

REPORT
ON UNPAID DOMESTIC
WORK OF WOMEN
IN KAZAKHSTAN



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**Nugmanova, M.S.¹,
Salimzhanova, A.S.²,
Zhaksylykov, M.S.³,
Yerbosynov, T. A. ⁴,
Kusainkyzy, A. ⁵**
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1. Ph.D. in Economics, Head of the Center for Gender Economics Research at the National Economy University.

2. Ph.D student in Economics at Istanbul Technical University, researcher at the Center for Gender Economics Research at the National Economy University.

3. Consultant on statistical data processing.

4. Ph.D 2nd year student, researcher at the Center for Gender Economics Research at the National Economy University.

5. Ph.D 1st year student, researcher at the Center for Gender Economics Research at the National Economy University.

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LIST OF ABBREVIATIONS

PPP	Public Private Partnership
CCO	Child Care Organizations
ECEC	Early Childhood Education and Care
EU	European Union
IAC	Information and Analytical Center
CS of MNE RK	Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan
MES	Ministry of Education and Science
NEA	National Education Account
LSI	Laws and Statutory Instruments
HHS	Quarterly household survey of the CS of MNE RK "Expenditures and incomes of the population of the Republic of Kazakhstan for 2015"
BIR	Budget implementation report (depending on the context: state, central government, or local budget)
RK	Republic of Kazakhstan
SF FEA	Statistical form of the CS MNE RK "On financial and economic activities of educational organizations of the Republic of Kazakhstan for 2015"
SF SS	Statistical form of the CS MNE RK "Scope of services rendered by educational organizations of the Republic of Kazakhstan for 2015"
RE	Rehabilitation equipment
VAR	Vector AutoRegression

1. INTRODUCTION

This study aims to explore how the state can help its citizens gain confidence in life when help is given to care for dependent family members, including children, seniors, and people with disabilities. The Republic of Kazakhstan offers equal opportunities and assistance to all citizens of the country regardless of their gender, age and health. Traditionally, in Kazakhstan, women are responsible for caring for children and dependent family members, so they need help and support. In addition to assistance in the form of cash benefits, the state can help women enter paid employment by taking care of pre-school children and dependent family members, thereby freeing them from an excessive workload at home. This issue, although costly for the state, allows women to gain a greater degree of freedom, earn more and have the opportunity to socialize in society.

This study examines the impact of public investment on the care of pre-school children and dependent family members, thereby addressing the problem of unemployment by creating additional jobs and increasing women's economic activity.

The objective of the project is to substantiate the relationship between unpaid work at home and expansion of the system of care

services for pre-school children and dependent family members, so increasing the level of female employment.

Project Tasks:

1. Determine the current state of child and dependent family members' care services;
2. Model the impact of care costs on employment and impact on budget revenues;
3. Justify the need to expand these services and determine the impact of institutionalization of care services on women's involvement in the labour market;
4. Develop recommendations to improve the state's care for pre-school children – the future production forces of Kazakhstan, as well as care for the country's vulnerable population who have equal rights in the country.

The study should determine the economic impact of institutionalization of pre-school children and dependent family members' care services on the economy as a whole. It should also investigate and assess the need for pre-school care and development services, determining what public expenditures are needed to meet this demand and provide opportunities for women to work.

2. STUDY METHODOLOGY

In the course of this study, various research methods were used, and secondary and primary data were analyzed. In particular, statistical data collected by the Committee on Statistics of the RK, National Bank, Ministry of Labour and Social Protection of the RK were analyzed. In addition, two surveys were conducted. One was based on a survey of population, and the other of experts in the area of social assistance to vulnerable population.

Population Sociological Survey

The household survey was conducted in the city of Almaty and Almaty oblast. Units of study are households and their individual members. A household is an economic entity consisting of one or more individuals living together, combining all or part of their income and property, and jointly consuming goods and services. Households with children, according to the legislation of the Republic of Kazakhstan, include homes with children under the age of 18. Households without children include homes that consist only of adult members.

During the survey conducted in November — December 2019, 300 households were surveyed consisting of men and women living together. They were in a registered or civil marriage, and may or may not have had children. The survey involved people of different ages, professions, education levels and income. The survey was conducted in the form of a personal structured interview at the respondents' place of residence. A special structured questionnaire was developed for this purpose. Specially trained interviewers were involved in the survey, under the supervision of regional supervisors who have experience in conducting specialized surveys. The purpose of the survey was to collect information about the general characteristics

of households. This included the socio-demographic type of families, their financial situation, as well as the age, education and professional status of the spouses. It was also used to identify the key principles for distributing the total work load between the spouses/partners who provide basic care for pre-school children and other dependent family members; determining how women's participation in labor activities and their level of earnings affect the time spent on household labour.

The household time budget allocation survey was conducted by the Committee on Statistics of the Republic of Kazakhstan using a sample method in 2006, 2012 and 2018. The survey units were households and their individual members. Due to the fact that the Committee on Statistics only had data for use of time by household members and data for household expenditures and income from different respondents, in this study we collected data on time use, expenditures and income from the same respondents (households). This made it possible to identify the level of well-being of households and their individual members, as well as to determine its relationship with the use of time by individual household members.

In this paper, we looked at how time spent on household chores affects women's participation in the labour force and their earnings, plus their willingness to perform paid work, provided that social services (caring for children and other dependent family members such as the elderly and sick) become more accessible. In this way, the time spent by women working at home will be compared with data on their income. This is a useful set of data to assess how changes in women's time spent on household management (housekeeping) and caring for dependent family members are related to changes in their

labour outcomes and income.

In general, the results of this type of research can show whether the growth of material well-being leads to reduction in household work, and whether it is favorable for women's fulfillment in society. Note that the data obtained in the course of the study allowed us to understand to what extent the time spent in the household depends on the level of material well-being of the family as a whole and individual income of a woman. In particular, we wanted to ascertain whether women with higher incomes do less housework and childcare than women who earn less. During the study it was also important to determine the respondents' intentions (willingness) to go to work if services for caring for children and/or other dependent family members (the elderly, the sick) became more accessible, and what level of payment would motivate them to find a job.

Expert Interview

The purpose of the expert interview was to assess the multiplicative effects of expanding the social services sector through in-depth interviews with representatives of private and public child care centers and kindergartens, as well as disabled family members care centers in Almaty and Almaty oblast. All over the world, women have the main job of caring for children and dependent family members. In most cases, women combine household chores with work outside the home, which is often not reflected in traditional labour force statistics. Accordingly, women tend to work significantly longer hours than men, if you take into account work in the labour market and at home. During the interview, experts evaluated and described the effects of certain parameters on variables verbally (qualitatively) based on their knowledge and experience. Survey respondents: representatives of the Department of Education in Almaty and Almaty oblast, heads of public and private pre-school institutions,

and experts in inclusive education. Interviews were conducted with open-ended questions, responses were recorded using audio equipment, and then transcriptions of these recordings were made. Each respondent had the same incentive in the interview and the interviewees' responses were collected together and classified. New questions were asked that stemmed from the responses of the respondents. When selecting respondents, the snowball sampling method was used, which is used in cases of a contact group of people, when the sample group has no boundaries. Information received from the management of kindergartens, industry experts, and secondary sources may not have been sufficient to determine the problem of our study. For a more complete understanding of the problem and its underlying factors, we conducted a qualitative study. Our qualitative study was unstructured, search-based in nature and based on small samples. We used popular qualitative methods such as focus groups, association words (asking respondents to indicate their response options that were related to the object being studied), and in-depth interviews (one-on-one interviews that study respondents' thoughts).

TABLE 1. Category of Respondents

Category of Experts	Almaty City	Almaty Oblast
Representatives of rayon education departments;	1	1
Representatives of pre-school education organizations;	5	4
Experts in Inclusive Education;	1	1
Representatives of Health Department (aged care services);	0	1
Representatives of "Old people's homes";	8	2
Total: 24	15	9

79% of the interviews with private centers were conducted directly with the owners of institutions. The remaining interviews in private institutions (21%) were conducted with administrative staff. 9 pre-school institutions participated in the interview; 6 of them are private and 3 are public.

Modeling

The goal of modeling is to determine the impact of spending on pre-school education and care for dependent family members on gender-sensitive indicators of economic development, development of pre-school education, and other economic indicators. Statistical models were built for this purpose. If they confirm that there are statistically significant causal relationships between these indicators, then these models can be used to predict the values of dependent variables from the increase in public spending on pre-school education and care for dependent family members.

The vector autoregression (VAR) method was used to create a model that can quantify the effect of investing in the development of pre-school institutions and dependent family members care institutions. This method is based on time series analysis. Annual data published in the statistical compilations of the Committee on Statistics of the RK, Ministry of Finance, Ministry of Education and Science of the RK and other official bodies, as well as international organizations, were used as time series or variables.

The study constructed and analyzed co-integration equations to determine the long-term relationship between pre-school education expenditures and social benefits expenditures with gender-sensitive economic indicators. This makes it possible to build statistical models that will allow the prediction of values of these gender indicators, depending on changes in spending on education and material assistance to the socially vulnerable population of Kazakhstan.

Research Methodology and Initial Data

The presence of trends in a variety of macro-variables contributed to the development of non-stationary time series analysis. The relationship between two non-stationary time series can be represented as follows:

$$\Delta y_t = \alpha_1 + \alpha_2 y_{t-1} + \dots + \alpha_p y_{t-p} + \beta_1 x_{t-1} + \dots + \beta_p x_{t-p} + \lambda e_{t-1} + v_t$$

Vector autoregressions are a system of equations in which the value of each endogenous variable is determined by the previous values of not only this variable, but also the other endogenous variables of the system. This approach also provides an opportunity to analyze cause-and-effect relations between indicators, and obtain quantitative estimates of the impact of effects on the dependent variable.

Granger Causality Test

One of the good things about VAR models is that they allow you to check the direction of causality. Causality in econometrics is somewhat different from the everyday concept. This is more about the ability of one variable to predict another variable, and therefore be the cause for the other variable. Assume that two variables, such as y_t and x_t , affect each other with distributed lags. The relationship between these variables can be estimated by the VAR model. In this case, there are 4 possible variants of this relationship:

1. y_t causes x_t
2. x_t causes y_t
3. There is a bidirectional reverse causality.
4. Two variables are independent.

The problem is to find a suitable procedure that allows you to check and statistically determine the relationship of cause and effect between variables.

When confirming the presence of cause and effect relations based on the Granger approach, the following shall be tested:

- Cause and effect relation for each endogenous variable and other

endogenous variables in pairs.

- Cause and effect relation for each endogenous variable and the set of other endogenous variables, i.e. their set.
- Cause and effect relation of endogenous variables with exogenous variables in open VAR models is not tested.

Granger (1969) developed a relatively simple test that determined causality as follows: a variable x_t is called Granger-cause of y_t if y_t can be predicted with greater accuracy using past values of the variable x_t than not using such past values, while all other conditions remain unchanged.

The Granger causality test for the case of two non-stationary variables y_t and x_t includes an assessment of the regression model: x_t on y_t as the first step, as a result of which we get a model of long-period equilibrium; the variables in the long term change in a similar way. We can say they go parallel to each other. At the next stage, a VAR model is built, which includes the errors of the first model. Random deviations from the equilibrium motion are compensated by the operation of the ECM error correction mechanism. This mechanism is in the form of the following equation.

$$\Delta y_t = a_1 + a_2 y_{t-1} + \dots + a_p y_{t-p} + \beta_1 x_{t-1} + \dots + \beta_p x_{t-p} + \lambda e_{t-1} + v_t$$

Δy_t increments are explained by the past values of the Y variable itself, as well as the past values of independent variables. This is a classic VAR model, but in addition, the equation includes long-period regression errors with a lag of 1 or more periods presented as e . Namely, this component is the mechanism for correcting the ECM error, which brings economic indicators into equilibrium. If this variable shows a statistically significant result as a result of model building, then we can say that there is a relationship between the variables under consideration and they are co-integrated with each other.

To build the model, we selected variables that can potentially be statistically significantly

dependent variables, the values of which can be statistically significantly influenced by education expenditures or expenditures aimed at material assistance to the socially vulnerable population. If the error correction model shows a statistically significant result, then this model can be used to predict the corresponding economic indicators. For example, if female labour is growing and has a statistically significant dependence on education spending, you can predict how much female labour will increase if you increase education spending by a certain amount. To be able to move from the absolute values of variables of different scales, the logarithms of data were previously taken, which makes it possible to move to estimates of relations of variables in relative values, namely in percentages.

The following variables were used to build models:

Pre-school education sector;

1. State expenditures on pre-school education, KZT bln.;
2. Provision of places for children (how many children there are per 100 places) in pre-school organizations;
3. Number of children in pre-school organizations;
4. Number of pre-school organizations;
5. Number of teaching staff in pre-school organizations;
6. Number of places in pre-school organizations;
7. Pre-school education and training coverage for children aged 1-6 (7);

Social Sector

1. Allocated targeted social assistance, KZT mln.;
2. Allocated state social benefits, KZT mln.;
3. Allocated state social benefits for disability, KZT bln.;

Gender-sensitive Indicators

1. Female labour, thou. women
2. Percentage of female labour force in the population, %
3. Number of employed women, thou. women

Economic performance

1. Personal income tax (PIT), KZT mln.
2. Social tax, KZT mln.
3. Pension contributions, KZT mln.

To this end, tests were performed for the presence of co-integration between the variables under study and a number of pairwise VAR models were built. We tested the hypothesis that public spending on education and social support for vulnerable population affects changes in other time series. Out of all the developed models, 8 models showed a statistically significant result, which means that they can be used for forecasting. It should also be noted that in theory of co-integration,

it is possible to build inverse models when education expenditures are affected by another variable, for example, the number of women in the labour force. However, the development of such models did not show a statistically significant result. This indicates that spending on education and spending on benefits are the reasons for the growth of the labour force, and not vice versa. The same can be said about other variables involved in the analysis. The models are built using a single algorithm. Below is an example of building a model based on testing of the causal dependence of the number of economically active women on the costs of pre-school education. The modeling was performed in the EViews (Econometric Views) package of econometric analysis.

First of all, the model is based on the initial indicators, where in our case, Y is the number of women of working age, and X is the pre-school education costs. Moreover, logarithms of both series have been taken.

$$\ln Y_t = \alpha + \ln \beta X_t + \varepsilon$$

Dependent Variable:

LN_LABOR_WOMEN Method: Least

Squares Sample: 1 18

Included Observations: 18

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.429921	0.061266	121.2727	0.0000
LN_EXPENSESEDUC	0.050397	0.003441	14.64577	0.0000
R-squared	0.930585	Mean dependent var		8.324877
Adjusted R-squared	0.926247	S.D. dependent var		0.069017
S.E. of regression	0.018743	Akaike info criterion		-5.011508
Sum squared resid	0.005621	Schwarz criterion		-4.912578
Log likelihood	47.10357	Hannan-Quinn criter.		-4.997867
F-statistic	214.4987	Durbin-Watson stat		0.680164
Prob(F-statistic)	0.000000			

The model showed a statistically significant result: spending on pre-school education affects the number of women in the labour force. However, this regression may belong to the category of so-called false regressions that cannot be used. To determine whether this long-term regression is false, you need to build another VAR model that includes an element of the error correction mechanism or ECM using the following formula.

$$\Delta y_t = a_1 + a_2 y_{t-1} + \dots + a_p y_{t-p} + \beta_1 x_{t-1} + \dots + \beta_p x_{t-p} + \lambda e_{t-1} + v_t$$

ECM in the formula is represented as λe_{t-1} and in the results table as RESID_LN_LABOR_W_LN_EXP(-1) variable. As can be seen from the table, this variable showed a statistically significant result, which can be seen by the probability value of 0.0474. This value is less than 5%, which gives reason to reject the null hypothesis that the coefficient is equal to zero and accept an alternative hypothesis about the statistical

Dependent Variable:

D(LN_LABOR_WOMEN) Method: Least Squares

Sample (adjusted): 3 18

Included observations: 16 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.005321	0.007289	-0.730031	0.4794
D(LN_LABOR_WOMEN(-1))	0.243809	0.229748	1.061205	0.3095
D(LN_EXPENSESEDUC(-1))	0.091267	0.044947	2.030553	0.0651
RESID_LN_LABOR_W_LN_EXP(-1)	-0.451229	0.204253	-2.209168	0.0474
R-squared	0.580554	Mean dependent var		0.012905
Adjusted R-squared	0.475692	S.D. dependent var		0.014339
S.E. of regression	0.010383	Akaike info criterion		-6.085049
Sum squared resid	0.0012945	Schwarz criterion		-5.891902
Log likelihood	2.68039	Hannan-Quinn criter.		-6.075158
F-statistic	5.536379	Durbin-Watson stat		2.199963
Prob(F-statistic)	0.012771			

significance of the calculated coefficient. It is also necessary to pay attention to the negative sign before the coefficient λe_{t-1} . This indicates that the ECM model turned out to be correct, because if the sign was positive, it would indicate that the resulting model was incorrect.

Now we can use this model for forecasting, in particular for predicting the number of female workers depending on spending on pre-school education. To do this, you can use a model based on the source data, which looks like this:

$$LN_LABOR_WOMEN = 7,429921 + 0,0504 * LN_EXPENSESEDUC$$

The value of the coefficient for pre-school education expenses means that a 1% increase leads to a 0.05% increase in the female labour force.

For increments, you can use the ECM, which looks like this:

$$\Delta Y_t = \alpha + \Delta Y_{t-1} + \Delta X_{t-1} + \varepsilon_{t-1} + \nu_t \quad \text{or}$$

$$\Delta Y_t = -0.005321 + 0.243809 * \Delta Y_{t-1} + 0.091267 * \Delta X_{t-1} - 0.451229 * \varepsilon_{t-1}$$

As a result, expenses on pre-school education have a long-term dependence with the following variables:

1. Female labour, thou. women
2. Number of children in pre-school organizations;
3. Number of pre-school organizations;

4. Number of teaching staff in pre-school organizations;

5. Number of places in pre-school organizations;

6. PIT, KZT mln.

Expenses on allocated state social benefits and expenses on allocated state social disability benefits, have a long-term dependence only with the number in the female labour force.

Statistical tests were also performed to assess the adequacy of the obtained models, namely, tests for heteroscedasticity, autocorrelation and normal distribution of residues, which confirmed the adequacy of the models.

3. SECONDARY

INFORMATION ANALYSIS

3.1 Review of researches on the institutionalization of care services

Social care policy issues were formed in the context of work-personal life balance measures. These were aimed at shifting the burden of care from households to the public sector through specialized services, as well as from women to men through legislation on care leave and labour market regulation. This reallocation occurs through legal and institutional mechanisms that help align the internal workload of home-care and household members care (dependent members of the household, such as children and seniors, the disabled and the sick, as well as healthy adult family members) with the workload in the labour market [1].

A number of studies have shown the emergence of a "crisis in care", in which people and society as a whole are becoming less willing and able to meet the standards of care, which is an inevitable result of increasing competitive pressure in the market [2] [3]. "Purple economy" was proposed as a response to the care crisis. Four key points of "Purple economy" include the infrastructure of social care and universal access to care, as well as a macroeconomic policy framework in which the creation of new jobs is an immediate and high priority. There is also the allocation of resources to provide care, education, and medical services that are considered as social investment and as a path to inclusive economic growth [4].

There are many approaches to assessing the economic impact of expanding social care services that reflect the economic and social impacts associated with this sector. In their

research, Del Boca and Sauer use a dynamic utility maximization model to study the participation rate of married women in the labour force in France, Italy and Spain. According to the authors' conclusions, if less educated women in Italy and Spain had the same institutional environment as in France, which included the provision of care for children under the age of three, their participation in the labour force would increase by 17.5% and 29.4%, respectively [5].

The labour supply model of Apps and Rees shows that it is access to affordable child care, not monetary benefits for children, that significantly increases women's participation in the labor force, as well as the birth rate [6]. The authors note that EU countries with low birth rates, such as Germany, Italy and Spain, also have low rates of women's participation in the labour market. The paper considered how this problem can be explained using state policy - taxation and child support system. The results obtained by the authors show that countries where individual taxation (not overall), and where family access to child care facilities is supported, instead of providing monetary benefits to parents, are likely to have a higher number of working women, as well as higher birth rates.

In another study, Apps and Rees analyzed data on time use in Australia, the United Kingdom, and Germany [7]. They showed that household members, especially women, in the absence of public care services, return to the economically unprofitable redistribution of time for the state from the labour market to unpaid work in child care and home care. As a result, women's participation in the labour market decreases. The study claims that markets do not provide affordable and high-

quality child care. The authors point at two main reasons: 1) the nature of child care services as a public good and the lack of scale effect in the provision of such services; 2) tax imbalances that may arise due to a significant gap between the marginal cost of the product and the marginal social cost of child care. According to the authors, both reasons are strong arguments in favour of supporting state intervention in the provision of child care services.

A number of empirical studies have taken a macro-economic approach to this issue, focusing on labour demand. Authors Hansen and Andersen studied the impact of public investment in child care services on economic growth and employment using a macroeconomic model [8]. A study of EU and UK countries found that policies to expand public child care services will lead to GDP growth of 2.4%, creating 4.8 million new jobs over five years. More than half of these jobs (2.7 million) will be for women.

A study conducted in Austria shows that investments in providing child care services can not only reduce the current shortage of available jobs and quality, but also significantly increase employment and have a positive impact on the state budget [9]. Calculations show that with initial funding of EUR 200 mln. per year by central and local authorities over five years, aimed at creating 35,000 new available jobs in nurseries for young children (aged under 3) and providing more favourable working conditions in the existing 700,000 kindergartens, 14,000 new jobs will be created in the child care sector, as well as an additional 2,300 places in other sectors due to increased/expanded demand. In addition, the study estimates that between 14,000 and 28,000 parents, who could not participate in the labour market due to their care responsibilities, will be able to find work. The study also shows that additional taxes from increased employment and savings in unemployment benefits will increase

government revenues that exceed costs starting in the fifth year of investment, continuing this positive practice in the future.

Previous studies have shown that the lack of high-quality, affordable social services imposes significant restrictions on the women's labour supply. It is one of the key factors that weaken women's connection to the labour market [1] [10]. In addition to the discussed effect on women's labour supply, this study assesses the economic rationale, on the demand side, for public investment in the social care sector, by assessing its potential for job creation, job distribution for women and for the socially vulnerable population.

Today, due to changes in the technologies of domestic work, as well as development of the market segment and inclusion of households to it, some types of domestic work are undergoing changes and may "migrate" in gender, remaining the subject of discussion and compromise between spouses. However, this opens up opportunities for future changes rather than for conclusions about fundamental transformations within households, since the types of work that are mainly performed by women remain fairly stable in the family [11].

3.2 Gender aspects of population employment and institutionalization of care services

The profound impact of unequal responsibility for unpaid care and domestic work on women's empowerment and full participation in society and economy, is becoming increasingly clear. In the 2030 Development Agenda and Sustainable Development Goals (SDGs), UN member states are committed to achieving "a world in which every woman and every girl enjoy full gender equality and all legal, social and economic barriers to their empowerment are removed". A separate goal for achieving gender equality and women's

empowerment includes the specific goal of recognizing and evaluating unpaid care and domestic work [12].

It is economically feasible for women to reduce their time for household labour as their income increases, since their higher financial resources allow them to buy market-based substitutes for domestic work (home care assistant, nanny for child care, etc.). This view is supported by data showing that the time spent by women on household management decreases faster with an increase in their own earnings, than with an increase in the earnings of their husbands/partners [13] [14] [15]. This is also consistent with data showing that spending on market-based substitutes for women's domestic work, such as household services and meals outside the home, increases faster with women's earnings than their husbands/partners. It suggests that higher-income women may feel a reduced obligation to perform domestic work, even if they do not use market-based substitutes for domestic work. [14] [15] [16] [17] [18]. It is also possible that higher-paid women at work may persuade their husbands/partners to take on more housework, although Gupta finds no evidence for this hypothesis [13] [14].

In the Strategic Development Plan of the Republic of Kazakhstan until 2025, the relevance of the issue under study is also reflected in initiative 6.15, which is aimed at "...creating conditions for ensuring equal employment of men and women" [19]. The system of national accounts will include gender-sensitive indicators that measure employment in the informal sector, unaccounted domestic care work, domestic labour, and domestic work for hire. Taking into account the gender aspect, legislation on labour protection and treatment will be improved. Labour conditions will be improved. Opportunities for introducing and expanding flexible types of employment will be considered.

Over the years of implementation of the

Gender Strategy, Kazakhstan has achieved positive dynamics in the empowerment of men and women in marriage and family relations. In order to create opportunities for combining family obligations with work, the labour legislation sets out the rules on the rights of parents to flexible forms of employment and parental leave. At the same time, the state provides support through social benefits and services in the package of measures to support families with children. The system of providing social benefits includes benefits for the newborn and child care up to one year, benefit for disabled child upbringing, state benefits for children aged under 18, and special state benefits to mothers and families with many children. Since 2014, in order to ensure an adequate amount of pension savings for working women, additional subsidies for mandatory pension contributions have been provided for recipients of social payments for child care [20].

However, the problem remains that women are forced to leave paid work because of the need to take care of children and dependent family members in a limited supply of affordable and high-quality care services in society. Understanding of all the social and economic consequences of uneven distribution of care services and measures is still limited. Furthermore, the lack of reliable gender-sensitive data at the national level currently poses challenges in developing targeted strategies and programmes to address this problem, as well as in monitoring progress towards this goal.

According to official data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, the number of workers aged 15 and older in 2019 amounted to 9.2 million people according to the results of a sample survey of population employment. The Republic's economy employed 8.9 million people, or 83% of the population aged 15 and over. The employment rate for the population

Table 2. Key indicators of the labour market of the Republic of Kazakhstan in Q3 2019

	Population at large	Including		Population aged 16-59 (women) and 16-63 (men)	Including	
		Men	Women		Men	Women
Labour force, people	9,215,323	4,740,841	4,474,482	8,980,500	4,673,443	4,307,057
Share of the labour force in population, as a percentage	70.2%	76.4%	64.6%	83.1%	86.2%	79.9%
Employed population, people	8,773,215	4,544,920	4,228,295	8,543,911	4,478,353	4,065,558
Employment rate, as a percentage of:						
- population aged 15 and older	66.8%	73.3%	61.0%	79.0%	82.6%	75.5%
- labour force size	95.2%	95.9%	94.5%	95.1%	95.8%	94.4%
Unemployed population, people	442,108	195,921	246,187	436,589	195,090	241,499
Unemployment rate, as a percentage	4.8%	4.1%	5.5%	4.9%	4.2%	5.6%
Youth unemployment rate, as a percentage (aged 15-28)	3.8%	3.3%	4.4%	3.8%	3.3%	4.4%
Long-term unemployment rate, as a percentage	2.2%	1.7%	2.9%	2.3%	1.7%	3%
People who are not part of the labour force, people	3,913,390	1,461,046	2,452,344	1,830,811	750,081	1,080,730
Share of people who are not part of the labour force in the total population, as a percentage	29.8%	23.6%	35.4%	16.9%	13.8%	20.1%

Source: [21].

aged 15 and older was 79% and increased by 0.24% compared to 2018. The number of unemployed was 442,000 people; the unemployment rate was 4.8%. According to the employment data, the most economically

active category of citizens working from 36 to 40 hours a week is people aged 29 to 54, according to the actual number of working hours. After 55 years, activity in the labour market begins to decline.

Table 3. Employed population of the Republic of Kazakhstan by actual number of working hours per week in the main job and age, for Q3 2019

	Total	Including those who worked a week, hours									
		5 hours and less	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41 hours and more	temporarily unemployed
Employed population, total	8,773,215	2,751	58,176	116,493	90,756	92,209	57,384	92,606	6,375,609	1,724,553	162,678
including by age, years:											
15	1,088	-	795	237	-	56	-	-	-	-	-
16-24	1,117,370	444	9,369	13,331	12,277	8,046	6,750	8,801	842,484	188,402	27,466
25-28	1,002,926	-	2,267	9,557	6,735	5,337	3,664	9,252	743,648	192,336	30,130
29-34	1,633,552	130	5,718	14,926	13,722	12,305	6,011	12,874	1,186,721	333,679	47,466
35-44	2,197,852	754	7,384	16,195	17,644	20,729	12,300	26,908	1,596,163	468,727	31,048
45-54	1,806,990	256	8,198	18,826	14,848	21,529	12,843	19,248	1,343,503	348,544	19,195
55-64	948,141	462	16,503	29,776	20,827	19,436	13,573	14,590	643,222	182,457	7,295
65 and older	65,296	705	7,942	13,645	4,703	4,771	2,243	933	19,868	10,408	78

Source: [21].

According to the Committee on Statistics, the share of men in the number of unemployed in 2019 (Q1) was 47.3% (209.3 thousand people), women – 52.7% (233.5 thousand people). In the total number of unemployed, young people aged 15-28 years was 18.9% or

83.7 thousand people. The level of youth unemployment of the age of 15-28 was 3.9%. The highest unemployment rate for both men and women is observed between the ages of 29 and 34, and is 5.4% and 8.1%, respectively.

Table 3. Employed population of the Republic of Kazakhstan by actual number of working hours per week in the main job and age, for Q3 2019

	Total	Including by age, years							
		15	16-24	25-28	29-34	35-44	45-54	55-64	65 and older
Population including:	4.8	0	3.7	4	6.6	4.5	4.5	5.1	1.8
men	4.1	0	2.9	3.7	5.4	3.9	4	4.6	0.9
women	5.5	0	4.4	4.4	8.1	5.1	4.9	5.7	2.5
Urban population including:	4.8	0	4.2	4.4	6.2	4.5	5	4.5	0.4
men	4.4	0	3.7	4.5	5.6	3.8	4.3	4.4	0.9
women	5.3	0	4.8	4.3	6.9	5.1	5.5	4.6	0
Rural population including:	4.7	0	2.9	3.5	7.3	4.6	3.9	5.8	3.2
men	3.8	0	2.1	2.6	5.1	4.1	3.7	4.8	1
women	5.8	0	4	4.6	10	5.1	4.1	7.1	5.2

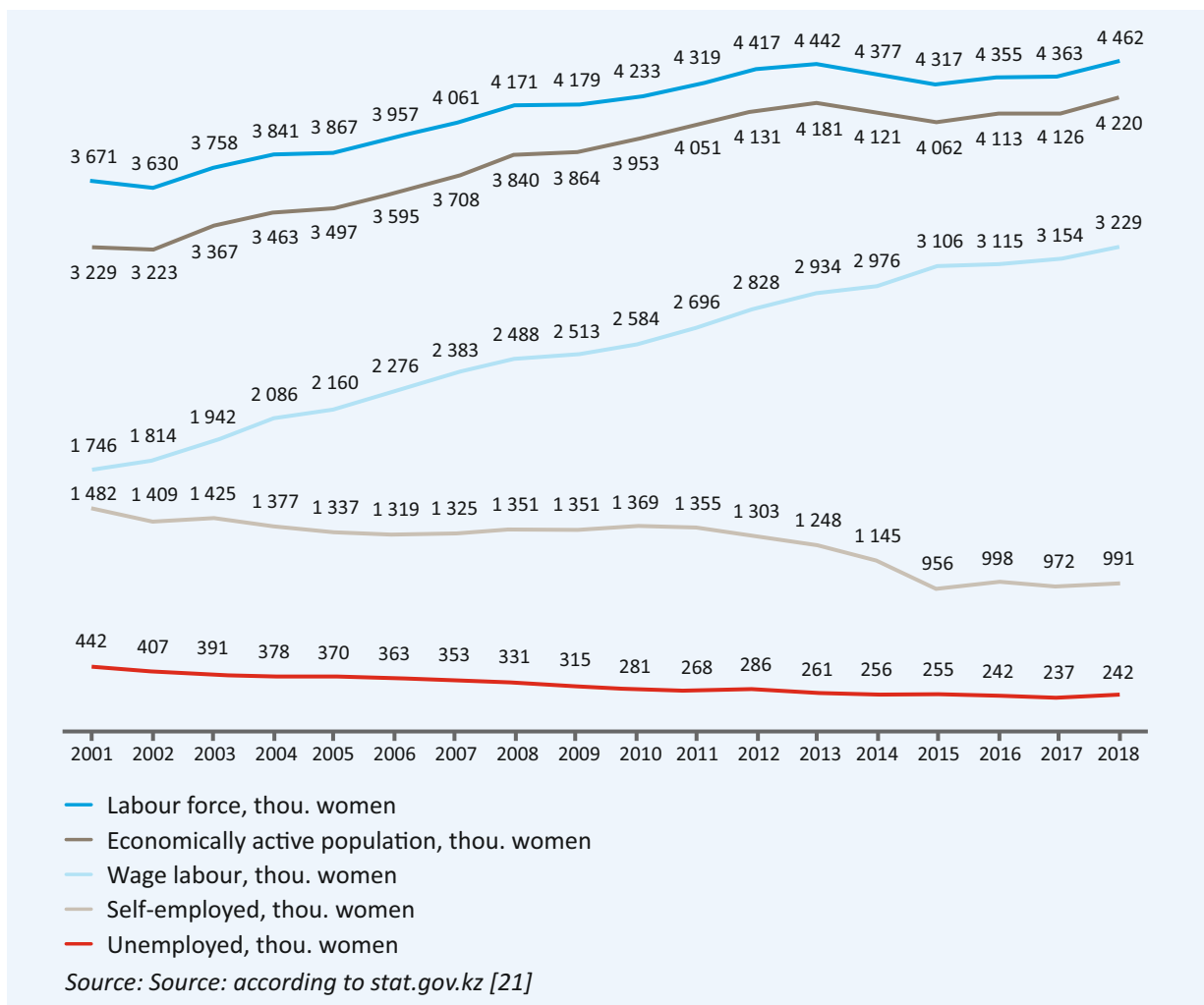
Source: [21].

Undoubtedly, the role of women is important in the development of the population. They can make a significant contribution to the country's economy and household income. However, women's work is not properly evaluated either as a result of unequal pay for equal work with male colleagues, or as a result of restrictions on women's access to high-paying labour market sectors. A number of factors influence the specific level of women's employment and the employment preferences pattern implementation: economic (macro-economic), household (micro-economic and social), and socio-cultural factors. The economic and socio-scientific literature offers different approaches to women's labour supply analysis. According to the neoclassical economic theory standard

model, women will work for pay if the opportunity costs of working in the labour market exceed the opportunity costs of household chores.

Kazakhstan, as well as many post-Soviet countries, is characterized by a high level of women's economic activity. Women's employment rates have a steady upward trend, while unemployment rates are gradually decreasing (Figure 1). At the same time, there is gender discrimination in the labour market, including gender differences in wages and occupational segregation. The country is characterized by a low level of social care sector development, low quality and insufficient supply of services provided by ECEC organizations, and in particular, elderly and sick family members' care services.

Figure 1. Number of economically active population (women)



Currently, the Kazakh economy creates fewer jobs for women than required. Furthermore, there is a concealed unemployment and legal/illegal labour migration. Population growth and internal migration processes in some oblasts of Kazakhstan is not provided with social infrastructure (kindergartens, schools, hospitals, etc.), which also affects the future quality of human capital.

Possibility of women's mass participation in the labour market is provided by the public child care system development. Besides the availability of dependent family members' care services, the most important components of services are cost and duration. Former socialist countries were among the first to attract the female labour force to work in public production, providing the necessary multitasking of child care centers. In recent years, Scandinavian countries have been leading the world in terms of female employment and service provision [22].

Insufficient social protection and measures that do not adequately balance work and family responsibilities, including the lack of quality jobs, services and infrastructure in the public care sector, are a major problem for workers and businesses. The lack of such protective measures restricts women's access to more decent jobs. Other important factors include the lack or complete absence of care for children, people with disabilities and people in need of long-term care, as well as care services that do not meet the needs of workers, aid recipients, and providers in terms of their availability, cost and quality. So, women are responsible for making up for the lack of care by performing unpaid work throughout their lives to care for their homes and families. Underestimation of work related to providing care, both for and without pay, perpetuates poor labour conditions for women, who make up the vast majority of employees in the care industry, in particular, pre-school teachers and teachers in the education system, as well as caretakers and

nurses [23].

3.3 Pre-school Education and Training Services

Improving the quality of Early Childhood Education and Care (ECEC) and expanding access to ECEC organizations' services is an important tool for children's holistic development and promoting women's involvement in the labour market.

In 2015, the UN adopted a resolution on the Transformation of our World: The 2030 Agenda for Sustainable Development [24], which defined 17 Sustainable Development Goals. The fourth goal covers "ensuring inclusive and equitable quality education and promotion of lifelong learning opportunities for all" and defines one of the tasks as ensuring inclusive access to quality care, education and development for young children by 2030, and preparing them for primary education [24].

In 2018, there were almost 106 children per 100 places in pre-school institutions in Kazakhstan according to official statistics of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan. There is a shortage of places in kindergartens in 80% of Kazakhstan oblasts. Due to the shortage of public pre-school institutions and the high cost of private centers, mostly children from vulnerable families may not receive high-quality preschool education. Migrants, minorities and other socially vulnerable groups are invisible in national education indicators. The state's programmes and initiatives are mainly aimed at urban residents and do not address the problems of rural children.

In 2018, there were 10,314 ECEC organizations [operating](#) in Kazakhstan, including 6,565 in state ownership and 3,749 in private ownership. The number of ECEC organizations increased by 9.5 times compared to 2000 – from 1,089 units, while 923 of them were in

state ownership, 162 – in private ownership, and 4 – in foreign ownership [21].

According to the Committee on Statistics of the MNE RK, in 2018, 57.83% of pre-school children were enrolled in pre-school education, which is significantly lower than the average for OECD countries. Pre-school education coverage for children aged 3 to 6 was 95.24%. Despite the fact that government expenses for ECEC organizations and the number of pre-school organizations have been steadily increasing since 2000, the problem of a shortage of places in ECEC organizations is still relevant. In 2018, 556,154 children were on the priority list in the ECEC organizations [21].

The population of Kazakhstan in 2018 was 18,395,660 people, exceeding the population at the end of 1991 by 1,943,949 people [25]. The number of children has also increased (it

has been growing since 2004) and in 2018 the number of pre-school children (aged 3 to 6) reached 1,537,539 [24]. Kazakhstan has a high birth rate (20-22 births per 1,000 people) [26]. At the beginning of 2019, 54.3% of the country's households had minor children, including 16% of families with three children, and 9% with more than three. In 2018, the share of the employed population in the country was 80%, and the unemployment rate was 4.8% [21].

The collapse of the socialist centralized economy in the 1990s and the subsequent crisis, led to a reduction in state spending on education and a sharp reduction in the number of pre-school organizations.

From 1991 to 2003, the number of ECEC organizations decreased from 8,881 to 1,106 [21] (Fig. 2, 3).

Figure 2. Number of pre-school organizations (urban/rural)

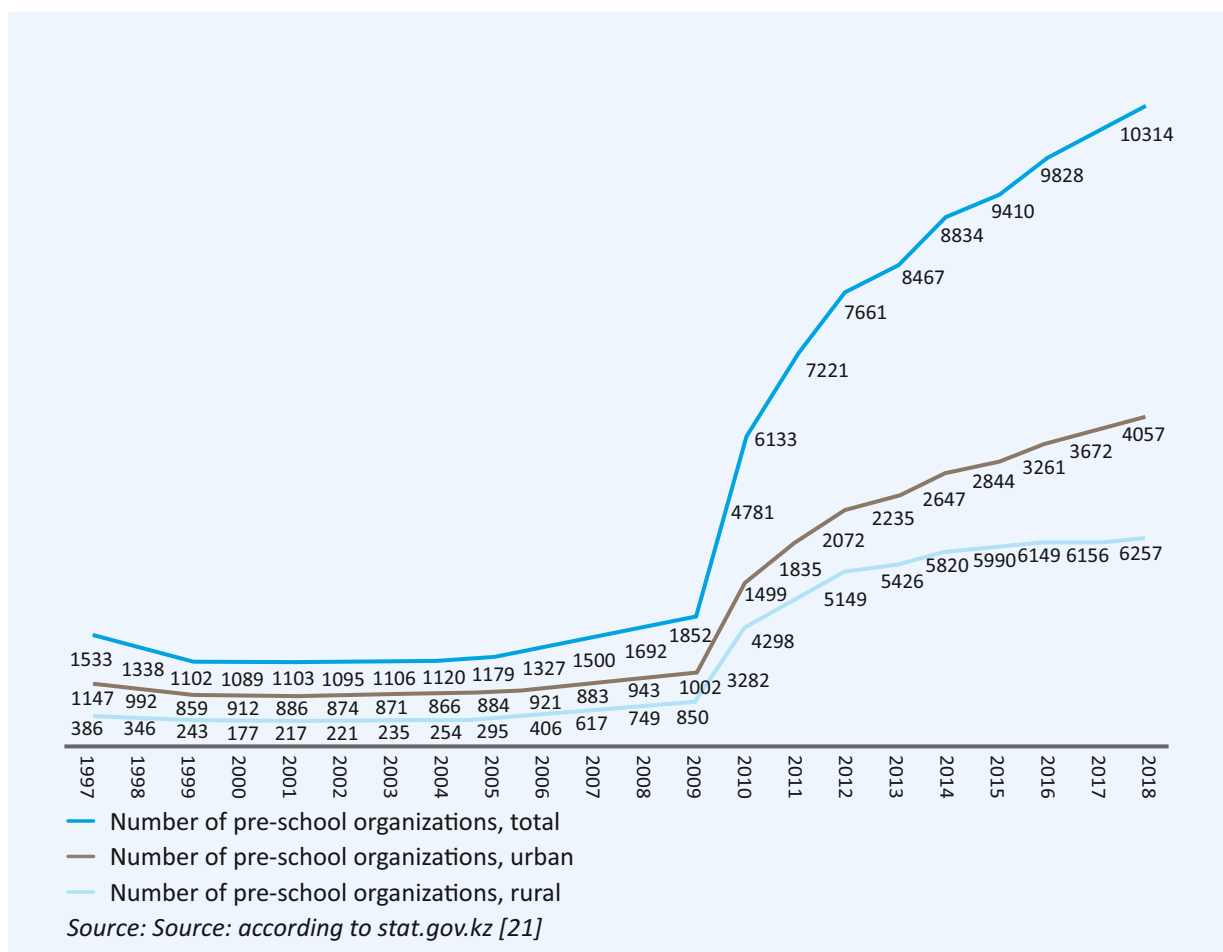
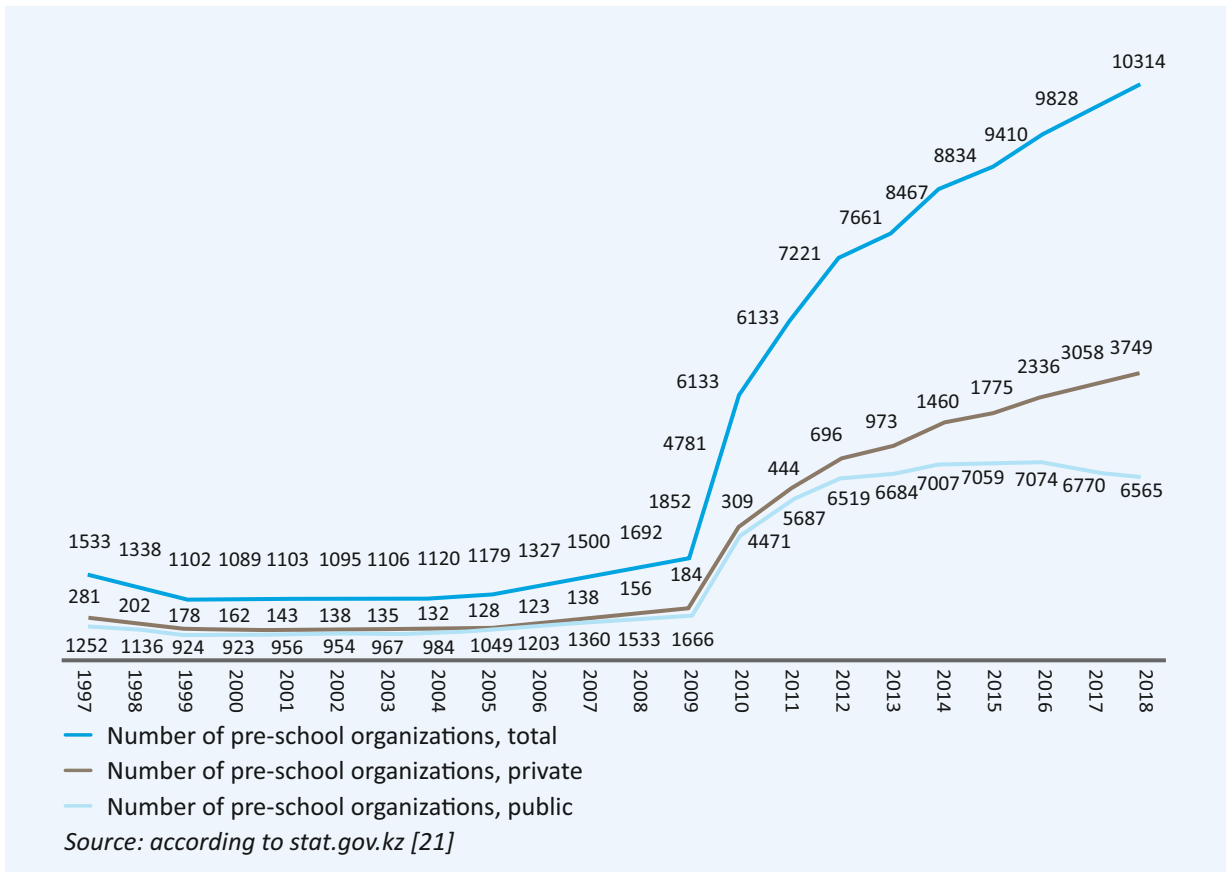
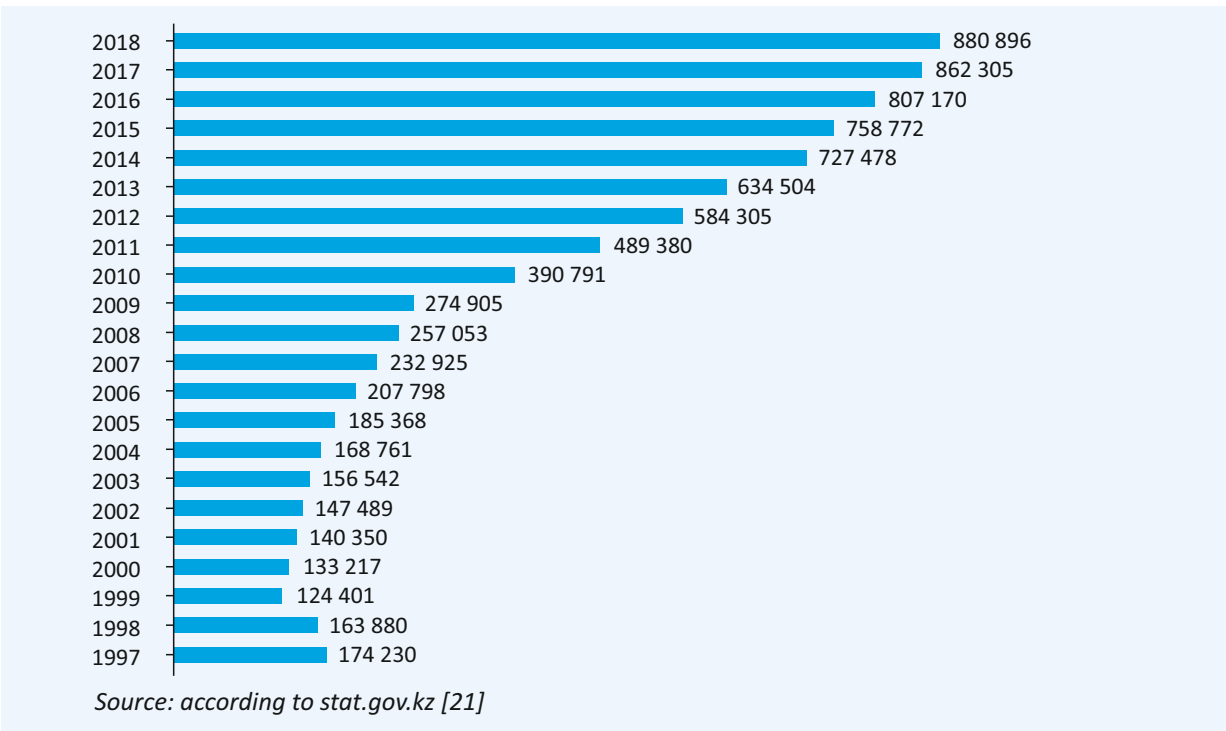


Figure 3. Number of pre-school organizations (public/private)



The number of children in pre-school organizations decreased from 1,023,099 in 1991 to 156,542 in 2003 [21], (Fig. 3, 4).

Figure 4. Number of children in pre-school organizations

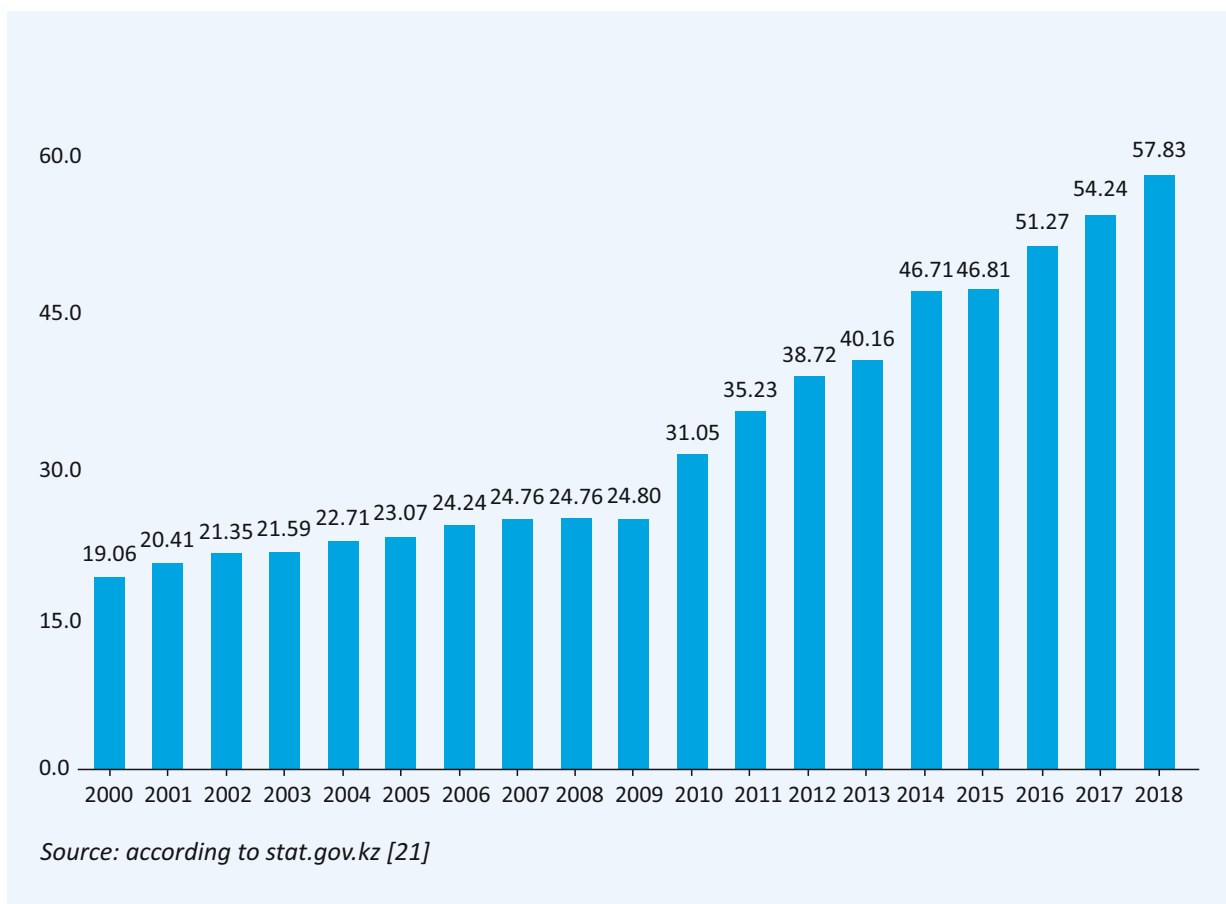


The National Report on Education of the Ministry of Education and Science of the RK noted that the demographic factor is one of the important components that affect the economy and education in the country [25]. In turn, economic instability in the country also affects family decision-making and birth rate. If at the end of 1991 the number of children aged 3-6 was 1,467,658, in 2003 this figure decreased to 859,036 [25].

However, despite the decline in the number of pre-school children, which should have education and training (Fig. 5) [21].

reduced the demand for pre-school services, there was an acute shortage of places in these institutions. Most of the state and departmental ECEC organizations were closed due to a sharp reduction in state funding and the collapse of departmental enterprises that operated kindergartens. Some buildings were privatized and used for other commercial purposes, as warehouses, shops, etc., and some buildings were abandoned. According to official statistics, in 2003 only 21.59% of pre-school children were covered by pre-school

Figure 5. Pre-school education and training coverage for children aged 1-6 (7)



The shortage of ECEC organizations became a serious problem and challenge for the country in the early 2000s, when the economy began to recover and birth rate began to grow. Since 2004, the number of children has started to grow, reaching 1,537,539 children aged 3 to 6 in 2018 [25].

To solve the problem of shortage of places in ECEC organizations, the Government of Kazakhstan is beginning to reform the education system, aimed at promoting 100% coverage of children with pre-school education. The Government of the RK has adopted the following strategies,

programmes, laws and regulations that have contributed to the expansion of pre-school education and training services:

"Kazakhstan 2030: Prosperity, Security and Ever Growing Welfare of All the Kazakhstanis" Long-Term Strategy, 1997;

"State Programme of Education Development in the RK for 2005-2010".

Law of the Republic of Kazakhstan dated July 7, 2006 No. 167-III "On Concessions»

Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319

"Strategic Development Plan of the Republic of Kazakhstan until 2020" (February 1, 2010).

"State Program of Education Development in the Republic of Kazakhstan for 2011-2020" (December 7, 2010).

"Salamatty Kazakhstan" State Programme of Health Care Development in the Republic of Kazakhstan" (November 29, 2010).

Law "On State Targeted Social Assistance" (July 17, 2001).

"Children of Kazakhstan" State Programme for 2007-2011.

"Balapan" Preschool Child Education and Training Programme for 2010-2014/2020.

"Kazakhstan-2050" Development Strategy of the RK until 2050, 2012.

Law of the Republic of Kazakhstan "On Public Private Partnership" dated October 31, 2015 No. 379-VZRK.

Order of the Minister of National Economy of the Republic of Kazakhstan dated March 17, 2015 No. 217 "On Approval of Sanitary Rules "Sanitary and Epidemiological Requirements for Pre-school Child Education and Training Facilities" (ceased to be in force and effect)

Order of the Ministry of Health of the RK dated August 17, 2017 No. 615 "On Approval of Sanitary Rules "Sanitary and Epidemiological Requirements for Pre-school Organizations and Baby Homes"

"National Action Plan for Ensuring Rights and Improving the Quality of Life of People with

Disabilities" (Decree of the Government of the Republic of Kazakhstan No. 254 dated March 26, 2014).

"State Programme of Education and Science Development for 2016-2019"

Law of the RK "On Education" dated 13.11.2015 No. 398-V

Law of the Republic of Kazakhstan dated July 4, 2018 No. 172-VI "On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on Education".

The Law of the Republic of Kazakhstan "On Education" dated July 27, 2007, introduces a requirement for compliance of ECEC general educational programs with the state mandatory standard of pre-school education and training (Article 15.1) in order to improve the ECEC quality. It also introduces mandatory preschool training for children aged 5-6 [26].

The Law of the Republic of Kazakhstan dated July 7, 2006 "On Concessions" made it possible to transfer "social infrastructure and life support facilities in all economy sectors" to concession. It defined the services of ECEC organizations as socially significant ones. Thus, the business sector was able to provide ECEC services [27].

The State Programme of Education Development of the Republic of Kazakhstan for 2011-2020 aims at education quality improvement and full coverage with education by 2020. To achieve this goal, the Programme provides for an increase in education funding [28].

"Kazakhstan-2050" Development Strategy of the RK till 2050 adopted in December 2012, has identified the development of ECEC as a state priority in the formation of an educated and healthy society. It established education funding as 4.1% of national GDP and 0.6% of GDP on pre-school education and training [29].

Measures taken by the state contributed to the increase in ECEC sector state funding, administrative and financial decentralization

of pre-school organizations. Implementation of adopted programmes helped to alleviate the problems of poverty due to increase of educator's salaries, introduction of childbirth and child care allowances until the age of 1, and social assistance to poor families. Women were granted 126 days of paid maternity leave. Moreover, one of the parents received the right to unpaid child care leave until the child's age of 3 [30].

However, by 2009, the increase in public spending on ECEC had not yet solved the problem of unmet demand for pre-school education services. In 2009, state spending on pre-school education in relation to GDP was 0.2% of GDP. There were 1,852 pre-school organizations operating in the country. The coverage of children with pre-school education was low at 24.8% [21], (Fig. 5).

"Balapan" Preschool Child Education and Training Programme for 2010-2014 was adopted to further address the shortage of ECEC organizations and improve the quality of pre-school education services under the long-term State Programme of Education Development for 2011-2020. It was later extended to 2020. "Balapan" Programme was designed to cover 77.7% of children with pre-school education by 2015 and provide 100% coverage until 2020. This Programme identified specific actions and indicators for each year from 2010 to 2020. It was planned to achieve 100% coverage with pre-school education and training through: Construction of new buildings for kindergartens; nationalization of previously privatized kindergartens; opening of private ECEC organizations and mini-centers; award of state educational order to pre-school organizations; "opening of ECEC organizations not only in stand-alone buildings, but on the first floors of residential complexes" [31].

KZT 165,940 mln. was allocated for the implementation of the "Balapan" Programme for 2010 – 2013, including KZT 162,920.5 mln. from the central government budget and KZT

3,019.5 mln. from local budgets. Programme budget for 2014-2020 is KZT 190,536 bln., of which KZT 41,242 bln. is expected to be allocated from the central government budget. However, most of the expenses are assigned to local budgets – KZT 149,294 bln. [31].

At the end of 2013, the Programme implementation has already shown significant results. The number of pre-school organizations has been increased to 7,661, which is more than 4 times compared to 2009, when there were 1,852 pre-school organizations in the country. Coverage of children aged from 1 to 6 (7) with pre-school education and training in 2013 was 40% [21], (Fig. 5). To a greater extent, pre-school education coverage increased for children aged 3 to 6. In 2013, 73.4% of children in this age category attended ECEC organizations [32].

Despite improvements, in 2013 there was a shortage of places in ECEC organizations. More than 406,000 children were on the waiting list, including 196,600 children aged 3 to 6 [30]. The Programme was extended until 2020.

In 2013, there were 2.4 million pre-school children (aged 0 to 7), which was 15% of the total population and almost 50% of children aged from birth to adulthood [33].

The Government of Kazakhstan is taking a number of measures to facilitate and simplify requirements for ECEC organizations opening. In 2015, the licensing conditions for pre-school organizations were revised and simplified [32]. And in 2016, the Government completely canceled license requirement for ECEC organizations opening [35].

The Law on Public Private Partnership of 2015 created the necessary financial and economic incentives for SME involvement in the development of a pre-school organizations network. It also contributed to the development of the PPP mechanism [36]. State educational orders for child care services are now being awarded to private pre-school

organizations [31].

The Ministry of National Economy of the RK [37] and the Ministry of Health of the RK [38] adopted regulatory documents providing for more simplified requirements of sanitary norms and rules to open ECEC organizations. Now it is permitted to open ECEC organizations in premises located on the first floors of residential and rented buildings. The previous requirement for a separate building to open a kindergarten was abolished.

Since 2016, the Tax Code of the RK provided tax benefits for entrepreneurs who open kindergartens. According to Article 135 of the Tax Code, the income of organizations providing social services, including pre-school organizations, was exempted from taxation [39]. "Turnover on the sale of educational services in the area of pre-school education and training was also exempted from value added tax" [39]. These benefits for ECEC services are preserved in the Tax Code of 2017 in the new version of 2019 [40]. All these measures contributed to the growth of the number of private ECEC organizations. In comparison with 2010, when the number of private pre-school organizations was 309, in 2014 the number of them increased almost 5 times and amounted to 1,460 organizations. In 2018, their number increased by 2.6 times and already amounted to 3,749 organizations [21] (Fig. 3).

In 2018, out of 788 newly created ECEC organizations that created additional 62.4 thousand places for children on the waiting list, 711 ECEC organizations were private, which created 47.4 thousand new places [25].

In 2018, the number of private pre-school organizations in the country was 3,749 units, or 36.3% of all ECEC organizations providing 329,181 places, which is 34.9% of all children attending ECEC organizations [21] (Fig. 3).

In 2018, the coverage of children aged 3 and more reached 95% [25], which was a priority in education reform in the period up to 2020. The increase in the number of private preschool

organizations and mini-centers mainly contributed to the increase in ECEC coverage rate.

The number of children aged 3 to 6 was 1,034,997 this year and 985,721 of them attended ECEC organizations [41]. At the same time, there is still a problem of expanding the institutionalization of child care services up to age of 3, which would increase the level of women's participation in the labor market.

In 2018, the share of children aged 1 to 3 in ECEC organizations was 31.7% (28.2% in 2017), which is lower than the average for OECD countries of 34% [34]. The low rate of coverage of children of this age with ECEC organizations may be related to the legally established right to parental leave until the child reaches 3 years [34]. The family's decision to send a child to kindergarten can be influenced by: Low quality of services provided by state ECEC organizations; High fees for services of private ECEC organizations (often exceeding the women's income) and low wages of women employed mainly in low-paying sectors (education, health); Difficulties with employment of women in connection with their noncompetitiveness in the labor market after maternity leave; Breastfeeding up to 1.5–2 years popular among Kazakh women. An important reason for the low proportion of children aged under 3 in ECEC organizations is also due to the fact that an "optimal" age for enrollment to state kindergartens is considered to be 3 years [42]. To be eligible for a child care place, the child must be 3 years or older to attend a private kindergarten under government contract. And a place will be provided only if there is a vacant place in this kindergarten [43]. Private kindergartens are unaffordable for children from low-income families. Thus, there is an insufficient supply of child care services for children aged 0 to 3 on the part of ECEC organizations. It would be appropriate for the Government to review the age for kindergarten enrollment and ensure that child care services are offered for children

aged 0 to 3.

The rapid growth in the number of ECEC organizations has not yet completely solved the problem of shortage of places in these organizations. According to the MoES RK [25], 556,154 children aged 0 to 6 were on the waiting list for enrollment in ECEC organizations in 2018. The demand for kindergartens in Kazakhstan's cities is four times higher than in rural areas [25]. 80% of all preschool children on the waiting list live in the city [25], [Fig. 6]. The higher demand for preschool education services in cities is associated with population migration from rural to urban areas due to the lack of employment opportunities and poor infrastructure in rural areas. Poverty in rural areas is 2.7 times higher than in urban areas, and 42.6% of the population lives in rural areas [21]. In 2018, "the lowest rates of preschool education coverage of children aged 3-6 were recorded in Nur-Sultan (83.7%) and Almaty (82.7%)" [25]. Internal migration flows from

rural to urban areas included 28,835 children aged 3 to 6. Thus, the number of children in Almaty increased by 4,468 as a result of migration in 2018 [25]. The waiting list for enrollment in ECEC organizations is managed by the state. The MoES RK introduced automated system of distribution of places in pre-school organizations to ensure transparency, create a single waiting list and ease the problem of shortage of places in ECEC organizations.

"Methodological recommendations for automating the process of waiting list formation and operation for distribution of places to preschool organizations" were developed [44].

High birth rate in the country and existing waiting lists indicate the need to further expand the child care services institutionalization. In 2018, preschool education services were provided by 10,314 preschool organizations attended by 880,896 children [21]. ECEC organizations are represented by kindergartens and mini-centers to a greater extent. The structure of ECEC organizations in Kazakhstan that provide ECEC services consists of public and private early childhood centers, kindergartens, family early childhood centers, sanatorium early childhood centers, "school-kindergarten" complexes, and preschool mini-centers. The main providers of ECEC services are kindergartens, mini-centers, and early childhood centers. Early childhood centers are attended by children aged 1 to 3. Children aged 3 to 6 attend kindergartens.

Increase in number of ECEC organizations is achieved mainly through the opening of private kindergartens and mini-centers, and from only a small amount of construction of new institutions (Table 5).

Figure 6. Data about waiting list for places in kindergartens, 2018, persons.

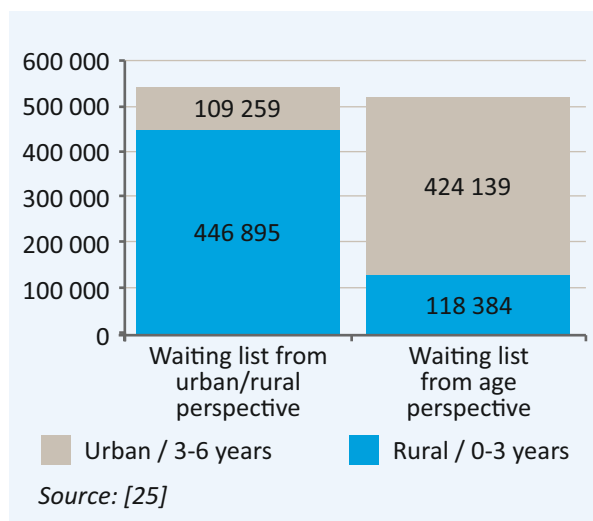


Table 5. Monitoring of opening of preschool organizations, 2018

Indicator	Open	
	Total	Total
Construction, of them	13	2 800
financed from SB	2	
financed from LB	11	
Under PPP	20	2 600
Private pre-school organizations, of them	718	47 400
Private mini-centers	181	
Private kindergartens	537	
Open PO on 1 floors of residential buildings	1	350
By other means	36	9 200

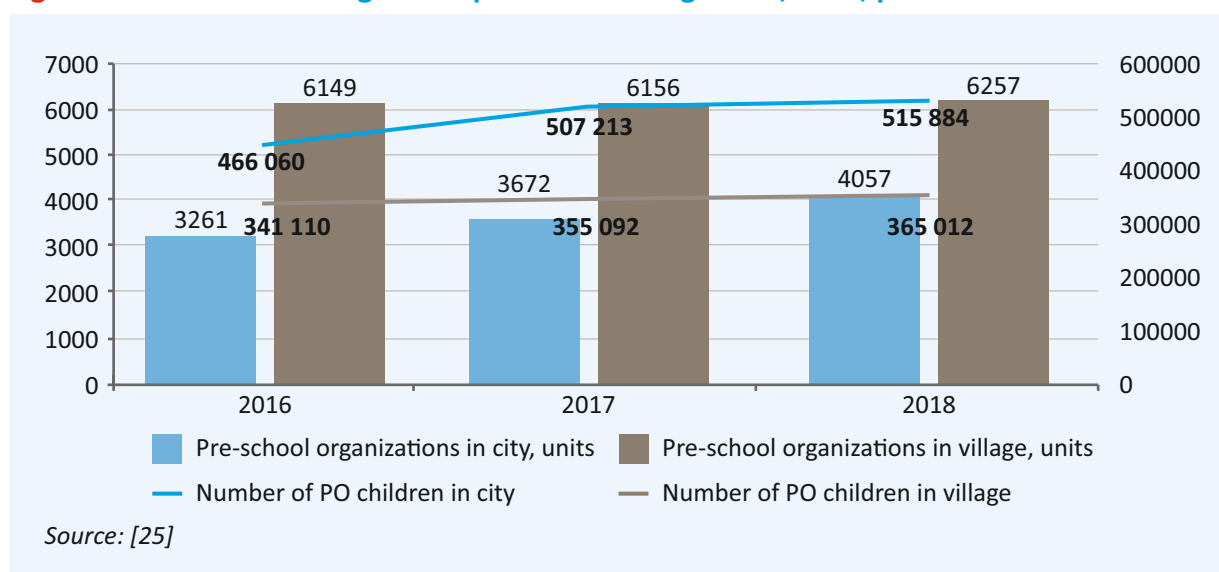
Source: [25]

The share of ECEC organizations in rural areas

is higher than in cities and amounted to 60.7% in 2018. At the beginning of 2019, 4,057 ECEC organizations were located in the country's cities, and 6,257 in villages [24] (Fig. 2).

At the same time, the number of children attending preschool organizations in rural areas is 1.5 times lower than in urban areas and amounts to 365,012 and 515,884 persons, respectively [45]. Preschool organizations in villages are usually small in size. Children's groups in ECEC organizations in small villages are often understaffed or children of different ages are grouped together. Most organizations operate in the form of mini-centers. The average number of children in rural ECEC organizations is 58, while in the city this figure is 127 [45]. There is a higher demand for ECEC organizations' services in urban areas (Fig. 7).

Figure 7. Data about waiting list for places in kindergartens, 2018, persons.



Source: [25]

Revised and simplified sanitary and epidemiological standards, in order to facilitate opening of new ECEC organizations, had negative consequences as ECEC organizations in unsatisfactory condition and with incomplete infrastructure, were accepted into operation. Such institutions are not adapted for children to stay in due to the absence of hot water, sewerage or even water supply. Such problems are especially relevant for rural ECEC organizations.

In 2018, 19.6% of ECEC organizations in the country have no connection to a hot water supply, 23.2% have no connection to sewerage, and 15.3% of organizations have no water supply. Forced methods of opening preschool organizations had a negative impact on ensuring the quality of services provided (low salaries of employees, low qualifications of teachers and nurses, lack of technical equipment, outdated educational materials) [25].

3.3.1 Financing of Early Childhood Education and Care

According to the Ministry of Finance of the Republic of Kazakhstan, the government budget of the Republic of Kazakhstan in 2018 amounted to KZT 10.12 tln. According to Article 27 of the Budget Code of the Republic of Kazakhstan dated December 4, 2008 No 95-IV, the unified budget classification includes: 1) classification of budget revenues; 2) economic classification of budget expenses, which determines expenses by economic content, without reference to target groups (salary, payment for services, etc.); 3) functional classification of budget expenses, which determines the main directions of budget expenses for implementation of state functions [46]. Functional classification of budget expenses includes expenses on early childhood education and care, medical care in early childhood education and care institutions, ensuring affordability of early childhood education and care, methodological support in early childhood education and care, maternity and child care

allowances, expenses of providing special social services for the elderly and person with disabilities in medical and social institutions, etc.

When considering child care expenses, along with financial investments, it would be appropriate to consider both unpaid child care work in the household and unpaid taxes to the budget [47]. Budget classification of care expenses does not include losses from lost taxes that were not paid to the budget because of the fact that parents cannot go to work due to limited access (shortage of places, low wages, lack of ECEC services offer, poor quality of services) to services in preschool education organizations for their children.

The share of expenses on education was 17.2% in the structure of total public expenses in 2018 (Fig. 9). This indicator corresponds to the UN recommended level for achieving the tasks of the fourth Sustainable Development Goal, namely, within 15-20% of public spending. From 2012 to 2018, this indicator remained relatively stable, with the highest value of 19.3% in 2012 and a decrease in 2017 to 14.8% [21].

Figure 8. Dynamics of public expenses on education in Kazakhstan

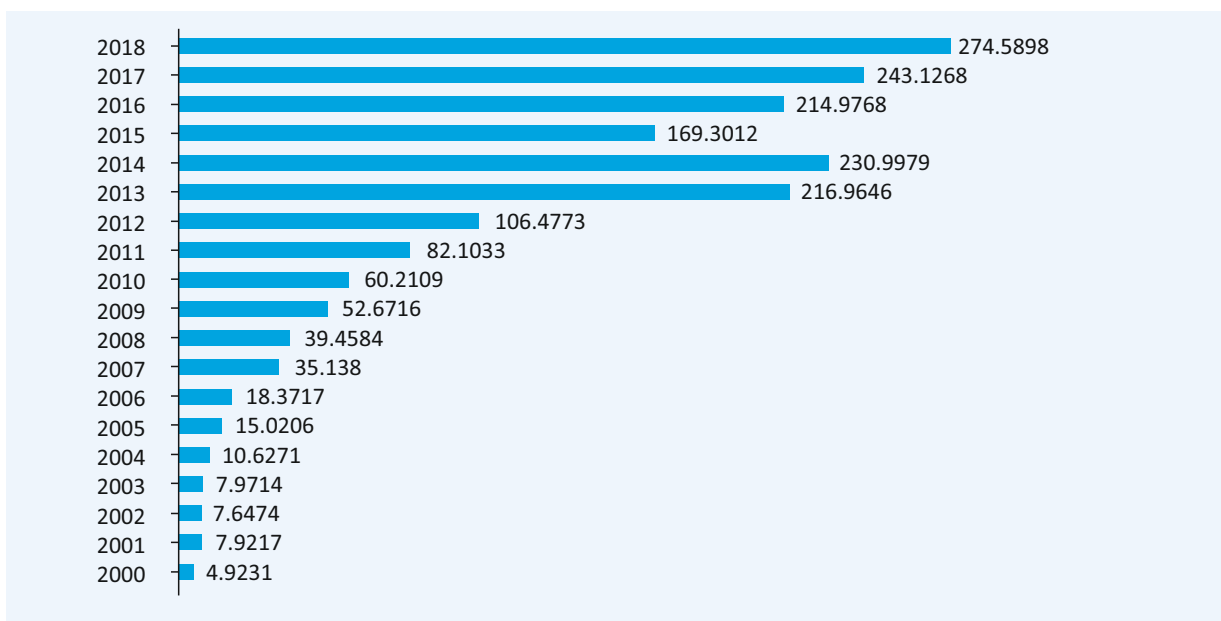
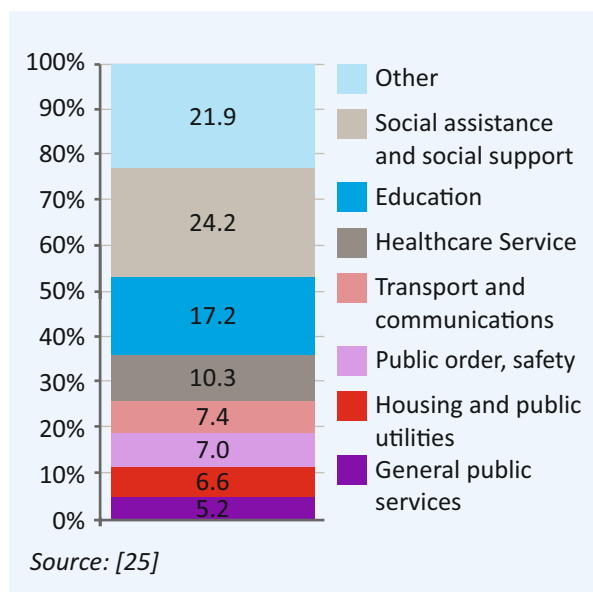


Figure 9. Structure of public expenses in Kazakhstan, 2018, %



In nominal terms, expenses on ECEC have been steadily growing since 2000 and in 2018 amounted to KZT 274.6 bln. (Figure 8). At the same time, in 2018, the share of public spending on education was 3.3% of the country's GDP, which is lower than 4-6% of the level recommended by the UN and below the average level of 5% for OECD countries [25]. According to the latest data available for 2015, spending on preschool education in relation to GDP was 0.6%, which is lower than the level of 0.8% on average in the OECD countries [34].

Since January 2018, ECEC organizations in the country are switching to a new model of per capita financing, which will be fully implemented from 2020. This is to reduce staff costs, increase spending on direct development of education and promote transparency in the distribution of funds [34]. This new funding model assumes per capita funding. The per capita funding standard is calculated taking into account the actual costs of salaries, textbooks, utilities and equipment, maintenance costs, preschoolers' meals, transportation, and other expenses. The Ministry of Education and Science of the RK determines the main part of expenses (for wages, educational materials, utilities), and passes them on to oblast and rayon budgets

[48]. In public ECEC organizations parents pay only for the child's food. Totally free of charge care services are provided in specialized organizations for children with disabilities. The cost of food for private kindergartens under state order is approved by the Maslikhat of the city [49].

However, the transition to per capita financing is currently facing serious problems. Calculations of expenses per child do not cover all expenses of ECEC organizations. The problem of insufficient per capita funding is particularly acute for private preschool organizations. At the initial stage, the state allocated about KZT 20 thou. for one child. Later, the payment rates were increased to KZT 27 thou. on average in the country, but the difference in payment has already been shifted from the central government budget to the local ones. However, local budgets often do not cover this difference [50]. The amount calculated according to the standard, even taking into account the recalculation in 2019, does not cover all the main expenses of private ECEC organizations [50]. Nevertheless, private preschool organizations cover 34.9% of places in preschool education and make up 36.3% of all ECEC organizations in the country [40].

It should also be noted that the salary of education workers in Kazakhstan is one of the lowest [21]. In Q3 2018, according to the Committee on Statistics of the Ministry of National Economy of the RK, the average monthly nominal salary of a kindergarten teacher was KZT 62,373 [21]. Recall that the subsistence minimum in September 2018 was KZT 29,146 [21].

Thus, public spending on preschool education in relation to GDP in Kazakhstan is low. Inter-budget relations and methods for calculating the standard of per capita financing are not sufficiently developed for comprehensive implementation of the new model of per capita financing.

The continuing waiting lists for enrollment in

ECEC organizations and high birth rate in the country indicate that further expansion of child care services is relevant. In this regard, it is necessary to carefully calculate the estimated costs for creating new ECEC organizations, for salaries of employees and infrastructure development. It is necessary to identify specific sources of expenditure financing. We need cooperation of all ministries related to the development of the ECEC system and equal distribution of budget funds among ECEC organizations, taking into account the special needs of children with disabilities in rural areas. Access of children aged under 3 to ECEC should be ensured, etc.

3.4 Dependent family members' care services

In all societies, women, men and children with disabilities are too often among the most marginalized groups and face unique challenges in the enjoyment of their human rights. For a long time, it was believed that such problems were a natural and inevitable consequence of their physical, mental, intellectual or sensory disorders.

It is estimated that more than a billion people, or about 15% of the world's population (according to the 2010 world population estimate) live with some form of disability. This is a higher figure than the previous estimate made by the World Health Organization in the 1970s, which was 10%. According to the World Health Survey, about 785 million people aged 15 and over (15.6%) live with a disability, while the Report on Global Burden of Disease estimates about 975 million people (19.4%).

Within these estimates, according to the World Health Survey, 110 million people (2.2%) have very significant functioning difficulties, while the Report on Global Burden of Disease estimates that 190 million people (3.8%) have a "severe disability", which is equivalent to disability caused by conditions

such as quadriplegia, severe depression, or complete blindness [51].

Some women, men and children with disabilities are fully integrated into society, participate in its life and actively contribute to all areas of its activities. However, the vast majority of them face discrimination, exclusion, isolation and even abuse. Many people with disabilities live in extreme poverty, in special institutions. Many of them do not have access to education or work and face a range of other factors of marginalization. While many countries have already begun to implement measures to improve the lives of people with disabilities, much remains to be done.

Data from the World Report on Disability show that many of the barriers faced by people with disabilities can be avoided, and that the inconveniences associated with disability can be overcome [52].

In 2015, Kazakhstan ratified the Convention on the Rights of Persons with Disabilities, thereby committing itself to the implementation of international standards for exercise of economic, civil, social and cultural rights of persons with disabilities without discrimination and on an equal basis with others. The Law "On Amendments and Additions to Some Legislative Acts of the Republic of Kazakhstan on Protection of Rights of Persons with Disabilities" was adopted for the implementation of this Convention in December 3, 2015. It amended 24 legislative acts, including three Codes [53].

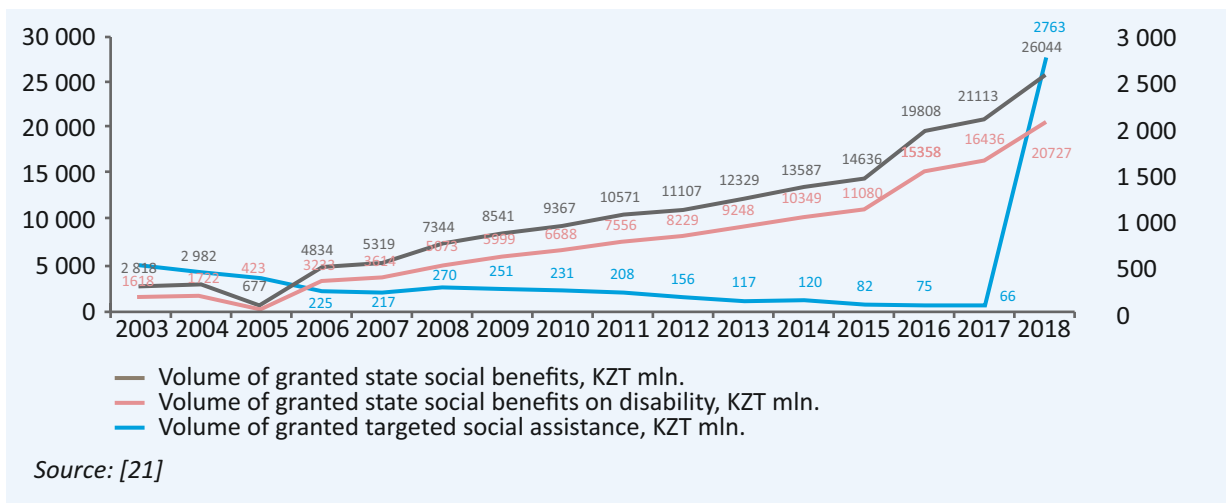
Currently, more than 680 thousand people with special needs live in Kazakhstan, 61.5% of them are of working age, 25.7% are of retirement age, and 12.8% are children under 18. The proportion of people with special needs is relatively stable and has been 3.7% among the entire population over the past three years [54].

On behalf of the head of state, a new allowance was introduced for people caring for lifelong first-degree disabled adults from

July 1, 2018. Today, the allowance is assigned to 10 thousand families; its amount is KZT 29,699. The guaranteed volume of special social services was provided by 881 organizations to about 100 thousand people with special needs, including 8.8 thousand people who received services through 130 NGOs. In general, KZT 302.8 bln. is provided for social security and assistance to persons with disabilities in 2018 (an increase of 121% by 2017) [53].

According to Figure 10, you can see that the format of accrual and payment of targeted social assistance has changed since 2018. Targeted social assistance (TSA) is a monetary payment provided to low-income citizens and low-income families, including large families. TSA is paid to children aged under 18, as well as to students aged under 23 who study in higher and professional educational institutions. If previously they paid about KZT 21 thou. per month for each child, now the

Figure 10. Volume of 3 types of social benefits.



Source: [21]

amount of payments will be the difference between the poverty line and the average per capita income for each family member. As of December 1, 2018, the number of recipients of the one-time birth grant was 332.3 thousand people in the amount of KZT 34.2 bln. (this benefit was received by 392,743 people in the amount of KZT 34.7 bln. for the same period in 2017). The amount of benefits is: for the first, second and third child - KZT 91,390 (KZT 86,222 in 2017); for the fourth and more children - KZT 151,515 (KZT 142,947 in 2017). In accordance with the changes, the government allowance is assigned to large families with 4 or more minor children or full-time students aged under 23. So, a family with 4 children will receive KZT 42,496, with 5 children – KZT 53,126, with 6 children – KZT 63,757, and with 7 children – KZT 74,388. The number of recipients of allowances has

increased compared to 2017, due to the fact that the criteria for receiving TSA now include only wages and income from a farm household. Previously, student educational allowances and various social benefits were taken into account. Preparations for the TSA reform began in 2002 in cooperation with the World Bank. So, in the period from 2014 to 2017, "Orleu" Pilot Project was implemented in the country. As a result, a system of social contracts for recipients, conditionality of assistance receipt, as well as low-income families support practice were introduced. Continuing the reform of targeted social assistance, the criterion set for the level of income for determining the right to assign TSA was changed in 2018. It was increased from 40 to 50 % of the subsistence minimum. As a result, the number of TSA recipients increased 20-fold compared to 2017.

The objectives of the National Plan to ensure the rights and improve the quality of life of persons with disabilities in the Republic of Kazakhstan up to 2025 (hereinafter – the National Plan) include the implementation of obligations taken by the Republic of Kazakhstan in connection with the ratification of the Convention on the Rights of Persons with Disabilities. Also the formation of an inclusive society through the creation of a favourable environment for all vulnerable groups in the framework of social modernization of Kazakhstan until 2030.

A three-stage implementation of the Action Plan on ensuring rights and improving the quality of life of persons with disabilities in the Republic of Kazakhstan for 2012 – 2018 (hereinafter – the Action Plan) was completed. It aimed to create conditions to implement provisions of the Convention on the Rights of Persons with Disabilities. The main goals and objectives of the Action Plan have been fulfilled. (National plan for ensuring rights and improving the quality of life of persons with disabilities in the Republic of Kazakhstan until 2025).

Every year, more than 200 thousand people with disabilities are provided with assistive devices and services (ADS). The share of providing ADS in 2018 was 57.8% of the total number of people in need (88% in 2013, 67% in 2015, 67% in 2016, 67.5% in 2017).

In the implementation of the Address of Elbasy, the First President of the Republic of Kazakhstan, dated December 14, 2012 "Kazakhstan–2050: New Political Course of the Established State", it was noted that it is necessary to create conditions under which employers will actively attract the socially vulnerable population to work, providing them with wages. As of January 1, 2019, more than 27% (111.5 thousand people) are employed from among 411 thousand people with disabilities of working age. The largest share in the structure of people with disabilities of working age is people in the

second disability group (46% or 191.9 thousand people) and the third disability group (45% or 186.4 thousand people). A small share (9% or 39.7 thousand people) is taken by people in the first disability group. The employment quota has been revised in order to increase the employment of people with disabilities. If previously it was three percent for everyone, today a differentiated approach is being implemented from 2 to 4 percent, depending on the number of employees and by industry, without taking into account jobs in heavy work and work with harmful and dangerous working conditions. 7.4 thousand people with disabilities are employed within the quota. The largest number of people with disabilities who are employed under the quota, work in the fields of education, health and social services, trade, agriculture and transport.

Within the framework of Enbek State Program for the Development of Productive Employment and Mass Entrepreneurship for 2017-2021, people with disabilities, along with other vulnerable segments of the population, have the right to take part in active measures to promote employment of population.

As of January 1, 2019, 18.9 thousand people with disabilities were included in the Program, which is 2.8% of the total number of participants in the Program. 16.6 thousand people were employed.

In order to encourage employers to employ people with disabilities, since 2018, subsidizing the costs of employers associated with equipping a special workplace for people with disabilities has been introduced. On January 1, 2019, amendments to the Law of the Republic of Kazakhstan "On Public Procurement" came into force in terms of automating the procedures for participation of public associations of disabled people and organisations created by them in public procurement. This measure provides for increasing the competitiveness of public

associations of disabled people and organisations created by them in the supply of goods, work and services [54].

According to experts, disability is affecting more younger people. More and more girls and boys are confined to a wheelchair due to injuries and diseases. Affected by their physical condition, they prefer to close themselves in their own homes.

According to the 2019 Revision of World Population Prospects, by 2050, one in six people in the world will be over the age of 65 (16% of the population), compared to one in 11 in 2019 (9% of the population). By 2050, one in four people living in Europe and Northern America could be aged 65 or over. In 2018, for the first time in history, people aged 65 or above outnumbered children under five years of age. The number of people aged 80 years or over is projected to triple, from 143 million in 2019 to 426 million in 2050 [55].

According to the UN forecasts, the world's population is projected to grow over the next few decades from the current 7.7 billion to 8.5 billion in 2030, reaching 9.7 billion in 2050. In Kazakhstan, according to forecasts, growth is expected too. The population will reach 24 million by 2050. As of the beginning of 2019, 18.4 million people lived in Kazakhstan - a 1.3% growth over the previous year (18.2 million people). The average population growth in the country over the past 10 years is 1.5% per year [56].

In Kazakhstan, the trend is also noticeable: in 2014, residents over 65 accounted for 6.8% of the population, then at the end of 2018, 7.5%. According to forecasts, the country will see almost a double increase in the proportion of people over 65 and older, from the current 7.5% to 14.1% in 2050. It should be noted that according to the UN age scale, the population of the Republic of Kazakhstan is considered old [57].

The above principles determine the decisions on population ageing issues taken by all levels and branches of government which result in an

improvement in the standards of living for older citizens. This is evidenced by the constant growth of pensions and benefits, the improvement of medical services and the formation of designated medical and social institutions network, etc. Legal and organisational conditions aimed at increasing the participation of non-governmental organisations in ageing issues, resolving as well to attract businesses to provide social services to older citizens, have been created [58].

However, in the context of improving the quality of life of older citizens, there are several tasks to be implemented. At the same time, the main efforts of the state in this area will be focused on the following priority areas: protecting the income of older citizens, providing affordable medical care, active longevity and a barrier-free environment.

According to forecasts, in Kazakhstan in the period from 2019 to 2050, the potential support ratio will cut in half, e.g. one pensioner aged 65+ will account for only about 3.5 people of working age, which will increase the burden on the latter. As of the end of 2018, there were 6.8 working-age people per 1 pensioner, and 7.5 in 2014. Low predictive values of this ratio emphasize the potential impact of the ageing Kazakh population on the labour market, economic indicators, and increase of the burden on the state budget relating to social security and pensions which Kazakhstan may face in the upcoming decades [59].

As of January 1, 2019, 12,754 pensioners lived in Kazakhstan's nursing homes. In 2018, there were 249 organisations providing special social services in Kazakhstan, including 155 day-and-night organisations, 63 day-type organisations, 30 temporary-stay organisations, and 1 organisation providing several options for special social services [60].

The total number of people residing within these organisations comprised 44,433, 42.9% of which 19,077 were women. In particular,

29,191 people (65.7% of the total number), resided within organisations providing special social services of day-and-night type; 12,572 people (28.3%) within day-care organisations; 2,378 people (5.4%) in temporary stay organisations, and 292 people (0.7%) in organisations with several options for special social services. The residing (serviced) pensioners totaled 12,754, or 28.7% of the total number; the single-rootless - 5,965 people, or 13.4%; people without a fixed place of residence - 2,186, or 4.9%; people paying rent - 638 people, or 1.4%; people released from prison - 590 people, or 1.3%; the Great Patriotic War participants and disabled - 90 people, or 0.2%; victims of domestic violence - 41 people, or 0.1%. As of the end of 2018, people with disabilities (serviced) amounted to 23,684 people, including 3,897 people with musculoskeletal disorders (16.5%), and 18,090 people with mental behavior disorders

(76.4%) [24].

The main provisions of state policy regarding older people are included in the Constitution of the Republic of Kazakhstan, Codes of the Republic of Kazakhstan "On National Health and Healthcare System", "On Marriage (Matrimony) and Family", the Labour code of the Republic of Kazakhstan, laws of the Republic of Kazakhstan "On Provision of Pensions in the Republic of Kazakhstan", "On State Social Benefits for Disability, for Loss of Breadwinner and Ageing in Kazakhstan", "On Special State Benefit in the Republic of Kazakhstan", "On Social Security of the Disabled in the Republic of Kazakhstan", "On Special Social Services", "On National Employment", "On Privileges and Social Security of the Great Patriotic War participants and disabled and equated persons", "On Public Associations", etc. [61].

4. ANALYSIS OF PRIMARY INFORMATION

4.1 Household survey

The survey was conducted in the form of a structured face-to-face interview, with a sample of 300 households, 65% of which were urban households and 35%, rural households (for Almaty and Almaty region). Approximately 40% of all surveyed household members were men and 60%, women aged 25 to 74 years.

Figure 11: Place of residence (households)

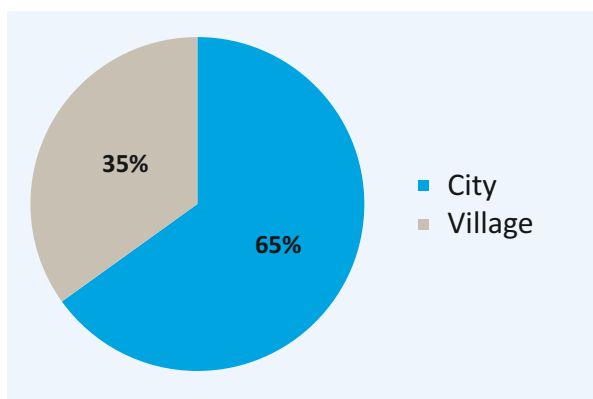


Figure 12: Gender of respondents

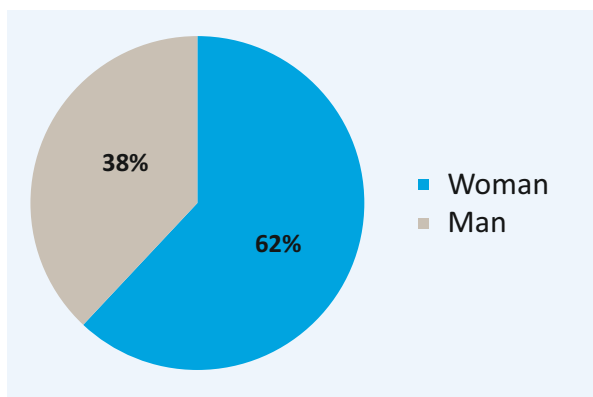
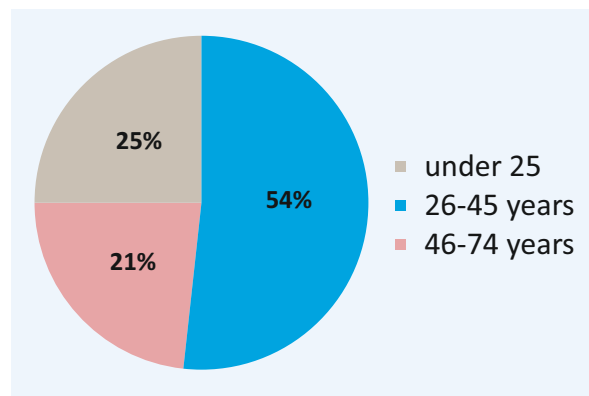


Figure 13: Age of respondents



The major part of the respondents (65%) were officially married, and just under a quarter of the respondents indicated they were single. By level of education, half of the respondents have technical and vocational education, 37% - secondary, and 14% - higher education.

Figure 14. Marital status of respondents

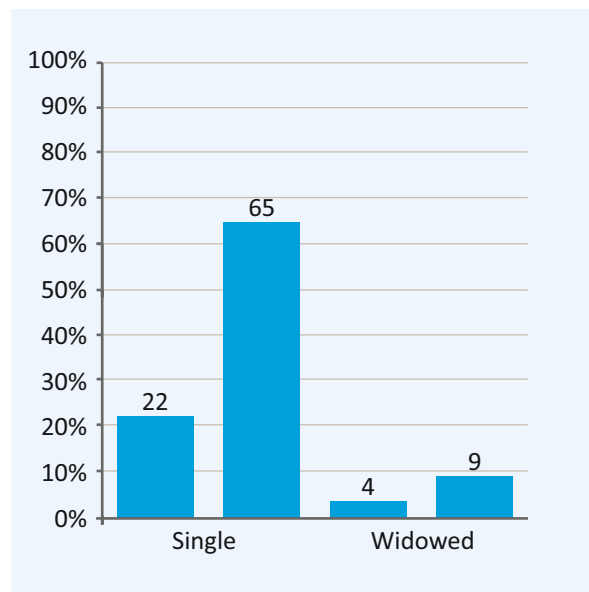
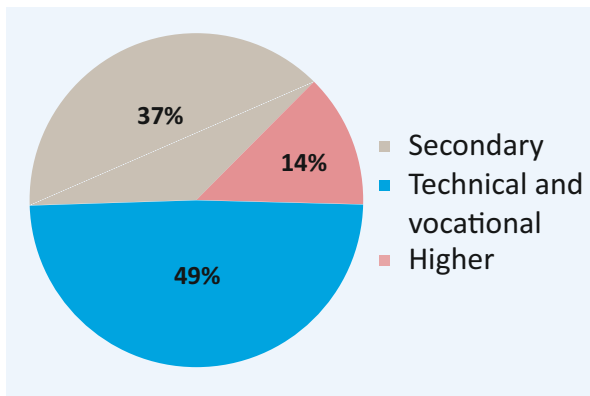


Figure 15: Educational level of respondents



Half of the surveyed households stated that they have children under 6 years who needed care. 33% of households included elderly people over 75 years, and 9% included sick (disabled) family members who needed help or care. In the vast majority of cases, it is women in the household who take care of children and elderly/sick family members. With regard to day care (kindergartens, care organizations for the elderly/sick), public institutions are in higher demand than private centers. This may be due to higher prices in private organisations.

Figure 16. Household members who need care

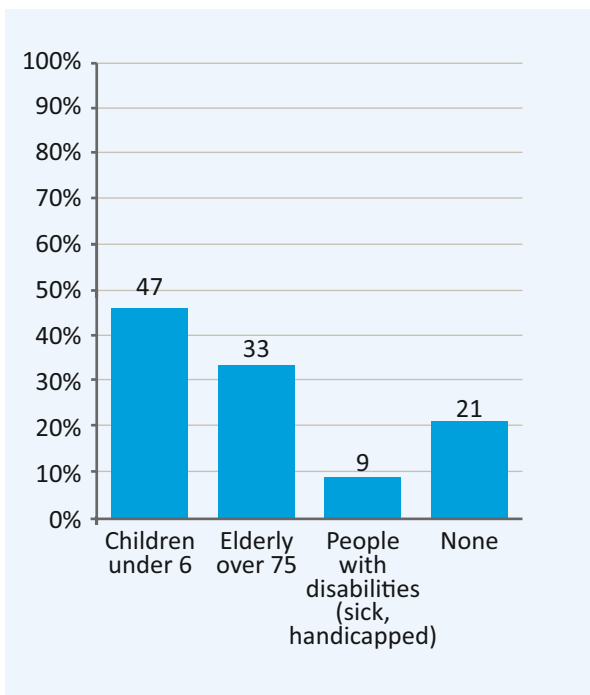


Figure 17. The household member who takes care of children

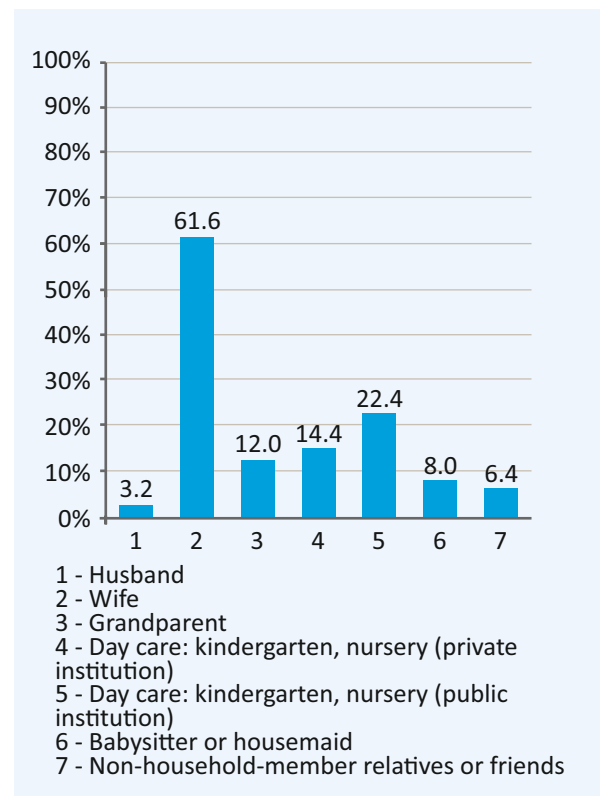
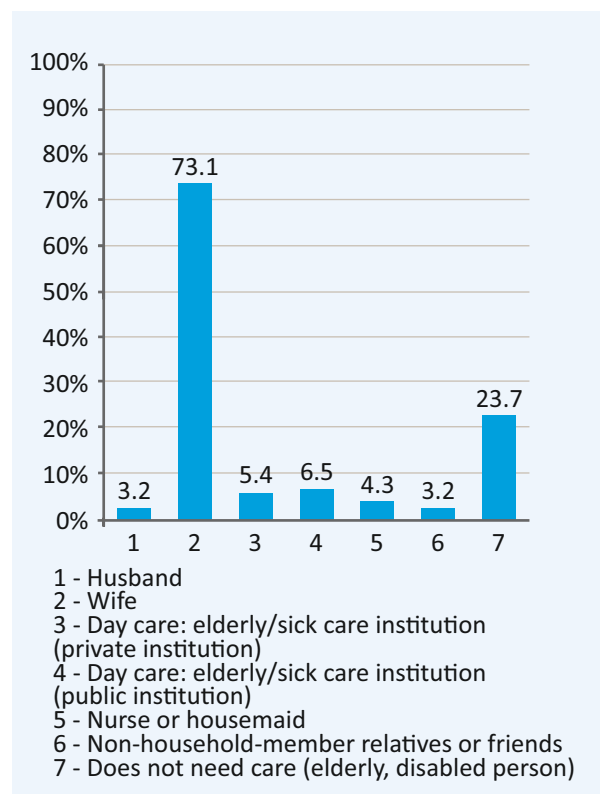


Figure 18. The household member who takes care of elderly/sick family members



The total monthly family income of 34% of the surveyed households ranged from KZT 200,000 to KZT 300,000 ; 24% – from KZT 100,000 to KZT 200,000; 14% – from KZT 300,000 to KZT 400,000; 11% - less than KZT 100,000, and only 6% - more than KZT 400,000. Almost half of the respondents stated that the main breadwinner in the family is the spouse. Given that 62% of the respondents were women, it can be assumed that the main breadwinners in the family are men.

The majority of households (65%) responded that they had received social security payments (social benefits) from the state or another non-profit organisation in the past 12 months.

Figure 19: Total monthly household income

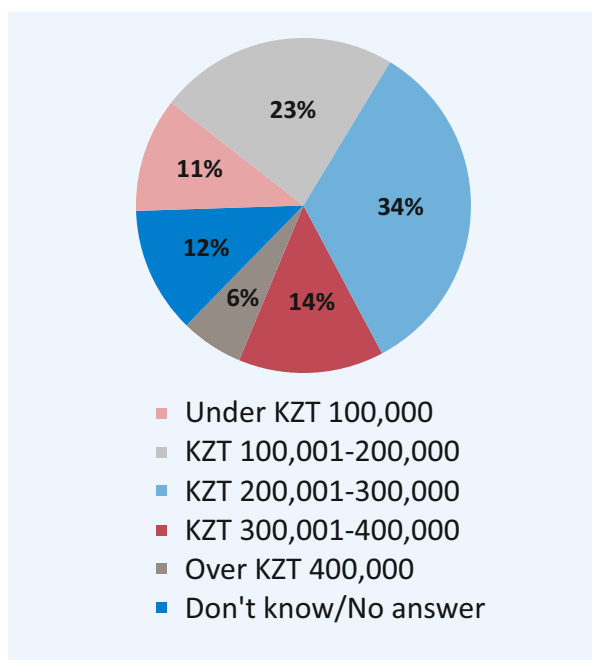


Figure 20. The main breadwinner in the family

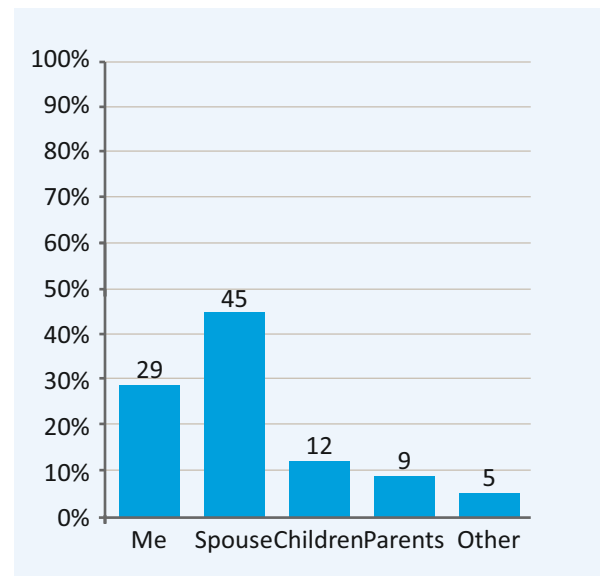
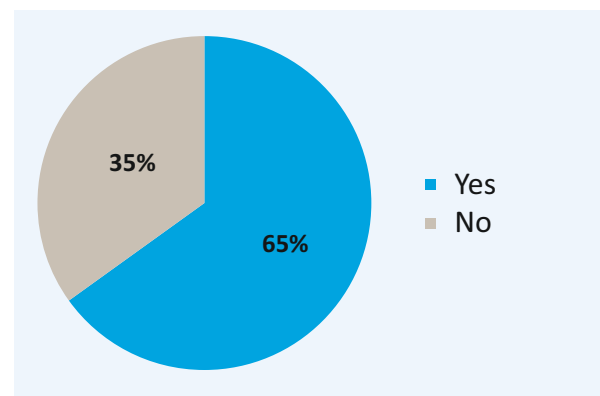


Figure 21: Payments to the household from the state or other non-profit social security organisation



Slightly more than half of respondents are unemployed, almost a quarter of respondents indicated that they had a permanent job, while the rest are students (5%), pensioners (12%)

and self-employed (9%). As the main reason for unemployed respondents not to be able to get employed, they indicated the difficulty to find a job that could be combined with their caregiving responsibilities. Other reasons they indicated include: they could not find a job that would satisfy them; there is no job in their specialty; they want to start their own business or they are waiting for a job they were promised.

Figure 22. Respondent's social status

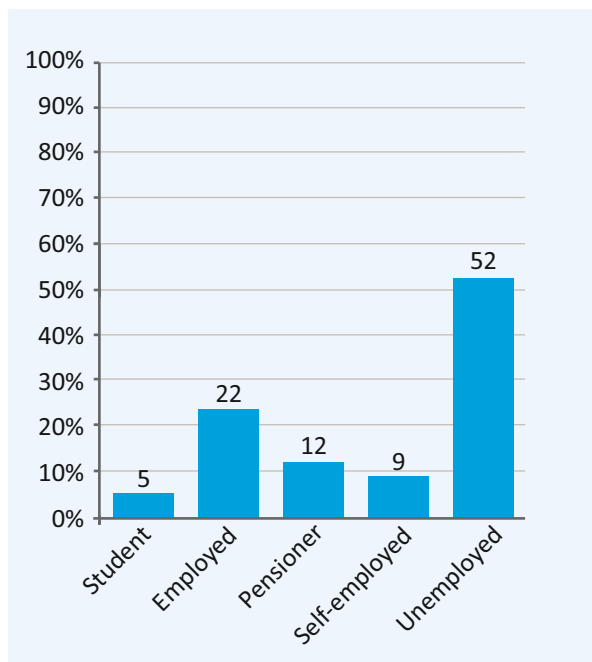
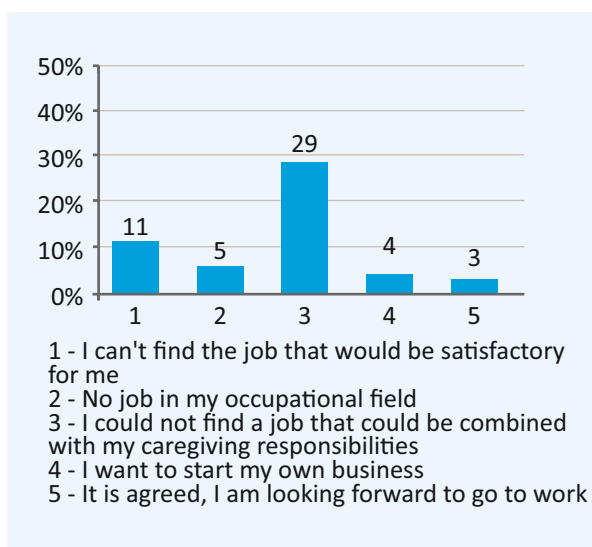


Figure 23. The main reason for the respondent's unemployment



It should be noted that the majority of respondents (62%) stated that they would like to go to work if child care services and/or other dependent family members (the elderly, the sick) care services became more accessible. 35% of them would go to work if their monthly salary started from KZT 150,000, 28% are ready to go to work with a salary of KZT 100,000, and 20,000 responded that a salary of more than KZT 250,000 per month would be an incentive for them to go to work.

Figure 24: Intention to go to work if child care, elderly/sick care services became available

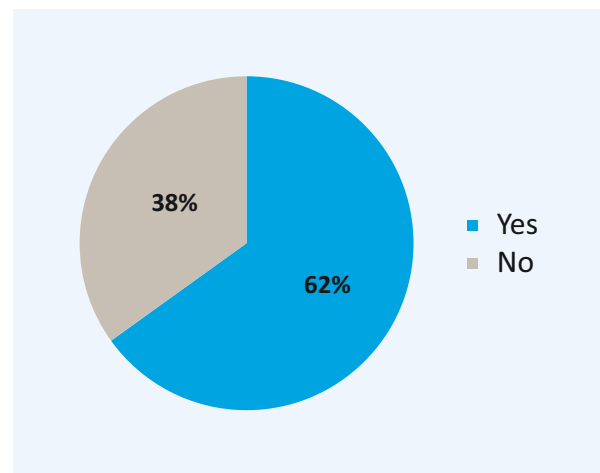
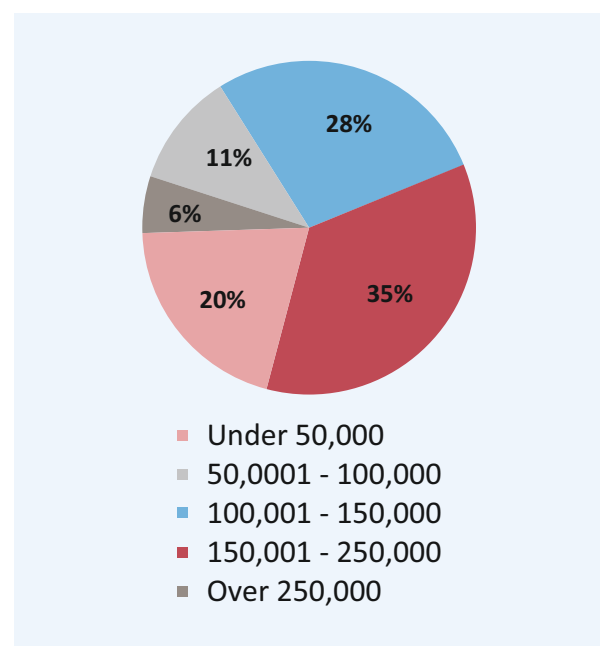


Figure 25: Total monthly household income



Regarding the relationship between the volume of domestic work performed by men and women and the growth of their personal economic well-being, the total time spent on performing the following activities was considered during assessment of the domestic work volume: cooking, apartment (house) cleaning, buying food, repairs of an apartment (house) where household members reside, child care and teaching activities, and caring for other dependent family members (elderly, sick) residing with respondents; as well as the income level of individual household members. The results of the household survey showed that women who have a higher personal income (with regard to the need to take into account the material well-being of the entire household) spend less time on domestic chores (washing, cleaning, cooking, etc.) and caring for other family members, than women with a lower income level. In other words, there is a statistically significant dependence of the volume of domestic work on the level of income. We can assume that women with higher financial resources can afford to purchase market-based substitutes for domestic work (assistants, nurses for care, etc.) and also automate their work at home. This way they can allocate more free time for self-realization, career building, resting, and that in turn can positively affect their satisfaction with their family/personal life. Also, the results showed that household engagement rate for females is 2.5 times higher than for males, which is consistent with the data of the Committee on Statistics for 2018: women spend approximately 2.9 times more time on unpaid domestic chores and household members, as well as on unpaid care services for family members.

4.2 Expert interview

4.2.1 Early Childhood Education and Care

Among day-care institution employees categorized as personnel: nursery teachers, nannies, care-taking/administrative staff - according to interviews, the average percentage of caregivers out of all employees is 8.1% in private institutions and 21.6% in public institutions. It should also be noted that there is a difference between the average number of care-taking staff in private and public institutions for early childhood care and pre-school education. From the interview data, it can be seen what problems these institutions face in finding employees categorized as personnel. The results show that there are no serious difficulties in recruiting staff in public institutions. Only 6% of respondents reported difficulties in finding care-taking staff, and 10% reported difficulties in selecting qualified teachers and caregivers. In private institutions, 67% of respondents indicated that they face difficulties in finding teachers and caregivers, and that most representatives of private childcare centers do not face difficulties when recruiting. However, when it comes to receiving a sufficient number of qualified job applicants, all respondents indicated that they see difficulties in this regard. For example, 81% of representatives of private companies reporting difficulties in recruiting care-taking staff, indicated that applicants are not sufficiently qualified. The second main problem is that qualified candidates are not always satisfied with working conditions, in particular, wages, working hours, and days off.

During the interview, childcare centre representatives were asked to compare the actual number of children enrolled with the capacity of institutions. The table summarizes the results of this comparison.

Table 6. Demand for services and capacity of childcare institutions (%)

	Private	Public
Demand exceeds capacity	6	68
Demand equals capacity	42	17
Demand is lower than capacity	52	15
Total	6	3

Childcare institution representatives note that in 52% of private institutions, the demand is lower than the capacity. In other words, only 48% of private institutions are operating at full capacity. In public institutions, the percentage of institutions operating at full capacity is 85%. According to the data, the average annual salary in private kindergartens is KZT 420,000. Public kindergartens charge a catering fee. For example, it is KZT 850 per day in Almaty, and KZT 650 per day in Almaty region.

Table 7. Annual payment per child (in KZT)

Private kindergarten	420,000
Public kindergarten	164,000 – 215,000

The results of the interviews show that in private and public institutions, the largest expenditures in the annual budget are personnel costs.

4.2.2 Dependent family members

According to our interviews, the reasons for which older people find themselves in these institutions are very different: forced loneliness, abandonment of relatives, loss of

loved ones. In one way or another, the elderly, often infirm and in need of daily care, are left alone with their life problems. Despite the fact that there are about fifty state institutions of this type in the country, the trend showing an increase in the number of single older people still shows.

An analysis of national legislation concludes that, in general, normative legal acts regulating the citizens' rights security do not contain discriminatory norms affecting the rights of older people. At the same time, the peculiarity of national legislation is that in fact, age differentiation of the population is not updated in Kazakhstan, except for children and youth. The population is divided according to other criteria: merits to the Fatherland, employment, ability to work, financial status, etc. Thus, older people can simultaneously relate to pensioners, disabled people, and the Great Patriotic War veterans. Accordingly, the legislative base is formed in compliance with these criteria. So the list of regulatory legal acts developed and aimed at implementing the rights and freedoms of these categories of citizens is quite broad.

However, problematic issues arise constantly over time and the changing economic situation.

The ageing of the population is accompanied by an increase in the dependence of older people on the economically and socially active population. Poor health, an unstable financial situation, and reduced competitiveness in the labour market in pre-retirement and retirement age, are characteristic features of the situation of a significant part of the older population. Many of them in modern socio-economic conditions feel their ineptness and lack of social demand.

Nations are aging, and society faces the problems of providing older people with a decent old-age, medical and everyday care, and payment of pensions and benefits. For example, the average cost of stay at a nursing home in Germany amounts to 1,700 euro

(more than KZT 700,000) per month. In 18 million Kazakhstan, pensioners make up about 2 million people and the average pension slightly exceeds KZT 50,000. At the same time, the results of quality interviews indicate that many older people live quite active and many would like to live even more actively.

Elderly people whose children live nearby are not allowed to enter elderly nursing homes. The state is adamant in this matter: capable children are obliged to support their older parents. And, for example, in a center of re-socialization, only a one year stay is allowed according to the law. When the person has to leave, they need to either rent a room or apartment, or try to establish relations with their relatives. There is another option – private, elderly nursing homes. The payment terms in each of them are different. In some cases, bequeathal of housing is required, in others the pension covers the payment. In public medical and social institutions, there is no need to give away one's property, but 70% of an elderly person's pension is spent on their care services, and 30% remains for the pensioner themselves.

"The heart bleeds when you see people who have adult children, but they are coerced to live with us, in a nursing home," says the Director of a nursing home. "You can't imagine how many tears our nurses saw, how many sad stories they listened to." It happens that children bring their parents, because they can not take care of them themselves. They must work and earn a living." According to the owners of private, elderly nursing homes, today all the beds in a small home with 50-60 beds are occupied, and there is still a queue outside the door of those who want to settle in a comfortable home. Residents of private nursing homes are retired people who do not like to tell how and why they ended up living there. Most of them have serious health problems. In private nursing homes they receive proper care, they are clothed and fed, and they receive treatment according to

doctors' prescriptions. The fees in such nursing homes start from KZT 70,000 and go up to KZT 150,000 per month in Almaty.

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"There are so many programmes for children in our country: development centers, free activities, clubs, sports clubs and kindergartens at affordable prices. And what is there for the elderly? Why don't we think about them? We can't avoid ageing. All of us will come to this", says the head of a private nursing home.

According to interviews, the average monthly fee in private nursing homes, depending on the type of accommodation (from one to five-bed), costs from KZT 70,000 to 150,000. The main difference between private and public nursing homes is that it is rare for residents to stay there on a permanent basis. According to one respondent, old men and women spend from seven days to two years in private nursing homes. Usually, relatives decide to send the elderly to care homes after complex operations, when they need a nurse, or when children live abroad and cannot look after their parents. In some cases, private nursing homes are seen as vacation homes where older people can socialize with each other.

Public nursing homes retain 70% of the pensions and benefits of retired and public-charge disabled. Transfer of 70% of the designated amount of benefits is made to a separate bank account or to the current account of medical and social institutions or nursing homes. The procedure for using these funds is determined by the central executive authority, in accordance with the Law of the Republic of Kazakhstan dated June 16, 1997 "On State Social Benefits for Disability and Loss of Breadwinner in the Republic of Kazakhstan".

The owners of private nursing homes for the elderly in difficult life situations, say that there is an increasing trend in the number of lonely, elderly people abandoned by their children. They have been working with homeless people for years and have noticed that the elderly are admitted to nursing home increasingly.

4.3. Modeling

Assessing the impact of spending on preschool education and social assistance on gender and economic indicators

Spending within the framework of institutionalization implies an increase in target indicators, for example, an increase in women in the labour force and an increase in tax revenues to the budget, etc.

For each model, 3 forecasts were made with low, medium, and high values of influencing variables. However, any other value can be substituted into the model.

Impact of education expenditure on gender and economic indicators

Spending on education shows a positive trend of annual growth. In 2018, the expenditures on primary education amounted to KZT 274,589,813 thousand. Three growth values of KZT 50,000,000 thousand, 100,000,000 thousand, and 200,000,000 thousand were selected as an increase for three scenarios. These values were inserted in the model and the following results were obtained.

Female labour force

According to the model obtained, when spending on preschool education increases by 1%, the female labour force increases by 0.05%. The model looks as follows.

$$LN_LABOR_WOMEN = 7,429921 + 0,0504 * LN_EXPENSESEUDC$$

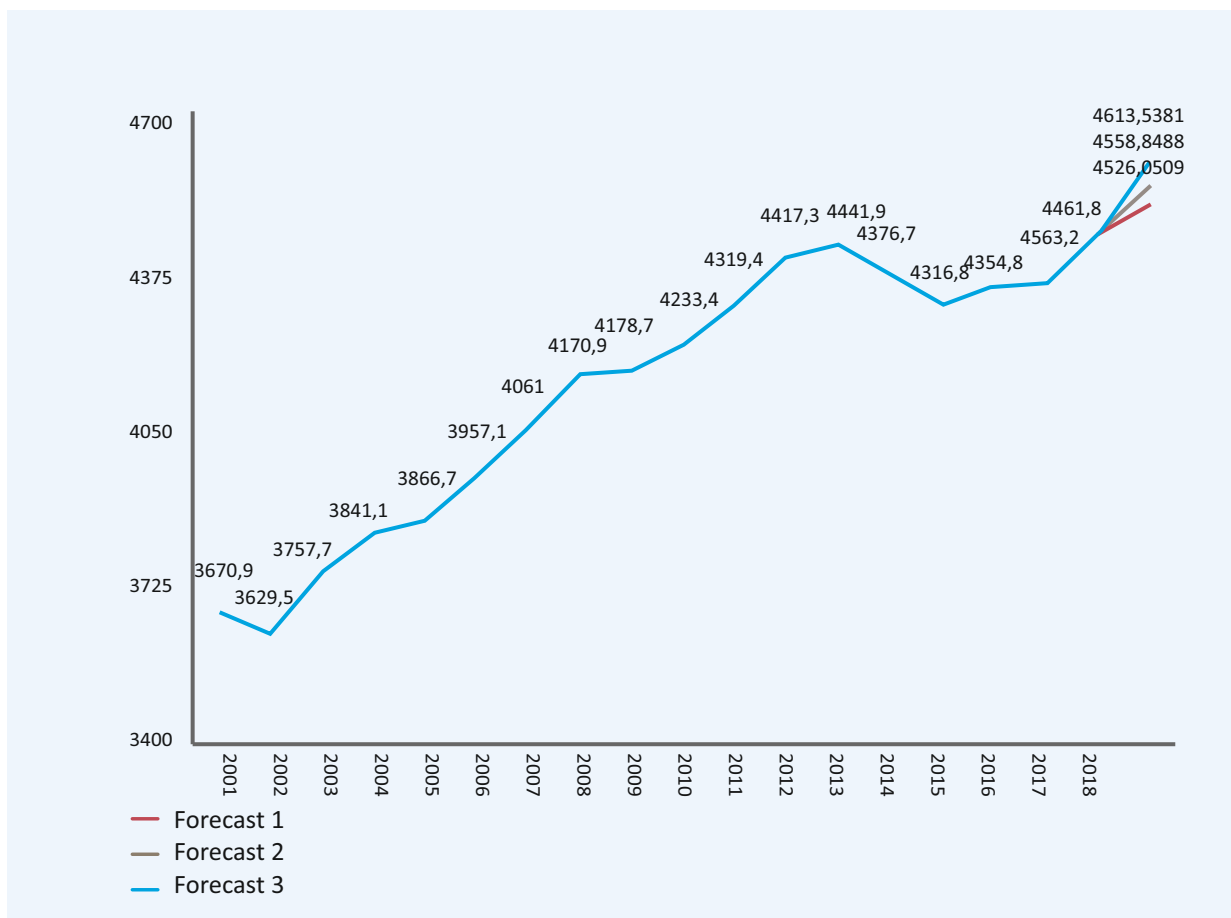
With an increase in spending on preschool education by KZT 50 bln, the growth of the female labour force will amount to 64,000 people, and the total number will reach 4,526 thousand people. With an increase in spending by KZT 100 bln, the growth will amount to 97 thousand people, and the total number will reach 4,559 thousand people. With an increase of KZT 200 bln, the growth will amount to 152 thousand women, and the total number in the female labour force will reach 4,614 thousand people.

Table 9. Female labour force

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		64	97	152
Increment X		50,000,000	100,000,000	200,000,000
lnY	8.4033	8.4176	8.4248	8.4368
lnX	19.4308	19.5981	19.7413	19.9780
Y	4,462	4,526	4,559	4,614
X	274,589,813	324,589,813	374,589,813	474,589,813

The growth dynamics of the female labour force is shown in the following graph.

Figure 26. Number of pre-school organizations (urban/rural)



Number of women employed

According to the model obtained, when spending on preschool education increases by 1%, the female labour force increases by 0.0678%. The model looks as follows.

$$LN_WOMEN_EMPLOYMENT = 7,0407 + 0,0678 * LN_EXPENSESEDUC$$

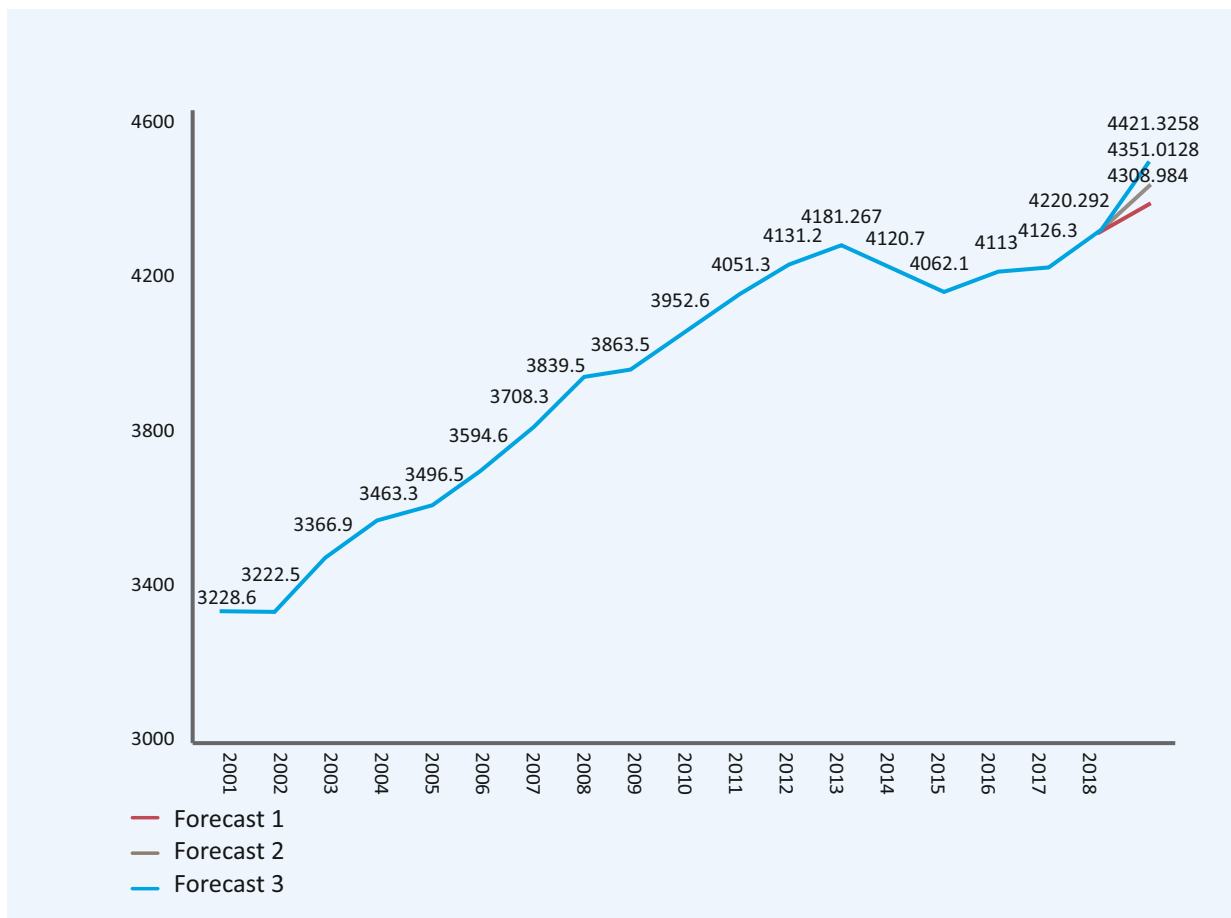
With an increase in spending on preschool education by KZT 50 bln, the growth in the number of employed women will amount to 89 thousand people, and the total number will reach 4309 thousand people.

Table 10. Number of women employed

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		89	131	201
Increment X		50,000,000	100,000,000	200,000,000
lnY	8.3477	8.3685	8.3782	8.3942
lnX	19.4308	19.5981	19.7413	19.9780
Y	4,220	4,309	4,351	4,421
X	274,589,813	324,589,813	374,589,813	474,589,813

The growth dynamics in the number of employed women is shown in the following graph.

Figure 27. Number of women employed



Number of children in pre-school organizations

The model of the dependence of the number of children on the expenditures on pre-school education is presented below. An increase in spending on pre-school education by 1% leads to an increase in the number of children in pre-school organisations by 0.5%.

$$LN_NUMBER_OF_CHILDREN = 3,730807 + 0,509685 * LN_EXPENSESEDUC$$

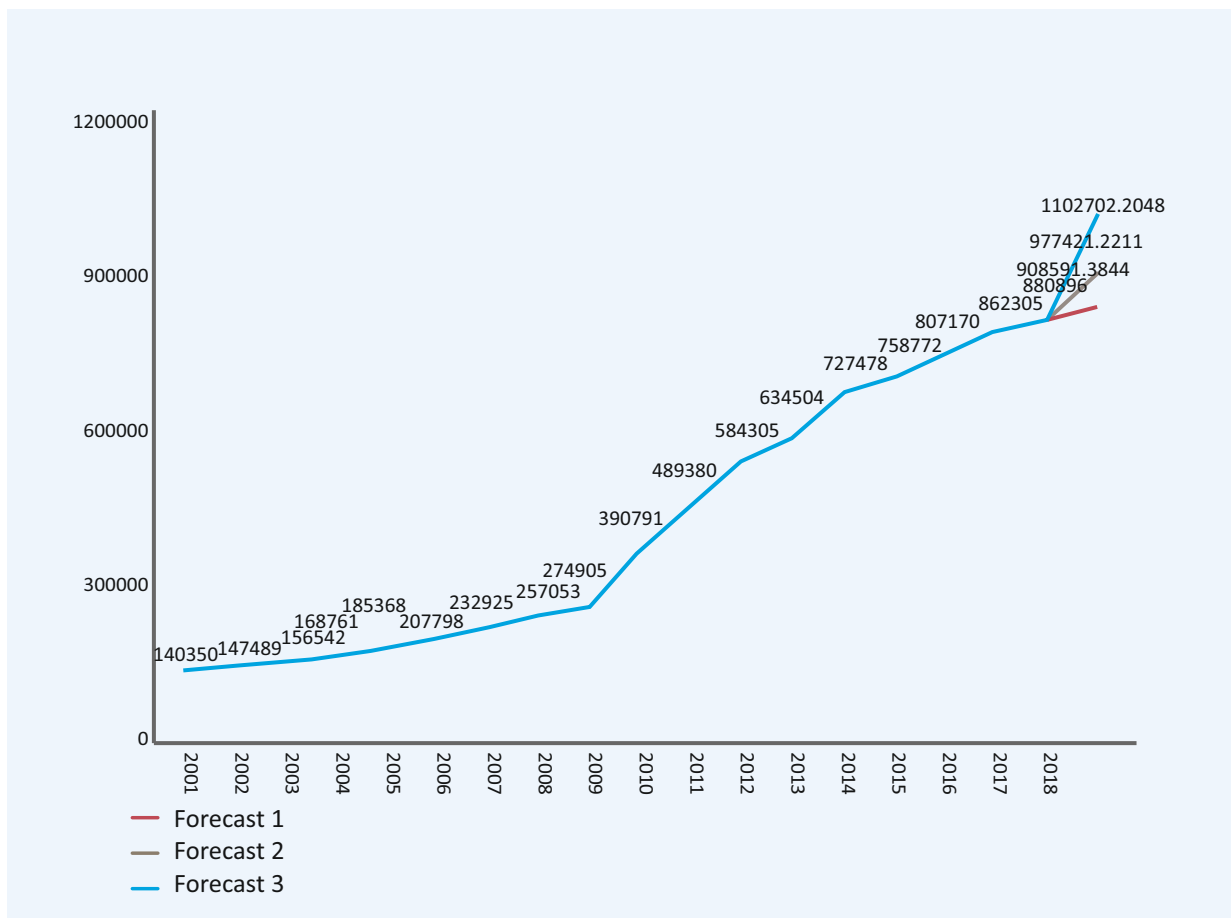
With an increase in spending on pre-school education by KZT 50 bln, the growth in the number of children will amount to 27,695 people, and the total number will reach 908,591 people.

Table 11. Number of children in pre-school organizations

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		27,695	96,525	221,806
Increment X		50,000,000	100,000,000	200,000,000
lnY	13.6887	13.7197	13.7927	13.9133
lnX	19.4308	19.5981	19.7413	19.9780
Y	880,896	908,591	977,421	1,102,702
X	274,589,813	324,589,813	374,589,813	474,589,813

The growth dynamics of the number of children in pre-school organisations and forecast data are shown in the following graph.

Figure 28. Number of children in pre-school organizations



Number of pre-school organisations

An increase in spendings on education by 1% leads to an increase in the number of pre-school organisations by 0.7%.

$$LN_PRESCHOOL_ORGS = -4,128998 + 0,687 * LN_EXPENSESEDUC$$

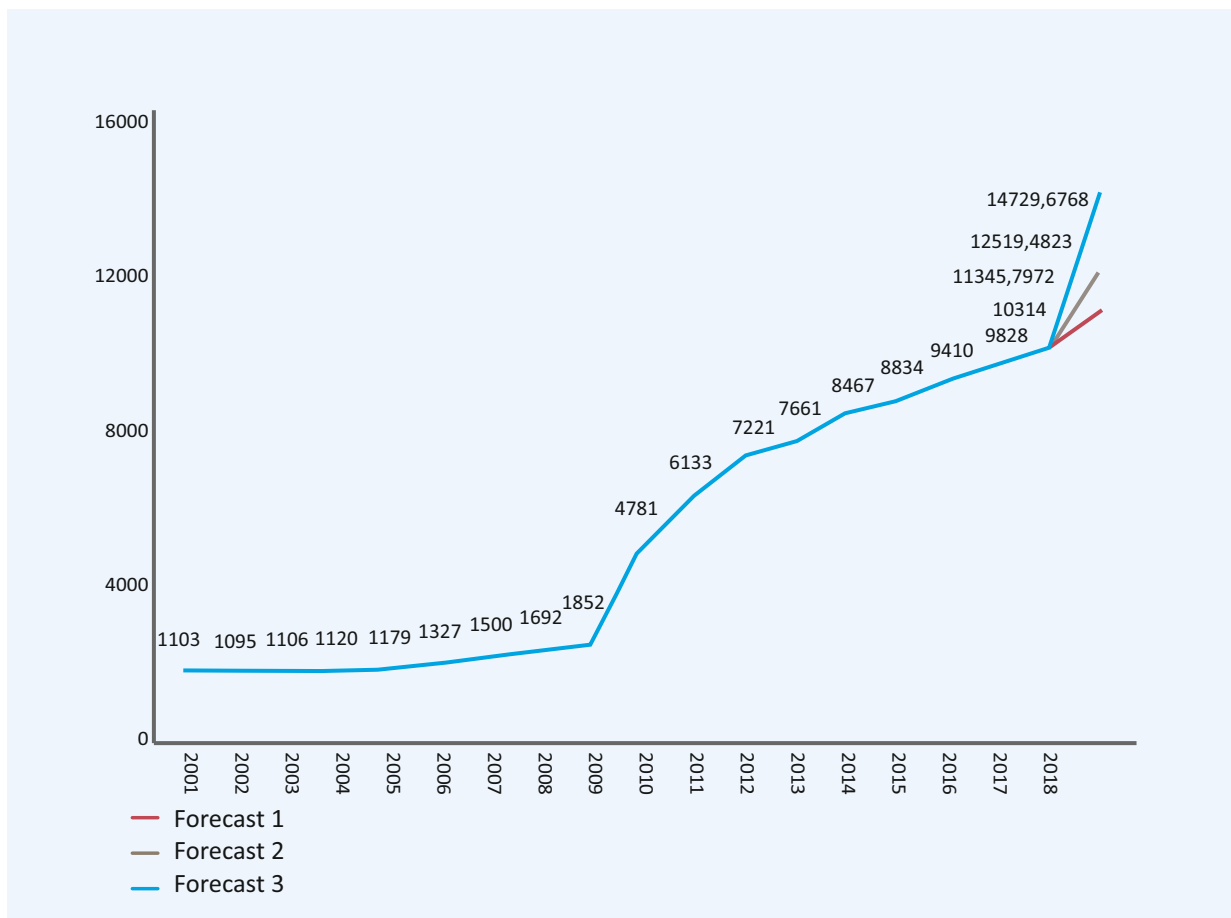
With an increase in spendings on pre-school education by KZT 50 bln, the growth in the number of pre-school organisations will amount to 1032 organisations, and their total number will reach 10,314 facilities.

Table 12. Number of pre-school organisations

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		1,032	2,205	4,416
Increment X		50,000,000	100,000,000	200,000,000
lnY	9.2413	9.3366	9.4350	9.5976
lnX	19.4308	19.5981	19.7413	19.9780
Y	10,314	11,346	12,519	14,730
X	274,589,813	324,589,813	374,589,813	474,589,813

The growth dynamics of the number pre-school organisations and forecast data are shown in the following graph.

Figure 29. Number of pre-school organisations



Number of teaching staff in pre-school organisations

The model of the dependence of the number of teaching staff in pre-school organisations on the expenditures on pre-school education shows as follows.

$$LN_TEACHERS = 1,687 + 0,499 * LN_EXPENSESEDUC$$

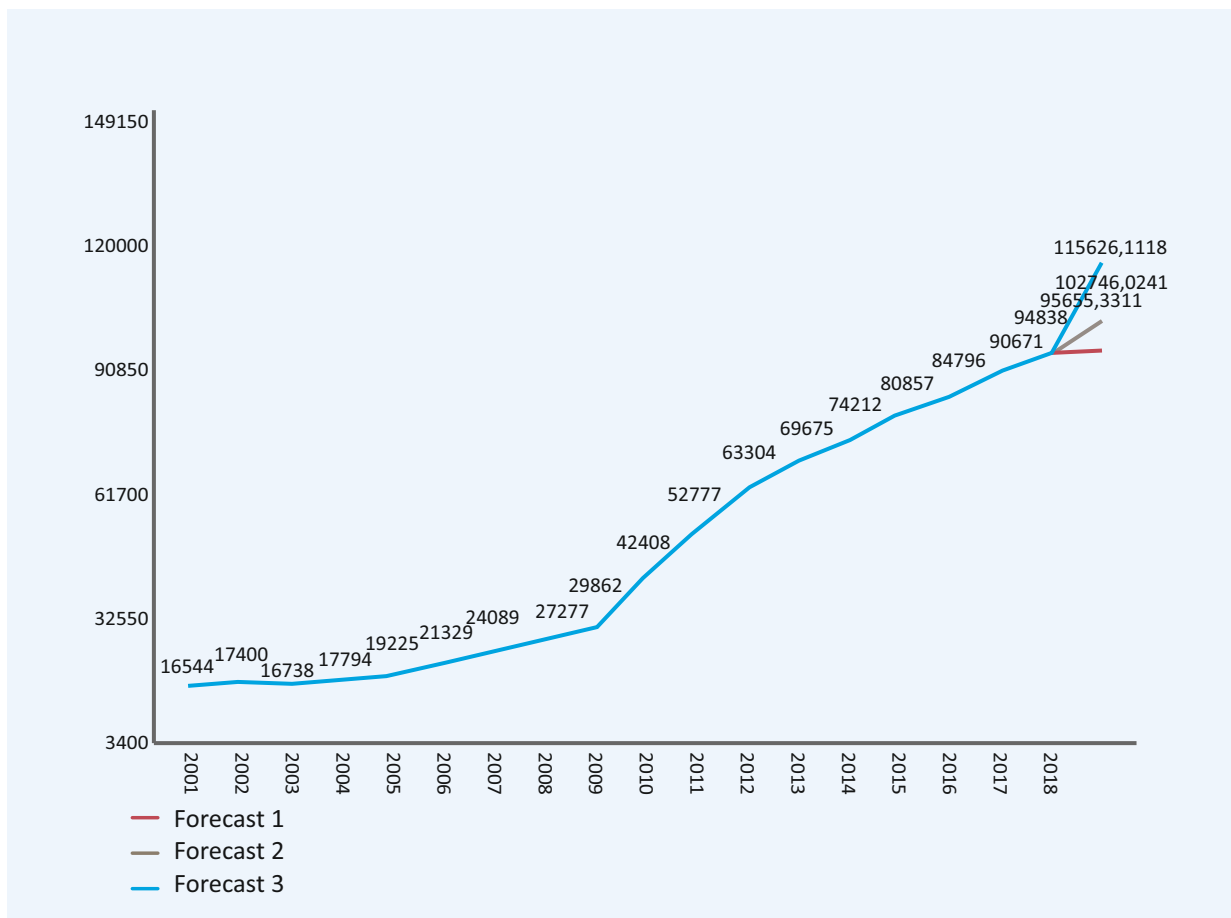
An increase in spendings on pre-school education by 1% leads to an increase in the number of teaching staff by 0.5%. With an increase in spendings on pre-school education by KZT 50 bln, the growth in the number of teaching staff will amount to 817 people, and their total number will reach 95,655 facilities.

Table 13. Number of teaching staff

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		817	7,908	20,788
Increment X		50,000,000	100,000,000	200,000,000
lnY	11.4599	11.4685	11.5400	11.6581
lnX	19.4308	19.5981	19.7413	19.9780
Y	94,838	95,655	102,746	115,626
X	274,589,813	324,589,813	374,589,813	474,589,813

The growth dynamics of the number of teaching staff and forecast data are shown in the following graph.

Figure 30. Number of teaching staff



Number of places in pre-school organisations

The model of the dependence of the number of places in pre-school organisations on the expenditures on education is presented by the following regression equation.

$$LN_NUMBER_OF_PLACES = 4,2455 + 0,4796 * LN_EXPENSESEDUC$$

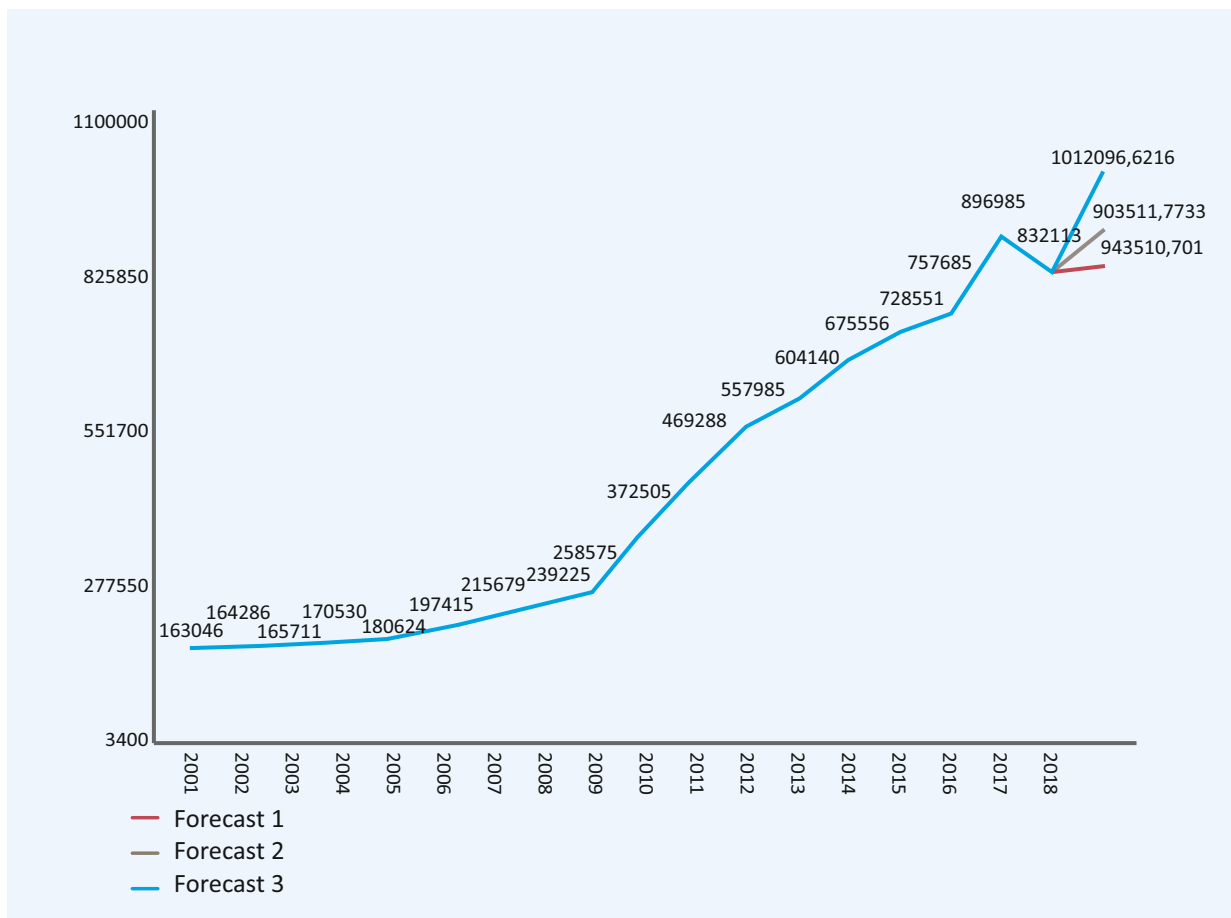
An increase in spending on pre-school education by 1% leads to an increase in the number of places in pre-school organisations by 0.4796%. In absolute values, the increase in spendings on pre-school education by KZT 50 bln leads to an increase in the number of places in pre-school organisations by 11,398.

Table 14. Number of places in pre-school organisations

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		11,398	71,399	179,984
Increment X		50,000,000	100,000,000	200,000,000
lnY	13.6317	13.6453	13.7140	13.8275
lnX	19.4308	19.5981	19.7413	19.9780
Y	832,113	843,511	903,512	1,012,097
X	274,589,813	324,589,813	374,589,813	474,589,813

The growth dynamics of the number of places in pre-school organisations and forecast data are shown in the following graph.

Figure 31. Number of places in pre-school organisations



Personal income tax (PIT)

The model of the dependence of the amount of PIT revenues to the budget on the expenditures on pre-school education shows as follows:

$$LN_IIT = 1,5281 + 0,6179 * LN_EXPENSESEDUC$$

An increase in spending on pre-school education by 1% leads to an increase in the amount of PIT revenues to the budget by 0.6179%. Thus, with an increase in spendings on pre-school education by KZT 100 bln, the increase in the volume of PIT will amount to KZT 75,647 mln, and the total amount will reach KZT 914,041 mln. And with an increase

in spendings on pre-school education by KZT 200 bln, the growth in the volume of PIT will amount to KZT 219,542 mln , and the total amount will reach just over KZT 1 trln.

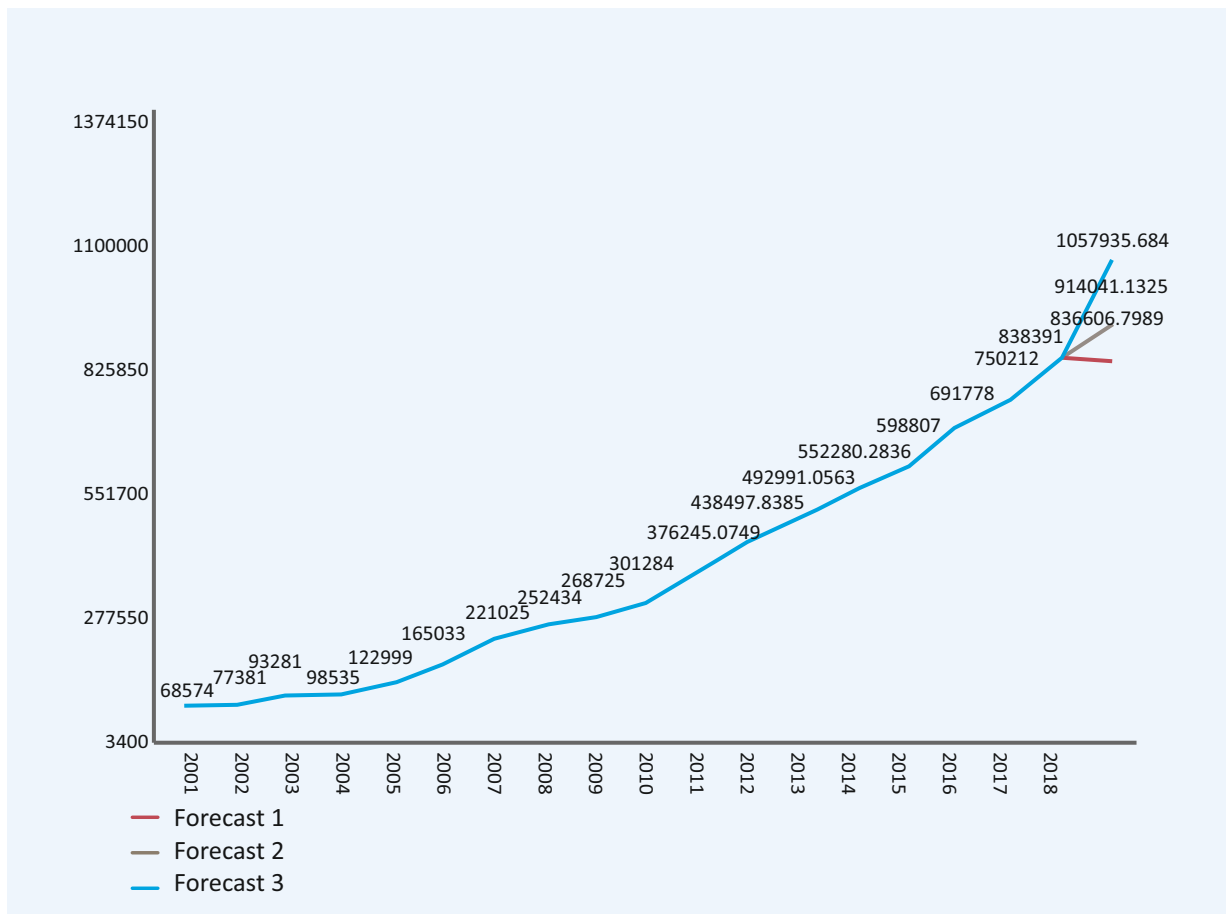
Thus, if the state does not increase state spendings on pre-school education by this amount, the state budget will fall short by KZT 1 trln.

Table 15. Personal income tax (PIT)

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		-1787	75,647	219,542
Increment X		50,000,000	100,000,000	200,000,000
lnY	13.6392	13.6371	13.7256	13.8718
lnX	19.4308	19.5981	19.7413	19.9780
Y	838,394	836,607	914,041	1,057,936
X	274,589,813	324,589,813	374,589,813	474,589,813

PIT growth dynamics and forecast data are shown in the following graph.

Figure 32. Personal income tax (PIT)



Impact of spendings on social assistance to vulnerable segments of the population on gender and economic indicators

Expenditures on social assistance to

vulnerable segments of the population changed quite often and were calculated differently. For example, in 2018, the number of recipients of targeted social allowance

increased by more than 40 times. According to the government's decision, the number of recipients of this allowance has expanded significantly. Unfortunately, this affected negatively on the statistical predictability of this indicator. In addition to this type of social benefit, data on designated state social benefits and designated state social benefits for disability was collected. The last two benefits show a positive trend of annual growth. In 2018, expenditures on designated state social benefits amounted to KZT 26 bln, and expenditures on designated state social benefits for disability amounted to almost KZT 21 bln. Three values of KZT 1 bln, KZT 5 bln and KZT 10 bln were selected as the increments for the three scenarios. These values were inserted in the model and the following results were obtained. As a result of modeling,

spendings on social assistance to vulnerable segments of the population showed a statistically significant impact only on the female labour force.

Designated state social benefits

According to the model obtained, the increase in spending on designated state social benefits by 1% results in the increase of women in the labour force by 0.0857%. The model looks as follows.

$$LN_LABOR_WOMEN = 7,5581 + 0,0857 * LN_ALLOWANCE_SOC$$

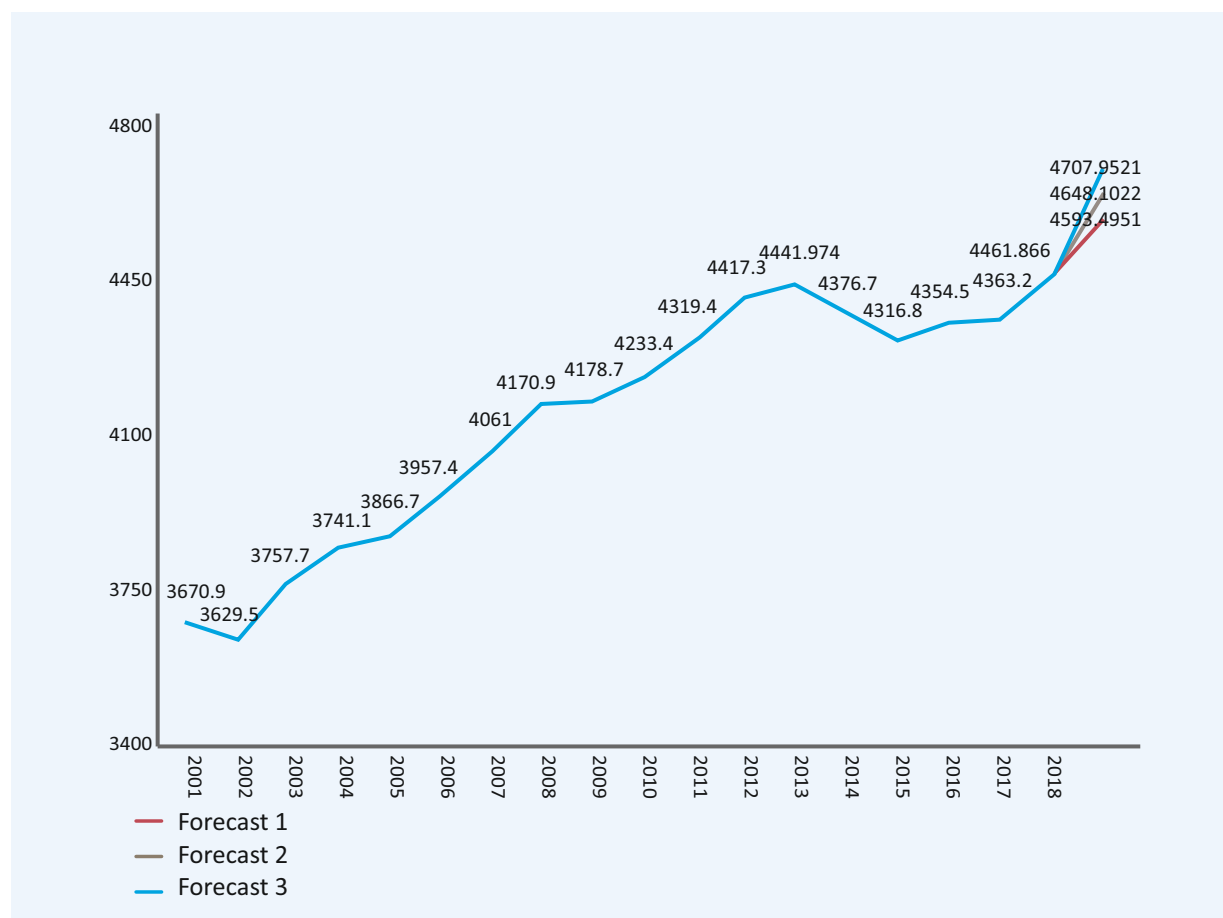
With an increase in spending on designated state social benefits by KZT 1 bln, the female labour force will amount to 132 thousand people, and the total number will reach 4593 thousand people.

Table 16. Designated state social benefits

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		132	186	246
Increment X		1,000	5,000	10,000
lnY	8.4033	8.4324	8.4442	8.4570
lnX	10.1675	10.2052	10.3432	10.4925
Y	4,462	4,593	4,648	4,708
X	26,044	27,044	31,044	36,044

The growth dynamics in female labour force is shown in the following graph.

Figure 33. The number of women in the labour force with designated state social benefits



Designated state social benefits for disability

The model of the dependence of the number of women in the labour force with social benefits for disability shows as follows:

$$\text{LN_LABOR_WOMEN} = 7,689 + 0,074 * \text{LN_ALLOWANCE_DISABILITY}$$

The increase in spendings on designated state

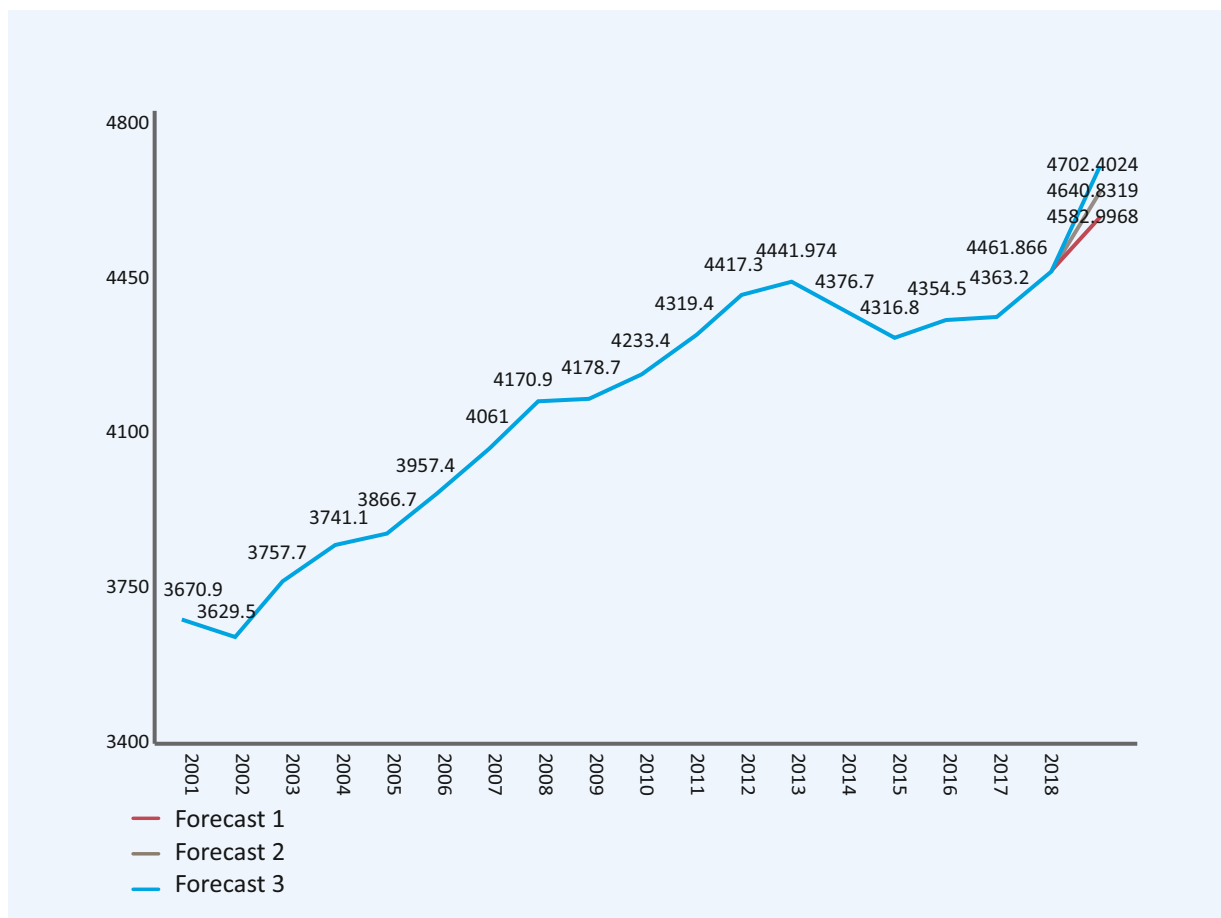
social benefits for disability by 1% result increases the female labour force by 0.074%. In absolute values, with the increase in expenditure for these type of benefits by KZT 1 bln, the female labour force will increase by 121 thousand people, and the total number will reach 4583 thousand people.

Table 17. Designated state social benefits for disability

	2018 values	Forecast 1	Forecast 2	Forecast 3
Increment Y		121	179	241
Increment X		1,000	5,000	10,000
lnY	8.4033	8.4301	8.4426	8.4558
lnX	9.9392	9.9863	10.1553	10.3329
Y	4,462	4,583	4,641	4,702
X	20,727	21,727	25,727	30,727

The growth dynamics in female labour force is shown in the following graph.

Figure 34. The number of in the female labour force with designated state social benefits for disability



5. CONCLUSIONS AND RECOMMENDATIONS

In the course of the study of unpaid domestic work of women in Kazakhstan, conclusions were formulated and various recommendations regarding the development of ECEC domain and care for dependent family members were collected.

It should be noted, that the recommendations should undergo a legal examination by professional lawyers competent in ECEC and social protection, so that they can be implemented in practice. The implementation of the proposed recommendations should take place through the adoption of new laws and statutory instruments (LSI) or through the adoption of amendments to existing LSI. In addition to amendments into legislation, some recommendations require the development of organisational measures, activities, coordination and allocation of budgetary funds.

Some of the most important recommendations with an indication of the methods of their implementation are offered below. However, the detailed study of legal instruments for the implementation of the proposed recommendations should be left to professional lawyers.

As a result of the modeling, a causal relationship was established for the impact of the expenditures on pre-school education and care for dependent family members on the growth of the number of women in the economically active population; on growth of employment and reduction of unemployment, on increase in tax revenues to the state budget, in particular in the form of a personal income tax; on the growth of the number of children in pre-school institutions

and the number of ECEC institutions. It has been proven that the increase in public expenditures on institutionalization of child care and dependent family members care leads to positive dynamics in key performance indicators, namely an increase in the female employment rates, increase in tax revenues of the state budget, in the form of the personal income tax in particular; and increase in pre-school education enrollment rates.

Thus, increased public investment in the institutionalization of care services will free up the time spent on unpaid domestic work to care for children and dependent family member for women, and create paid work employment opportunities. For a household, this is an additional income that allows improving its financial situation. For the national economy, this brings benefits in the form of increased consumer demand, which contributes to the revival of the entire economy, including entrepreneurial activity; increase in tax revenues and pension contributions resulting from the increase in the number of employed women; also it is a solution to the problem of unemployment, the creation of employment due to the increase in the number of ECEC institutions.

The following two tables show the increments in dependent variables as a result of the increase in education expenditure. The increments are shown in percentages and absolute values. Thus, **with the increase of the expenditures on pre-school education by 1%, the number of employed women will increase by 6.8%, the number of pre-school institutions - by 5.3%, the number of places in pre-school institutions - by 3.1%, the number of children attending pre-school institutions -**

by 51%, the number of teachers - by 2.7% and the growth in PIT - by 2.3%. The increment in indicators with an increase in spending on education by 50, 100 and 200 billion KZT is shown in absolute values. For example, with an increase of expenditures on education (line Forecast 2) by KZT 100 bln, the number of employed women will increase by 131 thousand people, the number of pre-school institutions by 2,205 units, the number of

places in pre-school institutions by 71,399 units, the number of children attending pre-school organizations by 96,525 people, the number of teachers by 7,908 people and PIT volume by KZT 21,9542 bln.

For a more detailed analysis of the models using the example of a model of the impact of education expenditures on the number in the female labour force, see the Methodology section.

Table 18. Summary table of increments in spendings on education

	Increment X, KZT bln	Increment Y					
		Number of employed women, thousand people	Number of ECEC, units.	Number of places in ECEC, units.	Number of children visiting ECEC, people	Number of teachers, people	PIT, KZT mln.
Increment, %	1%	6.8%	5.3%	3.1%	51%	2.7%	2.3%
Forecast 1	50	89	1,032	11,398	27,695	817	
Forecast 2	100	131	2,205	71,399	96,525	7,908	75,647
Forecast 3	200	201	4,416	179,984	221,806	20,788	219,542

Expenditures on social benefits proved to have an impact only on the number in the female labour force. **An increase in spendings on designated state social benefits by 1% results in the increase in the female labour force by 8.6%. An increase in spendings on designated state social benefits for disability by 1% results in the increase in the female labour force by 0.6%.** The increment in indicators with an increase in spendings on education by

KZT 1, 5 and 10 bln is shown in absolute values. For example, an increase in designated state social benefits by KZT 5 bln (line Forecast 2) will result in the increase in the female labour force by 186 thousand people. And an increase of the designated state social benefits for disability by KZT 5 bln will result in the increase in the female labour force by 179 thousand people.

Table 19. Table of female labour force growth depending on social benefits expenditures

	Increment X, KZT bln	Increment Y	
		Designated state social benefits	Designated state social benefits for disability
Increment, %	1%	8.6%	0.6%
Forecast 1	1,000	132	121
Forecast 2	5,000	186	179
Forecast 3	10,000	246	241

Women's economic inactivity has negative consequences both for the woman herself, for her family, and for the economy as a whole. First of all, this results in the decline in the average household income. Moreover, with no pension contributions, when they reach retirement age, they will only receive a basic pension payment amounting to 54% of the minimum subsistence level. In 2018, the basic pension payment amounted to KZT 15,274. The lack of official employment and stable earnings does not allow women to get loans. Women with no official employment cannot receive birth and child care benefits, and do not have access to health insurance and other social security benefits that are funded from the employer's fund or the state budget. Performing only unpaid work in the household, a woman in most cases does not have self-development and personal growth opportunities. It is necessary to provide social support for women who are forced to care for dependent family members, for example, to count this time as a work experience record. For the economy as a whole, the growth in the number of unemployed women means inefficient use of resources which will lead to the slowdown of the economy, a shortfall in tax revenues and pension contributions, the decline in consumer demand, the expansion of an informal economy, growth of poverty rates and reduction in the level of income per capita in the country.

As a result of the analysis of early childhood care and pre-school education services, the following recommendations were formulated:

- **Raising public awareness.**

In our opinion, one of the main recommendations for implementing methods of targeted assistance and incentives for the population to go to work in connection with the institutionalization of this assistance, is raising public awareness. The research progress revealed that women demonstrate a low level of awareness about support

mechanisms in ECEC and social protection areas. Recipients of this assistance complain about the complexity and entanglement of information in this area. Since the necessary and up-to-date information is available in the form of legal documents, LSIs, and numerous amendments to legislation, it is difficult to understand for people who do not have sufficient knowledge of the law, and have difficulties in using modern internet technologies to search for the necessary information. Thus, no matter what good laws are adopted and useful legislative amendments are made, they are not clear and accessible to the end users of this assistance and information, and therefore their efficiency is poor and ineffective without a proper degree of awareness.

The issue of informing the population about the issues of assistance in ECEC and care for dependent family members areas is not difficult to implement, since it does not require significant changes in legislation and large material investments. Practical recommendations can be set out as follows.

IMPLEMENTATION:

- Conducting an audit of all state internet resources for their accessibility and comprehensibility for the population. For example, at the time when these recommendations were formulated, the official website of the Ministry of Labour and Social Protection of the Republic of Kazakhstan was not functioning. Some of the websites accountable to the Ministry of Education and Science operate poorly. On the functioning websites themselves some functions are not available, information is not updated, some sections of websites are closed for reconstruction or do not function correctly. This is due to the low attention paid by governmental agencies to information resources performance, insufficient qualifications or heavy workload for the IT staff of governmental agencies.

- The audit should be entrusted to third-party

private organizations through an open procurement competition.

- Outsource the creation and maintenance of information resources – entrust it to professionals, while maintaining state ownership of these resources.

- Create a number of simple websites designed to inform women. Produce videos in 2 languages. Indicate links to these websites on the websites of relevant departments and ministries. Create groups in social networks on the topics related to ECEC and care for socially vulnerable segments of the population (Youtube, Facebook, VKontakte, Instagram, Moi mir). Use of these interactive information tools will allow information to be collected from direct sources in the form of surveys and comments to posts. Intermediaries will be avoided. The use of targeted contextual advertising will attract the attention of a large proportion of people who use the internet to search for information on ECEC and the protection of vulnerable segments of the population.

- The key to effective work on raising public awareness and getting direct feedback is the role of the Ministries' leadership in the development of these communication channels. The implementation of these measures depends on management decisions and does require substantial funding. For example, groups in social networks are opened and maintained for free, and they can provide a significant effect. However, these measures should be introduced and carried out on a systematic basis, by organized professionals hired for this purpose, which will ensure the effect.

- Public awareness raising activities should be carried out not only through the use of the internet, since not all the population has access to the network, and may not be able to use computers and gadgets. This work can be carried out through television, in particular through the production of specialized programmes on state TV channels that will

cover topical issues in ECEC and social sector. These programmes would have a great effect in increasing public awareness. Recordings of these programmes can and should be posted on websites and Youtube channels created specifically for this purpose. Display stands, booklets, and posters in places that target women's visits (polyclinics, ECEC institutions, and departments paying out benefits and pensions).

The following recommendation is closely related to the recommendation to raise public awareness.

- **KPI - key performance indicator.**

According to wikipedia, key performance indicators (KPI) are numerical indicators of a division's (enterprise's) performance that help the organization achieve goals or process optimality, namely, efficiency and effectiveness. The use of key performance indicators gives an organization the opportunity to assess its standing and helps in evaluating the implementation of the strategy. KPIs allow the monitoring the business activity of employees, departments, and the company as a whole. This method is part of the Performance Management system instead of Management by Objectives system (MBO).

KPIs have long been implemented in a large number of companies in Kazakhstan. This system is thoroughly described and computerized. However, it is not yet implemented everywhere and does not work effectively everywhere. The effectiveness of the system can and should be assessed by the final results. So far, the results leave much room for improvement. The amount of benefits and the amount of funds allocated to research topics is low. There is lack of public awareness, but it is part of a larger problem, namely poor implementation supervising and a low level of responsibility at the local level. Without improved supervision, programmes that are already being implemented will stall, and the implementation of newly adopted programmes will slow down. Incentives for

effective work can be carried out through pecuniary punishment, for example, in the form of deprivation of part of the bonus, or through awarding bonuses for effective performance – such methods have been developed within different KPI systems. This recommendation also requires not external intervention, but the mobilization of internal resources of the organization, through the implementation of effective management solutions and innovative management, reporting and control tools. Implementation of the KPI system can also be assigned to a third-party organization or hired specialists with proven experience in implementing KPI in other organizations.

KPIs are a fairly simple tool, clear and transparent. The percentage of awareness and the percentage of the population covered should also be set as KPIs for the management of Ministries. Then a shift and progress towards the planned indicators in ECEC and the social sector could be expected.

Thus, the two recommendations given above require management decision-making within Ministries. They can be implemented and regulated by internal LSIs, and do not require lengthy approvals in third-party organizations.

The current priority for obtaining places in the ECEC institutions and the growing trend in the number of births indicate the need for further expansion in the institutionalization of childcare services. **Activities on developing the network of pre-school institutions should be continued.** Actions needing to be taken first include:

- **Construction of new kindergartens** that meet sanitary and epidemiological standards.

Currently, the increase in the number of ECEC institutions is achieved mainly through launching private kindergartens and mini-centers in existing buildings. Only a small part is due to the construction of new facilities. At the same time, it is recommended to not exceed estimates for standard project design

when financing construction.

IMPLEMENTATION: To increase the efficiency of construction of new ECEC institutions and dependent family members care institutions,

- The Ministry of Labour and Social Protection of the Population of the Republic of Kazakhstan and the Ministry of Education and Science of the Republic of Kazakhstan should send an official request to the Construction Committee under the Ministry of Industry and Development of the Republic of Kazakhstan. This request should be to develop design and estimate documentation for the construction of ECEC institutions and dependent family members care institutions that differ in capacity (for example, for 100 children, for 200 children, etc.) and put it into practice in order to prevent the financing of estimates deliberately overstated by contractors; to carry out a detailed calculation of the estimated costs for new ECEC institutions: salaries of employees, infrastructure development, etc. Identify specific sources of funding for expenditures; cooperate with all ministries involved in the development of the ECEC system; monitor the intended use of the budget on sites.

- Oblige enterprises and institutions that employ a large number of women to **create on-site ECEC institutions at the enterprise/institution**, or alternatively, offer subsidies for women with children.

- **Providing support to private ECEC institutions.**

The calculated standard of per capita financing, even taking into account the recalculation in 2019, does not cover all the general expenses of private ECEC institutions. Private pre-school institutions cover 34.9% of pre-school education enrollment rates and make up 36.3% of all ECEC institutions in the country;

IMPLEMENTATION:

- **Increase the standard of per capita financing and further carry out its annual indexation**

based on the average inflation rates to cover the general expenses of private institutions operating under public procurement contracts.

- Continue further implementation of the per capita financing model, review the calculation methods and **increase the amount of the per capita financing standard** for the full implementation of the model.

All existing and opening ECEC institutions must be adapted for fully-fledged day care for children.

IMPLEMENTATION: Instruct local executive bodies to ensure control over the infrastructure quality and improvement of existing institutions that provide pre-school education services and solve problems related to the lack of hot water, sewerage, and water supply.

- **Develop and implement a single classifier of expenditures on ECEC.**

The study revealed that there is a lack of unified classification of expenditures on ECEC institutions in the country.

IMPLEMENTATION: Coordinate and reconcile actions of the Ministries related to development of the ECEC system (Ministry of Education and Science of the RK, Ministry of National Economy of the RK, the Ministry of Health of the RK, etc.), thereby promoting efficient sanitary, construction, fire and educational regulations aimed at improving ECEC. Develop and implement the unified expenditure classifier that would contribute to the development of effective socio-economic and demographic policies. The Norway practice on the implementation of an integrated system of child care and pre-school education operating under a single administrative authority, namely, the Ministry of Children and Family Affairs, which oversees all services related to education, upbringing and care of children under 6.

According to the Budget Code of the Republic of Kazakhstan (dated December 4, 2008 No.

95-IV) functional classification of budgetary expenditures which specifies the main directions of budgetary expenditures on implementation of state functions includes: expenditures on pre-school education and training, organization of medical care in pre-school upbringing and education institutions, ensuring the accessibility of pre-school education and training, methodological support for pre-school education, parental and childcare allowances, expenditures on providing special social services for the elderly and disabled at medical-social institutions, etc. However, when considering child care expenses, along with financial investments, it would be appropriate to consider unpaid child care domestic work in the household and taxes losses for the budget. The budget classification of care expenditures does not include tax losses to the budget due to the fact that parents cannot go to work due to limited access (lack of places, low wages, lack of ECEC services supply, poor quality of services) to services in pre-school education institutions for their children.

- **Develop a mechanism for coordinating ECEC at the national level.**

IMPLEMENTATION:

- **Create an interdepartmental coordinating body/committee for pre-school education with consolidated balance sheet and consolidated reporting. This measure will ensure transparency in the use of funds for the purposes of a single type of business entity - ECEC institutions.** This committee would include representatives of ministries, departments, local authorities related to the development of the ECEC system and civil society (including parents and persons with disabilities). The functions of this committee may include the development of national policies, legislation, financial strategies, analysis and coordination of all pre-school and education activities at national level.
- Create local branches at the level of the region, city, district, which will be managed by

Deputy Akims (supervising social affairs). The branches of the committees will also consist of representatives of relevant bodies and institutions representing the domains of education, social protection, finance, health, sports, police, civil society, associations of disabled people, parents, etc. It will coordinate all types and forms of pre-school education at the local level and assess regional inter-agency cooperation.

- **Assessment of the of ECEC institutions activities.**

IMPLEMENTATION:

- Create databases containing the main indicators of the ECEC development that meet international standards for ECEC system evaluation at national and international levels (quality assurance, childhood development, system effectiveness). It is necessary to develop data collection based on the experience of OECD countries with the involvement of all ministries involved in ECEC development to ensure international comparability and adoption of best practices. Based on these indicators, evaluation of the activities of existing pre-school institutions can be carried out with the aim of helping them improve performance quality and correct mistakes. However, the implementation of the ECEC institutions evaluating system involves the risk of turning the assessment into a pursuit of results, of rating ranks, false reporting, and a large bureaucratic burden on pre-school institutions (based on the universities evaluating/accrediting experience).

- The created database could be made available on an open-access website to ensure transparency in the activities of ECEC institutions. A page of reviews and suggestions for parents could be created on the website. This web page can be placed on the website of the MoES RK.

- **Develop the quality/effectiveness indicators for ECEC services quality assurance based on the indicators proposed by UNESCO: child-**

teacher ratio, the level of training of teachers, technical equipment, teaching methods.

Accelerated methods of pre-school institutions launching had a negative impact on ensuring the quality of services provided which was affected by low salaries of employees, low qualifications of teachers and nurses, lack of technical equipment at ECEC institutions and outdated teaching-learning materials. Implementation of measures to ensure the quality of ECEC, bringing it in line with international standards and applying the best world practices: the child-teacher ratio, the caregivers' level of training, technical equipment, teaching methods.

- **Provide support to low-income families to ensure universal access of children to the ECEC.**

IMPLEMENTATION:

- **Specify benefits for children from low-income families;**

- Provide assistance for the employment of mothers, including preferential terms for running small businesses.

- Provide child care subsidies to unemployed mothers. Tax deductions from the wages of parents who have started working; taxes received due to the growth of household consumption could become the funding source for subsidies.

- Amend the **Labour Code of the Republic of Kazakhstan: "the employer is obliged to provide employees with a flexible work schedule so that child care and care for dependent family members is possible (at the request of the employee), subject to compliance with labour legislation."**

IMPLEMENTATION: Legislate for working mothers the right for a flexible work schedule, including the option of part-time work or working from home, which would allow the combination of professional and maternal responsibilities. The Labour Code of the Republic of Kazakhstan, paragraph 1, article 74 specifies as follows: "In order to combine

social, domestic and other personal needs of employees with the needs of production, flexible working hours may be established for employees." Switching to a flexible work schedule is possible only by agreement of the parties. However, employers are often not interested in signing contracts that include this regulation. It is necessary to define all conditions for providing a flexible work schedule for working mothers and work out mechanisms for implementing this regulation in order to prevent violations.

- **Contribute to increasing the supply of care services for children aged 0 to 3** by ECEC institutions.

IMPLEMENTATION:

- Review the age for enrolling children in kindergartens and provide care services for children aged 0 to 3 years in public pre-school institutions and private kindergartens operating under governmental procurement contract. To increase the supply of care services for children aged 0 to 3 years, it is necessary to improve the quality of services provided by public ECEC institutions; the regulation of the prices for the services of private ECEC institutions, which often exceeds women's income; increase salaries for women employed in low-paying sectors (education, medicine); to provide assistance for women in getting employment in connection with their poor competitiveness in the labour market after maternity leave; to revise the "optimal" enrollment age at public kindergartens and private institutions operating under government procurement contracts, currently defined by the state as "3 years" and establish new enrollment terms for children aged under 3.

- Promotion **of further automation of enrollment in ECEC institutions.**

IMPLEMENTATION: Improve the electronic database on the availability of places in pre-school institutions: all ECEC institutions should provide places through an electronic portal.

- Ensure **optimal distribution of budget funds** across ECEC institutions with regard to the special needs of children with disabilities, children from rural areas; ensuring access to ECEC for children aged under 3, etc. It is necessary to ensure transparency and fairness in the distribution of budget funds.

- Increase **expenditures on education**, including pre-school education. In 2018 the share of government spending on education in the country's GDP made up 3.3%. Government spendings in relation to GDP should be at least at the level of 4-6% recommended by the UN and 5% of the average level for OECD countries [36]. Accordingly, an increase in the share of expenditures on pre-school education to GDP is required. According to the latest data available, in 2015, spendings on pre-school education in relation to GDP amounted to 0.6%, which is lower than the average 0.8% level in OECD countries [41].

- **Increase the remuneration** of ECEC sector employees in order **to retain highly qualified personnel**, which is one of the conditions for creating and using care services and improving the quality of care. The salaries of educators, and to a greater extent the salaries of kindergarten caregivers which amounted to KZT 62,373 in 2018, is one of the lowest in Kazakhstan [24]. A major obstacle to developing and delivering high-quality care services may be the inability to find a sufficient number of people with the necessary skills, including those needed to manage and maintain services. Motivating staff and addressing workforce issues as a part of the institutionalization process, is essential for the transition from domestic dependent family members care to institutional care. It is necessary to create decent working conditions, benefits and remuneration, both to attract them to work in this sector, and to prevent high staff turnover.

- Increase the number of ECEC institutions providing **special conditions for**

children with special educational needs to ensure equal access to the services of pre-school institutions.

As a result of the analysis of dependent family members' care services, the following conclusions and recommendations were developed:

In many ways, the Kazakh employer would like to count on state support, as practiced by other countries, where different amounts of support and incentive approaches are provided for employers who employ disabled people. The fundamental conceptual difference in hiring people with disabilities in developed countries and in Kazakhstan is that in the countries of Northern Europe and North America, an employer receives a whole range of business development preferences from the state:

- business development subsidies;
- public procurement participation opportunities;
- additional equipment and inventory installation opportunities;
- opportunities to retrain personnel free of charge.

Employers from Northern Europe do not worry about changing the infrastructure and transporting disabled people since they are insured. For example, Finland has developed an extensive legislative framework that provides for the organization of a system of rehabilitation and social adaptation of disabled people. Integration of rehabilitation activities into the social protection of population, health, employment, social security, education domains is built into the legislative level, as well as the mechanisms for their collaboration and cooperation. Rehabilitation and Compensation Insurance Act provides for the insurance of disabled persons against accidents at work and during transport. As a result, when hiring a disabled person, the Finnish employer does not incur additional costs for adapting the workplace,

and is insured against accidents.

In many countries, there are no jobs quotas for people with disabilities, but in our country this is established by law, which does not oblige the employer to hire people with disabilities. In Kazakhstan:

- most legal entities provide the government with information about the availability of vacancies, but do not indicate whether they are suitable for people with disabilities;
- people with disabilities of group 3 are hired straightaway;
- when hiring, the employer is forced to bear all the workplace arrangement costs for an employee with a disability.

The Law on Employment establishes employment quotas for certain categories of citizens as one of the social protections against unemployment measures. These categories of citizens include the disabled without work restrictions for health reasons (i.e., in fact those who are not prohibited from working). A similar requirement is contained in the Law on Social Protection of People with Disabilities[62]. Quotas imply determination of a minimal number of jobs that employers are required to provide to employ people with disabilities established by the government. The quota is set as a percentage of the entire staff of each specific employer, without taking into account jobs in heavy work or jobs involving harmful or dangerous working conditions (the quota takes into account people with disabilities currently working for the relevant employers). The total amount of quotas (from 2 to 4 percent) is determined by law, but specific regional quotas for specific employers are set by local executive bodies (akimats). The quota requirement does not apply to:

- 1) organizations where the headcount of employees is less than 50 people;
- 2) public associations of people with

disabilities, as well as organizations where the number of employed people with disabilities exceeds 20 percent of the average annual number of employees;

3) organizations located in places where there are no unemployed people with disabilities of working age with no medical hinderances to work;

4) in cases stipulated by the legislation, defining special terms for entry to work and the procedure for appointment to a position.

The requirements listed above must be met by employers, regardless of whether their level of performance or non-performance will result in adverse consequences for them. For example, a fine of up to 20 MCI may be imposed for non-compliance by an employer for the established quota of jobs for people with disabilities; failure to comply with the requirements for professional training or retraining of disabled employees, or the creation of special jobs for their employment entailing administrative liability in the form of a fine amounting up to 600 MCI. We believe that when making a choice, employers will comply with the established requirements, guided not by the severity of negative consequences, but by the moral aspect of the issue, the intent to create the most favourable working conditions for socially vulnerable groups of citizens.

The Law of the Republic of Kazakhstan "On Employment" does not provide a precise definition of what is meant by the allocation and creation of a job. The allocation of a job means its registration in personnel documents according to a general procedure, and the creation of a job means its physical formation. We must take into account that the absence of allocated or created jobs does not mean that employers are obliged to search for disabled employees themselves and thus fill the allocated quota in order to ensure actual employment.

It should be noted that in Kazakhstan, most buildings and structures do not meet the standards of providing adequate

infrastructure for people with disabilities, and the state through the court obliges the owners of real estate to change the infrastructure taking into account the interests of people with disabilities at their own expense.

Combating discrimination is a key factor in ensuring that people with disabilities (and other disabilities) are treated equally when promoted. Anti-discrimination provisions are already an integral part of Kazakhstan's legislation, as in most OECD countries, but proper enforcement remains problematic. The Labour Code of Kazakhstan lists two grounds on which an employer may refuse to hire an employee, terminate an employment relationship, or transfer an employee to another position without his/her consent due to his/her disability. This occurs when there is a need to protect the health of a person and/or ensure the safety of others. However, the burden of proof is on employers, which can lead to abuse. One way to address this risk is to adopt a collaborative decision-making approach involving representatives of employers and employees.

In Kazakhstan, people with disabilities who can and are willing to work are not given enough attention. Official data from the national survey on disability issues shows that only about one quarter of people with disabilities have access to an Income Replacement Plan. Austria, Germany, Hungary, Luxembourg and Switzerland have long paid particular attention to integrating the rehabilitation process into the benefits and allowances assessment. Kazakhstan can apply this principle of rehabilitation before granting benefits and allowances.

A key priority is to address issues arising from disparate policy structures and existing gaps in the process of interaction between institutional bodies. Kazakhstan can derive inspiration from the practice of Sweden, which recently adopted measures to improve interaction with the Social Insurance Agency (SIA).

Based on qualitative research methods and having studied the best international practices of the countries of Northern Europe and North America for people with disabilities and addicts, the following recommendations are formulated:

- Change the concept of encouraging employers to hire people with disabilities;
 - State authorities **as far as practicable, should use statistical data** to integrate the disability perspective in the review of its progress towards achieving the Millennium Development Goals for the benefit of all people;
 - Improve the regulatory framework for **setting requirements for mandatory accessibility** of buildings and structures, public roads and streets of localities for people with disabilities and other low-mobility groups;
- Considering that 2020 has been declared the Year of the Volunteer, develop volunteer institutions with social workers assisting people with disabilities;
- Use the practices of developed countries (Canada, Finland) **in the aspect of professional rehabilitation of disabled people and standards** of workplace equipment, taking into account professional characteristics;
 - Develop mechanisms for interaction between the state and business on employment of people with disabilities, including considering the ways to create new business opportunities when hiring people with disabilities (tax benefits, cost compensation, image enhancement) at the Chamber of Entrepreneurs.

The society in Kazakhstan is undergoing the following transformations: an increase in the proportion of older people, including those who are alone and in need of communication, support and assistance; feminization of the elderly population; isolation of generations;

the need to care for the elderly. In such circumstances, the key issue is who should take the burden of ensuring decent living conditions for older people. Kazakhstan's still developing social policy system currently does not provide the necessary quality of life for older people. Over time, it requires more and more resources and state programmes. Based on these findings, and with regard to best international practices in elderly life quality assessment, the following recommendations are formulated:

- Meet the special needs of the elderly in rural and remote communities, elderly people living in poverty, elderly women and people (aged 80 and over) to ensure an adequate standard of living for all elderly people;
- **Adapt health and social systems** in response to the needs of the elderly through the creation of a comprehensive system of continuous care, including prevention, emergency care, chronic disease treatment, long-term care and care for terminally ill people;
- Develop strategies to meet the **growing demand for elderly care** at public and private nursing homes;
- Allocate **sufficient financial resources for professional training** of caregivers and service providers to fill the human resource gap to care for the needs of the elderly;
- **Develop public-private partnerships in research and development of more effective products**, services, medicines and equipment for the elderly, including orthopaedic and rehabilitation equipment, to enable the elderly to live life to the full, enjoying access to information and communication technologies;
- Conduct benchmarking on the elderly care practices of other countries (Canada, Sweden, South Korea); address the special needs of the elderly in rural and remote communities, elderly living in poverty, elderly women and people (aged 80 and over)

to ensure an adequate standard of living for all elderly people;

- Use a methodological suggestion to predict the value gender and economic indicators, depending on the expenditures on education and on dependent family members' care.

As a result of the households survey, the following conclusions and recommendations were made:

In the vast majority of cases, it is women in the household who take care of children and elderly/sick family members. With regard to day care (kindergartens, care organizations for the elderly/sick), public institutions are in higher demand than private centers (Fig. 17-18). This may be due to higher prices in private organisations.

Almost half of the respondents reported that the main breadwinner in the family is the spouse. Given that 62% of the respondents were women, it can be assumed that the **main breadwinners in the family are men** (Fig. 21). As the **main reason for unemployed respondents not working, they indicated the difficulty finding a job that could be combined with their caregiver responsibilities** (Fig. 23).

The majority of respondents (62%) who have children and/or other dependent family members **are ready to go to work** if child care and elderly/sick family members' services **become more accessible** (Fig. 24). It is important to take into account that the **majority of people are ready to go to work if their monthly salary, in general, exceeds KZT 100-150,000 per month**. 35% would go to work if their monthly salary was KZT 150,000, 28% with a salary of KZT 100,000, and 20%, with a salary exceeding KZT 250,000 per month (Fig. 25). Early child care and elderly/sick family members' care requires multiple and intensive responsibilities related to all aspects of the child/dependent family member well-being. In this regard, it is very important **to take into account the level of**

well-being and availability of resources for those who are responsible for taking care of them. Recognizing this relationship is important in planning the care and services provided to parents.

Women who have a higher personal income spend less time on household chores (washing, cleaning, cooking, etc.) and caring for other family members than women with lower income levels. We can assume that women with higher financial resources can afford to purchase market-based substitutes for domestic work and/or automate their chores. Thus, women have more free time for self-realization, career building, recreation, etc. Other studies have shown **the economic feasibility of reducing the time women spend on housework as their income increases**, since their higher financial resources allow them to buy market-based substitutes for domestic work. This is consistent with data showing that spending on market-based substitutes for women's domestic work, such as household services and eating out, increases faster with women's earnings growth than their husbands/partners.

Research on the institutionalization of care services has shown a **high return on investment in early childhood care** and support for parents, and that it requires a national and multi-sectoral approach.

- **Provide access to accurate, high-quality and comparable statistical data**

data and methodology of statistical processes. Open access to official statistics allows the research community to get a more comprehensive picture and ensures the effectiveness of the analysis; it reduces the time and finances for conducting additional research.

- **It is necessary to conduct further research on unpaid domestic**

work for the purpose of evaluating it. Unpaid domestic care work should be transformed from family care for dependent family members into a social problem, which implies

an increase in the level of family welfare allowing household work to be automated; institutionalization and socialization of upbringing and care, as well as compensation to the caregiver in a certain form (benefits, payments, tax exemption, etc.).

It is important to conduct further **research on the issue of combining domestic and professional responsibilities**. Issues of gender inequality associated with unpaid

domestic work can be explored more deeply, determining the role of raising children, increasing the status and responsibility of men, strengthening family values in society, and above all, the desire for gender equality. Further work is needed to develop and implement **programmes to support women** to ensure that they can **combine paid work** outside the household **with unpaid child and dependent family members' care**.

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United Nations Entity for Gender Equality
and the Empowerment of Women

14 A. Mambetov Street
Nur-Sultan, Kazakhstan
Tel: +7 7172 69 65 50

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