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More than a Half of Working Persons Are Exposed to Hazards to Their Physical or Mental Health at Their Jobs

In 2013 every fiftieth working person suffered an occupational injury, and almost five per cent of the employed had some health troubles related to performance of their jobs. While performing their jobs one fifth of working persons are exposed to hazards, which have adverse effects on their mental health and four out of ten respondents gave factors affecting their physical health.

In the course of 2013 an ad hoc survey on "Occupational Injuries and Other Occupational Issues at Work Related to Performance of the Occupation" was carried out within the Labour Force Sample Survey (LFSS). The survey subject matter were occupational injuries and other health troubles, which occurred within twelve months prior the survey date in relation to performance of occupations of respondents. The survey also covered factors that may have adverse effects on mental or physical health of the respondents.

A. Incidence Rate of Occupational Injuries is Affected Mostly by the Type of Occupation

In total 95 thousand persons suffered an occupational injury of all the persons, who were employed last year or who terminated their employment less than one year, within twelve months before the reference week. There were 1.5 thousand persons of almost 5 thousand persons, who were already not working, who stated the occupational injury was the reason they terminated their employment for.

A vast majority of injuries (90 thousands) occurred to persons who are employed. The injury incidence rate differs both by sex and namely by major group of occupations of the CZ-ISCO. The factors of sex and of concrete activities, which the working person performs, are mutually affecting. Occupational injuries pose more threat to men (2.5%), while approximately 1% of all working women suffered such an injury. The hazardous main groups of the CZ-ISCO are especially skilled agricultural, forestry and fishery workers (4.3% of all working persons in these occupations) and a large group of craft and related trades workers (3.4%). The groups of plant and machine operators, and assemblers (2.6%) and elementary occupations (2.3%) also showed above average incidence rate of injuries. Data on members of armed forces are not given due to the size of the sample. On the contrary, a low level of frequency of injuries was recorded in occupations, which are not, as a rule, related to physically demanding activities and hazardous work environment. Virtually no occupational injury occurred in the main groups of managers, professionals, and clerical support workers.

A relatively high injury incidence rate in certain occupations is immediately reflected in the level of injury incidence rate in respective group of economic activities. A minimum of occupational



injuries occur or occupational injuries are absent in, for instance, financial and insurance activities, real estate activities, IT and other information services, or in other professional, scientific and technical activities. Conversely, a relatively high level of injury incidence rate can be found in the primary sector and in economic activities of the secondary sector as mining and quarrying, manufacturing, and construction. In the services sector a higher injury rate was found in accommodation and food service activities and, moreover, also in the section of arts, entertainment and recreation.

Number of occupational injuries and their share in selected sections of the CZ-NACE and by the status in employment in 2013

Occupational injury in the last 12 months	Working pe	Share as percentage in the number of working persons		
	Total	Men	Women	Total
Total	89.9	70.3	19.6	1.8
Status in employment Employees and members of producer cooperatives The self-employed or family workers CZ-NACE section	70.5 19.4	52.9 17.5	17.6 2.0	1.7 2.2
A Agriculture, forestry and fishingB Mining and quarryingC Manufacturing,F Construction	5.6 1.1 31.7 13.9	4.6 1.1 26.7 13.9	1.1 - 5.0 -	3.9 2.8 2.4 3.3
 G Wholesale and retail trade, repair of motor vehicles and motorcycles H Transportation and storage I Accommodation and food service activities J IT and other information services 	8.8 5.3 6.6 1.1	6.6 4.4 3.5 1.1	2.3 0.9 3.1	1.5 1.8 3.7 0.7
N Administrative and support service activities O Public administration and defence, compulsory social security P Education	2.0 3.1 2.4	1.8 3.1 2.2	-	1.6 1.0 0.7
Q Human health and social work activities R Arts, entertainment and recreation	3.3 2.4	1.8	3.1 0.6	0.9 2.8

Source: CZSO, Labour Force Sample Survey

Methodological note:

Because of the size of the ad hoc module sample absolute values below 1 thousand are not published. Values lower than 6 thousand are of lower reliability. This holds also to absolute values of numerator and denominator, which are used to calculate the relative data from.

At first sight, it is a surprise that those, who suffered an occupational injury relatively most frequently, were the self employed (2.2%), especially those persons who are own-account workers, than employees (1.7%). However, the Czech Republic self-employed feature certain specifics compared to other Member States of the European Union. First of all, the share of the



self-employed in the total employment is one of the highest in the EU28 (the fifth highest following to those of Greece, Italy, Poland, and Romania). Compared to our neighbouring countries of Germany and Austria it is substantially higher (approximately by 7 p.p.). The atypical occupation and economic activity structure of the Czech Republic self-employed is also an important feature. The self-employed share is high in construction (over 40% of all working persons in this economic activity), yet also in agriculture, trade, and in the section of accommodation and food service activities. In all of them the share of the self-employed is higher than their share in the total employment in the national economy. And it is just a majority of these economic activities which are characteristic by a higher level of the injury incidence rate.

In most cases the occupational injury results in incapacity for work of the respondent. The time of incapacity for work is very varied and depends on multiple factors, namely on the type of the occupation performed. Over one half of working persons suffering an occupation injury returned to job within the period from two weeks to three months.

Length of work absence due occupational injury and health condition related to performance of the occupation in 2013

Working persons	Occu	Occupational injury (%)			Health condition (%)		
	Total	Men	Women	Total	Men	Women	
Length of absence:							
Less than one day, or no absence at work	14.7	13.4	19.1	47.8	46.8	49.0	
One day, at least, less than four days	11.9	11.9	11.6	7.7	8.7	6.6	
Four days, at least, less than two weeks	12.2	13.1	8.9	12.3	12.0	12.6	
Two weeks, at least, less than one month	24.1	24.7	22.1	19.3	19.6	19.0	
One month, at least, less than three months	28.4	28.2	29.0	8.7	9.4	7.8	
Three months, at least, less than six months	7.6	7.2	9.3	2.8	2.1	3.6	
Six months, at least, and longer			-	1.4	1.4	1.3	

Source: CZSO, Labour Force Sample Survey

Traffic accidents (gave 4.4 thousand persons if grossed up) do not make a significant share in the total number of injuries of working persons. These are traffic accidents, which are exclusively related to the occupation performance (drivers), or the respondents suffered an injury during an accident within working hours (for instance on a business trip). Traffic accidents, however, in most cases bring more severe consequences with a longer recovery time. For occupational injuries in general, the share of work absence longer than one month is 37%, yet for injuries due to traffic accidents it is twice as high (over 74%).

B. Incidence of Health Conditions Related to Occupation Grows with the Respondent's Age

The survey results demonstrate that incidence rate of health conditions related to the occupation performed depends mostly on the respondent's age. Difference in between men and



women is lower than that in the incidence rate of occupational injuries. There were 229 thousand of all working respondents (4.6%) who had health conditions related to their occupations. Almost 121 thousand men (4.3% of all working men), the absolute number of women was lower (108 thousand), but if expressed relatively, the share of women in the total number of working women was higher (5.0%).

The incidence rate of health troubles grows in almost linear manner with the respondent age. The youngest group of working persons below 20 years of age forms a certain exemption. Yet the absolute number of working boys and girls of this age is very low because an essential portion of the young are still preparing for their occupations. The share of working persons with heath troubles permanently grows till their age of retirement. In women it culminates in the age of 55-59 years when every tenth female respondent suffers health conditions related to performance of the occupation. The incidence rate of health conditions in the group of men older by five years is appropriate. In elder persons the illness rate decreases because work activities significantly decrease with increasing age here. In retirement age persons, who work, mostly do not suffer health conditions affecting their physical condition required for performance of the occupation.

Share of working persons with health conditions related to the occupation in the total number of working persons by age group in 2013

			v %			
Heath condition in the last 12 months related to the occupation performance	Working persons					
	Total	Men	Women			
Total	4.6	4.3	5.0			
Age groups:						
20 to 24 years	1.4	0.8	2.1			
25 to 29 years	1.5	1.4	1.6			
30 to 34 years	2.2	2.0	2.6			
35 to 39 years	3.8	3.2	4.6			
40 to 44 years	4.7	4.6	4.9			
45 to 49 years	6.2	5.9	6.4			
50 to 54 years	7.0	7.1	6.8			
55 to 59 years	8.0	6.8	9.4			
60 to 64 years	8.0	9.2	5.6			
65 and more years	3.6	5.1	•			

Source: CZSO, Labour Force Sample Survey

The tight relation of the respondent's age and incidence of health conditions related to the occupation was confirmed by the comparison of the sample survey results with results of a similar survey carried out in 2007. That time those, who gave they had health troubles, were men and women of the age corresponding to then-established age limits for the entitlement for the old-age pension.

If the occupation performed affects the total incidence rate of health conditions related to occupation in a lower extent, then it affects the type of health condition in a substantial manner.



Almost two thirds of men, who suffer from health conditions related to their occupations, are craft and related trades workers or plant and machine operators, and assemblers (over 75 thousand men). This is almost two thirds of all men having such troubles. On the contrary, 30% of all working women suffering health conditions related to occupations have status of employment of worker of services and of wholesale and retail trade. The share of this CZ-ISCO major group in the total female employment is, however, mere less than 23%.

Number and share of working men and women with heath conditions related to the occupation performed by status in employment and by CZ-ISCO major group in 2013

Health conditions related to performance of occupation in the last 12 month	·			Share in the number of working persons by status in employment and by CZ-ISCO major group (%)				
·	Total	Men	Women	Total	Men	Women		
Total	228.7	120.7	108.0	4.6	4.3	5.0		
Status in employment Employee or a member of producer cooperative Self-employed or family worker	173.9 54.9	83.5 37.2	90.4 17.6	4.3 6.2	3.8 6.1	4.8		
Occupation by major group of CZ-ISCO:	0	Ŭ <u>−</u>		0.2	.	0.0		
1 Managers	9.8	6.9	2.8	3.6	3.5	3.8		
2 Professionals	20.6	8.3	12.3	2.8	2.5	3.1		
3 Technicians and associate professionals	24.2	13.9	10.4	2.8	2.8	2.9		
4 Clerical support workers	17.2	1.5	15.7	3.7	1.5	4.3		
5 Service and sales workers6 Skilled agricultural, forestry and fishery workers	40.9 5.4	8.8 3.6	32.1 1.8	5.5 8.8	3.4 8.9	6.6 8.6		
7 Craft and related trades workers 8 Plant and machine operators, and assemblers	50.2 44.9	43.7 31.5	6.5	5.8 7.0	5.7 6.5	6.9 8.2		
9 Elementary occupations	15.6	2.5	13.1	5.8	2.6	7.6		

Source: CZSO, Labour Force Sample Survey

The composition of occupations affects in a substantial manner the incidence of health conditions in respective groups of economic activities. The highest incidence was found in manufacturing followed by construction and trade and transportation.

Concerning the share of persons suffering from health conditions in the total number of working persons manufacturing shows just a slightly above average value, yet other economic activities show substantially higher shares as, for instance, mining a quarrying (7.8%), transportation and storage (6.9%), and construction (7.0%). Above average shares were found in agriculture, forestry and fishing (6.3%) and in human health and social work activities (5.6%). The highest share was found in activities of households as employers (8.8%), where the result may be to a certain extent affected by the sample size.



The share of the self-employed suffering from health conditions related to occupation is higher than that of the employees. Here there is the factor of age because the share of the self-employed in employment grows with age. One of the reasons may also be the fact that a high number of the self-employed works in the large groups of economic activities of construction and agriculture, forestry and fishing, in which the incidence of health conditions is higher.

Concerning types of health condition over one half of the suffering (52.5%) gave they have troubles with their spine or neck. These troubles and troubles with upper and bottom limbs form the group of troubles with the support apparatus that is present in 71% of all suffering and working respondents. Differences in the incidence rate in men and women are small. Of the other health conditions, the respondents often gave they suffer feelings of anxiety, depression, or stress (every eleventh respondent giving any health condition). This condition was more frequently given by women, conversely, men more frequently suffer from cardiovascular diseases and blood pressure disorders.

It is necessary to realize that respondents could give solely one type of trouble, which they consider to be the most serious, in the survey. Therefore multiple health conditions in one respondent were not measured.

Number of working persons by type of health condition in 2013

Type of health condition in the last 12 months	Working	persons (t	thousand)	Working persons (thousand)			
	Total	Men	Women	Total	Men	Women	
Health conditions, total	228.7	120.7	108.0	100.0	100.0	100.0	
Troubles with upper limbs	22.7	12.0	10.6	9.9	10.0	9.8	
Troubles with bottom limbs	20.3	11.8	8.5	8.9	9.7	7.9	
Troubles with spine or neck	120.1	63.5	56.6	52.5	52.6	52.4	
Lung or breathing troubles	7.2	3.4	3.8	3.1	2.9	3.5	
Skin conditions	4.8	2.8	2.0	2.1	2.4	1.8	
Anxiety, depression, and stress	19.6	7.7	11.9	8.6	6.4	11.0	
Headache and sight disorders Cardiovascular diseases and blood pressure	11.3	5.2	6.1	4.9	4.3	5.6	
disorders Infectious diseases (viral, bacterial, and other	8.7	6.9	1.8	3.8	5.8	1.7	
infections) Diseases of stomach, liver, kidney, or other	2.6	٠	2.3	1.1	٠	2.1	
gastroenterological diseases	5.1	2.8	2.3	2.2	2.3	2.2	
Hearing disorders and other conditions	6.5	4.3	2.2	2.8	3.5	2.0	

Source: CZSO, Labour Force Sample Survey

Although health conditions related to the occupation performance occur more frequently than occupational injuries, their impact on volume of work absence from a respective respondent point of view is lower. Almost one half of all the suffering gave that they were not absent at work for health reasons at all, or were absent for a part of a day only. If respondents gave that health conditions required work absence, then they most often returned to work within one month.



Differences in the length of work absence in between those inflicted by occupational injuries and those suffering from health conditions are given in table on page three.

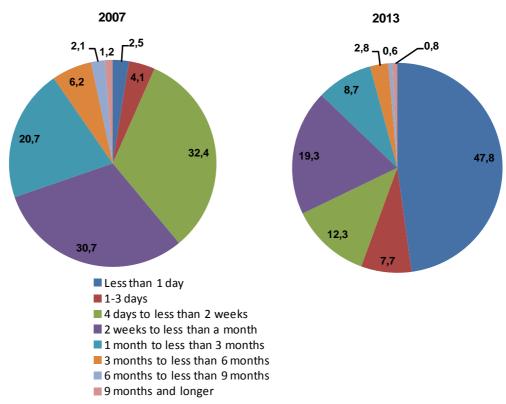
Compared to the situation in 2007, when a survey comparable in terms of methodology applied was carried, the structure of the length of work absence did not change essentially. In 2007 solely a small portion of respondents stated that they were not absent at all or were out of work for 3 days, as maximum (less than 7% of working persons suffering from health conditions). In 2013, however, there were almost 56% of respondents suffering from health conditions giving such answer.

This discrepancy follows, first of all, from development of legislation related to payments of sickness insurance benefits. It was right in the meantime in between the sample surveys when essential changes in legislation were made. The flat rate for the sickness benefit calculation was changed, modifications were carried out to quarantine time and in wage reimbursements. These changes affected the total number of persons on sick leave in a substantial way. All the issues are described in detail in the publication of Analysis of Sickness Insurance Development in 2013, which was worked out by the Social Security Department of the Ministry of Labour and Social Affairs of the Czech Republic.

Needless to remember that sickness insurance and health insurance are two different categories of insurance defined by different legal regulations. Health insurance is to cover costs of health care. Sickness insurance forms a part of social security insurance, which establishes entitlement for sickness insurance benefits, if law defined conditions have been complied with, as for instance sickness benefit, maternity allowance, or care allowance.



Time of work absence due to health troubles related to the occupation performance in 2007 and in 2013 (%)



Source: CZSO, Labour Force Sample Survey

A big increase in the number of working persons, who, despite their health conditions, were not on sick leave at all, confirms the development in the total number of newly reported cases of temporary incapacity for work due to disease (no regard whether health conditions have been caused by the occupation performed or not) and due to occupational injuries from registers of the health statistics. The number of reported cases of temporary incapacity for work dropped from 2.7 million in 2007 to less than 1.3 million in 2013, that means by more than a half. The total number of calendar days of incapacity for work dropped markedly (by 38%). The number of newly reported cases of incapacity for work per 100 sickness insured persons was reduced from 59 cases to less than 30 cases in the last year. Detailed data for 2013 are given in the Czech Statistical Office publication of Incapacity for Work due to Disease or Injury in the Czech Republic in 2013.

The whole system of sickness insurance is very sensitive to changes in legislation. This may be documented by the fact that in 2009 and 2010 own-account workers could determine their calculation basis for sickness insurance premiums independent on the calculation base for pension insurance



premiums. Owing to this measure, in 2010 paid benefits of sickness insurance were three times higher, and in 2011 even seven times higher than income of the sickness insurance system from own-account workers. The change in legislation valid since 1 January 2011, which cancelled this advantageous measure for sickness insurance of own-account workers affected already the course of 2011.

On the contrary to employees the sickness insurance is voluntary for own-account workers. The number of sickness-insured own-account workers has been permanently decreasing. If in 1994 there were 437 thousand persons voluntary sickness insured, in 2012 there were one hundred persons covered with this insurance, i.e. mere 2.2% of all insured persons. Just a small portion of this category of working persons used the aforementioned advantage.

C. Majority of Working Persons State They Are Exposed at Their Workplaces to Factors, Which May Have Adverse Effects on Their Physical and Mental Health

Four out of ten respondents (which are over 2 million persons if grossed up) gave that they are, in their opinion, exposed to hazards at their workplaces which have adverse effects on their **physical health**. These effects are incorrect posture or one-time moves, carrying of heavy burdens, noise or strong vibrations, dust, vapours, smoke or gases, potential occupational injury, and, last but not least, significant eye strain. Respondents could give just one factor, which they consider to be the most important; the survey did not consider any combination of hazards.

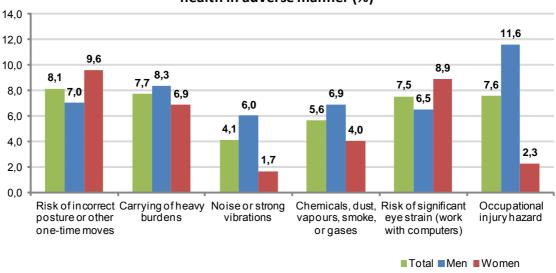
If compared to results for 2007, the number of persons on sickness leave rapidly dropped, on the contrary, the number of persons, who think that they are exposed to hazards at their workplaces, increased in an important manner. On the contrary to the situation in 2007, the share of these working persons increased by ten percentage points. It is first of all a result of the fact that a great number of respondents gave eye strain as the main hazard, which was not measured in 2007.

Men are more often exposed to factors hazardous to their physical health. Almost a half of all working men gave this. These factors were also given by one third of all working women. The respondents most frequently complain on incorrect posture. It is followed by hazards following from carrying of heavy burdens and then hazards of occupational injury. It is mostly craft and related trades workers, plant and machine operators, and assemblers, skilled agricultural, forestry and fishery workers, and elementary occupations who are exposed to these adverse effects.

Changes in the structure of occupations of working persons are reflected in the fact that the number of respondents, who are exposed to eye strain hazard at their workplaces, is virtually identical with the number of persons thinking they are exposed to a risk of occupational injury. Those, who especially consider the excessive eye stress as a risk factor, are technicians and associate professionals, clerical support workers, and professionals.



Share of working persons exposed to risks affecting their physical health in adverse manner (%)



Source: CZSO, Labour Force Sample Survey

The fact, that numerous working persons think that they are exposed to adverse effects affecting their mental health at their workplaces, pose a serious trouble. Their number was lower than that of those exposed to hazards to physical health yet it was every fifth working respondent who gave such answer (956 thousand persons).

If grossed up to the total number of working persons, less than ten thousand persons encountered sexual harassment, mobbing or stalking at their workplaces. This factor was more often given by women (7.4 thousand). Respondents gave violence or threat by violence as other factor. Over 73 thousand persons were exposed to this hazard, mostly men (45 thousand). These factors are of private character and in the authors' opinion some of respondents did not admit them. The fact that the member of household giving answers on behalf of the respondent (proxy survey) did not even have information necessary could play a certain role as well.

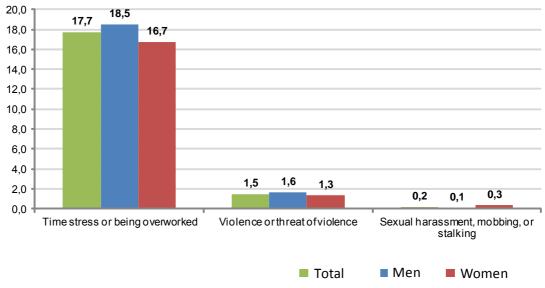
By far the most important factor, which respondents perceive as negative, is time stress or being overworked. This risk was given by almost one fifth of all working persons (17.7%). Men gave it slightly more often (18.5%), the share of women is by almost two percentage points lower (16.7%). Compared to conditions in 2007, there is a clear increase in the share of working persons, who perceive this effect, by about five percentage points. Occurrence of hazards and risk factors is narrowly related to the type of occupation performed by respondents. While the share of hazards with adverse effects on physical health is the highest in occupations with a high share of physical work, the share of persons exposed to factors affecting mental health in adverse manner is high namely in occupations with a high share of organisation, creative, and managerial work. Concerning major groups of the CZ-ISCO, the factor of time stress or being overworked was given by over one third of managers, one fifth of professionals and technicians



and associate professionals. The risk was also given by one fifth of plant and machine operators, and assemblers. Time stress or being overworked culminated in the group of 35-50 years of age.

Feelings of being overworked and time stress are given more frequently by the self-employed (19.1%) than the employees (17.4%). It is also interesting that the self-employed more frequently than the employees gave, for instance, hazards following from carrying of heavy burdens. This only confirms the variability of occupations of own-account workers, first of all.

Share of working persons exposed to risks affecting their mental health in adverse manner (%)



Source: CZSO, Labour Force Sample Survey

Taking an overall view of risk factors, over one half of working respondents (52%) gave, that they are exposed to adverse effects to their physical or mental health. If grossed up to demographic data it is more than 2.5 million persons. Over 11% of all respondents were at work exposed simultaneously both to physical and mental risk factors.

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