3.3 ACCIDENTS AT WORK

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The European Commission estimates that someone dies in every three and a half minutes for work-related reasons in the European Union and more than three million suffer a serious injury at work – resulting in at least four days of absence from work (*EB,* 2008). In Hungary, there were two fatal accidents and 640 serious accidents per one-hundred thousand employees in 2017, as shown in the last row of *Table 3.3.1*.

Table 3.3.1: Work accident rates per one-hundred thousand employees in the EU, 2017

	Fatal		Non-fatal, serious[a]	
The highest	4.49	Romania	3,396	France
The second highest	3.40	Bulgaria	2,848	Portugal
...	...	...	...	...
The second lowest	0.54	Cyprus	84	Romania
The lowest	0.45	Malta	82	Bulgaria
EU27 average	1.79		1,704	
Hungary	2.01		640	

[a] Accident resulting in at least four days of absence from work.
Source: *Eurostat* (2019).

Table 3.3.1 also highlights that it is impossible to give a precise picture of incidence rates across countries. Fatal accidents in the highest-ranking Romania are over ten times more likely and in Bulgaria nine times more likely to occur than in the seemingly safest Malta. However, the incidence of serious, non-fatal accidents is the lowest in Romania and Bulgaria: only two to three per cent (!) of the incidence rate in the highest-ranking France.

Differences in the *actual* incidence rates of accident at work between countries depend on several factors: the type of work and technology, the sectoral composition of the economy, the stringency of accident prevention regulations and compliance monitoring as well as the compliant or negligent behaviour of employees and employers. In terms of *observed* incidence rates, the proportion of accidents reported (strongly depending on the balance of power) and how victims are compensated by the welfare system are just as important. In countries with high non-fatal incidence rates, victims are offered a significant compensation at the expense of a specific work accident insurance (*insurance based accident reporting systems*). In other countries, including most of Eastern Europe, victims are covered by the general social security system (*legal obligation systems*) and may claim compensation from their employer, which strongly reduces the willingness of enterprises and institutions to report accidents (*Eurostat,* 2019). The strikingly different ranking of Bulgaria and Romania

in the statistics of non-fatal and fatal accidents, which are more difficult to avoid reporting, is probably due to this.

In view of the above, it is more relevant to compare workplace accidents over time within a country. As seen in *Table 3.2.2*, in Hungary there were 50–100 fatal and 14–22 thousand non-fatal accidents reported annually over the period. Data for the former displayed a significant decrease over 2009–2013, followed by a slight increase. (Chance may have been a significant factor in that because of the low number of accidents). After 2014, the number of reported cases stabilised at about 70–80 annually. The number of non-fatal accidents reported increased from 14–17 thousand a year to 20–22 thousand a year over 2015–2018.

Table 3.3.2: Work accident rates per one-hundred thousand employees in Hungary, 2009–2018

Year	Fatal	Non-fatal, serious[a]	Year	Fatal	Non-fatal, serious[a]
2009	91	15,326	2014	74	15,918
2010	89	16,326	2015	81	17,013
2011	75	14,277	2016	75	22,429
2012	60	16,717	2017	76	20,858
2013	50	15,401	2018	71	19,580

[a] Accident resulting in at least four days of absence from work.
Source: *Eurostat* (2019).

The differences between incidence rates in Hungarian sectors and types of businesses are also distorted by differences in willingness to report, similarly to international comparison. As shown in *Table 3.3.3*, the *construction sector* accounts for more than one-quarter of fatal accidents; however, its share in the total number of accidents is less than four per cent. A similar imbalance is seen in *agriculture* and to some extent *transport,* while the opposite is seen in manufacturing which accounts for 40 per cent of all reported accidents and only 15 per cent of fatal accidents in the period 2011–2017. Similarly, while the share of *enterprises with a headcount of less than ten* report more than 40 per cent of fatal accidents, they only account for 9 per cent of all reported accidents.

The data reveal that the likelihood of reporting non-fatal accidents is considerably below the average in construction, agriculture, transport and in general at small enterprises and that this has a major impact on the total incident rate at national level. Economy-wide risk cannot be judged and the differences in risks across sectors or occupations may only be inferred from the incidence rates of fatal accidents.

The ESAW (*European Statistics on Accidents at Work*) database we used – the microdata of which is collected by the Department of Occupational Safety of the Ministry for Innovation and Technology and was made available for us by the Central Statistical Office (CSO) with the permission of the Ministry – only includes accidents and not the number of cases per person or per hours worked in the various sectors or occupations. Therefore we calculated the number of

working days in occupations, sectors and size of enterprise from the 2011–2017 data of the Admin3 database[1] compiled by the Centre for Economic and Regional Studies (CERS) and expressed the number of fatal accidents in these categories in relation to that.[2] The rates are shown in the three parts of *Figure 3.3.1*.

1 The brief description of the database is included in the Annex of *In Focus* and in more detail in *Sebők* (2019).

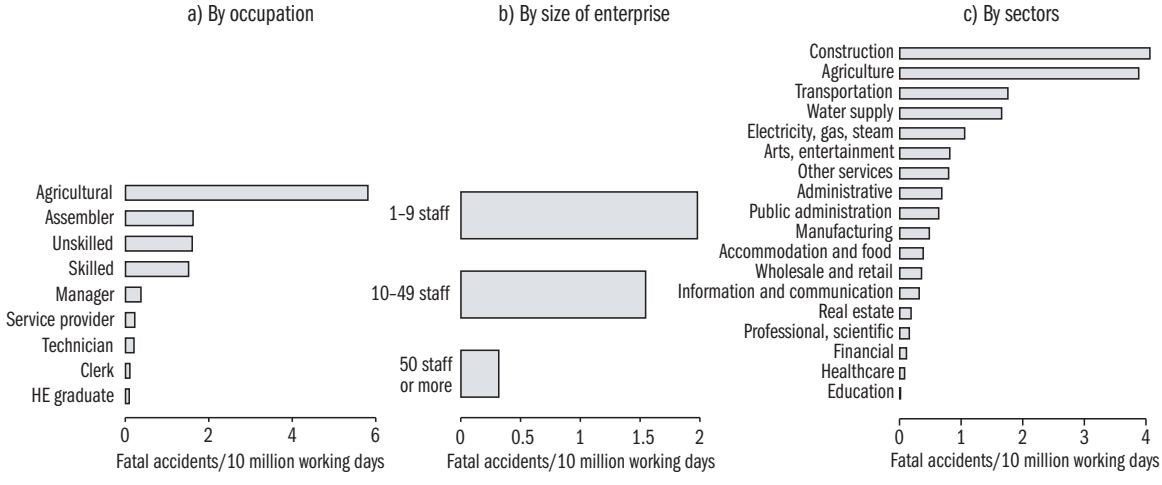
2 The calculations were made in the CSO–CERS research lab.

Table 3.3.3: The share of sectors and size of enterprises in total and fatal accidents, 2011–2017

	Share (percentage)	
	in fatal accidents	in total accidents
Sectors		
Construction	25.4	3.9
Transportation and storage	16.4	12.9
Manufacturing	15.1	37.2
Agriculture and fishing	14.4	3.5
Trade	6.6	11.8
Other sectors	22.1	30.7
Total	100.0	100.0
Enterprises with a headcount of		
1–9	40.6	9.0
10–49	32.8	24.7
50–249	15.9	33.5
250–499	4.0	11.4
500 or more	6.4	21.3
Unknown	0.3	0.1
Total	100.0	100.0

Number of cases: 161,659 accidents, of which 603 fatal
Source: *ESAW* database.

Figure 3.3.1: Incidence of fatal accidents in 2011–2017, per 10 million working days



Source: Authors' calculations based on the *ESAW* and Admin3 databases.

As for the victims of fatal accidents, 95 per cent of them are male and 41 per cent of them are older than fifty, while only slightly more than a quarter of employees fall into this category according to the Labour Force Survey of the CSO.[3] 69 per cent of victims had the accident at a temporary place of work (i.e. not in a familiar work environment) and 40 per cent of them had it on the way (but only 11 per cent on road). The latter reveals that an unknown and changeable environment is a significant risk factor.

The time of absence from work resulting from accidents reported may only roughly be calculated (and obviously underestimated) "on the back of an envelope". Supposing that the same proportion of absence that started in year $t - 1$ extends into year t as that of year t into year $t + 1$ implying a kind of steady-state, calculations based on ESAW data from 2016 may be made as follows.

We assumed that all accidents occur on 1 January. The number of fatal accidents were known: they were included with an absence of 365 days. In the case of absences of more than six months we assumed a six-month duration as the low-end estimate and a 12-month duration as a high-end estimate, while absences with unknown duration were included as the average of those with a known duration. The total number of insured days were assumed to be 4.2 million times 365 days. Based on this calculation, the rate of working days lost due to accidents at work is between 0.12 and 0.16 per cent and is definitely lower than 1 per cent even if accounting for latency. These figures are not high: the sad significance of workplace accidents lies not in direct financial loss but in the trauma suffered by victims and their families and the possible long-term health damage (of unknown duration).

3 In Q3 2018 it was for example 28.5 per cent.

References

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