

# SICKNESS ABSENCE OF STEEL INDUSTRY WORKERS IN THE LOST WORK TIME

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**Abstract:** The article is a continuation of the issue of managing worker absence (Gajdzik, 2015). Theoretical considerations were supplemented with statistical data about sickness absences of workers in the steel industry. The timespan analysis covers the years 2000-2015. The share of absence in the lost work time was determined on the basis of the number of sickness absence hours. The issue of unplanned employee absenteeism is part of the human resource management and work time management in an enterprise.

**Keywords:** absenteeism, sickness absence, working time, steel industry.

## 1. Development of techniques of managing employee absenteeism

Over the past half-century the market economy system accelerated the processes of the effective use of work resources. The growing interest in the issue of the effectiveness of managing work resources in an enterprise emerged largely due to the Lean Concept as a philosophy leading to the elimination of all kinds of waste (Womack, and Jones, 1994).

In the years 1960-1990 Japan experienced a dynamic industrial growth which became a model to be emulated in many industrial sectors throughout the world. The Lean Concept evolved from the management method leading to reduced working time required for executing the order for searching hidden costs of the conducted activity at all levels of organization – not only in the manufacturing process – Lean Manufacturing, but also in the field of management – Lean Management (Łazicki et al., 2014; Sobańska, 2013).

Knowledge about the hidden costs of employee absenteeism was shaped on the basis of case studies, e.g. the analysis of the rate of absenteeism in Honda or results of direct research (Allan, 1983; Johns, 1997). The issue of the employee absenteeism in respect of costs appeared in many publications over the past forty years (e.g. Kuzmits, 1979; Dalton, and

Mesch, 1991; Drago, and Wooden, 1992; Harrison, and Martocchio, 1998). W.F. Cascio<sup>1</sup> was among those who drew the attention to the issue of searching for hidden costs in the field of human resource management (Cascio, 2000). One of its research areas were additional costs of employee absenteeism and sick leaves (chapter two of the quoted publication).

The evolved issue aroused the interest of scientists and practitioners in the measurement of lost benefits from unplanned absences. The enterprises introduced an expanded set of instruments to measure employee absenteeism (Renttsch, and Steel, 1998). The results of measurements became a motivation to take preventive actions. On the basis of obtained knowledge, the practitioners started to develop and implement absence control programmes, whose aim was to limit unplanned absences and in consequence to reduce the costs of lost work time (Schlotzhauer, and Rosse, 1985).

The issue of absenteeism management among Polish scientists is relatively a new research topic. Publications in this field can be found in scientific journals and studies of industry institutions (Pęciłło, 2015; Raczek, 2016; e.g. Szubert, 2014; Szubert, Merec-Kot, and Sobala, 2009; Giermowska, and Raław-Morkowska, 2004; Bernard, and Kała, 2016; Karczewicz, and Sikora, 2014).

## **2. The backbone for managing employee absenteeism in an enterprise**

Employee absenteeism management consists of such issues as: definitional formulation of employee absenteeism, causes of employee absenteeism, absence control, motivation of employees to restrict absenteeism in the workplace, costs of employee absenteeism in the enterprise, personnel outsourcing as a form of transferring risk connected with the absence in the workplace to an external company.

Absenteeism is either a planned or unplanned, excused or unexcused employee's absence from work (Šmid, 2009). Absence days constitute the employee's absence not resulting from the Labour Code with special reference to sickness absenteeism, unpaid leaves, unexcused absence from work and absence caused by operational downtime (“Absencja chorobowa jak mierzyć”, 2015). The Central Institute for Labour Protection indicates that absenteeism is understood as lost time with a ratio in the form of a percentage loss of the total available work time due to absence. Absenteeism can also be perceived as a frequency of absence from work, in such a case the rate constitutes the average number of leaves per employee or the ratio of employees who took a leave of absence from work at least once to the total number of employees (“Absencja chorobowa”).

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The employers register the employee's absence from work, including absence to which the employee is entitled, e.g. entitlement to holiday leave, entitlement to childcare leave. In case of an unplanned absence, a dissonance may occur in a situation when the employee is aware of the consequences of unexcused absence in the workplace and did not report for work what results in a job loss. Excused absence covers: sickness absence, absence in connection with an accident at work, dismissals for training purposes and business trips, absence due to personal or family circumstances, absence due to being summoned to appear before the public authorities, etc. (Gajdzik, 2014, 2015).

Employee absenteeism may be caused by: unfavourable working conditions (e.g. low wages, conditions conducive to occupational diseases), wrong organization of work (e.g. additional tasks falling outside the scope of the obligations assigned to the employee (time pressure), form of work (e.g. monotonous work or shift work), working conditions (so-called exhausting working conditions), hostile work atmosphere (e.g. stress at work caused by the superior's attitude), low motivation of employees at work (e.g. lack of standards for performing high-quality work of the superior or low wages not adequate to the scope of duties), employee's endeavours to receive additional time for rest (e.g. an increase in the number of sickness leaves in the period around holidays), random factors (e.g.<sup>2</sup> death of a family member), physiological conditions (e.g. an increase in the health problems of employees in the autumn period), the necessity to provide care for other members of the family (e.g. care provided by mothers and fathers over the children), meeting the obligations towards the administrative and judiciary authorities (e.g. obligation to participate in trials), negative and positive emotions in the workplace – if there is predominance of the latter, there is an increase in absences (Tan, and Hart, 2011). Absenteeism may be caused by mental, physical, emotional, social, organizational factors etc. (Bakker, and Demerouti, 2007).

Research is undertaken into the causes of employee absenteeism. The authors make an attempt to order the causes of absence according to their duration, by creating absence occurrence models: a short-term one (up to 9 days), a medium-term one (10-29 days), a long-term one – 30 days and more (Szubert, Merc-Kot, and Sobala, 2009; see also: Dekkers-Sanchez et al., 2008). Studies confirm that intentional absenteeism is usually of a short-term nature and the unintentional absenteeism is of a long-term nature (Bakker, Demerouti, De Boer, and Schaufeli, 2003). A large number of short-term leaves points to a lack of motivation and involvement among employees. However, high unintentional absenteeism (a smaller number of long-term leaves) may involve tensions and excessive workloads. A high voluntary absenteeism in a company is perceived as an effect of a lack of professional satisfaction and commitment to the organisation (Bakker, Demerouti, De Boer, and Schaufeli, 2003). A situation is dishonorable for the company when absences become a form of the

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<sup>2</sup> Elaboration own list of reasons on the basis of: <https://mfiles.pl/pl/index.php/Absence>: Sickness Absence in 2008. ZUS (Social Insurance Institution) Warsaw 2009.

employee's objection (protest) against the company's actions (e.g. unfair bonus systems, partisanship, cronyism).

Employee absences are reviewed by the employer who registers the type and duration of the absence and superior institutions, including the Social Insurance Institution which keeps a record of sickness, post-accident absences. Measures make the review conducted by business entities easier. The employee absence measures may have: a numeric form (number of employee absences in a given period of time), a time form (a period of increased absences), a participation form – the ratio of the absent personnel to the entire number of employees in the company (see: Gajdzik, 2015). Organizations may use general measures (number of absences in the analyzed period) or detailed measures (breakdown of absences according to causes of absence, working places, demographic features of employees, e.g. sex, age and also according to other criteria acknowledged as useful by the employer, e.g. the criterion of the length of service). Some measures are classified as obligatory and basic ones, e.g. registration of sickness absence in numbers (days, hours), others to additional and supplementary ones, e.g. indicators in the form of a correlation between employee absence and the type of performed work or age (correlation analysis of the examined variables). The Social Insurance Institution calculates the annual absentee rate as a percentage of lost time due to sickness or an accident in relation to insured persons. The average employee absenteeism is obtained after multiplying the absentee rate in the organization by the number of all employees. The value of many rates is expressed as percentages and reach the level from zero to 100% (the higher the value the higher the level of absenteeism). The Bradford factor is an example of a numeric indicator. Its function is to measure short-term absences and is the product of the number of leaves within 52 weeks (typical calendar year) for every employee (S) and number of working days lost within this period (D) – record: S·S·D or 2S·D (“Absencja chorobowa jak mierzyć”, 2015).

Employers normally motivate employees to reduce unplanned absenteeism. Motivation may take a positive form, e.g. bonuses for employee teams with the lowest or zero absentee rates or a negative form due to severe restrictive internal rules concerning work organization with negative effects for the employee or difficulties resulting from work absence. Bonus solutions or financial rewards are applied in many companies, in particular producing companies and companies rendering services in continuous motion (transport). The positive mechanism is based on awarding an additional benefit for the lack of absence and the negative mechanism may be based on losing a part of the bonus in case of exceeding the admissible number of days of absence for a given period. Support programmes whose aim is to exert a positive impact on the reduction of absenteeism becomes more and more popular in companies. Exemplary actions: health promotion (expenses for protective measures and different types of benefits, e.g. vaccinations), promotion of a healthy life style (e.g. company races, sports tournaments), improvement of the material and nonmaterial working environment (e.g. equipping work stands), changes in the organisation of working time

(e.g. flexible working time, remote work), psychotherapy in the company (e.g. free help of a psychotherapist in solving emotional problems of employees, marital and family problems), additional assessment of the employee's health status (e.g. over-normative health assessment of employees), trainings and seminars concerning the employee's performance in the workplace (e.g. "Fight stress"). More about applied preventive measures can be found on websites of very big and big companies in HR departments or in the published SR (Social Responsibility) reports. The following Company schemes are worth being analyzed: Volkswagen Poland Check-up *Scheme*, „Caddy Run”, ArcelorMittal Poland Health Week Scheme, Eaton Wellness health scheme.

There are direct and indirect costs of employee absenteeism. Direct costs include: salaries, benefits paid to employees on leaves – together with add-ons, payment of overtime, salary cost of employees seconded to perform the job of absent workers or temporary substitutes. Indirect costs cover the administrative cost of sick leaves, recruitment of temporary workers, trainings of temporary workers and employees substituting absent workers, losses resulting from the nonperformance of and delay in work by the sick employee and losses resulting from reduced productivity of the substitute (Cascio, 2000). Costs related to absences also include costs of actions aimed at reducing sickness absence. The optimum level of outlays for the improvement of health at work occurs when the sum of these outlays and absence costs reach the minimum (“Szacowanie Kosztów Absencji Chorobowej”). A separate category of costs are costs of the spread of disease in the workplace. Such a situation occurs when the sick employees who should be on sick leaves came to work and infected other co-employees and they themselves are less productive.

Personnel outsourcing, in other words a contract of a production plant with a temporary employment agency is a way to reduce costs of employee absenteeism. The Company reports the number of required employees for the given work and the agency recruits them and seconds them to work. Process outsourcing is also used in production. The Agency assumes responsibility not only for providing staff but, first of all, for performing a certain fragment of a process. Temporary employment agencies implement support programmes, such as: medical care cards, admission cards to sports facilities (Ochremiak).

Summing up, the issue of unplanned absenteeism in the workplace is a very broad issue and covers: the selection of management methods, calculation of costs, work organisation, employee motivation. Support actions aimed at reducing absenteeism are undertaken in production enterprises and service organisations and also in temporary employment agencies which deal with the personnel and process outsourcing.

### 3. Analysis of Sickness Absenteeism of steel industry workers

Taking into consideration the significance of the issue of unplanned absenteeism in the workplace, the author carried out an analysis of the lost work time due to sickness absence based on the example of the steel industry in Poland. The carried out analysis fits in the new trend of issues, consisting of the review of unplanned employee absenteeism in the company. The aim of the publication is to compile the analysis results in the form of a reporting statement. The analysis was based on data concerning work time management in the domestic steel industry in the years 2000-2015.

The employee sickness absenteeism belongs to the category of personal grounds by virtue of the absence from work. The register of sickness absenteeism in the steel industry is a subgroup under time loss on personal grounds. The register of sickness absenteeism also includes work-related accident absence. The absence of workers are compiled according to production (blue-collar) jobs and non-production (white-collar) jobs. The analysis covers the share of sickness absenteeism of steel industry workers in the total work time loss and according to jobs.

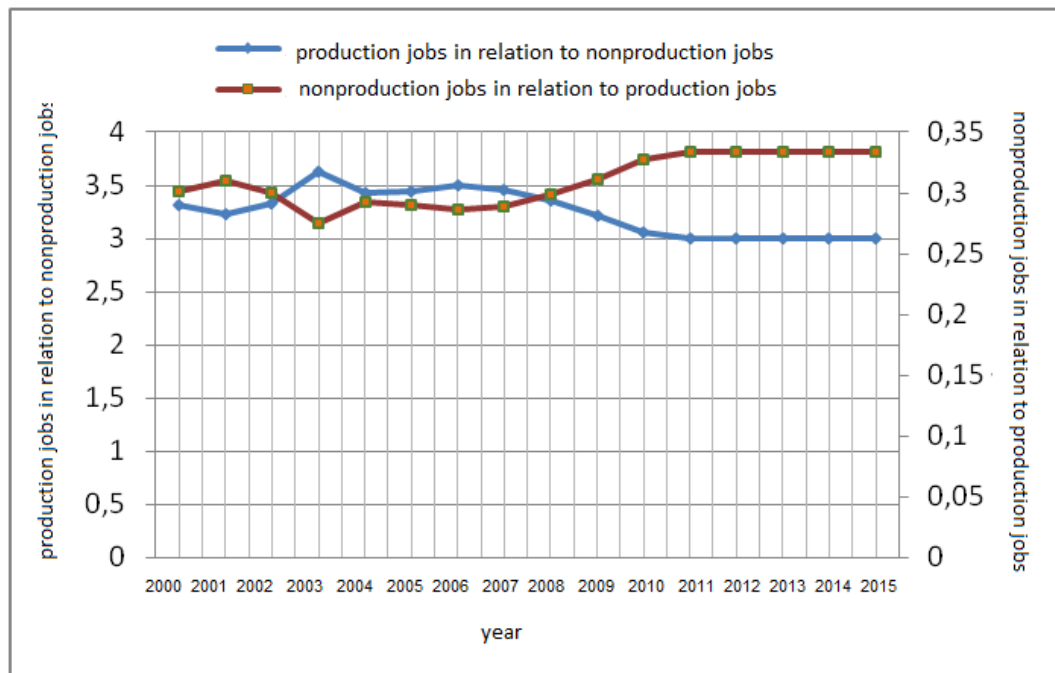
In order to acquaint the reader with the scope of the analysis, a concise review of the examined industry was prepared. The steel sector is linked to metallurgy and consists of producers of steel and steel products (according to the share of sold production in the production of the section they constitute 54%), the other entities are producers of: pipes, wires, hollow sections and steel fittings (6%), producers of other products from pre-treated steel (10%), producers of precious metals and other non-ferrous metals (16%) and also steel casting (15%)<sup>3</sup>. More than 80 companies are registered in the steel sector, including 29 firms constituting the core of steel producers. The total employment in the steel sector amounts to over 20 thousand employees. 5 economic entities are classified as large enterprises (steel producers) with an employment over 1000 employees. This analysis is limited to the steel and metallurgical subsector which consists of producers of steel and steel products. The Metallurgical Chamber of Industry and Commerce (HIPH) in Katowice provided data for the analysis<sup>4</sup>.

The proportions between the types of jobs in the steel industry: the ratio of nonproduction jobs to production jobs amounts to on average 0.33 annually or the ratio of production jobs to nonproduction jobs amounts to on average 3.33 annually (Figure 1).

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<sup>3</sup> Calculations are based on revenue on sales in 2009; data of the Main Statistical Office.

<sup>4</sup> The author expresses her thanks to the Metallurgical Chamber of Industry and Commerce in Katowice for making the data available for scientific purposes.

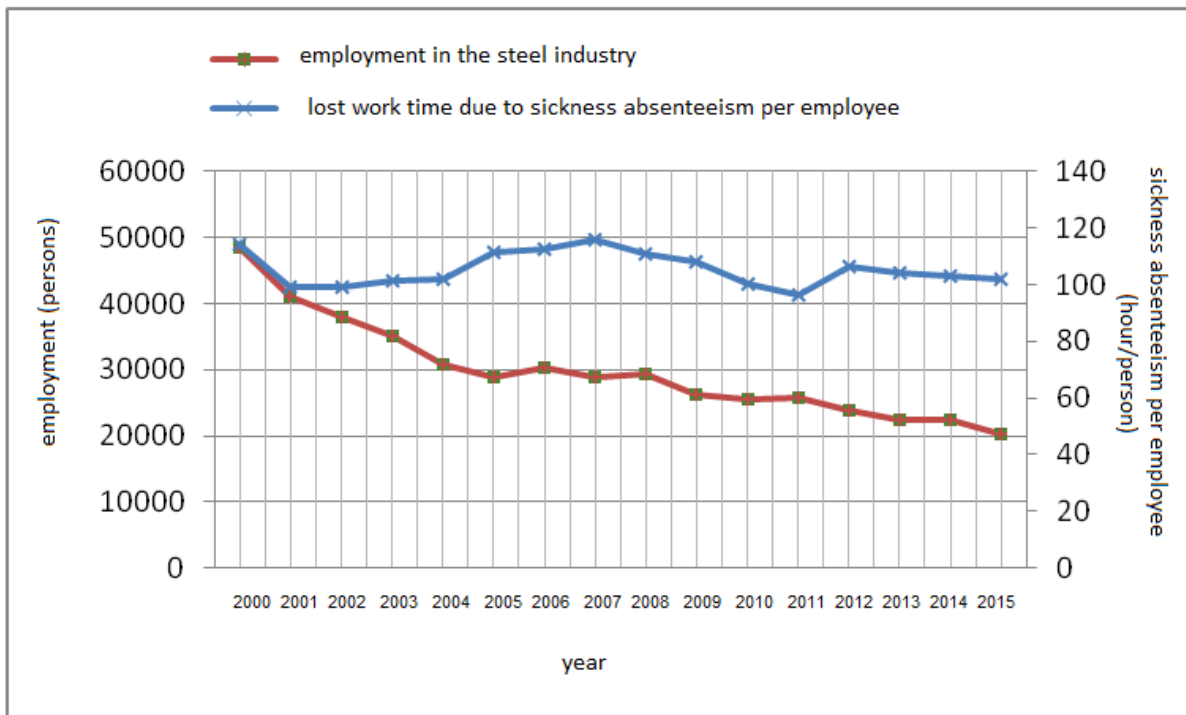


**Figure 1.** Proportions between jobs in the steel industry. Own elaboration on the basis of data of the Metallurgical Chamber of Industry and Commerce.

On the basis of the compilation of the structure of jobs in the domestic steel industry in the years 2000-2015, the share of nonproduction jobs after 2008 increased in relation to production jobs. However, there was a considerable increase in the number of production jobs in relation to nonproduction jobs in 2003. If the structure of jobs were to be related to the production volume, it would turn out that in the years 2003-2004 production is increasing (10.6 million tonnes is the largest production volume in the years 2000-2015, which the industry reached in 2004). After 2008, when the effects of the global economic crisis reached steel enterprises, the production of steel is maintained at the average annual level of 8.5 million tonnes<sup>5</sup>. The increase or decline in the number of production jobs in the examined period was therefore conditioned by the production volume. When production is greater, there are more production jobs.

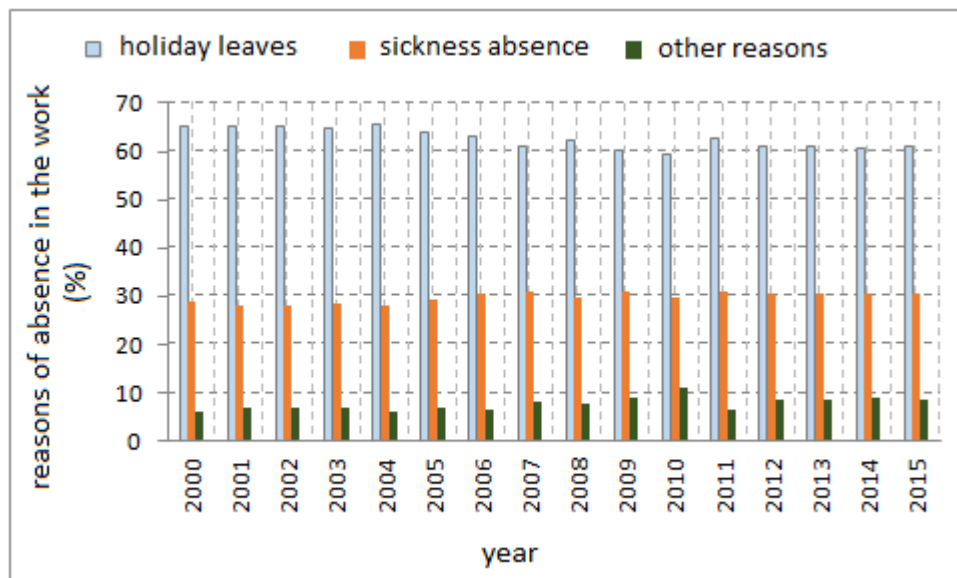
In the years 2000-2015 a decline in the number of workers in the domestic steel industry was recorded (Figure 2). A sharp decline in employment in the steel industry did not have a significant impact on the drop in the number of sick leave days per employee. Lost work time due to sickness absenteeism per employee oscillated between 90 and 100 hours per employee throughout the year, what constitutes from 11 to 14 days of absence from work per employee during the year.

<sup>5</sup> For comparative purposes the author refers to the reports of the Metallurgical Chamber of Industry and Commerce available on: [www.hiph.org.pl](http://www.hiph.org.pl).



**Figure 2.** Number of employees and sickness absenteeism in the steel industry. Own elaboration on the basis of data of the Metallurgical Chamber of Industry and Commerce.

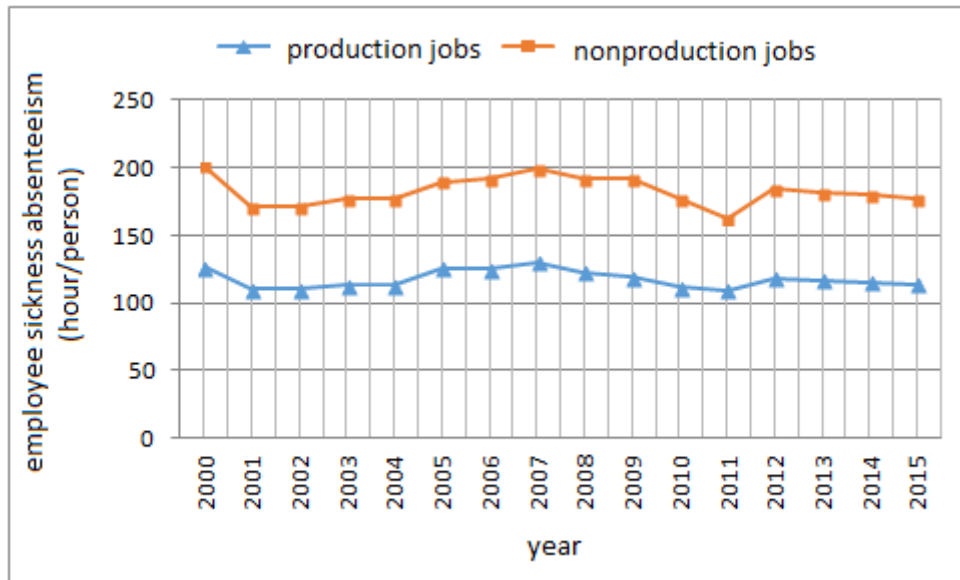
The employee sickness absence constitutes ca. 30% of lost work time on personal grounds (Figure 3). In the years 2000-2015 the fluctuations of the share of sickness absence in the lost work time were insignificant  $\pm 2\%$ . This means that the respective metallurgical companies did not achieve significant results in the form of a drop in employee sickness absence.



**Figure 3.** The share of sickness absence in the lost work time in the steel industry. Own elaboration on the basis of data of the Metallurgical Chamber of Industry and Commerce.

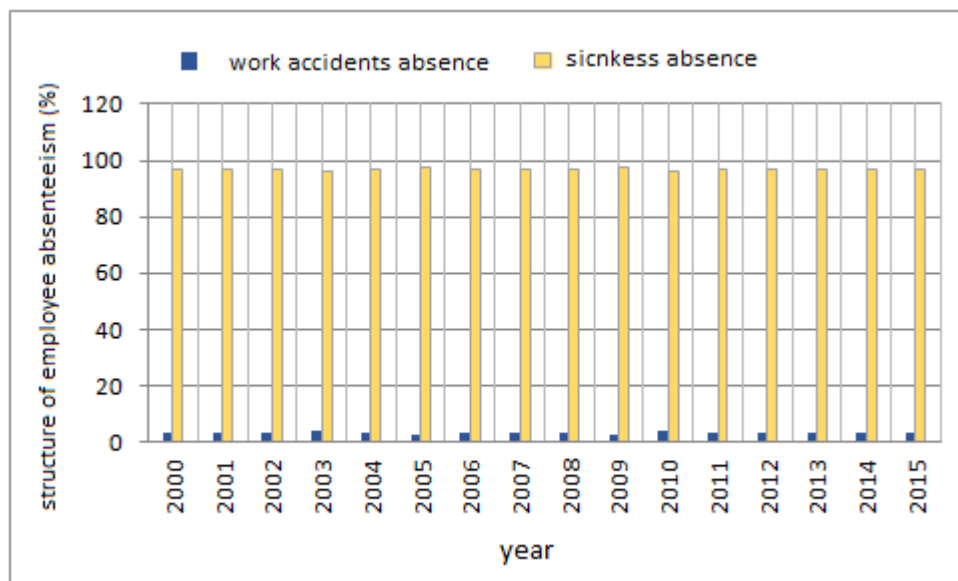


A higher sickness absenteeism in the steel industry is recorded in production (blue-collar) jobs, rather than nonproduction jobs. The production worker was absent from work for 117 hours per year on average, what constitutes ca. 15 working days. However, the nonproduction worker in the years 2000-2015 was absent from work 65 hours per year on average, what constitutes ca. 8 sick leave days (Figure 4).

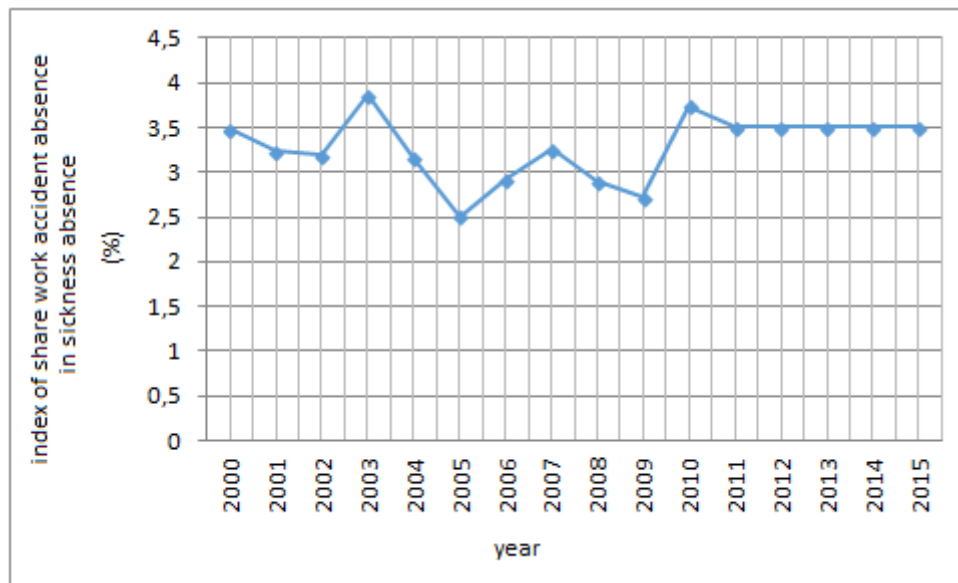


**Figure 4.** Employee sickness absenteeism according to jobs in the steel industry. Own elaboration on the basis of data of the Metallurgical Chamber of Industry and Commerce.

The share of post-accident absence in the total sickness absence does not exceed 4% (Figure 5). The fluctuations of this share in the years 2000-2015 oscillated between 2.5% and 3.8% (Figure 6).



**Figure 5.** Post accident absenteeism in the steel industry. Own elaboration on the basis of data of the Metallurgical Chamber of Industry and Commerce.



**Figure 6.** Index of absenteeism in the steel industry. Own elaboration on the basis of data of the Metallurgical Chamber of Industry and Commerce.

#### **Results of the conducted analysis:**

1. Employee sickness absenteeism of the steel industry in Poland constitutes ca. 30% of absences on personal grounds.
2. Sickness absenteeism remains at an unchanged level in the analyzed period 2000-2015 (fluctuations  $\pm 2\%$ ).
3. One employee takes about 12 sick leave days per year on average.
4. There was higher sickness absenteeism in production jobs, rather than nonproduction jobs (7 sick days more are taken by production workers).
5. The share of post-accident absence in sickness absenteeism does not exceed 4% and it ranged from 2.5% to 3.8% in the years 2000-2015.

## **4. Conclusions**

High voluntary (unplanned) absenteeism is perceived in a company as a negative phenomenon. Knowledge about this phenomenon and, in particular, the type and scale of absence and also its causes is especially useful for the employer because he may implement support actions to reduce absenteeism. In order to counteract absenteeism, it should, firstly, be analyzed on an ongoing basis. Secondly, based on reports and presentations practical preventive measures should be taken. A good employer also attempts to determine the reasons for the absence of employees, among which we can distinguish: low work motivation, lack of satisfaction, stress in the workplace or poor working conditions. The presented analysis of the

sector indicates that the measurement of absence is very general in nature. For statistical purposes such an analysis may be sufficient, but insufficient to take preventive measures.

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