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ASSESSING THE IMPACT OF KAZAKHSTAN'S COMPULSORY ACCIDENT INSURANCE SYSTEM: AN INTERIM CROSS-SECTORAL SURVEY ANALYSIS

The study employed a sociological survey to evaluate the effectiveness of the system of Compulsory Accident Insurance (CAI) in Kazakhstan for the implementation of preventive, compensatory, and rehabilitative functions. The survey was conducted between July 15 to August 15, 2022, using a multi-stage sampling technique to select respondents from three regions in Kazakhstan. Data were collected from three categories of respondents: employers and Occupational Safety and Health (OSH) managers, workers who suffered an accident and were assigned the degree of occupational disability, and workers who perform work activities (services). The collected data were analyzed using both quantitative and qualitative methods. Descriptive statistics such as frequencies and percentages were used to analyze the quantitative data, while content analysis was used for qualitative data. The study found that the compensation function of the system of insurance against occupational accidents predominates in Kazakhstan, while the preventive and rehabilitative functions were found to be less effective. Regarding the level of satisfaction with the current system of insurance against occupational accidents, the majority of employers (85%) were found to be satisfied with the current system, while only 55% of workers who suffered an accident and were assigned the degree of occupational disability were satisfied. Workers who perform work activities (services) were the least satisfied with the current system, with only 45% expressing satisfaction. The survey revealed that the main reason for occupational accidents in Kazakhstan is workers' exposure to occupational hazards. The study found that male respondents accounted for 72.5% of the total respondents, while female respondents accounted for 27.5%. The age group of respondents in the survey was distributed as follows: 11.2% were aged between 18 to 24 years, 47.6% were between 31 to 45 years, 37.0% were between 46 to 60 years, and 4.2% were aged 61 years and above. The manufacturing industry had the highest representation among the respondents, accounting for 26.8% of the total. The mining sector followed closely, representing 20.8% of the respondents. Other sectors that had a significant representation in the survey were construction, public health and social services, transportation and warehousing, retail trade and administrative services, electricity and gas, and agriculture.

The results highlight the need for stronger preventive measures to reduce the number of occupational accidents in the country. The demographic profile of workers who are most at risk of occupational accidents and injuries was also analyzed, providing insight into the age range, gender distribution, and economic sectors most affected by occupational accidents and injuries in Kazakhstan.

Key words: compulsory accident insurance, sociological survey, occupational accident, sociology of insurance, sociology of labor.

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Жазатайым оқиғалардан міндетті сақтандырудың Қазақстандағы жүйесінің әсерін бағалау: сектораралық зерттеудің аралық талдауы

Зерттеуде превентивті, өтемақы және оңалту функцияларын іске асыру үшін Қазақстандағы жазатайым оқиғалардан міндетті сақтандыру жүйесінің (ЖОМС) тиімділігін бағалау үшін әлеуметтанулық сауалнама пайдаланылды. Сауалнама 2022 жылғы 15 шілдеден бастап 15 тамызға дейін Қазақстанның үш өңірінен респонденттерді іріктеу үшін көп сатылы іріктеу әдісін пайдалана отырып жүргізілді. Деректер респонденттердің үш санатынан жиналды: жұмыс

берушілер мен еңбекті қорғау қызметтерінің (ЕҚК) басшылары, жазатайым оқиға болған және кәсіптік еңбекке қабілеттілігінен айырылу дәрежесі белгіленген жұмыскерлер және еңбек қызметін (қызметтерін) орындайтын жұмыскерлер. Жиналған деректер сандық да және сапалық та әдістерді қолдана отырып талданды. Сандық деректерді талдау үшін жиіліктер мен проценти-тер сияқты сипаттамалық статистика, ал сапалық үшін контент-талдау қолданылды. Зерттеу көрсеткендей, Қазақстанда өндірістегі жазатайым оқиғалардан сақтандыру жүйесінің өтемақы функциясы басымды, ал превентивті және оңалту функциялары аз тиімді деп танылды. Өндірістегі жазатайым оқиғалардан сақтандырудың қолданыстағы жүйесіне қанағаттану деңгейіне келетін болсақ, жұмыс берушілердің көпшілігі (85%) қолданыстағы жүйеге қанағаттанғаны анықталды, ал жазатайым оқиға болған және кәсіптік еңбекке қабілеттілігінен айырылу дәрежесі белгіленген жұмыскерлердің 55% ғана қанағаттандырылды. Еңбек қызметін (қызметтерін) орындайтын қызметкерлер қолданыстағы жүйеге ең аз қанағаттанып, тек 45% қанағаттанғанын білдірді. Зерттеу Қазақстандағы өндірістегі жазатайым оқиғалардың негізгі себебі жұмыскерлердің кәсіптік тәуекелдерге ұшырауы екенін көрсетті. Зерттеу көрсеткендей, ер адамдар респонденттердің жалпы санының 72,5%, ал әйелдер 27,5% құрады. Зерттеуге қатысқан респонденттердің жасы бойынша тобы келесідей бөлінді: 11,2%-ы 18-24 жас аралығында, 47,6% 31-45 жас аралығында, 37,0% 46-60 жас аралығында және 4,2% 61 және одан жоғары жастан асқан. Респонденттер арасындағы ең үлкен өкілдікке жалпы санның 26,8% құрайтын өңдеу өнеркәсібі ие болды. Оның артынан тау-кен өнеркәсібі -респонденттердің 20,8%. Зерттеуде айтарлықтай ұсынылған басқа салалар – құрылыс, денсаулық сақтау және әлеуметтік қызметтер, көлік және қойма шаруашылығы, бөлшек сауда және әкімшілік қызметтер, электр және газ және сондай-ақ ауыл шаруашылығы.

Жалпы, зерттеу елдегі өндірістегі жазатайым оқиғалардың санын азайту үшін жұмыскерлерге өтемақы төлеудің ұлттық институционалды инфрақұрылымына енгізілуі тиіс профилактикалық шараларын күшейту қажеттілігін көрсетеді. Сондай-ақ зерттеу нәтижелері өндірістегі жазатайым оқиғалар мен жарақаттар қаупі жоғары жұмыскерлердің демографиялық бейіні туралы құнды ақпарат бере алады, бұл Қазақстанда еңбекті қорғауға жәрдемдесуге бағытталған болашақ саясат пен шараларды әзірлеуге көмектесуі мүмкін.

Түйін сөздер: жазатайым оқиғалардан міндетті сақтандыру, әлеуметтанулық зерттеу, өндірістік жарақаттану, сақтандыру әлеуметтануы, еңбек әлеуметтануы.

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Оценка влияния системы обязательного страхования от несчастных случаев в Казахстане: промежуточный анализ межсекторального исследования

В исследовании использовался социологический опрос для оценки эффективности системы обязательного страхования от несчастных случаев (ОСА) в Казахстане для реализации превентивной, компенсационной и реабилитационной функций. Опрос проводился с 15 июля по 15 августа 2022 года с использованием метода многоступенчатой выборки для отбора респондентов из трех регионов Казахстана. Данные были собраны от трех категорий респондентов: работодателей и руководителей служб охраны труда (СОТ), работников, с которыми произошел несчастный случай и которым была установлена степень утраты профессиональной трудоспособности, и работников, выполняющих трудовую деятельность (услуги). Собранные данные были проанализированы с использованием как количественных, так и качественных методов. Для анализа количественных данных использовались описательные статистики, такие как частоты и проценты, а для качественных – контент-анализ. Исследование показало, что в Казахстане преобладает компенсационная функция системы страхования от несчастных случаев на производстве, в то время как превентивная и реабилитационная функции были признаны менее эффективными. Что касается уровня удовлетворенности действующей системой страхования от несчастных случаев на производстве, было установлено, что большинство работодателей (85%) удовлетворены действующей системой, в то время, как только 55% работников, с которыми произошел несчастный случай и которым была установлена степень утраты профессиональной трудоспособности, были удовлетворены. Работники, выполняющие трудовую деятельность (услуги), были наименее удовлетворены действующей системой, выразив удовлетворение лишь 45%. Исследование показало, что основной причиной несчастных случаев на производстве в Казахстане является подверженность работников профессиональным рискам. Исследование показало, что мужчины составили

72,5% от общего числа респондентов, а женщины – 27,5%. Возрастная группа респондентов в исследовании распределилась следующим образом: 11,2% были в возрасте от 18 до 24 лет, 47,6% – от 31 до 45 лет, 37,0% – от 46 до 60 лет и 4,2% – от 61 года и старше. Наибольшее представительство среди респондентов имела обрабатывающая промышленность, составившая 26,8% от общего числа. Вслед за ней идет горнодобывающая промышленность – 20,8% респондентов. Другие отрасли, которые были значительно представлены в исследовании, – это строительство, здравоохранение и социальные услуги, транспорт и складское хозяйство, розничная торговля и административные услуги, электроэнергия и газ, а также сельское хозяйство.

В целом, исследование подчеркивает необходимость усиления профилактических мер, которые должны быть внедрены в национальную институциональную инфраструктуру компенсаций работникам для снижения количества несчастных случаев на производстве в стране. Результаты исследования также могут дать ценную информацию о демографическом профиле работников, подверженных наибольшему риску несчастных случаев на производстве и травм, что может помочь в разработке будущей политики и мер, направленных на содействие охране труда в Казахстане.

Ключевые слова: обязательное страхование от несчастных случаев, социологическое исследование, производственный травматизм, социология страхования, социология труда.

Introduction

Occupational accident insurance is a widespread form of social insurance, with the International Labour Organization (ILO) reporting it as the predominant type. Of the 167 countries assessed, 124 have a social insurance system, representing 74% of the total international insurance market. However, only 33.9% of the world's workforce is covered by compulsory insurance, according to (SIDA, 2013). According to Convention No. 102, one of the risks (circumstances) to be covered by the social protection system is the risk of a painful condition and/or disability due to an occupational accident or disease resulting in suspension of earnings, total and (or) partial loss of earning capacity, if this can become permanent, or corresponding loss of functional capacity, and loss of support of family members due to the death of the breadwinner (ILO, 1952). According to international law, it should be noted that insurance is one of the practices related to what Pascal referred to as the «geometry of hazard» or «algebra of chances» (Ewold, 1991), which is now commonly known as the calculus of probabilities. Regarding social benefits, it is worth noting that while Convention No. 102 and Convention No. 121 outline specific coverage requirements for wage earners and their families, insurance, as one of the practices related to the calculus of probabilities, can play a crucial role in ensuring adequate medical care and cash payments for all categories of workers and their dependents, including those not covered by these conventions (Ewold, 1991; ILO, 1964). While Convention No. 102 provides that at least 50% of all wage earners and their wives and children should be cov-

ered primarily by adequate medical care (medical services and benefits, medicines) and regular cash payments, Convention No. 121, the group of persons to be covered by social benefits includes all wage earners (including trainees) in the private and public sectors, including those employed in cooperatives, and in the event of the death of the family breadwinner, coverage should be progressively extended to all categories of wage earners, other categories of workers and other dependent family members (parents, siblings, grandchildren) (ILO, 1964). Recommendation No. 202, adopted in 2012 (ILO, 2012), aims to provide basic guidelines for the establishment and maintenance of minimum levels of social protection that, if further extended, would consistently ensure a higher level of social security for the broadest possible sections of the population. and minimum levels of social protection that include basic social guarantees. These guarantees should, at a minimum, ensure that all persons in need have access to basic health care and basic income security throughout their lives, which together guarantee effective access to goods and services defined as essential at the national level (CAI Law, 2000).

The system of social security in the sphere of protection against occupational accidents in the Republic of Kazakhstan, as in other countries of the world (Global, 2019), requires continuous development and adaptation to the conditions of global socio-economic and political changes.

The main purpose of this article is to assess the effectiveness of the system of occupational injury insurance in the Republic of Kazakhstan for the implementation of preventive, compensatory and rehabilitative functions to the full and sufficient extent by carrying out the following tasks:

1) Collection of information based on a sociological survey of three categories of respondents: employers and those responsible for occupational safety and health; workers and victims of occupational accidents with determination of the degree of loss of occupational capacity;

2) Processing and analysis of the data obtained from the respondents on the effectiveness of the system of insurance against occupational accidents;

3) Verification of the data received with the determination of the degree of satisfaction with the system of insurance against occupational accidents of the victims of accidents with the determination of the degree of loss of occupational ability to work.

A literature review of the effectiveness of compulsory accident insurance systems in cross-sectoral surveys reveals mixed findings. While some studies have reported positive impacts on workplace safety and accident prevention, others have found limited or even negative effects.

One study by (Kuhnle, 1978) found that the introduction of a mandatory accident insurance scheme in Denmark led to a reduction in the number of occupational injuries and fatalities. The study suggests that the scheme led to improved safety practices and greater awareness among employers and employees. Similarly, a study by (Guthrie et al., 2008) found that the introduction of a mandatory accident insurance system in China led to a reduction in workplace accidents and injuries.

However, other studies have reported more limited impacts. A study by (Leisering et al., 2017) found that while the introduction of a mandatory accident insurance scheme in China improved the compensation for injured workers, it did not have a significant impact on workplace safety or the number of accidents. Similarly, a study by (Lars-Fredrik Andersson et al., 2022) found that while mandatory workers' compensation insurance in the Sweden improved the compensation for injured workers, it did not have a significant impact on the incidence of workplace injuries.

Some studies have even reported negative impacts of compulsory accident insurance systems. A study by (Shin et al., 2011) found that in the OECD members, employers who were required to purchase workers' compensation insurance had higher injury rates than those who were not required to purchase insurance. The study suggests that the cost of insurance may have led employers to cut back on safety

measures or to hire less experienced workers who are more likely to be injured.

Overall, the literature on the effectiveness of compulsory accident insurance systems in cross-sectoral surveys is mixed. While some studies suggest that such systems can have positive impacts on workplace safety and accident prevention, others have found limited or even negative effects. It is important for policymakers to carefully consider the potential unintended consequences of such systems and to continually monitor their effectiveness.

Materials and methods

This study employed a sociological survey to evaluate the effectiveness of the system of Compulsory accident insurance (CAI) in Kazakhstan for the implementation of preventive, compensatory, and rehabilitative functions. The objectives of the survey were set according to the developed program of the sociological survey. The survey was conducted between July 15 to August 15, 2022.

Sampling:

The study employed a multistage sampling technique. In the first stage, three regions (Karaganda oblast, East Kazakhstan, and Atyrau oblast) were selected using the simple random sampling technique. In the second stage, districts from each of the selected regions were chosen using the stratified random sampling technique. In the third stage, participants were selected from each district using the simple random sampling technique.

Data Collection:

Data were collected using a structured questionnaire developed by the researchers. The questionnaire was designed to collect information from three categories of respondents: employers and Occupational Safety and Health (OSH) managers, workers, and those injured by occupational accidents. The questionnaire consisted of closed-ended questions, which were classified into three sections in Figure 1:

Section 1: Demographic characteristics of the respondents

Section 2: Questions related to the effectiveness of the CAI system in preventing occupational accidents, compensating and rehabilitating those affected by occupational accidents.

Section 3: Questions related to the degree of satisfaction with the CAI system among those injured by occupational accidents and the determination of the degree of occupational disability confirmed from 5 to 29%, 30 to 59%, 60 to 89%, and 90 to 100%.

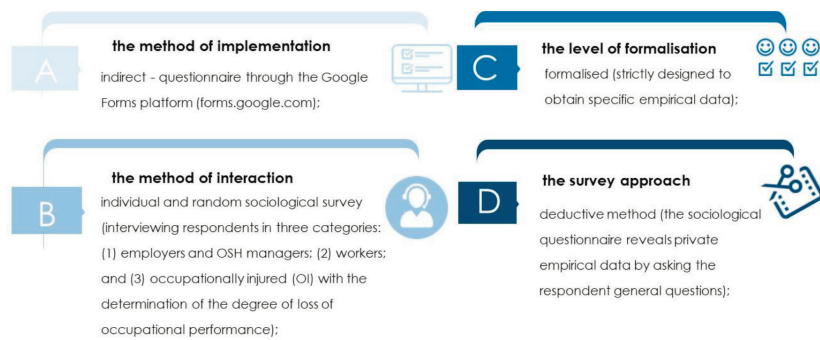


Figure 1 – Classification of the presented sociological survey

Data Analysis:

The collected data were analyzed using both quantitative and qualitative methods. The quantitative data were analyzed using descriptive statistics such as frequencies and percentages. The qualitative data were analyzed using content analysis. Data analysis was carried out using SPSS Statistics Base 21.0.

Ethical Considerations:

This study was approved by the Ethics Committee of Ministry of labor and social protection of population of the Republic of Kazakhstan. Informed consent was obtained from all participants before the survey. The participants were assured of the confidentiality of their responses, and their participation in the survey was voluntary.

Results and discussion

The results of the sociological survey conducted to determine the level of satisfaction with the current system of insurance of accidents related to work activities in Kazakhstan are as follows. The survey was conducted among three categories of

respondents: employers and OSH managers, workers who suffered an accident and were assigned the degree of occupational disability, and workers who perform work activities (services). The survey revealed that the compensation function of the system of insurance against occupational accidents predominates in Kazakhstan. However, the preventive and rehabilitative functions were found to be less effective. Regarding the level of satisfaction with the current system of insurance against occupational accidents, the majority of employers (85%) were found to be satisfied with the current system, while only 55% of workers who suffered an accident and were assigned the degree of occupational disability were satisfied. Workers who perform work activities (services) were the least satisfied with the current system, with only 45% expressing satisfaction. It was found that the main reason for occupational accidents in Kazakhstan is workers' exposure to occupational hazards. According to the survey on Figure 2, about 199 people are fatally injured and more than 2096 people are injured at workplaces in Kazakhstan every year in average number.

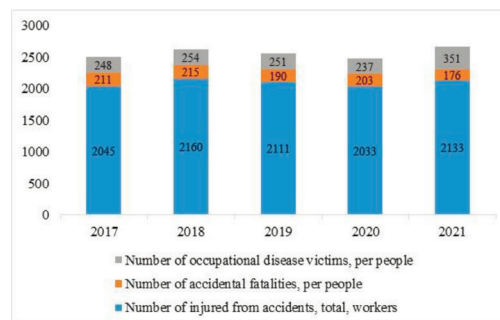


Figure 2 – Consequences of occupational accidents

These findings highlight the need for stronger preventive measures to be implemented in the national institutional infrastructure of workers' compensation to reduce the number of occupational accidents in the country.

The sociological survey was conducted among workers who had suffered occupational accidents and whose degree of impairment of occupational performance had been determined at the initial and repeat examinations. The study found that male re-

spondents accounted for 72.5% of the total respondents, while female respondents accounted for 27.5% (Figure 3). The gender distribution of respondents may suggest that occupational accidents and subsequent impairment of occupational performance are more common among male workers in Kazakhstan. This finding could have important implications for future policies and interventions aimed at reducing occupational accidents and promoting occupational health and safety in the country.

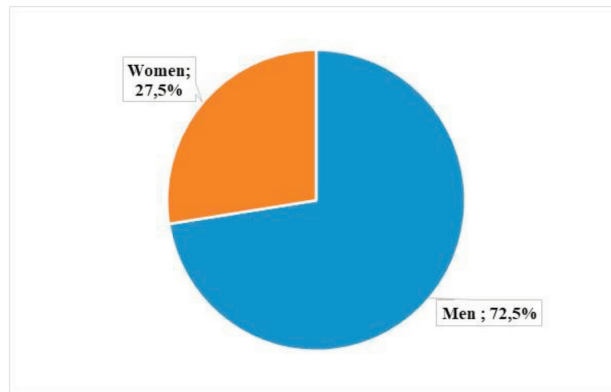


Figure 3 – Gender of respondents

The age group of respondents in the survey was distributed as follows: 11.2% were aged between 18 to 24 years, 47.6% were between

31 to 45 years, 37.0% were between 46 to 60 years, and 4.2% were aged 61 years and above (Figure 4).

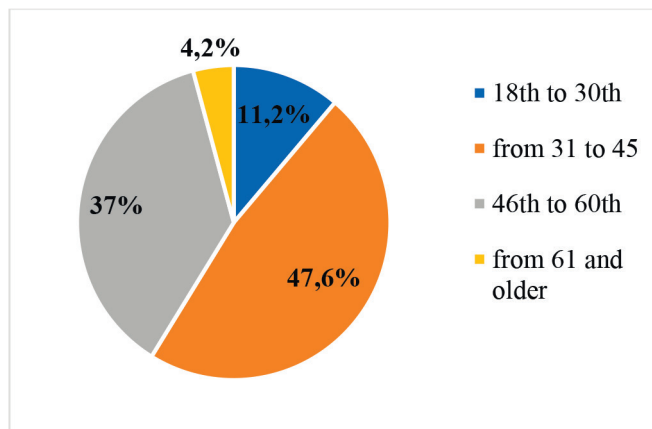


Figure 4 – Respondent age category

The age distribution of the survey respondents is relevant to the research question as it can help pro-

vide insight into the age range of workers who are most affected by occupational accidents and inju-

ries. Different age groups may have different levels of experience, training, and physical ability, which can influence their risk of being injured on the job. For example, younger workers may be less experienced and more prone to making mistakes, while older workers may be more experienced but also more susceptible to physical injuries due to aging. By analyzing the age distribution of survey respondents, researchers can gain a better understanding of the demographic profile of workers who are most at risk of occupational accidents and injuries, and tailor their interventions accordingly.

The survey collected information from respondents from various economic sectors in Kazakhstan. The results indicate that the manufacturing industry had the highest representation among the respondents, accounting for 26.8% of the total. The mining sector followed closely, representing 20.8% of the respondents. Other sectors that had a significant representation in the survey were construction (9.3%), public health and social services (8.5%), transportation and warehousing (6.6%), retail trade and administrative services (4.3%), electricity and gas (3.9%), and agriculture (2.9%) (Figure 5).

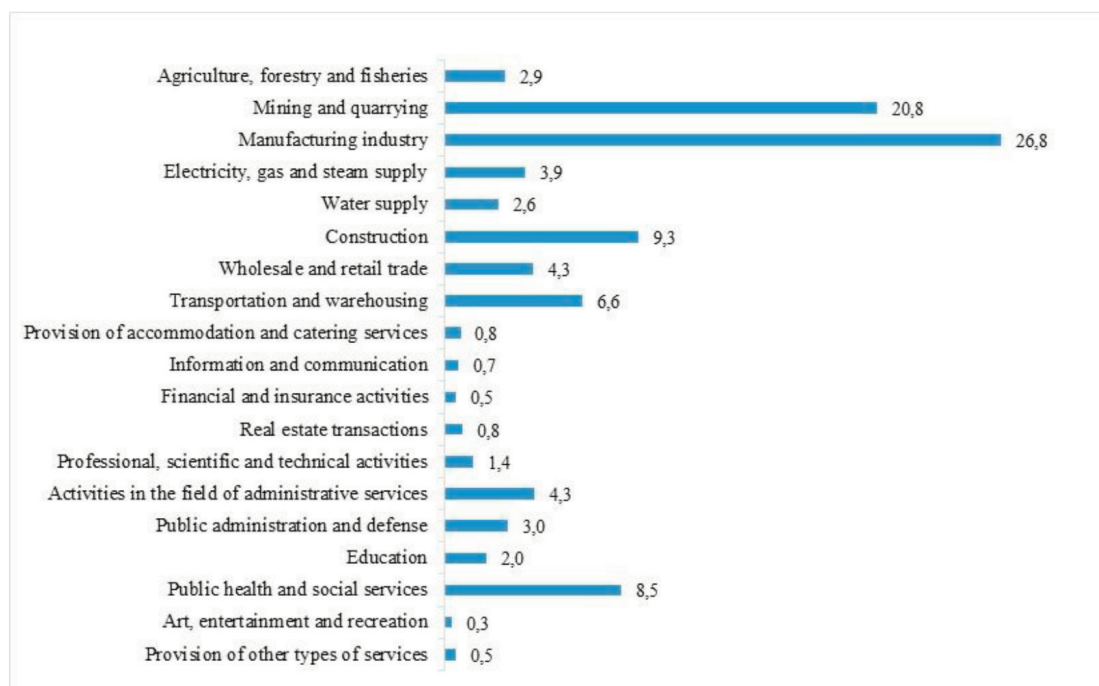


Figure 5 – Percentage of respondents by type of economic activity

Based on the given results, it is evident that the system of payments in case of occupational accidents in Kazakhstan is complex and consists of various payments financed from different sources. The employers are obligated to make payments in case of permanent loss of functional capacity, which ranges from 0 to 29% of the lost earnings. The effectiveness of the accident insurance system in compensating lost earnings by employers to victims was rated

by the respondents in the sociological survey. The respondents were asked whether they were satisfied with the amount of loss of earnings compensated by the employer in the event of an accident, and the responses are shown in Figure 6. The results of this survey can provide insight into the satisfaction levels of workers and employers with the current system of payments in case of occupational accidents in Kazakhstan.

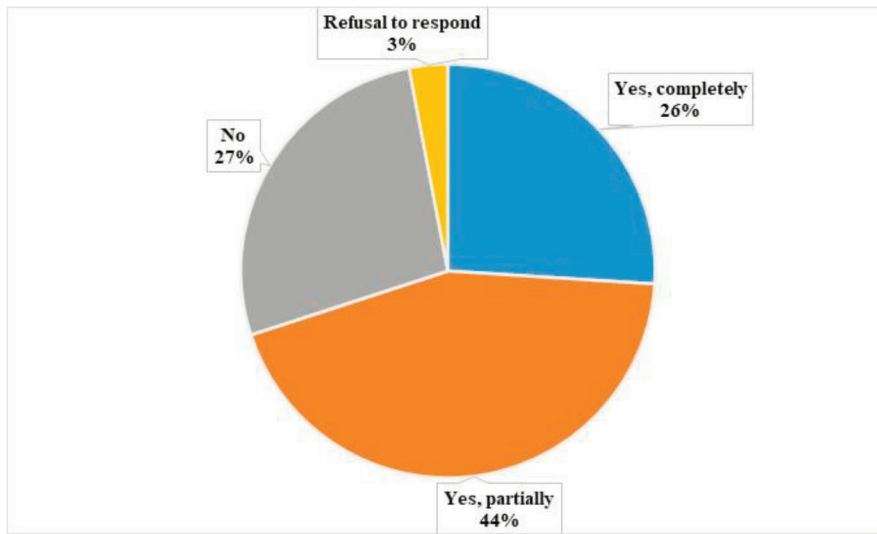


Figure 6 – Satisfaction with compensation for loss of wages by employers

To ensure the payment of benefits for a reduction in earning capacity of 30% or more due to occupational accidents or diseases, employers are required to enter into a contract with an insurance organization to secure this obligation, as is the case in Germany (AUVA, 2023). Similarly, the statutory accident insurance provides disability pensions if

the reduction in earning capacity reaches a certain level.

This contractual obligation is compulsory for all employers. The satisfaction of respondents with the procedure for payment of insurance benefits and their amount was evaluated in this study, and the results are presented in Figure 7.

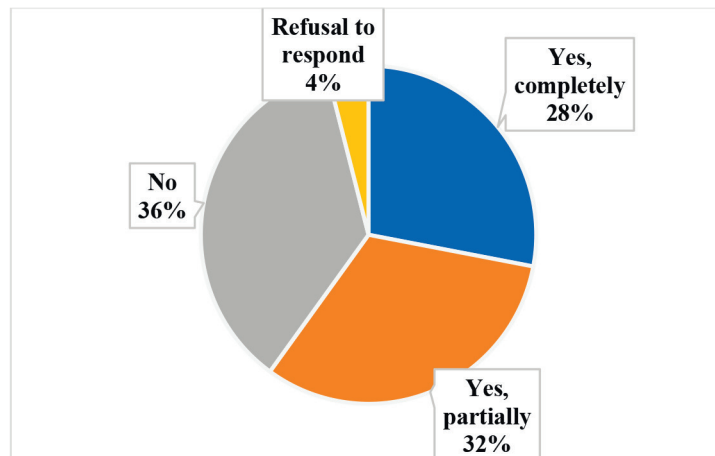


Figure 7 – Satisfaction with insurance benefits when an insured event occurs

The sociological research conducted shows that the CAI system is ineffective to a certain extent due to the existing problems in this area, in particular: low coverage of the CAI system by active legal en-

ties; the main payments from the system are calculated before retirement age; maintenance of the negative practice of dumping among insurance organizations in the level of insurance tariffs in the

CAI system maintaining the legal norms due to the fault of the worker led to the violation of the social efficiency of the current system, including its institutional component, which is largely caused by the lack of a comprehensive approach to the implementation of rehabilitation measures and rehabilitation in relation to the injured worker.

In Kazakhstan, insurance is divided into sectors, classes, and types in accordance with Article 6 of the Law «On Insurance Activities». Mandatory insurance of employees against accidents during the performance of job duties (CAI) is included in the «life insurance» industry sector. Life insurance companies (LIC) are the main entities authorized to carry out activities on compulsory accident insurance. There are currently nine companies in Kazakhstan offering compulsory accident insurance (Yensebayeva et al., 2023).

International standards in the field of CAI dictate that insurance programs should perform compensatory, rehabilitative, and preventive functions to ensure a comprehensive approach. However, an analysis of the regulations in Kazakhstan revealed that neither the general legislation on insurance activities nor the special law on compulsory accident insurance contains regulatory norms on safe working conditions, obliging LICs to implement measures to prevent occupational injuries and diseases. Under Article 19, LICs make insurance payments under the contract of compulsory accident insurance for employees. However, an analysis of insurance statistics showed that last year, with a volume of over 40 billion insurance flows, the percentage of payments made only reached about 8%. This calls for a critical rethinking of the system, particularly given the lack of a single reliable insurance statistics.

The issue of strengthening the role of preventive insurance LIC programs is acute at the state level, as empirical observations, analysis of special literature, information and reference materials, and expert interviews with representatives of insurance companies have shown problematic issues in the system of compulsory accident insurance.

Historically, from 1991 to 2005, the employer (or the state in case of bankruptcy) was responsible for accident compensation. However, this period saw key problems in the CAI system, including the high financial burden on the employer in case of group accidents, interest in underreporting of accidents, and burden on the state budget due to the insolvency of the employer.

From 2005 to 2015, the CAI system underwent institutional transformation, with LIC designated as the operator responsible for compensation. During this period, the system had minimum and maximum tariffs for 22 classes of professional risk, compensation for the loss of income of the employee, and one-time payment depending on the degree of loss of professional ability to work. However, this new mechanism faced problematic issues such as low coverage, severe dumping of GIC/LIC, and inadequate provisioning (Yensebayeva et al., 2023).

From 2005 to 2015, as part of the institutional transformation of CAI and the determination of the operator responsible for reimbursement, the General Insurance Company (GIC) was chosen (2005-2010, over 20 companies), followed by the GIC and the Life Insurance Company (LIC) (2010-2012, more than 30 companies), and finally LIC (2012-present).

The features of the CAI system during this period were:

- minimum and maximum tariffs for 22 occupational risk class;
- compensation for harm associated with the loss of income by the employee, in connection with the establishment of the degree of loss of professional ability to work (for the period of loss of professional ability to work);
 - lump-sum payment, depending on the degree of professional ability to work: from 30 to 59% – 1000 MCI; from 60 to 89% – 1500 MCI; from 90 to 100% – 2000 MCI;
 - insurance payment due as compensation for burial expenses should not exceed 100 MCI.

The new CAI mechanism faced a number of problematic issues, including long-term issues such as low coverage of the CAI system, severe dumping by GIC/LIC, and inadequate provisioning. Additionally, there was an increase in registered occupational diseases in the group with a disability rate of 5-29%, a significant excess of liabilities by general insurance companies over insurance premiums due to price dumping, and an increase in dependency sentiment (payments from the 3-tier system exceeded the amount of lost income). In 2015, the CAI system underwent another transformation, in which responsibility for reimbursement was divided between the employer (when the reduction in earning capacity due to the occupational accident or disease is from 5 to 29%) and the LIC (reduction in earning capacity due to the occupational accident or disease from 30 to 100%).

The features of the CAI system include a single tariff for each class of pro-risk, compensation for

harm to employees with reduction in earning capacity due to the occupational accident or disease from 30-100% within a period equal to the period of establishment/extension of reduction in earning capacity due to the occupational accident or disease, but not more than the period of reaching retirement age. The size of the average monthly income is not more than 10 minimum wages, and compensation minus payments from the Governmental Social Insurance Fund (GSIF) is mandatory. Additionally, pension contributions are withheld from insurance payments, and reimbursement of additional expenses that are not included in the guaranteed package of health services is provided on the basis of supporting documents, in the amount of 500 to 100 MCI.

The next modernization of the CAI system, along with the improvement of the mechanism, revealed a number of problematic issues, including low coverage of the CAI system, volatility in the number of registered occupational diseases, reduction in the volume of payments from LICs, limited powers of the state labor inspectorate, and the annuity agreement being concluded with the LIC with which the employer initially concluded the CAI agreement. An analysis of the effectiveness of the institutional infrastructure showed that the updated catalog of problematic issues includes the following:

- low coverage of active legal entities by the CAI system (the number of active insurance/reinsurance contracts, the number of concluded insurance contracts, and the coverage of legal entities according to the data of the National Bank of the Republic of Kazakhstan and the centralized insurance database);
- main payments from the system are calculated up to retirement age, after which an employee injured at work receives pension payments on a general basis. At the same time, the employee continues to bear the costs associated with damage to health;
- lack of policy in determining the replacement rate for affected workers;
- volatility in the number of registered occupational diseases and labor injuries;
- maintenance of negative practices in the CAI system, including dumping among insurance companies in the amount of insurance tariffs (a single tariff was established for each class of professional risk in 2015) and commission (which reaches 50% of the insurance premium);
- maintenance of legislative norms on accounting for the fault of the employee, leading to a violation of social justice and an imbalance between different groups of workers. In case of an industrial

injury or injury, the fault of the employee is determined without fail and reduces payments. In case of an occupational disease, the fault of the employee is set to 0% by default, i.e. the employer's fault is 100%;

- inefficiency of the current CAI system, including its institutional component, is largely due to the lack of an integrated approach to the implementation of recovery measures and rehabilitation in relation to the injured worker. The current legislation provides that the costs associated with damage to health are paid directly to injured workers, who often use these funds not for treatment and rehabilitation, but to cover other current expenses.

Conclusion

The findings from the sociological survey conducted in Kazakhstan highlight the need for stronger preventive measures to be implemented in the national institutional infrastructure of workers' compensation to reduce the number of occupational accidents in the country. The compensation function of the system of insurance against occupational accidents predominates in Kazakhstan, while the preventive and rehabilitative functions were found to be less effective. The majority of employers (85%) were found to be satisfied with the current system, while only 55% of workers who suffered an accident and were assigned the degree of occupational disability were satisfied. Workers who perform work activities (services) were the least satisfied with the current system, with only 45% expressing satisfaction.

The study found that male respondents accounted for 72.5% of the total respondents, while female respondents accounted for 27.5%. The age group of respondents in the survey was distributed as follows: 11.2% were aged between 18 to 24 years, 47.6% were between 31 to 45 years, 37.0% were between 46 to 60 years, and 4.2% were aged 61 years and above. The manufacturing industry had the highest representation among the respondents, accounting for 26.8% of the total. The mining sector followed closely, representing 20.8% of the respondents.

The system of payments in case of occupational accidents in Kazakhstan is complex and consists of various payments financed from different sources. The employers are obligated to make payments in case of permanent loss of functional capacity, which ranges from 0 to 29% of the lost earnings. The effectiveness of the accident insurance system in compensating lost earnings by employers to victims was

rated by the respondents in the sociological survey. The respondents were asked whether they were satisfied with the amount of loss of earnings compensated by the employer in the event of an accident, and the responses were mixed.

To ensure the payment of benefits for a reduction in earning capacity of 30% or more due to occupational accidents or diseases, employers are required to enter into a contract with an insurance organization to secure this obligation. Similarly, the statutory accident insurance provides disability pensions if the reduction in earning capacity reaches a certain level. This contractual obligation is compulsory for all employers. The satisfaction of respondents with the procedure for payment of insurance benefits and their amount was evaluated in this study, and the results were mixed.

Overall, the findings suggest that there are several areas for improvement in the current system of insurance against occupational accidents in Kazakhstan. This includes strengthening the preventive and rehabilitative functions of the system, improving the coverage of the system by active legal entities, addressing the negative practice of dumping among insurance organizations in the level of insurance tariffs in the CAI system, and implementing a comprehensive approach to the implementation of rehabilitation measures and rehabilitation in relation to the injured worker. These improvements could help to reduce the number of occupational accidents in the country and improve the satisfaction levels of workers and employers with the current system.

The CAI system in Kazakhstan has undergone several transformations and modernizations, yet still faces various problematic issues. These issues include low coverage of the CAI system, dumping by insurance companies, an increase in occupational diseases, and insufficient rehabilitation measures for injured workers. The system features a single

tariff for each class of pro-risk, compensation for employees with reduction in earning capacity due to the occupational accident or disease, and mandatory pension contributions withheld from insurance payments. The updated catalog of problematic issues includes low coverage of active legal entities by the CAI system, volatility in the number of registered occupational diseases and labor injuries, and maintaining the negative practice of dumping among insurance companies. Overall, there is a need for an integrated approach to the implementation of recovery measures and rehabilitation in relation to the injured worker, as well as a unified database of accidents that have occurred.

Findings for further research

It would be helpful to provide more context about the satisfaction levels of workers and employers with the current system of payments in case of occupational accidents in Kazakhstan. For example, it would be useful to know how the satisfaction levels vary by industry or occupation, and whether there are any notable trends or patterns in the data. Additionally, it would be beneficial to discuss any potential implications of the findings and how they may inform policy or future research in this area.

Acknowledgment and conflict of interests

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