

**THE ANALYSIS OF THE CURRENT STATE
OF ACCIDENTS AT WORK IN POLAND
IN THE YEARS 2002–2014**

INTRODUCTION

According to the Central Statistical Office in 2014 the number of people injured in accidents at work increased by 0.4% compared to the previous year. On the form of the statistical card of an accident at work (Z-KW) 8,8642 accident events were reported, the dominant part of which were accidents with marginal effect. In 2014 they happened to 87,860 people, which means an increase of 0.5% compared to 2013. 520 people suffered serious accidents, that is 3.3% less than in 2013. In addition, 262 people died as a result of an accident at work, here we observe a decrease by 5.4% compared to the previous year. In 2014, accidents at work most often led to injuries of the upper limbs, lower limbs and the head. The largest number of accidents occurred in manufacturing (28,620 cases), wholesale and retail trade (11,970 cases), health care and social assistance (10,003 cases). In such a reality it is interesting to find an answer to the question whether work is safer for Poles today than in 2002, that is before Polish accession to the EU structures. What are the trends of individual indicators measuring accidents at work in Poland in the years 2002–2014? The subsequent pages of the article provide more detailed data on the changes which took place in relation to accidents at work in Poland in the period 2002–2014.

The main objective of the article is therefore to analyse the situation of accidents at work in Poland in the years 2002–2014. Its implementation consists of two specific objectives:

1. The analysis of the level, structure and changes of accidents at work over time in Poland.

2. The assessment of the causes and consequences of accidents at work in Poland in the analysed period of time.

The primary source of empirical data were statistical data of the Central Statistical Office (CSO), the results of research conducted by the Social Insurance Institution (SII) and reports and materials prepared by the Ministry of Labour and Social Policy (MLSP) and Central Institute for Labour Protection – National Research Institute (CILP – NRI).

1. THE REGISTRATION OF ACCIDENTS AT WORK

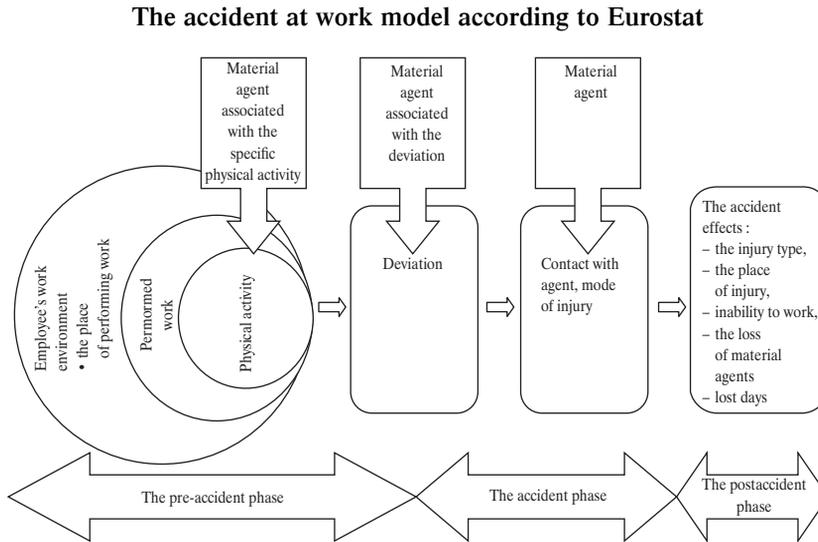
1.1. The guidelines at the European Union level

Monitoring of the effectiveness of regulations on health and safety introduced and binding in the individual Member States compels companies to store the data on accidents at work resulting in sickness absence over three days. Nevertheless, the comparison of data from different countries is still not very effective mainly due to differences in the information that is recorded in the individual countries in respect to accidents at work. The Statistical Office of the European Union (Eurostat) and the European Commission's Directorate-General for Employment and Social Affairs jointly coordinate the work on the European Statistics on Accidents at Work project (ESAW). The main objective of the project is to harmonise the rules of registration of accidents at work and the collection and storage of data on them at the level of EU Member States. The task of the Statistical Office of the European Union is the collection, compilation and dissemination of data on the most vulnerable employment groups, and the causes and costs of accidents at work. According to the definition adopted by Eurostat, an accident at work is a discrete occurrence in the course of work which leads to physical or mental harm. Performed work means engagement in an occupational activity or during the time spent at work¹. However, only those events that result in more than three calendar days' absence from work are registered. According to Eurostat a fatal accident is an accident which leads to the death of the victim within one year of the accident.

¹ European Union. 2013. *European Statistics on Accidents at Work (ESAW). Summary methodology*. Eurostat. Methodologies and Working Papers. Luxembourg: Publications Office of the European Union, p. 5.

The circumstances and the course of the accident are described using a statistical model of an accident at work, developed by the European Statistical Office, Eurostat, as part of the European Statistics on Accidents at Work project (ESAW)². This model defines the overall scope of information that must be collected on accidents at work (Fig. 1).

Figure 1



Source: own study on the basis of Koradecka, D. ed. 2010. *Handbook of Occupational Safety and Health*. CRC Press, p. 439.

A statistical model of an accident at work proposed by Eurostat consists of the following phases:

- The pre-accident phase
- The accident phase
- The post-accident phase.

The pre-accident phase is connected with the working environment, that is the place in which the worker was before the accident. Performed work means specific task(s) realised by the worker, it corresponds to a specific physical activity and associated material agent of the physical activity. The last event which leads to the accident is a deviation, or a situation (circum-

² Hoła, B., Szóstak, B. 2014. Model of accident situation development in the construction industry. *Czasopismo Techniczne – Budownictwo*, 1-B/2014, p. 242. Available at: https://suw.biblos.pk.edu.pl/resources/i4/i4/i6/i3/i8/r44638/HolaB_ModelAccident.pdf [Accessed: 15 August 2015].

stance) incompatible with the terms accepted as the norm. A material agent is associated with the deviation.

At this moment the accident phase begins. What must be recorded in the way in which the worker came into contact with the material agent which caused the injury. At the same time it may be, but not necessarily, the same agent as the agents related to the physical activity or the deviation. In the last, post-accident phase information is collected about the type of injury, the body part injuries and lost days. The practical application of the model required from Eurostat also the preparation of a coding system with instructions.

1.2. The guidelines at the national level

The definitions adopted in the Polish legislation are consistent with those developed by the European Statistical Office. Art. 3 of the Act of 30 October 2002 on social insurance against accidents at work and occupational diseases (Journal of Laws No. 199, item 1673, as amended) says that **an accident at work** is a sudden event caused by an external reason causing worker's injury or death. The accident suffered by the employee during a business trip, while training in universal self-defence, while performing tasks commissioned by trade union organisations operating at the employer's have **the same status as an accident at work**. In addition, accidents at work are also sudden events causing injury or death which occurred in the period of the accident insurance during: (1) practicing sports by a person receiving a sports scholarship; (2) performing paid work during imprisonment or detention; (3) holding the mandate of an MP (in the country or in the European Parliament) or a senator receiving the salary; (4) completing a training or internship connected with the collection of a scholarship by a graduate; performing of work for cooperatives by members of agricultural production cooperatives and other persons treated equally to members of the cooperative; (5) performance or cooperation in the performance of work under an agency contract, a special purpose contract or a contract for the provision of services; (6) performance of ordinary activities connected with conducting or cooperation in the conduct of non-agricultural activities; (7) performance of religious activities or activities connected with entrusted pastoral or monastic functions by a clergyman; (8) performance of substitute military service; (9) education at the National School of Public Administration by students who receive a scholarship.

It should be emphasised that despite the adjustment of the Polish systems to the European methodology, we can see some discrepancies. According to

the Polish legislation, a fatal accident at work is an accident which resulted in the death of the victim on site or within 6 months from the time of the accident.³ Eurostat, on the other hand, defining an accident at work accepted that the death of the injured person may take place within 12 months after the event⁴. It should be also remembered that the framework directive on health and safety in the workplace⁵ (Directive 89/391/EEC), though significantly influenced the improvement of safety and health protection level in the workplace⁶, also imposed on the employer the obligation to record these accidents which result in absence of the injured at work exceeding three days. According to the methodology adopted by the Central Statistical Office all accident events, therefore also these which do not lead to the victim's incapacity for work (e.g. due to the refusal to accept sick leave) are covered by the survey and thus are taken into account in statistical reports⁷. That is why, in 2012, the CSO recorded 90,650⁸ accident events (without fatal ones) in Poland, whereas the Eurostat statistics say that there were 67,432⁹ accidents at work in Poland.

In Poland, the legal basis for conducting research in the field of accidents at work is the Council of Ministers Regulation on the programme of statistical surveys of public statistics adopted for a specific calendar year.¹⁰ In accordance with the Regulation of the Minister of Labour and Social Policy

³ CSO. 2014. *Wypadki przy pracy w 2013 r., Informacje i Opracowania Statystyczne*. [Accidents at work in 2013, Statistical Information and Summaries.] Warszawa, p. 11.

⁴ European Union. 2013. *European Statistics on Accidents at Work (ESAW). Summary methodology*. Eurostat. Methodologies and Working Papers, Publications Office of the European Union, Luxembourg, p. 6.

⁵ Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work, (Official Journal of the European Union L183 of 29 June 1989).

⁶ European Agency for Safety and Health at Work. Available at: <https://osha.europa.eu/pl/legislation/directives/the-osh-framework-directive/the-osh-framework-directive-introduction>

⁷ CSO. 2014. *Wypadki przy pracy w 2013 r., Informacje i Opracowania Statystyczne*. [Accidents at work in 2013, Statistical Information and Summaries.] Warszawa, p. 8.

⁸ CSO. 2013. *Wypadki przy pracy w 2012 r., Monitoring Rynku Pracy*. [Accidents at work in 2012, Monitoring of the Labour Market.] Warszawa, p. 3. Available at: http://stat.gov.pl/cps/rde/xbcr/gus/PW_wypadki_przy_pracy_2012.pdf

⁹ Eurostat. *Accidents at work by sex and age*. (NACE Rev. 2, A, C-N), [hsw_mi01] Available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hsw_mi01&lang=en

¹⁰ Legal basis: year 2013 – the Council of Ministers Regulation of 9 November 2012 on the programme of statistical surveys of public statistics for 2013 (Journal of Laws of 2012, item 1391); year 2014 – the Council of Ministers Regulation of 9 November 2013

of 7 January 2009 on the statistical card of an accident at work (Journal of Laws of 29 January 2009), the identification and recording of accidents at work in Poland is the responsibility of the Central Statistical Office (CSO)¹¹. The source of data on accidents at work is a statistical card of an accident at work. The form Z-KW – statistical card of an accident at work – allows the registration of all accident events¹² that take place in connection with work, except for individual farms. The regulation¹³ specifies that the statistical card of an accident at work is filled in on the basis of the previously approved protocol in which the circumstances and causes of the accidents at work were determined (the accident protocol) or possibly on the basis of an accident card (it must be established that the occurred event is an accident at work or an accident treated equally to an accident at work).

The scope of the accident at work card, adapted since the 2005 to the European Methodology of Accidents Statistics at Work ESAW, takes into account international classifications, among others, in terms of¹⁴:

- Events causing the injury;
- Events which are a deviation from normality;
- Causes of accidents;
- Operations performed by the injured at the time of the accident;
- Material agents associated with the event.

The statistical card of an accident at work¹⁵ is a very valuable source of information about accident events in the workplace, allows to conduct

on the programme of statistical surveys of public statistics for 2014 (Journal of Laws of 2013 item 1159).

¹¹ Social Insurance Institution. *Analiza przyczyn i skutków wypadków przy pracy w latach 2008–2011*. [The analysis of causes and consequences of accidents at work in 2008–2011.] Resource – Pracownia Badań i Doradztwa. Available at: http://www.zus.pl/files/dpir/Wypadki_przy_pracy_analiza.pdf, p. 13. [Accessed: 10 August 2015].

¹² The statistical card of an accident at work is used to obtain information about an accident at work and the case treated equally to an accident at work, regardless of whether the victim's incapacity for work is specified in the card (e.g. the victim has the right to refuse to accept sick leave).

¹³ The Regulation of the Minister of Labour and Social Policy of 7 January 2009 on the statistical card of an accident at work (Journal of Laws of 29 January 2009).

¹⁴ CSO. 2014. *Wypadki przy pracy w 2013 r., Informacje i Opracowania Statystyczne*. [Accidents at work in 2013 r. Statistical Information and Summaries.] Warszawa, p. 13.

¹⁵ The Regulation of the Minister of Labour and Social Policy of 8 November 2010 (Journal of Laws No. 218, item 1440 and No. 240, item 1612), Attachment 1 to the Regulation of the Minister of Labour and Social Policy of 8 November 2010 (Journal of Laws No. 218, item 1440 and No. 240, item 1612) – Z-KW form. Available at: <http://form.stat.gov.pl/formularze/2014/passive/Z-KW.pdf>

comprehensive analyses which are important from the point of view of taking preventive measures, both at the micro and macro levels. The Z-KW form consists of Part I and Part II (supplementary). The first one concerns the employer, the victim, and the consequences of the accident known at the moment of filling the card. In the section on the entity in which the event occurred, the following should be entered: the number of people working in it; the town (municipality) in which the entity is located; activity by the Polish Classification of Economic Activity; the form of ownership). The following information is submitted about the victim: gender, year of birth, citizenship, employment status, occupation, tenure in the workplace (in years); hours worked from starting work until the accident. The effects of the accident include the type and location of the injury; the number of people affected; consequences of the accident.

In Part II the information on the actual effects of the occurred accident are provided – the following information is taken into account here: (1) the number of days of incapacity for work; (2) loss of working time of other people (in man-hours); (3) estimated tangible losses caused by the accident – in thousands PLN, (without losses associated with the loss of working time); (4) the geographical location of the accident site; (5) the accident date: year, month, day; (6) the accident hour (0–23); (7) the place of the accident occurrence; (8) the working process; (9) the kind of accident place; (10) the activity performed by the injured at the time of the accident; (11) the material agent associated with the activity performed by the injured at the time of the accident; (12) the event which is a deviation from the normal state; (13) the material agent associated with the deviation; (14) the event causing the injury; (15) the material agent which is the source of the injury; (16) the causes of the accident; (17) the effects of the accident (known at the time of filling of Part II of the card); (18) the number of days of incapacity for work (known at the time of filling of Part II of the card).

The last part devoted to the mode of the accident is the most extensive. An integral part of the accident card are explanations, classifications and codes needed for its proper filling. They ensure the necessary standardisation of information that the employer submits on the statistical card of an accident at work. The codified system of filling the card enables the subsequent aggregation and comparability of the data collected on accidents occurring in the workplace.

The analyses of the national public statistics provide important information on accidents at work, the most important of them were included in Figure 2.

Figure 2

Basic statistical data on accidents at work

Risks	<ul style="list-style-type: none"> • Risks connected with mechanical factors • Risks connected with arduousness of work • Risks connected with working environment • Persons employed in hazardous conditions
Victims	<ul style="list-style-type: none"> • Victims of accidents at work – rates • Victims of accidents at work in total and according to ownership sector, gender, accident results and activities of the Polish Classification of Economic Activity • Victims of accidents at work on individual farms in agriculture according to events causing accidents and accident results
Causes	<ul style="list-style-type: none"> • Causes of accidents at work according to activities of the Polish Classification of Economic Activity • Events which are a deviation from the normal state, causing accidents at work according to activities of the Polish Classification of Economic Activity • Events causing accidents at work according to type, place and activities of the Polish Classification of Economic Activity • Events causing injuries according to activities of the Polish Classification of Economic Activity
Occupational diseases	<ul style="list-style-type: none"> • Identified occupational diseases

Source: own study on the basis of the European Parliament, Committee on Budgets. Proposal for a regulation of the European Parliament and of the Council amending Council Regulation (EC) No 577/98 on the organisation of a labour force sample survey in the Community, (COM(2013)0155 – C7-0086/2013 – 2013/0084(COD)). Available at: <http://www.europarl.europa.eu/sides/getDoc.do?type=COMPARL&reference=PE-513.063&format=PDF&language=PL&secondRef=01>

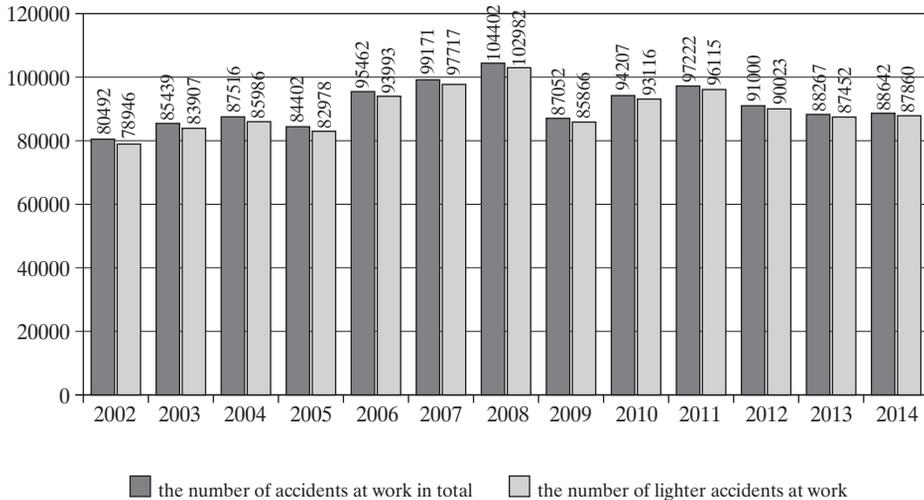
2. ACCIDENTS AT WORK IN POLAND – QUANTIFICATION

Statistical data show that both the number and the incidence rate of accidents at work over the last 13 years have remained substantially unchanged. In 2002, nearly 80,500 accidents at work were registered (Figure 3), whereas in 2014, this number increased to 88,600, thus there was an increase of more than 10%. The biggest number of accidents was recorded in 2008 – exactly there were 104,402 events, and the smallest number in 2002 – 80,492 events. On average, the number of accidents at work in total in the analysed period increased year on year by 0.8%. In comparison to the base year in each subsequent examined period the number of accidents at work in total grew, the largest increase was in 2008 by nearly 30%. Similar trends are observed in relation to lighter accidents at work. The average annual growth rate amounted here to 0.9%. The number of lighter accidents at work increased in 2014 by 8,914 compared to 2002, an increase of 11.3%. In 2014, 87,860 lighter accidents at work were recorded. It is worth stressing that the proportion of lighter accidents in the total number of accidents at work in the analyzed period remained at a similar level with a delicate upward trend, it amounted

an average of to 98.6%, and in the last two years of the analysis this share exceeded 99%.

Figure 3

The number of accidents at work in total and lighter accidents in Poland in the years 2002–2014

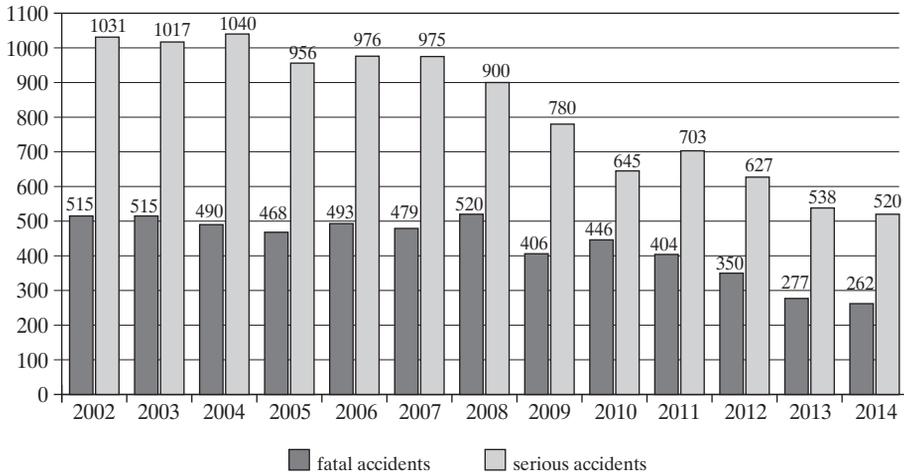


Source: stat.gov.pl. Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.528939344920218# [Accessed: 11 September 2014]; CSO. 2014. *Accidents at work in 2014. Monitoring of the Labour Market*. Warszawa, 17 March 2015; CSO. *Accidents at work in 2013. Statistical Information and Summaries*. Warszawa.

In Poland in the years 2002–2014, both the number of fatalities and serious accidents at work gradually decreased, the average decline in both cases was 5.5%. The highest value of serious accidents was recorded in 2004 (1,040 cases) and of fatal accidents in 2008 (520 cases). We can observe a clear downward trend in serious accidents from 2006 to 2010 inclusive. In 2011, a nearly 10% increase in this type of accident was registered (Fig. 3), followed by a return of the downward trend. The number of fatal accidents in the past 13 years underwent slight changes. In 2014, compared to 2013, the number of fatal accidents decreased, totally 262 cases with fatal consequences were registered – the number of fatalities due to accidents at work was thus the lowest in the analyzed period of time.

Figure 4

The number of serious and fatal accidents in Poland in the years 2002–2014



Source: stat.gov.pl. Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.528939344920218# [Accessed: 11 September 2014]; CSO. 2014. *Accidents at work in 2014. Monitoring of the Labour Market*. Warszawa, 17 March 2015; CSO. *Accidents at work in 2013. Statistical Information and Summaries*. Warszawa.

The indicator ‘victims in total per 1,000 employees’ informs us about the number of people injured in light, serious and fatal accidents together (in total) per 1,000 employees (in the case of fatal accidents per 100 thousand employees). These figures do not include the injured in accidents while working on private farms in agriculture.

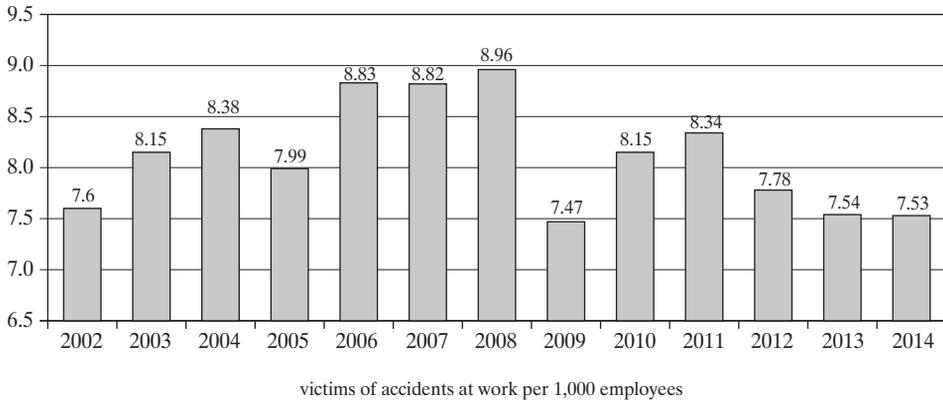
The rate of accidents at work (per 1,000 employees), as well as the number of accidents over the last 13 years changed only marginally, showing no clear increasing or decreasing trend (Fig. 4). In 2002, it amounted to 7.6, and 13 years later it dropped slightly to 7.53. The highest values of the index of accidents at work, close to 9, were recorded in the years 2006–2008. From 2011 to the present day a decreasing trend can be outlined. In 2014, on average 7.5 persons per 1,000 workers were injured in an accident at work.

Analysing the accident rate in territorial terms we observe clear differences between provinces. In 2014 the highest accident rate was recorded in Dolnośląskie (9.91), Wielkopolskie (9.53) and Warmińsko-Mazurskie (9.44) provinces and the lowest in Mazowieckie (5.39) and Małopolskie provinces (5.86).

We observe equally large variation in the rate of accidents in various sectors of the economy. The highest incidence of accidents pertains to *water supply, sewerage, waste management and remediation activities* – 14.37 (in 2013 – 15.06; in 2012 – 14.87), *mining and excavation* – 13.56 (in 2013 – 13.97; in 2012 – 15.37), *health care and social assistance* – 12.48 (in 2013 – 11.26; in 2012 – 9.83), *industrial processing* – 11.70 (in 2013 – 11.64; in 2012 – 12.47). In other sectors the accident rate does not exceed 10. We deal with the lowest incidence of accidents in the following sections: *other service activities* – 1.50 (in 2013 – 2.13), *information and communication* – 1.96 (in 2013 – 2.15), *professional, scientific and technical activity* – 2.03 (in 2013 – 2.03).

Figure 5

The rate of accidents in Poland in the years 2002–2014 (per 1 thousand of workers)

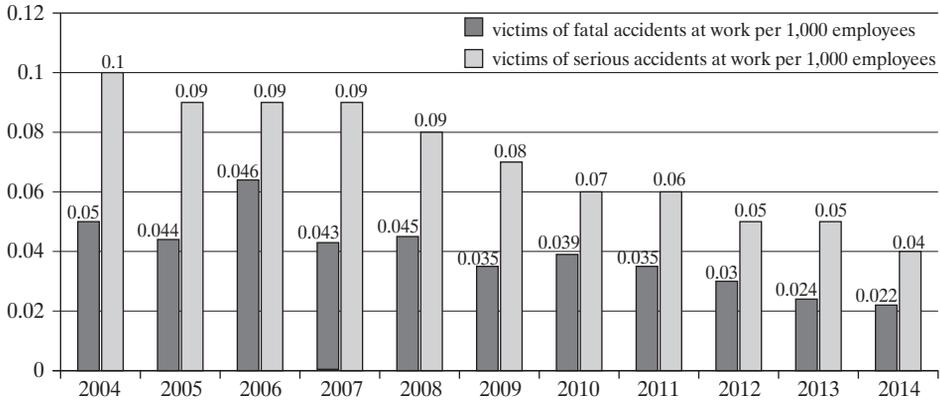


Source: stat.gov.pl. Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.7254228880628943# [Accessed: 14 September 2014].

The index of fatal accidents at work improved significantly in the period 2005–2014. In 2005, nearly 4.5 employees per 100,000 workers had a fatal accident at work, while in 2014 only 2.2 people, thus the index value decreased by half (Fig. 5). From 2010 to the present time there is a decreasing trend.

Figure 6

The rate of serious and fatal accidents at work in Poland in the years 2004–2014 (per 100 thousand of employees)

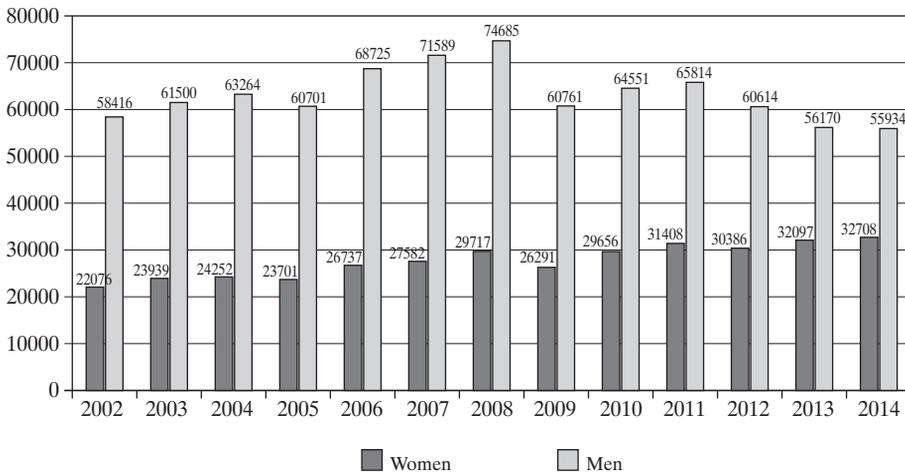


Source: stat.gov.pl. Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.7254228880628943# [Accessed: 14 September 2014].; Central Institute for Labour Protection – National Research Institute. *Accidents at work. Statistics of accidents at work.* Available at: http://www.ciop.pl/CIOP-PortalWAR/appmanager/ciop/pl?_nfpb=true&_pageLabel=P1401037871334841682883&html_tresc_root_id=11288&html_tresc_id=11288&html_klucz=10972; CSO. 2015. *Accidents at work in 2014. Monitoring of the Labour Market*, 17 March 2015; CSO. *Accidents at work in 2013. Statistical Information and Summaries.* Warszawa 2014, p. 1; CSO. *Accidents at work in 2013., Statistical Information and Summaries.* Warszawa 2014, p. 23.

Traditionally, men are the group in which the number of accidents at work takes higher values (Fig. 5). The number of accidents at work among working women is more than twice lower than in the population of working men. However, it should be stressed that since 2007 the share of women in the total number of people injured in accidents at work has increased. In 2014 this share amounted to 36.9 and in the previous year to 36.4% (33.4% in 2012). During the whole period the share of women in the total number of persons injured in occupational accidents increased by nearly 35% (comparing the data from 2014 with the data from 2002).

Figure 7

The number of accidents at work by gender in the years 2002–2014



Source: stat.gov.pl. Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.9829383126925677# [Accessed: 17 September 2014].

According to the model of an accident at work developed by Eurostat, every accident at work should be assessed from the point of view of the effects that occur in its wake. The type and location of the injury the victim suffered, incapacity for work, loss of material agents and lost days of work of other people are assessed. Thus, the victim's incapacity for work is one of the consequences of an accident at work. In 2014, 88,642 accidents at work were reported, they led to a total of 3,072,785 days of the victims' incapacity. Therefore, an average of 34.8 days of sickness absence fell on one victim. In the analysed period 2002–2014 it is one of the lowest index values, a lower one was recorded only in 2002. The years 2008–2013 were characterised by the greatest absenteeism due to accidents at work, with the record-breaking high incapacity for work in 2009 amounting to 42.4 days per victim. The average inability to work due to occupational accidents in the years 2002–2014 amounted to 3,509,902.8 days, 38.3 days per victim.

Table 1

**The number of days of incapacity for work caused by occupational accidents
in Poland in the years 2002–2014**

The number of days of incapacity for work caused by occupational accidents in Poland				
Year	In absolute numbers	2003 = 100	Per one victim	2002 = 100
2002	lack of data	x	34.4	100.0%
2003	3,073,107	100.0%	36.2	105.2%
2004	3,076,483	100.1%	35.5	103.2%
2005	2,840,576	92.4%	33.8	98.3%
2006	3,354,046	109.1%	35.3	102.6%
2007	3,433,185	111.7%	34.8	101.2%
2008	4,269,248	138.9%	41.1	119.5%
2009	3,670,903	119.5%	42.4	123.3%
2010	3,908,268	127.2%	41.7	121.2%
2011	3,996,121	130.0%	41.3	120.1%
2012	3,820,973	124.3%	42.1	122.4%
2013	3,603,139	117.2%	40.9	118.9%
2014	3,072,785	100.0%	34.8	101.2%
Average	3,509,902.8	114.2%	38.3	111.4%

Source: own study based on the annual reports of CSO *Accidents at work. Statistical Information and Summaries*. Warszawa 2009–2014; The Ministry of Labour and Social Policy. *Information on accidents at work in 2003–2007*. Available at: <http://www.mpips.gov.pl/prawo-pracy/warunki-pracy/ocena-stanu-bhp-8211-dane-statystyczne/informacja-o-wypadkach-przy-pracy-w-2006-r-/>; Central Institute for Labour Protection – National Research Institute. *The state of occupational safety and health in 2003*. Available at: <http://archiwum.ciop.pl/428.html>

3. CAUSES OF ACCIDENTS AT WORK

According to the CSO, causes of accident are all deficiencies and irregularities which directly or indirectly contributed to the accident, they are related to:

- material (technical) agent;
- organisation of work in the workplace;

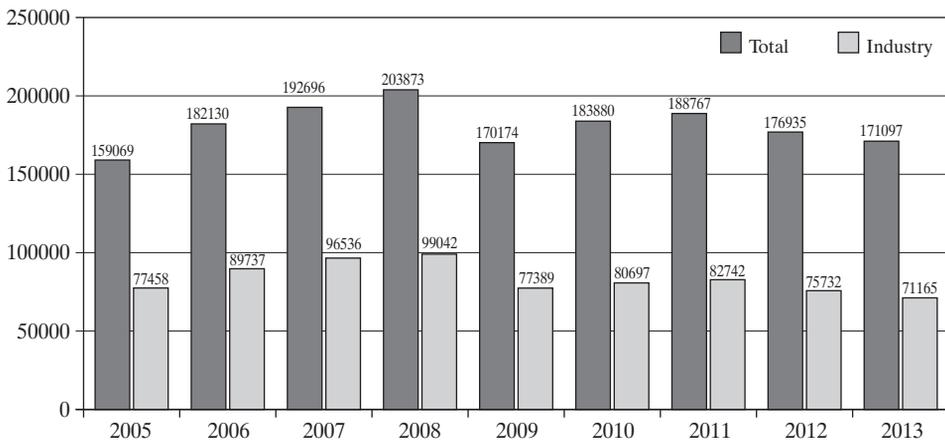
- organisation of the workstation;
- the employee, including his/her inappropriate behaviour.¹⁶

The next charts illustrate the causes of accidents at work and accidents treated equally to accidents at work in the years 2005–2013, without accidents on private farms in agriculture.

The sum of the causes of accidents at work is much higher than the total number of accidents recorded in the same period of time. This stems from the fact that most frequently an accident at work is the result of the simultaneous occurrence of several reasons of one event. In 2013, there were 88,267 accidents at work, they were the consequence of the occurrence of 171,097 reasons. On average, in the analysed period of time, nearly 2 causes (exactly 1.94) fall on one accident at work. In the years 2005–2013 the number of causes per one accident at work showed a rising trend. In 2005, an accident at work was a consequence of 1.88 causes, in 2013 there were 1.94 reasons, there was a growth of nearly 3%.

Figure 8

Causes of accidents at work in total and in industry (sections: B, C, D, E of the Polish Classification of Economic Activity) in the years 2005–2013



Source: Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/strona.html?p_name=indeks http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.10485223680734634 [Accessed: 14 September 2014].

¹⁶ CSO. 2012. *Wypadki przy pracy w 2011r., Informacje i opracowania statystyczne. [Accidents at work in 2011. Statistical Information and Summaries.]* Warszawa, p. 11. Available at: http://stat.gov.pl/cps/rde/xbcr/gus/PW_wypadki_przy_pracy_2011.pdf

Accidents at work occur mostly due to inappropriate behaviour of the employee. During the whole examined period of time it was the main cause of accidents in the workplace and accidents treated on a par with them, it was indicated on the statistical card of accidents at work 95,003 times, which gives a share in the total number of causes of accidents at work at the level of 55.5%. In 2014, inappropriate behaviour of the employee was the cause of accidents even more frequently – its share increased to 59%. Taking into account the values registered in 2013 it is clear that other causes as the reason of an accident at work doubled in comparison to the base year. The growth was also recorded in the cases of inappropriate behaviour of the employee (18.3%) and non-use of protective equipment (1%). In 2013, other causes decreased when compared with 2005, the greatest decrease, by 20.7%, was in the case of the wrong condition of the material agent.

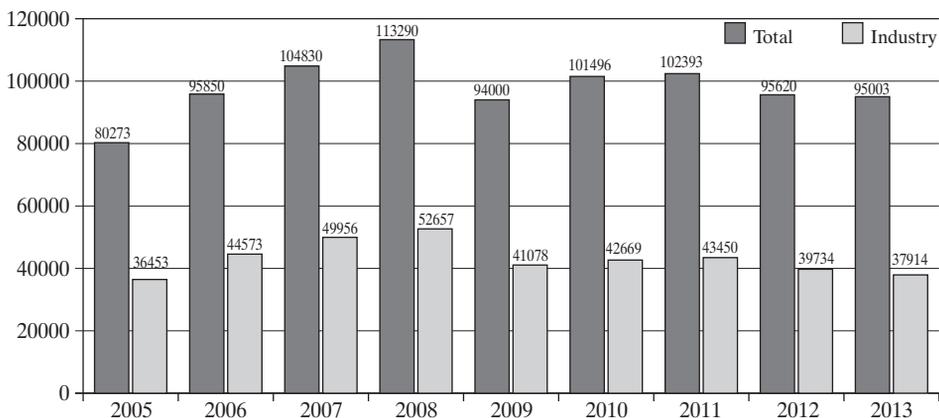
The most important causes of accidents at work in the period 2005–2014 were:

- inappropriate behaviour of the employee (the average 54.6%)
- inappropriate condition of the material agent (the average 9.4%)
- lack of or inappropriate use of the material agent (the average 7,7%).

The average values indicted at specific causes show the importance of preventive actions affecting employee behaviour in the workplace (Fig. 9–12).

Figure 9

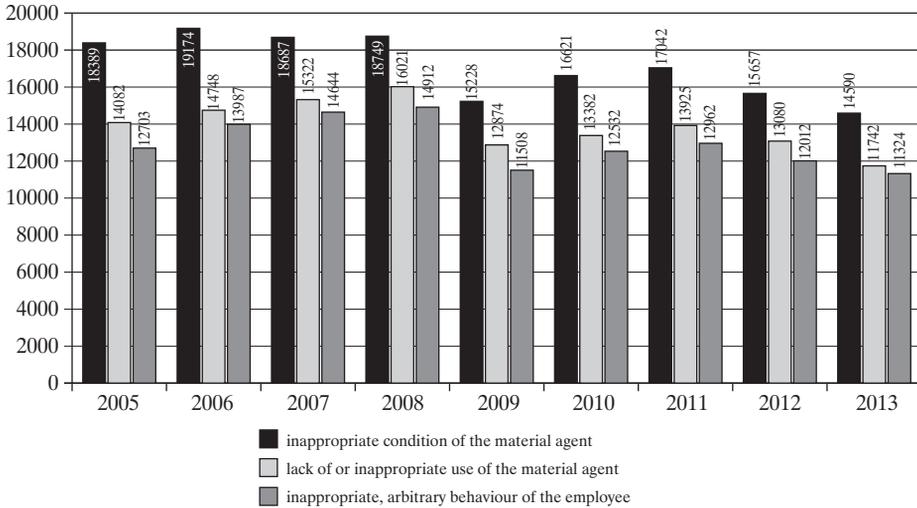
Inappropriate behaviour of the employee as the main cause of accidents at work in Poland in the years 2005–2013



Source: Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/strona.html?p_name=indeks http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.10485223680734634 [Accessed: 14 September 2014].

Figure 10

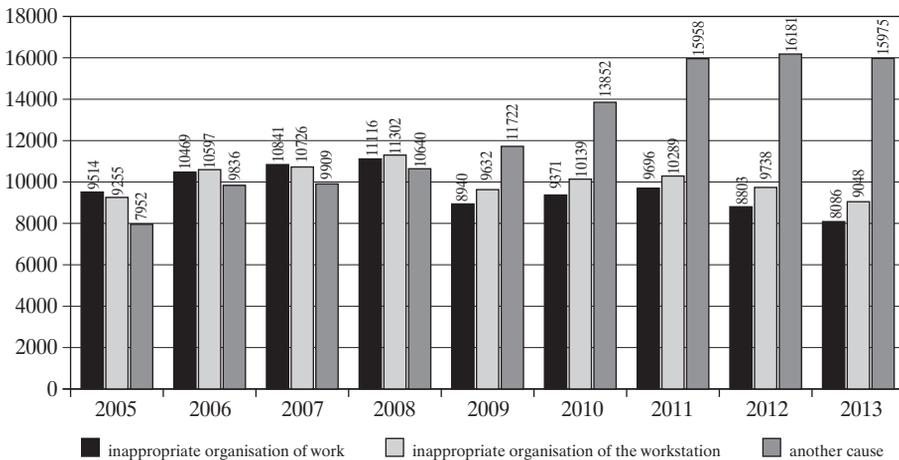
Selected causes of accidents at work in Poland in the years 2005–2013



Source: Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/strona.html?p_name=indeks http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.10485223680734634 [Accessed: 14 September 2014].

Figure 11

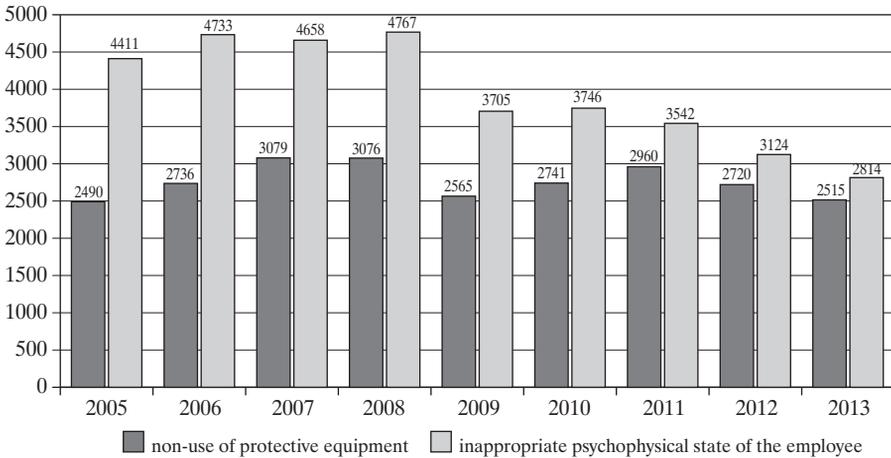
Selected causes of accidents at work in Poland in the years 2005–2013



Source: Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/strona.html?p_name=indeks http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.10485223680734634 [Accessed: 14 September 2014].

Figure 12

Selected causes of accidents at work in Poland in the years 2005–2013



Source: Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/strona.html?p_name=indeks http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.10485223680734634 [Accessed: 14 September 2014].

This passage is dedicated to the events that are a deviation from the normal state and the factors that cause these events. The CSO defines an event incompatible with the proper conduct of the work process that caused the accident as an event which is a deviation from the normal state. Analysing accidents at work in terms of events that are a deviation from the normal state in 2013 it should be stated that the largest group of events consisted of slipping, stumbling, falling of the person (30.3%, mainly on the same level – 21.8% of the total number of cases being a deviation from the normal state). The next two deviations from the normal state which led to accidents at work are loss of control of: the machine, means of transport, transported cargo, tool, object, animal (17%) and breakage, bursting, splitting, slipping, fall, collapse of the material agent – in total (15%). In the examined period the major deviation from the normal state causing an accident at work was already mentioned slipping, stumbling, falling of the person (the average 28.5%). In comparison with the base period the biggest increase can be observed in the following events being a deviation from the normal state:

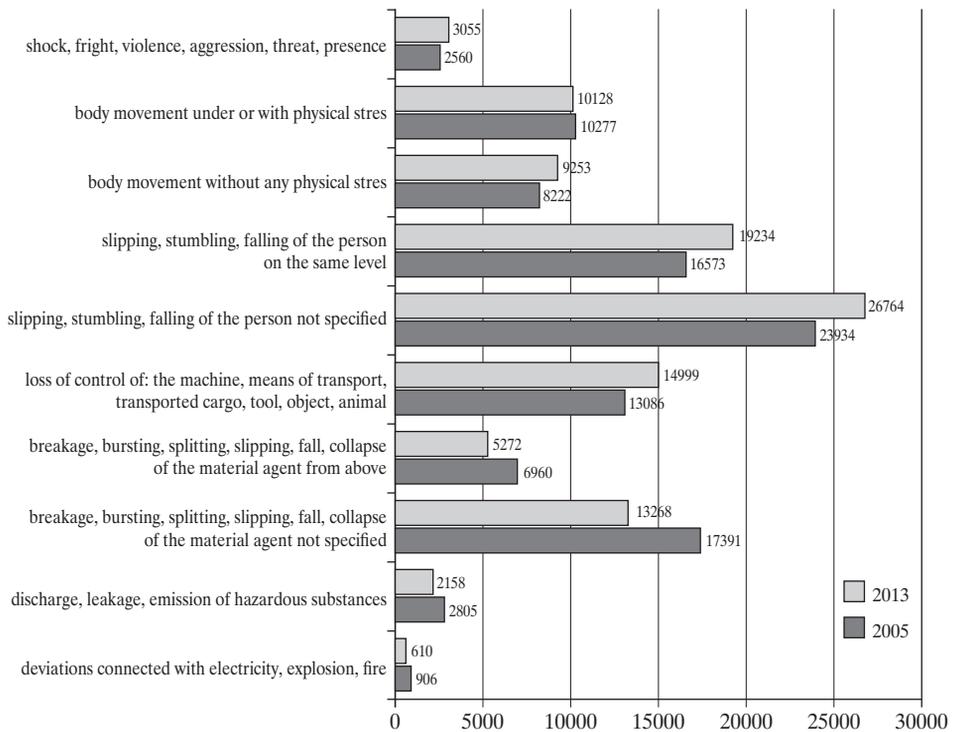
- shock, fright, violence, aggression, threat, presence (19.3%)
- slipping, stumbling, falling of the person – on the same level (16.1%)
- loss of control of: the machine, means of transport, transported cargo, tool, object, animal (14.6%).

Significant decreases were registered in the case of the following deviations from the normal state:

- breakage, bursting, splitting, slipping, fall, collapse of the material agent from above (24.3%),
- breakage, bursting, splitting, slipping, fall, collapse of the material agent not specified (23.7%),
- discharge, leakage, emission of hazardous substances (23.1%).

Figure 13

Events which are a deviation from the normal state causing accidents at work



Source: own study on the basis of Bank of Local Data. Available at: http://stat.gov.pl/bdl/app/strona.html?p_name=indeks http://stat.gov.pl/bdl/app/dane_podgrup.display?p_id=895839&p_token=0.10485223680734634 [Accessed: 14 September 2014].

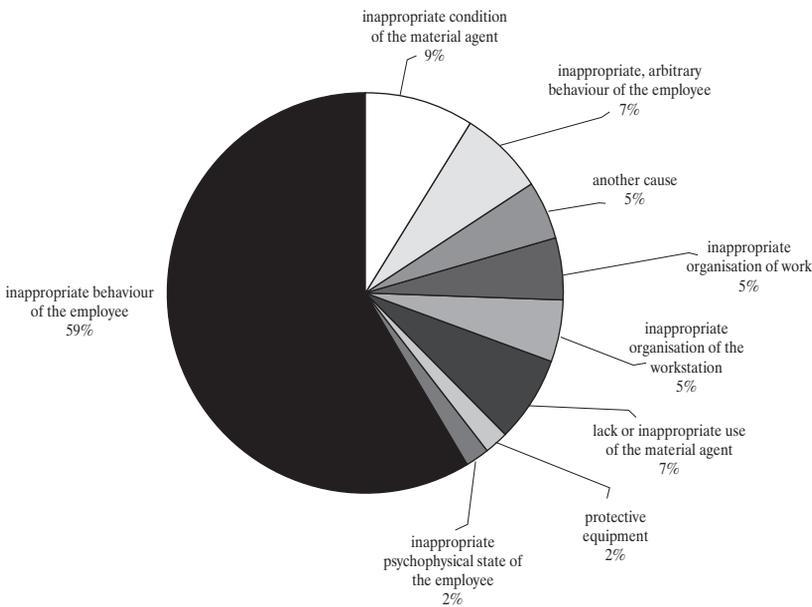
3.3. Accidents at work in 2014

In the whole analysed period inappropriate behaviour of the employee was the primary cause of accidents at work. However, its share in the total

number of identified causes of accidents increased. In 2005 inappropriate behaviour of the employee accounted for half of all the reasons, at the moment it is already 59%. Compared to the base year, in 2014 only the share of other causes in the total number of reasons of accidents at work increased. The share of other categories of causes of accidents at work in 2014 fell in comparison with 2005.

Figure 14

The share of individual causes of accidents at work in the total number of causes in 2014

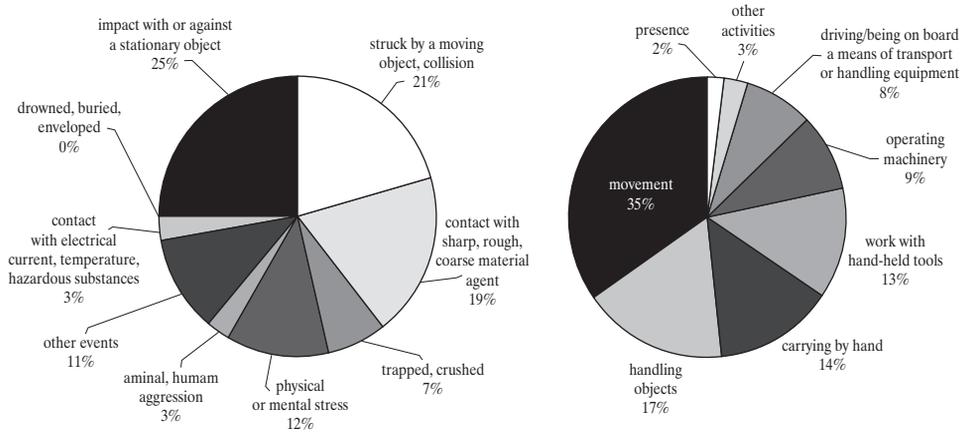


Source: own study on the basis of CSO. *Accidents at work in 2014. Monitoring of the Labour Market*, Warszawa, 17 March 2015, p. 2.

Looking more closely at the statistics on accidents at work in 2014 we can draw the following conclusions. The events that led to the injury were mainly a collision with / hitting an immobile object (25%) and collision with / hitting a moving object (21%). Accidents occurred most frequently when the employee was moving (35%) or operating objects (17%). As a result of accidents at work victims suffered mostly injuries of the upper limbs (44%) and lower limbs (34%).

Figure 15

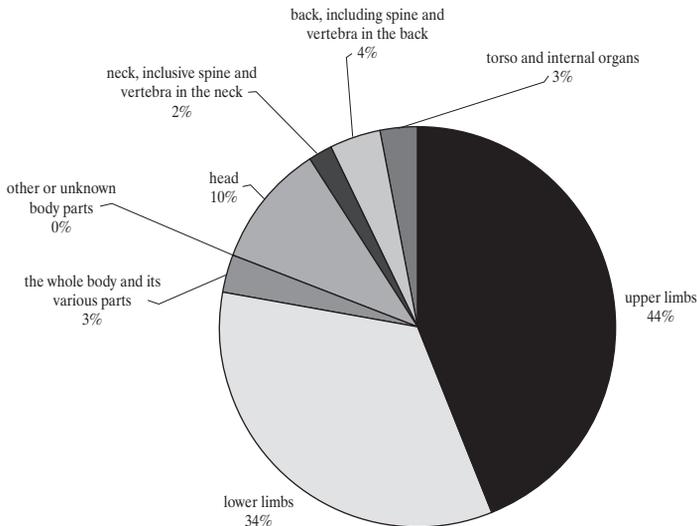
Accidents at work



Source: own study on the basis of CSO. *Accidents at work in 2014, Monitoring of the Labour Market*, Warszawa, 17 March 2015, p. 2.

Figure 16

Parts of body injured



Source: own study on the basis of CSO. *Accidents at work in 2014, Monitoring of the Labour Market*, Warszawa, 17 March 2015, p. 2.

4. SUMMARY

In 2013 compared to 2012, the number of people who suffered from accidents at work decreased. The decline was recorded in most activities (11 sections of the Polish Classification of Economic Activity) in which there were 61,030 accident events in total, which accounted for 69.1% of all victims in 2013. 65.7% of the total number of employed persons in the country worked in these sections. The largest decrease was recorded in construction (the number of victims decreased by 17.6%) and in production and supply of electricity, gas, steam, hot water (the number of victims decreased by 14.4%). At the same time, the number of people working in construction (section F) decreased by 6.5% and in section D by 4.2%¹⁷. In the following year, although the decline in the number of people injured in accidents at work was also registered in 11 sections of the Polish Classification of Economic Activity, the overall number of accidents at work increased by 0.4%. It results mainly from the fact that in 2014 the decline in the number of accidents at work concerned the sections in which only 27.5% of all victims were employed (totally in these sections there were 24,410 accident events). In 2014, the number of accidents at work decreased the most in financial and insurance activities (by 29.5%) and in production and supply of electricity, gas, steam, hot water (20.1%) and other service activities (23%). At the same time, employment in financial and insurance activities (section K) decreased by 0.2%, and in section D by 5%¹⁸.

The conducted revision of the statistical data showed that work in Poland did not become particularly safer. In the years 2002–2014 the number of accidents at work in total (Fig. 3) and the incidence rate (Fig. 5) did not change significantly. Short periods of a decline in 2002 and 2005 were followed by a renewed increase in the number of accidents at work. Two consecutive periods of a decline in the number of accidents at work were the years 2012–2013. Then in 2014 the return to the upward trend was recorded again, 88,642 accidents at work were registered, that is 375 events more than in the year before and as many as 8,150 events more than in 2002. The average

¹⁷ CSO. 2014. *Pracujący w gospodarce narodowej w 2013 r., Informacje i opracowania statystyczne*. [The employed in the national economy in 2013. Statistical Information and Summaries.] Warszawa, p. 11. Available at: file:///C:/Users/hp/Downloads/pw_pracujacy_w_gosp_narod_2013.pdf

¹⁸ CSO. 2015. *Zatrudnienie i wynagrodzenia w gospodarce narodowej w 2014 r., Informacje i opracowania statystyczne*. [Employment and wages in the national economy in 2014. Statistical Information and Summaries.] Warszawa, p. 24. Available at: file:///C:/Users/hp/Downloads/zatrudnienie_i_wynagrodzenia_w_2014.pdf

number of accidents at work in the period 2002–2014 amounted to 91,021 events. A similar trend was observed in the case of the incidence rate of accidents. The only difference is that in this case the downward trend continued since 2012. The number of serious and fatal accidents was characterised by a relatively permanent downward trend in the period 2002–2014 (Fig. 4). The number of serious accidents at work over the last 13 years decreased gradually, reaching the total decrease of 49.6% compared to its level in 2002. In the same period of time, the number of fatal accidents at work was characterised by a decline at a similar level amounting respectively to 49.1%. The med-term rate of changes in the analysed period reached in both cases the same value equal to 5.5%. The incidence rate of fatal and serious accidents at work per 1,000 workers shows a less clear downward trend (Fig. 5). The rate of serious accidents is characterised by stagnation in short periods of time (2005–2007 – 0.09 2010–2011 – 0.06, from 2012 to 2013 – 0.05). The rate of fatal accidents at work in the years 2004–2011 showed a reverse trend year-on-year (than in the previous year) – a drop or increase was followed by a reversed trend in the next year. Only since 2011 we can observe a declining trend characterizing the frequency of accidents with serious consequences. In the longer period of time, both these indicators, however, show a clear downward trend: in 2014 the rate of fatal accidents at work decreased by 56% compared to 2004, while the rate of serious accidents declined by 60% in the same period.

The data published by the CSO show that most accidents at work are the fault of the person and the organisation of work. Accidents are most often connected with the performance of physical work. Careless performing of tasks or not complying with the Occupational Health and Safety leads to tragedies. Due to the development of technology over the last several years the unreliability of machines and equipment is much smaller. The statistics show that the largest number of accidents occur in manufacturing, agriculture, construction, wholesale and retail trade, health care and social assistance. In 2014, there were 88,642 accidents at work in total, but compared to the previous year there was growth in many sectors.

In such a reality preventive measures, raising awareness of employers and employees are very important. The necessary requirement is the participation of employers in training, adequate training of staff, attention to proper medical examination, familiarizing workers with hazards in the workplace. All these activities are extremely important because they can prevent accidents at work.

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THE ANALYSIS OF THE CURRENT STATE OF ACCIDENTS AT WORK IN POLAND IN THE YEARS 2002–2014

Summary

The aim of the paper is to elaborate the current state of accidents at work in Poland in the years 2002–2014. The emphasis is placed on the analysis of the level, structure and trends in accidents at work in Poland. In the article also causes and effects of the occupational accidents are discussed.

The article consists of 4 main parts: introduction, information in the field of registration of accidents at work – European and national context, occu-

pational accidents in numbers and conclusions. The main source of empirical data were statistics provided by the Central Statistical Office in Poland.

The Author has proven that in the considered time period working conditions in relation to the accidents at work did not improve significantly. Work in Poland did not become safer. In the years 2002–2014 the total number of occupational accidents and the overall ratio of accidents at work (the number of the injured persons per 1,000 of the employed) did not change a lot.

ANALIZA STANU AKTUALNEGO WYPADKÓW PRZY PRACY W POLSCE W LATACH 2002–2014

Streszczenie

Celem artykułu jest omówienie sytuacji wypadków przy pracy w Polsce w latach 2002–2014. Szczególny nacisk autorka kładzie na analizę poziomu, struktury oraz zmian w czasie wypadków przy pracy w Polsce. W artykule omówiono również przyczyny oraz skutki wypadków przy pracy w badanym okresie. Artykuł składa się z czterech części głównych: tj. wprowadzenia, informacji na temat rejestracji wypadków przy pracy, wypadków przy pracy w liczbach oraz zakończenia. Podstawowym źródłem danych empirycznych były dane statystyczne Głównego Urzędu Statystycznego (GUS). Autorka wykazała, że w badanym okresie warunki pracy z punktu widzenia wypadków przy pracy nie uległy widocznej poprawie. Praca w Polsce nie stała się szczególnie bardziej bezpieczna. W latach 2002–2014 liczba wypadków przy pracy ogółem, jak i wskaźnik częstości, nie uległy znacznym zmianom.

АНАЛИЗ АКТУАЛЬНОГО СОСТОЯНИЯ НЕСЧАСТНЫХ СЛУЧАЕВ НА ПРОИЗВОДСТВЕ В 2002–2014 ГОДАХ

Резюме

Целью статьи является анализ ситуации несчастных случаев на производстве в Польше в 2002–2014 годах. Особенный упор автор делает на определение уровня, структуры и динамики временных периодов несчастных случаев на производстве в Польше. В статье рассматриваются также причины и последствия несчастных случаев на производстве в исследуемый период. Статья состоит из четырёх основных частей: введения, информации

о регистрации несчастных случаев на производстве в количественном отношении, и заключения. В качестве основного источника эмпирических данных были использованы статистические показатели Главного статистического управления (GUS). Автор выявила, что в исследуемый период условия труда с точки зрения несчастных случаев на производстве не улучшились. Труд в Польше не является в достаточной степени безопасным. В 2002–2014 годах число несчастных случаев на производстве как в общей сложности, так и по показателям частотности, не претерпели значительных изменений.