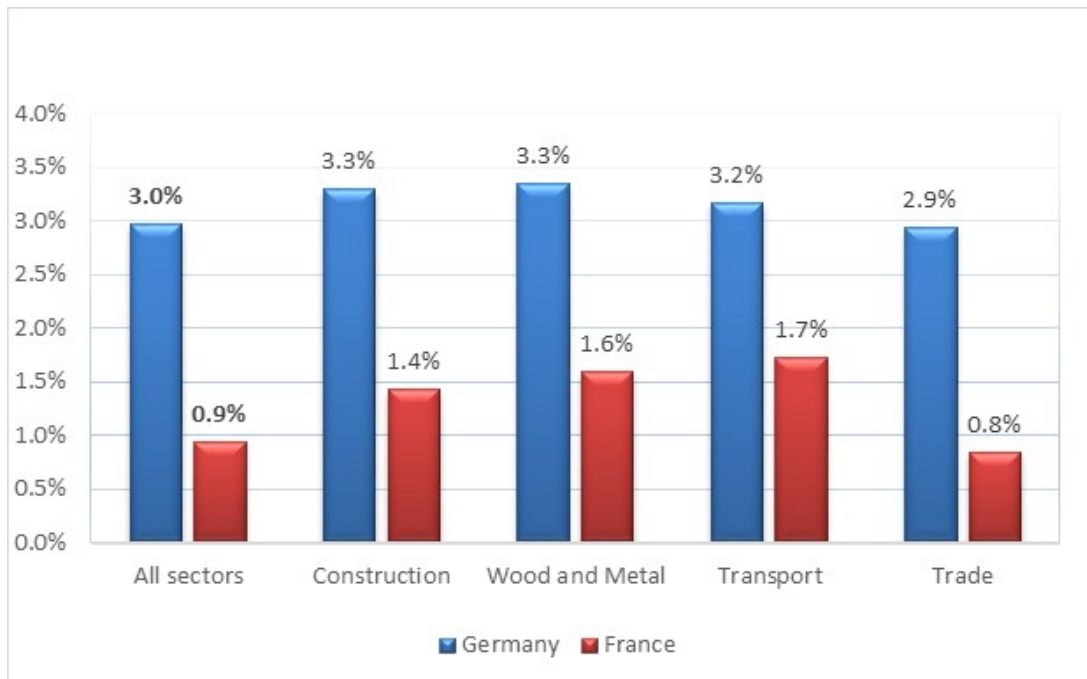


Figure 14: GERMANY-FRANCE – Evolution of new pensions for commuting accidents 2010-2014



The share of serious commuting accidents (Figure 15) shows small sectoral differences in Germany. On the contrary, in France, serious commuting accidents are far more important in some sectors (Construction, Wood and Metal, Transport).

Figure 15: GERMANY-FRANCE – Share of serious commuting accidents per sector - Five-year average (2010-2014)



➤ Annual pensions of pensioners

The *stock of pensions* corresponds to the total amount of the active pensions paid to the insured by the occupational injury insurance for their permanent sequels following an accident at work, a commuting accident or an occupational disease. In France and in Germany, these benefits can be pensions paid to victims or, in the event of the insured party's death, pensions paid to eligible persons. This stock is established at 31 December of the year under consideration and related to the total amounts paid during the year¹⁷.

In France, when the permanent disability rate is under 10%, compensation is paid in the form of a lump sum. If lump sums are the benefits which are the more numerous in France (two thirds of the permanent disability rates of the pensioners are under 10%), they cover only a small part of the annual representative amounts (M€129 in 2014 or 3% of all the permanent disability benefits).

In order to be able to compare the data in both countries, the stock of pensions only concerns the private sector. The benefits in the form of lump sum are excluded from the stock of pensions as well as the population of pensioners concerned. Despite this, the following points should be kept in mind:

- The difference of eligibility for a pension (10% in France, 20% in Germany);
- The difference in the actual calculation of the pension¹⁸;
- There are also German benefits called "*Schützrenten*" which are paid even if the MdE rate is under 20%;
- The difference in philosophy concerning the definition subjacent to this rate between the two countries (mentioned in § *New pensions for accidents at work*): permanent disability in France, loss of earning capacity in Germany.

However, an average benefit per pensioner allows to compare the two compensation systems and to watch how they evolve over time.

The eligible parties of an insured person include:

- in France: the spouse, the children (up to a certain age), the parents, step-parents, brothers and sisters depending on the victim as well as any person depending on the insured person for at least twelve months.
- in Germany: the widows and widowers, the children, the parents; an additional pension is also paid to spouses during the first three full months following the date of the victim's death.

¹⁷ These amounts thus include the (negligible) share of the pensions which ended before the end of the year.

¹⁸ In Germany, the pension is equal to two thirds of the last gross annual earnings up to a ceiling of €52,080 to €61,320 depending on the accident insurance which covers the victim, multiplied by the effective disability rate. In France, the amount of the pension is calculated on the basis of the salary of the 12 months prior to the sick leave. It is equal to the annual salary multiplied by the disability rate previously reduced by half for the part of the rate under 50% and increased by half for the part above 50%.

Table 22: GERMANY – Stock of pensions 2010-2014

Stock of pensions	2010	2011	2012	2013	2014
Pensions paid (M€)	4,847	4,794	4,813	4,815	4,832
<i>of which pensions paid to victims</i>	3,524	3,485	3,499	3,503	3,523
<i>of which pensions paid to eligible parties</i>	1,323	1,309	1,314	1,312	1,309
Active pensions	776,496	766,714	753,457	742,054	730,931
<i>of which victims</i>	663,959	656,016	645,149	635,626	626,302
<i>of which eligible parties</i>	112,537	110,698	108,308	106,428	104,629
Share of active pensions in the insured population	2.7%	2.6%	2.5%	2.4%	2.4%
Average annual pension (€)	6,242	6,253	6,388	6,489	6,611
<i>of which victims</i>	5,308	5,312	5,424	5,511	5,625
<i>of which eligible parties</i>	11,756	11,825	12,132	12,328	12,511
Average increase in %	2.7%	0.2%	2.2%	1.6%	1.9%

Table 23: FRANCE¹⁹ - Stock of pensions 2010-2014

Stock of pensions	2010	2011	2012^(*)	2013	2014
Pensions paid (M€)	3,935	3,998	4,105	4,171	4,210
<i>of which pensions paid to victims</i>	2,845	2,889	2,950	2,998	3,018
<i>of which pensions paid to eligible parties</i>	1,090	1,109	1,154	1,173	1,193
Active pensions	1,379,981	1,372,919	1,332,182	1,326,946	1,318,858
<i>of which victims</i>	1,293,962	1,287,396	1,247,983	1,243,569	1,236,041
<i>of which eligible parties</i>	86,019	85,523	84,199	83,377	82,817
Share of active pensions in the insured population	7.4%	7.3%	7.1%	7.1%	7.1%
Average annual pension (€)	2,851	2,912	3,081	3,143	3,192
<i>of which victims</i>	2,199	2,244	2,364	2,411	2,442
<i>of which eligible parties</i>	12,672	12,967	13,706	14,069	14,405
Average increase in %	1.4%	2.1%	5.8%	2.0%	1.6%

(*) The stock of the 2012 active pensions is established at 31 January 2013.

The number of pensioners decreases appreciably in Germany. After a peak of more than one million pensioners observed in 1991 at the time of reunification (one-third increase), their number is continuously declining, both for the victims of occupational injuries (-5.7% for five years) and their eligible parties (-7.0%). In France, this stock is also declining, for the victims (-4.5%) as well as the eligible parties (-3.7%).

Moreover, the average annual pension paid in both countries is increasing.

In France, these increases are widely impacted by the revaluation rate²⁰, applied to all the pensions on April 1st of the year concerned and defined according to the inflation forecasts.

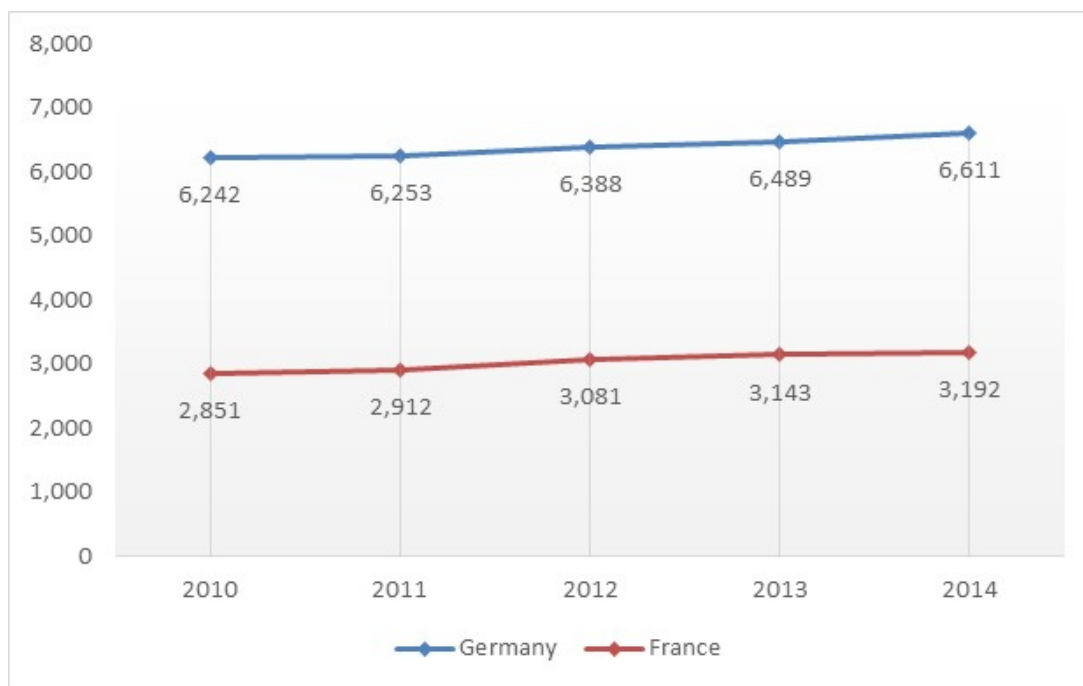
Compared to France, Germany pays an average pension almost twice as high to its pensioners: €6,611 in Germany compared to €3,192 in France. However, the share of pensioners compared with all the insured is smaller across the Rhine²¹: 2.4% in Germany compared to 7.1% in France.

¹⁹ The number of active pensions in 2014 was estimated from the ratio *active pensions/pensions paid* (95.4%) of the year 2013.

²⁰ Revaluation rate: 2010: 0.9% - 2011: 2.1% - 2012: 2.1% - 2013: 1.3% - 2014: 0.6%

Depending on the status of the pensioner (victim or eligible party), a considerable difference appears between the two countries (Figures 17 and 18). If Germany pays more to the victims (€5,625 compared to €2,442 in France), the trend is reversed for the eligible parties (€12.511 in Germany compared to €14.405 in France).

Figure 16: GERMANY-FRANCE – Evolution of the average annual pension in € 2010-2014



²¹ This rate is given for reference only but it partially represents reality: in fact, there is a non negligible number of insured persons who get several pensions. Moreover, this percentage refers to FTE; it would be more relevant to refer to the insured population.

Figure 17: GERMANY-FRANCE – Evolution of the average pension per victim

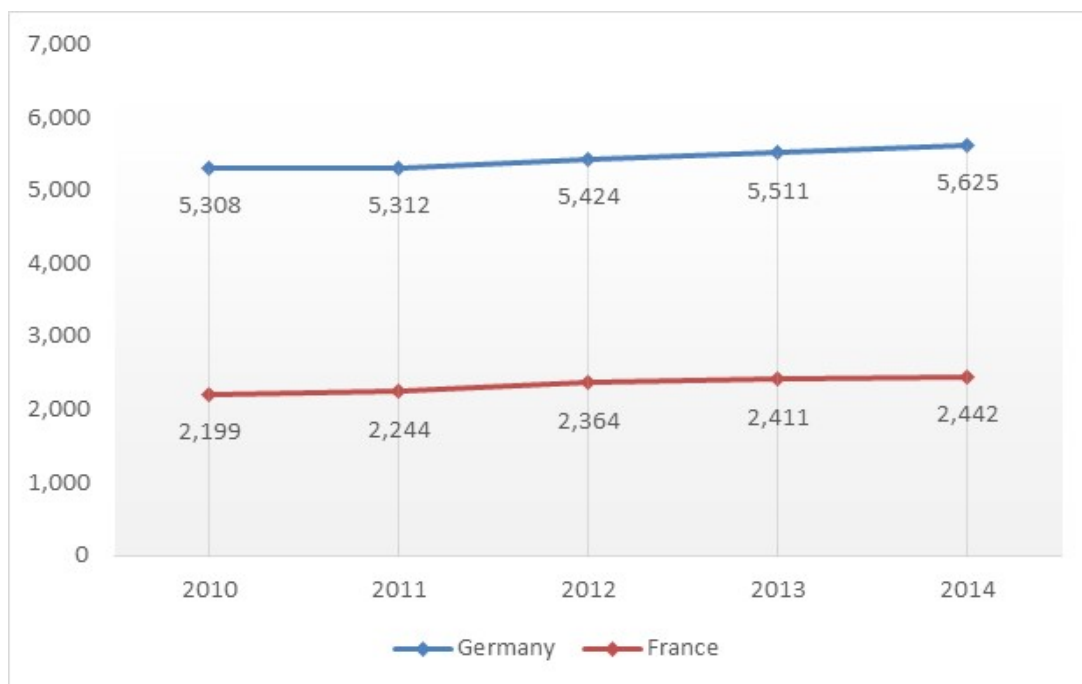
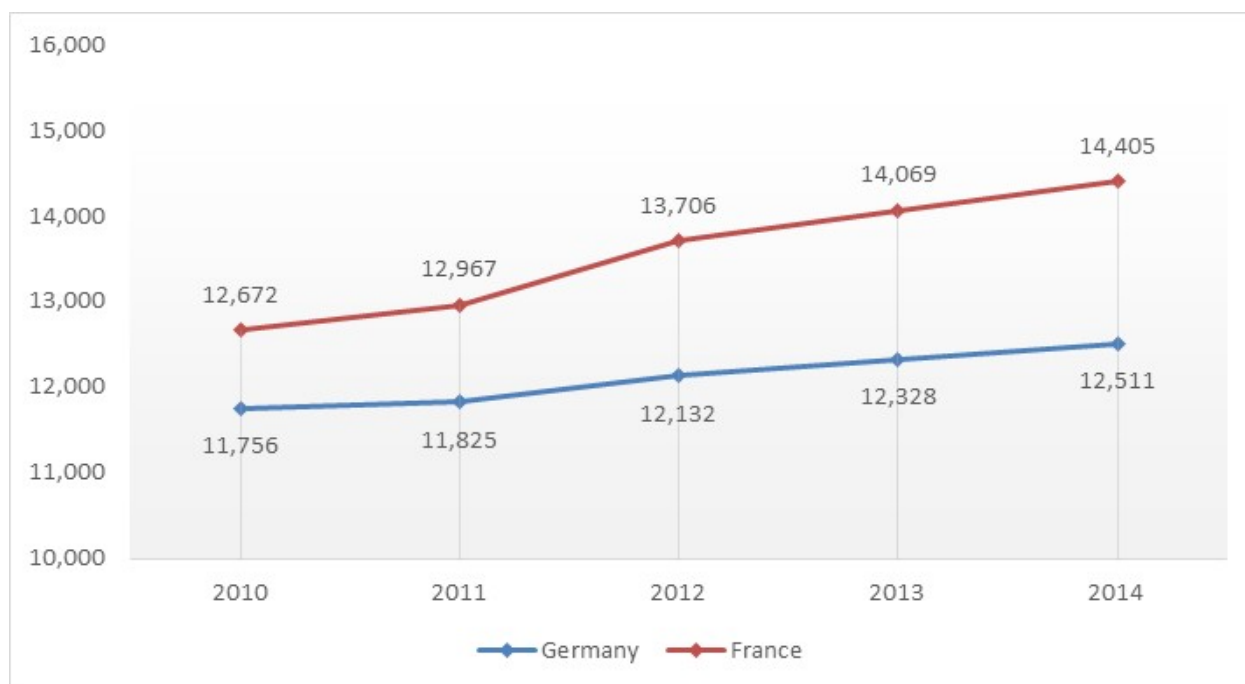
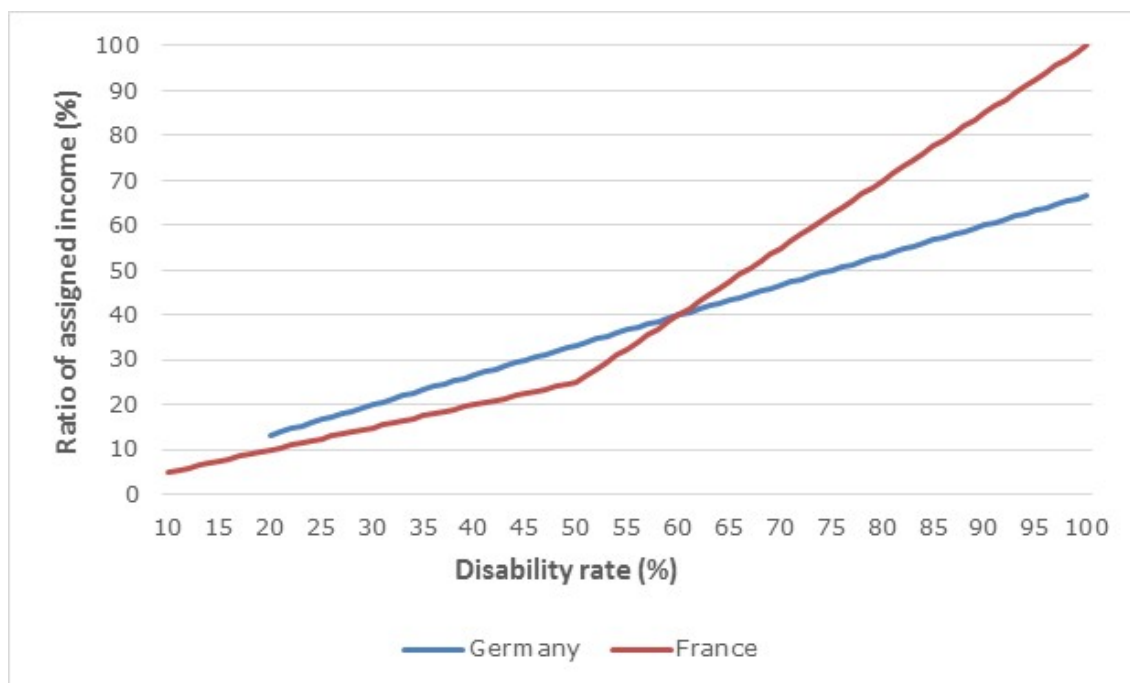


Figure 18: GERMANY-FRANCE – Evolution of the average pension per eligible party



The calculation methods of the pensions alone are not sufficient to explain this discrepancy. Indeed, the German formula provides the victim with a greater financial compensation up to the 60% rate. France for its part concentrates its compensation effort on high disability rates, as shown on Figure 19.

Figure 19: GERMANY-FRANCE – Percentage of the salary according to the disability rate (2014)



By exclusion of the French statistics concerning the portion of pensions from 10 to 19%, the calculation of benefits shows that with a similar level of severity, the pension statistics get appreciably closer. The statistics concerning the pensions for eligible parties are also added without reprocessing: since the deaths result from acute injuries, a vast majority of them were previously pensions to victims whose disability rate was above 20%.

Table 24²²: FRANCE – Adjusted stock of pensions (rate > 20%)

Stock of pensions - rates > 20%	2010	2011	2012	2013	2014
Pensions paid (M€)	2,825	2,871	2,954	3,002	3,034
<i>of which pensions paid to victims</i>	1,735	1,762	1,800	1,829	1,841
<i>of which pensions paid to eligible parties</i>	1,090	1,109	1,154	1,173	1,193
Active pensions	466,444	466,592	457,346	456,448	453,629
<i>of which victims</i>	380,425	381,069	373,147	373,071	370,812
<i>of which eligible parties</i>	86,019	85,523	84,199	83,377	82,817
Share of active pensions in the insured population	2.5%	2.5%	2.5%	2.4%	2.4%
Average annual pension (€)	6,057	6,154	6,458	6,576	6,688
<i>of which victims</i>	4,562	4,625	4,822	4,902	4,965
<i>of which eligible parties</i>	12,672	12,967	13,706	14,069	14,405
Average increase in %	2.0%	1.6%	4.9%	1.8%	1.7%

²² Data in Table 24 are assessed from the ratios provided by the Occupational Risks Department.

This change in statistics brings significantly closer the area of comparability of the insured populations: the share of the French pensioners is now 2.4% of the whole insured population (Table 24), a level similar to that of Germany.

Figures 21 and 22 show that through this statistical reprocessing it appears that the French system gives a great importance to the compensation of pensioners with rates above 20%: from €2,332 for all the pensions, the average pension of the victims whose rate is above 20% doubles up to €4,965 annually. This brings it appreciably closer to the German compensation level (€5,625).

Figure 20: GERMANY-FRANCE – Adjusted evolution of the average annual pension

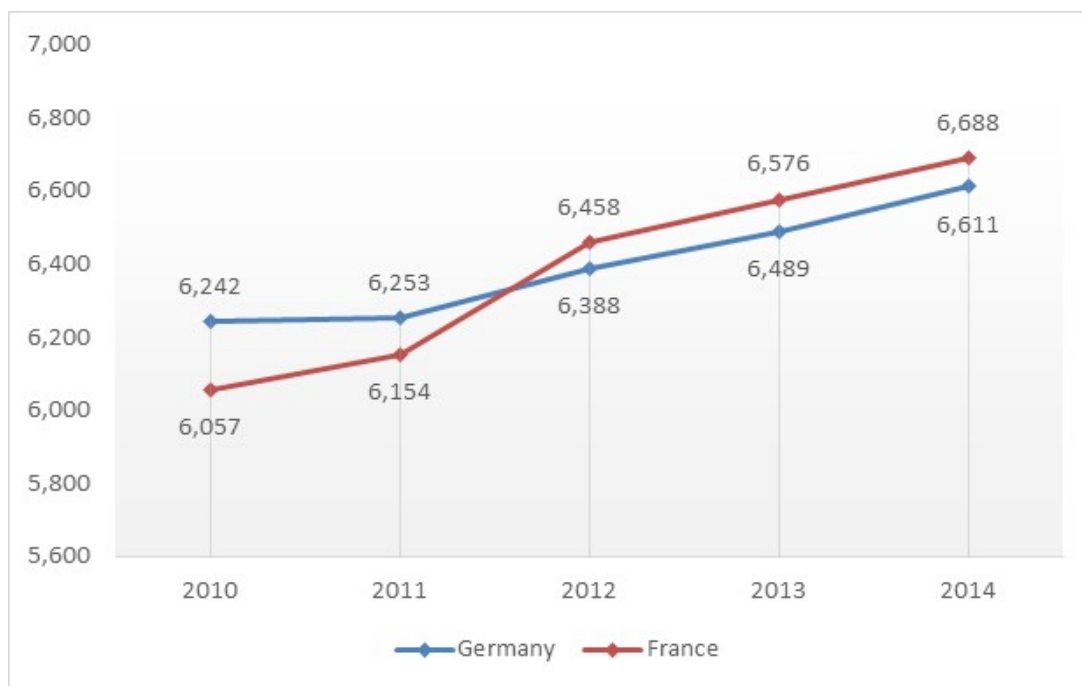


Figure 21: GERMANY-FRANCE – Adjusted average annual pension per victim

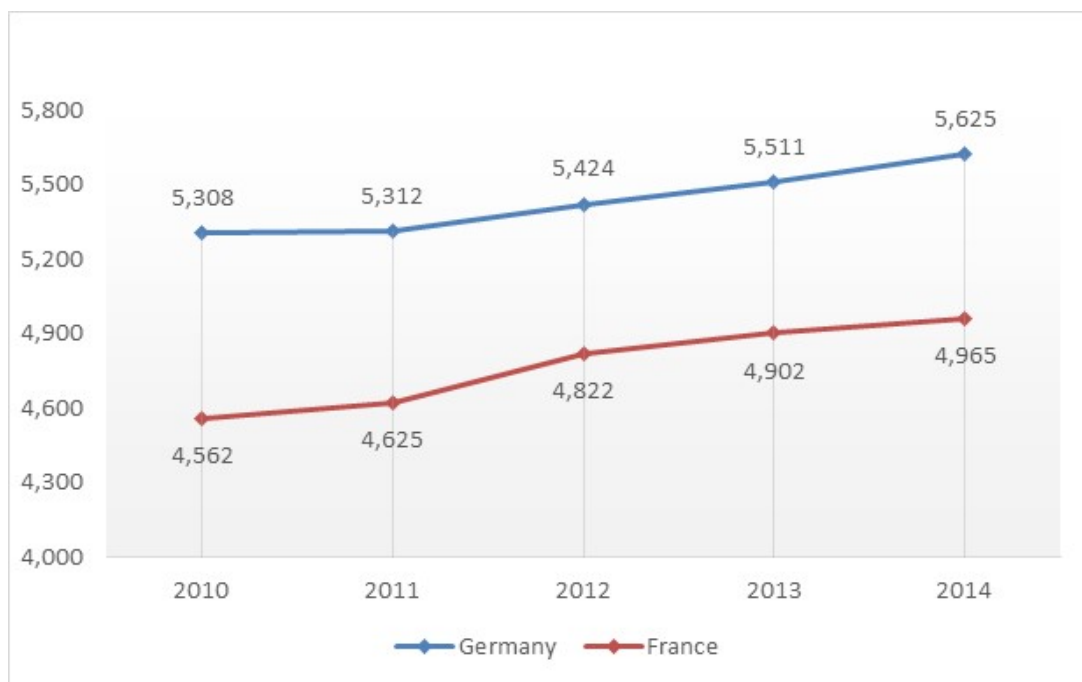
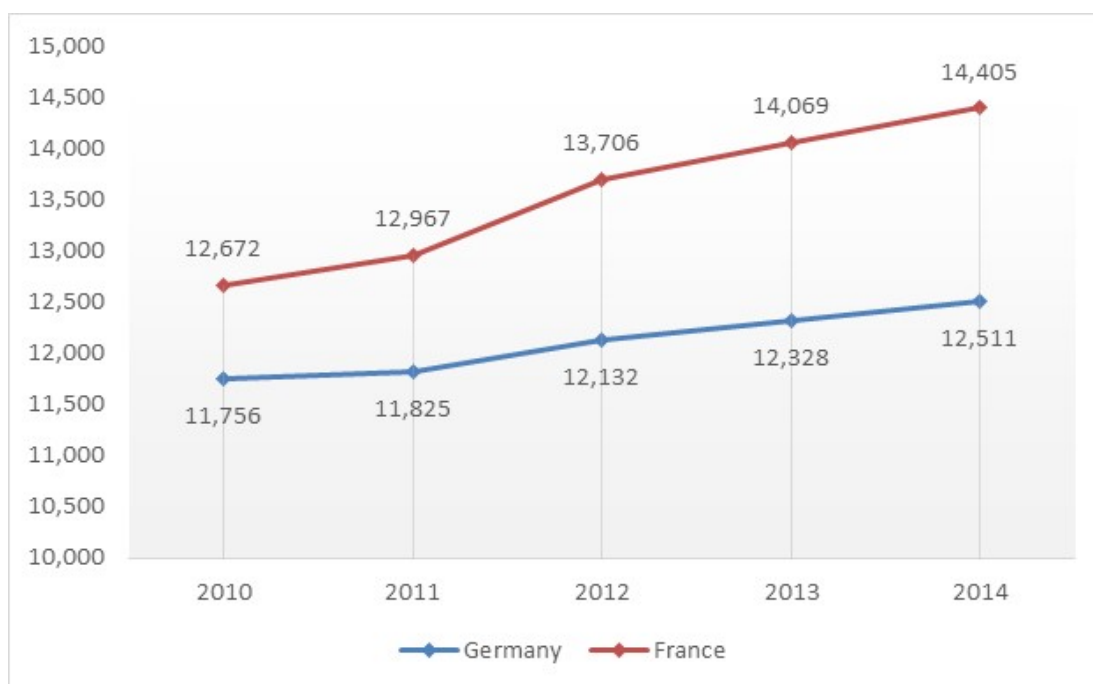


Figure 22: GERMANY-FRANCE – Evolution of the average annual pension per eligible party



4. Appendix - Data sources

In Germany:

Most of the statistical data were provided by *DGUV*.

Nevertheless, some general data are extracted from the document *Geschäfts – und Rechnungsergebnisse der gewerblichen Berufsgenossenschaften und Unfallversicherungsträger der öffentlichen Hand 20XX* for the years 2010 to 2014. It presents each year the results for the fiscal year of the accident insurance funds for industry, trade and services, the accident insurance funds for the public sector and the accident insurance for pupils and students. It thus makes it possible to have a complete view of the technological and financial statistics per branch.

The 2014 edition is available at the following address:

www.dguv.de/medien/inhalt/zahlen/documents/gur_2014.pdf

In France:

The data are extracted from recent management reports of the Health Insurance Fund for the years 2010 to 2014 and from the databases of the Statistics Division of the Occupational Risks Department. The report for the 2014 fiscal year is available at the following address:

http://www.risquesprofessionnels.ameli.fr/fileadmin/user_upload/document_PDF_a_telecharger/br ochures/Rapport%20de%20Gestion_2014.pdf

Some data are not published but were directly transmitted by the Occupational Risks Department.

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OSH Indicators France-Germany 2010/2014

Ref. EUROGIP-118/E

ISBN : 979-10-91290-78-4

2016 - 34 p. - 21 x 29,7 cm

Paris : EUROGIP

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