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IMPROVING THE METHODOLOGY FOR COMPILING LABOUR MARKET STATISTICS BASED ON LABOUR FORCE SURVEYS

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Abstract: This article examines the theoretical and practical aspects of improving the methods used to compile labour market statistics based on labour force surveys. It addresses the organisation of sample surveys for assessing labour market conditions, the accurate representation of the overall situation based on selected population groups, the measurement of employment and unemployment in accordance with international requirements, the reduction of nonresponse effects, and the improvement of statistical data quality. Proposals for improving labour force surveys in Uzbekistan are developed. In particular, the article substantiates proposals for regularly updating lists of households selected for surveys, improving weighting coefficients, using digital data collection tools, integrating statistical data with administrative records, and comprehensively assessing labour underutilisation in the labour market.

Keywords: labour force survey, labour market statistics, employment, unemployment, sample survey, representativeness, statistical weight, nonresponse, data quality, international statistical standards.

INTRODUCTION

The labor market is an important component of the country's economy, and changes in it directly affect the incomes, living standards, economic activity, and social stability of the population. Therefore, reliable statistical data are necessary for an objective assessment of the state of the labor market, determining the level of economic activity of the population, and measuring the effectiveness of employment policy.

One of the important sources of statistical information on the labor market is labor force surveys. These surveys allow studying the employment status of the population, unemployment, economic inactivity, working hours, professional composition, and other processes in the labor market at the household level. Unlike reports from enterprises and organizations, household surveys can also cover individuals who are not officially employed, are engaged in independent labor activities, or are trying to enter the labor market.

The standards adopted by the International Conference on Labor Statistics of the International Labor Organization serve as a single conceptual framework for identifying situations of underutilization of work, employment, and labor resources [1]. However, the implementation of these standards in national statistical practice requires taking into account the specifics of sample design, observation period, data collection methods, and national labor relations.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 522 dated September 29, 2026[1]In this context, improving the processes for tracking population employment

[1] https://lex.uz/docs/8515864

and unemployment, accurately assessing the state of the labor market, and enhancing the reliability of statistical data are of great importance. This necessitates organizing labor force surveys in accordance with international standards, refining the methods used to determine employment and unemployment indicators, improving the quality of data collection and processing, and conducting an objective assessment of changes within the labor market. Furthermore, aligning labor market statistics with international requirements, clarifying discrepancies between various data sources, and increasing the reliability of statistical indicators demand continuous methodological refinement.

The UN's National Quality Assurance Frameworks for Official Statistics emphasize the necessity of systematically managing the reliability, accuracy, relevance, and comparability of statistical data [3]. This approach requires that labor market statistics encompass the entire process—from data collection to the dissemination of results—rather than being limited solely to the calculation of final indicators.

The purpose of the study is to analyze the existing methodological approaches to the formation of statistical indicators of the labor market based on labor force observations and to develop improved methodological proposals that can be used in the practice of national statistics.

The main tasks of the research are as follows:

- determine the place of labor force observations in labor market statistics;
- representativeness of sample observations[2] studying the factors affecting the accuracy of statistical estimates;
- defining approaches for incorporating international standards into the compilation of employment and unemployment indicators;

non-response[3], develop proposals to reduce coverage errors and measurement errors;

substantiate the possibilities of digitizing labor market statistics and integrating them with administrative data.

The object of the study is the process of forming labor market indicators based on labor force surveys. The subject of the study is methodological relations related to the organization of sample surveys, data processing, statistical evaluation, and ensuring the quality of indicators.

RESEARCH METHODOLOGY

In this study, the methodology for developing labor market statistical indicators based on labor force surveys was examined using methods such as systematic analysis, comparative analysis, scientific generalization, and statistical assessment. The theoretical and methodological framework of the study is based on the International Labour Organization's international standards for labor statistics, the regulatory and legal documents governing the organization of labor force surveys in the Republic of Uzbekistan, and the United Nations' recommendations for ensuring the quality of official statistics [1–3].

The study addresses the key stages of developing labor market statistical indicators—including the compilation of lists of the population and households for the survey, the selection of survey units, the collection of primary data, the calculation of statistical weights, data processing, and the estimation of final indicators—as an interconnected system. Furthermore, an analysis was conducted on the factors that influence the accuracy, reliability, and international comparability of

[2] Умумий аҳолига мослиги, яъни ўрганилаётган гуруҳнинг умумий аҳоли хусусиятларини тўғри акс эттиришидир.

[3] Сўровда иштирок этиши керак бўлган шахсларнинг саволларга жавоб бермаслиги ёки сўровда умуман қатнашмаслигидир

statistical data, as well as the extent to which such data accurately reflect the situation of the general population. When generalizing the results of labor force surveys, it is essential to account for the sample design and the probabilities of inclusion in the survey. Initial statistical weights are calculated to accurately represent the proportion of each selected unit within the total population; the lower the probability of selection, the higher the statistical weight assigned to that unit. Adjustment factors may be applied to these statistical weights to mitigate the impact of non-response and to align the findings with the demographic characteristics of the population. The final weights incorporate the probability of selection, factors related to non-response, and adjustments to match the population composition. This approach enables the survey results to be generalized to the relevant population group. However, it should be noted that the weighting process does not entirely resolve all issues arising from coverage gaps or measurement errors in the data. In calculating labor market statistics, particular attention was paid to clearly defining the concepts of employment, unemployment, and labor force participation. The labor force consists of the employed population and the unemployed. The labor force participation rate is determined by the ratio of the labor force to the population within a specific age group. The unemployment rate represents the share of the unemployed within the total labor force. The employment rate is assessed by the ratio of the employed population to the total population within a specific age group. A key methodological requirement adopted for these calculations—in accordance with international standards—was the consistent application of a reference period, defined age ranges, and specific criteria for labor activity [1].

As this study focuses on improving the process of generating labor market statistics, priority was given to refining methods for data collection, processing, and evaluation, rather than calculating new quantitative results based on existing statistical data. Consequently, no statistical results that could not be substantiated by empirical data have been presented.

RESEARCH RESULTS

The analysis of research findings indicates that, in order to improve the methodology for generating labor market statistics based on labor force surveys, it is essential to integrate several key elements: the organization of sample surveys, the application of international statistical standards, the assurance of data quality, and the utilization of digital technologies. The representativeness of sample surveys is primarily determined by the completeness of the sampling frame, the method used to select observation units, and the extent to which the territorial and demographic composition of the population is covered. If the sampling frame is not updated to reflect changes in the population structure, or if certain groups are underrepresented in the survey, systematic biases may arise in the results. Consequently, it is advisable to regularly update the sampling frame, precisely define selection probabilities, and determine the sample size based on the variability of the indicators being estimated and the required level of precision. In this context, alongside general indicators at the national level, it is also necessary to ensure the reliability of estimates broken down by region, age group, and gender.

A key aspect of developing labor market statistics involves the requirement to consistently calculate employment and unemployment indicators based on international criteria. According to the International Labour Organization's standards for labor statistics, defining unemployment requires considering—within a specified reference period—whether an individual is not employed, has actively sought work, and is available to start working [1]. Consequently, assessing the state of the labor market solely through the unemployment rate fails to capture all its nuances. A comprehensive analysis—incorporating data on labor force participation, employment rates, underemployment (insufficient working hours), and specific segments of the economically inactive

population who express a desire to work—allows for a broader assessment of how labor resources are utilized. This is essential for evaluating the effectiveness of employment policy, identifying vulnerable groups within the labor market, and substantiating measures aimed at increasing the economic activity of the population.

Integrating household surveys with administrative data is also of significant methodological importance for enhancing the quality of labor market statistics. While administrative data—pertaining to taxation, social insurance, and labor relations—allow for the study of formally registered activities, household surveys help identify labor activities that may not be fully captured in official data sources. Consequently, the combined use of these sources provides additional opportunities for cross-referencing employment indicators, assessing the coverage of the sampling frame, and improving the reliability of statistical results. In this process, differences in data coverage, reference periods, and definitions must be taken into account, and requirements for the protection of personal data must be strictly observed.

Based on the methodological analysis conducted, an interconnected model for improving labor force surveys has been proposed. This model encompasses several stages: updating the sampling frame; utilizing questionnaires and classifications that align with international standards; monitoring data through digital tools; calculating and calibrating sampling weights; estimating statistical errors; and publishing both the results and their associated metadata. A key feature of this model is its focus on ensuring statistical quality not merely at the level of final indicators, but throughout every stage of the data production process. Implementing this approach can enhance the accuracy, comparability, and user-friendliness of labor market statistics.

DISCUSSION

The scientific discussion of the research findings indicates that improving the methodology for generating labor market statistics based on labor force surveys requires a comprehensive approach. In this context, ensuring the representativeness of sample surveys, adapting international statistical standards to national practice, digitizing data collection and processing, and conducting regular assessments of statistical quality should be viewed as interconnected tasks. The standards for labor statistics developed by the International Labour Organization (ILO) establish a unified methodological framework for generating indicators related to employment, unemployment, and the underutilization of labor resources [1]. Integrating these standards into the national statistical system not only expands the possibilities for international comparison of labor market conditions but also facilitates a more in-depth analysis of employment processes within the country.

The calculation and calibration of sample weights are of particular importance in the improvement of labor market statistics. While weighting is necessary when generalizing sample results to the entire population, it cannot be considered a universal tool capable of eliminating all shortcomings in statistical data. Specifically, an incomplete sampling frame, the underrepresentation of certain population groups, and errors in respondents' answers can all affect final estimates. Therefore, it is advisable to integrate the weighting process with the assessment of sampling errors, the analysis of non-response, and the verification of the logical consistency of the data. Such an approach is essential for enhancing the reliability of statistical estimates and ensuring they can be effectively utilized for economic decision-making.

When interpreting labor market indicators, it is also important not to rely solely on the unemployment rate. The unemployment rate represents the share of unemployed individuals within the labor force, but it does not fully reflect the situation of all persons who are willing and able to work. For instance, the situation in the labor market regarding individuals who have temporarily ceased their job search—yet remain ready to work—or those who wish to work more hours than

they currently do, can be examined through additional statistical indicators. In this context, it is appropriate to include—alongside standard employment and unemployment figures—metrics concerning labor force participation, working hours, and the underutilization of labor resources. This system of indicators establishes a broader information base for evaluating state programs aimed at ensuring employment and for identifying challenges within the labor market.

The use of digital technologies offers significant opportunities for enhancing the quality of statistical data. Electronic questionnaires, automated logical checks, and tools for rapid data processing help to minimize technical errors, facilitate the monitoring of the data collection process, and shorten the time required to generate final results. However, the effectiveness of digitalization is determined not merely by the availability of technical tools, but by how they are organized—taking into account sample design, data protection requirements, and the capabilities of the respondents. Therefore, when implementing digital survey methods, it is essential to retain traditional data-collection channels where necessary and ensure that all segments of the population are covered by the survey.

The combined use of household surveys and administrative data represents a promising approach to improving labor market statistics. Administrative sources can provide information regarding the formal registration of employment relationships, tax payments, and social insurance. Household surveys, meanwhile, allow for the direct study of individuals' labor activities, job-seeking efforts, and economic activity status. Integrating these sources creates additional opportunities to verify statistical results, identify discrepancies in coverage, and enhance data quality. At the same time, differences between indicators derived from various sources should not automatically be classified as errors, as their definitions, reference periods, and scope of coverage may differ.

CONCLUSION

The results of this study demonstrate that refining the methodology for generating labor market statistics—based on labor force surveys—is crucial for enhancing the reliability, accuracy, and international comparability of information regarding the labor market. Methodological consistency should be ensured at all stages, from the organization of statistical observations to the calculation and distribution of the final results, in order to correctly evaluate the processes in the labor market. In this case, the completeness of the sampling frame, the representativeness of the observation units, the quality control of the data and the correct calculation of the statistical weights appear as the main factors.

Based on the research, it was proposed to regularly update the sample design, to determine the sample size based on the requirements of statistical accuracy, and to ensure the reliability of estimates by territorial and demographic groups of the population. It was also justified the need to develop indicators of employment and unemployment in accordance with the standards of the International Labor Organization, the level of participation in the labor force, and the development of additional indicators representing the incomplete use of labor resources. This approach allows assessing the state of the labor market through several interrelated indicators and a deeper analysis of the effectiveness of employment policy.

In conclusion, the improvement of the methodology for labor force surveys should not be limited to the recalculation of specific statistical indicators; rather, it must be implemented through a comprehensive approach that encompasses all stages of data generation. The proposed methodological model entails the integration of various processes, including sample design, adherence to international standards, digital data collection, statistical weighting, quality control, and the dissemination of metadata. Systematically testing this approach within national statistical

practice and evaluating its effectiveness based on empirical data represents a significant scientific and practical direction for the further enhancement of labor market statistics.

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