COST ESTIMATION OF MUNICIPAL SERVICES IN SOUTH EAST EUROPE

NALAS

Network of Associations of Local Authorities of South East Europe

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Guidelines

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NALAS Task Force on Fiscal Decentralisation
hosted by the National Association of Municipalities in the Republic of Bulgaria (NAMRB)

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1. INTRODUCTION

Decentralization is a process of transfer of services and powers from a state to its municipalities. The provision of new services requires adequate financial resources. The shift from hierarchical subordination of municipalities to equal relations with the state implies that the quantity of such resources should be agreed at the negotiation table. In order to uphold local interests, the representatives of municipalities should be equipped with knowledge and tools so as to come up with the actual (full) costs for rendering decentralized services. Some of the cost elements are often hidden in other functions (e.g. administrative costs) or they are simply omitted in the negotiation process. The lack of such information and knowledge has adverse impact on the state transfer system and frequently leads to unfunded services at local level.

The new powers create conditions for differences in administrative effectiveness and this affects the distinctions in the financial status of municipalities. They increase in a situation of decentralization. This requires that central governments should use increasingly complex mechanisms for financial equalization. Their negotiations with local government representatives imply that the latter should be aware of the cost of the services and of the existing objective differences among municipalities resulting from their specific conditions of service production and delivery.

The greater powers of the local governments go along with greater responsibilities to the voters and tax-payers. An increasingly popular practice is to discuss local issues with the community, to report performance to broader audiences, to undertake obligations to provide new services. The enhanced dialogue with the population and the transparency of the overall activities of the municipalities require that the budgeting process should be based on an estimate of the total cost of services.

A greater autonomy of municipalities implies possibilities for local decision-making on the way of providing individual services. It is the obligation of the municipality to ensure their provision: either directly or via another body. Depending on circumstances, it is often more effective for a service to be outsourced (i.e. rendered by an external provider). This practice has been more common in the utility sector and recently in the provision of community social services as well. The protection of the public interest in the process of outsourcing a certain service presumes knowledge of the total expenditures for its production and provision.

As a result of the awareness of these needs brought about by the altered conditions of local authority operation the Task Force on Fiscal Decentralisation (TF FD) of the Network of Associations of Local Authorities in South Eastern Europe (NALAS) suggested the development of a model of cost estimation of mainstream municipal services. The idea was discussed during the NALAS TF FD workshop held in Skopje on 14 June 2007. In the course of the workshop the Task Force members rallied around the view that the methods of cost estimation of municipal services should include operational (investment) costs, that they should be as simple as possible and relatively easy to apply, while allowing country-specific adjustments.

The objective of this guide is to present methods of cost estimation of services and explain the logic of cost estimation steps by using as examples several typical municipal services. The attainment of this objective will enable local governments and their NALAS member associations to:

Protect better the interests of local governments in the negotiation process with the state, when establishing their financial relationships. The introduction of science-based and transparent methods of cost estimation of services will create conditions for improving the process of delegation of powers from the central government to the local governments and service providers, as well as for identifying clear criteria for allocating state transfers to municipalities;

Manage better local finance. To this end they should be able to:

- **Establish how much the service delivery and administration costs them.** When municipalities fund a service from general tax revenue, the administrative costs may be lost among all other expenditures. Even if an effort is made to establish them, some of them may easily be bypassed. In any case, local governments will be able to better control their expenditures, if they know their real cost.
- **See the real picture of their costs in spite of any high and low tides in cash expenditures.** By using such techniques as depreciation, full cost estimation reveals a more precise picture of the expenditures under municipal programmes without any distortions that might occur if considering only the cash expenditures for a particular year.

Explain and publicly account for the actual costs of the service. Cost estimation will help explain to the citizens how much a delivered service actually costs. This will prompt adequate expectations on their part and, above all, it will equip them with additional knowledge for taking more informed decisions during their direct involvement in the governance of a municipality. Many people believe that public services are free of charge because they pay either nothing or substantially reduced prices for them. It is common practice to determine the cost of municipal services solely on the basis of the direct expenses incurred for them. In other cases the cost of certain services may be overly appreciated. Cost estimation may provide realistic information to citizens as well as respond to specific expectations and suggestions of the public.

Assume a more business-like approach to service administration. By focusing on expenditures, the full cost estimation of a service imposes a more business-like, more corporate approach to administration. The users of goods and services increasingly expect value for money, which means a proper balance between the quality and costs of a service. Full cost estimation may help map out the options for better and more up-to-date service logistics, for doing away with ineffectiveness and for facilitating activities aimed at savings via planning and decision-making based on adequate information.

Enhance their negotiation position vis-?-vis their suppliers. When considering service privatization, full cost estimation may be used to find out how much it costs (or would cost) to do the job. Full cost estimation may also help municipalities, which provide these services, to determine on their own whether their costs are competitive as compared to the costs of the private sector.

Estimate the components of the individual services. Full cost estimation makes it possible to estimate the net expenditure for each element of the service (e.g. in the case of solid waste: recycling, composting, utilization as fuel in power generation (the so-called waste for energy) and disposal in landfills). Full cost estimation may help avoid common errors in thinking about services, particularly the mistake of treating hidden costs as non-existent.

Improve service administration programmes. If other municipalities use full cost estimation of a service and report the results, it will probably be possible to draw an intermunicipal comparison of the costs per unit of service. Such a comparison might prompt options for „restructuring“ some of the current activities. Moreover, when municipalities are aware of how much it costs them to administer services on their own, they could better identify the possible savings they would

achieve if they pool their efforts with those of adjacent municipalities and develop effective inter-municipal cooperation.

Objects of the methodology are the costs for the following municipal services: primary school, kindergarten and building permit. The selection of the municipal services that were most suitable for the purpose was essential for the implementation of the project.

The following criteria for selection and cost estimation of municipal services have been adopted: the services should be mainstream ones, i.e. they should be provided by the majority of the municipalities in the region and reported to a broad circle of users; they should be used by various groups of consumers; the use of the service should be associated with various financial requirements to the users: free of charge use or payment of fees covering partially or fully the service costs.

On the basis of these criteria the following three types of services were selected: primary schools, kindergartens, and issuing of building permits. In most of the countries these services account for over 40% of the municipal expenditures.

The municipalities were required to have expressed their desire to be included in the project voluntarily, to have the capacity for good financial management and to perform cost estimation of at least two of the three services. Another requirement was that they should be of different sizes: a small one, a medium-sized one and a large one, and that they should be located in different geographical regions.

The following tasks have been fulfilled in pursuit of the objective:

- A brief review of the approaches and methods of cost estimation of services in use has been made;
- The selected methods have been presented by using the three municipal services as examples and the way to add up and compute the costs has been explained in detail;
- A brief review of the existing conditions in the various countries that influence the objectives of the methods and the potential for their employment has been presented;
- The results of the pilot application of the methods have been analyzed and the difficulties stemming from the available information, the peculiarities of the environment and the capacity of the local governments have been outlined;
- Conclusions have been drawn and suggestions have been made for further work in this area and the role of NALAS in this process has been outlined.

Object of examination are municipalities in Bulgaria, Macedonia, Romania, Moldova, Albania Montenegro, Slovenia and Kosovo. The requirements to the pilot countries and municipalities under the project are that they should have expressed their desire to be included in the project voluntarily, they should have the capacity for good financial management, they should be of different sizes: a small one, a medium-sized one and a large one, and they should be located in different geographical regions.

The methods used include examination of the practices of cost estimation of municipal services. In order to examine the regulatory environment and the practices in use, the project team developed a Questionnaire containing mostly open questions. The Questionnaire was sent out to the Associations in the pilot countries. The responses to the Questionnaire made it possible to collect, analyze and draw general conclusions on the information, which, on the one hand, accounted for the regulatory environment, for the national specificities in the delivery of the services and for the methods of cost estimation and, on the other hand, helped formulate conclusions and working suggestions for developing the first version of the methodology of full cost estimation.

The development team also familiarized itself with the methodologies of service costing used in the advanced West European countries and in the USA: Activity Based Costing, Full Cost Accounting and others. Assistance in this respect was also rendered by Jan Herzczynski, a Polish professor from Warsaw University, who suggested the employment of two approaches: empirical and normative (standard). The particular methodology for the „issuing of building permits“ service was developed by the German professor Dieter Falk.

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2. METHODOLOGY FOR COST ESTIMATION OF SERVICES

2.1. The methodological approach to cost estimation of services

is a systematic process of determining or allocating the expenditures for certain outputs (products/services).

There are numerous theoretical approaches to cost estimation of services. Each of them has its advantages and disadvantages and each is relevant to certain services or operations. A part of them are either complementary or used in combination. Opting for their use depends on the objectives that have been set and on the essence of the service to be estimated.

From the perspective of the essence of the product/service, the following approaches are available for their costing and estimation:

- **Job Order Costing.** It is used in the production of certain products/services, which successively undergo different stages and the direct costs (labour, materials) incurred for them are cumulative. The estimation of indirect costs, i.e. those that can also be referred to other products, is based on the relative share of the product in the totality of products turned out by the organization (or on the share of the labour costs). This approach is relatively most precise in estimating the costs incurred for the product/service.
- **Activity Based Costing (ABC).** This approach estimates how certain activities use resources and how they influence the attainment of the end result (product/service). It is used when the process of production and delivery of the product/service can be split into separate activities. This makes it possible to measure the expenditures for each activity and the effectiveness of its delivery. Indirect costs are allocated by activity on the basis of the relative share of the direct costs incurred for them.
- **Process Costing.** It is used when a product/service is the outcome of multiple complementary (co-existing) activities, each of which contributes to the end product, yet the latter is not quantita-

tively estimated. The costs are accounted for as a total value at the level of the structural unit, which turns out the product/service. That is why the estimate per unit of output is made by dividing the total amount of the costs into the number of the products turned out/services delivered. Indirect costs are calculated as a share of the costs of the unit in the total budget of the organization or as a share of its employees in the total number of the employees.

- Standard Costing. It can be used along with the above-described approaches. The purpose of this approach is to make sure that there is a standard on the costs of a product/service that is to serve as a benchmark to compare the actual value to. Cost standards can also be presented by component: labour, materials, direct costs, etc.

It is normal that in certain cases some organizations would use a mixture of two or more modes to estimate the costs of the products/services they turn out. For example, they may use the ABC approach to estimate their direct costs and the Process Costing approach to estimate their indirect costs.

2.2. Methods of cost estimation of services

There are three methods of assigning costs to a product/service: direct, causal, and cost allocation method. The choice of an appropriate method depends on the available information, as well as on the resources for obtaining it. All these methods can be used along with the costing approaches referred to above.

- The direct method is a process of assigning costs, which is based on a clear link between the expenditure and the output.
- The causal method is used when the product/service is the outcome of performing certain activities. In this case costs cannot be directly assigned to the output, so they are allocated to a certain relatively autonomous activity, which contributes to the production of the product/service.
- The cost allocation method is used when the worth or the time for assigning the costs to certain products/services are more valuable than the benefits from a precise allocation of the costs among them. It is not so precise as the methods referred to above, but it does certain justice, if the allocation rests on an appropriate basis (such as number of persons employed, direct costs, etc.)

A study conducted by the United States Environmental Protection Agency (US EPA) has yielded a Full Cost Accounting handbook. It recommends two ways of „disaggregating" the process of production and delivery of the service. The analysis may focus on the various activities that are the building blocks of the costs incurred for the service, or on the paths followed by the process of incurring and accumulating the costs for the service.

Both modes of considering the costs incurred for a municipal service - employing paths or activities - can be useful. Since these two perspectives share the same terminology, it is essential that the full cost accounting data should be presented clearly, so that the users would understand the costs for the different services. In order to achieve clearer presentation of the differences between the two modes of cost estimation, we shall use another municipal service, different from the object of this methodology, i.e. management of municipal solid waste. This service includes the following activities:

- Waste collection
- Operation of transfer stations
- Transport of waste from transfer stations to waste treatment facilities
- Waste processing and/or disposal at waste treatment facilities
- Any sale of by-products

The paths for managing solid waste are the cross-cutting points in the system. The four primary solid waste management paths are:

- Recycling
- Composting
- Waste-to-Energy
- Land disposal

Disaggregating the costs of each solid waste management (SWM) activity is necessary for compiling the costs of the entire system **and helps one evaluate whether the municipality should provide a service itself (by using a body of its own) or it should outsource that service.** Disaggregating the full costs of each path is an essential first step in considering whether to shift the SWM flows one way or another. In disaggregating the full costs for the delivery of a service (in this particular case solid waste treatment) in a municipality the bottom line should remain the same whether disaggregated by activity or path.

If the purpose of presenting such disaggregated information is to **facilitate comparisons within a municipality among different programmatic options** of handling solid waste, then the full costs are better presented in terms of SWM paths. In that way, discussions about whether to expand or reduce recycling, composting, or waste-to-energy programs will be based on the actual economics of each path.

If the purpose of presenting the disaggregated information is to **facilitate discussions about whether a service would not be performed at a better price by a different provider,** then the full costs will be better presented in terms of SWM activities.

Because of the many different ways in which local governments handle solid waste, there is no single recipe appropriate for all municipalities. The approach described here can be adapted to fit the circumstances of your municipality. The full cost estimation of the service requires information about up-front costs (for initiating the activity), operating costs (during the performance of the activity), and back-end costs (for closing the activity or site). For that purpose it would be helpful if the following types of information are available:

- **Descriptive information** about the current program, including its history, scope, and future plans.
- Inventory of assets such as vehicles, buildings, equipment, and land as well as the human resources employed to manage the service .
- Organizational review identifying the supervisory and advisory units to which the service is reported as well as its providers.
- Available financial records and reports.

Programme description. What your service system costs depends on what it does. To avoid overlooking some costs, the municipality could develop a profile of its services. The programme description can answer such important questions as:

- How much waste is involved?

- Who transports it?
- How?
- How often?
- How far is it conveyed?
- How long does each trip take?

The development of a profile of the services by using a single standard approach will also allow easier comparison of such services among municipalities.

You can write down all the steps that solid waste takes from its generation to the point of its processing and final disposition. By identifying all the activities that make up your system, you can determine their costs.

Inventory of physical assets and human resources.

Next, an inventory should be compiled of the equipment, vehicles, buildings, land, etc. owned or used by the municipality. For each component of the inventory you can ask such questions as: Is it owned or leased? When was it acquired? At what cost? What is its useful remaining life? The inventory can also include descriptive information such as the capacity, quantity, and location of physical assets and can serve as a basis for developing depreciation schedules and identifying operating costs.

Organizational review. The position of your service is reviewed, including the departments and units that provide oversight, such as Department of Public Works or Mayor's Office.

This review will help identify those municipal departments to which the programme reports or is otherwise responsible, as well as the departments that provide services to the programme. Both types of organizations can incur costs that should be recognized in the full cost estimation of the service.

For example, invoicing services, which might be handled by a separate department entirely, should not be overlooked, because such services incur costs in supporting your programme. Similarly, the costs for the centralized public procurement system, data management, legal, and human resources services should be recognized in the full cost accounting.

For the purposes of comparing the services that are provided, the units whose costs will be reallocated to a certain service, should be determined in advance. This will ultimately guarantee the comparability of the costs.

Financial records review. Typically, local governments classify their expenditures as current expenditures, capital expenditures or debt service expenditures and further classify them by program and activity. Municipalities usually maintain separate accounts for different types of expenditures and report them as separate line items in their financial reports. Expenditures are also grouped according to the types of goods or services purchased, for example:

- Salaries and social security contributions
- Maintenance, including:
  - materials
  - water, fuel and energy
  - expenditures for external services
  - current repairs
  - other
- Capital expenditures

Accounts might or might not be structured to correspond to the activities in your solid waste program. For example, there might be no separate accounts for waste collection. Lease payments for waste conveying trucks might be reported together with lease payments for all vehicles used by the municipality. Therefore, it might be necessary to disaggregate or allocate accounts separating those that refer to the service under review.

The individual activities (collection, transportation, transfer stations, treatment, etc.) constitute cost centres (a cost centre is any municipal activity that is accounted for separately). Depending on the scope and complexity of your programme for collection, transportation and disposal of solid waste, you can establish cost centers for any or all activities.

Allocating costs. It is essential to recognize the difference between payment and cost.

The practices in many municipalities in the region reveal that when a payment is made, it is accounted for and thus it becomes a cost. This largely „distorts“ the picture and leads to periods of excessive costs (in which certain assets have been purchased) and periods of relatively smaller costs (in which no such assets have been purchased). These practices entail greater burdening of tax-payers in one year than in another year.

For the purpose of avoiding such irregularities the full cost accounting of a service distributes such payment evenly over the whole life span of the asset by means of depreciation methods.

Capital payments are cash expenditures (an amount in BGN) to acquire a resource that will be used for more than one year. Examples of capital expenditures include the purchase price of waste transporting vehicles and other equipment, as well as the up-front siting, land acquisition, and construction outlays for new landfills and facilities. The value of such payments can be converted into an annual operating cost by using the established technique of depreciation.

Depreciation is a method of allocating the costs of capital payments over the entire useful life of a resource. The simple „straight-line“ depreciation method calculates depreciation costs by dividing the one-off payment by the useful life of the resource acquired. For example, a waste transporting truck that costs BGN 150 thousand with a useful life of 10 years would have an annual depreciation cost of one-tenth of the total capital cost of the investment, or BGN 15 thousand. Similarly, if a landfill is expected to be in use for 20 years, then the annual depreciation cost for the up-front land purchase, landfill construction, and permits would be one-twentieth of the amount of that payment.

The following items are subject to depreciation: own equipment, vehicles, buildings, facilities. How does one value assets for which cost information cannot be found (for instance a building erected 25 years ago)? It would be preferable to estimate the initial payments for the asset based on the known prices of comparable assets at the time, when the respective asset was probably purchased. Another way is to determine (appraise) the asset's current market value (e.g., through tax valuation) and remaining useful life.

Operational costs. These are costs for service administration activities that are regularly recurring,

used over a short period of time (less than one year), and routinely reacquired in order to support ongoing operations. These costs are covered by paragraphs 01-00 through 40-00 of the Bulgarian budget classification and include: salaries, social security and health insurance contributions payable by the employer, additional payments for the staff, maintenance, interest, etc. One should also add here the allocated indirect (administrative) costs, which are operational as well, but are not associated with a single service or activity (described below).

Shared costs. Shared costs are administrative and operational costs for supplying the service along with other activities of the municipality. Labour administrative and support costs (including additional payments should be accounted for along with a proportional share of the office costs (such as rent, office equipment and public services), incurred for the management and support functions.

As shared costs do not apply exclusively to a certain service but to other municipal activities as well, you should allocate only a portion of these costs to the service. This allocation can be made on an aggregate basis for all shared costs or separately for each type of cost. It might be a good idea to treat some of the cost line items individually and group the remaining costs for aggregate treatment. The goal is to identify the fair share of the service in the costs and to reflect that amount in the report on the full cost accounting for the service.

There are two relatively simple methods for allocating shared costs:

1) size of budget relative to the other municipal activities - budget share method;

2) number of personnel - personnel share method.

Budget share method

To allocate budget costs according to the budget share method, you first need to determine the total amount of the annual budgeted costs of all local government programmes, excluding the costs of functions being treated as shared. If your annual budget is 13 million currency units (e.g. Bulgarian leva), and 3 million is spent for centralized, support and administrative services, then BGN 10 million will be used as the denominator in the equation below. The numerator is the budget of the service itself. If you spend 4 million for it, then it has a share of 40%, which serves for determining the shared costs. In this case they will be 3 million leva x 40% = 1.2 million leva. Thus the total cost for the service is 5.2 million leva, out of which 4 million leva are direct costs and 1.2 million leva are indirect (shared) costs.

Personnel share method

The personnel share method is similar. The numerator in the equation is the number of employees (or full-time equivalents) involved in the service, including both salaried personnel and wage earners. The denominator is the total number of personnel involved in the programmes of the municipality minus the personnel in the shared overhead and service units.

2.3. Methodology for cost estimation exemplified by education services

It is difficult to devise methodologies that can adequately and objectively assess the need for or required level of education spending. The actual level of education expenditures in every country is the result of a political process of negotiations and budget planning, as well as of the priorities and relative needs of all sectors that compete for public funding. The adoption of any methodology of costing of education functions depends on the goals it is supposed to achieve and on the effects it is hoped to make.

When taking into account the goals of the local government associations, it is appropriate to utilize either an empirical methodology and/or a normative methodology. It is important to highlight the necessary steps defining the costing process as well as the different kinds of data required for either type of methodology*.

The empirical costing methodology is based on the analysis of historical expenditures (expenditures in previous budget years) of specific education functions or institutions.

The following steps are usually taken in assessing education costs according to an empirical methodology:

1. Identification of major budget categories which will be included in the costing process;
2. Identification of a main unit of analysis (school, municipality);
3. Collection of the budget data as well as class, schoolchild and teacher data;
4. Calculation of empirical costs per schoolchild and per class.

The normative costing methodology attempts to assess the unit costs of education by analyzing individual inputs necessary for the education process, such as teacher work, buildings, teaching aids, utility expenditures, and the like. The cost of each input is then assessed on the basis of applicable norms (such as curriculum, normative teacher salaries) and actual prices (of fuel, electricity, etc.).

The necessary steps typically undertaken in assessing education costs according to a normative methodology are:

1. Identification of major cost areas in the costing process. These usually include: teaching costs, administrative cost, cost of other staff (professional, technical), maintenance of buildings (heating, electricity, water, small repairs), and catering for schoolchildren;
2. Identification of teaching costs as the main cost item of any school;
3. Identification of non teaching costs;
4. The costing of maintenance expenditures
5. Translating teaching costs, maintenance costs and other costs into per schoolchild costs.

The strengths and weaknesses of the two approaches

Both methodologies have their strengths and shortcomings. The empirical approach is valuable in that it is firmly founded on budgetary and statistical data, and therefore it has real argumentative power. At the same time, the empirical approach will inevitably lock the analysis into the present realities of education finance, e.g. historically inherited inequalities, cost differentials, and current fiscal constraints. The obtained averages are thus a compromise between the past allocation decisions and the current conditions, and may be far from either rational allocations or intended policy priorities. Likewise, the empirical approach will typically use data without a serious explanation of the reasons why they are as they are. As a result, this methodology may yield misleading results when applied across a number of municipalities.

The normative approach is well suited for assessing the unit costs of education because it takes explicitly into account any changes in national regulations of the education process. This

** A complete version of the working paper on Costing Methodologies for Education Services, developed by Jan Herzczyński, can be found in Appendix 4.*

approach, however, runs the risk of producing a large number of different unit costs under a large number of assumptions. At the same time, a workable normative methodology cannot use more than a handful of factors and cost items, so it will always be a simplification when compared with a budget of a real school. Consequently, it may produce misleading results when applied to specific institutions or specific local governments.

The parallel use of the two classifications

The key element of the proposed methodology for costing municipal services is the use of a functional classification in addition to and above the economic classification.

The economic classification is defined by the Ministry of Finance of every country. This classification uses a specific system of numeric codes for the revenues and expenditures of all public entities (for our purposes only expenditure codes are relevant). The economic classification always includes a distinction between recurrent and capital (or investment) expenditures as well (costing methodologies, as a matter of principle, are concerned with recurrent spending only). While the specific codes are different in each country, the main economic classification categories are uniform and include:

- Salary expenditures, including wages paid to staff, social contributions (contributions towards pension funds, health and social insurance) as well as payroll taxes (personal income tax paid by the employer on behalf of the employees).
- Material expenditures, including energy (heating, electricity, gas), materials and consumables, as well as minor repairs.
- Utility services, such as water supply.
- Expenditures on contracted services, such as transport of schoolchildren (if performed by contracting companies), for in-service training of teachers (if the local government or the school has to pay for it), telecommunications (telephone, internet access) and the like.

The value of the economic classification to costing methodologies consists in providing data to calculate not only the total expenditures per schoolchild or per class, but also more specific cost indicators. We can mention the following three sample additional indicators:

- Share of school budgets devoted to salaries and to material expenditures;
- Salary costs and material costs per schoolchild and per class;
- Cost of heating per square meter of the school building.

The first of these reflects the relative financial stress under which the school systems operate. Typically, during a financial crisis and in poor countries, the share of salaries grows to 90% or more, indicating the insufficient provision of textbooks, teaching aids and other materials. The salary and non-salary cost per schoolchild and per class are important for comparative analysis of different school budgets. The cost of heating per square meter depends partly on the technical system used (central heating, coal or wood-based heating etc.) and partly on distinctive climate features (e.g. length of heating period).

A number of very important cost indicators cannot be obtained on the basis of the economic classification alone. The main example here is teacher salaries per schoolchild and per class. Per schoolchild teacher salary costs are mainly influenced by the class size. However, any major differences in per class spending on teacher salaries require analysis, as they may be due to different factors, such as:

- Different qualifications of teachers (in case these significantly affect the salary levels);
- Different number of lessons per week provided to classes (even if curriculum norms are strictly followed, some subjects may be taught to classes split into two or three groups, while others may be provided jointly to different classes);
- Different use of the teacher work (additional lessons, afternoon activities for selected schoolchildren such as sports or artistic activities, etc.).

Each of the factors listed here has a direct impact on the quality of the education provided in schools, so good monitoring of the education process should include per class expenditures on teachers.

Per schoolchild and per class teacher salaries are not the only cost indicators of interest to school managers. In order to provide a systematic approach to these problems, it is necessary to employ, besides the economic classification, also **the functional classification,** that is a division of the school budgets into specific activities. The simplest classification of this type would be to use two functional categories: education (the teaching process) and supporting expenditures (the teaching environment[1]). It may be reasonable to also consider separately administration costs, building maintenance, and others. There is no universally used functional classification for schools, so the methodology needs to be based on some selection. Moreover, different functional classification should be used for kindergartens and for primary schools.

The use of a functional classification allows the calculation of a number of very interesting and useful cost indicators, including the following:

- The share of education and other activities identified in the school budget (breakdown of school budget by functional classification).
- Teaching, administration, and other costs per schoolchild and per class.

Unlike the economic classification (which must be used by all public institutions in any country), the functional classification is not based on the official financial documents of schools and its assessment requires careful analysis. Indeed, the functional division of staff and salaries in schools creates some problems. Such a problem arises with the allocation of the salaries to different functional categories. Probably librarians have to be reported as part of education, irrespective of how much actual teaching in a classroom they provide. Moreover, increasingly schools offer professional services, which are related to teaching, such as pedagogical support, speech therapy (phoniatrics services), psychological help, or career advice. The only category of the functional classification which may be used for these is education. This may obscure the real pedagogical effort of the school, not to mention the fact that such expenditures may be much higher than those for security. The technical staff of the school will have to be divided into building maintenance (cleaners, gardeners, heating workers), transport (drivers, vehicle maintenance), food provision (cooks, canteen service). However, this division may be difficult, especially for smaller schools, where many staff have to perform different tasks by necessity. Similar issues arise with regard to kindergartens, too.

Despite these difficulties, such a classification provides a number of important cost indicators.

The two classifications should be used together. This means that each expenditure should be assessed both under the economic classification (is it salary, heating, consumables etc.) and

[1] *We have taken this terminology from the Lithuanian system of education finance.*

under the functional classification (is it education, administration, building maintenance etc.). In other words, the joint use of the two classifications should lead to the school budget being represented in the form of the following sample table:

		Economic classification categories			
		Salaries	Heating	Consumables	Other...
Functional classification categories	Teaching				
	Administration				
	Building maintenance				
	Other....				

The use of all the economic categories would lead to an excessive number of specific data items, which would be both very difficult to obtain and not very useful for analysis. Therefore, it would be natural to use some form or aggregation of the economic classification. The next chapter addresses some of the difficulties of using the associated categories.

3. APPLICATION OF THE METHODOLOGY FOR COST ESTIMATION OF SERVICES

If we are guided by the specificity of the services under consideration, suitable approaches for cost estimation of the „schools“ and „kindergartens“ services would be the Process Costing approach and the FCA (Full Cost Accounting) method, where a service is regarded as a totality of individual activities.

The ABC approach has been adopted for the building permits - it has been used in some cities in Germany since the beginning of the 1990s.

The development of the methodology was launched with considerable ambition. Methods accounting for the full costs of the services under examination were proposed. In the course of the discussion of the methodology for schools and kindergartens with the partners from the NALAS associations, it was decided that it should be considerably simplified.

A common aspect of the three services is that they are decomposed into separate activities, whose cumulative costs make up the full costs for the service.

3.1. Schools and kindergartens

The final version of the methodology for schools and kindergartens is presented, in a spreadsheet format, in Appendix 1 - for schools, and in Appendix 2 - for kindergartens. Due to the similarity of the services, we shall make a parallel presentation of the methodology.

The first step in cost estimation is **to identify the activities**, whose costs make up the costs for the whole service. For that purpose we develop a profile of the service with descriptions of the individual activities. For example, schools are presented as a totality of the following activities: education, building maintenance, administration, and support activities - security, transport, provision of food, medical services. They are entered in the first column in Appendixes 1 and 2. There are no distinctions among the individual countries as regards the core activities. Specificities are mostly exhibited in the support activities, which are often provided by the municipality in the form of general administration activities and are commonly overlooked when costing the service, or delivered by other public institutions. The activities are defined as core ones from the perspective of the users of the respective service - in this case, schoolchildren. In this particular case the core activity is education and the related heating, lighting, sanitary services (entered in an aggregate form as „building maintenance“).

Table 1 presents a summary of the individual activities and their corresponding types of costs.

Table 1

	Function	Number of items	Items of economic classification
1	Education	6	1. Textbooks, 2. Consumables and materials, 3. External services, 4. Insurance costs, 5. Costs for improving the qualifications of teachers, 6. Other.
2	Building maintenance	5	1. Current repairs, 2. Consumables and materials, 3. Water and electricity, 4. Heating, 5. Costs of external services and insurance, 6. Other.
3	Administration	4	1. Consumables and materials, 2. External services (telephone and mail), 3. Costs of business trips, 4. Other.
4	Security	4	1. Special clothing, 2. External services, 3. Insurance costs, 4. Other (e.g. when security is provided by an external company).
5	Transport	2	1. Fuel and oil materials, 2. Other (e.g. spare parts, road toll taxes, insurance).
6	Provision of food	3	1. Food products, electricity, water and consumables (food preparation and cleaning), 2. External services (whenever the food is provided by an external company), 3. Other.
7	Medical services	2	1. Medicinal drugs, dressing and other materials and consumables, 2. Other.

This classification of the activities and their respective costs are country specific and prompted by the logistics of the respective service delivery, by the mode of funding of the cost items and by the adopted budget classification of the costs.

Unlike schools, the core activity in kindergartens, from the perspective of the main user of the entire service - children, can be qualified as „physical raising of children“. This activity includes: provision of food, afternoon sleep and rest, medical services and education and entertainment. A comparison of the core activities identified in schools and in kindergartens reveals that medical services in kindergartens belong to the group of core activities. This is so because according to the standards children of preschool age are subject to far greater medical care, due to their age, than schoolchildren. A proof in this respect is also the larger number of medical staff in kindergartens as compared to schools. Table 2 presents the activities and the respective costs pertinent to „kindergartens“ service.

Table 2

	Function	Number of items	Items of economic classification
1	Provision of food	4	1. Food products, 2. Electricity, water and consumables, 3. External services (whenever the food is provided by an external company), 4. Other.
2	Afternoon rest and sleep	4	1. Cost of bed linen, 2. Cost for hygiene upkeep (sanitation), 3. External services (washing, ironing), 4. Bedroom equipment (beds, mattresses, etc.) and current repairs.
3	Medical services	2	1. Medicinal drugs, dressing and other materials and consumables, 2. Other.
4	Education and entertainment	2	1. Educational materials and consumables (supporting the educational process), 2. Other.
5	Building maintenance	5	1. Current repairs, 2.Materials and consumables, 3. Water and electricity, 4. Heating, 4. Cost of external services and insurance, 5. Other.
6	Administration	4	1. Consumables and materials, 2. External services (telephone and mail), 3. Costs of business trips, 4. Other.

The activities thus identified claim no universality. They should be fine-tuned for each country with a view to the local specifics and legislation regarding schools and kindergartens.

The second step is to determine **the costs for each activity.** Costs are mainly considered as split into two groups: labour costs (salaries, social security and health insurance contributions for the personnel employed in the respective activity), and operational costs (food, electricity, water, heat, materials, business trips, current repairs, etc.). It is noteworthy that the tabulated costs, which make up the support, are absolutely notional in nature, i.e. they can be „tailored" to each state in line with the local specifics. The development team made an effort to provide a reference point in order to prevent the overlooking of some types of costs or their wrong classification under an activity for which they are not used. This would distort the results obtained at the „activity" level. The types of costs per activity are presented in the second column of the table.

At this point it is important to point out that when separating the operational costs under the „education" and „administration" activities, one should be careful to classify them properly. Quite often, when payments are made to cover costs of consumables and materials (most frequently computer consumables and printer paper), they are aggregated for the whole school and their separation between the two activities is based on information from orders or warehouse receipts (depending on the adopted mode of accounting). The same is valid for the labour costs under the two activities, when a part of the administrative staff is also involved in teaching. It is common practice for a director of a school to teach a subject as well. We recommend that in such a case his labour costs should be assigned to the activity he is most involved in - there is a need for expert judgment based on the time allocated for teaching and for administration.

The incurred capital expenditures have been excluded from the calculations because they would have led to particularly large cumulative differences in the individual years. It is a matter of judgment, prompted by the purposes for which the cost estimation will be used, whether they should be included in the table or, instead of them depreciation charges should be entered in accordance with the model described above.

The following columns of Appendixes 1 and 2 specify the level of the costs for the individual municipal schools or kindergartens. The last column shows the total costs for the municipality. If certain schools or kindergartens have no budgets of their own, all costs incurred for them are accounted for in an aggregate form by the municipality. This column also contains the aggregate cumulative costs paid by the municipality by sector - e.g. for heating. All costs are added up by activity and the bottom line is the sum total of the costs for all activities.

A minimum number of non-financial indicators are included for calculating analytical and evaluation indicators:

- Number of schoolchildren/number of children
- Area of the building

Third step - performance evaluation. The evaluation of the performance of the „municipal schools" and „kindergartens" services is based on effectiveness and efficiency indicators, which take the form of ratios of input costs, output costs and outcome costs. In particular, effectiveness is a ratio of output to input, while efficiency = outcome to output.

The data presented may be used to calculate the following effectiveness indicators:

- Costs per schoolchild/child - they are obtained by dividing the total amount of the costs by the number of the schoolchildren/children;
- Area per schoolchild/child;
- Costs per square meter, including maintenance costs, heating costs, etc.

Unfortunately, this methodology cannot be used to calculate efficiency indicators.

Before analyzing the data, they should be compared by magnitude and structure. In case of significant distinctions and deviations for certain service providers, additional checks on the reliability of the data should be performed. The same holds true for data on individual municipalities, when conducting intermunicipal comparisons.

Presented in this way, such data may be employed in comparative analyses of costs per service along several lines:

- By activity within an individual school/kindergarten or for comparing the costs for the individual activities between schools/kindergartens;
- By schools/kindergartens within one municipality;
- Across municipalities, using the average values of the indicators for all schools/kindergartens;
- In case of justification of schemes for allocating (on national and municipal level) funds to individual schools/kindergartens;
- In cases of international comparisons of costs per service.

The information thus obtained according to a uniform methodology can be used by:

- Directors to improve financial planning and management;
- local governments to exercise control, optimize the network, and justify allocation schemes;
- central and local governments in the negotiation process of planning their financial relationships.
- NALAS for exchange of experience and technical assistance.

Methodological guidelines for calculating data on schools and kindergartens

The NALAS Task Force on Fiscal Decentralization prepared an instrument for the municipalities to collect, analyze and compare data on the educational institutions, such as kindergartens, primary schools and secondary schools. The purpose of the instrument is to assist municipalities in carrying out their legal responsibilities in the education sector. As the exact scope of the responsibilities of local governments in the sector varies among the NALAS member countries, ranging from full ownership and relatively autonomous decision making power in Macedonia, through some formula-based restrictions in Bulgaria and Kosovo, to almost complete exclusion of the municipalities from the education management in Montenegro, the instrument may require some adaptation to specific needs of municipalities.

The instrument prepared for municipalities is a simple Excel based table with data items to be collected and filled in, and some basic indicators, which are calculated automatically. In order to ensure simplicity of use, the instrument requires relatively few data items. The present guidelines are designed to help municipalities use the instrument. They describe the required data and discuss the potential sources for the data.

The instrument described in the present guidelines is relatively simple and focused, because it is intended for use across a number of NALAS member countries. When the instrument is adapted to the specific needs of one country, it will be possible to extend it and to make it more specific, on the basis of the legal framework of that country. For example, a set of similar instruments, more detailed and much broader, was developed for Macedonian municipalities in 2007 under the Municipal Management of Macedonian Schools (MMMS) project. MMMS instruments include separate Excel based tools for a municipal database of schools, for the budgeting process, for facility assessment, and for prioritizing investment needs. However, the development of such more comprehensive instruments for all NALAS member countries is, at the present stage, not possible.

General information

The main purpose of the instrument is to facilitate municipal management of kindergartens and schools (primary, secondary, vocational, or special, depending on the need).

The methodology takes into account all costs for the respective service, financed from the municipal budget, regardless of whether their source is „own revenues“ or „state transfers“.

All the data should be collected and analyzed for each educational institution separately. If some data are not available for each institution, for example if invoices for heating or schoolchild transportation are submitted to the municipalities for all the schools together, they should be entered in the last column, which states the costs for all the educational institutions in the municipality. In this case the amount and the structure of the costs for the individual institutions will differ from those for the entire municipality. The difference will be in the cash expenditures that cannot be separated for accounting reasons.

Expenditures of other institutions, over which the municipality has no managerial control (central government, donors, parents), should be excluded from the analysis.

Only official data items supported by municipal documentation should be used. This includes budgetary documents of the municipality (budget plan, budget reports, etc.), statistical data submitted by the schools or by the municipality and the like. Expert judgments and estimates based on experience should be excluded from the analysis. If official data are not available for some data items, they should be excluded from the analysis.

If a school has a number of satellite schools, but has one budget for the whole institution, the satellites schools should be reported together with the central schools. The only case when satellite schools should be reported separately is when their budgets can be separately reported.

Budget data should be reported for the complete fiscal year (executed budgets). Budget data have to be reported at current prices (do not discount for inflation).

The cost items for the individual activities and services can be assigned to two groups: labour costs and operational costs. The individual budget paragraphs reflecting the costs in these groups should correspond to the unified budget classification adopted in the respective country. The text that follows contains guidelines about the specific costs included in the activities that outline the profile of the „school“ and „kindergarten“ services.

The code activity in schools is the **education** of the schoolchildren. The gross expenditures including the expenditures for the basic pay of the entire teaching staff, all kinds of additional allowances, as well as all social security and health insurance payments should be assigned to **labour costs.** Additional payments are regulated by national, sectoral, and in-house (municipal and/or school) regulatory documents. They may be related to length of service and professional experience, to used paid annual leave, to a higher vocational qualification degree, to the fact that a person teaches a subject in a foreign language (except when the subject is the foreign language itself), to overtime (hours of rendered labour exceeding the minimum standard of required teaching), bonus payments and awards conferred to teachers as incentives for good performance, payments related to professional and national red-letter days, additional year-end financial incentives for wage bill and operational cost savings, etc. The social security and health insurance payments of the teaching staff are governed by the regulatory frameworks of the different countries. Thus, for example, employers of teachers in Bulgaria are charged additional social security contributions for the Teachers' Pension Fund (TPF). Besides the labour costs for the teaching staff, education costs should also include the expenditures for psychologists, librarians and other job holders performing the education process.

Operational costs for education include expenditures for textbooks, materials and consumables required for implementing the curricula, such as those for preparing tests, surveys, case studies, maps and other teaching aids. Operational costs also include expenditures for job-related outfit for the teaching staff; for upgrading their skills; for external services related to extracurricular activities; for maintaining computer and copying equipment, etc.

A kindergarten specificity is that costs for provision of food, afternoon sleep and rest, medical services and education and entertainment of children are part of the core activities of kindergartens. In view of that, the costs for core activities should include the labour costs incurred for the staff preparing food for the children, those for medical services, as well as all operational costs associated with these activities.

Building maintenance costs include **labour costs** for caretakers, cleaners, workers maintaining the heating system and the building (carpenters, electricians, skilled water supply and sewerage workers, gardeners). **Operational costs** related to the maintenance of the building include expenditures for heating, lighting, sanitation, current repairs, insurance. Heating costs should be included regardless of the type of heating system or the time of fuel delivery. Thus, for example, if the fuel (either for heating or for vehicles) is available and has been delivered at the end of the previous year, it should be calculated in the period in which it has been used. The expenditures for

electricity, water, materials and consumables should correspond to the invoiced quantities and amounts. The same approach is used to account for costs for current repairs (replacement of window-panes, paint renewal, replacement of lighting fixtures, emergency repairs of heating, electrical and water supply and sewerage systems). The costs for external services for building maintenance and for insurance reflect the concluded contracts and the related invoices.

Administration - it includes **labour costs** for director, deputy director, accountant. Provided that the director and/or deputy director teach schoolchildren, the part of their labour costs, corresponding to this activity should be assigned to the core activity „education". The **current costs f**or administration are related to the management of the material, financial and human resources in the educational institution (expenditures for telephone, business trips, postal expenses, expenditures for stationary, consumables, job-related outfit, and for upgrading the skills of the management staff).

The **support activities** category includes all the expenditures for security, transportation, provision of food and medical services for the schoolchildren.

- Security. The costs for this activity are accounted for in accordance with its organization. When security services are provided by hired staff, the activity includes **labour costs** for the security guards and **operational costs** (special outfit, materials, technical equipment, etc.). When the services are contracted out to a security company, the expenditures for the payments made to it are reported as external service costs.
- Transport. Similarly to security, the type of the costs depends on the logistics. **Labour costs** are included when the activity is organized by the school and involves its own staff. **Current costs** are mostly assigned for fuel and oil materials, spare parts, insurance and current repairs for motor vehicles, as well as job-related outfit for the personnel. Provided that the activity is outsourced (assigned to an external supplier), the nature of its costs will be that of an external service. When transportation is performed by parents, such costs are not calculated.
- Provision of food. The activity of food provision to schoolchildren/children includes all costs for foodstuffs. When a part of the foodstuffs are donated, they are not reflected in the costs. In cases when the donation has been cost estimated and entered as revenue in the budget of the municipality (school, kindergarten), it should be calculated. When food provision is organized as an own activity and personnel (cooks) are appointed for that purpose, the labour costs for that personnel should be reported under this activity. The following items should be assigned to the operational costs for the activity: expenditures for detergents and disinfectants, for job-related outfit for the personnel, etc. When the provision of food is performed by an external supplier, it is reported as an external service.
- Medical services - This activity includes the **labour costs** for the medical staff, the **current costs** for medicinal, dressing and other materials and consumables necessary for providing medical services to schoolchildren/children.

The source of data for non-financial indicators is the municipality or the school, depending on the way in which the information is stored. Thus, for example, all data about the building: square meters of floor area, volume, structure, value, etc., can be obtained from the Balance of Fixed Assets, which is prepared and kept at the municipality. Sources of data on the number of the staff, the number of the classes/groups and schoolchildren/children are the municipalities and the individual schools/kindergartens. This information is sent to the Ministry of Education and, via the reports on the municipal budgets, to the Ministry of Finance as well. Hence, these two central institutions can also be sources of data for all municipalities and schools/kindergartens.

More detailed information on the workload of the staff, on the type of heating, as well as on the separation of the costs by activity is kept in the individual schools/kindergartens or in the municipalities.

When collecting the data, the following peculiarities should be kept in mind:

The data on the building should include the total area of the building used by the school, both heated and not heated. If some parts of the building are rented or not used (without access by schoolchildren) their surface area should not be included. If the school is located in more than one building, their area should be summed up.

Regarding staff data:

a. The number of teachers should be provided as the number of employed persons and as the number of full time equivalents (FTE). For example, if statutory weekly teaching time in a country is equal to 20, and the teacher conducts 26 lessons per week, she/he should be counted as 130% of a full time equivalent teacher.

b. Administration staff includes directors, deputy directors, accountants and the like.

Professional staff includes psychologists, pedagogues, librarians etc. The same distinction between persons and full time equivalents as for teachers should be used.

c. Technical staff includes cleaners, heating personnel, drivers, gardeners, cooks, guards. The same distinction between persons and full time equivalents as for teachers should be used.

When providing data on transported schoolchildren, you should take into account only those for whose transportation the school or the municipality pays. If a schoolchild is driven to school by his parents, do not include her/him.

3.2. Building permits

The methodology for cost estimation of building permits[2] is presented in Appendix 4. It is founded on the Activity-Based Costing approach (ABC)[3].

ABC is a costing model based on the identification of different activities within an organization. The cost of each activity resource is assigned to different services and products. Companies use this cost accounting method to eliminate unprofitable products or to reduce the prices of some products and set higher prices for more complex ones.

ABC was developed as a reaction to rising overhead costs in companies. The intention was to get a better understanding of the relationship between cause and effect in order to assign costs to products more appropriately.

Every kind of (construction) permit can be considered a product, too. Typically, a civil servant in a certain department will spend more time on some of these products than on other products.

For this purpose, we take a look at a municipality which has a construction-related office with 6 departments (units). The office has total costs of EUR 62,255 per year (these figures are only examples provided for easier understanding of the methodology). Only units 1-4 are issuing construction permits. Therefore, units 5 and 6 are not part of the calculation at all.

[2] Due to the excessive diversity of building permits, for the purposes of this project it was agreed that the service to be considered should be "issuing of a building permit for a single-family residential building".

[3] The guidelines on the methodology for costing the "building permits" service are provided by the German professor Dieter Falk.

	Total cost of office	Total cost of Unit1	Total cost of Unit2	Total cost of Unit3	Total cost of Unit4	Total cost of Unit5	Total cost of Unit6	Cost for external consultant
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Direct Staff salaries	6.504	127	1.980	2.195	933	550	660	
Indirect salaries	19.513	380	5.940	6.548	2.980	1.650	1.980	
External experts	3.125							3.125
Rent of calc.room cost	12.417	242	3.780	4.190	1.896	1.050	1.260	
Maintenance building	4.730	92	1.440	1.596	722	400	480	
Heating	6.504	127	1.980	2.195	993	550	660	
Electricity	2.365	46	720	798	361	200	240	
Water/waste water	1.183	23	360	399	181	100	120	
Off. equipment amort.*	2.365	46	720	798	361	200	240	
Office supplies	2.365	46	720	798	361	200	240	
Others	1.183	23	360	399	181	100	120	
Total	62.255	1.150	18.000	19.950	9.030	5.000	6.000	3.125
Total for construction permits	51.255	1.150	18.000	19.950	9.030			3.125
** Incl. Software*								

In the real world, determining the total costs of the different units might be difficult though. However, some figures should be easily available from the budget of an office. Even where government-owned or city-owned office space is used, it should be possible to find a comparative value - based on the floor space (in square meters) and the overall quality of the office space - in the property market. Data on direct salaries should be known to the head of the human resources department.

Indirect salaries would have to be debited to the single units based on estimates by the department heads.

As we found out during our study, getting the relevant data is still a difficult and time-consuming process. In private sectors many companies built up controlling departments. Controllers analyze and provide the necessary data for cost reduction measures. In public administration full-time controllers still remain an exception.

We are convinced that the cost reduction, which can be achieved through controllers, easily outweighs their salary.

To calculate the total cost of a single unit it is necessary to split the cost of the office based on - for example - the square meters, the number of employees or other cost drivers of the unit.

The municipality in our example offers four kinds of „products“ (in our case permits).

Permit A is needed for a one or two family home, permit B for apartment blocks, permit C for commercial buildings (with a floor space of up to 2,000 square meters) and C-plus for commercial buildings with more than 2,000 square meters.

Every permit is handled by different units. Moreover, the different units only handle a certain number of permits. It was our objective to ascertain the cost for these activities (activity rates). Activity rates are determined by dividing the budgeted activity cost pool by the total estimated activity base.

The following table shows the details for permit A (a one or two family home), B (apartment blocks), C (commercial buildings) and C-plus (large commercial buildings) and units 1-4 (four groups within an office) for a one-year period.

	Permits	Unit 1		Unit 1		Unit 1		Unit 1	
		Time per permit	Total time	Time per permit	Total time	Time per permit	Total time	Time per permit	Total time
	N of permits	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
Permit A	350	0.5	175			2.0	700	0.5	175
Permit B	200	1.0	200	1.5	300			0.6	120
Permit C	75	2.0	150	3.0	225	2.5	187.5	3.5	262.5
Permit C-plus	25	2.0	50	3.0	75	2.5	62.5	3.5	87.5
Total estimated activity base		575		600		950		645	

We further assume that external consultants give support for the decision on 25 applications for permit C-plus. The consultants charge EUR 125 per C-plus permit.

When applying ABC, the total cost of the unit activity is called „Cost Pool“. These cost pools (unit 1: EUR 1,150, unit 2: EUR 18,000, unit 3: EUR 19,950 and unit 4: EUR 9,030) are linked to a given activity, e.g. checking completeness of supporting documents or checking the mathematical correctness of a statics calculation.

In order to ascertain the activity rate, the municipality divides the activity cost pool (total cost of the unit) by the total estimated activity base.

	Permits	Unit 1		Unit 1		Unit 1		Unit 1	
		Time per permit	Total time	Time per permit	Total time	Time per permit	Total time	Time per permit	Total time
	N of permits	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
Permit A	350	0.5	175.0			2.0	700.0	0.5	175.0
Permit B	200	1.0	200.0	1.5	300.0			0.6	120.0
Permit C	75	2.0	150.0	3.0	225.0	2.5	187.5	3.5	262.5
Permit C-plus	25	2.0	50.0	3.0	75.0	2.5	62.5	3.5	87.5
Total estimated activity base		575.0		600.0		950.0		645.0	
Activity cost pool (total cost of unit) in EUR		1150.00		18000.00		19950.00		9030.00	
Activity rate in EUR		2.00		30.00		21.00		14.00	

On the basis of the activity rate, one can easily determine the cost of the four activities (permit A, permit B, permit C, and permit C-plus). The following tables show the activity cost for the different permits.

Permit A	Time per permit	Activity Cost; Cost per hour	Activity Cost
	hour	EUR/hour	EUR
Unit 1	0.5	2.00	1.00
Unit 3	2.0	21.00	42.00
Unit 4	0.5	14.00	7.00
Sum			50.00

Permit B	Time per permit	Activity Cost; Cost per hour	Activity Cost
	hour	EUR/hour	EUR
Unit 1	1.0	2.00	2.00
Unit 2	1.5	30.00	45.00
Unit 4	0.6	14.00	8.40
Sum			55.40

Permit C	Time per permit	Activity Cost; Cost per hour	Activity Cost
	hour	EUR/hour	EUR
Unit 1	2.0	2.00	4.00
Unit 2	3.0	30.00	90.00
Unit 3	2.5	21.00	52.50
Unit 4	3.5	14.00	49.00
Sum			195.50

Permit C-plus	Time per permit	Activity Cost; Cost per hour	Activity Cost
	hour	EUR/hour	EUR
Unit 1	2.0	2.00	4.00
Unit 2	3.0	30.00	90.00
Unit 3	2.5	21.00	52.50
Unit 4	3.5	14.00	49.00
Expert			125.00
Sum			320.50

To prove consistency of our calculation we add the following table, which shows that we have accounted for the total cost of construction permits (see paragraph 13).

Permits	Permits	Cost per permit	Total Cost for construction permits
	№ of permits	EUR	EUR
A	350	50.00	17500.00
B	200	55.40	11080.00
C	75	195.50	14662.50
C - plus	25	320.50	8012.50
Sum			51,255.00

We would like to emphasize the fact that ABC is a method which allocates overhead costs to single products. Reducing the number of issued permits does not necessarily reduce the total costs of a unit or the office. For example, a reduction of permits does not change the number of civil servants employed, so staff salaries are likely to remain on the same level in the short run. However, civil servants who spend less time on the issuance of permits might take over other tasks so that the office achieves gains in overall efficiency.

It is important to understand that ascertaining the activity cost of a certain product (permit) does not imply that the corresponding fee has to be or should be of the same amount. **The fee which is finally charged to the applicant therefore rather depends on political decisions** made by the municipality. The general income status of the applicants, the necessity to attract new companies and jobs to a region or even environmental reasons can result in lower or higher fees, or in a complete waiver of fees.

However, by determining the cost of single permits, ABC can help municipalities to see more clearly what kinds of permits result in higher costs. It also helps analyze the workflow within an office in order to reduce unnecessary complexity.

4. RESULTS OF METHODOLOGY TESTING IN MUNICIPALITIES OF THE SOUTH-EAST EUROPE

4.1. Legal framework and practices of municipal service organisation and delivery in the pilot municipalities

The legislation environment and the practices of organizing and delivering the municipal services under the project have been examined on the basis of responses to a Questionnaire by the pilot countries with the exception of Romania and Moldova. The summary results by service are presented below.

4.1.1. Schools

1. The total amount of the funds for the service on a national scale is determined by:
   - the state in accordance with national standards (Bulgaria and Slovenia);
   - directly by the state (Montenegro, Kosovo and Slovenia - in the part of the wage bill);
   - the state in legal frameworks and rules (Albania and Macedonia);
   - the municipality in the part of operational costs (Slovenia).
2. The costs for the service are funded from:
   - the municipal budgets (Bulgaria, Albania, Kosovo and Macedonia);
   - the state budget (Montenegro);
   - the state and municipal budgets (Slovenia).

3. Schools have their own budgets in Bulgaria, Macedonia, Slovenia and Kosovo.
4. Municipalities in Slovenia have full powers to allocate the general transfers for the service among schools. In the other countries the funds are redistributed either directly by the state according to certain rules (Montenegro and Albania), or by the municipalities in accordance with formulae and criteria (Bulgaria, Macedonia and Kosovo)
5. In general, the decisions to open/close primary schools in all countries are taken by the Ministry of Education in coordination with the municipalities.
6. The buildings of the schools are municipal property (Bulgaria, Macedonia, Slovenia, Kosovo and Albania - in a process of transfer). In Montenegro they are state-owned.
7. In general, the regional bodies of the central governments have no powers to allocate state transfers among municipalities and service providers (except for Albania in the part of the wage bill)
8. There is a practice for the state to provide additional funds for earmarked programmes for schools: for example in Bulgaria - covering the whole range of the service parameters, and in Albania, Slovenia and Macedonia - in the part of cofunding of investments

4.1.2. Kindergartens

1. In the countries under review the total amount of the funds for supporting kindergartens is determined by the state and by the municipalities, for a part of the expenditures: for instance, in Bulgaria and Slovenia - in accordance with national standards, and in the other countries - in accordance with established rules.
2. The service is financed from the state and/or municipal budgets - mostly for the operational costs.
3. Parents in all the countries are charged user fees, which cover varying percentages of the costs.
4. The kindergartens in Slovenia, Bulgaria and Kosovo have their own budgets.
5. The buildings of the childcare establishments are municipal property in Bulgaria, Macedonia, Kosovo and Slovenia and state-owned in Montenegro and Albania
6. The allocation of the transfers from the state budget among the kindergartens is an entirely municipal competence in Slovenia, while in the other countries it is carried out in accordance with standards, rules and formulae.
7. In general, municipal councils decide on the opening/closure of kindergartens, the only exception being Montenegro.

4.1.3. Building permits

The analysis is based on the answers given to questionnaires which were handed over before November 10, 2008. Documents from Albania, Bulgaria, Kosovo, Macedonia, Montenegro, and Slovenia have been assessed.

As we did not have the opportunity to scrutinize the results in a more detailed manner, the following conclusions were exclusively drawn on the basis of the questionnaires.

We found that construction permits are generally issued on a municipal level with the exception of Slovenia where government units are responsible for the issuance.

Only Kosovo and Montenegro carry out any cost evaluations for construction permits. It might be helpful to analyze these cost evaluations in more detail in future studies. In Kosovo and Macedonia the results are used to cover administrative expenditures, which might imply that fees are based on cost evaluations. As a consequence, one can say that both countries analyze the costs incurred for the issuance of construction permits.

By combining the answers to question 60 and 64 we found that the fees for construction permits largely depend on several laws and by-laws. Further studies might be necessary to analyze possible ways for reducing complexity in order to cut administrative costs.

Furthermore, we found that in Bulgaria, Kosovo, Macedonia, Montenegro, and Slovenia municipalities are responsible for collecting fees for construction permits, while in Albania both government and municipal authorities are responsible for that.

The fees/prices for construction permits are determined by the municipal councils in Albania, Bulgaria, Kosovo, and Montenegro. Interestingly enough, in Macedonia - while the municipality is responsible for collecting the fee - the state itself decides on the amount of the fee. Finally, in Slovenia both the state and the municipalities determine the fees/prices.

In Albania, Macedonia, and Slovenia the fees for construction permits are reported to cover 100 percent of the costs for the provision of the service (issuance of construction permits). In Montenegro the rate will be only 50 percent of the costs, and in Macedonia the percentage of coverage is set by the municipal council.

Finally, we found that the partial use of the fees for infrastructure purposes remains an exception. We received positive answers only from Slovenia and Montenegro. This might be seen as indicative of the fact that fees are set on the basis of political decisions rather than with the aim to raise revenues for capital expenditure.

The answers to the questionnaires show that the use of cost accounting methods remains an exception. Therefore, this study might be a first step toward a more detailed analysis in the NALAS area. Furthermore, cost accounting might be helpful to give the municipalities and/or the central governments an important tool for ascertaining a price/fee which takes into consideration both political and economic reasoning.

4.2. Results of the methodology testing in the individual countries

The developed methodology was tested in all pilot countries. There were certain differences in the testing in terms of how many municipalities were involved in it and which services were tested. The most commonly tested methodology was that for schools and kindergartens. The general impression is that the experts of the associations of municipalities and the financial officers of the municipalities under review have coped with the task. The methodology can be qualified as working and yielding useful results that can be used in practice for improving the financial management of municipalities.

The major results by country are:

Bulgaria

The organization of the costs incurred for schools does not allow the retrieval of direct information by activity on municipal or national level. Similar analytical information is available, but only on individual school level. For this reason the information about the testing was collected directly from the schools.

In the case of kindergartens the data issue is somewhat more complicated. A part of the municipalities have granted kindergartens the right to have their own budget (Kyustendil). The majority of the kindergartens however have no delegated budgets, which means that information about them can be found only in the municipality, and in some cases a part of the costs for all kindergartens is paid in an aggregate form by the municipality (for example those for electricity, water, fuel), i.e. they cannot be separated by kindergarten. In such cases the methodology can be used to estimate the average costs for kindergartens at municipal level. A more detailed analysis requires more time to separate the cost items by kindergarten and by activity. A precise estimate of the efficacy of such an undertaking is needed.

The greatest difficulties are encountered in collecting data on building permits. They are a consequence of the way in which the activity is organized. The individual staff members are involved in the delivery of other services as well. For that reason the direct costs that can be „attached" to the service under consideration are more of an exception. A possible method for separating indirect costs is the expert one. Standardization of labour is relatively costly and not worthwhile.

Macedonia

The more complex, initially provided methodology has been tested. There are certain differences in the classification of the costs and in the logistics, but the accounting system allows the extraction of all necessary input data for the methodology. The problems indicated are the difficult access to data and the relatively disorderly information, which create certain difficulties in their collection. In practical terms, data on direct and indirect costs are presented without indications for difficulties in their calculation. The financial experts of the municipalities have opted for the share of the persons employed in the respective activity out of all employed persons as a method of separating the shared costs.

Non-financial indicators are presented. They allow an analysis of the efficiency of education. An example of such data is the total number of schoolchildren at the right age to attend the respective institutions, which, when compared to the actual number of schoolchildren, may yield information on how many of them fail to attend the schools of the municipality, and then an additional analysis of the reasons can be made - individuals who do not attend school, individuals who attend schools in neighbouring municipalities, etc. Other indicators, providing information on the quality of education, are the number of regular school-leavers and the number of drop-outs.

Similar indicators are provided for the kindergartens as well. A specific indicator for this type of institution is the number of absent sick children.

Romania

There are available data on all services. The section on schools uses data for each of them. In some municipalities (such as Zalau), a part of the kindergartens are not legal entities and they are financed via other kindergartens.

The short version of the submitted methodology calculates only direct costs.

The difficulties have to do with the organization of the data and with the financial relationships between the central and local governments and the schools.

First, there are no available data on labour costs per activity. This precludes the application of the ABC approach in its pure form and indicates that the Process Costing approach is the most suitable one.

Second, the exclusion of indirect data from the methodology makes it impossible to estimate costs that are important for the services. Thus, for example, heating costs are reported as electricity costs and paid at 50% by the state. The food (snacks) provided in schools is free of charge. The medical centres provide services to all schools in a particular municipality, while the costs are paid by the Ministry of Health. Each kindergarten has a surgery, but its budget includes only operational costs. The salaries of the medical staff are paid by the Ministry of Health and are not part of the budget of the kindergarten.

The costs for building permits are added up on-site, by the departments of the municipalities. The calculations, particularly for the Zalau municipality, are extremely accurate and, compared to those of all the others - most complete. A comparison is even made between the cost of a building permits - approximately EUR 78, and the fee that is charged - about EUR 1300 (1% of the costs of the building).

Moldova

Even though the team of Moldova joined the project at a later stage, it tested the methodology in three municipalities of different sizes, with different capacity and practices, particularly as regards the issuance of building permits.

The data on the schools and kindergartens are obtained from the respective municipal accounting department. Some data were additionally discussed with the school and kindergarten managers due to doubts about inaccuracies. (Orhei City). The small Lipcani municipality had a problem with the aggregate reporting and payment of the water and electricity costs. This impeded their allocation by activity, which necessitated the use of expert judgment provided by specialists.

A problem was also brought about by the fact that the budget classification in Moldova does not correspond fully to the cost items used in the methodology offered for testing. Probably this would be the first task of the association of municipalities - to adjust it to the specific local conditions by using the nationally adopted cost paragraphs.

In all three municipalities the costs are presented as indirect ones, because the schools are not financially autonomous and coordinate all their decisions with the municipality.

The distinctions observed in the case of building permits are the outcome of the different forms of organization of the activity. In the big municipality of Orhei City this activity is performed by a municipal company, while in the other two - by specialists, working in other institutions. Requests are filed with the municipalities, but they only process the documents. The fees are paid into the municipal budget. They are clearly not equal to the costs for the delivery of the service, because only 30% of the revenues from such fees are sufficient to finance the activity of the municipal company in the big municipality.

Montenegro

The services „schools" and „kindergartens" are the responsibility of the state and are funded from the state budget. This prevented the collection of financial information on the respective services. The complex methodology was applied, which reveals that almost all costs for kindergartens are indirect and leads to the conclusion that they have no budget of their own. Parallel with that, direct costs for salaries and direct operational costs are indicated for the schools under the „education" activity, which should imply that the school would be able to present them.

Data on non-financial indicators have also been presented. These include the number of the children by age, the number of the school-leavers and drop-outs, the number of the employees, including teachers. These are data on national level, and provided that these are the available data, one

could say that the options for expert analyses of the services that are provided are highly limited.

Dieter Falk and Prof. Peter Haller, GTZ experts, developed an analysis and estimation of the cost of the „building permit" service using as an example the municipality of Niksic. This is a brilliant piece of research, which we recount separately as a good example.

Albania

A portion of the school costs are financed by the central institutions and for that reason data available from the municipal budgets are presented. The lack of information on important cost items makes the cost estimation incomplete and reduces its analytical and cognitive potential. The fact that only direct costs have been filled in implies that there have been problems with the collection and calculation of the indirect costs. It is seen that maybe schools in Albania do not incur costs for certain activities, or at least they have not been shown. Such are the costs for all the additional activities stated in the methodology - security, transport, food, medical services.

The table about kindergartens is more exhaustive. The sources of data are the municipal budgets.

Kosovo

The simplified version of the methodology has been tested in Kosovo. The data on the schools have been filled in. Strikingly, there are no activities such as security, transportation, food provision or medical services. The adoption of the idea to report only direct costs leaves no clue whether the „schools" service includes such activities, respectively costs, or not. There are no data as to whether the cause should be sought in access or elsewhere.

Here, like in the case of Romania, it is evident that there is no need to include two columns for one school, provided that only one type of costs is reported.

No data have been submitted on the building permits service.

Slovenia

The Slovenian team has filled in exemplary data on the kindergartens and schools in two municipalities. It is difficult to judge how the relevance of the methodology to the conditions in this country is assessed. The submitted report is of a general informational rather than analytical nature, hence it prompts no problems.

One of the services offered for testing - building permits, is provided by the central authorities (the same situation exists only in Albania) and the association of municipalities has no access to data on the conditions and costs for its provision. All costs for schools and kindergartens are paid by the municipality and cannot be allocated to the individual service providers.

This presentation by country can serve as a basis for the following summery **conclusions on the application of the cost estimation methodology to the services** „schools", „kindergartens" and „building permits".

1. The majority of the countries have the capacity to use more complex, more comprehensive and precise methodologies for cost estimation of services. This has been proved by the selection of more complex proposed methodologies for testing purposes and by the addition of supplementary non-financial indicators;
2. There are differences in the cost classification used across the countries. This requires that the methodology should be adjusted by the specialists in the national associations of municipalities in accordance with the way in which the information is organized.
3. The data available in some states do not allow cost estimation by activity. Hence the need to fine-tune the proposed activities or adopt another structure of the service profile that would be more consistent with the national specifics;
4. Difficult access to data. A major cause for that is the direct funding of activities by central authorities. Furthermore, there are problems with the structuring of the data, with the untidy format, etc.
5. The difficulties experienced in most of the countries in separating direct costs from indirect costs provide grounds for proposing changes in the final version of the methodology. The column for the individual institutions is for reporting only those costs that can be allocated to each of them. The last column (total for the municipality) **should present all costs, including those that are paid and reported in an aggregate form for all institutions.**

The general conclusion from the testing is that the methodology can be applied in the countries relatively easily, given that indirect costs are excluded and that national specifics are accounted for in advance. To sum up: the methodology works. It would be a good idea for the associations to introduce certain changes that would reflect some national peculiarities.

4.3. Best practices

4.3.1. Kindergartens, Kyustendil municipality, Bulgaria

There are 9 full-day kindergartens on the territory of Kyustendil municipality and they all have between 1 and 3 branches. The total number of the children that attended kindergartens in 2008 was 1 730, including 693, who attended the branches. 317 employees take care of the children and the number of the teachers is 152.

Owing to the fact that the methodology for kindergartens was developed on the bases of the Bulgarian experience in identifying the core activities for delivering the service, the testing proved to be relatively easy. The municipality of Kyustendil is one of the few communities in Bulgaria where a pilot system of delegated budgets has been applied in the municipal schools since 1997. Since 2008 all kindergartens have also been applying the delegated budgets system, they have managed their finances on their own and have well structured accounting and reporting systems. This allowed a relatively quick and easy testing of the methodology by the accountants of the kindergartens. All data on the direct costs have been extracted from the accounting books of the respective kindergartens. The information on the indirect costs for the activities: medical services, education and entertainment, and administration has been obtained from the accounting documentation of the municipal administration, because they have actually been incurred at the expense of the kindergartens, but have been paid by the municipality. Unfortunately, in 2008 the labour costs for the medical staff providing services to the children were accounted for in an aggregate form by the accounting office of the municipal administration, hence there is no information about their allocation by kindergarten. Since the beginning of Fiscal Year 2009 this cost item has also been part of the budgets of the kindergartens. Unlike them, the costs for part-time teachers, who are not on the payroll of the kindergartens (such as music, language, fine arts, choreography and other teachers) have been ce accounted for by the accounting office of the municipal administration, but depending on the lessons taught they are allocated among the kindergartens. The accounting services required by the kindergartens are handled by five accountants

dealing with employment relations. Three of them have provided services to two kindergartens each and their salaries have been accounted for separately in each kindergarten.

The data yielded by the testing indicate that the average cost per child in a kindergarten for the municipality is 1 067,93 €, and that the indirect costs are only 50,57 € (less than 5 %). The differences across the kindergartens in the total costs per one child are quite small (under 10%), which proves that the financial officers both found it easy to apply the methodology and submitted the information accurately.

The analysis of the costs shows that 77% of the total costs were incurred for the activities food provision, afternoon sleep and rest, medical services and education and entertainment. The per child costs are highest for the education and entertainment activity: 411,47 € while the indirect costs account for merely 4 % of them. When the per child costs for this activity are compared across the kindergartens, the largest differences between them are noticed. As a whole, labour costs account for the largest relative share of the costs for this activity. The largest cost for this activity - 506,20 € per child, was incurred by the „First of June" kindergarten because 1 teacher taught the smallest number of children. At the „Mechta" full-day kindergarten 1 teacher taught some 15 children and the education and entertainment costs were the lowest - 343,17 € per child.

Education and entertainment	Labour costs	Operational costs	Including		Total for the activity
			Materials and consumables for education and entertainment	Other	
	€	€	€	€	€
Mechta	318,16	25,01	8,12	16,89	343,17
Slaveyche	309,83	41,47	3,78	37,69	351,30
Slantze	373,57	4,11	4,79	9,32	387,68
Mir	356,85	45,06	5,87	39,20	401,91
Zornitza	386,53	17,14	5,62	11,52	403,68
Edelvais	419,83	11,94	3,15	8,79	431,77
May	423,35	22,21	6,26	15,95	445,56
Zdravetz	439,77	40,60	29,80	10,80	480,37
First of June	491,94	14,25	5,00	9,26	506,20
Average costs for the municipality	387,18	24,30	7,77	16,53	411,47

The second largest cost item is „provision of food": its average per child value for the municipality is 217,56 €. The differential within this activity is not very high - not more than 72,3 €. This is conditioned by the fact that the major foodstuffs are supplied to the kindergartens at equal prices. An aggregate order - for childcare establishments (kindergartens and nursery schools) and social institutions - for the supply of foodstuffs is placed in the beginning of each year. It turned out that the smallest kindergarten - „Mir" had the highest level of costs for food provision - 250,89 €. The reason for that are the retirement benefits paid to the kitchen staff throughout the year.

Provision of food	Labour costs	Operational costs	Including				Total for the activity
			Foodstuffs	Electricity, water and consumables	External services	Other	
	€	€	€	€	€	€	€
Zdravetz	30,06	148,53	122,32	17,85	0,00	8,36	178,59
Slaveyche	56,64	140,76	119,35	17,42	0,00	3,99	197,40
Slantze	47,22	151,46	114,59	12,65	0,00	24,23	198,69
First of June	60,81	148,23	118,07	20,45	0,00	9,71	209,04
Mechta	61,90	155,22	130,49	16,37	0,00	8,37	217,12
Edelvais	50,43	178,24	150,33	17,39	0,00	10,52	228,66
May	39,10	204,13	129,31	65,74	0,00	9,08	243,23
Zornitza	55,02	189,72	136,29	38,08	0,00	15,35	244,74
Mir	70,97	179,92	141,77	29,84	0,00	8,31	250,89
Average costs for the municipality	52,59	164,97	128,96	25,09	0,00	10,91	217,56

The costs for the activity „afternoon sleep and rest" rank third in importance - 162,74 €. The lowest cost goes to the „Mir" full-day kindergarten: 117,38 €, while the cost for the „Slaveyche" full-day kindergarten is almost twice as high: 238,08 €. The analysis of the costs by type revealed an excessively high level of the labour costs for „Slaveyche" full-day kindergarten. It was found that retirement benefits had been paid out by that kindergarten as well.

Provision of food	Labour costs	Operational costs	Including				Total for the activity
			Bed linen	Sanitation	External services (washing and ironing)	Bedroom equipment (beds, mattresses etc.) and current repairs	
	€	€	€	€	€	€	€
Mir	93,26	24,12	15,06	2,05	0,00	7,01	117,38
Edelvais	121,45	4,26	2,46	1,80	0,00	0,00	125,70
First of June	126,46	0,96	0,00	0,00	0,96	0,00	127,43
Zornitza	128,06	1,28	0,00	1,28	0,00	0,00	129,34
May	138,16	7,59	3,71	3,88	0,00	0,00	145,75
Mechta	157,81	0,65	0,00	0,65	0,00	0,00	158,47
Zdravetz	169,37	18,01	7,59	0,00	3,99	6,42	187,38
Slantze	145,84	77,77	13,91	2,23	3,97	57,66	223,61
Slaveyche	237,62	0,46	0,00	0,46	0,00	0,00	238,08
Average costs for the municipality	149,22	13,51	3,84	1,30	0,93	7,45	162,74

The costs for the activity „building maintenance“ are considered per one square meter of floor space. The average value for the municipality was 14,5 €, and only three kindergartens exceeded it. The variations for this activity were caused mostly by the type of heating system and by the condition of the buildings and the equipment. The highest cost per square meter of floor space - 20,00 €, goes to the „Mechta“ full-day kindergarten, which has one branch in the city and one central building. The reasons for that proved to be the poor condition of the central building and the type of the heating fuel of its branch. Unfortunately neither the central building nor that of the branch have been fully rehabilitated. The central building burns natural gas for heating purposes, and the branch - naphtha, which is very expensive as compared to the other types of fuel. This leads to a very high level of the heating costs - 13,3 € per square meter. At the other end, the lowest cost per square meter of floor space is that of the „First of June“ full-day kindergarten. This kindergarten also has one branch and despite the largest size of the floor space per child (15,6 square meters) its costs are the lowest but the buildings are entirely renovated and rehabilitated, the water-supply and sewerage systems and the electricity and heating installations are replaced with new ones and PVC doors and windows are installed. All these repairs have entailed a dramatic decline in the costs for building maintenance.

Building maintenance	Labour costs	Operational costs	Including						Total per sq. m. of floor space	Number of children	Area of the building in sq. m.	Sq m of floor space per one child
			Current repairs	Materials and consumables	Water and electricity	Heating	External services and insurance	Other				
	€	€	€	€	€	€	€	€	€			€
First of June	2	8,5	1,8	0,3	1,2	4,7	0,3	0,1	10,8	191	2 980	15,6
Slantze	3	8,0	1,0	1,4	3,5	1,9	0,1	0,1	11,4	193	1 768	9,2
May	2	10,2	0,0	1,2	2,8	4,5	1,7	0,0	12,3	179	1 746	9,8
Zdravetz	2	10,7	0,0	2,4	6,6	1,5	0,1	0,1	13,0	163	1 251	7,7
Edelvais	2	10,8	0,0	3,1	2,0	5,0	0,3	0,5	13,0	210	2 967	14,1
Zornitza	4	9,0	1,1	4,0	1,5	1,6	0,5	0,2	13,1	312	3 675	11,8
Slaveyche	12	7,1	0,0	0,4	2,1	3,4	0,4	0,8	18,9	188	1 429	7,6
Mir	8	10,6	0,1	0,8	6,0	1,2	0,3	2,2	19,0	102	852	8,4
Mechta	1	18,7	1,2	1,0	2,0	13,3	0,6	0,5	20,0	192	2 412	12,6
Average costs for the municipality	3	11,1	0,8	1,7	2,5	5,3	0,5	0,4	14,5	1 730	19 080	11,0

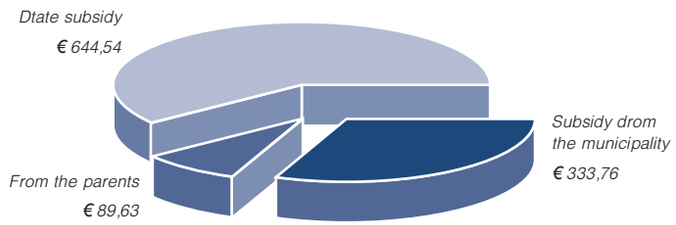
The average value of the administration costs per one child for the municipality is 81,85 €, and the indirect costs are just 4,3 %. This activity displays the most pronounced differences across the kindergartens (in spite of its low share). The costs of the kindergarten with the highest cost level are more than twice those of the one with the lowest cost level. Labour costs account for 79% of all the costs for this activity. The salaries and other payments to the director, accountant and cashier, as well as the related social security and health insurance contributions payable by the employer are also reported here. The differences across the kindergartens are mostly caused by the possibility for the kindergarten staff to decide what remuneration (respectively rewards and additional financial incentives) should be paid throughout the year. This possibility is described in the Internal Rules on Salaries, which are approved by the general meeting of the staff and endorsed by the director of the respective kindergarten.

Provision of food	Labour costs	Operational costs	Including				Total for the activity
			Consumables and office materials	External services (telephone and postal costs)	Business trips	Other	
	€	€	€	€	€	€	€
Edelvais	54,34	9,41	2,09	1,80	0,50	5,01	63,75
Mechta	44,04	20,39	3,55	1,64	5,24	9,97	64,43
Slantze	56,91	18,16	2,70	2,94	0,55	11,96	75,07
First of June	66,87	9,19	2,12	2,98	0,55	3,52	76,05
Zdravetz	66,96	12,85	1,55	1,46	0,65	9,18	79,81
May	71,38	15,64	2,28	4,59	0,59	8,17	87,02
Zornitza	76,53	15,80	4,87	3,17	0,55	7,22	92,33
Slaveyche	78,27	23,91	1,65	2,19	0,66	19,40	102,17
Mir	98,08	34,94	2,83	2,40	1,03	28,67	133,02
Average costs for the municipality	64,75	17,10	2,70	2,52	1,44	10,44	81,85

A particularly low level (as compared to the other activities) is demonstrated by the costs for medical services - 33,68 €, the direct costs being only 2,22 €. This low level is conditioned by the fact that the medical services in the kindergartens consist in the maintenance and support of certain numbers and quantities of medicinal drugs and dressing materials in the so called „emergency cabinet“ intended for initial emergency care and for treatment of minor injuries. Another explanation of the low level might be the different needs for drugs, dressing and other medicinal materials across the kindergartens.

Kindergartens are financed from three municipal budget sources: a subsidy from the national budget, fees payable by the parents and a subsidy from the municipal budget. In 2008 the subsidy from the national budget accounted for 60% of the funds necessary for the provision of the „kindergarten“ service, or 644,54 €. This subsidy covers mostly the labour costs of the persons employed in the kindergarten, the funds for transportation of the teachers and a minimum level of the funds for staff training.

All other costs are covered from fees paid by the parents of the children - 8%, and from a subsidy coming from the municipal budget - 32%. The Municipal Council has set the level of the kindergarten fee for 2008 at 16,85 € a month per child, but being aware of the social role of kindergartens, the municipal councilors have also come up with numerous alleviations for the parents of the children attending kindergartens. That is why the average annual amount of the fees accrued and collected for 2008 is 89,63 €.



4.3.2. Case study findings on building permits from Niksic, Montenegro

Today Niksic is an industrial city, the second largest in Montenegro, which was founded back in the 4th century. The population of Niksic amounts to around 85,000 inhabitants with the surrounding villages that count for the municipality. With a total area of 2,065 square kilometers Niksic is the biggest municipality in Montenegro.

On the basis of our interviews with experts from the municipality we calculated the cost of a single construction permit[4] . As we could not obtain the necessary very detailed information for the Activity-Based Costing approach, **we applied a simpler costing model.** We used several simplifications and estimates to arrive at the cost of a permit.

It is important to note that we do not differentiate between fixed and variable costs. All our calculations are based on total costs. Any changes in the number of permits issued from one year to the following year would lead to different results, as the fixed portion of the costs would be allocated to a different number of permits. However, the figures would not change dramatically.

We would also like to emphasize the following: Setting the fee for a permit is a political and not purely economic decision. Fees might differ considerably from the calculated cost for a variety of social, economic or environmental reasons.

A. Cost for Human Resources

As a basis for our calculations we used the real 2007 expenditure for human resources which was documented in the Niksic budget for 2008. On the basis of that number we calculated the cost for a single minute spent by an average civil servant in the city of Niksic on construction permit matters.

		EUR
Cost for human resources		3.076.667,39
Number of civil servants	620	
Average yearly cost for a civil servant (incl. all social cost/indirect cost for the municipality)		4.962,37
Average monthly cost for a civil servant (12 months)		413,53
Hours per month (21 working days per month)	168	
Average hourly cost per minute for a civil servants (8 hours per day)		2,46
Average cost per minute for a civil servant (60 minutes per hour)		0.041

We discussed the process of issuance of a construction permit in detail with our interview partners in Niksic. We obtained rough estimates on how much time was spent in the various units to process the permits. Subsequently we analyzed the process for regular and complex permits for buildings with a plot area of less than 1,000 square meters *(this figure was changed to 3000 sq m in 2009)*. Please refer to the following tables for the results.

[4] *If not mentioned otherwise, all figures given are based on fiscal year 2007.*

	Regular permit	Complex permit
	Minutes	Minutes
Administrative office for urban planning including citizens office		
citizens office	10	15
Engineer from administrative office for urban planning	180	270
legal issues	60	90
typing	15	23
archives	5	8
	270	**405**
Real estate office		
Registration of requests	5	8
Calculation of fees	60	90
Drafting of contract for fees to be paid for construction permits	60	90
	125	**188**
Administrative office for economy and finance		
Confirmation of correctness of process	15	23
	15	**23**
Agency for planning		
Validation of consistency of urban planning the project	45	68
	45	**68**
Sum	455	683

On the basis on these figures we calculated the cost for human resources that is contained in one single construction permit.

	Regular permit	Complex permit
	Minutes	Minutes
Sum	455	683
average salary per minute For a civil servant (EUR)	0.041	0.041
cost for personnel in a single construction permit (EUR)	**18.67**	**28.00**

In the following table we calculate the number of working days that have to be allocated to the issuance of construction permits. The calculations are based on the assumption that 200 permits were issued in 2007. Furthermore, we assumed that the municipality issued 100 regular and 100 complex permits.

	Regular permit	Complex permit
	Minutes	Minutes
Sum	455	683
permits	100	100
minutes needed to process 200 permits	45,500	68,250
hours needed to process 200 permits	758	1,138
Hours per day	8	8
Working days needed to process 200 permits	95	142
sum of working days for regular and complex permits		237
working days divided by 9 (people involved in issuing construction permits)		16

On the basis of our interviews we came to the conclusion that nine civil servants worked on construction permits. First we calculated the number of working days of these nine civil servants per year.

Number of people working on construction permits	9
Working days per year	220
Working days of the nine civil servants per year	1,980

Then we divided the number of working days that were used for issuing permits by the overall number of working days of the nine civil servants per year

Working days of the nine civil servants per year	1,980
Sum of working days for regular and complex permits	237
Percentage of working days used for the issuance of construction permits	11,96970

Of course, this is a simplification as some of the nine might work almost fulltime on construction permits while others might only allocate a small portion of their working time to these jobs.

We will use the percentage calculated above later in this text when we calculate the amount of administrative costs that has to be allocated to a single construction permit.

B. Administrative Costs

In the table following below we estimate the (theoretical or notional) rent for the office space which is used by the nine civil servants. As it is often the case, the office space in Niksic is owned by the municipality.

As we were not able to determine the detailed costs for the building (depreciation, maintenance, etc.) we decided to take the estimated rent of comparable modern office space in the centre as a basis for our calculations. With 10 EUR per sq m, we stay cautiously on the high side.

Number of civil servants working in the building of the municipality	410
Square meters	3.500
Square meters per persons	8.5
Notional rent per square meter in EUR/month	10
Notional rent per square meter in EUR/year	1.020
Civil servants working in the issuance of construction permits	9
Notional rent for nine civil servants in EUR/year	9.180

The following table shows the other administrative costs. As we were told that 620 civil servants worked for the municipality in 2007, we divided the administrative costs for the entire office by 620 and multiplied the obtained figure by nine:

	cost for the office (620 civil servants)	1 civil servant	9 civil servants
	EUR	EUR	EUR
office material	76,600.0	123.5	1,111.9
travel costs	56,900.0	91.8	826.0
cost for representation	60,000.0	96.8	871.0
electricity	126,000.0	203.2	1,829.0
telecommunications	81,500.0	131.5	1,183.1
mail	2,700.0	4.4	39.2
Banking fees including overdraft interest	59,200.0	95.5	859.4
Maintenance of equipment	8,200.0	13.2	119.0
contracted services	62,243.0	100.4	903.5
Sum	533,343	860	7,742

We added the cost for rent and other administrative costs and multiplied the sum with the percentage used for the issuance of construction permits.

		EUR
Rent for nine civil servants		9,180
Other administrative costs for nine civil servants		7,742
Sum		16,922
Percentage of working time of the nine civil Servants used for the issuance of construction permits	11.97	
Sum of administrative costs		2,026

We allocated the sum of the administrative costs to the regular and more complex permits (+50% of time) on the basis of the working days used for each permit:

number of working days used for the issuance of construction permits	95	142	237
Percentage of total working days used for the issuance of construction permits	40.00	60.00	
Sum of administrative costs in EUR			2,026.00
administrative costs for permits in EUR	810.40	1,215.60	
number of permits	100	100	
administrative cost for a single permit in EUR (administrative costs divided by the number of permits)	8.10	12.16	

C. Result

The following table shows the costs for a regular and a complex permit that the municipality has to pay:

	Regular permit	Complex permit
	EUR	EUR
Personnel costs allocated to a single construction permit	18,67	28,00
Administrative costs	8,10	12,16
Cost of a construction permit	**26,77**	**40,16**

It is important to note that in this simple calculation we did not differentiate between fixed and variable costs. Therefore, reducing the number of permits does not necessarily reduce the costs of the municipality. Consequently, calculating the costs for another year might lead to slightly different findings.

D. Comparison of Cost with the Fee Income of the Municipality

We compared the calculated costs for permits with the income the municipality of Niksic derived from direct fees (2007 and 2008; these figures do not include fee income for permits for very large buildings - >1000 sq m at that time - that have to be paid directly to the government and are later given to the municipality) and found the following surprising facts:

Fee income from citizens for permits	1,690.000
Number of construction permits issued in the year 2007	244
Average fee income from citizens	6,926

Fee income from citizens for permits	1,177,000
Number of construction permits issued in the year 2008	176
Average fee income from citizens	6,688

The fee income from permits is obviously much higher than the costs borne by the municipality.

We were in doubt if the average fee income of the municipality as reflected in the budget figures was accurate. In our understanding the fee for the construction permit did not cover other aspects (e. g. transaction tax or development costs).

A future analysis has to cover this aspect in greater detail.

After our visit to Niksic we were told that citizens have to pay an administrative tax of 540,- € as well as an amount for project documentation that had to be prepared by licensed professionals (engineers, architects and the like). For a typical 200 sq m home, this project would cost 2,000,- €. A further 150,- € had to be paid for the agreement for water and sewage and 280,- € for electricity to the utility companies.

All these costs, however, might be reflected in the above average fee to be paid since the basic fee in a suburban zone for a house of 200 sq m is 15 EUR per sq m or 3,000 EUR in total.

However, we would like to stress the following important argument once again:

Setting a fee is a political decision which can but need not be connected with the real cost of a service.

E. Conclusions

What **conclusions and recommendations** can be drawn from our findings in Niksic in February 2009 and from previous activities, especially discussions held in Sofia in November 2008?

The figures for our calculations were not easily available. It took rather long discussions, many questions, the use of different, not always consistent or hard-to-understand budget documents, personal contacts and some „educated guessing“ by local experts to come to a useful result. The support from our interview partners was essential for the compilation of this report, and we would like to express our sincere thanks to them, above all to Andrijana (Ana) Jevtovic from Niksic. A questionnaire- or „methodology“-based action like this one might be too abstract and difficult for participating municipalities that lack understanding of certain economic expressions.

More directly assisted enquiries might lead to better results.

Cost accounting will support municipalities in developing a better and more profound understanding of the political decisions involved, in finding ways to improve their services for the citizens, and to cut their costs. For example, just by discussing publicly known budget figures we found that the municipality of Niksic had to pay more than 30,000 EUR to banks as overdraft interest because they paid their bills late.

It might be a successful strategy to lower the fee for construction permits in high-cost countries like Montenegro. More citizens would then be able to pay the fee for the permits instead of boycotting it (Niksic reports around 3000 illegal buildings, annexes, renovations etc. without a permit). Consequently, this might even lead to a higher total fee income for the municipality. However, not even a 50%-discount action in 2007 showed big results. Current instruments used are above all a 20% discount if payment is made as a lump sum or in installments over 3 years.

Increasing the capacity for the enforcement of regulations is another conclusion that can be drawn from our findings. The costs incurred by employing additional civil servants would be easily offset by the increased fee income. Niksic e.g. had NO inspector on the budget!

In our opinion, employing a higher number of controllers would also help the municipalities and their leaders to understand and shape their cost and income structures better.

On the basis of our analysis of the questionnaires and on our comparison with the practice in Montenegro and Germany, we suggest using Activity-Based Costing for analyzing the correct and detailed costs of construction permits or any other public service.

We recommend that the cost accounting for construction permits should be first applied in three progressive municipalities of one or better more countries. On the basis on these pilot cases a best practice approach should be developed and subsequently introduced in other NALAS countries.

Since costs for applying Activity-Based Costing to smaller municipalities are likely to be too high, these could use the figures determined by offices in larger cities as a guideline.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Identifying problems by applying the methodology

In most general terms, the problems can be referred to two groups: problems stemming from the external environment in which the local governments operate and problems related to the capacity of the local governments themselves.

The issues, which ensue from the existing environment in the countries of South-Eastern Europe are a consequence of the inherited and insufficiently changed centralist relations. The strong financial dependence of the municipalities on the central governments is manifested in covering the deficits in and seizing the surpluses from the municipal budgets. This fails to create incentives for the local governments to increase their own revenues and to reduce the costs for service production, because the revenues from possible savings are centralized. The serious changes in this respect are still insufficient to alter the attitude of the municipalities towards local public resources. Thus, for example, municipal budgets are still cost centered. They plan and account for costs. There are still but few indicators, which measure how many services will be provided, how much a service costs, etc.

An important characteristic feature of the environment is also the lack of well established and efficiently operating civil bodies. Because of their insufficient dependence on the population, the local governments are not motivated to report their activities, to allow civilian control on their operations, to involve the local community in decision-making.

The process of decentralization in recent years has significantly enhanced the powers of the local governments and increased their resources. At the same time, it is hard for the central government to give up the powers it used to have. It is seen that in some states a part of the services under consideration are still provided by central institutions. In other countries the services are delivered by the municipalities, but the state funds directly a part of the costs for the schools and kindergartens. Apart from being a matter of justice, the mode of determining the volume of these resources and allocating them among the municipalities also creates information-related problems for the municipalities. There is no way to offer a methodology for estimating the costs of a service, if there is no information on an essential part of the costs.

By way of summing up this type of problems, it can be stated that the methodology for cost estimation of services is a tool whose application can and does make sense in a decentralized environment, where local governments have powers to take decisions on their own and resources to put them through. In this environment fund savings are an important factor for elevating the effectiveness and efficiency of their performance and citizens are real participants in the process of local decision-making. Any changes along these lines will lead to increased needs to use the methodology.

The second group of problems is associated with the capacity of the local governments to perform cost estimation of services. The developed methodology presupposes availability of competent professionals able to apply it and, above all, to analyze and evaluate the obtained results. In an attempt to help build such a capacity, a training module has been developed under the project, which can be used by each association with the assistance of trainers from the pilot municipalities.

Decentralization constitutes a problem in the relations not only between central and local governments, but within a municipality as well - in this case between local governments and schools and kindergartens. The lack of relative autonomy of the latter undermines the efforts of the staff to estimate the costs with a view to more thrifty utilization of the funds. Local governments could also increase their efforts to boost the functional effectiveness of schools and kindergartens. An example in this respect is the separate measurement and accounting for the costs of the individual service providers. This will facilitate the analysis and evaluation of the comparative functional effectiveness of the individual schools or kindergartens, which will create possibilities for adequate decision-making.

In this case the methodology opens up vistas and suggests changes in the relations between a municipality and its schools and kindergartens, as well as within the organization providing IT support to the municipality itself.

This methodology is relatively simple and in this sense it can be perceived as a first step in the analysis and evaluation of the costs for municipal services. It is intended for use in municipalities or, in the best case, for inter-municipal comparisons. However, the needs of practice will lead to its development by including the indirect and hidden costs for the services supplied. This will allow the utilization of the results in the process of budget negotiations between central and local governments, as well as in international comparisons.

5.2. Further steps in the application of the methodology.

Any further activities are associated with the role of the institutions involved in the process of creation, dissemination and application of the methodology. There are three of them: NALAS, the national associations of local governments, and the local governments themselves.

NALAS has also an important role to play in changing the environment in which the local governments from the region operate. The major strand of possible changes is the implementation of the reform toward decentralization. Any undertakings, associated with helping the countries achieve this goal would yield a positive result. The following can be recommended in this respect: development and dissemination of policy papers, organization of discussions, trainings, exchange of experience, etc., consistent with the potential and goals of NALAS as an alliance of the associations of local governments in the region.

In concrete terms NALAS should continue with the endeavours to disseminate the methodology and encourage the local partners to use it. In this respect NALAS can recruit international experts, who are to render technical assistance to the local bodies, as well as to raise funds from donor organizations.

Clearly, an important role for NALAS consists in providing and encouraging research into the findings obtained with the use of ECM methodology. The ability to go beyond the total unit costs of education, namely the complete costs per schoolchild and per class, and to analyze separately unit teaching cost, unit administration costs, unit building maintenance costs, and the like is a major achievement of ECM. Indeed, the preliminary data collected from the pilot countries indicate serious differences in the composition of unit costs (the share of teaching costs, administration costs and others in the total school costs), both between the countries and within the countries. Some of these differences may be due to certain systematic misapplication of the methodology (through incorrect assignment of specific expenditures to different functional categories),

so after appropriate research and recommendations they will be removed from the data. Such research may also lead to improvements in the methodology and to changes in the functional classification used. However, some of the differences may reflect different educational priorities, different financial constraints under which the schools operate, or different organizational and institutional traditions inherited from previous systems. All these issues need to be carefully analyzed, so that the NALAS member associations, the municipalities in South-East European countries, and the schools in the region may have some useful comparative data, which may be then used to assess the performance and problems of their own school systems. It is clear that such research should be initiated and supported on the regional level, so the future role of NALAS is quite considerable.

Finally, NALAS should use the experience gained in more systematic application of ECM to improve the technical tool of the methodology (the Excel spreadsheets). One such step may be to automatically compute the unit costs by the functional classification (per schoolchild education costs etc.) and the breakdown of the school budgets into the functional categories. It is also possible to automatically compute the maximum and minimum values of these indicators, or their standard deviation, especially useful when the number of schools analyzed is large (one might be for example interested in comparing the standard deviations of different per schoolchild costs). This would immediately provide some additional, more systematic and perhaps more useful information for those who apply the methodology (and perhaps also a new tool to analyze possible data errors). Another step would be to extend the methodology by adding some new non-financial data items (see section 5.3 below) and compute new indicators which will then become possible. Yet another possible approach is to discuss with the national associations the new data items which they have introduced for their own purposes into the ECM methodology and include them in the new version of ECM for all member associations. However, any such developments need to be planned with caution, in response to the specific needs and experiences of NALAS member associations.

The national associations of local governments, at least in the initial stage, are a driving force for dissemination of the methodology. To this end the following activities can be recommended:

- Translation of the methodology into the local language and its adaptation to the local conditions: legislation and management practices. This includes examination of the system for financing the services, of the accounting system, of the national requirements for classification of the costs of public institutions, of the organization of information on national and local level. It is also necessary to investigate the organization of delivering the specific services. All this should be reflected both in the sequence of the steps when cost estimating the service, and in the content of the object of cost estimation, as well as in the set of indicators for analysis and evaluation;
- Use of the prepared training module to organize trainings for representatives of stakeholder municipalities. The materials in the training module, presented in Appendix 4, can be used for that purpose;
- Establishment of a network of experts, who are to provide consultations to and assist municipalities in the process of methodology application. The representatives on the financial commissions of the associations can be used to this end;
- Development of advisory materials for analysis and evaluation of the results of the methodology application. In many countries such an additional toolkit will facilitate significantly the overall process of cost estimation of services. In particular, parallel to the research at the NALAS level, recommended above, there is a need to understand and describe regional and education level (kindergartens, primary, secondary schools) variations of unit costs and of the structure of education spending (according to the functional classification).

The scope of operation of the national associations of local governments also includes activities for promoting and building the local capacity, for setting up data bases for the municipalities and for organizing and coordinating the local efforts for continuing and deepening the reform toward decentralization. As indicated above, the decentralized environment for functioning of the municipalities will create conditions and necessity to apply such analytical techniques as the methodology for cost estimation of municipal services.

The local governments can use the methodology as a first step in analyzing and evaluating the costs of similar service providers. Next, they should investigate the reasons for the differences between the costs of the individual schools, kindergartens and other service providers. The methodology may become an instrument in the hands of controlling and auditing bodies of the municipalities.

The results of the methodology application should be used not only by the local executive branch: the mayor and the administration, but by the municipal councils as well. These results can become the foundation for pursuing a municipal policy. For example, the estimation of the costs of the different schools in a certain municipality can be used as a prerequisite for optimization of the network of educational institutions. The estimates yielded by the methodology can be used to justify the rates of/fees for the service when discussing the quality and possible quantity of the services that are provided.

5.3. Further development and improvement of the methodology

Depending on their needs and readiness, the different countries could undertake steps toward employment of a more complete methodology such as that, presented in the beginning, in the course of the review of different methods of and approaches to cost estimation. In this case it is advisable to start by accounting for the indirect costs while using the various methods for their separation among individual service providers.

There is a broad field for enriching the non-financial indicators. For instance, the following indicators can be used:

- Number of classes. It can help calculate the indicators of average number of schoolchildren in a class and average costs per class;
- Number of staff - pedagogical and non-pedagogical. As regards the pedagogical staff, both the physical number and the full time equivalents can be presented. These data can be used to present the ratio of number of schoolchildren per one teacher, as well as the average salary per one employed person;
- Average number of lessons per week. It provides information on the way and degree of using teachers;
- Data on the available buildings and equipment: the existence of a library, gym, laboratories, specialized surgeries, etc.

The use of these and possible other non-financial data will undoubtedly allow experts to analyze new education indicators. Many of them, of course, may be automatically calculated in the Excel

spreadsheet. It is however important to always provide analysis and guidance on the use of the new indicators, to avoid confusion and possible misinterpretation. This means that any improvements to the ECM methodology should be undertaken together with regional research (as discussed in section 5.2).

An impact on the level of the costs of the individual services is also exerted by investments. The problem with them lies in the way of accounting for them. The use of the cash accounting method distorts the information for the individual years. That is why, when analyzing the trends in the costs for the individual services, the depreciation of fixed assets rather than capital expenditures should be used.

The methodology for cost estimation of building permits also needs to be developed further, mainly in the direction of more objective measurement of the time spent for the delivery of the service, and in terms of the planning and spatial prerequisites for providing quality services to the public.

The Guide furthers the development and enhancement of the local self-government in the region, because a strong local government is built on the trust and interest of the citizens to participate in the making and execution of local level decisions. The offered toolkit extends the capacity of the municipalities and their associations to assess and analyze the effectiveness of the incurred public costs, to link them directly to their responsibility when delivering important public services.

Appendixes

Appendix 1

Cost estimation of a primary school service in ..... municipality

local currency
..... year

Activities	Types of costs	School 1	School 2	School ...	Centralized expenditures from the municipal budget *	Total costs
1	2	3	4	5	6	7
Education	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- textbooks					
	- consummables and materials					
	- external services					
	- insurance cost					
	- costs for improving the qualification of the teachers					
	- other					
Total for the activity						
Maintenance of the building	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- current repairs					
	- consummables and materials					
	- water and electricity					
	- heating					
	- costs for external services and insurance					
	- other					
Total for the activity						

Activities	Types of costs	School 1	School 2	School ...	Centralized expenditures from the municipal budget *	Total costs
1	2	3	4	5	6	7
Administrative management	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- consummables and materials					
	- external services (tele-phone and mail cost)					
	- business trip cost					
	- other					
Total for the activity						
Other supporting activities						
Security	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- special clothing					
	- external services					
	- insurance cost					
	- other (e.g. when security is provided by an external company)					
Total for the activity						
Transport	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- fuel and oil materials					
	- other (e.g. spare parts, road toll taxes, insurance)					
Total for the activity						

Activities	Types of costs	School 1	School 2	School ...	Centralized expenditures from the municipal budget *	Total costs
1	2	3	4	5	6	7
Provision of food	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- food products					
	- electricty, water and consummables (food preperation and up-holding cleanness)					
	- external services (whenever the food is provided by an external company)					
	- other					
Total for the activity						
Medical services	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- medicine drugs, dressings and other materials and consummables					
	- other					
Total for the activity						
TOTAL COST:						
TOTAL STUDENTS:						
BUILDING AREA (sq.m.):						
TOTAL COST PER 1 STUDENT:						
TOTAL COST PER sq.m. area:						

*To be filled out whenever the cost is not accounted by the school, but it is paid in total by the municipality

Appendix 2

Cost estimation of a primary school service in ..... municipality

local currency ..... year

Activities	Types of costs	Kinder-garden 1	Kinder-garden 2	Kinder-garden ...	Centralized expenditures from the municipal budget *	Total costs
1	2	3	4	5	6	7
Physical care for the children						
Provision of food	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- food products					
	- electricity, water and consummables					
	- external services (whenever the food is provided by an external company)					
	- other					
Total for the activity						
Afternoon rest and sleep	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- cost of bed linens					
	- cost for hygiene upkeep					
	- external services (washing, ironing)					
	- bedroom equipment (beds, mattresses, etc.) and current repairs					
Total for the activity						

Activities	Types of costs	Kinder-garden 1	Kinder-garden 2	Kinder-garden ...	Centralized expenditures from the municipal budget *	Total costs
1	2	3	4	5	6	7
Medical services	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- drugs, dressings and other materials and consummables					
	- other					
Total for the activity						
Education and entertainment	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- educational materials and consummables (supporting the educational process)					
	- other					
Total for the activity						

Activities	Types of costs	Kinder-garden 1	Kinder-garden 2	Kinder-garden ...	Centralized expenditures from the municipal budget *	Total costs
1	2	3	4	5	6	7
Maintenance of the building	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- current repairs					
	- materials and consummables					
	- water and electricity					
	- heating					
	- cost for external services and insurances					
	- other					
Total for the activity						
Administrative management	Labour cost (incl. staff salaries, social benefits, and other additional benefits for the members of staff providing the service)					
	Current maintenance					
	- materials and consummables					
	- external services (telephone and mail)					
	- business trip cost					
	- other					
Total for the activity						
TOTAL COST:						
TOTAL CHILDREN:						
BUILDING AREA (sq.m.):						
TOTAL COST PER 1 CHILD:						
TOTAL COST PER sq.m. area:						

** To be filled out whenever the cost is not accounted by the kindergarden, but it is paid in total by the municipality*

Appendix 3

Cost estimation of a building permit The case of municipality:

Methodology steps for a simplified full-cost version

In this calculation it is only looked at a standard building permit for a normal family house of up to 200 square meters (sqm) in a typical suburb, not the centre of town. On the ground floor can be a commercial space.

Users have to get the final version of real budget cost for a certain year; for this exercise, 2008 should be used, if possible

All local currency figures must be converted by the official exchange rate of your country to the Euro for the year 2008 (accord. to Ministry of Finance, Stat. Office, or Central Bank)

Apart from the budget, you have to find out some more figures:

Total no. of staff of the municipality

Total no. of staff of the municipality working in the main building or headquarters (HQ) only

The total square meters (sqm) of the main building / HQ, incl. all corridors, meeting rooms, toilets etc.

If the municipality pays rent for the HQ, use this value. If not, you have to estimate a monthly rent price per sqm for a new office building in the same location

Find out through interviews in administration the total no. of staff involved in issuing building permits

Find out the no. of issued building permits over last 3 years

To find out the total no. of staff of the municipality involved in issuing bldg. permits, you have to interview the relevant administrative units.

Probably none of these persons is working full-time only for issuing building permits. Through interviews, you have to get an estimate how many minutes they spend on a normal permit at each step.

Basic staff cost figures	EUR 2008 Local currency	*Remarks*
Total staff budget incl. all benefits for whole municipality		Exchange rate to EUR: insert here:
No. of total staff of the municipality		*Everybody from mayor to cleaners at end of 2008*
Average staff cost per person per year		
Average staff cost per person per month (11)		*Adjusted for 1 month annual leave*
Average staff cost per person per day (20)		*Adjusted for weekends and holidays*
Average staff cost per person per hour (8)		
Average staff cost per person per minute (60)		*Use 4 digits*

Calculation of rent for HQ (fictive or notional)	
Staff working in HQ of municipality	
Total square meters of main mun. bldg. / HQ	*Use approximate figure*
Square meters/person in HQ	*Use two digits only*
Calculatory (notional) rent per sqm per month	*Property agent's estimate for town centre*
Calculatory rent per staff per year	*No. of total staff in HQ x sqm/person X fictive rent x 12*
No. of staff involved in issuing building permits	*This is figure "X"; find out through interviews in administration*
Calculatory rent for staff involv. for permits per year	

EUR figures must be converted with exchange rate!

Operational cost of whole municipality.	EUR 2008	1 staff	For x staff involved in permits	
Office supplies				
Travel cost				
Representation cost				
Electricity (buildings only)				*No street lighting etc.*
Telephone				
Mail				
Banking fees				
Public utilities (e.g. called contracted services)				
Maintenance of equipment				
Other cost items?				*Add if necessary more items and lines*
Total running cost per staff per year	BGN			

No. of issued building permits	2006	2007	2008	Average no.
No. of issued building permits				

Total non-labour cost incl. rent	EUR 2008	*Remarks*
Total running cost for x staff per year	BGN	
Calculatory rent per year for X staff	BGN	
Total non-labour cost incl. rent	**BGN**	*Not yet time-adjusted*
Exact non-labour cost per permit		*Based on average no. of permits p.a.*
Exact non-labour cost per permit, staff time-adjusted		*Non-lab. cost permit *((min. p.permit*average no. permits) / (no. of staff involved* 11 mon.*20 days*8h*60min))*

Time calculation for issuing a permit	Minutes	*to be estimated by respective departments*
The following offices / functions are indicative only; you have to insert all the relevant involved offices from your municipality		
Secretariate for urban planning		
Engineer or architect from Secretariate		
Legal issues		
Typing		
Archives		
Directorate for property		
Registration of request		
Calculations of fees		
Draft of contract for fee of building permit		
Secretariate for economy of finance/ confirmation of correctness of process		
Agency for planning / checking of consistency of urban plan with the project		
Others		
Minutes needed for issuing one building permit		
Variation: Time in minutes plus 50% (safety margin)		*Sum up* *Multiplier 1,50*

Calculation of exact cost of staff for one building permit		
	Minutes	Minutes +50%
Minutes needed for issuing one building permit		
Average staff cost per person per minute (60)		
Exact cost of staff time for one building permit	**BGN**	**BGN**

Calculation of total exact cost of one permit		
Exact non-labour cost per permit	€	€
Exact cost of staff time for one building permit	BGN	BGN
Total exact cost of one permit	**BGN**	**BGN**

Fee income from citizens for permits in 2008		
	EUR 2008	*Remarks*
No. of permits issued in 2008		
Total fee income from citizens for normal houses in 2008		*Find out from budget or inter-view*
Average fee income from one building permit		

Appendix 4

Costing Methodologies for Education Responsibilities

Jan Herczyński

Contents:

Introduction

The present policy note discusses the methodologies used for costing education services[1] . By costing one generally assumes some calculations to assess unit costs (per student costs) of providing education under some general assumptions and taking into account some specific conditions. The general assumptions may include the rules setting teacher remuneration and their year to year valorization (inflation indexing, for example). The specific conditions may include whether the analysis is focused on urban or rural schools, and whether it includes or excludes specific education level (such as primary, secondary, vocational) or specific types of expenditures (such as provision of food to students or investments).

It is very important to realize from the start that there do not exist any methodologies which may adequately and objectively assess the needed or required level of education spending. On the one hand, all schools will always easily find the use for some additional funding they might receive, and indeed many actively seek such additional funding. On the other hand, the actual level of education expenditures is in every country the result of a political process of negotiations and budget planning, and the priorities and relative needs of all sectors exert their influence on the share of education in public funding.

This means, in particular, that adoption of any methodology of costing of education functions depends on the goals it is supposed to achieve and the effects it is hoped to make. As we discuss in the note, various methodologies may be very good for some goals and at the same time will not help achieve any results related to different goals. One can rephrase this conclusion in another form: costing education functions is not an academic exercise following established rules and verification procedures, but is a policy instrument to support specific interventions or actions. Considered outside of these actions, a costing methodology may be interesting, but would not be useful. Put forward in ignorance of its intended use, it may turn out to be counterproductive.

The following example may help clarify this argument. If an association of local governments wants to adopt a costing methodology in education, it may be used either as a tool for comparative review of education funding in different municipalities, intended to assists weaker local governments in managing this function effectively and responsibly. Or it may be designed to serve as an argument in discussions with the central government regarding the total allocation of funds for education transfers, to demand more money for their schools. Both of these policy goals are legitimate directions of actions, but rather different costing methodology would be required for either of them.

Taken at their face value, the arguments formulated above would imply a multitude of different complex methodologies serving a variety of potential policy objectives. Fortunately, however, both the variety of policy goals which a national association of local governments may want to set itself, and the variety of actual techniques for costing education functions are limited. The two basic methodologies to calculate the unit costs of providing education services, discussed briefly in the present note, are the *empirical methodology* and the *normative methodology*[2]. In the two following sections, we discuss the steps involved in the costing process under each of them, and also the different types of data required for either. We then describe the strengths and weaknesses of different costing methodologies, and finally their potential uses.

While serving a general policy goal, namely allowing national associations of local authorities to better address the issues of education management and finance, the present note attempts to be practical and easy to apply. In discussing the methodological approaches we include some technical detail necessary to apply them in practice, while trying at the same time to warn of potential problems of using them. We note also that the discussion of the present note applies equally to preschool, primary, secondary, and vocational education.

We also need to mention limitations of the present note, which is entirely focused on assessing unit costs of providing education. Economists study education cost functions which attempt to assess „the minimum level of expenditures required to produce a certain level of student performance“[3]. In other words, *education cost functions* are econometric models which assess the cost of specific education outcomes, measured for example by standardized tests. However, measurement of education outcomes in transition countries is still in early stages. In the US, many states undertook *costing-out* of education. This is determining „the amount of money actually needed to make available all of the educational services required to provide every child an opportunity to meet the applicable state education standards“[4]. Costing out thus starts with legal obligations regarding education quality imposed on the school system, and assesses what expenditures are needed to comply with these obligations. Costing out is close to what we call normative approach below, but it includes a number of education standards not legally imposed in transition countries (measures of attendance and drop-out, student performance).

The empirical costing methodology

The empirical approach is based on the analysis of historical expenditures (expenditures in the previous budget years) of specific education functions or institutions. Usually, the calculations of average values are performed for some of the following, depending on available data:

[1] *The note was prepared for the Network of Associations of Local Authorities in South-East Europe NALAS, Skopje Office, in March 2009.*

[2] *The classification and the terminology adopted in the present policy note are proposed by the author and may be different from the terminology used by other experts. It is based on previous work on the allocation of funds for education in transition countries, see for example Jan Herczyński Getting Ready for Take Off? Current Issues of Education Decentralization in Romania, Bucharest (2004). In particular, the bottom-up approach described in that report is very close to the normative methodology described here.*

[3] *See J. Golebiewski, The Literature on Education Cost Functions: An Overview (2007), available from: http://www-cpr.maxwell.syr.edu/efap/Costing_Out/C_out.htm. See also the critical review Costrell, Hanoushek, Loeb, What Do Cost Functions Tell Us About the Cost of an Adequate Education? Peabody Journal of Education 83, 198:223, 2007, available from http://showmeinstitute.org/publication/id.146/pub_detail.asp*

[4] *See National Access Network, Ensuring All Children the Opportunity for an Adequate Education: Costing Out Primer (2005), available from: http://www.schoolfunding.info/resource_center/policybriefs.php3.*

- for the whole education system,
- for schools in a given municipality or a group of municipalities,
- for some types of schools, for example for primary or secondary schools, or for preschools,
- for schools divided by instruction language,
- for specific locations of schools, for example urban and rural schools.

The following steps are usually taken in assessing education costs according to an empirical methodology[5]:

1. Identification of major budget categories which will be included in the costing process. These may be total school budgets, salaries, maintenance expenditures. As the main source of data for the empirical approach are budget plans of schools as well as budgetary reports for executed budgets (collected by the Ministry of Finance), the selection of major categories is constrained by the budget classification in use. For example, the budget classification distinguish usually between the salaries paid and the health and social contributions related to the salaries, but do not distinguish between teacher and non-teacher wages. In order to perform empirical costing of teacher wages one has therefore to collect special data, which is not only costly, but may lead to some systematic errors in the obtained data.

2. Identification of main unit of analysis. Typically, the unit is the school as a budget user. In many cases, however, the school is not the budget user and the only budget data available are municipality data. Obtaining internal data such as financial plans of schools, which are not included in budget reports, may create problems. Moreover, costing at the municipal level is not only easier, but sometimes also allows a more complete analysis. For example, costing of student transportation costs at the school level is not very meaningful, but is very important at the level of a local authority.

   An opposed problem arises when costing will be performed to units smaller than a school as a budget unit. One such example is costing of satellite schools[6], which do not have separate financial plans of their won. Costing of satellite schools presents an interesting and important challenge[7]. Another important example is separating the preschool and school costs in education institutions which provide both types of education. Separate assessment of the costs of preschools and primary schools requires some systematic division of the financial plan of a single institution, a difficult process.

3. Collecting the budget data. This requires access to recent budgetary reports in the country as well as an understanding of the budget classification, and used to be quite difficult. In recent year the Ministries of Finance in the region increasingly provide such aggregated data at the municipal level. However, access to school level budget data, especially complete to detailed budgets, is still an issue.

   It is very important to make sure that recurrent and capital expenditure is treated separately. Per student investment expenditures are a relevant analytical category only for highly aggregated data, for example for levels of education (preschool, primary, secondary).

   The collected data need to be put together in electronic form and subjected to common analysis. This is easier said than done, and will often require in depth analysis of specific data items. One of the stumbling blocks for this step is the lack of or inconsistencies of school identifiers. Ideally, the schools should have unique numbers, but often they are referred to by their names and location (village or city name). The inevitable errors in entering text data items mean that identification of schools in two data files (for example, in budget data for consecutive years) is not easy.

4. Alongside the budget data, and for the same institutions as them, student, class and teacher data should be collected. The source of such data is usually the school statistical forms, returned to the statistical office (or to the Ministry of Education) at a specified date in September or twice a year. The identification of the same school in school statistics and in budget reports is not always easy (sometimes is not even possible).

   The student numbers are given for the school year, starting in September and ending in June. The budget data are given for the fiscal year, starting in January and ending in December. The incomplete overlap of these two years creates problem for costing. The differences in successive student cohorts due to demographic processes mean that the number of schools and classes and teachers changes from one school year to another. Therefore a procedure is needed to match the two years for the analysis. Ignoring the mismatch and using budget data from year and student data from another year is in fact often done, but it introduces systematic errors[8]. Typically, one decides to treat the fiscal year as the unit of analysis, one takes the actual expenditures for that fiscal year, and then one calculates the effective number of students in the fiscal year as 60% of the students attending from January to June plus 40% of students attending from September to December. The same calculation of the effective number of classes and teachers needs to be made as well, of course. This analysis needs to be performed for every school involved in the costing process[9].

   Another important issue is the choice of the number of students to be considered. If the statistical data from schools are collected once a year in September, than this is the data item to be used. If a second student census is conducted at the end of the school year, in May or June, some adjustment to the September data may be necessary.

   And finally, a key technical issue is what is meant by the number of teachers. Typically, the school statistical reports provide the physical number of teachers, sometimes broken into fully employed and partially employed. No data is usually available about the number of teachers who work above the obligatory weekly teaching load. What is needed here, however, is the number of full time equivalent (FTE) teachers. This is the number of weekly teaching hours divided by the obligatory weekly teaching load of the teacher. As this teaching load is sometimes different for teachers of initial grades (grades 1 to 4) and of higher grades, some care must be taken in calculating FTE teachers. Therefore for costing purposes one would want to collect the data on weekly teaching hours of all schools considered. The number of teachers as physical persons does not provide an adequate measure of the teaching effort of the school[10].

5. Once the budget data, student data, and teacher data are put alongside, linked by common unique identifier of the school, the calculation of empirical costs may be performed. Per student and per class costs are obtained through dividing the complete budgets or selected budget items by the (effective) number of students or classes. The costs of a teaching lesson are obtained through dividing the budgets by the effective number of FTE teachers and then again by the weekly teaching load. The complete cost of providing one FTE teacher to the school system or subsystem is obtained through division of the budget by effective number of FTE teachers.

[5] Our review of the methodology avoids many technical details. For technical issues in the international context, see the technical notes of OECD, Education at a Glance 2008, Paris (2008).

[6] Satellite schools are affiliated education institutions, without a separate legal identity, sharing a common budget and a common director with the central school to which they belong.

[7] See J. Herczyński, Policy Paper for ZELS: Treatment of Satellite Schools, Skopje 2007.

[8] The main systematic error which may be introduced is the slight underestimation of per student costs, since the student numbers in September are usually lower than in June, due to current demographic shifts in most, though not in all, transition countries.

[9] Alternatively, one may choose the school year as the unit of analysis, take the actual number of students in that year, and perform analogous assessment of effective budgets. I have not seen however any studies which would adopt that approach.

[10] In practice, in many calculations the number of physical teachers is used, because FTE teacher data are not available. It is important however to remember that as the number of teachers may differ from FTE teachers by up to 10%, the same margin of error may arise for some of the results of the calculations.

The value and trustworthiness of the results of empirical costing process crucially depend on the quality and completeness of data used. While the budgetary data from the Ministry of Finance usually conform to basic standards imposed by the budgetary reporting requirements, the school data usually require much more prior review and cleaning. This is especially true of some specific data items, such as special needs students and students transported to schools. Matching of data coming from different sources is often a major problem.

Expenditures on heating, water and similar can be assessed, but cannot be really understood or compared across the schools and the groups of schools without good knowledge of information such as the surface area of schools and the type and condition of the heating system.

Year to year changes in per class and per student costs are the result of the complex interplay of many factors: changes in teacher salaries, inflation of fuel prices, decreasing number of students, changes in the average number of students in the class, and similar.

Finally, it is necessary to discuss the relative importance of per class expenditures and per student expenditures. The meaning and variation of these two variables is very different. Per class expenditures express the teaching effort of the school, related to the curriculum norms and the teacher salaries. One may assume that per class expenditures, or at least per class teacher salary expenditures, for schools of the same type should be quite uniform and rather independent of the school size and of the class size. Steep differences between similar schools in per class costs are always a cause for suspicion, for either the data are erroneous, or their identification and processing was incorrect, or some real inequities between the schools arise in reality.

In contrast, per student expenditures are to a large extent the reflection of the class sizes. This means that schools of the same type and of similar average class size should have per student expenditures rather similar. However, schools of the same type but with very different institutional characteristics, for instance a large urban primary school and a small rural primary schools, will usually have very different per student costs, even though their per class costs are almost the same.

This observation has important consequences for the costing process. Costing of education functions may be performed both on a per class basis and on a per student basis, depending on the purpose of the analysis. Which of these two is more appropriate depends on the policy goals for which the process is undertaken.

The normative costing methodology

The normative approach attempts to assess the unit costs of education by analyzing individual inputs necessary for the education process, such as teacher work, buildings, teaching aids, communal expenditures, and similar. The cost of each input is then assessed on the basis on applicable norms (such as curriculum, normative teacher wages) and of actual prices (for fuel, electricity, etc.). In order to perform the calculations, a number of key assumptions are needed, especially regarding the school size (number of classes and students in the school) and the class size (number of students in the class). Because the school and class size vary between the schools, the calculations are typically performed for different types of schools. Indeed, the simple distinction between rural and urban schools is not enough, as rural schools vary, so a large number of cases are often necessary (see step 5 below).

The following steps are typically taken in assessing education costs according to a normative methodology:

1. dentification of major cost areas to be considered in the costing process. These usually include: teaching costs, administrative cost, cost of other staff (professional, technical), maintenance of buildings (heating, electricity, water, small repairs), catering for students. Additional areas may be: teacher in-service training, student stipends, extracurricular activities such as sport or artistic events, and similar.

   We note that the costing methodology may on purpose omit some of the listed areas. For example, the Lithuanian system of so called *student basket,* one of few examples when the normative costs are actually used in allocation of education funds, excludes maintenance costs (heating, electricity, technical personnel), because it is focused on the pedagogical process, financed from the state budget (while maintenance is financed from the local budgets). This example shows that the identification of the major cost areas is not an obvious step, but must be consistent with the final purpose of the costing process.

2. Teaching costs are the main cost item of any school. These are assessed on a per class basis for each grade. The weekly number of classes is taken from the national curriculum (with possible local component of the curriculum). Taking normative number of lessons a teacher is required to teach, we can obtain the number of full time equivalent (FTE) teachers needed to educate one class. Like curriculum, the teaching load of teachers may depend on the grade. The normative wage of teachers (or the normative minimal wage), usually established in national ordinances, is then used to calculate teaching costs of a single class, per grade.

   Because the curriculum norms vary for different school types and profiles, separate calculations need to be performed for each of them. For example, one version of the Romanian calculations provides calculations for 13 types of schools, based on different programmatic norms[11].

   Very often, the regulatory wages of teachers depend on a number of factors, principally on the education level of the teachers and on the time they had worked in the school system, and sometimes also on the national teacher advancement scale. In order to calculate the normative cost of teaching, some assumptions are made regarding the composition of the teacher work force (their age and education attainment). This is a highly important costing assumption, especially when the regulatory wage differentials are large[12]. Moreover, the concentration of more experienced and better qualified, therefore more expensive, teachers is usually not uniform. Thus it is advisable sometimes to make separate assumptions about the average teacher wage for the rural and urban schools, or for the schools located in and outside of the capital city.

3. Non teaching costs are typically the second or the third largest cost item in the school budgets. The costing of administration costs is performed using one of two ways. Sometimes it is simply assumed that administration and technical personnel costs are a fixed percentage of the teacher wages[13]. The choice of the percentage is an important strategic assumption. Otherwise, the composition of the school administration is assumed, for example by stating that it consists of one school director, one accountant, and one deputy director for every 10 classes (usually, this is based on employment norms governing school staff). The second approach requires of course an additional calculation of the average wage of administrator (which may require further assumptions regarding the qualifications and work experience of the directors).

   Similarly, the costing of professional (psychologist, librarian, etc.) and technical (cleaners, heating workers, gardeners etc.) staff may be performed according to an assumed percentage of other costs, or based on some employment norms for this type of employees (such as the number of cleaners depending on the surface area of the school).

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[11] *See I. Dogaru, Costuri Standard, Formula si Indicatori de Alocarea Fondurilor pentru Finantarea Unitatilor de Invatamant Preuniversitar, Bucuresti (2005). These type are 3 type of preschools (regular, with prolonged stay and with weekly stay), primary school, gymnasium, 6 types of lyceum (theoretical, technological, and vocational divided further into theological, sport, pedagogical and artistic), vocational schools and artistic schools.*

[12] *For example, in Poland the so called diploma teacher has regulatory salary at the level of 225% of the initial teacher.*

[13] *The Lithuanian student basket methodology assumes that administration personnel costs amount to 11% of teacher salaries. See J. Herczyński, Regional Review of Per Student Financing in Education: Case Study Lithuania (2007).*

4. The costing of maintenance expenditures presents major problems. The first question regards the actual size of the school building. One may use norms on the school space, the required size of classrooms and of subject laboratories. In this case, the costing process may be conducted separately for a number of different assumed school sizes (number of students in the class), or for rural and urban cities. Romanian *cost standard* calculations, for example, assume that a school may have 50, 100, 200, or more than 500 students. School building size is then assessed on the classroom size norms. A second assumption regards the heating system (wood, coal, gas, central heating). Here some norms of per student fuel consumptions may be used, or alternatively some assumptions of per square meter.

   Note that assumption of the different school sizes requires conducting separate calculations of a number of financial standards, complicating the process.

5. The previous steps provide assessment of teaching costs per class, and maintenance costs per school (how the non-teaching personnel costs are obtained depends of course on the way they were calculated, see step 3 above). The key step now is to translate these costs into per student costs. This requires two crucial assumptions, regarding the school size and the average class size in the school.

   One way to approach this is to assume that there are different groups of schools, and assess the costs separately for each (such an option for maintenance costs was already mentioned in step 4). For example, Lithuanian *student basket* method assumes that there are four groups of schools, with normative class sizes 10 students, 15 students, 20 students, and 25 students respectively[14]. Romanian calculations use also the rural and urban location of the schools (in addition to the 13 types of schools, mentioned in step 1).

   Once the normative school size and class size is assumed, total teaching costs per schools (per class teaching costs multiplied by the number of classes), the non-teaching personnel costs per school, and the maintenance costs of the school can be added and divided by the number of students in the school. The normative cost per student is the result of the calculations.

As the description provided above indicates, there are many possible variants of normative costing methodology, but each one is based on a series of key assumptions. The main and most sensitive of these assumptions regard the normative class size. The selection of groups of schools on the basis of size for the costing process may be seen as arbitrary. Also the separate treatment of rural and urban schools and separate costing procedure for them, while certainly justified on average, maybe questioned in a number of cases, when administratively rural schools have all the characteristics of urban schools. The costing of heating costs involves a number of technical assumptions which are not easy to substantiate.

This creates a certain imbalance: subtle differences of programmatic standards are used with great precision to assess rather small differences of teaching effort, while then broad and badly substantiated assumptions regarding the class size create much larger deviations of unit costs between the school types.

A limitation of the normative approach is its inability to assess the transportation costs. These costs depend on the distances travelled, population density, character of locations, and may be assessed empirically, if sufficient data are collected. However, there is no normative basis for them. In other words, if student transportation costs are included in the analysis, and they should be, since any steps towards optimization of the school network lead to increased student transportation, then at least this part of the calculations will have the empirical character.

[14] *The associated school sizes depend on the type of the schools. For example, to the second group of schools, with the normative class size 15, belong initial schools (grades 1 to 4) with between 51 and 80 students, basic schools (grades 1 to 8) with between 131 and 300 students, and full secondary schools (grades 1 to 12) with under 400 schools*

We also note that some empirical analysis does make its way into the calculations described above. These are the average teacher salaries (as opposed to normative salaries, which are given by regulations but which cannot be on their own applied in the calculations), the costs of fuel and the technical characteristics of heating systems. The empirical experience comes into the calculations also in more subtle way, for example when it is assumed that administration costs are 11% of the teacher wages. Differences in costing procedures between rural and urban schools are also usually based on some empirical review (class sizes etc.). This means that the distinction between the empirical and normative methodologies, while obvious in their general definitions, becomes somewhat blurred in the details of calculations.

Moreover, the discussion of the previous section regarding the differences between per student and per class costs applies equally to the normative methodology. Perhaps even more so, because as argued above, it is the passage from per class costs to per student costs that is one of the most problematic steps in the normative methodology. In other words, the results obtained prior to taking this step, that is normative per class costs, are more trustworthy.

In any case, the maintenance of such a system of different normative unit costs is a difficult task, usually performed by dedicated state institutions, such as CNFIPS in Romania or a permanent working group in Lithuania. I know of no example of such complex calculations being performed by local governments or their associations in transition countries.

The strengths and weaknesses of two approaches

Both methodologies have their strengths and their drawbacks. We discuss them in the present section, putting more emphasis on the weaknesses and limitations, because their clear understanding is needed when attempting to use the results of costing analysis for policy purposes.

The empirical approach has the value that it is firmly founded on budgetary and statistical data, and therefore has real argumentative power. If for example actual school expenditure for different types of schools is shown to be consistently very different, it is a strong argument to demand that the national governments treats these types of schools in a different way (for instance, in its allocation procedures).

However, we note that the empirical approach will inevitably lock the analysis into the present realities of education finance. These realities include the historically inherited inequities and cost differentials (for example, regional or ethnic, different unit costs in different profiles of vocational schools, or relatively excessive funding of preschools). We may call them inherited priorities, as opposed to present day priorities of education managers. It is important to note that inherited priorities, as expressed through patterns of education spending, are quite difficult to change, because what are in reality funded in education are the institutions, which have their stability and continuity. But the realities also include the current fiscal constraints, and the need to adjust spending levels to reduced budgetary means. The obtained averages are thus a compromise between the past allocation decisions and the current limitations, and may be far from either rational allocations or from intended policy priorities. While the average costs reflect the budgetary reality, it is a reality which in many cases needs changing.

Empirical methodology of necessity uses budget report data, which means the analysis is performed for the fiscal year which had already concluded. It is quite difficult to forecast the obtained costs into the current fiscal year. This is so because the changes of input prices, such as teacher salaries or fuel prices, enter the actual expenditure of schools in a rather complex way. The results of the empirical costing process cannot be therefore used with any confidence in discussions with the Ministry of Education regarding the current needs of schools or the next year's allocation for education.

The empirical approach will typically use the data without a serious explanation of the reasons why they

are as they are. For example, increased expenditures on schools may reflect either a degree of inefficiency or a conscious local policy to improve education quality. It is very difficult to untangle budgeting process and make an assessment of which is in fact the case, other than through a laborious case-by-case analysis. The comparison of different spending levels in otherwise similar local governments without an in-depth understanding of the specific cost factors in each of them is not possible. This means that empirical costing methodology may yield misleading results when applied across a number of municipalities.

Turning now to the normative approach, we note that it is very well suited for assessing the unit costs of education because it takes explicitly into account any changes in national regulations of the education process. This means that whenever teacher salaries are changed, or when school curriculum is updated, it is easy to redo the same calculation to assess the impact on unit costs of providing education.

At the same time, however, the normative approach runs the risk of producing a large number of different unit costs under a large number of assumptions. Indeed, the main factor which determines the per student costs of education is the class size (or the group size for preschools). However, the legal norms on class sizes are always very flexible, often allowing the operation of classes having between 3 and 30 students. This makes it very problematic to pass from the assessed cost of teaching one class to per student cost, as division by the class size is required. Thus typical normative cost calculations make some assumptions about the size of the school and the size of the class, usually under different conditions (small village, large village, small city etc.). For each of these situations, different class size applies and a different unit cost is obtained. The resulting multitude of costs is not easy to manage over time (when input costs such as teacher wages change), and not easy to use for policy arguments.

Moreover, comparing the normative costs to budgets and expenditures of specific local authorities or schools is a difficult task because it may well happen that some peculiar cost factors, negligible in most schools, become significant in some cases. This can be the altitude or remoteness of the municipality's location, or an obsolete heating system in a school, or the need for additional school staff for some local reasons (minority students, students from incomplete families due to labor emigration, need to take care of students commuting from another village, a locally renowned school choir or a sports team, etc.). A workable normative methodology cannot use more than a handful of factors and cost items, so will always be a simplification when compared with a budget of a real school. This means that normative costing methodology may yield misleading results when applied to specific institutions or specific local governments.

Uses of costing methodologies

In the present section we conclude with a discussion of possible uses of the two approaches. We first discuss the diagnostic and policy dialogue purposes, to which the costing analysis may contribute, and then in a simple table we summarize the discussion for a few possible policy goals in the education sector.

One use of the costing methodologies is for *diagnostic purposes*, in other words for the purpose of analysis of the critical issues of the education system. Here the special strengths of the empirical approach are obvious. Results of empirical costing process have the undeniable value of factual statements regarding the use of public funds for education. They are indispensable and also irreplaceable for the review and analysis.

Nevertheless, the issue of what is being diagnosed and for what purpose arises. One important issue is the *equity* of education finance[15]. Two aspects of equity are usually analyzed[16]. Horizontal equity regards similar treatment of schools of the same type located across the country („equal treatment of equals"). For analysis of horizontal equity, per class and per student costs should be reviewed separately. For example, we would hope that per class costs of rural and urban primary schools are more or less similar, while their per student costs will certainly be very different. Horizontal equity may be reviewed on the national scale, for example regarding the differences between the country's regions or between the capital city and the rest of the country, or on the local level, regarding the different treatment of individual schools in a local authority.

Vertical equity regards the relative financing of different levels of education, such as primary and secondary, or of different types of education, such as mainstream, vocational and special education („unequal treatment of unequal"). Here the empirical approach is not sufficient, as the relative required funding levels can only be established through normative analysis. For vertical analysis, one usually also compares the results of the empirical review with international benchmarks, for example with the relative per student expenditures on different education subsectors provided by OECD[17].

Closely related to equity is the problem of *adequacy*. By adequacy one usually means ensuring that all students receive education of expected, reasonable quality. Quality is of course very difficult to measure, therefore in practical discussions one rather attempts to assess whether the amount of funding spent on different education institutions is sufficient or not. Normative costing methodology may establish here some benchmarks, to which actual expenditures are then compared. However, if the normative costing process results in a multitude of various standard costs, which as we have seen is almost inevitably the case, their value as benchmarks is much reduced. Another repeated problem of the normative methodology is that the cost estimates it produces are often much higher than the funds actually allocated to the sector. One may of course take the results of these calculations, present them to the Ministry of Finance, and on their basis demand that education funding should increase by 70% (for example), but it is not very likely that the calculations will be sufficiently convincing. Indeed, we have seen that they usually depend on a number of somewhat arbitrary assumptions. Again, the adequacy argument on a national scale is better served by appealing to international comparisons of OECD, regarding for example the share of education (or of specific education subsectors) in the country's GDP or the average teacher wages expressed as percentage of GDP per capita.

The second important use of the costing process we discuss here is for policy dialogue. By the *policy dialogue* we mean conduction of public discussions regarding the policy priorities and the needs for future actions. Two areas of such dialogue are most important for the national associations of local authorities. One is *external*, that is mainly discussions with the Ministries of Education and with the Ministries of Finance. Here the results of the costing analysis will be used to demand higher allocation for specific education functions. For example, additional funding for student transportation may be demanded if it is shown that the savings from network optimization (under the current education finance system in the country) are not sufficient to cover increased costs of transporting students to consolidated schools. Alternatively, the results of the costing process may be the basis for criticizing the current allocation procedures, if it is shown that these procedures do not take sufficient account of established differences in providing different types of education (such as differences in unit costs of preschools and of secondary schools).

There is also *internal* policy dialogue, through which the national association attempts to promote examples of best practice and support its members in more efficient and effective management of education. Identification of inefficient schools is perhaps not so difficult, but devising more efficient network and more effective budgeting process requires more effort. In particular, for assessing relative efficiency of various options, it could be very useful to have certain financial benchmarks, in the form of per class and per student costs, calculated on the basis of a national sample of schools. For both the external and internal policy dialogue, the empirical costing methodologies may yield the most convincing arguments.

[15] *See D. Monk, Education Finance: An Economic Approach, New York (1990).*

[16] *See A. Swanson, R. King, School Finance, Its Economics and Politics, Longman NY 1991.*

[17] *See OECD, Education at a Glance 2008: OECD Indicators, Paris (2008).*

There is a third relevant area of policy dialogue, which we call here *strategic,* concerned not so much with obtaining immediate adjustments to existing allocation, as with the overall goal of the education system. One asks about the long term goals of a national education system, and about the financing system which should support achieving these goals. For example, if among the long term goals the country puts expansion of the tertiary education, then one may want to reform the education finance system which rewards with high per student allocations narrow profiles of vocational education. In the transition countries, one often sees a dramatic divergence of stated national education goals (typically expressed in national education strategies or similar general documents) and of inherited education finance systems. A successful policy dialogue initiative in such a situation could be a normative costing process, based on the stated national goals, contrasted with the empirical costing process, documenting the actually implemented policies. However, by any standards such a policy analysis must be counted as a very ambitious one.

A more modest and perhaps more immediately important analogous task would be to analyze the financing of provision of education to certain vulnerable groups. For example, normative analysis of required costs of providing education to special needs students or to minority groups, and comparison of these with empirical expenditures on the same groups of students, may reveal whether the education system adequately supports them, and at the same time whether it comes up to the standards it sets itself in programmatic normative documents.

The following table lists selected possible policy goals of national associations of local governments. For each of them it assesses whether the normative or empirical costing methodology is applicable.

Policy goals	Normative	Empirical
Arguing with the Ministry of Finance for increased overall allocation for education	Applicable	No
Arguing with the Ministry of Education for a different instrument (formula) for allocating education transfers between local governments	Applicable	Applicable
Supporting member local governments in rationalizing the school network	No	Applicable
Supporting member local governments in increasing school efficiency	No	Applicable
Supporting member local governments in prioritizing school investments	No	No
Promoting cooperation in education management between neighboring local governments	No	No

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Appendix 5

TRAINING PROGRAM

on the use of Education Costing Methodology (ECM)

Contents:

Introduction

The present document describes a one day training program for the future users of the costing methodology for education services, called Education Costing methodology (ECM), developed by NALAS experts. **The one-day training program** put forward emerges as outcome of a GTZ financed project. The training consists of three sessions with presentations and two sessions with exercises in groups. For the sessions with presentations, the PowerPoint presentations are provided with slides and with a narrative or comments for the trainer. For the sessions with exercises, the goals of the exercises and their inputs and expected outputs are discussed in some detail.

The training is intended for the following audiences:

- Education officials of local governments of transition countries,
- National associations of local governments and their education commissions,
- Experts of national Ministries of Education.

The training is composed of three modules (presentations) and two practical sessions (group exercises):

- Overview of the costing methodologies: types of costing methodologies, how they are used, what are their strengths and limitations. Main source: Appendix 4.
- The Education Costing Methodology (ECM) and its uses: the specific form and data items collected using the ECM. Main source: section 2.3 and section 3.1.
- Practical session 1: filling in the data in Excel tables. Main source: data brought in from a number of schools in the municipality of the trainee.
- Practical session 2: analyzing the data collected from the schools in the municipality. Main source: a set of data actually collected in a municipality.
- Strategic use of costing methodologies: how to prepare for strategic analysis and use of the collected data. Main source: Appendix 4.

Draft agenda of the training:

	Time	Session title	Session character
1	9.00 - 10.00	Overview of the costing methodologies	Presentation, discussion
2	10.10 - 11.10	The ECM and its uses	Presentation, discussion
	11.10 - 11.40	Coffee break	Coffee, discussions
3	11.40 - 13.00	Practical session 1: data entry	Work in groups, discussions
4	13.10 - 14.30	Practical session 2: data analysis	Work in groups, discussions
5	14.40 - 15.00	Strategic use of costing methodologies	Presentation, discussion

The first two presentation sessions will last 60 minutes each, the practical sessions will last one hour 20 minutes, and the final brief concluding presentation 20 minutes. The agenda allows for a number of short breaks for smoking and one longer break for coffee. Of course, the agenda above may be tailored and adjusted to specific needs of the group.

It is also important to note that each trainer has her/his specific needs and interests, and should feel comfortable with the training she/he is conducting. This means that each trainer should feel free to amend, extend and shorten the attached presentation, while maintaining the core information provided in the training and ensuring that the participants do learn what is the meaning and use of the ECM. Especially for the second session we discuss in a number of places how the material provided below in PowerPoint may be enlarged by the trainer.

The presentations for the first and second session are provided in sections 1 and 2 below. The two practical sessions are discussed in section 3. The final presentation is provided in section 4.

1. Overview of costing methodologies

The first module (presentation session) of the training provides a basic discussion of the costing methodologies. It is based predominantly on section 2 of the Guidelines and on Appendix 4 The trainer should use this as the main source of the narrative and illustrations for the slides of the PowerPoint presentation provided below. The whole document should also be distributed to the participants (translated into the language of the training).

Assessment of Education Costs

Session 1: Costing methodologies

Place and time
TBD Trainer TBD

Structure of the presentation

- Why costing methodology
- Types of costing methodologies in education: normative and empirical
- Strengths of the methodologies
- Weaknesses of the methodologies
Uses of methodologies

What is a costing methodology?

- A costing methodology is a systematic procedure to assess per student and per class costs of providing education
- May include all costs or some part of the costs (salaries, costs of teaching etc.)
- May be applied to an individual school as a budget unit, to the municipality, or to the group of municipalities

Unit costs in education

- Per student costs are the main financial indicator of providing education to students
- They are particularly sensitive to class size
- Per class costs are the main financial indicator of the teaching process
- If they differ for similar schools, inequity may be suspected

It is very important to explain that both per student costs and per class costs need to be assessed. Per class costs reflect the costs of pedagogical effort better than per student costs, because for the individual student it does not matter how many other students there are in the classroom. Serious differences in per class costs should be always analyzed and reviewed. They may be due to different number of lessons per week per class, or to very different number of teachers per class, and in either of these cases indicate lack of equity.

Other units costs in education

One may also assess other unit costs:
- Average cost of a weekly lesson (assuming there is a weekly teaching plan of schools)
- Average cost of one lesson (assessed for all lessons conducted during the year)
- Average cost of one full time equivalent teacher

The trainer should explain that there are many different financial indicators other than per student costs. For example, the unit cost of lessons (either on a weekly basis or for the whole school year) are important because the lessons taught represent the pedagogical effort of the school.

Why costing methodologies

Many reasons why unit costs are needed:
- To argue for higher allocation for education from the central government
- To assess budgets of different schools
- To assess efficiency of local education system
- To analyze budget requests of schools for the next financial year

The trainer should explain that different policy goals will require quite different costing methodologies.

Types of costing methodologies

Two basic types of costing methodologies in education:
- Normative methodology, based on legal norms and input prices
- Empirical methodology, based on historical expenditures of schools

Normative methodology

- Normative methodology uses curriculum norm, class size norms, teacher workload and regulated teacher salaries to assess unit costs of education.
- Requires review of all education legislation.
- Typically needs many different assumptions regarding the school size and class size

Empirical methodolog

- Empirical methodology uses historical expenditures on schools
- Requires collection of budgetary data for previous years as well as the student, class and teacher data
- is applicable only to schools as budget users

Strengths of methodologies

Normative methodology:

- Explicitly takes into account changes in national regulations (curriculum, payscale)
- Represents assessed costs of the legal obligations of schools
- Is independent of past managerial and financial practices in education

Strengths of methodologies

Empirical methodology:

- Based on actual data, represents real effort of the country and municipality
- May be used to identify inefficient schools and school systems
- Does not require any assumptions (like the class size)

Weaknesses of methodologies

Normative methodology:

- Always leads to many different cost standards under different assumptions
- Ignores specific sources of high costs for some schools (social exclusion, remote school location)
- Units costs often much higher than actual allocation for education

Weaknesses of methodologies

Empirical methodology:

- Reflects past, not always rational allocation decisions ("inherited priorities")
- Is based on old, often no longer valid input costs (teacher salaries, price of fuel)
- Does not correspond to future conditions of providing education

The review of strengths and weaknesses of costing methodologies should clarify to the training participants that there is no single best and most scientific approach to assessing unit costs. The costing methodology should be always seen as a policy instrument which has to be selected in accordance with policy goals.

2. The ECM and its uses

The second module (session with presentation) of the training is focused on specific issues related to the ECM and is based on section 3 of the Guidelines. Below we provide PowerPoint slides together with brief narrative for the trainer.

Assessment of Education Costs

Session 2:

Education Costing Methodology

Place and time TBD
Trainer TBD

Structure of the presentation

- What is Education Costing Methodology (ECM)?
- Budget classification
- Functional classification
- School specific and non-school specific costs
- Non financial data
- How to use the ECM

The slides of the attached presentation should be shown together with selected views of the Excel tables of the ECM. In other words, the trainer should have, besides the presentation shown here, an open Excel spreadsheet with some school and non-school data entered already.

The ECM is empirical in the meaning of the terminology introduced during session 1. The trainer should discuss the main sources of data to be used in the Excel tables (this will depend on the country), such as school budgets or financial plans (where can they be obtained) and school statistical reports (the names of these reports, where are they available).

ECM methodology

- ECM methodology is a systematic computer assisted approach for assessing the costs of education services
- It uses simple Excel table for entry of data and for their management
- It is an empirical methodology, well suited for comparative review of schools and of municipal school systems

ECM methodology 2

- The main novelty of the ECM methodology is its use of functional classification in addition to budget classification
- The use of two classifications creates some data entry problems but provides additional value for the local governments
- May be used for preschools and schools

The use of the two classifications simultaneously is the main distinguishing feature of the ECM (see section 2.3), and needs to be stressed and explained carefully by the trainer. This is the goal of the next few slides.

The budget classification is defined by the Ministry of Finance in every country, and the trainer should explain it using the actual classification of the country of the training participants. It is necessary to provide an overview of the budget codes (numbers of particular budget lines, including how many digits these codes have and what is their meaning), and in particular the codes for recurrent and capital expenditures. The review of the budget revenues codes could be useful for the participants but is not necessary.

Budget classification

- The budget classification is based on standard official classification used in the country where the ECM is applied
- The expenditures are divided into recurrent and capital (investment)
- Only recurrent expenditures should be used in ECM

Budget classification 2

- Recurrent expenditures are divided into specific budget lines, specific for each country
- Major division into:
  - wages and related expenditures (social insurance, taxes paid by the employer etc.)
  - material expenditures (energy, materials and consumables, services)
- No amortization is used for education costs

The particular budget codes of the main budget lines used in the ECM classification (salaries, heating etc.) should be reviewed, so that the training participants become familiar with them. It may be a good idea to show the participants and review a sample school budget (or financial plan), taken from a real education institution.

The functional classification is the main new idea which the training participants need to learn. The trainer should explain the meaning of an activity and how activities may be defined. It is important to note that the there may be different choices of activities (they are different, for example, for preschools and schools).

Functional classification

- Functional classification is the division of specific expenditures into activities, according to their institutional meaning.
- Functional classification selects specific activities such as teaching or building maintenance
- Different functional classification is used for preschools and for schools

Functional classification 2

- Functional classification is applied together but independently of the budget classification
- Each expenditure must belong to some category of functional classification and to some category of budget classification
- This allows to precisely assess the costs of each activity

The last point here is the most important: the purpose of using the functional classification is to analyze school budgets for different activities. This is in contrast to typical analysis of the school budgets, which is based on the share of different budget (economic) categories, such as salaries or expenditures on energy, in the total school budget. Also in contrast to typical analysis, ECM allows to assess per student and per class cost of teaching, for example.

Use of two classifications

Budget classification	Functional classification		
	Education	Administration	Other...
Salaries			
Heating			
Electricity			
Other....			

These two slides explain the crucial point of the ECM. The participants need to understand that using the functional classification the expenditure data for each budget line need to be broken down further. This creates potentially enormous number of data items, but also provides a useful way of understanding the budgets.

Each category of the functional classification for schools needs to be explained, together with the discussion of difficult points (how to record the salaries of the school director, how to distinguish the materials for building maintenance and for the education process, etc.). One of the uses of this approach is to provide the breakdown of the school budget by the functional classification. This means calculating what percentage of the school budget is spent on the education process (the most important function of the school), what on administration, building maintenance and similar. The trainer, based on the available data, may discuss the typical or average breakdown for the country of the participants and explain what are its specific features compared to other countries.

Functional classification 3

Categories of functional classification, schools:

- Education process
- Building maintenance
- Administration
- Security
- Transportation of students to school
- Provision of food
- Medical services

Functional classification 4

Functional classification for preschools:

- Provision of food
- Afternoon care and sleep
- Education and entertainment
- Building maintenance
- Administration
- Medical services

Each category of the functional classification for preschools needs to be explained, together with the discussion of difficult points (how to divide the salaries of teachers between education and afternoon care, etc.). Further, the trainer should make it clear that an analogous functional classification may be needed for secondary schools, for vocational schools and similar. While these are not covered by the ECM today, there is nothing which in principle restricts such an extension of the approach.

Functional classification 5

- In order to simplify work the categories of the budget classifications are put together (aggregated) in the Excel tables
- For each functional category, the first budget category is the salaries and payroll contributions
- There are also from 2 to 6 other budget categories depending on the functional category

A trainer needs to explain that without this aggregation, there would be just too many specific items and the analytical work to divide all expenditures into the functional classification would be overwhelming. Even with the aggregation, the number of data items remains considerable. For schools, there are 7 salary items and 28 non-salary items in the combined methodology. For preschools, there are 6 salary items and 22 non-salary items. Of course, it usually turns out that some of these items are empty (there are no associated expenditures).

Recording of the school costs for each school is another crucial part of the ECM. This approach allows the local governments to perform comparative review of their schools, for example to compare unit costs of different schools and the breakdown of the school budgets by the functional classification. At

the same time, it gives the national association of local governments a tool to compare the budgetary practices of different local governments (and of their groups). However, this comes at a price: it is necessary to obtain detailed financial plans of all education institutions in a given local government.

School specific costs

- The costs in the ECM methodology are recorded for each school separately
- Different rows correspond to different functional and budget classification
- This approach requires significant work to obtain the data but allows analysis of individual school budgets

Non-school specific costs

- Some expenditures are paid for by the municipality and cannot be attributed to specific schools
- Examples: joint procurement of heating oil, student transport, sport activities for students of different schools
- ECM provides a separate column for such expenditures

Not all school costs are attributable to individual schools. Sometimes, electricity is paid for all the school on the basis of one invoice. In that case it will not be possible to attribute electricity costs to individual schools without collecting the readings from electricity meters. In the cities, similar situation may arise with respect to central heating costs. Sometimes the municipality procures heating oil or other consumables for all of its schools. There may be also one bus company transporting students to a number of schools. The division of school budgets which may be attributed to individual schools depends on the country and sometimes also on the local government in question. For the expenditure data which cannot be attributed to individual schools ECM provides a separate column. The expenditures recorded in this column also need to be divided by the functional and budget classifications, as are the expenditures for each school. The trainer needs to explain very clearly that this column is NOT used for summing of expenditures of different schools.

Please note that in some countries certain school costs are covered directly by the Ministry of Education. In this case, if the municipality knows what these costs are, it may enter them in a new column, added specifically for that purpose.

Non financial data

Three non-financial data items are collected:

- Number of students
- Area of the school buildings (square meters)
- Number of teachers

They are used to calculate some indicators, such as costs per student and cost per square meter

The fact that only very basic non-financial data are being collected must be pointed out. The trainer may give the example of the Macedonian expert team, who had significantly extended the range of collected non financial information. The main missing non-financial data item is the number of classes, which would allow the municipality to calculate per class expenditures.

It is very important to note that if the ECM classification is used on a routine basis, then care must be made to keep the historical data (data from previous budget years). The data for a few years may give the municipality a very interesting view of the changes of the school finance, for example by reviewing the changing breakdown of the school budgets by functional classification.

How to use the methodology?

- Data should be collected regularly, at least once a year
- Data files should be marked to indicate the year
- Usually, the expenditures may be broken into the functional classification only with detailed school level data

How to use the methodology 2

- Each country or municipality may extend the Excel table (ECM)
- Possible directions of extension:

- More detailed budget classification for some functional categories,
- Additional non financial data (number of classes, of transported students, etc.)
- Additional automated indicators (education and administration costs per student)

The example of own extension of the ECM introduced by the Macedonian expert team may be shown as an example. The trainer must explain the difference between average total cost per student and average cost of the education process per student, and why the comparison of simply the average total cost per student across the schools is not enough. Similarly, the comparison of the average per class cost of the education process in different schools is of great practical and strategic importance.

3. Practical sessions

The first practical session will be devoted to actually entering the data into the ECM Excel tables. The main purpose of the session is to teach the participants how to reconcile the functional classification with the budgetary classification and how to enter the data into Excel. The data brought in from the schools will be typical budget data, which will have to be broken and presented in a rather different form. The groups will have to discuss among themselves how to think about the school budgets and to make some decisions before actually entering the data. The presentations of the results of work in groups to the other groups will give the participants an occasion to discuss how they approach specific problems, and will give the trainer an opportunity to explain and suggest more systematic approach.

All the participants are expected to have come to the training with a set of data from selected schools in their municipality: the budget data, weakly teaching plan, list of school staff with their responsibilities, information on school facilities. The session will be conducted in groups, which will have to decide quickly, who will provide the data to be entered by the group. Some groups may discuss preschools and some primary schools.

After about 40 minutes of work in groups, the work should be completed, and each group should have the time to present their approach o other groups. Per student costs and the budget structure (% allocated to different functional categories) of the sample schools will be presented by each group and compared. One may expect serious discussions and disagreements between the participants on the specific meaning of functional categories. The role of the trainer is to facilitate the discussion and to provide comments and explanations.

The first exercise for the groups:

Input	Actual school budgets, information about the schools (student and teacher numbers, facility data, etc.). Data are provided by the participants. The data for 2 or 3 schools are needed.
Task	Enter the data into the Excel tables (the ECM) according to the functional and economic classification. Compare per student costs and the budget breakdown (% allocated to different functional categories) of the sample schools.
Output	1. Data entered. 2. Per student costs calculated and compared. 3. Budget breakdown by functional classification calculated and compared.

The **second practical** session will be devoted to analysis of data collected from an actual municipality. The main purpose of the session is to encourage the participants to treat the data as a basis for strategic decision making by the municipality. In order to achieve this, the groups will have to perform some specific analytic and strategic tasks, acting on the behalf of the municipal education department. The following are the possible tasks for the groups:

- In the middle of the financial year, the municipality must amend its budget, including the education part of the budget, due to the crisis. The education department is asked to propose the necessary cuts.
- In September, the municipality needs to prepare its budget for the next financial year. The education department is asked to propose the new allocation of funds to schools (to simplify the task the student numbers are assumed to stay unchanged).
- In March, the execution of last year's budget is discussed in the municipal council. The education department is asked to provide a short assessment of expenditures in the education sector, pointing out the positive and negative elements.

The trainer needs to select the task (the scenario of the session). For the selected task, the groups will have to analyze the budgets of different schools and suggest an appropriate, evidence-based response of the education department. The groups will be given the data from an actual or virtual municipality in electronic or paper form.

Similarly to the first practical session, after 40 minutes the groups will be expected to present their results (recommendations of the education department) for overall discussion. Again, one may expect heated discussions and strong differences of opinions. The role of the trainer will be to moderate the discussion, avoid confrontation, and help the participants to make policy use of the different elements of the data.

The second exercise for the groups:

Input	Data entered into the ECM (Excel tables) from an actual of virtual municipality. Data should include at least 5 schools of very different sizes and budgets. Data may be provided electronically or in a printed form.
Task	Analyze the data and prepare the recommendations of the education department of the municipality according to the scenario selected by the trainer (see above three possible scenarios).
Output	1. Three key conclusions from the data analysis (one sentence each). 2. Three key recommendations (according to the selected session scenario, two sentences each).

4. Strategic use of costing methodologies

The final sessions serves as a brief conclusion of the training and uses the discussions of the two sessions with the group exercises to summarize the training and point out the options of the strategic use of the costing methodology. Like the first session, it is based on Appendix 4.

For some of the slides of the following PowerPoint presentation we provide comments and suggestions for the trainer.

Assessment of Education Costs

Session 5:

Strategic use of costing methodologies

Place and time TBD
Trainer TBD

Structure of the presentation

- Diagnosis of the finances of local education systems
- Policy dialogue at the local and central level

The review of the strategic uses of the results of costing methodologies should draw on the discussions of the fourth session (the group exercise of using the data). If there were some important differences of opinion or approach, they should be recalled in the light of more fundamental and long term issues and put into the appropriate context. It is also necessary to remember that this training session should reflect the specific legal and financial regulations of school management in the country from which training participants come. The slides are general and may have to be modified for specific needs of some countries.

Diagnosis of school finances

- The data collected may be used to diagnose the finances of schools in the municipality or across municipalities
- Two main aspects of diagnosis:
  - Equity: are all students treated fairly and equally
  - Adequacy: are the resources provided sufficient for the needs of schools

Equity of school finance

- Per student and per class costs have to be calculated and made public
- Differences in unit costs should be analyzed
  - If the differences of unit costs are due to objective differences of needs, they should be justified and maintained
  - If there is no justification for differences in unit costs, they should be equalized over time

The trainer should clearly define the differences of horizontal equity and vertical equity and should illustrate it with some examples from outside the country of the participants. Key aspects of equity are: the relative financing of rural versus urban schools, the relative financing of preschools, primary schools, secondary schools, vocational schools (as is appropriate for the country and for the training participants), the relative financing of mainstream schools, schools for special needs students, schools for gifted students (sport and artistic schools), the relative financing of schools with different instruction languages. A possible source of comparative data may be OECD Education at a Glance. The trainer should prepare and distribute such comparative data for the participants.

Adequacy of school finance

- Sufficiency of overall expenditures on education in the country:
  - Total expenditures as % of GDP
  - Expenditures on education subsectors as % of GDP
  - Expenditures per student as % of GDP per capita
- Sufficiency of expenditures in the municipalities

The adequacy of school finance should be always analyzed in the context of the wealth of the country (its GDP per capita). Two aspects of adequacy may be analyzed: is the country spending sufficient funds on education (on the whole education and on its subsectors, expressed as % of GDP), and is the country spending enough on a per student basis (expressed as % of GDP per capita). The trainer should prepare the appropriate data for the country of training participants and should compare it with international statistics (OECD Education at a Glance).

The trainer should use his knowledge of the conditions and procedures of policy dialogue in the country of training participants and provide the appropriate examples.

Policy dialogue

- The discussion of education stakeholders regarding the practical issues of financing and management should be conducted in the light of strategic objectives
  - Internal discussions (within the municipalities or national associations of municipalities)
  - External discussions, with the Ministry of Education, teacher trade unions etc.

Internal dialogue

- How to assess the efficiency of schools? What standards to use for estimating unit costs of different schools?
- How to compare unit costs of different municipalities?
- What are the options for improving efficiency and equity of school finance at the local level?

In discussing the use of hard data within the municipalities and within the national association of the municipalities of the country from which the participants come, the trainer should use the examples from the third session of the training (data entry) and the fourth session (data analysis).

Discussions with the Government

- Are the overall funds provided for education sufficient? Are they allocated to municipalities well?
- Which sectors of education need additional funding most urgently:primary schools or preschools? rural or urban?
- Which groups of municipalities are relatively undefunded?

The trainer should use the experience and examples of actual practices of discussions with the central government in general, and with the Ministry of Finance and the Ministry of Education in particular. Especially important is to underline the weakness of local governments and their associations, and how the use of reliable data may strengthen them as serious partners in negotiations.

Training evaluation

The training will be successful if the participants learn the following:

- What is costing of education services, what are the main approaches and methodologies, and why should it be undertaken.
- How to use the ECM for entry of data and for policy discussions.

The training should be concluded with a simple evaluation form. Among the questions to be asked should be the following:

- Are the following concepts clear to the participants: normative and empirical education costing methodology, functional and budget classification, unit costs in education?
- What was most useful for the participants? What was least useful? Why?
- What was most interesting for the participants? What was least interesting? Why?
- Can the participants use the ECM without additional support? Which elements of the methodology are clear and easy to use? Which are difficult and doubtful?

PARTNER ORGANISATIONS

Organizations and institutions that are giving significant support to NALAS and its Member Associations are recognized as NALAS Partners. Their support may include, but is not limited to lobbying for NALAS and its members, expertise and support. In addition, NALAS proved to be a valued asset for many of these partners, by providing regional experience guidelines or coordination of activities conducted in the member countries.

Deutsche Gesellschaft fur Techniche Zusammenarbeit (GTZ) GmbH

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COUNCIL OF EUROPE CONSEIL DE L'EUROPE

Council of Europe

Congress of Local and Regional Authorities of the Council of Europe, Strasbourg

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