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Workplace Inspections in Turkey Conducted within the Scope of ILO Labor Inspection Convention*

ILO İş Teftiři Sözleşmesi Kapsamında Türkiye’de Yapılan İş Yeri Denetimleri

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Assist. Prof. Dr. Kaan Koçali
Istanbul Gelişim University / Istanbul
Gelişim Vocational School /
Occupational Health and Safety
Program
kkocali@gelisim.edu.tr
ORCID: 0000-0002-1329-6176

Abstract

One of the problems that emerged with industrialization in the world is the fact that the health and safety of workers is at risk. Unfortunately, Turkey does not show sufficient sensitivity to this issue. Therefore, thousands of our employees have work accidents every year. Before or after work accidents, inspectors of the Ministry of Labor and Social Security proactively carry out inspections on behalf of occupational safety in order to prevent these bad consequences. In this study, the situation analysis of workplace inspections carried out within the scope of ILO Convention No. 81 on labor inspection after the Occupational Health and Safety (OHS) Law No. 6331 was conducted. For this purpose, data on inspections are taken from the Ministry of Labor and Social Security Guidance and Inspection Directorate Activities and Social Security Institution Statistical Yearbooks. The data set was created to cover the period between 2013-2022 in order to observe the impact of the OHS Law No.6331 on business inspections in the 10-year period from the date of entry into force. Work accidents were examined by creating hypotheses using the data of the number of inspections, the number of workers reached during the inspections, the causes of work accidents examined in the inspections, the number of active insured people and the number of employees, and these data were evaluated with correlation analysis, which is one of the quantitative research methods. As a result, it was calculated that the number of labor inspections in Turkey is very low, insufficient in terms of occupational accidents, and has an average impact of 2.37% in terms of OHS. In future studies, a point of view has been put forward for theoretical and applied research to increase this effect and the existence of a different situation for the prevention of work accidents in Turkey has been pointed out.

Keywords: Workplace Inspection, Work Accident, ILO, OHS, Turkey

Öz

Dünyada sanayileşmeyle birlikte ortaya çıkan sorunlardan biri de işçi sağlığı ve güvenliğinin risk altında olmasıdır. Maalesef Türkiye bu konuda yeterli hassasiyeti göstermemektedir. Bu nedenle her yıl binlerce çalışmamız iş kazası geçirmektedir. İş kazaları öncesinde veya sonrasında Çalışma ve Sosyal Güvenlik Bakanlığı müfettişleri bu kötü sonuçların önlenmesi amacıyla proaktif olarak iş güvenliği adına denetimler gerçekleştirmektedir. Bu çalışmada, 6331 Sayılı İş Sağlığı ve Güvenliği Kanunu (İSG) sonrasında 81 Sayılı ILO İş Denetimi Sözleşmesi kapsamında gerçekleştirilen işyeri denetimlerinin durum analizi yapılmıştır. Bu amaçla denetimlere ilişkin veriler Çalışma ve Sosyal Güvenlik Bakanlığı Rehberlik ve Teftiş Başkanlığı Denetim Faaliyetleri ile Sosyal Güvenlik Kurumu İstatistik Yıllıkları’ndan elde edilmiştir. Veri seti, 6331 sayılı İSG Kanunu’nun yürürlüğe girdiği tarihten itibaren 10 yıllık süreçte iş denetimlerine etkisinin gözlemlenmesi amacıyla 2013-2022 yıllarını kapsayacak şekilde oluşturulmuştur. Denetim sayısı, denetim sırasında ulaşılan işçi sayısı, denetimlerde incelenen iş kazası nedenleri, aktif sigortalı sayısı ve çalışan sayısı verileri kullanılarak hipotezler oluşturularak iş kazaları incelenmiş ve bu veriler nicel araştırma yöntemlerinden biri olan korelasyon analizi ile değerlendirilmiştir. Sonuç olarak; Türkiye’de iş teftiři sayısının çok az olduğu, iş kazaları açısından yetersiz olduğu, İSG açısından ise ortalama %2,37 etkiye sahip olduğu hesaplanmıştır. Gelecek çalışmalar için bu etkinin artırılmasına yönelik teorik ve uygulamalı arařtırmalara yönelik bir bakış açısı ortaya konulmuş ve Türkiye’de iş kazalarının önlenmesine yönelik farklı bir durumun varlığına dikkat çekilmiştir.

Anahtar Kelimeler: İş Yeri Denetimi, İş Kazası, ILO, İSG, Türkiye

Citation Information/Kaynakça Bilgisi

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INTRODUCTION

Looking at the development process of humanity from the first age to the present day, it is seen that one of the main elements that have not changed is the struggle of human beings for the right to live. Especially with the rapidly developing technology after the industrial revolution, some negativities and problems related to the health and safety of employees have emerged in workplaces (Berktaş & Oraklıbel, 2021; Koçali, 2021). These problems were not given much importance at first, but with the realization that these problems reduce work efficiency, cause labor and human losses and damage to the business, this problem has gained importance and the need to think about and take precautions has emerged. In addition to material losses, it has also been understood that events such as work accidents and occupational diseases negatively affect work psychology, employees and their environment and cause moral losses at least as much as material problems (Başkan, 1999; Nişancı & Demirören, 2020; Koç, 2023).

The increase in the aforementioned material and moral losses in parallel with industrialization and developing technology has made it necessary to reduce work accidents and occupational diseases and to develop an active and effective fight against them. This is how the concept of occupational health and safety (OHS) emerged. Especially in the Europe countries, significant progress has been made in OHS and work accidents and occupational diseases have been brought under control. In Turkey, on the other hand, is still far from the desired level in terms of OHS due to insufficient number of inspection personnel, lack of training on OHS and economic inadequacies (Şen, 2015; Çiçek & Özal, 2016; Koçali, 2023).

In this context, it is important to examine the effect of workplace inspections carried out within the framework of ILO Convention No. 81, which is also signed by our country in order to prevent occupational accidents and reduce occupational diseases. Examining the current situation of occupational health and safety culture in Turkey in addition to the legal regulations put into practice, statistical calculation of the success of the realisation of the basic objectives such as reducing or preventing the work accidents recorded in the statistics with proactive practices gains importance at this point.

OCCUPATIONAL HEALTH AND SAFETY INSPECTIONS BY THE OCCUPATIONAL INSPECTION BOARD

The international basis of occupational health and safety inspection is the International Labor Organization Convention No. 81 on Work Inspection in Industry and Commerce. Turkey entered into an obligation by ratifying this convention with the law dated 13.12.1950 and numbered 5690. According to Article 90 of the Constitution, this convention has the force of law and cannot be appealed to the Constitutional Court for its unconstitutionality (ILO, 1947; Demirkol, 2011). The purpose of the Convention is to ensure the implementation of provisions aimed at protecting workers through regular inspection of workplaces. Convention No. 81 provides for inspection systems in industrial enterprises (mining and transport enterprises may be exempted) and, if the ratifying country agrees, in commercial workplaces, to ensure occupational safety and the implementation of legal regulations governing working conditions. The Convention deals with the organization and performance of inspection services, the responsibilities of the central authority, their cooperation with other public and private bodies and with employers and workers or their organizations, the employment of qualified personnel in sufficient numbers (including women) and with adequate status, material facilities and conveniences (such as office and transport), the regular and thorough inspection of workplaces, the publication of reports and annual statistics on inspection services. The Convention covers labor inspection in industry and commerce and consists of 39 articles. Article 1 requires the establishment of an inspection system for industrial workplaces in countries where the convention applies. Article 22 extends this obligation to commercial workplaces. According to Article 4 of the convention, it is stated that labor inspection shall be carried out under the supervision and control of a central authority to the extent permitted by the administrative structures of the member states, and in federal states, the central authority may be at the level of the federal state or federal unit (ILO, 1989; Aktay, 2011, Kutlu 2020).

Article 2 of the 1982 Constitution states that the Republic of Turkey is a "*social state of law*". In Article 49 of the Constitution, protecting employees in order to improve working life is listed among the duties of the state and necessary measures are required to be taken in this regard. Accordingly, Article 91 of the Labor Law No. 4857 (2003) stipulates that the state monitors and supervises the implementation of the legislation on working life.

International and National Basis for Occupational Health and Safety Audit

In Turkey, the Ministry of Labor and Social Security (MoLSS) is entrusted with the task of monitoring and supervision of OHS. The purpose of state supervision on OHSS can be summarized as improving the working environment and conditions of workers, ensuring that OHS measures are taken, and preventing work accidents and occupational diseases (Demir, 2014; Süzek, 2019). Article 2 of the Law on the Organization and Duties of the Ministry of Labor and Social Security (2012) lists the duties of the Ministry. Subparagraph g of Article 2 of the Law states that this duty will be fulfilled by the MoLSS by saying -Taking measures to ensure workers' health and occupational safety, and subparagraphs i and h - Supervising working life. The inspection of workplaces is carried out by Labor Inspectors under the Directorate of Labor Inspection Board of the MoLSS. (Presidency of Labor Inspection Board, 1998).

The implementation of the Labor Law No. 4857 in terms of OHS is supervised by technical labor inspectors under the Labor Inspection Board. The main purpose of OHS inspections is to ensure that the requirements of the OHS legislation are implemented in workplaces, to protect the health of workers and those in the work environment, to ensure that measures are taken regarding occupational safety and, as a result, to prevent work accidents and occupational diseases. The audits and inspections carried out for this purpose can be classified as special purpose inspections and project inspections before the work starts, during the work or after an accident (Balkır, 2012; Sabuncu, 2017; Başbüyük 2023). The inspections to be carried out by labor inspectors are regulated under the title of Inspection Activities, Types of Inspections, Inspection Reports and Actions Taken on Reports in Section 6 of the Regulation on the Labor Inspection Board of the Ministry of Labor and Social Security (2022).

General Inspection: It is the inspection carried out to determine whether the provisions of the legislation on OHS are complied with. According to Article 47/II(a) of the OHS Regulation (2021), a general inspection is "an inspection carried out to determine whether the provisions of occupational health and safety legislation are complied with in order to identify and prevent issues that may endanger the health and safety of workers and the causes of work accidents and occupational diseases". In the general inspection, it is essential to ensure that the issues that are found to be contrary or deficient in terms of OHS legislation are brought into compliance with the law. The Occupational Inspection Guide specifies that General Inspection in workplaces will be carried out in the following cases (Yamprayoon & Sukhumparnich, 2010; Centel, 2021) General inspection at workplaces are;

- Conducting OHS inspections at workplaces for the first time,
- Change of employer,
- No deficiencies found in the workplace in the previous inspection,
- In case of relocation of the workplace, at the first inspection at the place of relocation,
- Three years have passed since the last inspection at the workplace, but no inspection has been carried out,
- It is made in cases where there is a major change in the working methods and ways, machinery, and devices of the workplace.

Control Inspection: This is the inspection carried out to determine whether the deficiencies identified in the previous inspection have been fulfilled by the employer and whether new deficiencies have emerged in the workplace (Kaya, 2014).

Review Inspection: It is an inspection that requires inspection and research that is compatible with labor inspection, except for general and control inspections on notifications, complaints, work accidents, occupational diseases, establishment permits, partial operation certificates, requests for operation certificates for fixed facilities of mining workplaces and other issues related to OHS (Kaya, 2014).

Inspection on Work Accidents and Occupational Diseases

These are inspections carried out after the determination of a work accident or occupational disease that has occurred, in order to determine the causes of the accident or occupational disease. The purpose of this inspection at the workplace is to determine the necessary measures to be taken in order to prevent the causes of work accidents or occupational diseases from occurring again and to identify those who are at fault in the incident and to ensure that the necessary measures are taken. Since inspections due to work accidents and occupational diseases are priority inspections, they must be carried out without delay. Only in this way can the situation that caused the accident or occupational disease be accurately determined. Labor Inspectors complete the inspection by investigating whether the employer has acted contrary to the provisions of the labor legislation, especially the OHS legislation, whether the worker has complied with

the legislation in the incident, whether there is an intention or a criminal act in the incident, whether third parties have played a role in the incident. As a result of this examination and investigation, the inspector who conducts the examination determines the fault rates of the employer, the employee and third parties, if any, in the occurrence of the incident. If there is inevitability in the event, the rate of this is also determined. Another important task of the work accident and occupational disease investigation, other than determining the rates of fault, is to determine the causes of the work accident or occupational disease, to eliminate them and to prevent their recurrence. As a result of the OHS General Inspections carried out in the workplaces, the following situations are applied to the workplace according to the situation (Froneberg, 2010; Baycık, 2013; Songur & Songur, 2018; Şahin & Dalgıç, 2020; Ataş & Tuaç Yılmaz, 2022);

- If the workplace does not have any deficiencies in terms of OHS legislation, a Certificate of Operation is given to the workplace.
- If the workplace has deficiencies in terms of OHS legislation, the workplace is given an appropriate period not exceeding 6 months to complete them.
- If, as a result of the inspection, an issue dangerous for the life of workers is detected in the facilities and arrangements, working methods and forms, machinery and devices of the workplace, the work is completely or partially stopped or the workplace is closed, depending on the nature of the danger, by the decision of a five-person commission consisting of two inspectors authorized to inspect workplaces in terms of OHS, one worker and one employer representative and the Regional Director, until this danger is eliminated.

After Control Inspection;

- If the deficiencies identified in the previous inspection have been eliminated in the control inspection and there are no new deficiencies, the workplace is given a Certificate of Operation.
- If the deficiencies identified in the previous inspection in terms of the OHS legislation of the workplace have been eliminated, but new deficiencies have been found, the workplace is given a period not exceeding 6 months to complete them.
- If the employer has not corrected the OHS deficiencies identified in the previous inspection, an administrative fine will be proposed in this inspection. It is asked to correct the deficiencies immediately without giving a deadline.
- If, as a result of the inspection, an issue dangerous for the lives of workers is detected in the facilities and arrangements, working methods and forms, machinery and devices of the workplace, the work is completely or partially stopped or the workplace is closed, depending on the nature of the danger, by the decision of a five-person commission consisting of two inspectors authorized to inspect workplaces in terms of OHS, one worker and one employer representative and the Regional Director, until this danger is eliminated.

As a result of Investigation Inspections;

- In work accident inspections, the fault rates of the parties in the work accident are determined and the necessary measures to be taken to prevent the recurrence of such an event are notified to the employer to be fulfilled.
- In occupational disease examinations, the conditions for contracting an occupational disease are investigated, the fault rates of the parties are determined and the necessary measures to be taken to eliminate the situation that creates it are notified to the employer to be fulfilled.
- In establishment permit examinations, workplace plans are examined, if there are no deficiencies, the workplace is given the establishment Permit, otherwise, it is asked to complete the deficiencies by giving time.

MATERIALS AND METHODS

The Ministry of Labor and Social Security Guidance and Inspection Presidency Audit Activities (ÇSGB, 2022) and Social Security Institution Statistical Yearbooks (SGK, 2022) were used to create the research dataset. The data set was created to cover the period between 2013 and 2022 (10 years). Thus, the impact of the Occupational Health and Safety Law No. 6331 on occupational inspections within a period of 10 years from the date of its enactment was observed and its annual changes were analyzed.

In the data set, the following questions were sought by statistical analysis of the data on the number of inspections in terms of OHS, the number of workers reached in the inspection, the causes of the work accidents inspected, the number of active insured people in the country and the number of people who had work accidents.

General statistical analysis was preferred as the research method. With this method, which is frequently preferred in quantitative analysis methods (Walsh & Downe, 2005; Creswell, 2013; Cooper et al., 2019) the calculations related to the basic problems below and examined within the scope of the study were calculated simply and quickly. No complex calculations were made with the data in the dataset. The data in the tables presented under the Findings were analyzed for correlation among themselves and their relationships with each other were revealed. The effect of similar data in the data set on different parameters was measured and at the end of the study, the effectiveness of workplace inspections in preventing work accidents was calculated in percentage terms.

- How many out of every 100 insured workers have a work accident?
- How many out of every 100 insured workers are reached through inspections?
- How many out of every 100 work accidents are subjected to inspections?
- How many out of every 100 work accidents are inspected for the cause of the work accident?
- How many out of every 100 work accidents are investigated?
- How many workers are reached in every 100 work inspections?

By analyzing the above questions, the relationship between work accidents, workers and labor inspections on an annual basis was calculated. A 10-year situation analysis was made with the performance measurements made with the answers to the questions.

FINDINGS

The first data obtained from the Inspection Activities and SSI Statistics for the period 2013-2022 is OHS inspections. The annual changes of these programmed and non-programmed inspections are given in Table 1. It is seen that work accidents, occupational diseases and other situations are inspected in unprogrammed work inspections. Work accident inspections were analyzed in the questions sought to be answered within the scope of the study and are given in Figure 1. The total number of workers reached in the workplaces visited in labor inspections is important. In this way, the link between labor inspections and work accidents can be revealed. The number of workers reached in all labor inspections is given in Table 2.

Table 1: Inspection in terms of OHS

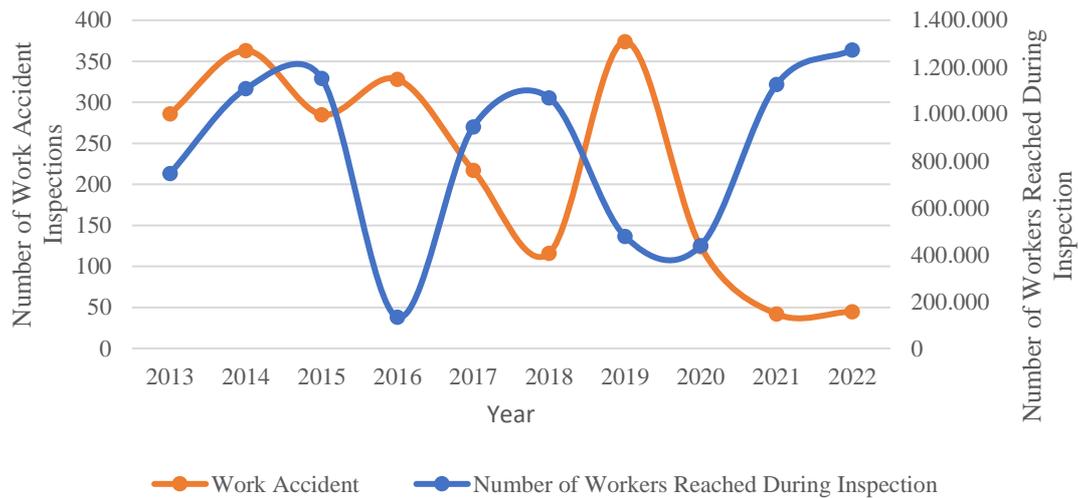
| Inspection Information in terms of OHS | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---------------|---------------|---------------|---------------|---------------|
| Programmed | 5,519 | 5,087 | 5,732 | 7,240 | 5,624 |
| Out of Program | 3,213 | 5,042 | 7,564 | 7,047 | 5,180 |
| Work Accident | 286 | 363 | 285 | 328 | 217 |
| Occupational Disease | 24 | 32 | 58 | 25 | 18 |
| Other | 2,903 | 4,647 | 7221 | 6,694 | 4,945 |
| Total | 8,732 | 10,129 | 13,296 | 14,287 | 10,804 |
| Inspection Information in terms of OHS | 2018 | 2019 | 2020 | 2021 | 2022 |
| Programmed | 9,294 | 250 | 1,851 | 13,043 | 15,761 |
| Out of Program | 3,355 | 2,838 | 1,986 | 2,623 | 2,081 |
| Work Accident | 116 | 374 | 124 | 42 | 45 |
| Occupational Disease | 13 | 4 | 5 | 1 | 5 |
| Other | 3,226 | 2,460 | 1,857 | 2,580 | 2,031 |
| Total | 12,649 | 3,088 | 3,837 | 15,666 | 17,842 |

Table 2: Number of Workers Reached During the Inspection

| Workers Reached During Inspection | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------------------|------------------|------------------|------------------|------------------|
| Worker | 741,216 | 1,101,484 | 1,144,387 | 123,146 | 939,619 |
| Apprentice | 946 | 1,860 | 957 | 853 | 752 |
| Intern | 4,320 | 4,837 | 7,021 | 9,433 | 5,303 |
| Total | 746,482 | 1,108,181 | 1,152,365 | 133,432 | 945,674 |
| Workers Reached During Inspection | 2018 | 2019 | 2020 | 2021 | 2022 |
| Worker | 1,062,130 | 470,711 | 435,524 | 1,117,782 | 1,263,690 |
| Apprentice | 1,483 | 431 | 297 | 2,009 | 1,812 |
| Intern | 6,043 | 7,331 | 2,843 | 6,194 | 7,555 |
| Total | 1,069,656 | 478,473 | 438,664 | 1,125,985 | 1,273,057 |

It was observed that work accident inspections showed similar annual increases and decreases between 2013 and 2016. The number of labor inspections started to decrease in 2017 and reached the highest number in the 10-year period in 2019, despite the Covid-19 pandemic. As of 2019, the decrease continued rapidly and decreased to 45 labor inspections in 2022. As seen in Figure 1, the number of workers reached during labor inspections is inversely proportional to the annual decrease and increase in work accident inspections. This shows that the work inspections are not focused on work accidents.

Figure 1: 10-Year Change in the Number of Workers Reached in Labor Inspections and Number of Work Accident Inspections



Examining the underlying causes of inspected work accidents is important in order to prevent similar work accidents with a proactive approach. In the examinations carried out by labor inspectors, work accidents were examined under a total of 19 different reasons and detailed breakdowns are given in Table 3, 4, and 5.

Table 3: Causes of Inspected Work Accidents

| Causes of Machinery and Equipment | 201 | 201 | 201 | 201 | 201 | 201 | 201 | 202 | 202 | 202 |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 |
| Accidents Caused by Machines | 16 | 6 | 9 | 7 | 4 | 2 | 1 | 0 | 0 | 1 |
| Falling Objects Crash and Topple | 46 | 73 | 46 | 43 | 42 | 16 | 122 | 25 | 7 | 6 |
| Vehicle Accidents | 16 | 21 | 17 | 10 | 8 | 9 | 4 | 5 | 1 | 7 |
| Explosion Accidents | 11 | 7 | 7 | 5 | 5 | 3 | 8 | 1 | 1 | 2 |
| Accidents Caused by Electric Current | 53 | 48 | 50 | 40 | 21 | 24 | 28 | 11 | 2 | 2 |
| Compression, Crushing, Sinking, Cutting by one or More Objects | 44 | 81 | 68 | 116 | 61 | 21 | 62 | 46 | 18 | 13 |
| Foreign Objects in the Natural Cavities of the Body | 3 | 2 | 1 | 4 | 5 | 0 | 7 | 1 | 0 | 0 |
| Injuries Caused by Any Form of Strain to the Body | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Accidents While Welding | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Causes | 37 | 65 | 34 | 52 | 46 | 23 | 114 | 26 | 7 | 8 |
| Total | 226 | 303 | 233 | 278 | 192 | 98 | 346 | 115 | 36 | 39 |

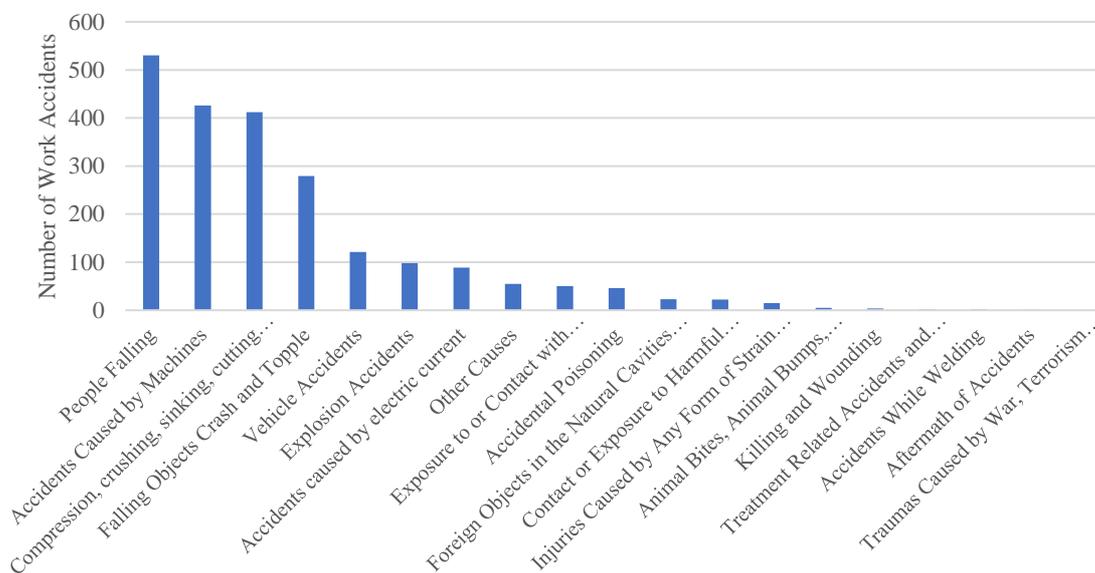
Table 4: Causes of Inspected Work Accidents

| Causes of Workers or External Factors | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|------|------|------|------|------|------|------|------|------|------|
| People Falling | 21 | 24 | 19 | 20 | 8 | 9 | 11 | 4 | 2 | 3 |
| Traumas Caused by War, Terrorism and Social Events | 11 | 8 | 9 | 6 | 9 | 2 | 6 | 1 | 2 | 1 |
| Animal Bites, Animal Bumps, Poisonous Animal Sting | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Killing and Wounding | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 34 | 33 | 28 | 26 | 17 | 11 | 17 | 5 | 4 | 4 |

Table 5: Causes of Inspected Work Accidents

| Causes of Workplace | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|------|------|------|------|------|------|------|------|------|------|
| Exposure to or Contact with Temperatures Outside Normal Limits | 18 | 21 | 16 | 14 | 6 | 4 | 4 | 3 | 1 | 2 |
| Accidental Poisoning | 2 | 0 | 4 | 2 | 1 | 2 | 3 | 1 | 0 | 0 |
| Contact or Exposure to Harmful Substances or Radiation | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Treatment Related Accidents and Vaccination Complications | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aftermath of Accidents | 4 | 4 | 0 | 7 | 1 | 1 | 4 | 0 | 1 | 0 |
| Total | 26 | 27 | 24 | 24 | 8 | 7 | 11 | 4 | 2 | 2 |

Figure 2: 10-Year Number of Work Accidents Inspected



It would be appropriate to remind that the data in the data set is the cause of the accident revealed by the inspectors within the scope of the workplace inspection carried out after the work accident. When the work accidents caused by machinery-equipment in Table 3 are analyzed, it is seen that "Falling Objects Crash and Topple", "Compression, Crushing, Sinking, Cutting by One or More Objects" and "Accidents Caused by Electric Current" are the main causes of work accidents. Since the data set does not provide information about the causes under Other Causes, only the main factors are emphasized in the calculations. For this reason, it is important for the hypotheses of the study to examine accidents caused by workers or

external factors and accidents caused by the workplace. It is seen that "*People Falling*" is the main cause when the accidents caused by workers or external factors in Table 4 are analyzed, and "*Exposure to or Contact with Temperatures Outside Normal Limits*" is the main cause when the accidents caused by workplace are analyzed in Table 5. It is clearly seen that these causes in the three basic classifications can be prevented by conducting workplace inspections with proactive approaches and that positive or injurious consequences can be easily eliminated by creating a work safety culture in both workplaces and workers in the name of occupational health and safety in Turkey.

When the underlying causes of 2180 work accidents inspected in 10 years were analyzed, it was seen that the top 5 causes were 530 accidents due to "*Falling of Persons*", 426 accidents due to "*Accidents Caused by Machinery*", 412 accidents due to "*Compression, Crushing, Sinking, Cutting by One or More Objects*", 279 accidents due to "*Impact and Overturning of Falling Objects*" and 121 accidents due to "*Vehicle Accidents*". As of 2019, the statistical decreases have their origins in the closures due to the Covid-19 pandemic, as well as the work from sleep or working from home. After the pandemic, it is seen that the inspections carried out by the ministry inspectors in the workplaces progressed by focusing on certain sectors (mining, construction, chemistry, furniture, etc.). Thus, with more monthly inspections, the sectors with the highest number of occupational accidents were targeted and proactively interacted with more workers on a one-to-one basis. This has led to a reduction in the root causes of work accidents. However, it would be appropriate to state that this practice has no effect on the number of work accidents that occur annually in the country.

The data on the number of active insured and the number of people who had work accidents using SSI Statistics are given in Table 6.

Table 6: Number of Active Insured

| Active Number of Insured | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------------------------------|------------------|------------------|------------------|------------------|------------------|
| Worker | 741,216 | 1,101,484 | 1,144,387 | 123,146 | 939,619 |
| Apprentice | 946 | 1,860 | 957 | 853 | 752 |
| Intern | 4,320 | 4,837 | 7,021 | 9,433 | 5,303 |
| Total | 746,482 | 1,108,181 | 1,152,365 | 133,432 | 945,674 |
| Active Number of Insured | 2018 | 2019 | 2020 | 2021 | 2022 |
| Worker | 1,062,130 | 470,711 | 435,524 | 1,117,782 | 1,263,690 |
| Apprentice | 1,483 | 431 | 297 | 2,009 | 1,812 |
| Intern | 6,043 | 7,331 | 2,843 | 6,194 | 7,555 |
| Total | 1,069,656 | 478,473 | 438,664 | 1,125,985 | 1,273,057 |

The increase in the number of active insured between 2013-2022 is shown in Figure 3. It is seen that the number of people with work accidents has an upward trend only between 2019-2020 due to the Covid-19 pandemic due to full closure, working at home, etc., but the rate of increase in the number of work accidents increased after the pandemic. The statistical relationship of the questions sought to be answered by using the data in Tables 1-6 and the parameters in Figures 1-3 within the scope of the study is given in Table 7.

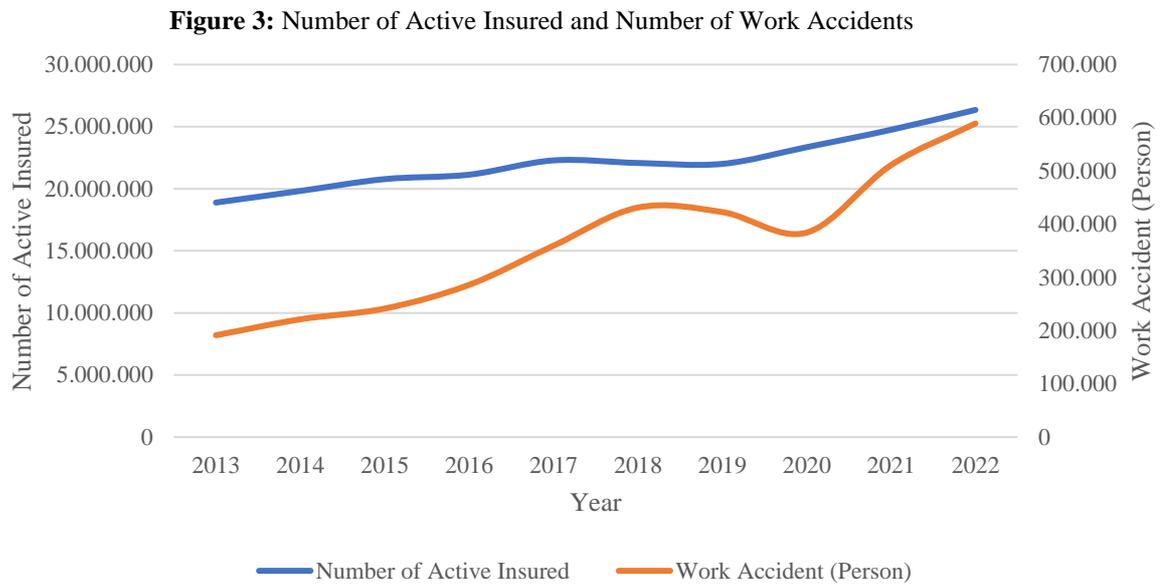


Table 7: Hypothesis of the Study

| Hypothesis | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|------|------|------|------|------|------|-------|------|------|------|
| How many out of every 100 insured workers have work accidents? | 1.01 | 1.12 | 1.16 | 1.35 | 1.61 | 1.95 | 1.92 | 1.65 | 2.07 | 2.24 |
| How many out of every 100 insured workers are reached through inspections? | 3.95 | 5.59 | 5.55 | 0.63 | 4.24 | 4.85 | 2.17 | 1.88 | 4.55 | 4.83 |
| How many out of every 100 work accidents are subjected to inspections? | 4.56 | 4.58 | 5.50 | 4.99 | 3.00 | 2.93 | 0.73 | 1.00 | 3.07 | 3.03 |
| In how many out of every 100 workplace inspections is the cause of the work accident examined? | 3.28 | 3.58 | 2.14 | 2.30 | 2.01 | 0.92 | 12.11 | 3.23 | 0.27 | 0.25 |
| How many of every 100 work accidents are investigated? | 0.15 | 0.16 | 0.12 | 0.11 | 0.06 | 0.03 | 0.09 | 0.03 | 0.01 | 0.01 |

As a result of 10-year data sets, "1.01-2.24 out of every 100 insured workers have a work accident", "1.88-5.59 out of every 100 insured employees were reached through inspections", "0.73-5.50 out of every 100 work accidents were subjected to inspections", "0.25-12.11 out of every 100 OHS inspections examined the cause of work accidents", "0.01-0.16 out of every 100 work accidents were examined" and "933.94-10,940.68 workers were reached in every 100 occupational inspections".

CONCLUSION

One of the problems that emerged with industrialization is the need to protect the health and safety of employees. The problem of occupational health and safety is a serious issue in the world today. Reducing the occupational health and safety problem to a reasonable level may be possible with the existence of an effective inspection system. Occupational health and safety can be expressed as methodical studies carried out to protect the workplace from hazards, possible risks, situations that may harm health and to create a

better working environment, taking into account the environmental effects in a workplace. Occupational health and safety legislation in our country is quite comprehensive. In addition to the Constitution, laws, statutes and regulations, there are also international conventions on occupational health and safety. The new Labor Law No. 4857, which has recently entered into force, has put the occupational health and safety legislation on a healthy ground and introduced new contemporary norms. The Ministry of Labor and Social Security is responsible for the regulation, supervision, and monitoring of working life in Turkey. Occupational health and safety inspections are carried out by the Labor Inspection Board under the Ministry of Labor and Social Security. These inspections are carried out by technical labor inspectors affiliated to the Labor Inspection Board. There are other governmental organizations in our country that have direct or indirect duties related to occupational health and safety. These are the General Directorate of Occupational Health and Safety, Labor and Social Security Training and Research Center, Social Insurance Institution. However, there is no coordination between these institutions at the desired and effective level.

The impact of the Occupational Health and Safety Law No. 6331 on labor inspections in the 10-year period from the date of entry into force was seen and the annual changes were analyzed. Hypotheses were created using OHS inspection information, the number of workers reached during the inspection, the causes of work accidents examined in the inspections, the number of active insured people and the number of work accidents, and these data were evaluated with relationship analysis, one of the quantitative research methods. According to the results, it was calculated that the number of labor inspections in Turkey was very low, very few workers were reached in the inspected workplaces, it was insufficient in terms of work accidents, and it created an average impact of 2.37% in terms of OHS.

Occupational health and safety inspections in Germany are very effective. Labor inspections are carried out by Lander officials within the Ministry of Labor. In 2012, the number of employees per labor inspector was 7,164, while the number of inspections per 100,000 employees was 2,092. As of 2017, the number of inspectors conducting inspections in Germany is 8,044, 3,218 for the state, 4,192 for industrial accident insurance and 634 for public accident insurance. As a matter of fact, when we look at the number of inspectors in proportion to the population, it is understood that Turkey, which has almost the same population, is at an incomparable level. In Bulgaria, Labor inspectors follow governmental action plans, but regional plans can be implemented alongside these plans. Labor inspectors can respond to accidents and illnesses in the workplace and impose sanctions in case of violations of the law. Labor inspection activity in France, inspecting companies and to inform the public on this issue by labor inspectors and auditors who are being carried out. Inspectorates are required by labor law to control its implementation as required, employers and other working groups and to inform the parties in collective disputes such as reconciliation without court involvement duties. In Italy, although the number of workplaces inspected had decreased until 2014, there was an increase in non-compliances. There was a 155% increase in regulatory non-compliances, and it is not clear whether this increase was due to a change in inspection modalities, a widening of the scope of non-compliance, or whether it was actually a numerical increase. In Bulgaria, notification to the prosecutor's office is mandatory in case of disability or loss of life. There were 1,768 work accidents in Bulgaria in 2012 and the number of fatal work accidents was 90 in 2012 (Haviland et al., 2010; Levine et al., 2012; Johnson, 2020; Sojourner & Yang, 2022)

When the current occupational health and safety system is evaluated in the light of the above explanations, despite the positive legislative regulations, there are still things to be done in the field of OHS with a continuous improvement approach. In this context;

- Qualified manpower of OSH stakeholders who are responsible for implementing the new OSH Legislation in the country should be supported. •
- The existing disorganization in communication, coordination, policy, planning and organization issues between institutions and organizations defined in the OHS system that directly or indirectly participate in OHS activities should be eliminated.
- There is a need to determine performance criteria to measure the effectiveness of public OHS services. Conducting field and sector inspections effectively and ensuring their continuity, with training as a priority, and ensuring that labor inspectors are equipped with today's technology and knowledge will contribute to the improvement of the OHS level.
- The number of work accidents and occupational diseases that occur are important indicators of whether OSH services are effective and sufficient. It is important to disseminate and effectively implement services provided in the field of OHS.

- In our legislation, the definitions of occupational disease and work accident are made in the SSI Law No. 506 and only cover employees within the scope of the Labor Law No. 4857. The scope should be rearranged to meet the data requested by international institutions, by taking the opinions of the Ministry of Health. With the regulations to be made in the Labor Law No. 4857 in accordance with the European Union's Framework Directive No. 89/391/EEC, craftsmen, agricultural and public employees should also be included within the scope of occupational health and safety legislation.
- Bringing our country's occupational health and safety legislation in line with current conditions and EU norms, gathering it under the umbrella of the "Occupational Health and Safety Law" with the agreement of the social partners, and ensuring the implementation of the laws and regulations put into effect will be of great benefit in terms of OSH. In order to establish an effective occupational health and safety planning and management system, workplace health and safety units, workplace joint health and safety units and workplace health and safety committees required by the Labor Law and relevant regulations must work actively and effectively.
- Due to the inadequacies in the information collection system in the field of OHS, it is not possible to collect and evaluate work accidents, occupational diseases and general information about the workplace in a database. Full compliance of OHS services with EU norms should be ensured, and these services should be offered to all workplaces regardless of the number of employees. In order to provide services equally and widely, the necessary studies should be carried out jointly with the social partners, taking into account the economic conditions of the workplaces.
- New research is needed on the causal relationship between OSH and working conditions. In this regard, establishing occupational health and safety-specific departments and areas of expertise in universities will strengthen the quality and quantity of the needed studies.
- Within the framework of EU norms, occupational health and safety services should be provided to all employees. The occupational health and safety approach should be a multidisciplinary approach. Regulations in the field of OSH should cover all employees, including civil servants, independent workers and agricultural workers. It should be ensured that the annual reports of occupational health and safety committees are examined, and the suggestions and measures included in the reports are put into practice.
- Undoubtedly, it would be positive to enact a law only on OHS and to gather all the scattered OHS legislation under this law. Of course, the enactment of such a law alone will not suddenly eliminate the problems. However, as mentioned above, it is necessary to establish a system that covers all aspects of OHS and that will bring together existing organizations with OHS-related duties. This system to be established should be financially and economically strong and should be organized in a way that is isolated from political influences.

Yazarlık Katkısı

Çalışma tek yazarlı olarak yürütülmüştür.

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Bu araştırma için etik kurul onayı gerekmemektedir.

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