ASSESSMENT OF THE PRESCHOOL EDUCATION SYSTEM AND DEFINITION OF THE COSTING METHODOLOGY FOR CHILDCARE AND EDUCATION SERVICES IN THE REPUBLIC OF MOLDOVA

Ministerul Educației
al Republicii Moldova

unicef

CONTENTS

THE PROJECT AIMS TO IDENTIFY THE BEST WAY TO ENSURE UNIVERSAL COVERAGE OF PRESCHOOL CHILDREN, THE PROJECT BEING CARRIED OUT IN THREE MAIN STAGES

	1 Phase I	2 Phase II	3 Phase III
ACTIVITIES	**Overview of the current context in Moldova and the region** • Comprehensive overview for the economic and social environment in Moldova • Analysis of the evolution of the expenditures for education and childcare services and forecasted trends for 2015 – 2020 • Benchmark with relevant international examples of countries that implemented costing scenarios for preschool childcare services	**Roll out of an extensive data collection exercise** • Development of an accurate data collection methodology and of general principles of cost evaluation • Development of questionnaire template, on which data were collected • Roll out exercise for data collection, 95% response rate from a total number of 1.453 preschool institutions • Data consolidation, assessment, validation and sanity check of collected data	**Development of a costing methodology for the preschool services** • Analysis of financial and non-financial indicators, based on collected data • Definition of specific costing scenarios by group of children and type of services, considered for expanding the coverage of preschool services in Moldova • Analysis of the benefits of investing in the development of preschool children • Raise recommendations to improve the preschool system in Moldova
OBJECTIVES	Analyse of the existing preschool system, and the evolution of public expenditure and from other sources for education and childcare services	Collection and analysis of data regarding the current costs for operating per each type of preschool institution, at locality level	Definition of the costing methodology for childcare and education services, per each type of children (child in nursery, child in kindergarten), broken-down per type of preschool services

CONTENTS

ANALYSIS OF THE CURRENT SITUATION IN ORDER TO IDENTIFY DEFICIENCIES AND OPPORTUNITIES FOR IMPROVEMENT OF THE PRESCHOOL SYSTEM IN MOLDOVA (1/2)

Limited accessibility to preschool system

- The national network of preschool institutions is **limited in terms of coverage**. In 2014, about 20 districts were facing a shortage of vacancies in kindergartens. In 155 localities there are no preschool institutions, where are 2870 children out of which nearly 2,000 are attending preschools from other localities or in preparatory groups formed in the local gymnasium institutions.
- **The available places in preschool institutions are not keeping pace with the increasing demand**, especially in Chisinau, where the occupancy rate is 108%, which indicates an overloading of classes. According to the Ministry of Education, almost 1,400 children are on the waiting list for a place in the kindergartens, mostly in Chisinau, Anenii Noi and Calarasi.
- Opportunities for preschool education are **often limited in poor families**, the Economy Ministry reporting that 15% of children were in poverty in 2014.

Significant discrepancies between rural and urban area

- There is a **significant discrepancy between enrolment rates** between Chisinau and other areas. According to NBS in 2014 in other areas the enrolment rate was 72%, compared with 104% in Chisinau.
- Also, significant discrepancies are recorded at the level of the **occupancy rate** in preschool institutions. While in Chisinau, preschool institutions are over-loaded, in rural areas the occupancy rate is 88%
- **The majority (89%) of poor children live in rural areas**, due to several factors like higher rate of rural population, limited economic opportunities in rural areas and rural population migration
- The discrepancies between rural and urban areas are reinforced by the analysis of the average yearly expenditures per child. Between 2010 - 2014, in the urban area, the average annual cost for a child enrolled in the nursery were 55% higher than in rural areas and in the case of kindergartens, discrepancies are even higher, of 60 %..

Low integration of children with disabilities

- Based on the data provided by the National Bureau of Statistics, in 2014 were running 123 specialized groups for children with special needs, mostly for children with disabilities or speech disorders, which were attended by 2127 children, with 8.4% more compared to 2010, resulting an **enrolment rate of children with disabilities of only 41%**.
- The enrolled children with disabilities represent 1.3% from total enrolled children, out of which only 3% are enrolled in a community centre and 22% in special kindergartens, the majority of 75% attending regular preschool institutions.

ANALYSIS OF THE CURRENT SITUATION IN ORDER TO IDENTIFY DEFICIENCIES AND OPPORTUNITIES FOR IMPROVEMENT OF THE PRESCHOOL SYSTEM IN MOLDOVA (2/2)

Lack of funding sources

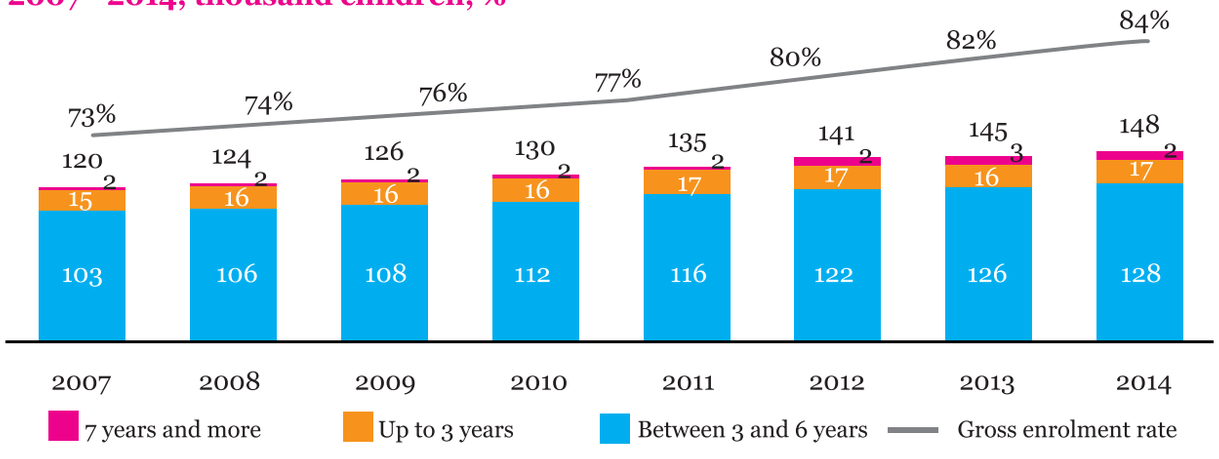
- In the period 2009 - 2014, on average 92% of the public expenditures in the preschool education were financed from the core component of the budget, 6.5% from special means and only 1.5% from the investment projects component.
- The **share of education expenditures in total public expenditures** (national budget) **followed a downward trend** since 2010, recording 17.6% in 2014, and as regards to the upcoming years, it is forecasted that will continue on a declining trend reaching 15.8% in 2020
- In the same period, **the share of the preschool education expenditures in total public education expenditures recorded an annual increase of 4%**, reaching 23.7% in 2014, on the other hand, the forecast for the following years indicates a slight decrease (1% per year), reaching 22.3% in 2020.

Other important challenges faced by the early education system

- Despite the significant increase in the enrolment rate (i.e. from 42% in 2000 to 84% in 2014), **the preschool education records the lowest rate of enrolment** comparing to other forms of education, namely 84% in 2014, and among children from 1.5 - 3 years of only 22%, compared to primary education where the enrolment rate is 87%
- The **low salary of teachers** leads to a high rate of staff turnover and a heterogeneous distribution in the country, about 24% of the total pedagogical staff worked in 2014 in preschool units located in the capital, while the rest was distributed across 34 districts. Since 2013, the **evolution of the pedagogical staff entered into a negative trend** and declined by 1.6% to 12.3 thousand teachers
- Also, Due to the low remuneration offered by pre-school educator positions in public institutions, many unqualified individuals end up filling such positions. Only 49% of teachers have university studies in other areas, and 75% in Chisinau, the remaining having specialized secondary education or are without specialization (5% in both areas)
- Most preschool institutions need investment in infrastructure, especially in rural areas
- There is a significant lack of teaching materials and special facilities for the development of preschool children
- Educational activities are not tailored per each age category, not offering variety to children in their daily schedule.

THE ENROLMENT RATE RECORDED AN UPWARD TREND, WHICH ANTICIPATES A GROWING DEMAND FOR PRESCHOOL SERVICES

Evolution of the number of children enrolled in preschool units 2007 - 2014, thousand children, %



Source: National Bureau of Statistics, World bank, PwC Analysis

Between 2007 - 2014, the rate of enrolment in preschool institutions recorded an annual growth of 3.5% for the share of children aged 3-6 years and for children up to 3 years fluctuated by a slight increase of 0 6%.

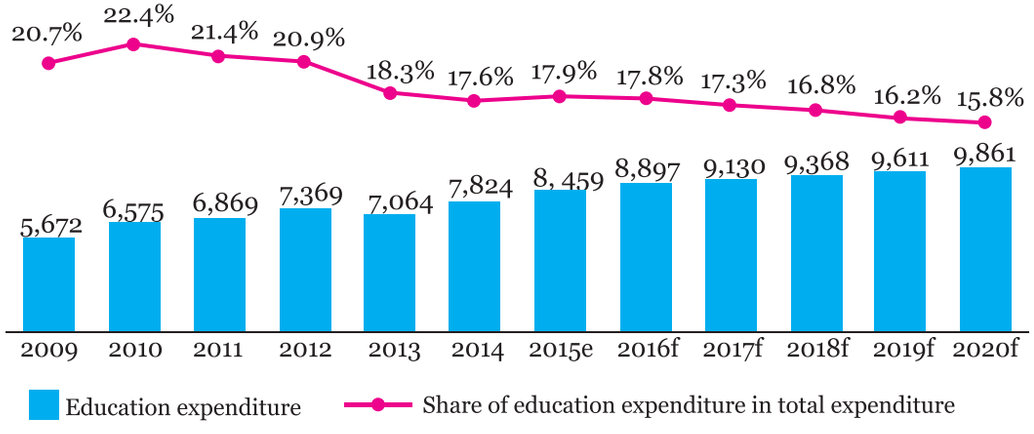
In the same period, the number of places in preschool institutions recorded a slight annual increase of 1%, showing that the offer of places does not keep up with the increase in demand, representing an issue in terms of access to education.

Factors that may influence the enrolment rate

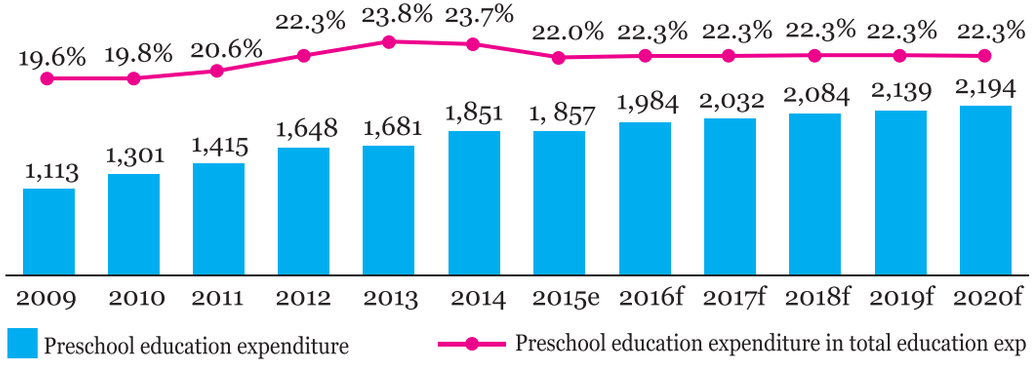
- Between 2007 – 2014, the **preschool aged population** followed a slight increase in all age groups, with an annual growth of about 1.3%.
- **Birth rate** remained stable over the last 10 years, except 2009 and 2010 when the number of new-borns significantly exceeded the average annual birth rate of 39 000 new-borns. In 2014, the birth rate improved by 2% compared to 2013, which could foresee a further increase.
- Also, in the case of emigrants, it seems that in the past 5 years **the migration rate decreased by 12.82%**, recording in 2014 a number of only 182 emigrants.
- Based on the analysed data, we can conclude that, in the foreseeable future, the **birth rate and emigration rate should not influence significantly the preschool enrolment** rate from Moldova.

ANALYSIS OF THE EVOLUTION OF EXPENDITURES FOR PRESCHOOL EDUCATION SYSTEM AND ANTICIPATED TRENDS

Evolution of public education expenditures and their share in total public expenditures 2009 - 2020, MDL million, %



Evolution of preschool education expenditures and share in total education expenditures 2009 - 2020, MDL million, %

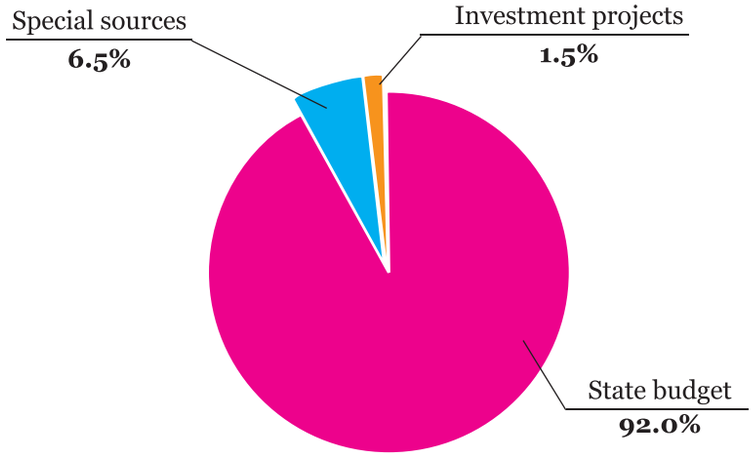


Source: BOOST – Public Expenditures Database, Report on execution of national public budget as of December 31, 2014; Global framework on resources and expenditures of the national public budget for 2011- 2017; Sectorial strategy on public education expenditures for 2015 – 2017

- IIn the period 2009-2014, **public spending on education** registered an annual increase of 6.6% reaching 7.8 billion lei in 2014. However, the share of education expenditure in total public expenditure has been decreasing, to 17.6% in 2014.
- As regards to the upcoming years, it is forecasted will continue on a declining trend reaching 15.8% in 2020, despite that the education expenditures for 2015 – 2020 are forecasted to follow a positive trend, specifically an annual increase of 3.1%.
- In the period 2009-2014, **expenditures for preschool education** registered an annual increase of 11%. In the same period, the share of expenditures for pre-school education in total public expenditure registered an annual growth of 4%, reaching 23.7% in 2014.
- On the other hand, the forecast for the next years shows a slight decrease (1% per year) of preschool education expenditure in total education expenditure, reaching 22.3% in 2020, and expenditures on preschool education are expected to increase by around 3% to 2.2 billion.
- **The share of the education expenditures in GDP** recorded a decline of 2.2 p.p. since 2009 to 7.2% in 2014. Moreover, it is estimated that the negative trend shall continue in the next years, with an annual decrease of about 5.7%, dropping to 5.3% in 2020
- In respect **to the share of the preschool education expenditures in GDP**, it registered a slight reduction of approximately 1.1% between 2009 and 2014, reaching 1.7% in 2014. The forecast for the upcoming years shows that the share of the preschool education expenditures in GDP will continue on a declining path – an annual decrease of 5.6% leading to a share in the GDP of 1.2%.

ANALYSIS OF FINANCING SOURCES OF PUBLIC PRESCHOOL EDUCATION EXPENDITURES

Financing sources of public preschool education expenditures 2009 – 2014, %



Source: BOOST – Public Expenditures Database

- According to the BOOST database, the public expenditures in the preschool education system are almost entirely financed from the territorial administrative units' budgets. Specifically, between 2009 and 2014, the local budgets financed on average 98.5% (minimum 96.6%, maximum 100% in the period analysed) of the total public expenditures in the preschool education system. At the same time the central budgets financed on average 1.5% (minimum 0%, maximum 3.4%).
- In the same period analysed (2009 - 2014), on average 92% (minimum 88.4%, maximum 93.4%) of the public expenditures in the preschool education were financed from the core component of the budget, 6.5% (minimum 6.3, maximum 7.1%) from special means and only 1.5% (minimum 0.3%, maximum 5.1%) from the investment projects component

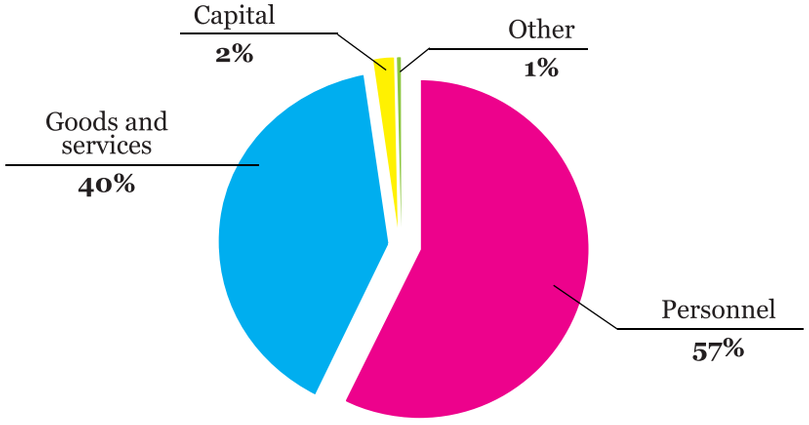
An important role in the development and expansion of preschool education has had the **following grants**:

- **2006-2010 Education for All - Fast Track Initiative - US$ 8.77 million**, under which there were carried out the following activities:
  - ✓ 50 kindergartens were revitalised, for renovation of each of them being granted USD 50,000;
  - ✓ 21 Community Centres for parents and children were opened;
  - ✓ Two Rehabilitation Centres for children with special needs were opened and equipped;
  - ✓ 512 kindergartens were provided with books, toys, games, furniture etc. The cost of the equipment purchased being USD 1,500,000;
  - ✓ Development of the Curriculum for early and pre-school education and the Guidelines for its implementation, the Standards of Learning and Development for Children aged 5 to 7 years old and the National Teacher's Professional Standards, Curriculum for teachers' initial and continuous training;
  - ✓ Development and implementation of a system of monitoring and evaluation of the preschool education sector's performance;
  - ✓ 210 national trainers and 1,200 managers were trained; the training courses
- **2012-2014 Global Partnership for Education - US$ 4.35 million,** which contributed to the following progress:
  - ✓ A permis accesul la serviciile preşcolare pentru 1,700 de copii
  - ✓ A promovat revizuirea legislației educației incluzive și a dezvoltat programe parentale
  - ✓ A condus la instruirea a 8,458 educatori.
  - ✓ A dezvoltat si testat un instrument de pregătire școlară

Source: Global Partnership for Education Grant - Reporting and Monitoring Report (June 2015), Consolidated Strategy for Education Development 2011-2015

DISTRIBUTION OF PUBLIC EXPENDITURES IN PRESCHOOL EDUCATION SYSTEM

Distribution of public expenditures in preschool education by type of budgeting expenditures 2009 – 2014, %

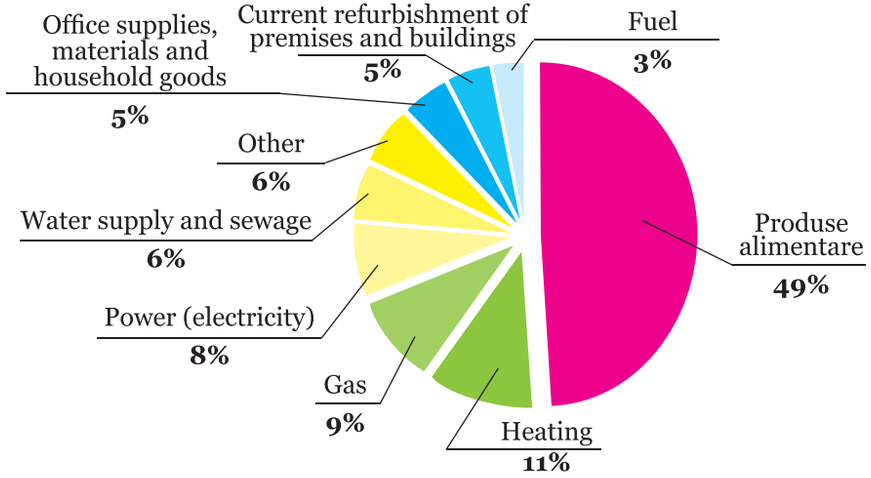


Source: BOOST – Public Expenditures Database

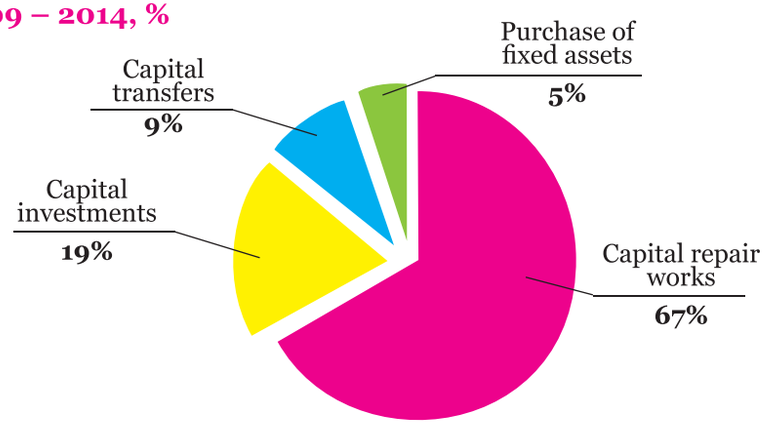
Distribution of public expenditures

- **The analysis of public expenditure** for the period 2009-2014 indicates that on average personnel costs recorded more than half of total spending. At the same time, expenditure on goods and services accounted for 40%, on average and capital expenditure represented only 2%.
- Almost half of the total **expenditures for purchase of goods and services** were directed to the purchase of food, followed by the cost of utilities, current repairs, supplies and fuel, with percentages ranging from 11% to 3%.
- As regards the **capital expenditures**, in the period of time analysed, on average two thirds of the total capital expenditures were directed to capital repair works, followed by capital investments with 19% and capital transfers with 9% as well as the purchase of the fixed assets with 5%.

Distribution of expenditures for purchase of goods and services in preschool education 2009 – 2014, %



Distribution of capital expenditures in preschool education 2009 – 2014, %



Source: BOOST – Public Expenditures Database

CONTENTS

ANALYSIS OF THE PRESCHOOL EDUCATION SYSTEMS IN OTHER COUNTRIES, THE BENEFITS AND CHALLENGES OF EACH MODEL

Romania

- The Romanian education system is managed at national level by the Ministry of National Education. In the execution of its specific responsibilities, the Ministry of National Education cooperates at central level with other ministries and institutional structures subordinated to the Government
- The financing of the public educational institutions in Romania is ensured from the state budget, via the local administrative units, based on the standard cost per child.
- The standard cost per child is calculated based on the following cost components:
  - ✓ Salaries and contributions for the teaching staff, for a full-time teaching norm
  - ✓ Salaries and contributions for other staff employed by the institutions
- Costs of the materials and services required for the functioning of the institution, which are evaluated for every type of institution based on a set of criteria, i.e.:
  - ✓ Criteria 1: Size of the institution
  - ✓ Criteria 2: Type of institution
  - ✓ Criteria 3: Type of community
  - ✓ Criteria 4: Weather classification area
- In 2014 Romania recorded an annual expenditure per child enrolled with 60% higher than in Moldova (i.e. MDL 19 770/ child / year)

Poland

- In Poland, ECD comprises two stages:
  - ✓ the first one, for children between 0-3 years old, is available in institutions like nurseries or similar
  - ✓ the second one, for children between 3-5 years of age, is available in nursery schools, or pre-school classes that function in primary schools
- In 2012, the Government started to implement a reform aimed at increasing the enrolment of children up to 3 years of age in early education and care institutions by allocating significant amounts to setting up care units for this segment and attracting European funds for the same purpose.
- In order to promote the pre-school enrolment, the Government introduced mechanisms that will facilitate access to kindergartens and other pre-primary institutions to all the children aged three from 2017 and will allow them to profit from the right to pre-primary education
- Additional funds directed to local authorities are in particular targeted at:
  - ✓ Establishment of new places in preschools;
  - ✓ Increase quality of preschool education;
  - ✓ Lowering the fees paid by parents for provision outside the free preschool hours.
- In 2014 Poland recorded an annual expenditure per child enrolled almost twice higher than in Moldova (i.e. MDL 35 474 / child / year)

France

- France has a juxtaposed model providing two kinds of institution, each coming under different competent authorities, depending on children's age-group:
  - ✓ Children between 0-3 years can be received in collective or parental nurseries, set up and managed, in most cases, by local authorities or by non-profit associations or in individual care services (nursery assistants) or home child-minding.
  - ✓ Pre-primary education is dispensed at nursery schools, which take children from 3 up to 6 years of age.
- In terms of funding, France is a generous spender on education, dedicating 7.1% of GDP to all levels.
- Pre-school for 3 to 5 years of age is completely free, there are no parental co-payments. In addition, parents can receive allowances for child-minders, nannies, and parental care of the child, depending on their income, number and age of the children.
- In 2014 Poland recorded an annual expenditure per child enrolled with four times higher than in Moldova (i.e. MDL 55 000/ child / year)

CONTENTS

ANALYSIS OF THE MOST IMPORTANT NON FINANCIAL INDICATORS IN ORDER TO DEFINE THE SEGMENTATION OF THE RESPONDENTS AND TO SUPPORT DATA ANALYSIS AND CORRELATIONS (1/2)

Indicator	Chişinău	Others
Institution type	• 79% - nursery–kindergarten • 11% - kindergarten • 6% - primary school – kindergarten • 5% - others	• 47% - nursery–kindergarten • 44% - kindergarten • 4% - primary school – kindergarten • 3% - community centre • 2% - others
Working schedule	• 92% - 12 hours • 4% - 10.5 hours • 4% - 24 hours	• 4% - 12 hours • 58% - 10.5 hours • 34% - 9 hours • 4% - 6 hours
Teaching language	• 69% - Romanian • 11% - Russian • 19% - Romanian/Russian	• 80% - Romanian • 16% - Russian • 4% - Romanian/Russian
Basic services provided	• 100% - education and nutrition services • 97% - health services • 5% - over night accommodation	• 100% - education and nutrition services • 82% - health services • 1% - over night accommodation
Additional services provided	• 4% - Romanian language courses • 2% - foreign language courses • 3% - sports activities • 3% - dance classes • 1% others	• 10% - Romanian language courses • 2% - foreign language courses • 1% - activități sportive • 2% - dance classes • 5% others
Daily served meals	• The responses provided one meal per every 3-4 hours of working schedule, which is line with the "Methodical recommendations concerning the organization of a balanced nutrition for children in institutions" issued in 2013 by the Ministry of Health Of Moldova, which suggests that should be no more than 4 hours in between meals.	
Occupancy rate	• 108% - indicating overloaded groups	• 88% - indicating sufficient capacity to meet current demand, but insufficient for an enrolment rate of 100%.

Source: Survey data, PwC Data analysis

ANALYSIS OF THE MOST IMPORTANT NON FINANCIAL INDICATORS IN ORDER TO DEFINE THE SEGMENTATION OF THE RESPONDENTS AND TO SUPPORT DATA ANALYSIS AND CORRELATIONS (2/2)

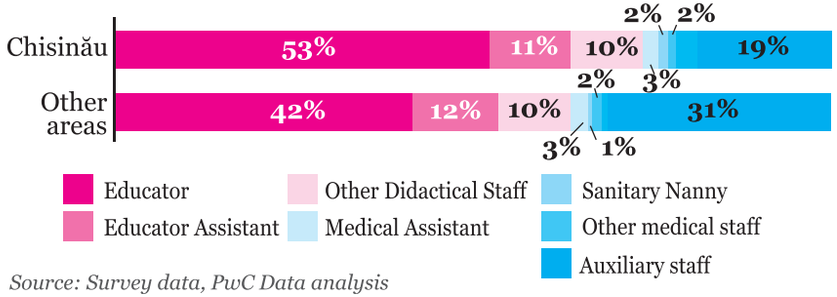
Indicator	Chişinău	Others
Ratio of children per educator	• 15 children per educator	• 18 children per educator
Academic background and teaching grade of didactical staff (methodist, educators, support teachers, music coordinator, speech therapist, defectologist)	**University education** • 1% - highest degree • 5% - I degree • 37% - II degree • 32%- no degree **Specialized secondary education** • 2% - highest degree • 10% - II degree • 8% - no degree **Without pedagogical education** • 5%	**University education** • 0.1% - highest degree • 1% - I degree • 22% - II degree • 26% - no degree **Specialized secondary education** • 0.1% - I degree • 18% - II degree • 27% - no degree **Without pedagogical education** • 5%
Limba de predare	• 92% without pedagogical studies • 6% specialized secondary education • 2% university graduate • 12 children per non didactical staff • 246 children per medical assistant	• 91% without pedagogical studies • 8% specialized secondary education • 1% university graduate • 8 children per non didactical staff • 120 children per medical assistant
Servicii de bază oferite	• 25 m2 used area per child enrolled • 26 m2 available area per child enrolled	• 32 m2 used area per child enrolled • 28 m2 available area per child enrolled
Servicii adiţionale oferite	**Type of heating system** • 83% district heating, 11% other sources, 3% gas stove, 3% wood stove **Type of water system** • 46% running cold water, 38% running hot water, 14% heater, 2% water brought in **Type of sewage system** • 91% centralized sewage, 9% outside facilities	**Type of heating system** • 31% district heating, 40% other sources, 5% gas stove, 24% wood stove **Type of water system** • 42% running cold water, 8% running hot water, 37% heater, 13% water brought in **Type of sewage system** • 55% centralized sewage, 45% outside facilities

Sursa: Datele sondajului, analiza PwC

ANALYSIS OF THE COSTS ASSOCIATED WITH PRESCHOOL SERVICES, PROVIDING THE NEEDED INPUT FOR DEVELOPING THE COSTING MODEL (1/2)

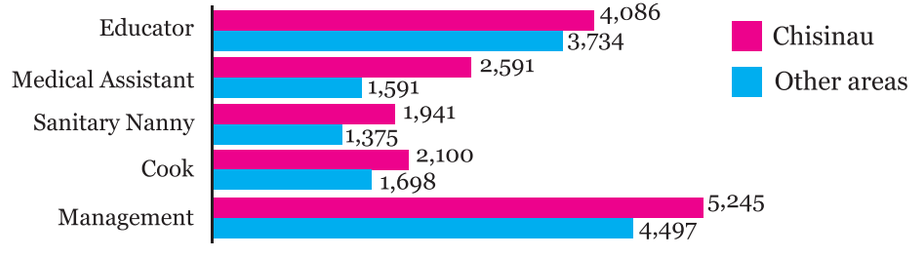
Analysis of labour costs

Cost structure of labour costs 2014-2015, %



Source: Survey data, PwC Data analysis

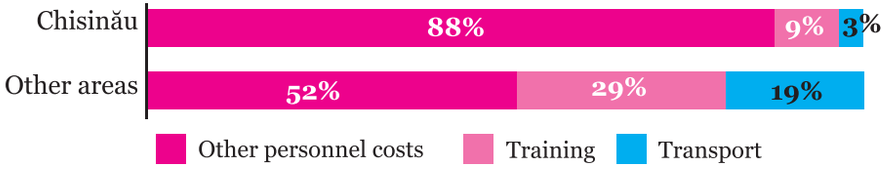
Average monthly salary cost for the main types of function 2014-2015, MDL



- The didactical staff category is the main wage cost component, representing 74% of total labour costs reported in Chisinau, respective 64% in other areas.
- The medical staff category holds only 7% of total labour cost, and the largest share from the auxiliary staff is held by management (4% Chisinau, 9% in other areas)
- The average monthly salary costs for the main types of functions are higher in Chisinau than in other areas, mainly due to a higher competency/specialization level of the didactical staff from Chisinau.

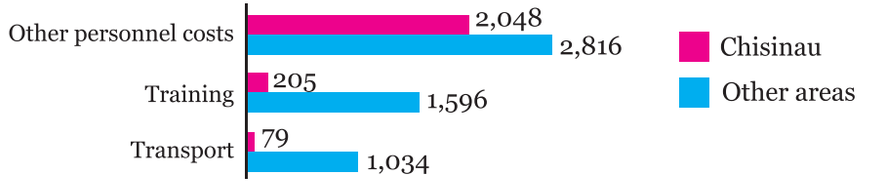
Analysis of other personnel expenses

Cost structure of other personnel expenses 2014-2015, %



SSource: Survey data, PwC Data analysis

Average annual personnel cost per institution 2014-2015, MDL

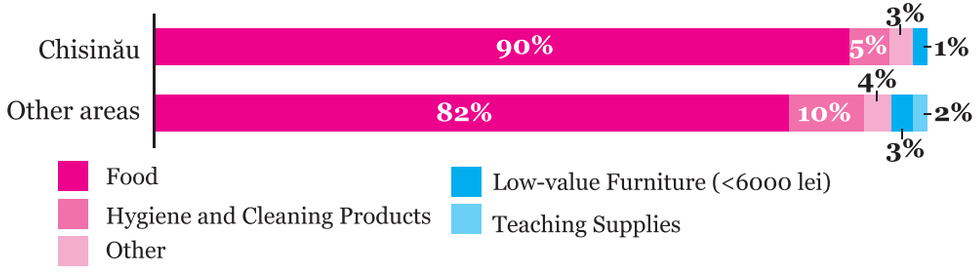


- The main component is represented by the other personnel costs, which mainly refers to the cost with the tickets for medical treatment, and also to the rent compensation costs.
- Based on our analysis of the number of didactical staff by academic background and teaching grade we identified a competency/specialization gap of the didactical staff from other areas comparing with Chisinau, as confirmed by the highest share in Other areas dedicated to training (i.e. 29% training costs from total other personnel costs in Other areas and only 9% in Chisinau).
- Also the share of transportation costs is higher in Other areas compared to Chisinau (i.e. 19% vs 3%), situation explained by the availability of the public transportation in Chisinau, and also due to the reduced distances between households and preschools in Chisinau.

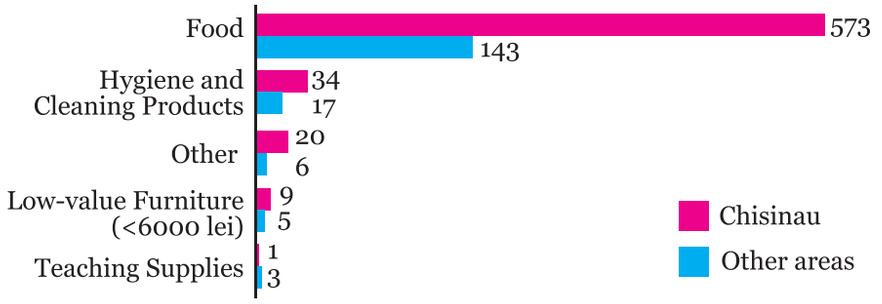
ANALYSIS OF THE COSTS ASSOCIATED WITH PRESCHOOL SERVICES, PROVIDING THE NEEDED INPUT FOR DEVELOPING THE COSTING MODEL (2/2)

Analysis of material costs

Cost structure of material costs 2014-2015, %



Average annual material costs per institution, 2014-2015, MDL

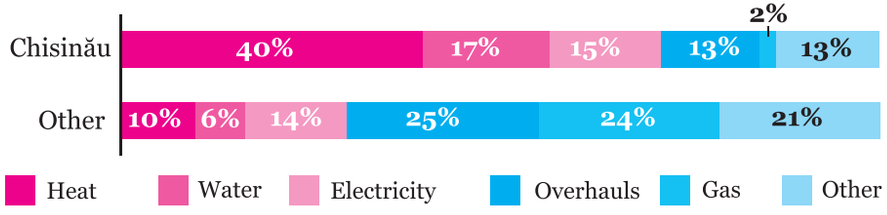


Source: Survey data, PwC Data analysis

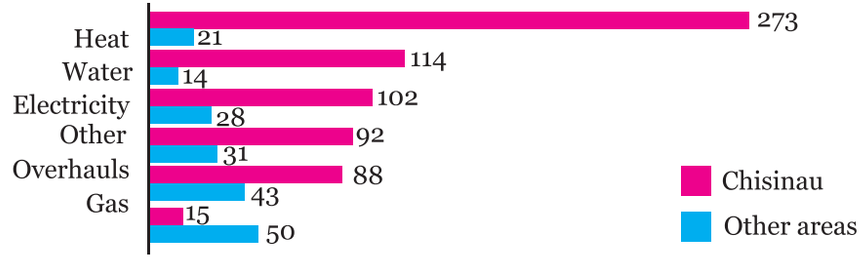
- The main component of the material costs is represented by the cost with children food (i.e. 90% in Chisinau and 82% in Other areas), followed by the costs with hygiene and cleaning products (i.e. 5% in Chisinau and 10% in Other areas) and by Other material costs (i.e. 3% in Chisinau and 4% in Other areas)
- In absolute terms, the average annual cost with food at preschool institution level is almost 4 times higher in Chisinau than in Other areas, based on which we can conclude that in Other areas many children do not benefit of a equilibrate nutrition program, and also the food quality may suffer as an attempt to lower the costs.

Analysis of expenses with the functioning of the premises

Cost structure of the functioning costs 2014-2015, %



Average annual functioning costs per institution 2014-2015, MDL

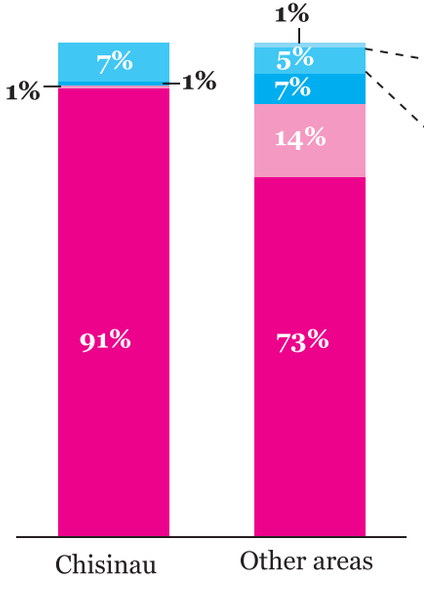


SSource: Survey data, PwC Data analysis

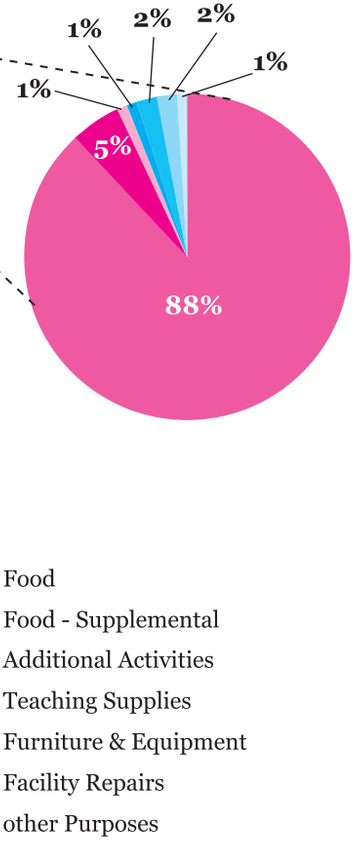
- 83% of preschool institutions from Chisinau are using the district heating system, over 90% using the centralised sewage system and 84% having running water, comparing to Other areas, where almost one third of the preschool institutions use wooden or gas stoves for heating, only 8% have access to running hot water, and almost half of them do not have access to a centralised sewage system.
- These discrepancies reported at utilities level explain the significant differences in absolute terms between Chisinau and Other areas at the level of the average annual preschool institution costs (i.e. cost with heat is approx. 12 times higher in Chisinau, cost with water approx.. 8 times higher, cost with electricity 3 times higher). As expected, the costs with gas are 3 times higher in Other areas than in Chisinau.

ANALYSIS OF THE FUNDING SOURCES TO OBTAIN A CLOSER INSIGHT INTO THE STRUCTURE AND AVAILABILITY OF FINANCING SOURCES OF PRESCHOOL SYSTEM

The structure of financing sources of preschool education 2014 – 2015, %



Allocation of funds from taxes supported by parents, 2014 – 2015, %



Source: Survey data, PwC Data analysis

The main sources of funding

- In both cases, the **main financing source remains the state budget funds**, allocated in this scope by the Ministry of Finance, which represents 91% of all funds in Chisinau and 73% in other areas.
- The difference recorded in Other Areas is compensated by the funds allocated by the Local Public Administration (APL) which records a much higher share than in Chisinau (i.e. 7% vs 1%).
- In Other Areas, a significant share of funding (i.e. 14%) is generated through **Other sources**, out of which:
  - ✓ The most important is the Romanian Government, present in 261 institutions, with an amount of approx. MDL 112 mil,
  - ✓ The project "The Global Partnership for Education" with MDL 61 mil. present in 678 institutions, which was implemented by the Ministry of Education, World Bank - as grant administrator and supervising entity - and the United Nations Children's Fund (UNICEF) - as lead GPE donor agency in Moldova in partnership with local public administrators.
  - ✓ Another MDL 11 mil supported by the Moldova Social Investment Fund (MSIF) in 22 institutions and the remaining MDL 67 mil are generated by Other sources.
- Based on analysed data, **the funds from taxes supported by parents** cover a significant proportion of costs (i.e. 7% in Chisinau and 5% in Other Areas) out of which 88% from the total funds collected from taxes supported by parents is distributed for meals, as provided by the legal requirements in force and another 5% for meals – to cover for menu supplement. A smaller share of 7% is allocated for education services such as extracurricular activities and teaching materials Ministry of Education Order No. 42, from January 28, 2013.

CONTENTS

ANALYSIS OF THREE SCENARIOS IN DEFINING THE COSTING MODEL FOR PRESCHOOL SERVICES

Characteristics of scenarios	Scenario 1	Scenario 2	Scenario 3
Children addressed	• Children aged between 3 – 6/7 years	• Children aged between 1.5 – 3 years and 3 - 6/7 years, including children with disabilities	• Children aged between 1.5 – 3 years and 3 - 6/7 years, including children with disabilities
Working schedule	• 4 – 6 hours	• 9 – 12 hours	• 4-6 hours, for children between 3-6/7 years • 9-12 hours, for children up to 3 years and those with disabilities
Number of meals	• 2 meals	• 3 meals	• 2 meals, for the 4 – 6 hours program • 3 meals, for the 9 – 12 hours program
Sleeping program	• No	• Yes	• No, for the 4 – 6 hours program • Yes, for the 9 – 12 hours program
Advantages	• It serves the same educational purposes, at a small cost for the state • more adequate in rural areas • Encouraged by the employee's right to work part time	• Provides better learning outcomes on long term • It provides both educational and non-educational services • Preferred by parents, due to a greater flexibility • Brings additional benefits for society as a whole • Suitable for all groups of children	• Less expensive than scenario 2 • Tailored to the needs of each group of children: ✓ Extended benefits (related to both the educational component, as well as the non-educational) for children up to 3 years and those with disabilities, and ✓ Educational development of children aged between 3-6 / 7 years
Disadvantages	• Does not provide services not related to the educational component • Does not offer flexibility to parents • Inappropriate for children	• The most expensive scenario • It may be inadequate in rural areas, where parents choose not to enrol their children, in order to avoid costs	• It may be inadequate in rural areas, where parents choose not to enrol their children, to avoid costs • Does not offer flexibility to parents with children between 3-6 / 7 years

AN IMPROVED COSTING MODEL OF PRESCHOOL SERVICES

Analysis of the current cost per child

- Grouping of preschool institutions based on the similarity of preschool costs
- Calculating the current minimum, maximum and average unit price per cost component
- Allocating the average unit cost by type of service
- Calculating the current cost of services per enrolled child at both the current occupancy rate and at a rate of 100%

Calculating the estimated cost per child

- Identifying the relevant costs categories and their cost drivers
- Defining the package of basic services to be covered by the estimated cost
- Developing the necessary assumptions in estimating the cost, by type of institution, work program and type of service

Analysis of the financial impact of aligning the current cost per child with the estimated cost

- Comparative analysis of actual vs. estimated cost per child
- Estimating the financial impact on the total cost of preschool education, in terms of aligning the current cost per child with the estimated cost per child

Analysis of the implications on total cost, in terms of universal coverage of preschool children

- Developing the assumptions that formed the basis of the costing scenarios
- Estimating the impact on the total cost of preschool education of each proposed scenario
- Analysis of the most effective scenario in terms of cost-benefits

RELEVANT COSTS WITH PRESCHOOL SERVICES AND A SET OF HYPOTHESES (1/2)

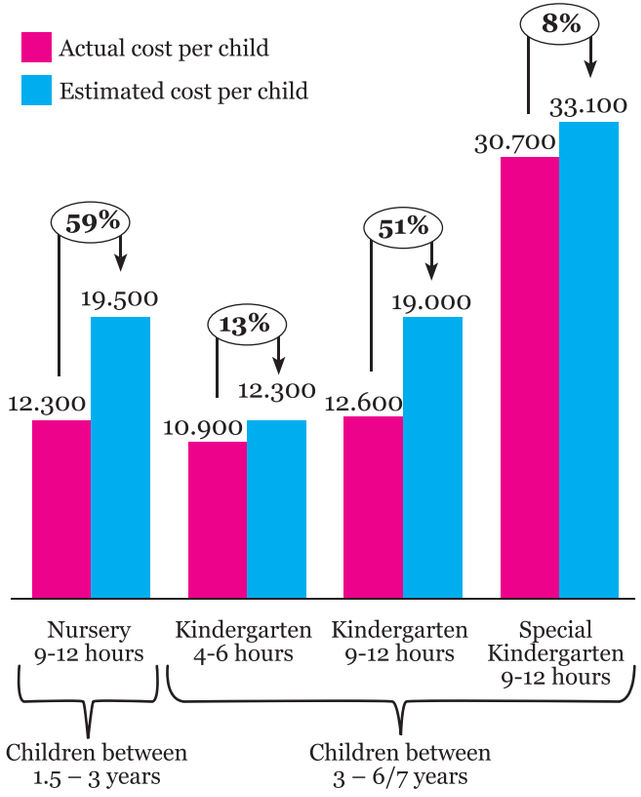
Institution type	Education		Nutrition	
	Current situation	Recommendation	Current situation	Recommendation
Nurseries with a 9-12 hours program (children between 1.5– 3 years)	• 88% of costs represent the wage costs of educators		• The cost of nutrition is regulated at 16.95 MDL • The current average cost of a child's nutrition is 9 MDL/day	• Estimating the costs based on a caloric need of 1,000 kcal / day • Providing at least 3 meals / day, covering at least 75% of the caloric needs of children • The estimated cost of a daily menu is 30 MDL
	• Educator's gross salary is 3800 MDL • The current average rate is 12 children/educator	• Educator's gross salary is 4200 MDL (an increase of 11%) • An averag		
Kindergarten with a 9-12 hours program (children between 3– 6/7 years)	• 66% of costs represent the educator's wages, and 22% represent the assistants' wages		• The current average cost of a child's nutrition is 8 MDL/day	• Estimating the costs based on a caloric need of 1,500 kcal / day • Providing at least 3 meals / day, covering at least 75% of the caloric needs of children • The estimated cost of a daily menu is 35 MDL
	• Gross salary is 3650 MDL and 2000 MDL per educator and assistant, respectively • The current average rate is 17 children/educator	• Educator's gross salary is 4200 MDL (an increase of 15%) • An average rate of 20 children/ educator		
Kindergarten with a 4-6 hours program (children between 3– 6/7 years)	• 71% of costs represent the educator's wages, and 29% represent the assistants' wages		• The current average cost of a child's nutrition is 6 MDL/day	• Estimating the costs based on a caloric need of 900 kcal / day • Providing at least 2 meals / day, covering at least 60% of the caloric needs of children • The estimated cost of a daily menu is 20 MDL
	• Gross salary is 3000 MDL and 1600 MDL per educator and assistant, respectively • The current average rate is 18 children/educator	• Maintaining the same salary level for teachers • An average rate of 20 children/ educator		
Special/ sanatorium kindergartens with a 9-12 hours program (children between 3– 6/7 years)	• 51% of costs represent the educator's wages, 12% represent the assistants' wages, and 32% is the methodist's wage		• The current average cost of a child's nutrition is 15 MDL/day	• Estimating the costs based on a caloric need of 1,500 kcal / day • Providing at least 3 meals / day, covering at least 75% of the caloric needs of children • The estimated cost of a daily menu is 35 MDL
	• Gross salary is 5100 MDL, 2300 MDL, and 4300 MDL per educator, assistant, and methodist, respectively • The current average rate is 10 children/educator	• Maintaining the same salary level for teachers • An average rate of 15 children/ educator		

RELEVANT COSTS WITH PRESCHOOL SERVICES AND A SET OF HYPOTHESES (2/2)

Institution type	Health		Caretaking	
	Current situation	Recommendation	Current situation	Recommendation
Nurseries with a 9-12 hours program (children between 1.5– 3 years)	• 83% of costs represent the wage costs of nanny, and 13% the wage cost of medical assistant • Gross salary is 2900 MDL and 1900 MDL per medical assistant and nanny, respectively • The current average rate is 20 children/nanny and 120 children/ medical assistant	• A gross salary of 3200 MDL and 2100 MDL per medical assistant and nanny, respectively • An average rate of 15 children/ nanny and 60 children/ medical assistant	• Utilities costs represent 50%, salary costs with non didactical staff 42%, material expenses 5% şi 3% other expenses • The average monthly gross salary of management is 4 400 MDL	• Due to a lack of information regarding further plans of investment in preschool institutions renovation, the caretaking service cost was estimated at the current level of expenses.
Kindergarten with a 9-12 hours program (children between 3– 6/7 years)	• 32% of costs represent the wage costs of nanny, and 60% the wage cost of medical assistant • Gross salary is 1900 MDL for both medical assistant and nanny • The current average rate is 100 children/nanny/medical assistant	• A gross salary of 3200 MDL and 2100 MDL per medical assistant and nanny, respectively • An average rate of 20 children/ nanny and 60 children/ medical assistant	• Utilities costs represent 50%, salary costs with non didactical staff 39%, material expenses 8% şi 3% other expenses • The average monthly gross salary of management is 4 600 MDL	• Due to a lack of information regarding further plans of investment in preschool institutions renovation, the caretaking service cost was estimated at the current level of expenses.
Kindergarten with a 4-6 hours program (children between 3– 6/7 years)	• 90% of costs represent the wage costs of medical assistant • Gross salary is 2300 MDL per medical assistant-part time job • The current average rate is 140 children/medical assistant	• Maintain the same level of salary for the medical assistant • An average rate of 60 children/ medical assistant	• Utilities costs represent 53% and the salary costs with non didactical staff 47%	• Due to a lack of information regarding further plans of investment in preschool institutions renovation, the caretaking service cost was estimated at the current level of expenses.
Special/ sanatorium kindergartens with a 9-12 hours program (children between 3– 6/7 years)	• 18% of costs represent the wage costs of medical assistant, 17%-nanny, 26% psychologist , 24% speech teacher, 15% defectologist Gross salary and current ratios: • 3900 MDL assistant, ratio 1:90 • 2300 MDL nanny, ratio 1:60 • 1100 MDL psychologist, ratio 1:120 • 3800 MDL speech teacher, ratio 1:25 • 4700 MDL Defectolog, ratio 1:15	• Maintain the same level of salaries • An average rate of: • 60 children/ assistant/nanny/ psychologist • 15 children/speech teacher/ defectolog	• Utilities costs represent 59%, salary costs with non didactical staff 36%, material expenses 5%	• Due to a lack of information regarding further plans of investment in preschool institutions renovation, the caretaking service cost was estimated at the current level of expenses.

AN ESTIMATE OF THE INCREASE IN THE CURRENT COST PER CHILD NEEDED TO OBTAIN HIGH QUALITY PRESCHOOL SERVICES

Analysis of current cost per child* vs estimated (MDL/child/year)



* Note: The actual cost is calculated at the actual rate of occupancy

Source: Survey data, PwC data

Cresa 9 – 12 ore

- Cost of **educational services** decreased by 12% by estimating a higher ratio of children per educator (from 12 to 15 children / educator), which offset the proposed wage increase of 11%
- The largest increase in the cost per child is due to the increase in **cost with Nutrition** (178%), by estimating a menu of 30 MDL / child / day
- **The cost with health service** increased by 21%, due to the wage growth of 11% for nurse and nanny, and of a reduced ratio of children per medical staff
- The **cost of caretaking** increased by 24%, by estimating the cost at the actual cost calculated at an occupancy rate of 100%

Kindergarten 4 – 6 hours

- Cost of **educational services** decreased by 3% by estimating a higher ratio of children per educator (from 18 to 20 children / educator)
- The **cost with Nutrition** increased by 183%, by estimating a menu of 20 MDL / child / day
- The **cost with health service** increased by 67%, by reducing the ratio of children per medical assistant (from 140 to 60 children)
- The **cost of caretaking** decreased by 21%, by estimating the cost at the actual cost calculated at an occupancy rate of 100%

Kindergarten 9 – 12 hours

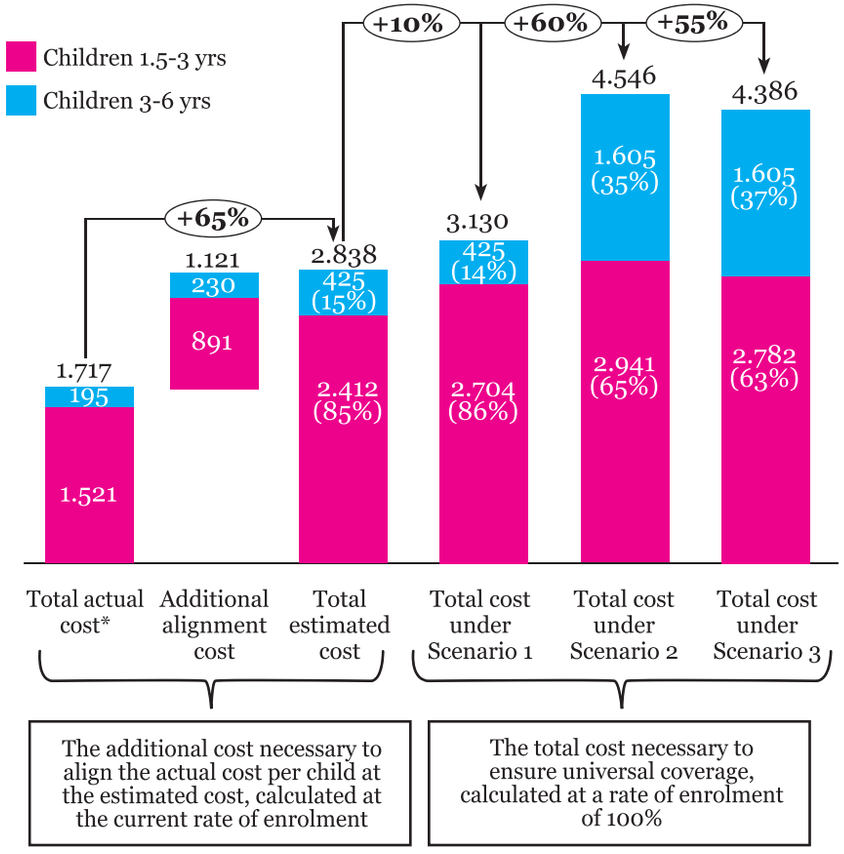
- **Cost of educational services** decreased by 8% by estimating a higher ratio of children per educator (from 17 to 20 children / educator)
- The **cost with Nutrition** increased by 358%, by estimating a menu of 35 MDL / child / day
- The cost with health service increased by 850%, by reducing the ratio of children per medical staff (20 children/nanny, 60 children/nurse)
- The **cost of caretaking** decreased by 15%, by estimating the cost at the actual cost calculated at an occupancy rate of 100%

Special Kindergarten 9 – 24 hours

- **Cost of educational services** decreased by 37% by estimating a higher ratio of children per educator (from 10 to 15 children / educator)
- The **cost with Nutrition** increased by 142%, by estimating a menu of 35 MDL / child / day
- The cost with health service increased by 54%, by reducing the ratio of children per medical staff
- The **cost of caretaking** decreased by 8%, by estimating the cost at the actual cost calculated at an occupancy rate of 100%

A CALCULATION OF THE FINANCIAL IMPACT ON THE TOTAL COSTS OF PRESCHOOL EDUCATION BASED ON THE ESTIMATED COST PER CHILD

Financial implications on the total costs with preschool education (mil. MDL/year)



* Note: The actual cost was split by age category based on the share of enrolled children per each age category, aut of the total number of enrolled children

Source: Survey data, PwC analysis

As a first step, we calculated the **additional cost necessary to align current cost per child at the estimated cost per child, amounting** MDL 1,121 million (65% increase), the highest increases being registered with the services of nutrition and health (289%, respectively 411%), where the most significant deficiencies were identified

In step two, we analysed each scenario, the **financial implications on the total costs of ensuring universal coverage of children of preschool age** (100% enrolment rate)

- **Scenario 1** assumes an additional cost of MDL 292 million / year (10% increase), and ensures enrolment in preschool institutions of all children between 3 - 6/7
- **Scenario 2** involves an additional cost of MDL 1.708 million / year (60% increase), and ensures enrolment of all children in preschool institutions between 1.5 - 6/7, including children with disabilities. Out of the total additional cost, the cost of children aged 3-6/7 years, including children with disabilities, is about 529 million MDL
- **Scenario 3** assumes an additional cost of MDL 1,549 million / year (55% increase), and ensures enrolment of all children in preschool institutions between 1.5 - 6/7, including children with disabilities

The advantages and disadvantages of each scenario are presented below:

Criteria	Scenario 1	Scenario 2	Scenario 3
Additional financing for improving quality	1 120 726 557		
Additional financing for an enrolment rate of 100%	292 284 900	1 708 254 800	1 549 042 700
Ease of implementation in terms of duration	Short term	Long term	Long term
Efficiency in terms of learning outcomes	Medium	High	Medium
Benefits from parental perspective	Medium	High	Medium
Feasibility of implementation	High	Low	Low
		Preferred scenario	

CONTENTS

THE BENEFITS OF A HIGH QUALITY PRESCHOOL EDUCATION OUTWEIGH THE COSTS

Cost efficiency	Benefits may come from cost savings, such as reduced spending for special education and grade retention, as well as lower involvement in the child protection, welfare, and criminal justice systems
Higher productivity	Benefits may flow from greater economic productivity, especially by increasing the level of earnings as adults, and also by fostering the reintegration of mothers into the labour force.
Helps children to build early skills	Help children to develop early skills including cognitive (early language, literacy, math), social (theory of mind1), empathy, prosocial), persistence, attention, and self-regulation and executive function skills (the voluntary control of attention and behaviour).
Positive effects on children's language, literacy, and mathematics skills	Children enrolled in preschool education show improved language, literacy, and mathematics skills when measured at the end of the program or soon after.
Positive effects on socio-emotional development of children	Programs have demonstrated positive effects such as reduced children's externalizing behaviour problems (such as acting out or aggression), problem behaviour, specifically hyperactivity, was reduced among three-year-olds, lower levels of timidity and higher levels of attentiveness, suggesting greater engagement in the classroom.
Positive effects on children's health	Proper medical services at preschool institution level should lead to increased child immunization rates, dental care and health screening (e.g. measles, diabetes, whooping cough, respiratory problems)
Positive effects regarding children belonging to certain ethnic minorities	The integration of children from certain ethnic minorities in preschool system, by respecting the children's culture and by incorporating his home language into the curriculum, will lead to democratic stability and social cohesion

The benefits of preschool education system will depend significantly on the quality of preschool services

The positive effects of preschool education can be amplified when a parenting education component is added, but only when this component focuses on providing parents the opportunity to see or engage in positive interactions with children. Such effects do not occur when programs simply provide parents with information.

[1)] **Theory of Mind** = the ability to attribute mental states, such as beliefs, intents, desires, pretending, knowledge, etc., to oneself and others and to understand that others have beliefs, desires, intentions, and perspectives that are different from one's own.

CONTENTS

IN ORDER TO IMPROVE THE PRESCHOOL SYSTEM IN MOLDOVA, THE FOLLOWING RECOMMENDATIONS SHOULD BE CONSIDERED (1/2)

Current situation	Recommendations
Preschool education system in Moldova is predominantly public	Government should facilitate the private sector development in richer regions of Moldova, especially in Chisinau, where the occupancy rate is 108%
Pre-school education expenditure is covered in proportion of 90% from the state budget and only 10% from other sources	To increase the budget allocated to education, the government should attract additional sources of funding, such as (i) donations from charities or NGOs, and (ii) development financing from international financing institutions that engage in development projects and financing, such as the World Bank. For those purposes, the government ought to assign a dedicated task force that will be responsible for raising awareness of the issue.
Low wage level in preschool education system	Increasing the remuneration for kindergarten educators would help attract better qualified individuals and would offer additional incentives and motivation to make a difference for existing educators, which will in turn reduce staff turnover and minimize the costs associated with recruiting new personnel.
Low level of staff specialization in preschool education system	Given the importance of professionalism when working with young children it is paramount that educators undergo training programs specific to their roles. The trainings ought to be provided by experienced educators in collaboration with trained psychologists and delivered in a standardized format nationwide to educators prior to entering their new roles.
Lack of monitoring teachers' performance nationwide	An annual review process for each educator ought to be implemented, based on periodic inspections performed by an independent third party that assesses the educator based on a pre-defined and standardized set of criteria. An end-of-year bonus system tied to the annual performance reviews can be implemented to provide an additional incentive for educators to perform well.
Lack of a data collection framework for comparative analysis	A mechanism for periodic data collection and analysis ought to be designed and implemented. Such a mechanism will improve the allocation of resources as it will enable the government to identify the viability of newly introduced initiatives at an early stage.

IN ORDER TO IMPROVE THE PRESCHOOL SYSTEM IN MOLDOVA, THE FOLLOWING RECOMMENDATIONS SHOULD BE CONSIDERED (2/2)

Current situation	Recommendations
Reduced integration of children with disabilities and children from certain ethnic minorities	Training programmes should be delivered to the children of ethnic minority groups and those with disabilities. The training programs should address the issues both for the didactical staff and the children and should focus on aspects of inequality, racism and discrimination and explore ways of handling difficult situations, along with the consequences of ignoring diversity.
The existing infrastructure is in poor condition, especially in rural areas	Despite the investments made in the past through various programs, which contributed to the objective of increasing the enrolment rate in preschool programs by refurbishment and endowment of preschools with equipment, furniture and learning materials, there is still an urgent need of investments to be made in infrastructure in the rural areas
Lack of relevant policies for preschool education system	Develop ECD comprehensive and cross-sectorial strategy, that would include curriculum and guides for working with parents, and adjust them to European best practices, bearing in mind that any further measures should take into account that the development of early childhood education and childcare services is dependent on the collaboration between education, health and social protection stakeholders.
Low involvement of parents in the preschool child's proper development	Improve parental skills by: • Continuing parents education for children feeding; • Promote appropriate hygiene practices in families; • Improve parents knowledge and practices in danger science; • Strengthen parents knowledge and practices in stimulation for development of cognitive and non cognitive skills
Major discrepancies between urban and rural areas	It is absolutely necessary to take into consideration the recognised discrepancies between the rural and urban environment in computing most indicators, in allocating the funds, in elaborating the relevant policies etc.
Lack of a collaboration strategy among the main sectors concerning child development	In order to develop high quality preschool services it is necessary to develop and implement a strategy of collaboration between the health, educational, social protection systems, and also to develop a clear concept for fortifying the partnership between the institution, the family and the community, clearly stating the role, responsibility and contribution of each one