Method of Evaluation Costs Standards for the Provision of State (Municipal) Services in Preschool Education: Cost Standards for Various Areas of Expenditures, Based on the Distribution of Responsibilities Between the Authorities of States and Local Governments. Russian Perspective

Olga Lozitskaya

Financial University Under the Government of the Russian Federation, 125993, Moscow, Leningradsky Prospect, 49

Abstract: During the budget reform transition to the provision of government (municipal) services requires the development of methods of evaluation cost standards (norms) for state (municipal) services in the field of early childhood education; these methods should follow for the practical implementation of the principles: effectiveness and efficiency in the allocation of funds. The article concentrates on the method of evaluation costs standards for the provision of state (municipal) services in Early Childhood Education and covers the calculation of cost standards for various areas of expenditures based on the distribution of responsibilities between the authorities of states and local governments.

Key words: Early Childhood Education · State (municipal) services in Preschool Education · Costs standard · Education programs · Adjustment coefficient · Regional coefficient · Municipal coefficient · Targeted dotation · Subsidy · Preschool educational institutions

INTRODUCTION

A lot of scientists pay their attention to the education field today. All developed countries possess highly effective, responsive to modern requirement education systems. At the same time most developing countries consider development of the education system and increasing literacy as their priorities.

Attention is mostly concentrated in the early childhood education and the preschool education system as the first step of the general education system.

As a rule a high level of preschool education is required to ensure a high quality level of future professional education. In majority of countries a preschool education requires a greater or lesser degree of government involvement in funding mechanisms of an early childhood education, but amounts allocated at national, regional and local levels vary absolutely and relatively to a range of parents’ involvement in payments (fees) for a preschool education of their children [1].

The Budget reform in Russia today is aimed at improving the efficiency of state (regional) and municipal (local) services. At the same time the reform is aimed at maintaining (or even reducing growth rates) the budget expenditures for the provision of state (regional) and municipal (local) service by creating conditions and incentives to reduce internal costs of early childhood centers, facilities (childcares) and providing conditions for preschool institutions to attract non–budget sources of financial support, as well as by creating conditions and incentives for state and municipal authorities to optimize their network of the jurisdiction [2].

It is important to optimize the efficiency of funding on every level of the education system including sources of funding or financial support in order to provide high quality state and municipal services [3]. However, international experience analysis becomes important today taking into account integration of the Russian economy into the global one and education system’s convergence tendency. Such kind of analysis allows to select the most effective funding mechanisms for the early childhood education that provides modern quality.
During the budget reform transition to the provision of government (municipal) services requires the development of methods to evaluate cost standards (norms) for state (municipal) services in the field of the early childhood education. In reality these methods should follow the principle of effectiveness and efficiency in the allocation of funds [2].

Despite the fact that the problem of improving the mechanism of cost standards (norms) in the early childhood education is relevant today, in the scientific literature there are practically no works devoted to this problem. Most often the economic mechanism in the higher education is studied. In recent years there were works devoted to the general secondary education, whereas the preschool education (early childhood education), as a rule, was studied only in the context of education research [4].

In the international economic literature problems of education and human capital formation are discussed in the works of scientists such as G.S. Becker, E. Denison, H. Johnson, J. Kendrick, J. Mincer, F. Welch, T. Schultz and others.

In spite of a significant contribution to the development of this problem carried out by the mentioned above scientists, many of its aspects and especially the area of improving the mechanism of cost standards (norms), issues related to it and in funding government (municipal) services in early childhood education are not well understood. Problems of economic incentives to improve the quality of the preschool education are almost not covered.

Transfer of responsibilities in the provision of state (municipal) services during the budget reform requires the development of methods for calculating costs standards (norms) for provision of state (municipal) services in the early childhood education, providing the implementation of the established principles of effectiveness and efficiency in the allocation of funds [5, 6].

Our proposed method of evaluation costs standards for the provision of state (municipal) services in the Early Childhood Education covers the calculation of cost standards for various areas of expenditures based on the distribution of responsibilities between the authorities of regions and local governments.

In order to calculate the appropriation in aid (dotation) and subvention in certain cases to the preschool education at the regional level a regional costs standard (norm) for funding of the provision of government (municipal) services is determined. This costs standard allows to use adjustment coefficients which take into account the objective conditions of the existing education process and specifics of the implementation of comprehensive early childhood education programs based on the approximate core education program of the preschool education and federal government requirements for the basic structure of the core education program of preschool education and the conditions of its implementation [7].

Regional costs standard for the provision of state (municipal) services in the Early Childhood Education (PH) - is the minimum allowable amount of funds needed to implement education programs in preschool educational institutions in a region following the approximate core education program of preschool education and federal government requirements for the basic structure of the core education program of the preschool education and the conditions of its implementation in a per child per a year basis [5]. It should take into account main operating objective factors which determine differences in the value of provided state (municipal) service (urban and remote areas where institutions can be located, an education program specifics etc.). Regional costs standard for the provision of government (municipal) services in the preschool education should cover the following expenses for one full year:

- Compensation of employees (early childhood specialists, teachers, social pedagogues) in educational institutions taking into account regional coefficients for salaries and wages, insurance premiums and insurance contributions for a compulsory social security against accidents and occupational diseases;
- Costs directly associated with the education process (acquisition of visual aids, teaching aids, school equipment (including education furniture), education toys, supplies, office supplies, payment for communication services in terms of expenses on the Internet);
- Other needs and costs associated with the provision of the education process (teaching, training teachers and administrative staff of educational institutions, travel expenses associated with education process, etc.) except for the maintenance of buildings and utility costs carried by local budgets.

A Targeted dotation for a local budget is formed in an amount sufficient to meet the basic core education program of the preschool education in a part which covers
the funding of employees’ compensations (wages and salaries etc.) in municipal preschool educational institutions, education and economic costs (excluding the costs of building maintenance and utility costs carried by local budgets). The amount of funds to be provided is calculated for each municipality separately as the product of a regional costs standard and a total number of children in preschool institutions in a municipality. The volume of subventions to local budgets for the provision of state (municipal) services is calculated similarly.

An amount of the targeted dotation to local budgets is calculated as follows:

\[ S_i = S_i^0 + S_i^1, \]

where

- \( S_i \) – an amount of dotation specified for the \( i^{th} \) municipality;
- \( S_i^0 \) – a basic amount of dotation specified for the \( i^{th} \) municipality;
- \( S_i^1 \) – is established for the \( i^{th} \) municipality amount of funds on account of objectively existing conditions of an education process and the realization of the general education program of a preschool education and federal requirements for the structure of the core education program of the preschool education and conditions of its implementation.

A basic amount of dotation to the \( i^{th} \) municipality is calculated as follows:

\[ S_i^0 = \sum_k (PH_{ik} \times N_{ik}) \]

where

- \( PH_{ik} \) – a regional cost standard for the provision of state (municipal) services in the early childhood education established for the \( k^{th} \)-category of children;
- \( N_{ik} \) – number of a \( k^{th} \)-category of children in preschool educational institutions in a municipality.

A Regional cost standard for the provision of state (municipal) services in the field of early childhood education is calculated as follows:

\[ PH_{ik} = N_{ik} + P_{ek} \]

where

- \( N_{ik} \) – a basic cost standard for employees’ compensation in educational institutions per one child of \( k^{th} \)-category of children;
- \( P_{ek} \) – a cost standard for the provision of the education process per one child of a \( k^{th} \)-category of children.

Basic cost standards for employees’ compensation in educational institutions per one child of \( k^{th} \)-category of children (depending on the type of group in childcare, its normative occupancy and length of stay – full-time or part-time) is determined by the following formula:

\[ N_i = \frac{S_k \times T_k \times D_k \times K_{stim} \times K_{com} \times K_{ins}}{(N_{ik} \times N_{bk})} \]

where

- \( T_k \) – an average number of hours a child of a \( k^{th} \)-category of children stays at the educational institution;
- \( D_k \) – planned number of child-hours, established for a \( k^{th} \)-category of children (number of days a child stays at an educational institution);
- \( N_{ik} \) – an average monthly single teacher's workload in accordance with the current law while working with a \( k^{th} \)-category of children;
- \( N_{bk} \) – a regular occupancy in the group of preschool educational institutions for the \( k^{th} \)-children category.
- \( K_{stim} \) – a coefficient of increase in total employees’ payroll in preschool educational institutions on the stimulus fund;
- \( K_{com} \) – a coefficient takes into account a ratio of payroll of educational employees and a payroll of administrative and management staff and supporting personnel of preschool educational institutions;
- \( K_{ins} \) – a coefficient takes into account compensations, including payments for overtime to the educational employees of preschool institutions;

A Regional cost standard for the provision of state (municipal) services in the field of early childhood education is calculated as follows:

\[ PH_{ik} = N_{ik} + P_{ek} \]

where

- \( N_{ik} \) – a basic cost standard for employees’ compensation in educational institutions per one child of \( k^{th} \)-category of children;
- \( P_{ek} \) – a cost standard for the provision of the education process per one child of a \( k^{th} \)-category of children.

A regular occupancy of a group of an educational institution has to be established by the executive authorities of a region in an amount not exceeding the maximum occupancy as defined by the federal laws and regulations [8].

A costs standard to provide an education process \( P_k \) is determined on a per child basis as a percentage of a total amount of a costs standard.

\[ P_k = N_k \times D_n \]

where,
\(D_k\) – percentage of expenditures for funding tangible expenses on an organization of an education process from the amount of a basic payroll per one child of a \(k^{th}\) category of children.

The percentage of expenditures for funding tangible expenses of an education process (expenses directly associated with an education process provision and other needs and expenses associated with an education process) is established by state executive authorities (the recommended value – not less than 10%).

The amount of funds taking into account objectively existing conditions of an education process provision and particular qualities of the implementation of comprehensive the early childhood education programs is determined by the following formula:

\[S_i^k = S_i^0 \times K_i,\]

where

\(S_i^0\) – a base amount of dotation established for the \(i^{th}\) – municipality in a current year;

\(K_i\) – an adjustment coefficient is calculated for a municipality in accordance with the proposed in this article method.

At a local (municipal) level the mechanism of costs standards for funding preschool educational institutions from a local (municipal) budget is determined by the allocation of dotations including the established rules for calculation of adjustment coefficients for educational institutions taking into account objectively existing conditions, which determine the differences in the cost of services provided on the territory of a municipality.

In addition to funding provided to the implementation of basic education programs of the early childhood education, that is based on the costs standards using dotations (subventions) allocated from the regional budget through the local budget, the funding of children’s education (including meals for children), utilities and other costs and capital expenditures of a municipal preschool educational institution has to follow the established procedure [9].

Local governments can establish costs standards of the relevant expenditures (including utility costs and other expenses). Major repairs are funded outside the established costs standards in accordance with the capital master plan. Tax expenses (including a land tax and a property tax) are included in the costs standards for taxes based on a tax base in case of the absence of appropriate tax incentives for educational institutions.

A total amount of funds allocated to an educational institution is determined by breaking them down on major expenditures based on the established standards of funding.

The amount of funds allocated to an educational institution \((F)\) is calculated by formula:

\[F = \sum_k (PH_k \times n_k) \times k_i + F_{meals} + F_{other} + F_{cap},\]

\(PH_k\) – a regional funding standard established for the \(k^{th}\) - category of children;

\(n_k\) – an average annual contingent of the \(k^{th}\) - category of children of the municipal preschool educational institution;

\(k_i\) – an adjustment coefficient which takes into account objective conditions for the implementation of an education program of an institution if determined in accordance with section 4 of the method;

\(F_{meals}\) – an amount of expenditures on meals in a preschool educational institution;

\(F_{other}\) – an amount of expenditures on other expenses and utility costs of a preschool educational institution determined as approved by a local authority, under which jurisdiction a preschool educational institution is located;

\(F_{cap}\) – an amount of capital expenditures of a preschool educational institution, determined as approved by a local authority, under which jurisdiction a preschool educational institution is located.

An amount of expenditures on meals in a preschool educational institution is defined by the following formula:

\[F_{meals} = \sum_k (N_{ki} \times n_k),\]

where:

\(N_{ki}\) – established by a local authority funding standards for meals expenses for a \(k^{th}\) - category of children;

\(n_k\) – an average annual contingent of a \(k^{th}\) - category of children of a municipal preschool educational institution.

The level of the educational institution provides for the realization of the independence principle of educational institutions: in determining the share of expenditures in the total amount of payroll funds and training costs, as well as an independence in identifying specific areas of logistics and equipment provision of the education process and functioning of institutions [10].
The payroll fund and training costs of an educational institution are funded by targeted dotations which are allocated from a regional budget to a municipality (local) budget. A municipality may at its own expense increase these costs (funds).

The amount of funds is allocated by expenditures by an educational institution itself and is grouped in the following areas of expenditures:

\[ F_i = PF_i + Fed_i + Ftang_i + Ffood_i + Fother_i + Fcap_i \]

where:

- \( PF_i \) – an amount of a payroll fund of an educational institution (funded through targeted dotations);
- \( Fed_i \) – an amount of expenses on a process of education itself in an educational institution (funded through targeted dotations);
- \( Ftang_i \) – an amount of tangible expenses of an educational institution;
- \( Ffood_i \) – an amount of expenditures on meals in a preschool educational institution;
- \( Fother_i \) – an amount of expenditures on other expenses and utility costs of a preschool educational institution;
- \( Fcap_i \) – an amount of capital expenditures of an educational institution.

The distribution of funds to areas of expenditures of an expenditure plan is made by a preschool educational institution itself taking into account certain restrictions on the directions of spending of allocated to a local budget funds within the framework of targeted dotation form a regional budget.

An educational institution is independent in the following activities:

- In a distribution of allocated funds to areas of expenditures according to a plan of an educational institution, taking into account regional and local regulations;
- In establishing headcount and a payroll of employees, according to a local wage (salary) system;
- In defining a basic and a stimulating part of a payroll;
- In determining a ratio of a payroll fund of teaching personnel and education support personnel, administrative and management staff;
- Distribution of a payroll fund according to regional and local regulations.

A financial and economic activity plan of an independent local educational institution has to be approved by his supervisor after the resolution of the Supervisory Board. A copy of the resolution is to be sent to the founder or the board of trustees of an educational institution.

An educational institution is independent in the following activities:

- Establishing headcount and a payroll of employees, according to a local wage (salary) system;
- In defining a basic and a stimulating part of a payroll;
- In determining a ratio of a payroll fund of teaching personnel and education support personnel, administrative and management staff;
- Distribution of a payroll fund according to regional and local regulations.

Adjustment coefficients, which take into account the objective conditions for the realization of the core education program by a municipal (local) educational institution, are used by the local governments to calculate the amount funding of the state (municipal) services in early childhood education taking into account objective existing conditions of the education process and specific conditions of realization of core preschool education programs in educational institutions.

An adjustment coefficient is determined for each municipality in the calculation of subsidies for each educational institution in accordance with the coefficient which takes into account objectively existing conditions of the education process and the specific conditions of realization of core preschool education programs in educational institutions.

We recommend using the following illustrative list of adjustment coefficients:

- A coefficient which takes into account regional factors;
- A coefficient which takes into account an actual occupancy of groups of countryside (remote) preschool educational institutions;
- A coefficient which takes into account organizational forms of preschool education: the organization of groups of the preschool education in schools, further educational institutions, daycares and others;
- A coefficient which takes into account additional premises of institutions (swimming pools, accommodation in several buildings, etc.);
- A coefficient which considers other objectively existing conditions of the education process and conditions of realization of core early childhood education programs.

In case of the absence of any conditions, which can lead to the coefficients of appreciation, such coefficients do not apply. The establishment of any additional coefficients by local authorities (municipalities), except those stated in the certain, list is not allowed.
The size of an adjustment coefficient for a municipality is determined by the following formula:
\[ K_i = \frac{\sum (N_{ij} \times k_j)}{N_i} \]
where

- \( k_j \) – an adjustment coefficient related to the objective conditions of the education process in educational institution, active in relation to a \( j \)-th category of children;
- \( N_{ij} \) – the number of children of a \( j \)-th category of children in a municipality;
- \( N_i \) – a total number of children of educational institutions in a municipality. At the same time the following equation should be right:
\[ N_i = \sum_j N_{ij} \]

The adjustment coefficient for the municipal educational institution is defined by the following formula:
\[ K_i = \frac{\sum_{j=1}^{J} (n_{ij} \times u_j)}{n_i} \]
where

- \( u_j \) – a coefficient of taking into account conditions of an education process active in relation to a \( j \)-th category of children;
- \( n_{ij} \) – the number of children of a \( j \)-th category of children in a municipal educational institution;
- \( n_i \) – a total number of children of educational institutions in a municipality. At the same time the following equation should be right:
\[ n_i = \sum_j n_{ij} \]

Adjustment coefficients, which are related to the objective conditions of the education process in the ungraded preschool educational institutions, are determined by a regional executive body using a list of educational institutions classified by a certain category and are used in the calculation of dotations in relation to the number of children in these municipal preschool educational institutions.

List of ungraded educational institutions has to be approved by a regional executive body for an academic year as a result of September the 1st occupancy of a current year.

Distribution of funds between expenditures of a financial and economic activity plan is carried out by an educational institution within the group of expenditures in the relevant areas of funding.

1. Payroll (Pf)
   1.1. Labor Costs in Accordance with the Labor Legislation including:
   - Salaries, wages, allowances, bonuses, financial aid, fees and other promotional payments;
   - Payment for annual vacations, education vacations, compensation for unused vacations, for staff training, advanced training, the days of medical examinations etc.;
   - Allowance for the first two days of temporary disability at the expense of an employer, in the event of an illness or an injury (except for industrial accidents and occupational diseases) of an employee;
   - Other similar expenses.

2. Training Costs (Fed)
   2.1. Costs for additional benefits and compensation due to the conditions of the employment contract according to legislation, including:
   - Compensation for the acquisition of books, publishing products and periodicals;
   - Monthly benefits for a child;
   - Allowance for business trips;
   - Compensation for the costs of housing, accommodation and other similar expenses.

2.2. Costs for Telecommunications Services, Including:
   - Provision of phone and telegraph communication channels, data channels (information); cellular, paging, connection and use of the Internet, access to a phone network, long distance and international
connections, local phone connections (subscription and time payment) and other radio means of communication;

- Logistics, use of e-mail subscriber boxes, radio (subscription fee);
- Other similar expenses.

2.3. Costs for accommodation for business trips.

2.4. Costs of acquiring fixed assets, regardless of the cost and useful life of more than 12 months, in terms of the acquisition of library stock (on paper or other media), visual aids and other facilities directly related to the realization of the core education program in a preschool institution.

3. Tangible costs ($F_{\text{tang}}$)

3.1. Costs of transport services of business trips

3.2. Costs of utility services including payments for heating and tech needs, as well as hot water, gas consumption, electricity, water, wastewater, sanitation and other similar expenses.

3.3. Costs for rent

3.4. Costs of contracts for works and services associated with the non–financial assets management under the operational management, leasing or free use, except for the repair of equipment and buildings, including the maintenance of clean rooms, buildings houses, other property (including cleaning and snow removal, garbage, disinfection, rodent control, aeration storage, sanitary maintenance, washing vehicles), commissioning, maintenance and repair of the property.

- Costs of contracts for works, services and survey work for the development of construction documents, other security and safety, fire alarm system (installation, commissioning and operation);
- Life health and property insurance, (including the civil liability of vehicle owners);
- Rent for business trips;
- Printing of forms (of government certificates, statements, etc.);
- Information technology services (non–exclusive purchase (custom) software rights including the acquisition and updating of databases and information databases).

3.6. Expenditures on bank services and internal control and other expenses associated with works and services.

3.7. Expenses not related to Payroll, purchase of services, including:

- Taxes and fees due;
- Various fees payments, charges, government fees and licenses;
- Payment of fines, penalties for late payment of taxes and fees and other economic sanctions;
- Other expenses not covered in previous sections.

3.8. Costs of contracts for the purchase of raw materials for single use by an institution for a period not exceeding 12 months, regardless of their value, as well as items used by the institution for a period exceeding 12 months, but not related to fixed assets including the soft stock, medications and medical materials, spare parts, lubricants, fuel, construction and materials, stationery and books except for the library fund and others, except for the purchase of meals.

4. Meals ($F_{\text{meals}}$)

4.1. Costs for fuel and lubricants for catering

4.2. Payment for services related to catering

4.3. Costs of contracts for the purchase of meals

5. Capital expenditures ($F_{\text{cap}}$)

5.1. Costs of contracts for works and services associated with the non–financial assets management under the operational management, leasing or free use for the repair of equipment and buildings (buildings, structures, premises, machinery and equipment, engineering systems and communications including heating systems, water supply, sewerage, including work to restore the functioning of state utilities by their hydrodynamic, hydrochemical cleaning, etc.)

5.2. Expenditures on acquisition and construction contracts for construction, reconstruction, modernization, expansion and modernization of expensive objects relating to fixed assets with a useful life of more than 12 months including expensive equipment and durable goods, furniture, vehicles etc.

In this article the author propose the methodological approach in order to set standards for state (municipal) services funding in the field of the preschool (early childhood) education taking into account the quality of education provided by the institution. This approach meets the objectives of improving the quality of government (municipal) services and will encourage state and local preschool educational institutions of all types to meet the needs of the citizens in the state (municipal) services in the field of the early childhood education.
In order to implement these proposals for improving the standards of funding state (municipal) services in the field of early childhood education the common method of calculating the standard costs in the field of early childhood education has to be approved by the government. This method will provide standards for the calculation of costs in various areas of costs based on reasonable allocation of responsibility between the authorities of state and local governments.

We believe it is possible to conclude that the application of the presented method of calculating the cost standards of providing state (municipal) services in the field of the early childhood education will improve the quality of services in the field of the early childhood education, effectiveness and efficiency of the budget policy.

REFERENCES

10. Cleveland, G., 2008. If It Don’t Make Dollars, Does that Mean It don’t Make Sense: Commercial, Non–Profit and Municipal Child Care in the City of Toronto. A report to the Children’s Services Division, City of Toronto.