The methodology of transition on the pricing of the cost of production for budgetary institutions

Guzel Gabdelhakovna Derzayeva[1] and Gulnara Gabdelhakovna Akhmadieva[2]

[1]Institute of Economics and Finance of Kazan (Volga region) Federal University
Butlerov str., 4, Kazan, 420012, Russia
[2]SFO "Center of Advanced Economic Research of Academy of the Republic of Tatarstan", Russia

Abstract. In article problems arising before the government-financed organization, which engage both budgetary activities and rendering of paid services for transition from regulated pricing to the price-list which formed on the basis of production cost are considered. Also the new methodology is offered. It allows without losses to pass from the old price-list to a new one, not only having applied pricing model on the basis of production cost, but to include additional types of paid services. It will allow for consider quality of the budgetary services requirements on the basis of calculation of economically reasonable expenses arising due to the need of attraction of labor and material resources to render paid service, and also potential expenses intended for development and improvement of organization activity regarding possibility of rendering of paid services in what follows.

Introduction

In the production sphere calculation of production cost or rendering of services is the important instrument of management. In many countries of the world the government-financed organizations as well as commercial lean on an overall cost of services when make of administrative decisions. Calculation of an overall cost of government-financed organizations services becomes obligatory operation when using new forms of financing, such as a normative-target financing, a target consumer subsidy, a social order. It is also necessary to know an overall cost of the budgetary service to estimate efficiency of its granting, to choose an optimum way of granting service, tariffs forming and reasoning demands for financing. However the existing system of calculation doesn't reflect the overall economic cost of the budgetary services in many cases, in particular doesn't consider depreciation of fixed assets, administrative and other expenses. Besides, many years price for the budgetary services settled down by federal authorities with no account taken of economic forces. Thus, now the major task is set before government-financed organizations, which making transition from the regulated pricing on the market price-lists formed on the basis of calculation of the rendered services cost.

Transition from the regulated pricing on the market price-lists formed on the basis of calculation of rendered services cost, causes a number of problems which didn't exist with regulated pricing of government-financed organizations. The major one is determination of government-financed organizations legal status. It is considered in the Budgetary code of Russian Federation [1] which governs the legal relations arising in planning, estimating and adoptions all levels budgets, formations income and implementation relevant budgets expenses, and also the relationships between organizations, the ministries, departments, finance managers and other party to the budgetary relations.

The Federal law "About non-profit organizations" [2] consolidates right of the government-financed organizations to be engaged in rendering paid services, besides performance of the government task. The government-financed organization is the non-profit organization, is created by Russian Federation, the region of Russian Federation or municipality for performance of job, rendering services for ensuring realization of powers provided by the legislation of Russian Federation, respectively, public authorities or local governments in science, education and also in other spheres.

Questions about types and sources of the incomes of the government-financed organizations, and also degree of organization independence at the disposal of this incomes are considered by the Federal law "About modification of separate acts of Russian Federation in connection with improvement of a legal status of the government-financed (municipal) organizations" [3]. The organization incomes is "the increase in economic benefits as a result of receipts of assets (money, other property) and (or) repayments of the obligations, bringing to increase in the capital of this organization, except participants deposits (property owners)". The first group of the government-financed organizations incomes includes the incomes which have the budget as general source – we will call them "the budgetary incomes" - subsidies, the means are received from

implementation of municipal or government orders within signed municipal or government contracts. The second group of the incomes of autonomous organizations includes the incomes which can be called off-budget. Any legal entities and individual persons can be sources of these incomes. For example, the incomes from paid services and works, the incomes from performance of works, rendering services for citizens and legal entities "subject to payment and on equal terms at rendering equal services in the order established by federal laws", the incomes from sale of property or farming its, the investment incomes, grants and charitable donations.

The question about who has right to establish the payment size of services rendered the government-financed organization because the size of the organization income depends on price of service, is stipulated by the Federal law "About the general principles of the organization of local government in Russian Federation" [4] and the Government regulation of Russian Federation "About measures for ordering of government regulation of the prices (tariffs)" [5]. If organization is municipal, the answer to this question is simple – according to local government federal laws tariffs for municipal organization services are established by local governments. If organization is state, public authorities have right to establish tariffs for paid services of this organization only if these services is services which are exposed to state regulation of the prices (tariffs) or which are came within state regulation of tariffs and bonuses according to normative legal documents of federal level. In other way, the government-financed organization independently counts the cost of paid service.

The procedure of payments of paid service cost is considered in S.M. Nikiforov's, O.A. Strelets's, Institute of a city economy of the Bashkortostan Republic [6] works, the list of the expenses included in calculation of paid service cost in detail describe in J.V. Kirillina's [7], I.N. Hakhulina's [8], D.A. Platonova's [9], M.J. Molchanova's [10] and G.G. Akhmadieva's [11] works. The procedure of calculation of an overall cost of the budgetary service consists of the following stages: statement of research problems, the analysis of procedure of providing service, a choice of a unit measure of provided service, identification of providing service expenses of organization, allocation of costs on divisions and types of rendered services. When an overall cost of the budgetary services is determined it is necessary to consider all actually incurred expenses. Traditionally only the direct costs connected with direct providing service are considered: monetary payments cost of the benefits which have been given out in a natural form,

etc. However it must be kept in mind that direct costs aren't always measured only by the payments size or cost of the given material benefits. In a number of programs financial payments aren't made, and the cost of service consists only of a salary of the employees occupied with direct providing service. Besides the expenses relating to direct providing service, in calculation of an overall cost of the budgetary services it is necessary to consider the administrative expenses connected with the guide of budgetary services providing activity. There are straight lines and indirect administrative expenses. At the level of the government-financed organization indirect expenses can be distributed between separate services by one of the next ways: in proportion to expenses of working hours, on the basis of operating schedules, timekeeping or polling of employees; according to a share of a wages fund of organization in the total amount of a wages fund of all organizations; according to a share of direct costs of organization in the total amount of direct costs of all organizations; according to a share of the personnel working in organization in the total number of the workers occupied in the government-financed organization.

Methodology

Thus, one of the most difficult moments in practice of "budgeting focused on result" is estimation of cost of services and programs when government-financed organization pass from the habitual regulated pricing to the price-list formed on the basis of product cost. For the solution of this problem we suggest to divide it into two components: definition of expenses structure of services according to the old price-list, and calculation of services cost of the new price-list in the previous year prices, and determination of services cost to the next years. Such division proceeds from the assumption that for formation of the new price-list a basic condition is formation of expenses structure of the organization on the basis of actual accounting data. We offer the algorithm consisting of two stages for this purpose. The first stage means definition of services expenses structure on the basis of the old price-list, and calculation of services cost of the new price-list at the previous year prices. In turn it consists of five steps: the 1st step - definition of number of each rendered service of the previous year, the 2nd step - definition of a share of each service in the total amount of the rendered services, the 3rd step - the definition, what departments what rendering services are engaged, the 4th step - definition of total amount of expenses for a salary, depreciation, material and other expenses in all departments and of each service in proportion its shares in the total amount of the rendered services,

the 5th step - determination of cost of new services which not rendered earlier. The second stage means determination of cost of services for next years.

Main part

Let us consider these stages in more detail.

Stage 1. Definition of services expenses structure on the basis of the old price-list. Step 1. Definition of number of each rendered service of 2012 and their total amount by the direct accounting from basic documents. Acceptance reports of works executed can be used as basic documents in this step. In the presence of the automated accounting in the organization this information can be obtained from a registration database by buyers.

Table 1. Example of definition of number of each rendered service of 2012 and their total amount by the direct accounting from basic documents

Description of services	Number of rendered services of 2012
A	10
B	20
C	30
Total	60

Step 2. Definition of a share of each service in a total amount of the rendered services of 2012. In this step a standard mathematical proportion, in which total amount of rendered services is accepted equal 100% and the share of separate service is calculated proportionally, will be the simplest variant of calculation. Here it is necessary to allocate one moment: in calculation you can use value terms of services instead of their number, but in our opinion, it is necessary to use shares in natural expression, because in this case demand for services will be considered too.

Table 2. Example of definition of a share of each service in a total amount of the rendered services of 2012

Description of services	Number of rendered services of 2012	A share of service in a total amount of the rendered services
A	10	16%
B	20	33,33%
C	30	50%
Total	60	100%

Step 3. The definition, what departments what rendering services were engaged. In this step it

is necessary to attract administrative information. If such information is absent it is necessary to carry out monitoring at all departments: what department participates in rendering one or another service. Naturally it isn't necessary that each department must render each service in the organization. Therefore it is necessary to establish compliance between all departments of the organization and all services.

Table 3. The definition example, what departments what rendering services were engaged

Description of services	Department 1	Department 2	Department 3
A	Participates		
B		Participates	
C		Participates	Participates

Step 4. Definition of total amount of expenses for a salary, depreciation, material and other expenses in all departments and of each service in proportion its shares in the total amount of the rendered services. For this purpose the organization can use accounting registers. With automated accounting system it is possible to use registers or accounting form for salary, for depreciation, for materials and for all other accounts of 2012. This information must be created not only in the synthetic account, but also in analytics: in a section of each department and each service. Further findings can be carried into the matrix offered in the table 4. It will allow to compare each department with each service. We offer this matrix in less detail only in the following directions: salary with assignments, material inputs, depreciation and other expenses. For more exact calculation this matrix should be broken on all accounts of accounting.

Example*: all expenses amount to 1000 RUB, including: salary amounts to 800 RUB (Department 1 - 267 RUB, Department 2 - 267 RUB, Department 3 - 267 RUB), material inputs amounts to 70 RUB (Department 1 - 23 RUB, Department 2 - 23 RUB, Department 3 - 23 RUB), depreciation amounts to 20 RUB (Department 1 - 7 RUB, Department 2 - 7 RUB, Department 3 - 7 RUB), other expenses amounts to 110 RUB (Department 1 - 37 RUB, Department 2 - 37 RUB, Department 3 - 37 RUB).

For allocation of 2nd department's costs the concept "Section" is entered. The Section means set of similar services. For example there are three sections: Section A, Section B and Section C. Whereas not all departments are occupied with rendering all services, for calculation it is necessary to group services according to departments which render them. Let us refer Service A and Department 1 to the Section A, Service B and Departments 2 and

Department 3 to the Section B, Service C and Department 3 to the Section C. Then the Section A coefficient will amount to 0.16, the Section B coefficient will amount to 0.33, the Section B coefficient will amount to 0.50. Calculation of expenses for Department 2 on Service B will be considered as the relation of multiplication of expenses sum by Section B coefficient to the sum of coefficients of the Section B and Section C, that is 267*33.33 / (33.33+50)=107 and is similar for Service C.

Table 4. Example of definition of total amount of expenses for a salary, depreciation, material and other expenses in all departments and of each service in proportion its shares in the total amount of the rendered services.

		Salary			Material inputs			Depreciation			Other expenses			Cost
Departments		1	2	3	1	2	3	1	2	3	1	2	3	
Service A	16%	267			23			7			37			334
Service B	33,33%		107			9			3			15		134
Service C	50%		160	267		14	23		4	7		22	37	534
Total	100%	267	267	267	23	23	23	7	7	7	37	37	37	1000

*Remark: Computational errors because of rounding amount to 7.

Step 5. Determination of cost of new services which not rendered earlier by method which shows analogy of expenses concerning those services which were rendered: on the basis of definition of average on departments, on the basis of minimum or maximum definition on department, on the basis of determination of arithmetic-mean, weighted mean price on departments, on the basis of the average market prices, on the basis of coefficient assigned to earlier rendered service, on the basis of definition of similar in the semantic and functional contents services, on the basis of determination of similar properties of chemical elements. For this purpose first of all it is necessary to compare data obtained in the previous calculations in table 3 and table 4 of primary documents and accounting registers. It is better to carry out such comparison similar to an example in table 5.

Table 5. Example of comparison of data for definition of expenses structure of new service

Data of 2012 for definition of share			Departments participating in rendering service		
Description of services	Number of rendered services of 2012	A share of service in a total amount of the rendered services	Department 1	Department 2	Department 3
A	10	16%	Participates		
Б	20	33,33%		Participates	
В	30	50%		Participates	Participates
Total	60	100%			

Further it is necessary to analyses each entered service in the directions offered in table 5. That is will determine what department will participate by each new service. Let us consider the following example. Let us suppose that New Service (Service D) is entered. Hypothetical Departments 2 and Department 3 will render it. Respectively, knowing the average level of expenses on rendering services rendered by these departments, we find cost of Service D in 2012 (if it appeared during this period).

Let us suppose that Service E is entered. According to the semantic contents it is identical to Service A. Department 1 will render it. Then the cost of service E is equated with cost of Service A.

Let us suppose that Service F is entered. Information about its rendering is absent. Then we find the average market prices and distribute it on all departments.

Table 6. Example of definition of expenses structure of new service

	Salary			Material inputs			Depreciation			Other expenses			Cost
Departments	1	2	3	1	2	3	1	2	3	1	2	3	
Service A	267			23			7			37			334
Service B		107			9			3			15		134
Scrvice C		160	267		14	23		4	7		22	37	534
Service D		133,5	267		11,5	23		3,5	7		18,5	37	501
Service E	267			23			7			37			334
Service F	2	2	2	2	2	2	2	2	2	2	2	2	24
Total	536	402,5	536	48	36,5	48	16	12,5	16	76	57,5	76	1861

Thus, on the first stage we receive the expanded price-list with inclusion new types of services and determination sum of expenses necessary for rendering each service in the prices of last year. Further it is necessary to pass from the prices of last period into established prices. For this purpose we offer actions on the 2nd stage.

Stage 2. Algorithm of calculation of cost of services for next year.

Table 7. Example of calculation of coefficient of service participation

Description of services	Service costs	Coefficient of service participation
Service A	334	0,1795
Service B	134	0,0720
Service C	534	0,2869
Service D	501	0,2692
Service E	334	0,1795
Service F	24	0,0129
Total	1861	1

For determination of cost for 2014 information about coefficient of participation of each service and each department in organization expenses and also deflator's quantity are necessary. The coefficient of participation shows expenses level which is the share of service or department provided

that during every period of time all types of services according to the price-list will be rendered in even quantity. This coefficient is calculated as relation of expenses on each service or department to costs of rendering all services or departments as a whole.

Table 8. Example of calculation of coefficient of department participation

	Departments	Department costs	Coefficient of department participation
Salary	Department 1	536	0,2880
	Department 2	402,5	0,2163
	Department 3	536	0,2880
Material inputs	Department 1	48	0,0258
	Department 2	36,5	0,0196
	Department 3	48	0,0258
Depreciation	Department 1	16	0,0086
	Department 2	12,5	0,0067
	Department 3	16	0,0086
Other expenses	Department 1	76	0,0408
	Department 2	57,5	0,0309
	Department 3	76	0,0408
	Total	1861	1

So long as not all departments are render all services, for calculation it is necessary to group services according to departments which render them. Let us enter coefficient of section.

Table 9. Example of calculation of coefficient of section

Sections	Services	Coefficient of section
Section A	Service A, Service E	0,1795+0,2692 = 0,4487
Section B	Service B, Service F	0,0720+0,1795 = 0,2515
Section C	Service C, Service D	0,2869+0,0129 = 0,2998
Total		1

To determinate price of 2014 it is necessary to enter the actual expenses on elements 2012 and 2013. They are distributed according to the appropriated coefficients of participation on departments and services, and are recalculated for deflators. As the price is equal to prime cost, received result will be required price. For this purpose the actual expenses of 2013 in the directions: Salary with assignments, Material inputs, Depreciation, Other expenses, - are distributed according to the established coefficients on all types of services, forming prime cost for 2014, similar to table 5, that is the fourth step of the first stage. For this purpose the organization can use accounting registers. With automated accounting system it is possible to use registers or accounting form for salary, for depreciation, for materials and for all other accounts of 2013. However, unlike the fourth step of the first stage, these expenses must to be corrected on the coefficients calculated earlier in tables 7, 8 and 9, namely: coefficient of service participation (table 7), coefficient of department participation (table 8) and coefficient of section (table 9). Thus, correction of the actual expenses of 2013 to above calculated coefficients will allow passing from the old price-list to the new. Besides, transition from one price-list to another one influences on changing of size of supply of the organization in the rendered services market. So, it will be reflected in changing of market conditions. To account market conditions it is necessary to apply correction coefficient reflecting level of market changes. This coefficient is defined by expert. The expert determines the most competitive desirable service prices at the market and correlates them with actual service price.

Results

So, the considered methodology allows the government-financed organization to form the cost of paid service (job) taking into account requirements to its quality on the basis of calculation of economically reasonable expenses arising due to need of attraction of labor and material resources for rendering paid service (job), and also the potential expenses intended for development and improvement of organizations activity regarding possibility of rendering paid services (works) further. Meanwhile accounting of expenses is made taking into account branch features of formation of concrete service (job) cost. The government-financed organization carries out annual revision of the paid services (job) list taking into account market condition changes, and revision of payment size for services (jobs) on the basis of analysis of the actual expenses of organization on rendering paid services (jobs) of the previous periods, and also expected information about dynamics of change of price level (tariffs) composed of costs of rendering paid services (jobs), including prices (tariffs) for goods, jobs, services of subjects of natural monopolies regulated by the government. Transparent and clear procedure of calculation of service cost increases trust to authorities from the population, potential non-governmental and non-municipal suppliers and investors.

Corresponding Author:
Dr. Derzayeva Guzel Gabdelhakovna
Institute of Economics and Finance of Kazan (Volga region) Federal University
Butlerov str., 4, Kazan, 420012, Russia

References
1. The Law of the Russian Federation "Budgetary code of Russian Federation".
2. The Law of the Russian Federation "About non-profit organizations" of January 12, 1996 #7-FL.
3. The Law of the Russian Federation "About modification of separate acts of Russian Federation in connection with improvement of a legal status of the government-financed (municipal) organizations" of May 8, 2010 #83-FL.
4. The Law of the Russian Federation "About the general principles of the organization of local government in Russian Federation" of October 6, 2006 #131-FL.
5. The Law of the Russian Federation "About measures for ordering of government regulation of the prices (tariffs)" of March 7, 1995 #239.
6. Nikiforov S.M., Strelets O.A., 2011. An assessment of an overall cost of the budgetary services in the public and municipal administration. Accounting in the government-financed and non-profit organizations, 17: 45-60.
7. Kirillina J.V., 2013. International scientific conference about problems of development of economy and society, pp: 80-89.
8. Hakhulina I.N., 2012. Costs management in the government-financed organizations in conditions of budgeting focused on result. The Siberian financial school, 6: 54-78.
9. Platonova D.A., 2013. Determination of cost of the budgetary services for transition to budgeting focused on result. Property relations, 10: 66-78.
10. Molchanova M.J., 2007. Theory and practice of the budgetary regulation of municipalities of Russia and European tendencies. Achievements of modern natural sciences, 9: 70-99.
11. Akhmadieva G.G., 2010. Estimation of budgetary policy efficiency of municipalities of Tatarstan Republic. Tatarstan Republic's economic messenger, 2 (3): 19-26.

7/15/2014