

POLICY IMPACT ANALYSIS

PROVIDING ADDITIONAL SUPPORT TO STUDENTS FROM VULNERABLE GROUPS IN PRE-UNIVERSITY EDUCATION

ANNEX 6:
FINANCIAL ANALYSIS OF THE MEASURES PROPOSED
IN THE DRAFT ANALYSIS PROVIDING ADDITIONAL
SUPPORT TO CHILDREN FROM VULNERABLE GROUPS
IN PRE-UNIVERSITY EDUCATION



GOVERNMENT
OF THE REPUBLIC
OF SERBIA



SOCIAL INCLUSION
AND POVERTY
REDUCTION UNIT



POLICY IMPACT ANALYSIS: Providing Additional Support to Students from Vulnerable Groups in Pre-University Education

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NOTE: This text does not represent official views of the Government of the Republic of Serbia.

Responsibility for the contents and information in the text lies entirely with the authors. The text does not use gender-sensitive language, as it is still not recognised by the official administration and legislation.

TABLE OF CONTENTS

Financial Analysis of the Measures proposed in the Draft Analysis: Providing Additional Support to Children from Vulnerable Groups in Pre-university Education	1
Table of Contents	Error! Bookmark not defined.
1. Calculation elements and limitations	4
2. Overview of the Proposed Measures and Estimated Costs	10
A. THE SUPPORT PACKAGE FOR SATISFACTION OF BASIC NEEDS	10
1. Modernisation and enhancement of the children’s allowance scheme with respect to targeting, coverage and administration of the support scheme	10
a. Analysis of the social welfare system’s IT requirements	10
b. Cost-benefit analysis of validity of the “schooling as a requirement” concept	10
c. Promotional activities aimed at improved targeting of children’s allowances	11
d. Legislative amendments with respect to the amount of public budget allocations for children’s allowances	11
2. Systemic provision of food and clothes/footwear to satisfy basic needs of poor children and the cost of school trips	12
a. Legal/systemic definition of new obligations under the measure	12
b. Capacity raising of local self-governments and the development of guidelines aimed at more efficient implementation of measures	13
c. The cost of food	15
d. The cost of clothes and footwear	18
3. Modernisation of instruments targeting children from disadvantaged categories with a view to subsidising their education costs	21
3.1. Legal/systemic definition of new obligations arising from the measures	21
3.2. Provision of free textbooks and school supplies for poor and vulnerable children in all school grades	21
3.3. Scholarships, loans, residence halls, mentoring at the secondary school level	23
B. THE SUPPORT PACKAGE FOR ENHANCING EDUCATIONAL RESULTS	27
1. Modernisation of instruments for early inclusion of children in preschool education	27
1. Revitalization and modernization of remedial teaching	35
2. Modernization of school libraries and IT centres	40
3. Revitalization of school development planning	41
C. PACKAGE OF SUPPORT FOR IMPROVING THE EFFICIENCY OF THE SOCIAL WELFARE SYSTEM	42
1. Stimulating a systemic provision of on-the field services targeting disadvantaged families and children	42
2. Centres for Social Work and Active Inclusion	43
3. Parent Participation and Training	44
Annex – additional measures	48
A1. Pedagogical Value Added (PeVD)	48
A2. Financing support per Inter-sector Committee	48
A3. Optimization of the staff employed in the education system who provide support to poor and disadvantaged children	48
4. Summary Overview of Annual Cost of the Proposed Measures	49
5. Societal benefits of the proposed support measures	53
Concluding Observations	59
Literature	60

1. CALCULATION ELEMENTS AND LIMITATIONS

Coverage of data

All presented data refer to the Republic of Serbia. As the Statistical Office of the Republic of Serbia has not maintained records for AP Kosovo and Metohija since 1999, they are not included in the total figures at the national level. The analysis of proposed measures at the regional or municipal levels is not worthwhile in this phase of analysis, despite its likely usefulness in the later stages of development of specific measures.

Targeted category of children

- The proposed support measures are intended for the particularly disadvantaged group of children in pre-university education. In a targeted approach, the support measures cover children from the families with the lowest socio-economic status (SES), defined as 20% of children in each appropriate age group up to the higher education age.
- The socio-economic status (SES) is typically defined as the set of factors used for identifying inequalities in access to resources and, in conjunction with the factors related to (the lack of) privileges, power and control, it largely determines the position of an individual in the society.
- It is commonly measured as the combination of the level of educational attainment, income level and the type of occupation of an individual.
- The reason behind our decision to target children from the most disadvantaged families is in the fact that the socio-economic background of their families considerably influences their educational results¹. The socio-economic status of the families they come from has a critical effect on their educational achievements, their earning ability and the type of occupations they will pursue. If the state fails to reduce the risks that this category of children is facing through system-wide, long-term targeted measures, the opportunity to realise their full potential will be missed, which will also eliminate any benefits for the state.

Statistical definition of schools

- In education statistics, the term *school* is defined as an educational institution or unit, conducting educational activities by delivering curricula. This means that every school unit counts as a school, regardless of whether it is an independent school, a branch unit or an outpost within a school of different type.
- To a large extent, this issue can be solved by taking into account only the number of central schools (without their branch units/outposts). According to the available data² for the school year 2010/11, the total number of regular primary schools is 3,468³, among which 1,113 are central schools and 2,355 are branch units/outposts.

¹ For more information on children's achievements relative to the socio-economic status of their families refer to the publication: "PISA 2009 u Srbiji: prvi rezultati – Nauči me da mislim, nauči me da učim", Aleksandar Baucal, Dragica Pavlović Babić

² Statistical Release DD10, Primary school pupils in the Republic of Serbia by municipalities, at the start of the school year 2010/11, CORRECTED EDITION, MS Excel spreadsheet, Statistical Office of the Republic of Serbia

³ The number differs from the number given in Table 2 (3,505 schools), as a result of the use of two different publications of the Statistical Office of the Republic of Serbia.

- The percentage of central schools and branch units/outposts in regular primary education is 32% and 68%, respectively. This ratio can be considered as relatively constant (unless major reforms of the education system are undertaken) and, if applied to the overall number of 3,470 regular primary schools in the school year 2010/11, it is possible to deduce with high accuracy that the number of central schools and branch units/outposts in the school year 2010/11 was approx. 1,110 and 2,360, respectively.
- Absolute accuracy of estimates is additionally impaired by the fact that education statistics does not provide data on primary schools by the number of grades they organise. Effectively, according to the used statistical definition, primary schools include all four-year, five-year, six-year (incomplete) and eight-year (complete) primary schools.
- In the school year 2010/11, the ratio between the number of children who completed three-year secondary schools and those who completed four-year secondary schools was 19:81⁴.
- In particular, in the case of secondary education, a more accurate analysis would require that the number of children from the lower socio-economic level is not universally calculated as 20% of all students; instead, this number would need to be adjusted depending on the type of education and its duration. Accordingly, it could be assumed that children enrolling in three-year secondary schools are at an increased risk and that a large share of them comes from families with lower socio-economic status, whereas the opposite could be assumed for children enrolling grammar schools and special schools of art. However, since making this estimate requires more in-depth analyses of the socio-economic status of children in secondary education relative to the type of occupation they are trained for in schools, such an estimate has not been feasible.

Basic calculation elements for preschool education

- The total number of preschool education institutions in the school year 2010/11 was 2,384. The number of kindergarten groups was 8,791, whereas the total number of children in the preschool age bracket was 179,865. The average number of children per kindergarten group is 20, while the average number of children per preschool institution is 75. More than a third (65,489) of the total number of children in preschool institutions attend the compulsory Preparatory Preschool Programme.

Table 1 Basic preschool education indicators, school year 2010/11⁵

	Total	Children up to 3 years of age	Children above 3 years of age
The number of preschool institutions	2,384	-	-
The number of kindergarten groups	8,791	1,713	7,103
The number of children	179,865	27,521	152,344
Average number of children per kindergarten group	20	16	21
Average number of children per preschool institution	75		
The number of children covered by the compulsory preschool education ⁶	65,489		
The number of children with the lowest SES in the compulsory preschool education	13,098		

⁴ <http://webzrzs.stat.gov.rs/WebSite/Public/ReportResultView.aspx?rptKey=indId%3d110304IND01%26102%3dRS%2cRS1%2cRS11%2cRS12%2cRS2%2cRS21%2cRS22%2cRS23%2629%3d%23Last%231%2626%3d0%2c1%2c2%2625%3d0%2c2%26sAreaId%3d110304%26dType%3dName%26lType%3dSerbianCyrillic>

⁵ SORS, Statistical Yearbook of Serbia 2012, Education, Belgrade 2013

⁶ SORS, Statistical Release DD20, School year 2012/13, Belgrade 2013

Basic calculation elements for primary education

- Primary education in Serbia is delivered by regular primary schools, primary schools of art, primary schools for children with developmental disabilities, primary schools for education of adults and regular primary schools for education in minority languages.
- In view of the statistical definition of the term *school* given above, for the purpose of more accurate estimates of the number of regular schools, the available data on the number of central schools is used in further analysis.
- Certain adjustments were also necessary in the number of primary schools for education in minority languages. From the perspective of statistics, every class in which instruction is delivered in a minority language counts as a separate school, which has, as a consequence, the fact that a single school is sometimes counted as two or even, in some cases, as three schools. This lack of available statistical data has been compensated for by counting only schools for education exclusively in a minority language, to avoid the schools with classes in two or three languages (one of them being Serbian) to be counted more than once.
- As regards the number of teachers, certain inaccuracies are still found in the number of teachers who teach in minority languages. In this case, the given number of teachers is, actually, the number of teachers' instances of employment. However, since there are no relevant estimates to allow for the decrease of the given number by the number of teachers working in more than one school and more than one class, further calculation is done with the said inaccuracy.
- The total number of primary school pupils is approx. 638,400, among whom around 130,000 children can be considered as particularly disadvantaged and at increased risk in the education system.
-

Table 2 Basic primary education indicators, school year 2010/11

Educational level	Number of institutions	Number of full-time teachers	Number of classes	Number of pupils	Number of pupils from the lowest SES
Regular primary schools	1,110	31,706	28,436	583,799	116,760
Primary schools of art	99	1,568	-	21,508	4,302
Primary schools for children with developmental disabilities	240	1,435	815	7,165 ⁷	1,433
Primary schools for education of adults	16	79	191	3,552 ⁸	710
Regular primary schools for education (exclusively) in minority languages	36 ⁹	2,903 ¹⁰	1,332	22,376	4,475
Total	1,501	37,691	30,774	638,400	127,680

Source: Statistical Yearbook of Serbia 2012, Chapter 5 – Education, Statistical Office of the Republic of Serbia, Belgrade

⁷ The number is increased by 549 primary and secondary school children with developmental disabilities receiving education in minority languages.

⁸ The number is increased by 72 persons from primary schools for education of adults, receiving education in minority languages.

⁹ According to the Statistical Yearbook of Serbia 2012, Chapter 5 – Education, which defines a unit of calculation as a school in which there is/are a class(es) providing instruction in foreign language(s), the number of such schools is 174. However, this number also includes some of the schools from the category of regular primary schools and, as such, cannot be used in further analysis.

According to the source *Pravo pripadnika nacionalnih manjina na obrazovanje na maternjem jeziku*, dr Aleksandra Vujić, *pripremljeno za Obrazovne politike*, NDI, 22-24. mart 2013, Beograd, in central Serbia, there are 17 schools providing education in the Albanian language and one school in Bulgarian, whereas in Vojvodina, there are 18 schools with curricula delivered in the language of one of the national minorities. All other schools have instruction either exclusively in Serbian, or in additional one or two languages besides Serbian.

¹⁰ For teachers, the table shows the number of teachers' instances of employment

Basic calculation elements for secondary education

- The total number of secondary education institutions is 593, while the number of secondary school students is 295,784.
- The number of full-time teachers is 19,203, with an inconsistency referring to the number of teachers in secondary schools with instruction in minority languages. The inconsistency lies in the fact that the presented number of teachers is actually the number of teachers' instances of employment in the classes delivered in foreign languages. This effectively means that a teacher who works in two schools counts as two teachers. Nevertheless, since the share of such teachers in the total teaching staff is not excessive (approx. 8%), the overestimated number of teachers does not have a significant effect on the results.
- According to the ratio between the number of children finishing four-year secondary schools and those finishing three-year secondary schools (80 to 20 percent), the number of children in four-year and three-year schools is 236,627 and 59,157, respectfully.

Table 3 Basic secondary education indicators, school year 2010/11

	Number of institutions	Number of full-time teachers	Number of classes	Number of students	Number of students from the lowest SES
Regular secondary schools	497	17,597 ¹¹	11,078	283,068	56,614
Secondary schools for children with developmental disabilities	43		329	1,721	344
Regular secondary schools for education in minority languages	53 ¹²	1,606 ¹³	502	10,995	2,199
Total	593	19,203	11,909	295,784	59,157

Source: Statistical Yearbook of Serbia 2012, Chapter 5 - Education, Statistical Office of the Republic of Serbia, Belgrade

Calculation elements used for determining the costs for a hypothetical average municipality and illustrative examples for selected municipalities

- A certain number of measures have been allocated to their final beneficiaries – local self-governments. For some of the measures, this means that the local populations will be direct beneficiaries of the measures and that they will directly profit from their introduction, whereas for certain measures that are systemic and permanent in nature the allocation was done for illustrative purposes, in order to provide an insight into the amount of apportioned cost, i.e. the cost indirectly incurred by a municipality of a given size.
- The selection of municipalities has been made so as to ensure that each group of municipalities, grouped according to their level of development, has two representatives, which are at different ends of the scale in terms of their use of available national support schemes. As an illustration, Trgovište and Kučevo municipalities are at the same level of development, which could lead us to the conclusion that the percentage of children receiving children's allowance (CA) or pecuniary social assistance (PSA) in the two municipalities is similar. However, according to the data of the Ministry of Labour, Employment and Social Policy, children in the municipality of Kučevo are twice as likely to become beneficiaries of these social welfare schemes compared to those in Trgovište. Since a part of the

¹¹ Refers to regular secondary schools and secondary schools for children with developmental disabilities

¹² A unit of calculation is a school in which there are a classes providing instruction in foreign languages

¹³ For teachers, the table shows the number of teachers' instances of employment

discrepancy regarding the use of support schemes cannot be explained by their development levels, but by administrative and other differences between the two municipalities, it is believed that two examples from each development level could indicate the range of expected costs for other local self-governments at the similar development level, as well.

- An average hypothetical municipality is a calculation category, the purpose of which is to provide an illustrative cost range for an average municipality, and it has been determined based on the available data provided at the SORS webpage <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, according to which the number of municipalities in the Republic of Serbia, excluding Kosovo and Metohija, is 168.

Table 4 Elements used for calculation of expenditures by municipalities

	Development level, expressed as % of the national average	Population-total	Share of municipal population in the total population of Serbia	Number of children aged 0-18 years	The share of children in the given municipality in the total number of children	Number of PSA beneficiaries up to 18 years of age	The share of PSA beneficiaries	Number of children receiving CA	The share of children receiving CA in the given municipality in the total number of CA recipients in Serbia	Number of CA+PSA beneficiaries	The share of CA+PSA beneficiaries in the municipality in the total number of beneficiaries in Serbia
	a	b	c	d	e	f		g	h	i	j
Serbia	/	7,186,862	/	1,345,388	/	92,975	/	381,349	/	474,324	/
Trgovište	below 50%	5,091	0.00071	967	0.00072	64	0.00069	307	0.00081	371	0.000782
Kučevo		15,516	0.00216	2,507	0.00186	326	0.00351	1,732	0.00454	2,058	0.004339
Knić	60-80%	14,237	0.00198	2,286	0.00170	97	0.00104	538	0.00141	635	0.001339
Bajina Bašta		26,022	0.00362	4,680	0.00348	62	0.00067	1,446	0.00379	1,508	0.003179
Čajetina	80-100%	14,745	0.00205	2,455	0.00182	50	0.00054	659	0.00173	709	0.001495
Temerin		28,287	0.00394	5,698	0.00424	151	0.00162	1,895	0.00497	2,046	0.004314
Lajkovac	above 100%	15,475	0.00215	2,994	0.00223	142	0.00153	395	0.00104	537	0.001132
Sremski Karlovci		8,750	0.00122	1,603	0.00119	126	0.00136	374	0.00098	500	0.001054
Average hypothetical municipality	/	42,779	0.00595	8,008	0.00595	553	0.00595	2,270	0.00595	2,823	0.005952

Note: the presented data is from May 2013; source: Ministry of Labour, Employment and Social Policy, *Socijalni profil opština*

2. OVERVIEW OF THE PROPOSED MEASURES AND ESTIMATED COSTS

A. THE SUPPORT PACKAGE FOR SATISFACTION OF BASIC NEEDS

1. Modernisation and enhancement of the children's allowance scheme with respect to targeting, coverage and administration of the support scheme

a. Analysis of the social welfare system's IT requirements

In order to improve the system for identification and administration of potential children's allowance beneficiaries, it is necessary to enhance the IT system used by the Ministry of Labour, Employment and Social Policy, municipal authorities administering the children's allowance scheme, centres for social work (CSW) and other relevant authorities in this process. The appraisal of necessary costs of such enhancement will depend on the situation on the ground, as well as on the technical requirements that will be defined in the networking process. The first imperative step is, undoubtedly, to hire an expert team to assess the situation and develop a study. For such an assessment, a team consisting of three experts, each hired for 30 workdays, could get an insight into the situation on the ground and prepare an accurate technical list of necessary upgrades and the specification of required services. In addition to direct costs that will be incurred by hiring the experts, the appraisal must also take into account associated costs, such as administration costs related to development of the study. It is estimated that administration costs amount approx. to 15% of the direct cost.

Table 5 Estimated cost of developing the study on the social welfare system's IT requirements

	Number of experts	Number of workdays per expert	The cost of an expert's workday, RSD	Total, RSD
	3	30	25,000	
The cost of hiring experts				2,250,000
Administration costs				337,500
Total, RSD				2,587,500
Total, EUR				23,523

b. Cost-benefit analysis of validity of the "schooling as a requirement" concept

For school-age children to be eligible for children's allowance under the social welfare system (and potentially other support systems, as well), they are required to attend school. Although a generally accepted concept, the said requirement is a subject of controversy. An argument has arisen as to whether the concept should be adopted/maintained and it is advisable to carry out an analysis of the strengths and

weaknesses of this approach in Serbia, its cost-efficiency and the effects it produces. An optimal team for such an analysis would consist of three experts, each hired for 30 workdays.

Table 6 Estimated cost of the cost-benefit analysis of validity of the “schooling as a requirement” concept

	Number of experts	Number of workdays per expert	The cost of an expert’s workday, RSD
	3	30	25,000
Total, RSD	2,250,000		
Total, EUR	20,455		

c. Promotional activities aimed at improved targeting of children’s allowances

In order to raise the awareness of families with children about their rights and the ways of exercising those rights in Serbia, additional promotional activities are necessary. These include the creation of brochures, leaflets, posters, publishing on the internet and the like.

The number of required copies of printed material is roughly equal to the number of families with children in the appropriate age bracket (approx. 70,000 families per age group), reduced by half, since an average family has two children. The families to be covered by these intensified promotional activities include those with children up to 15 years of age, i.e. until their enrolment in secondary schools. Considering the difficulty of identifying the families that will receive this support, it seems easier to define the coverage of the measure in this way. If we assume that the cost of designing and printing the promotional material per family is RSD 300 (including the cost of commissioning an author of promotional material), the total cost of this measure would amount to approx. RSD 1.4m per year. On average, the cost for a local self-government would be around EUR 8,523. It is important to underline that, given the intensity of the campaign, the annual coverage of families would decrease in time, which will make the more narrowly targeted activities seem justified.

Table 7 Estimated cost of promotional material

	Number of families	Cost of promotional material per family, RSD
	525,000	300
Total, RSD	157,500,000	
Total, EUR	1,431,818	
Total, EUR million	1.4	
Average cost per municipality, EUR¹⁴	8,523	

d. Legislative amendments with respect to the amount of public budget allocations for children’s allowances

The total budget allocations for children’s allowances in the period 2010–2013 are given in the table below. Although at a constant rate during the years of crisis, the share of approx. 0.3% GDP is very small and, in comparison with other counties, Serbia is ranked at the bottom of the list among the countries with the lowest expenditures for this purpose. According to the 2009 data, only four EU Member States allocated a smaller percentage of GDP for children’s allowances (Lithuania, Poland, Estonia and the Czech Republic). On average, Serbia’s allocation for this purpose, compared to the EU Member States, is about three and a half times smaller (average EU allocation is 1.12% GDP).

¹⁴According to <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities is 168.

Table 8 Basic indicators of expenditures on children's allowances in the Republic of Serbia

	2010	2011	2012	2013
Expenditures on children's allowances, RSD billion ¹⁵	10.4	10.4	11.1	12.5 ¹⁶
GDP, RSD billion ¹⁷	2881.9	3208.6	3386.2	3761.3
Share in GDP, %	0.36	0.32	0.33	0.33

Given the relatively low allocations¹⁸, as well as the insufficiently effective targeting of the support¹⁹, amending the Law on Financial Support for Families with Children should be taken into consideration. In addition to the changes in administration of the support, which do not necessarily lead to increased total expenditures, these amendments could also come together with increased amounts of the support, which would require certain additional budget allocations.

The total cost of this measure is EUR 1,475,795. It includes the costs of analysing the needs of the social welfare's IT system, in the amount of EUR 23,523, the cost-benefit analysis of the validity of the "schooling as a requirement" concept, worth EUR 20,455, and the promotional activities aimed at improved the targeting of children's allowances (CA), worth EUR 1,431,818. The cost of promotional activities is calculated having in mind the unit cost of the promotional material (RSD 300), under the assumption that leaflets will be distributed to all families with at least one child under 15 years of age. Further, it has been assessed that legislative amendments relevant for defining public budget allocations for children's allowances can be made without additional expenditures.

2. Systemic provision of food and clothes/footwear to satisfy basic needs of poor children

a. Legal/systemic definition of new obligations under the measure

Participants, their competences, sources of funding, deadlines for provision of stipulated services/goods (in the case the provision of food, clothes and footwear) and other terms and conditions are typically specified in the consultative process, which involves relevant stakeholders. The outputs of such a process are defined funding mechanisms and the guidelines for municipalities for provision of this type of support. This process usually takes place through a series of meetings/workshops, in which all relevant provisions of the document are defined.

An estimate of the cost of such a process is made below.

An approximate amount can be computed under the assumption that the number of participants in the consultative process regarding the systemic provision of food, clothes and footwear is around 50 and that the number of sessions/meetings/workshops required in order to produce the final document is about 5 (one workday per workshop).

¹⁵ The source of the data for 2011 and 2012: *Socijalni profil opština*, Ministry of Labour, Employment and Social Policy

¹⁶ Calculated under the assumption that the expenditures in May 2013, in the amount of RSD 1,039,111,883.19, are equal to the average monthly expenditures throughout 2013. Source of the data on monthly expenditures: <http://minrzs.gov.rs/socijalna-davanja-visina.php>

¹⁷ According to [Tabela 1: Osnovni indikator makroekonomskih kretanja, ažurirano 16.07.2013.godine](#)

¹⁸ According to the data available at the time when the analysis was conducted (processing date: 6 June 2013), the standard amount of the children's allowance was RSD 2,535, whereas the increased amount was RSD 3,296. The children's allowance eligibility threshold (property and income test of families) was RSD 7,815 for standard children's allowance and RSD 9,379 for increased children's allowance.

¹⁹ For more information, see: Centre for Liberal-Democratic Studies, *Nacrt - Program dečijih dodataka u Srbiji: Analiza i predlozi za unapređenje*, Gordana Matković, Boško Mijatović, Beograd, 2. maj 2012. godine.

Table 9 Outline of the consultative process

Number of participants in the process	Number of experts in the process	Number of meetings/workshops	Number of workdays per workshop
50	2	5	1

The cost of one participant in one consultative process is around RSD 1,100 (comprising the costs of food/refreshments; the cost of accommodation will not be covered since it is a one-day event, while transportation cost will be borne by local self-governments). The total cost for one participant for all five workshops is around RSD 5,500, while the maximum cost for all participants (in case they all respond to the invitation) is approx. RSD 275,000.

Table 10 The cost of participating stakeholders

Food and refreshments	1,100 daily per participant
Total, RSD	275,000

Additionally, experts may also be hired in the process with a view to facilitating and accelerating the drafting of the legal document. Assuming that two experts are hired, the cost would be RSD 325,000 (the cost of hiring one expert is calculated in the table below).

Table 11 Cost per one expert

Expert's fee	15 days ²⁰ * RSD 20,000
Food and refreshments	RSD 1,100 * 5 days
Transportation	RSD 20,000 ²¹
Total, RSD	325,000

The total cost of the measure as outlined above is RSD 600,000.

Table 12 The total cost of the measure

Cost of stakeholders	275,000
Cost of experts	325,000
Total, RSD	600,000
Total, EUR	5,455

b. Capacity raising of local self-governments and the development of guidelines aimed at more efficient implementation of measures

Capacity raising of local self-governments and the development of guidelines aimed at more efficient implementation of measures could be organised in 20 to 30 local self-governments, which would include staff training and consultations with the municipalities.

This process could be financed through grant schemes, or as part of a larger project financed through donations.

²⁰Each expert would be hired for 5 days for meetings/workshops and the total number is increased by the number of days required for preparing the meetings/workshops and the necessary materials.

²¹Average cost of five return tickets

The amount required for funding these activities would depend on the exact number of covered local self-governments and the number of persons from each of them who would be covered by the measure, as well as on the duration and intensity of included measures.

If the measure included the development of the manual to facilitate the implementation of the planned measures and if three persons from each local self-government participated in one-day training, and also taking into account other assumptions, the cost would amount between EUR 12,609 and EUR 13,823.

Table 12a The costs of producing the manual

	Author's fee	1 author * RSD 1,000,000	1,000,000
The cost of producing the manual	Preparation of the text for printing and publishing of the e-manual on the internet	1 manual * 200 pages * RSD 300 per page	60,000
	Total, RSD		1,060,000
	Total, EUR		9,636

Table 12b Training costs

I Cost per local self-government employee		Alternative 1 (30 municipalities)	Alternative 2 (20 municipalities)
Food and refreshments	RSD 1,500 per day	90 persons	60 persons
Transportation	RSD 4,000 ²²	45 ²³	30 ²⁴
Total, RSD		315,000	210,000
II Cost per expert		Number of workdays	Number workdays
Daily fee	RSD 20,000	6 workdays	5 workdays
Food and refreshments	RSD 1,500	3 workdays	2 workdays
Transportation	RSD 2,000	3 workdays	2 workdays
Total cost of experts, RSD		130,500	107,000
III Cost of renting the premises		Number of days	Number of days
Daily rent of premises	RSD 5,000	3	2
Total cost of renting the premises, RSD		15,000	10,000
Total cost (I+II+III), RSD		460,500	327,000
Total cost (I+II+III), EUR		4,186	2,973

²² Average cost of two return tickets

²³ It is assumed that transportation will be required for about 50% of participants, depending on how the municipalities to be covered by the measure are selected.

²⁴ It is assumed that transportation will be required for about 50% of participants, depending on how the municipalities to be covered by the measure are selected.

c. The cost of food

The purpose of this measure is to ensure that all socio-economically disadvantaged children in the education system receive school meals (snacks or cooked meals, depending on the duration of the school day). Children would receive this support only on school/teaching days, in school and preschool (in case of the Preparatory Preschool Programme) institutions.

The right to a cooked meal would be reserved for children in the extended childcare programme, whereas snacks would be provided for all other socio-economically disadvantaged children. School grades, i.e. education levels covered by this measure include all levels from the preparatory preschool level until the end of secondary education.

The analysis has been conducted under the assumption that the average unit cost of snacks is RSD 50 per child, while that of cooked meals is RSD 100 per child.

The number of teaching/school days is stipulated by relevant rulebooks on primary and secondary education, whereas the Law on Preschool Education defines the start and end dates of the educational programme, while preschool institutions are given freedom to specify in detail the duration and type of their preschool programmes.

The Law on Preschool Education stipulates that preschool institutions are to develop their own educational programmes, which need to specify, among other details, the duration and type of educational activities. The Law determines that preschool programmes are delivered within the same timeframe as the school year, i.e. from 1 September until 31 August of the next year, whereas the Preparatory Preschool Programme lasts until the end of June²⁵.

The number of school days in a school year in primary education is stipulated by relevant rulebooks. For instance, educational activities in the school year 2012/13 are determined by the Rulebook Stipulating the Calendar of Educational Activities in Primary Schools, according to which educational programmes for pupils from the first to the seventh grade are delivered in 180 school days, whereas for eighth-grade pupils the programme lasts 170 school days²⁶.

In secondary education, in the school year 2012/13, the Rulebook Stipulating the Calendar of Educational Activities in Secondary Schools²⁷ defines a school year of 185 school days for students in 1st, 2nd and 3rd grade of grammar schools, in 1st and 2nd grade of three-year vocational schools and in 1st, 2nd and 3rd grade of four-year vocational schools, whereas for 4th grade students of grammar schools, 3rd grade students of three-year vocational schools and 4th grade students of four-year vocational schools, the school year lasts 165 school days.

Table 13 Elements for calculating the cost of the measure

	Average cost of school meal per child, RSD
Cost of snacks	50
Cost of cooked meals	100

In order to facilitate understanding of the analysis, we have opted for using average numbers of school days, as follows:

²⁵The Preparatory Preschool Programme is delivered in two ways in terms of organisation:

- half-day programme, i.e. 4 hours of instruction

- full-day programme, as part of the work of kindergarten classes

²⁶http://www.osnovnaskola.rs/organizacija_rada/organizacija_nastave/skolski_kalendar/pravilnik.html

Educational activities for pupils from the first to the seventh grade are conducted over 37 weeks, each with 5 workdays, i.e. 180 school days in total.

Educational activities for pupils in the eighth grade are conducted over 35 weeks, each with 5 workdays, i.e. 170 school days in total.

²⁷ (Official Gazette of the Republic of Serbia – Educational Gazette, No 3/2012)

- The average number of instruction days in the Preparatory Preschool Programme is the same as the number of school days in primary education (**179**)²⁸;
- According to the ratio between the number of children finishing four-year secondary schools and those finishing three-year secondary schools (80 to 20 percent), the number of children in four-year and three-year schools is 236,627 and 59,157, respectfully;
- The average number of school days for children in three-year secondary schools is **180**²⁹.
- The number of children in four-year secondary schools is 236,627, among whom 70,000 are grammar school students.
- The average number of school days for children in grammar schools is **180**³⁰.
- The average number of school days for children in other types of four-year secondary schools is **181**³¹.
- The analysis is carried out under the assumption that the percentage of children in the full-day childcare in the Preparatory Preschool Programme and in the first two grades of primary schools is approximately the same (about 25%).
- According to various studies, it is assumed that around 40% of the required funds are already provided by municipalities at the local level, leading to the conclusion that an additional investment of 60% of the above estimated amount is required. Accordingly, the total additionally required funds for school meals for the most disadvantaged children amount to approx. EUR 14.2m per year.

²⁸According to the formula: $(180 \cdot 7 + 170 \cdot 1) / 8 = 179$

²⁹According to the formula: $(185 \cdot 2 + 170 \cdot 1) / 3 = 180$

³⁰According to the formula: $(185 \cdot 3 + 165 \cdot 1) = 180$

³¹According to the formula: $(185 \cdot 3 + 170 \cdot 1) = 181$

Table 14 Annual cost of food

Educational level	The cost of snacks /meals, RSD	Number of children	Number of children receiving children's allowance	Number of school days ³²	The cost of snacks/meal s per child in a school year	Total cost of snacks/meals for the most disadvantaged children in a school year, by educational levels
Preparatory preschool programme, half-day programme	50	49,117	16,605 ³³	179	8,950	148,614,750
Preparatory Preschool Programme, full-day programme	100	16,372	5,535	179	17,900	99,076,500
Primary education	50	601,841 ³⁴	169,458 ³⁵	179	8,950	1,516,645,162
Primary education, full-day childcare	100	36,559	10,816	179	17,900	193,606,400
Three-year secondary vocational education	50	59,157	72,322 ³⁶	180	9,000	650,898,000
Four-year secondary vocational education		166,627				
Grammar schools		70,000				
Total		999,673	199,935			

³² According to the Rulebook on the Calendar of Educational work of Primary Schools for the school year of 2012/2013, Educational activities for pupils from the first to the seventh grade are conducted over 180 school days in total.

Educational activities for pupils in the eighth grade are conducted over 170 school days in total.

³³ The ratio between the total number of children in the half-day and full-day programmes (75% and 25 %, respectfully) is applied to the number of children receiving children's allowance in the appropriate age bracket (the data on children's allowance recipients was provided by the Ministry of Labour, Employment and Social Policy. The presented data refers to October 2012 and it was computed taking into account the total number of children's allowance recipients in the 0-6 age bracket (132,842), assuming that the share of children by various ages was approximately the same).

³⁴ According to

<http://webzrzs.stat.gov.rs/WebSite/Public/ReportResultView.aspx?rptKey=indId%3d110203IND01%26102%3dRS%2cRS1%2cRS11%2cRS12%2cRS2%2cRS21%2cRS22%2629%3d%23All%23%2628%3d0%2c1%2c2%2c3%2c4%2c5%2c6%2c7%2c8%26sAreaId%3d110203%26dType%3dName%26Type%3dSerbianCyrillic>, the estimated number of first grade children in the full-day childcare, in the school year 2010/11 was 18,690, whereas the number of second grade children in the full-day childcare was 17,869. The total number of children in the full-day childcare was 36,559. The number of children outside the full-day childcare was 638,400 - 36,559 = 601,841.

³⁵ The ratio between the total number of children outside the full-day childcare and the children in the full-day childcare (94% and 6%, respectfully) is applied to the number of children receiving children's allowance in the appropriate age bracket (the data on children's allowance recipients was provided by the Ministry of Labour, Employment and Social Policy. The presented data refers to October 2012 and it was computed taking into account the total number of children's allowance recipients in the 7-14 age bracket (180,274)).

³⁶ The data on children's allowance recipients was provided by the Ministry of Labour, Employment and Social Policy. The presented data refers to October 2012 and it was computed taking into account the total number of children's allowance recipients in the 15-19 age bracket (72,322).

Educational level	The cost of snacks /meals, RSD	Number of children	Number of children receiving children's allowance	Number of school days ³²	The cost of snacks/meals per child in a school year	Total cost of snacks/meals for the most disadvantaged children in a school year, by educational levels
Total, RSD						2,608,840,812
Total, EUR						23,716,735
Total, EUR million						23.7
Average expenditure per municipality, EUR ³⁷						141,171
Required additional funds, RSD						1,565,304,487
Required additional funds, EUR million						14.2
Required additional funds, on average per municipality, EUR ³⁸						84,703

d. The cost of clothes and footwear

The purpose of this measure is to provide clothes/footwear sets for the most disadvantaged children in the school age.

- The estimated annual cost of a minimum set of clothes/footwear for all seasons is around RSD 15,000 per child.
- Children who would receive this type of support are those from the most socio-economically disadvantaged households, i.e. children in the families receiving pecuniary social assistance.

³⁷According to <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities is 168.

³⁸According to <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities is 168.

Table 15 Annual cost of clothes/footwear sets for the most disadvantaged children

Educational level	Cost of clothes/footwear set per child, RSD	Number of children in the families receiving pecuniary social assistance ³⁹	Cost of clothes/footwear sets for the most disadvantaged children in a school year, by educational levels
Preparatory Preschool Programme	15,000	4,969	7,453,500
Primary education	15,000	39,749	59,623,500
Secondary education ⁴⁰	15,000	19,874	29,811,000
Total number of children		64,592	
Total, RSD			96,888,000
Total, EUR			880,800
Total, EUR million			0.9
Average expenditure per municipality, EUR ⁴¹			5,243

Another model of partially relieving the financial burden on the parents at the start of the school year envisages the introduction of the so-called national school children's allowance, i.e. an additional children's allowance that would be disbursed each September, at the beginning of every school year, in its standard monthly amount. Effectively, this would double the amount of the children's allowance disbursed in September. Expenditures for a support measure defined as above would amount to approx. EUR 6.6m per year, or about 70% of the standard one month's expenditure on children's allowances at the national level.

Table 16 Annual cost of providing the *national school children's allowance* to the most disadvantaged children

Educational level	Number of children receiving children's allowance	The amount of the <i>national school children's allowance</i> ⁴² , RSD	Cost of the <i>national school children's allowance</i>
Preparatory Preschool Programme	22,140	2,649	58,648,860
Primary education	180,274	2,649	477,545,826
Secondary education	72,322	2,649	191,580,978
Total, RSD		727,775,664	
Total, EUR		6,616,142	
Total, EUR million		6.6	

The measure 2 envisages systemic changes and capacity building of all local self-governments, as well as the cost that can be apportioned to an individual beneficiary (i.e. a child, in the case of costs of food, footwear/clothes).

The cost of systemic changes (measures a. and b.) ranges between EUR 18,064 and EUR 19,278 and refers to systemic definition of new obligations (including engagement of experts and municipal representatives in the consultative

³⁹The data on children in the families receiving pecuniary social assistance was provided by the Ministry of Labour, Employment and Social Policy. The presented data refers to October 2012 and it was computed taking into account the total number of children in the families receiving PSA in the 0-18 age bracket (89,435), assuming that the share of children by various ages was approximately the same.

⁴⁰Assuming secondary education in the duration of four years

⁴¹According to <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities is 168.

⁴²Calculated according to the standard children's allowance in June 2013, in the amount of RSD 2,535, increased by 4.5%, on account of the children receiving the increased children's allowance. The 4.5% increase is applied in accordance with the situation in September 2012, when the average amount of disbursed children's allowance was equal to 104.5% of the standard amount. Source: Ministry of Labour, Employment and Social Policy, *Socijalni profil opština*

process) and capacity raising of local self-governments with a view to a more efficient implementation of measures (includes the cost of creating a manual and the training costs for local self-governments' staff). Since municipalities participate in these processes on equal terms regardless of their size (each municipality has the same number of representatives in the consultative process and three representatives of each municipality are included in the training), the cost is the same for every involved municipality and ranges between EUR 315 and EUR 306 (depending on whether the number of municipalities included in the measure is 20 or 30. Costs per municipality decrease as the number of included municipalities increases, by reason of the existence of partially fixed costs, such as the costs of hiring experts).

The elements used to calculate the costs of food provision are the unit prices of meals, in the daily amount of RSD 50 per child in the half-day childcare programme and RSD 100 per child in the full-day programme. The children receiving this type of support are CA beneficiaries. The overall additionally required funds for this measure amount to EUR 14.2m per year (according to data from various sources, it can be assumed that around 40% of municipalities are already financing school meals for children, so the overall required amount is accordingly decreased by this percentage). An approximate amount of additional costs by municipalities has been calculated in accordance with the number of children receiving CA in a given municipality (assuming that the said municipalities are already covering a part of the cost of children's school meals from their existing budgets).

The elements used for calculating the costs of clothes/footwear are as follows: the average price of a clothes/footwear set is RSD 15,000 and it would be paid as a lump sum to children who receive pecuniary social assistance (PSA). The costs by municipalities are calculated on a proportional basis, by using the share of PSA beneficiaries in a given municipality in the total number of PSA beneficiaries in Serbia.

	Amount in EUR			EUR million
	School meals	Footwear/Clothes	Cost of school meals and footwear/ clothes	Cost of school meals and footwear/clothes
Serbia	14,230,041	880,800	15,110,841	15.1
Trgovište	11,456	606	12,062	0.01
Kučevo	64,630	3,088	67,718	0.07
Knić	20,075	919	20,994	0.02
Bajina Bašta	53,958	587	54,545	0.05
Čajetina	24,591	474	25,065	0.03
Temerin	70,712	1,431	72,143	0.07
Lajkovac	14,739	1,345	16,084	0.02
Sremski Karlovci	13,956	1,194	15,150	0.02
Average hypothetical municipality	84,703	5,243	89,946	0.09

3. MODERNISATION OF INSTRUMENTS TARGETING CHILDREN FROM DISADVANTAGED CATEGORIES WITH A VIEW TO SUBSIDISING THEIR EDUCATION COSTS

3.1. Legal/systemic definition of new obligations arising from the measures

It is necessary to compute the cost of assistance in defining a set of upgraded measures, which include the system of publishing textbooks, improved targeting of scholarship and loan beneficiaries and improved access to accommodation in residence halls for secondary school students and pupils from disadvantaged families. The total cost of the measure as outlined above is RSD 600,000 (according to the *Systemic provision of food and clothes/footwear to satisfy basic needs of poor children*).

The cost of legally defining new obligations arising from the measures, in the amount of RSD 600,000, could hypothetically be passed on to local self-governments, meaning that each of them would pay RSD 3,571, i.e. EUR 32 for completion of this process (assuming equal participation of all local self-governments in the Republic of Serbia)

3.2. Provision of free textbooks and school supplies for poor and vulnerable children in all school grades

The purpose of this measure is to provide free textbooks and school supplies for the most disadvantaged children in pre-university education for whom there have previously been no public budget allocations.

The required funds are estimated under the assumption that the average price of textbooks in primary and secondary education is RSD 10,000 per set. Although the cost of textbook sets varies among different grades (they are more expensive for children in higher grades), a single price of textbook sets is used in the calculation for all grades, in order to facilitate the analysis.

The cost of school supplies is also estimated, taking into account the basic supplies (excluding school bags and the more costly supplies for music, artistic, sports and similar activities that are part of the compulsory education).

The total cost of textbooks in the first year of the measure's implementation is EUR 15.3m. Additionally, once in every four years, the measure would require approx. EUR 3.85m to replenish to stock of textbooks (i.e. a quarter of the entire stock's value).

The total annual cost of school supplies for all disadvantaged children is EUR 3.5m.

Table 18 Annual cost of targeted provision of textbooks

Educational level	The cost of textbooks per child, RSD ⁴³	Number of children receiving children's allowance	The cost of textbooks by educational levels
Preparatory Preschool Programme	2,500	22,140 ⁴⁴	55,350,000
Primary education	10,000	90,137 ⁴⁵	901,370,000
Secondary education	10,000	72,322	723,220,000
Total, RSD			1,679,940,000
Total, EUR			15,272,182
Total, EUR million			15.3
Average expenditure per LSG, EUR			77,524

Table 19 Annual cost of targeted provision of school supplies

Educational level	The cost of school supplies per child, RSD	Number of children receiving children's allowance	The cost of school supplies by educational levels
Preparatory Preschool Programme	200	22,140	4,428,000
Primary education	1,500	180,274	270,411,000
Secondary education	1,500	72,322	108,483,000
Total, RSD			383,322,000
Total, EUR			3,484,745
Total, EUR million			3.5
Average expenditure per LSG, EUR			17,689

Compared to the situation where free textbooks are provided to all children up to the fifth grade⁴⁶ (a universal measure that covers all children from the compulsory Preparatory Preschool Programme to the

⁴³Sources: <http://www.zavod.co.rs/osnovna.asp?Sr=1&Page=1>
http://www.osvasa.edu.rs/index.php?option=com_content&view=article&id=91:-20122013-&catid=1:2010-12-02-17-47-06&Itemid=5

⁴⁴The children eligible for this measure are the ones in preparatory preschool programme receiving children's allowance. The number of these children is computed as follows: according to the Ministry of Labour, Employment and Social Policy, the total number of children receiving children's allowance in the 0-6 age bracket is 132,842 (data from October 2012), which means that one generation would have approx. 22,140 children.

⁴⁵The total number of primary school children receiving children's allowance is approx. 180,274. Considering that the state provides funding for textbooks for children in grades 1-4, the additionally required amount would have to cover the cost of textbooks for children in grades 5-8, i.e. for approx. one half of the number of primary school children receiving children's allowance.

⁴⁶According to the number of children found in the link below <http://webrzs.stat.gov.rs/WebSite/Public/ReportResultView.aspx?rptKey=indld%3d110203IND01%26102%3dRS%2cRS1%2cRS11%2cRS12%2cRS2%2cRS21%2cRS22%2629%3d%23Last%231%2628%3d0%2c1%2c2%2c3%2c4%2c5%2c6%2c7%2c8%26sAreald%3d110203%26dType%3dName%26lType%3dSerbianCyrillic>

fifth grade), with the estimated cost of approx. EUR 31.8m, the advantages of targeted measures are obvious, given their capacity to fully finance textbooks and school supplies for disadvantaged children from preschool to the end of secondary education with less expenditures.

Table 20 Annual cost of the universal provision of free textbooks and school supplies to children up to the fifth grade

	The cost of textbooks per child, RSD ⁴⁷	The cost of school supplies per child, RSD	Number of children in the Preparatory Preschool Programme ⁴⁸	The cost of textbooks by educational levels	The cost of school supplies by educational levels	Total cost of textbooks and school supplies by educational levels
Preparatory Preschool Programme	2,500	200	70,000	175,000,000	14,000,000	189,000,000
Primary education	10,000	1,500	288,196	2,881,960,000	432,294,000	3,314,254,000
Total, RSD						3,503,254,000
Total, EUR						31,847,764
Total, EUR million						31.8

The cost of providing “free” textbooks and school supplies to disadvantaged children is EUR 18.8m. Cost calculation elements include the unit cost of textbook sets, estimated at RSD 10,000 for primary and secondary school children and at RSD 2,500 for preschool children, whereas the cost of school supplies per child amount to RSD 1,500 in schools and to RSD 200 for children in the Preparatory Preschool Programme (PPP). The children receiving this type of support are children’s allowance beneficiaries. The cost of textbooks has been decreased by the amount of costs already borne by the state for these purposes. The total cost of providing textbooks in the year when the measure is introduced amounts to EUR 15.3m and, once in every four years, an additional amount of around EUR 3.85m would be required to replenish the stock of textbooks (i.e. a quarter of the entire stock’s value). For the above reason, the possibility of using textbooks for several years has to be taken into account when a cost appraisal is undertaken.

	Amount in EUR		
	Textbooks	School supplies	Textbooks + school supplies
Serbia	15,272,182	3,484,745	18,756,927
Trgovište	12,295	2,805	15,100
Kučevo	69,363	15,827	85,190
Knić	21,546	4,916	26,462
Bajina Bašta	57,909	13,213	71,122
Čajetina	26,391	6,022	32,413
Temerin	75,891	17,316	93,207
Lajkovac	15,819	3,609	19,428
Sremski Karlovci	14,978	3,418	18,396
Average hypothetical municipality	90,906	20,743	111,649

3.3. Scholarships, loans, residence halls, mentoring at the secondary school level

⁴⁷Sources: <http://www.zavod.co.rs/osnovna.asp?Sr=1&Page=1>
http://www.osvasa.edu.rs/index.php?option=com_content&view=article&id=91:-20122013-&catid=1:2010-12-02-17-47-06&Itemid=5

⁴⁸Estimated based on the number of children in grades 1-5, instead on the number of children in the Preparatory Preschool Programme, since a certain percentage of children are not included in this educational level although it is compulsory.

- The total combined cost of all proposed measures intended for secondary school students amounts to approx. EUR 53.8m. In financial terms, the most demanding are the measures that entail loans and scholarships, while the cost of accommodation in students' residence halls is just behind them.
- Taking into consideration the already significant allocations for students' standard in the national budget, in the amount of around EUR 30.2m⁴⁹ according to the amending budget for 2013, additional funding is required for about 44% of the cost of planned measures.
- It can be assumed that increased availability of accommodation in residence halls for disadvantaged children will have as a consequence an increased number of interested eligible beneficiaries of this support. An estimate of this increased number should be made in a complementary analysis, which would take into account an assessment of the scholarship/loan system in addition to the above factors. The cost of this analysis can be estimated at EUR **20,455** (similar to the cost of the cost-benefit analysis of validity of the "schooling as a requirement" concept, in the measure *Modernisation and enhancement of the children's allowance scheme with respect to targeting, coverage and administration of the support scheme*).

Table 21 Combined cost of scholarships, loans, residence halls and mentoring at the secondary school level

Scholarships and loans					
	Number of secondary school students ⁵⁰	Monthly amount of the scholarship/loan	Annual amount of the scholarship/loan ⁵¹		Total annual cost
Total, RSD	59,157	5,000	50,000		2,957,850,000
Total, EUR million					26.9
Residence halls					
	Number of secondary school students ⁵²	Monthly cost of residence halls	Annual cost of residence halls ⁵³		Total annual cost
Total, RSD	17,747	15,000	150,000		2,662,050,000
Total, EUR million					24.2
Mentoring					
	Number of secondary school students ⁵⁴	Number of mentors ⁵⁵	Monthly mentoring fee per mentor ⁵⁶	Annual mentoring fee per mentor ⁵⁷	Total annual cost
Total, RSD	29,578	2,958	10,000	100,000	295,800,000
Total, EUR million					2.7

⁴⁹<http://www.mfp.gov.rs/UserFiles/File/zakoni/2013/Rebalans%20budzeta%202013.pdf>

⁵⁰20% of the total number of secondary school students (295,784) is 59,157.

⁵¹For 10 months per year

⁵²It is assumed that accommodation in residence halls will be needed for about 30% of secondary school students in the most disadvantaged category (30% of secondary school students with the lowest SES 30%*59,157=17,747).

⁵³For 10 months per year

⁵⁴10% of the total number of secondary school students (295,784) is 29,578.

⁵⁵According to the assumption that one mentor can counsel 10 students

⁵⁶Average estimated cost of a mentor's work is approx. RSD 60,000, according to <http://webzrs.stat.gov.rs/WebSite/repository/documents/00/00/99/33/zp11042013.pdf>.

If a mentor's fee is defined as 30% of the total cost of work, the monthly cost per one mentor is RSD 18,000.

⁵⁷For 10 months per year

Scholarships and loans	
	Total cost of all measures
Total cost of measures, RSD	5,915,700,000
Total cost of measures, EUR	53,779,091
Total cost of measures, EUR million	53.8
Public budget allocations for students' standard ⁵⁸ , RSD	3,325,812,000
Net additional funds required, RSD	2,589,888,000
Net additional funds required, EUR	23,544,436
Net additional funds required, EUR million	23.5

The elements used for calculating the costs of the given measure are as follows:

The amount of the loan/scholarship per student is RSD 5,000 monthly and it is available for 20% of financially disadvantaged secondary school students, for 10 months per year.

The cost of accommodation in students' residence halls is covered in the amount of RSD 15,000 per month and it would be available for 30% of secondary school students from the lowest socio-economic quintile (the most disadvantaged 20% of the population), for 10 months per year.

Mentoring would be available to 10% of secondary school students, where one mentor would counsel 10 students and for this service they would be paid RSD 10,000 monthly, for 10 months per year.

The total cost of the measure, the required funds (taking into account the existing expenditures on the student standard) and the costs per average hypothetical municipality and for the selected local self-governments are given in the table below.

The number of secondary school students – beneficiaries of scholarship/loan or accommodation in a residence hall, or the number of mentors in individual municipalities, has been calculated as follows: by comparing their total number in the overall population against the total number of children up to 18 years of age, we can determine the average incidence of disadvantaged children. Take scholarships/loans for example, where the total number of 59,157 scholarships granted in Serbia is compared against the total number of children aged 0–18 in Serbia, and then the result is multiplied by the number of children in the appropriate age bracket in each individual municipality. In other words, the average incidence rate of beneficiaries in the overall population is multiplied by the number of children in the appropriate age bracket. The same formula has also been used for identifying the need for mentors. Following this procedure, we have calculated the columns d, e and f, which are then multiplied by the unit costs per child/mentor to determine the total cost by municipality.

⁵⁸<http://www.mfp.gov.rs/UserFiles/File/zakoni/2013/Rebalans%20budzeta%202013.pdf>

	Scholarships and loans			Residence halls			Mentoring			Total for all measures	
	Average annual cost of scholarship for one secondary school student is EUR 455			Average annual cost of accommodation in the residence hall for one secondary school student is EUR 1,364			Average annual cost of one mentor is EUR 909				
	a			b			c				
	Number of sec.sch.students receiving scholarships/loans	The cost of the measure, EUR	Required funds, EUR	Number of sec.sch.students whose accomod. costs are covered	The cost of the measure, EUR	Required funds, EUR	Number of hired mentors	The cost of the measure, EUR	Required funds, EUR	The cost of the measure, EUR	Required funds, EUR
	d	a*d		e	b*e		f	c*f			
Serbia	59,157	26,889,545	11,831,400	17,747	24,200,455	10,648,200	2,958	2,689,091	1,183,200	53,779,091	23,544,436
Trgovište	43	19,327	8,504	13	17,394	39,532	2	1,933	850	38,654	17,008
Kučevo	110	50,106	22,047	33	45,095	102,489	6	5,011	2,205	100,212	44,093
Knić	101	45,689	20,103	30	41,120	93,454	5	4,569	2,010	91,378	40,206
Bajina Bašta	206	93,537	41,156	62	84,183	191,324	10	9,354	4,116	187,073	82,312
Čajetina	108	49,067	21,589	32	44,160	100,363	5	4,907	2,159	98,134	43,179
Temerin	251	113,883	50,108	75	102,494	232,941	13	11,389	5,011	227,766	100,217
Lajkovac	132	59,839	26,329	39	53,855	122,398	7	5,984	2,633	119,679	52,659
Sremski Karlovci	70	32,038	14,097	21	28,834	65,533	4	3,204	1,410	64,077	28,194
Average hypothetical municipality	352	160,057	70,425	106	144,050	327,387	18	16,006	7,043	320,114	140,850

B. THE SUPPORT PACKAGE FOR ENHANCING EDUCATIONAL RESULTS

1. Modernisation of instruments for early inclusion of children in preschool education

- The objective of this measure is to increase the accessibility of preschool education by reimbursing the costs of childcare in preschool institutions for children in three categories of disadvantage:
 - Children from financially disadvantaged families (defined as children receiving children's allowance – **Alternative A**, or children in the families receiving pecuniary social assistance – **Alternative B**)
 - Children with disabilities (it is estimated that such children account for 10% of every age group)
 - Children without parental care – more precisely, children in foster families, since it can be assumed that children in social protection institutions are already in some sort of full-day childcare (i.e. that institutionalised children will not require any additional funds for their preschool education. An assessment conducted at a later time could, however, identify the possible necessity to redistribute the already allocated funds).
- The cost appraisal for this measure will include the reimbursement of childcare costs in a two-year period. Age groups to be covered by the measure are children in the Preparatory Preschool Programme and children one year younger than them.
- For childcare cost appraisal purposes, assumptions from existing analyses have been used⁵⁹. Moreover, the cost of half-day childcare in the Preparatory Preschool Programme is not included in the total cost of the measure, since this cost is already covered by the state for all children. Furthermore, the entire measure has been designed for two different scenarios, depending on whether the children would be in full-day or half-day childcare, while, in practice, the mean cost of the two scenarios could be expected.

⁵⁹UNICEF Serbia, *Early Childhood Education in Serbia - Different Costing Scenarios of Preschool Education in Serbia*, Sunčica Vujić, Hana Baronijan, Aleksandar Baucal, Beograd, Septembar 2012

According to the above source, the annual cost of half-day childcare (4-8 hours per day) in childcare institutions is RSD 87,830, whereas full-day childcare (more than 8 hours per day) costs RSD 131,745 annually.

Another source, *DefInfo Srbija*, states that the average monthly cost amounts to RSD 14,750, while its annual estimates are not significantly different to the figures given in the UNICEF study, which have been used in this analysis.

Basic costs package – Alternative A

Table 22 The cost of increasing the accessibility of preschool education

Financially disadvantaged children		Total number of children in the given age groups	Number of targeted children ⁶⁰	Alternative 1 – Full-day childcare			Alternative 2 – Half-day childcare		
				Additional number of children that should be included in the measure	Annual cost of childcare per child	Cost, RSD	Additional number of children that should be included in the measure	Annual ⁶¹ cost of childcare per child	Cost, RSD
	In the age group 5.5-6.5 years (PPP)	73,082	22,140	17,712 ⁶²	87,830	1,555,644,960	3,654 ⁶³	0	0
	In the age group 3-5.5 years	245,921 ⁶⁴	55,351	44,281 ⁶⁵	131,745	5,833,800,345	44,281 ⁶⁶	87,830	3,889,200,230
	Total, RSD					7,389,445,305			3,889,200,230
	Total, EUR					67,176,776			35,356,366
	Total, EUR million					67.2			35.4

⁶⁰Children receiving children's allowance

⁶¹For 10 months per year

⁶²According to the data in the UNICEF study, which suggest that the coverage of disadvantaged children by preschool education is about 20%, this category has been decreased by that number of children

⁶³5% of children in the given age group, since the coverage by PPP is already at about 95% and it is assumed that most of the children who are not in the system come from socially disadvantaged families

⁶⁴Demography statistics in the Republic of Serbia in 2011, SORS

⁶⁵80% of children from the poorest quintile, since it can be assumed that 20% of children are already covered by the support system.

⁶⁶80% of children receiving children's allowance, since it can be assumed that 20% of children are already covered by the support system.

Children with disabilities		Total number of children in the given age groups	Number of children with disabilities ⁶⁷	Additional number of children that should be included in the measure ⁶⁸	Alternative 1 – Full-day childcare	Alternative 2 – Half-day childcare
					Annual cost of childcare per child	Annual ⁶⁹ cost of childcare per child
	In the age group 5.5-6.5 years (PPP)	73,082	7,308	5,847	87,830	0
	In the age group 3-5.5 years	245,921	24,592	19,674	131,745	87,830
	Total, RSD				3,105,493,140	1,727,967,420
	Total, EUR				28,231,756	15,708,795
	Total, EUR million				28.2	15.7
Children without parental care		Additional number of children that should be included in the measure ⁷⁰		Alternative 1 – Full-day childcare	Alternative 2 – Half-day childcare	
				Annual cost of childcare per child	Annual ⁷¹ cost of childcare per child	
	In the age group 5.5-6.5 years (PPP)	246		87,830	0	
	In the age group 3-5.5 years	615		131,745	87,830	
	Total, RSD			102,629,355	54,015,450	
	Total, EUR			932,994	491,050	
	Total, EUR million			0.9	0.5	
Total cost of the measure, RSD					10,597,567,800	5,671,183,100
Total cost of the measure, EUR					96,341,525	51,556,210
Total cost of the measure, EUR million					96.3	51.6
National level (20%), EUR million					19.3	10.3
Local level (80%), EUR million					77.1	41.2
Average expenditure per local self-government, EUR					458,769	245,506

⁶⁷Calculated under the assumption that there are 10% of children with disabilities in the given age group.

⁶⁸Note: the number of children with disabilities has been reduced by the number of children with disabilities who receive children's allowance, since they have already been counted in the previous category as multiply disadvantaged. Moreover, the number should be decreased by the number of children already included in the preschool education system; however, it can be assumed that their coverage is currently not significant in their total population, which is why it was not taken into account in this analysis.

⁶⁹For 10 months per year

⁷⁰According to the table 31 in <http://www.zavodsz.gov.rs/PDF/izvestajoradu2013/IZVESTAJ%20CSR%202012%20FIN1.pdf>, the number of children in foster and relative foster families in the 3-5 age bracket is 738 (2012). Assuming equal distribution of children in this age group, the number of children in each year of preschool education would be around 246.

⁷¹For 10 months per year

The total cost of increasing the accessibility of the instruments for early inclusion of children in Alternative A, which defines financially disadvantaged children as recipients of children's allowance, ranges between EUR 51.6m and EUR 96.3m, depending on whether all children would be in half-day or full-day childcare.

For allocation of costs by the selected municipalities, the following logic is applied: the share of children with disabilities in all municipalities is equal to the national average.

When calculating the costs for financially disadvantaged children, for Alternative A, the share is equal to the share of children receiving CA in the given municipalities, whereas for Alternative B, it is equal to the share of children receiving PSA in each municipality. Actual expenditures by the selected municipalities are given in absolute terms in the table below.

	Amount in RSD										Amount in EUR	
	Financially disadvantaged – CA		Children with disabilities		Children without parental care		Total central + local level		Total LSG		Total LSG	
	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Serbia	7389445305	3889200230	3105493140	1727967420	102629355	54015450	10597567800	5671183100	8478054240	4536946480	77073220	41244968
Trgovište	5948776	3130950	2232079	1241980	73765	38824	8254620	4411753	6603696	3529402	60034	32085
Kučevo	33561172	17663859	5786785	3219900	191240	100653	39539197	20984411	31631357	16787529	287558	152614
Knić	10424891	5486811	5276662	2936055	174381	91780	15875934	8514646	12700747	6811716	115461	61925
Bajina Bašta	28019315	14747078	10802614	6010822	357001	187895	39178931	20945795	31343145	16756636	284938	152333
Čajetina	12769522	6720833	5666756	3153113	187273	98565	18623551	9972511	14898841	7978008	135444	72527
Temerin	36719642	19326219	13152414	7318304	434657	228767	50306713	26873290	40245370	21498632	365867	195442
Lajkovac	7653962	4028420	6910903	3845385	228389	120205	14793255	7994010	11834604	6395208	107587	58138
Sremski Karlovci	7247043	3814251	3700126	2058835	122281	64358	11069450	5937444	8855560	4749955	80505	43181
Average hypothetical municipality	43984793	23150001	18485078	10285520	610889	321521	63080761	33757042	50464609	27005634	458769	245506

Basic costs package – Alternative B

The cost of Alternative B, which defines financially disadvantaged children as recipients of pecuniary social assistance, is estimated at about 22.4% of the cost of Alternative A that recognizes financially disadvantaged children to be those receiving children's allowance, since the number of children who are recipients of PSA is 22.4% of the children receiving children's allowance. The same calculation was used for children with disabilities and children without parental care.

The total cost of the measure as defined above ranges between EUR 24.1m and EUR 44.2m annually, depending on whether all children would be in half-day or full-day childcare.

Table 23 Total cost of the measure

	Alternative 1 – Full-day childcare	Alternative 2 – Half-day childcare
Financially disadvantaged children	1,655,235,748	871,180,852
Children with disabilities	3,105,493,140	1,727,967,420
Children without parental care	102,629,355	54,015,450
Total cost of the measure, RSD	4,863,358,243	2,653,163,722
Total cost of the measure, EUR	44,212,348	24,119,670
Total cost of the measure, EUR million	44.2	24.1
National level (20%), EUR million	8.8	4.8
Local level (80%), EUR million	35.4	19.3
Average expenditure per local self-government, EUR	210,535	114,856

The costs by municipalities for Alternative B have been calculated in the same way as for Alternative A, with the said reduction of costs in the category of financially disadvantaged children, given the different way they are defined. On average, expenditures per municipality range between EUR 114,856 and EUR 210,535 annually. However, it is important to underline big differences among the cost ranges of municipalities of various sizes.

	Amount in RSD										Amount in EUR	
	Financially disadvantaged - PSA		Children with disabilities		Children without parental care		Total central + local level		Total LSG		Total LSG	
	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Serbia	1655235748	871180852	3105493140	1727967420	102629355	54015450	4863358243	2653163722	3890686595	2122530977	35369878	19295736
Trgovište	1332526	701333	2232079	1241980	73765	38824	3638370	1982137	2910696	1585709	26461	14416
Kučevo	7517702	3956704	5786785	3219900	191240	100653	13495727	7277257	10796582	5821806	98151	52926
Knić	2335175	1229046	5276662	2936055	174381	91780	7786218	4256881	6228975	3405504	56627	30959
Bajina Bašta	6276327	3303346	10802614	6010822	357001	187895	17435942	9502063	13948753	7601650	126807	69106
Čajetina	2860373	1505467	5666756	3153113	187273	98565	8714402	4757145	6971522	3805716	63377	34597
Temerin	8225200	4329073	13152414	7318304	434657	228767	21812271	11876144	17449817	9500915	158635	86372
Lajkovac	1714488	902366	6910903	3845385	228389	120205	8853780	4867956	7083024	3894365	64391	35403
Sremski Karlovci	1623338	854392	3700126	2058835	122281	64358	5445745	2977585	4356596	2382068	39605	21655
Average hypothetical municipality	9852594	5185600	18485078	10285520	610889	321521	28948561	15792641	23158849	12634113	210535	114856

Children without parental care in social protection institutions should be included in this type of support on equal terms and, since the state is already providing funds for their childcare, no substantial amounts of additional funds will be required. In this case, however, a different way of using the funds would be necessary.

Implementation instruments

1. Consultations with a view to amending the Law on Financial Support for Families with Children, so as to enable subsidised preschool education (the consultations would potentially also consider the possibilities of financing preschool education with designated funds from the Ministry's budget, which would entail pertinent legislative amendments, as well)
 - The consultative process will include representatives of local self-governments, as well as national level stakeholders, in order to agree on the changes in financing these measures.

The cost of this process can be considered as approximately equal to that of the consultative process defined in the measure 2.a in package A: *Legal/systemic definition of the obligations regarding the provision of clothes and footwear*, estimated in total at RSD 600,000, i.e. about EUR 5,455.

Table 24 Total cost of the measure

Cost of participants, RSD	275,000
Cost of experts, RSD	325,000
Total, RSD	600,000
Total, EUR	5,455

2. Provision of additional support to LSG and preschool institutions in planning and spending the funds and in provision of preschool education. The approximate cost has been estimated under the same assumptions as in the measure 2.1. *Enhancement of remedial teaching*. As regards the source of funding for this measure, the possibility of financing from future donations and existing donor funded programmes should be considered.

The cost calculation elements for this measure are as follows:

- The number of local self-governments is 168. The number of persons who will be included in the training in each local self-government is three. The total number of persons to be included in the training is 504.
- Average number of persons per training group is around 30, which means that the total number of groups to be organised is about 17.
- Training is delivered by trainers. The total number of trainers per training session is two.
- Trainers will be paid by days of delivered training, while the total number of trainers' workdays is 100 (50 per one trainer, where 30 workdays are reserved for actual training and 20 are planned for preparation of training material, drafting of minutes, time required for travelling and the like). If a trainer's workday costs RSD 10,000, the total cost of trainers would amount to $100 \times 10,000 = \text{RSD } 1,000,000$.
- The proposed measure's cost is calculated under the assumption that venues for organisation of training can also be arranged free of charge (by borrowing suitable premises). Accordingly, the calculation of costs has provided for two scenarios – with and without the cost of premises. If the daily rent of premises costs RSD 5,000 per one training room, 30 training days would cost RSD 150,000 ($\text{RSD } 5,000 \text{ for daily rent} \times 30 \text{ training sessions} = \text{RSD } 150,000$).
- The concept of the measure implies its implementation only in the year when it is introduced.

Table 25 Cost calculation

Cost of LSG and PI staff training	I Cost per employee of LSG and PI		Number of teaching staff	Total cost of teaching staff
	Food and refreshments	RSD 1,100 per day	504	554,400
	Transportation	RSD 2,000 ⁷²	151 ⁷³	302,000
	Total, RSD			856,400
	II Cost per trainer		Number of trainers	Total cost of trainers
	Trainers' fees	RSD 500,000	2	1,000,000
	Food and refreshments	1,100 x 30 days	2	66,000
	Transportation	30 sessions RSD 2,000 ⁷⁴	2	120,000
	Total, RSD			1,186,000
	Total cost (I+II), RSD			2,042,400
	Total cost (I+II), EUR			18,567

3. To ensure effective implementation of this measure, it is necessary to have a functional data system, which would link available information from various sources. The cost of establishing this system has been considered in the measure *Modernisation and enhancement of the children's allowance scheme with respect to targeting, coverage and administration of the support scheme*.

4. Inclusion of licensed private providers of preschool education in the system on equal terms with public providers of this service. It is assumed that the cost of this change is not excessive and that it can be covered by the amount envisaged in the measure 1 of the implementation package.

5. Information package – the cost of the entire information package is defined in detail in the measure *Promotional activities aimed at improved targeting of children's allowances*. The same set of information channels and their scope would also be defined by this measure.

In order to raise the awareness of disadvantaged families with children in the relevant age bracket (3-5.5 years of age) about their rights and the ways of receiving additional support, the plan envisages the production of brochures, leaflets and posters, as well as publishing information on the internet etc. The number of required copies of printed material is roughly equal to the number of families with children in the appropriate age bracket (approx. 70,000 families per age group), reduced by half, since an average family has two children. Considering the difficulty of identifying the families that will receive this support, it seems easier to define the coverage of the measure in this way. If we assume that the cost of designing and printing the promotional material per family is RSD 300 (including the cost of commissioning an author of promotional material), the total cost of this measure would amount to approx. RSD 26.3m per year. Average expenditure for a local self-government would be around EUR 1,420.

Table 26 Estimated cost of promotional material

	Number of families	Cost of promotional material per family, RSD
	87.500	300
Total, RSD		26,250,000
Total, EUR		238,636
Average expenditure per municipality, EUR⁷⁵		1,420

⁷²Average cost of a return ticket

⁷³It is assumed that approx. 30% of trainees will require transportation

⁷⁴Average cost of a return ticket

⁷⁵According to <http://webzr.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities is 168.

The total cost of implementation measures is as follows:

Consultations	600,000
Provision of additional support	2,042,400
Promotional material	26,250,000
Total, RSD	28,892,400
Total, EUR	262,658

The cost of implementation instruments, in the total amount of EUR 263,000, has been broken down to the cost of the consultative process and training measures, as the measures that can be evenly apportioned to all municipalities, since they assume an equal treatment of all local self-governments in this process. On the other hand, the measure of promoting the enhanced instrument of early inclusion of children has been apportioned to municipalities in accordance with the share of children in a given municipality in the total number of children in the overall population, with the assumption that the unit cost of promotional material is RSD 300, that an average family has 2 children and that every two children from the above-mentioned age group receive one copy of the promotional material.

	The cost of consultation and training measures in local self-governments	The cost of promotional material	Total
In RSD			
Serbia	2,642,400	26,250,000	28,892,400
In EUR			
Serbia	24,022	238,636	262,658
Trgovište	143	172	315
Kučevo	143	445	588
Knić	143	405	548
Bajina Bašta	143	830	973
Čajetina	143	435	578
Temerin	143	1,011	1,154
Lajkovac	143	531	674
Sremski Karlovci	143	284	427
Average hypothetical municipality	143	1,420	1,563

2. Revitalization and modernization of remedial teaching

The goal of this measure is to additionally improve the provision of remedial teaching. Additional investments into the training of teaching staff will increase the relevance of remedial teaching, primarily in preventing failure and promoting a positive attitude towards education.

Instruments for supporting the achievement of the goals of this measure are as follows:

1. A feasibility study is required to assess the current situation and future needs, since remedial teaching is part of the existing system, but its effects are insufficiently clear and transparent.

Table 27. Cost assessment for drafting a feasibility study

	Number of experts	Number of working days per expert	Expert work day, in RSD
	3	30	25,000
Total, RSD	2,250,000		
Total, EUR	20,455		

2. The framework for further activities in remedial teaching needs to be developed, based on best practices from other countries, including both conceptual, as well as logistics innovations.

Table 28. Cost assessment of drafting an analysis based on best practices

	Number of experts	Number of working days per expert	Expert work day, in RSD
	3	30	25,000
Total, RSD	2,250,000		
Total, EUR	20,455		

3. Prior to widespread implementation, the piloting of the new concept of remedial teaching would be required in 10% of the schools during two years.

According to data from Chapter 1 of this analysis, the total number of full-time teachers in primary and secondary education is 56,894, while the total number of schools is 2094. If 10% of schools are involved in the pilot program, with 30% of the teaching staff in each of those schools, we arrive at a number of approximately 1700 teachers that would be included in the training programme under the pilot programme. Since the duration of the pilot programme is envisaged at two years, the number of teachers per year would be 850. Assuming the average number of teachers per group to be 30, training would need to be organized for 28 groups. With a three-day training, conducted by two experts, the total annual pilot project expenses would amount to:

Table 29. Calculation of the annual cost of the pilot project

Cost of training teaching staff during one year of the pilot	I Cost per teaching staff		Number of teaching staff	Total cost of teaching staff
	Food and refreshment	RSD 1,100 per day * 3 days	850	2805000
	Accommodation	RSD 3,300 * 2 nights	255 ⁷⁶	1683000
	Transport	RSD 2,000 ⁷⁷	255 ⁷⁸	510000
	Total, RSD			4998000
	II Cost per expert		Number of experts	Total cost of trainer
	Per diem and number of working days	RSD 25,000 * 187 working days ⁷⁹		4675000
	Food and refreshment	1.100 x 84 days	2	184800
	Accommodation	RSD 3,300 * 28 training packages * 2 nights	2	369600
	Transport	28 training packages * RSD 2,000 ⁸⁰	2	112000
Total, RSD			5341400	
Total annual cost of the pilot in RSD (I+II)			10,339,400	
Cost of the pilot, per year, in EUR			93995	

⁷⁶ The assumption is that accommodation will be required for approximately 30% of students

⁷⁷ Average cost of return ticket

⁷⁸ The assumption is that transportation will be required for approximately 30% of students

⁷⁹ For 28 groups and a three-day training per group, two experts would require 170 days of training. This number was increased by 10% for the additional time required for preparing the trainings.

⁸⁰ Average cost of return ticket

If payments would need to be secured for the premises for holding the trainings, the additional costs of these items would amount to approximately RSD 420,000, or around EUR 3,818.

Table 30. Costs of premise rental, annual

Daily cost of premise rental	RSD 5,000
Number of groups	28
Number of training days per group	3
Total, RSD	420,000

4. Drafting a manual that would facilitate the implementation of the measure, with a smaller circulation during the first phase of the duration of the pilot, followed by a greater one.

In addition to the training itself, school employees encompassed by training will also receive manuals for improving the implementation of remedial teaching. Two manuals will be drafted and printed in 17,086 copies each, corresponding to the total estimated number of teaching staff that would be encompassed by the measure under its full duration. During the first two years the manuals would only be printed for those attending the pilot programme (this cost represents approximately 10% of the total cost of drafting the manuals and amounts to EUR 10,861), and subsequently for all other participants.

Table 31. Costs of drafting the manuals

Author's fees	5 authors * RSD 1,000,000	5000000
Pre-press	2 manuals * 200 pages * RSD 300 per page	120000
Print, distribution	2 manuals * 200 pages * 17,086 copies	6827280
Total, RSD		11,947,280
Total, EUR		108612
Total, millions of EUR		0.1

According to an example price list⁸¹

5. The development of the training programme and its implementation for an adequate number of staff in schools during the second phase of the project. The recommendation is for these measures to include approximately 30% of the employed teachers (this number includes school counsellors), and to be implemented during a five-year period, with two years under the pilot.

The number of teaching staff to be included in the trainings, after the pilot program, totals 15,368 (of the 30% of the total number of teaching staff, i.e. 56,894, reduced by the 1700 persons trained during the pilot). Since the duration of this training is three years, this would require training approximately 5123 persons per year, i.e. hold 171 three-day trainings. Since every group has a three-day training, 513 working days per year need to be held, which can be covered by employing three expert pairs (6 experts), each individually doing 171 working days of training. Every expert pair would train 57 groups. Hereunder we assumed that experts would not be paid per diem, but employed on an annual basis, considering the lower expenses.

⁸¹ <http://www.clickman.rs/sr/cenovnik>

Table 32. Calculation of the annual cost of the second phase of the project (total duration of three years)

Cost of training teaching staff during the second phase of the project	I Cost per teaching staff		Number of teaching staff	Total cost of teaching staff
	Food and refreshment	1,100 RSD daily * 3 days	5123	16905900
	Accommodation	3,300 RSD * 2 nights	1537 ⁸²	10144200
	Transport	2,000 RSD ⁸³	1537 ⁸⁴	3074000
	Total, RSD			30124100
	II Cost per expert		Number of experts	Total cost of trainer
	Annual pay	1440000 ⁸⁵	6	8640000
	Food and refreshment	1,100 x 171 days of training	6	188100
	Accommodation	3,300 RSD * 57 groups ⁸⁶ * 2 nights	6	376200
	Transport	57 groups * 2,000 RSD ⁸⁷	6	114000
Total, RSD			9318300	
Total annual cost of the second phase of the project, in RSD (I+II)			39442400	
Cost of the second phase, per year, in EUR			358567	

If payments would need to be secured for the premises for holding the trainings, the additional costs of these items would amount to approximately RSD 2,565,000, or around EUR 23,318.

Table 33. Costs of premise rental, annual

Daily cost of premise rental	RSD 5,000
Number of groups	171
Number of training days per group	3
Total, RSD	2565000
Total, EUR	23,318

6. Improvement of the system of external assessment of the quality of providing remedial teaching in schools and adding other mechanisms that would impact the improvement and maintenance of the quality of remedial teaching. The implementation of a periodic assessment of the quality of services rendered is required, at least bi-annually during the next six to eight years.

According to the assessment, these changes do not necessarily have to require additional costs, but changes to competences and obligations, as well as the organization of services regularly undertaking control of the operation of educational institutions.

7. Establishment and implementation of a system of awards and promotion of good practices in remedial teaching.

⁸² The assumption is that accommodation will be required for approximately 30% of students

⁸³ Average cost of return ticket

⁸⁴ The assumption is that transportation will be required for approximately 30% of students

⁸⁵ 12 monthly salaries, 120,000 RSD each

⁸⁶ Number of groups with 30 persons each

⁸⁷ Average cost of return ticket

According to the assessment, these changes do not necessarily have to require additional costs, but changes to competences and obligations, as well as the organization of services regularly undertaking control of the operation of educational institutions.

Following the implementation of the pilot, and prior to introducing changes to the regular education system, the relevant laws and bylaws would need to be amended.

Table 34. Total (five-year) cost of the measure

		Annual cost	Total cost
	1. Feasibility study		2250000
	2. Analysis based on best practices		2250000
	3. Pilot	10339400	20678800
	*rent	420000	840000
	4. Drafting the manual		11947280
	5. Second phase of the project	39442400	78884800
	*rent	2565000	5130000
Alternative 1 (no premise rental cost)	Total cost of the measure, in RSD		116010880
	Total cost of the measure, in EUR		1054644
	Total cost of the measure, in millions of EUR		1.1
Alternative 2 (with premise rental cost)	Total cost of the measure, in RSD		121980880
	Total cost of the measure, in EUR		1108917
	Total cost of the measure, in millions of EUR		1.1

The instruments for revitalising remedial teaching include:

A feasibility study, the costs of which are estimated at EUR 20,455.

An analysis based on the best practices, the costs of which are estimated at EUR 20,455.

Piloting of the new concept of remedial teaching in 10% of schools for a period of two years, which would include 30% of teachers in the pilot schools. The cost of a three-day training of teachers, delivered by two experts, would amount to EUR 93,995 per year (additionally, if necessary to rent premises for training purposes, the cost would increase by EUR 3,818).

Preparation and printing of manuals for the teaching staff included in the measure throughout the period of its implementation, worth EUR 108,612.

Design and delivery of the training programme in the second phase of the measure's implementation, aimed at including 30% of teachers in the remaining schools in the training (for a period of three years). The cost of the second phase is EUR 359,567 per year (additionally, if necessary to rent premises for training purposes, the cost would increase by EUR 23,318).

The remaining two elements in the implementation of the measure, namely the enhancement of the system for external assessment of the quality of remedial teaching and the establishment and implementation of the system for rewarding and promoting good practices in remedial teaching, would not require additional funds.

The table of expenditures is given below:

Among the municipalities, expenditures have been allocated in proportion to their respective share of the number of children in the total number of children in Serbia, while the actual amounts in absolute terms have been presented as amounts for the period of five years and as average annual expenditures.

	5-year expenditure	Annual expenditure	5-year expenditure	Annual expenditure
	Amount in EUR			
Serbia	1,054,644	210,929	1,108,917	221,783
Trgovište	758	152	797	159
Kučevo	1,965	393	2,066	413
Knić	1,792	358	1,884	377
Bajina Bašta	3,669	734	3,857	771
Čajetina	1,924	385	2,023	405
Temerin	4,467	893	4,696	939
Lajkovac	2,347	469	2,468	494
Sremski Karlovci	1,257	251	1,321	264
Average hypothetical municipality	6,278	1,256	6,601	1,320

3. Modernization of school libraries and IT centres

The measure envisages the modernization of the library fund, the reorganization of the library (introduction of computers, provision of internet access, etc.) as well as school librarian training (training for one librarian for three days in each school).

The total cost of the measure is RSD 3.5 billion, i.e. approximately EUR 31.7 million.

Table 35. Cost of modernization of school libraries and IT centres

	Cost per school, in RSD	Number of schools	Total cost
Modernization of the library fund ⁸⁸	1,100,000	2,094	2,303,400,000
Reorganization of the library	550,000	2,094	1,151,700,000
Librarian training (3 days of training)	15,000	2,094	31,410,000
Total, in RSD			3,486,510,000
Total, in millions of EUR			31.7
Average expenditure per municipality, in EUR			188,664

Considering the concept of the measure, which entails library and IT centre modernisation, worth EUR 10,000 per school, procurement of books for libraries, worth EUR 5,000 per school, and the training of librarians, with estimated daily costs of around EUR 50 per librarian, the total upgrading cost for all schools in Serbia amounts roughly to EUR 31.7m. In a municipality with an average number of schools, the cost of complete modernisation of IT centres and libraries would be around EUR 188,664. However, considering the size of required expenditures, as well as the priorities of the municipalities, it is realistic to expect that each municipality will propose its own sequence in which libraries will be modernised, with the general idea that each municipality should renovate one school every year. In that case, annual expenditure per municipality would amount to about EUR 15,000, while the municipalities with more available funds (donations) would be able to opt for a quicker pace of modernisation.

⁸⁸ The cost of reorganizing the library is assessed at 10,000 EUR, the procurement of the library fund at 5,000 EUR per school, and a day of librarian training is estimated at around 50 EUR.

4. Revitalization of school development planning

- The goal of this measure is to undertake the revitalization of school development planning in 10% of the schools through the pilot project during a two-year period. The calculation of the annual costs of the measure is as follows: the total number of schools in primary and secondary education as per author calculations is 2,094. Of this number, 10% of the schools represent approximately 210 schools, meaning the annual plan is to encompass 105 schools.
- The initial assumption is that the grant amount for the first 10% of the schools included in the measure is approximately RSD 220,000, thus the total cost of the measure during the first two years of implementation is around RSD 46200000, i.e. approximately EUR 420,000.
- The remaining 90% of the schools will be included in the measure during the third and fourth year of the implementation of the measure, when the effects of the pilot will be known. The amount of the grant for these schools will be approximately RSD 110,000, and the total cost RSD 207240000, i.e. around EUR 1,884,000.
- The first two years of the implementation of the measure would need to include the costs of training and running, as well as monitoring the entire process, with costs estimated at around RSD 11,000,000, i.e. around EUR 100,000.
- Other than the above, additional costs include the production, printing and promotion of a manual, with the total cost estimated at around RSD 11,000,000, i.e. around EUR 100,000.⁸⁹
- The total cost of the measure thus defined for the entire four-year duration is around EUR 2.5 million.

Table 36. Cost of the measure – revitalization of school development planning

	Number of schools	Grant amount	Total cost of revitalizing development planning
Pilot phase (first two years of implementation)	210	220000	46200000
3 rd and 4 th year of implementation	1884	110000	207240000
Additional costs:			
• Cost of training, conducting and monitoring			22000000
• Costs of producing, printing and promoting the manual			
Total, RSD			275,440,000
Total, EUR			2504000
Total, millions of EUR			2.5

The cost of revitalising development planning in schools includes the award of grants in the amount of EUR 2,000 per school in the pilot phase (the first two years) and EUR 1,000 in the third and fourth year of implementation. The total sum of costs has additionally included the costs of training and the management and monitoring of the process, estimated at around EUR 100,000, as well as the costs of developing, printing, distributing and promoting the manual, also worth EUR 100,000. The total cost of the measure that incorporates the above elements amounts roughly EUR 2.5m for a period of four years. The municipalities given in the illustrative example may be included in the measure in either the first or the second phase, which would determine the actual amount of costs for a particular municipality.

⁸⁹ The same calculation was used in the measure Improvement of remedial teaching

B. PACKAGE OF SUPPORT FOR IMPROVING THE EFFICIENCY OF THE SOCIAL WELFARE SYSTEM

1. Stimulating a systemic provision of on-the field services targeting disadvantaged families and children

- The next proposed measure is to stimulate a systemic provision of on-the-field services targeting disadvantaged families and children, i.e. the services of identification of disadvantaged children/families not covered by the system and their inclusion in the existing regular system of support. One of the primary activities of persons tackling these tasks should include the identification of neglected children, as well as children outside of the schooling system, and a set of activities supporting the return of such children into the schooling system.
- According to the data available for the 2010/2011 school year⁹⁰, the number of children outside of the education system as of the mandatory preparatory preschool program amounts to over 10%⁹¹.
- Primary education is not attended by some 4% of children, and is not completed by some 8% of children.
- The coverage of children by secondary education is lower than is the case with primary education. Approximately 15% children of secondary education age do not attend secondary schools.
- The total number of children outside of the education system, according to these data, totals some 100,000 children. The number includes children who drop out of the education system during primary education and fail to complete it.

Table 37. Number of children who do not attend or fail to complete education

Education level	Number of children who do not attend or fail to complete education
Mandatory preparatory preschool program, not attending	6,549 ⁹²
Primary education, not completing	51,072 ⁹³
Secondary education, not attending	42,593 ⁹⁴
Total	100,214

- If a team (comprising two persons) conducted 200 days of fieldwork per annum, they would be able to identify annually approximately 400 neglected children through some 10 daily visits to households and identifying a neglected child and/or child who is outside of the education system in every fifth household⁹⁵.
- If the aim is to map all the disadvantaged children in the course of a year, this would require fieldwork of some 250 teams and/or hiring a minimum of 500 persons.
- A more realistic plan may outline that all the disadvantaged children should be mapped, for example, over a three-year period, and the annual number of teams would total approximately 80 teams. This would require hiring a minimum of 160 persons to identify the neglected children and the children running the risk of being neglected.
- The total cost of this measure over a three-year period, totalling 160 persons in the field, would total approximately EUR 3,130 per local self-government annually.

⁹⁰ Source: SROS, Statistical Yearbook of the Republic of Serbia 2013, Belgrade 2013.

⁹¹ Although the percentage reduced over the next school years, it still remained significant.

⁹² 10% of 65,489 children who attended preparatory preschool program in the 2013/2013 school year.

⁹³ 8% of 638,400 children who attended primary education in the 2010/2011 school year. Source: SROS, Statistical Yearbook of the Republic of Serbia 2012, Belgrade 2013.

⁹⁴ 15% of 283,952 children who attended secondary education in the 2010/2011 school year. Source: SROS, Statistical Yearbook of the Republic of Serbia 2012, Belgrade 2013.

⁹⁵ During the first years of work, persons conducting field visits to households would be directed towards areas with identified heightened risk of this type of neglect. This is the reason of a relatively high rate of identification of neglected children.

Table 38. Cost of fieldwork aimed at identifying the neglected children, a three-year plan

	Number of persons in the field	Annual gross salary	Cost
Salary cost	160	720,000 ⁹⁶	115,200,000
Food and refreshment cost	160*1100*200		35,200,000
Transportation cost	200*500 ⁹⁷		100,000
Administrative, management and other relating cost ⁹⁸			23,040,000
Total, in RSD			173,540,000
Total, in million EUR			1.6
Average <u>annual</u> allocation per municipality, in EUR ⁹⁹			3130

As for additional interventions, it is desirable to set up a functional web-page containing regular updates on open call for proposals for financing community-based services and the opportunities for on-line registration of licenced service providers and organizations. The annual cost of set-up and regular maintenance and administration of such a web-page may total approximately RSD 110,000 or EUR 1,000.

A potential source of financing these costs may be the HRD IPA funds (IPA 2014-2020) targeting capacity-building and development of decentralized provision of community-based services and a pluralism of providers of social welfare services.

The need for a systemic provision of outreach services, aimed at identifying disadvantaged children outside the support system, has been defined in accordance with the estimated number of children that are currently outside the schooling system (this number is roughly estimated at 100,000 children in Serbia). Taking into account the planned annual number of days of fieldwork, aimed at identifying neglected children, and the "identification rate" of disadvantaged children, the cost of services of an expert team in a three-year period would amount to around EUR 1.6m, or EUR 525,879 per year, i.e. the cost per average municipality would be EUR 3,130.

For illustration purposes, the annual level of costs for the municipalities included in the example is given in the table below. The share of individual municipality's cost in the total cost at the national level is proportional to the share of individual municipality's children in the total number of children.

Serbia	525,879
Trgovište	378
Kučevo	980
Knić	894
Bajina Bašta	1,829
Čajetina	960
Temerin	2,227
Lajkovac	1,170
Sremski Karlovci	627
Average hypothetical municipality	3,130

2. Centres for Social Work and Active Inclusion

- The goal of the measure is to set up a method of active inclusion in centres for social work and/or activation of beneficiaries of pecuniary social benefits, which would enable opening of cases when necessary in order to monitor more efficiently the progress of children and youth who are the beneficiaries of social welfare services in education, in order to prevent potential undesired events or

⁹⁶ Assuming that both persons receive salary equal to the average monthly salary in the Republic of Serbia registered for May 2013 <http://webrzs.stat.gov.rs/WebSite/repository/documents/00/01/04/82/zp11062013.pdf>

⁹⁷ The cost of transportation estimated at RSD 500 per day/visit.

⁹⁸ It is estimated that these costs total approximately 20% of salary cost.

⁹⁹ <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities totals 168.

mobilise, as needed, the required support which is available in the community and stimulate positive effects on the children.

- Implementing the activation method in social work centers (SWC), including a more efficient monitoring of children – SWC clients, would exert employment of additional workforce in SWC if this is to burden additionally the quality of work and prevent the prioritization of educational needs of children.
- The assessment of costs of the needed new work places, activation and case management training targeting SWC employees, as well as the development of manuals for improving the implementation of rules and procedures for SWC staff, should be the subject of a more precise analysis of optimum burden of case managers, based on the current number of case managers employed to work directly with children and youth.

3. Parent Participation and Training

Measure: Training on Healthy Parenting

- The goal of the measure is to increase parent participation and their empowerment for providing learning support to their children, as well as to provide general training on parenting. The number of households to be involved in this support measure shall be determined by the number of current beneficiaries of child allowance and pecuniary social assistance. There were 208,633 households who were beneficiaries of this type of assistance and over 386,000 children towards the end of 2012. Additionally, some 11,752 children were recipients of pecuniary social assistance, yet not of child allowance. The number of families who should be the recipients of child allowances should be increased by 6,344. This number has been determined by applying the average number of children per family receiving child allowance – 1.85 on the beneficiaries who benefit only from pecuniary social assistance ($11,752/1.85 = 6,344$). Although not precise, deviations shall not significantly affect the total costs of the measure. If all households receiving monthly income support from the Republic budget are summed up, the estimate is there were approximately 214,977 such families towards the end 2012.
- The training is envisaged for the parents of all children, and not only for parents of children who are of school age. The reason is that most families exercise their right to child allowance for more than one child¹⁰⁰, wherefore it may be deduced that at least one child in such households is of school age. Secondly, even if the child has still not come of age for the education system, it is important to organize preparation and sensitization of parents on the significance of education for children who are to enter schooling in the forthcoming period.
- The number of parents to be covered by the training totals 214,977. If one training covers 30 parents, the total number of trainings to be conducted totals 7,166. If the annual number of workdays totals 220 (excluding weekends, vacation and national holidays) and if one trainer may conduct 200 days of training per annum, this calls for engagement of 36 trainers.
- The total cost of financing parent participation and training per municipality on average totals EUR 98,618, which in total equals EUR 16.6 million.
- The duration of this measure may be distributed over a 4-year period, wherefore the annual cost for the municipality in Serbia on average may be estimated at EUR 24,655.

¹⁰⁰ Only some 20% families receive child allowance for one child according to the study: Program dečijih dodataka u Srbiji: Analiza i predlozi za unapređenje, Gordana Matković, Boško Mijatović za Unicef Srbija, Beograd 2012.

Table 39. Cost of training on parenting

5. Cost relating to trainers	Number of trainers	Annual expenditure	Total cost
Trainer salary	36	120,000	4,320,000
Transportation cost	36	30 ¹⁰¹ * RSD 2,000	2,160,000
Cost of accommodation, food, refreshments	36	RSD 3,300 for accommodation *200 nights + RSD 1,100 for food and refreshment * 200 days	31,680,000
Total cost relating to trainers			38,160,000
5. Costs relating to training participants	Number of participants		
Food and refreshment	214,977	7 days * RSD 1,100	1655322900
Transportation	214,977* 30%	RSD 2,000	128,986,200
Total cost relating to training participants			1,784,309,100
1+2 Total costs of training on parenting, in RSD			1,822,469,100
1+2 Total costs of training on parenting, in million EUR			16.6
Average allocation per municipality in EUR ¹⁰²			98618

The idea is that the parents of all children – CA and PSA beneficiaries should receive training in healthy parenting, so as to raise their awareness of the importance of the support they can give to their children. This requires an adequate number of trainers to be hired, to deliver 7-day training to parents in local communities. The total cost of the measure would be about EUR 16.6m, i.e. the cost for an average municipality would amount to approx. EUR 98,618. Since this measure can be stretched to four years, the annual expenditure of an average municipality in Serbia is estimated at about EUR 24,655.

As an illustration, in the selected municipalities, the cost weighted by the share of CA and PSA recipients in each individual municipality would range between EUR 3,240 in Trgovište and EUR 17,971 in Kučevo.

	Cost of the measure, EUR	Annual cost of the measure, if implemented over a period of four years, EUR
Serbia	16,567,901	4,141,975
Trgovište	12,959	3,240
Kučevo	71,885	17,971
Knić	22,180	5,545
Bajina Bašta	52,674	13,168
Čajetina	24,765	6,191
Temerin	71,466	17,866
Lajkovac	18,757	4,689
Sremski Karlovci	17,465	4,366
Average hypothetical municipality	98,618	24,655

¹⁰¹ If one trainer held approximately 200 days of training, whereas a training would last 7 days, the total number of trainings per trainer may total 30. This means that it is necessary to ensure funds for approximately 30 return tickets amounting to approximately RSD 2,000.

¹⁰² <http://webzrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, the number of municipalities is 168.

Measure: Training of parents in providing learning support to their children

The total number of trainings to be provided equals the number of disadvantaged children – totalling an estimate of 398,237 (386,485 + 11,725) towards the end of 2012. If one trainer conducted 200 days of training for groups of 30 trainees, the total number of trainers to be hired would total 66. Two-day training would be provided to parents for each child.

Table 40. Training of parents in providing learning support to their children

1. Costs relating to trainers	Number of trainers	Annual expenditure	Total cost
Trainer salary	66	1,200,000	79,200,000
Transportation cost	20 ¹⁰³	20 ¹⁰⁴ * RSD 2,000	40,000
Cost of accommodation, food, refreshments	66	RSD 3,300 for accommodation *100 nights + RSD 1,100 for food and refreshment * 200 days	3,520,000
Total cost relating to trainers, RSD			82,760,000
2. Costs relating to training participants	Number of participants		
Food and refreshment	398,237	2 days * RSD 1,100	876,121,400
Transportation	398,237 * 30%	RSD 500 ¹⁰⁵	59,735,550
Total cost relating to training participants, RSD			935,856,950
1+2 Total costs of training on parenting, in RSD			1,018,616,950
1+2 Total costs of training on parenting, in million EUR			9.3

The idea of the measure that envisages training of parents in providing learning support to their children is that the parents of all children – CA and PSA beneficiaries should receive training in providing learning support to their children. The number of training sessions is equal to the number of children – CA and PSA beneficiaries, where parents would be entitled to a two-day training for each of their children. The total cost of trainers' salaries and trainees' costs amount to EUR 9.3m.

	Cost of the measure, EUR	Annual cost of the measure, if implemented over a period of four years, EUR
Serbia	9,260,154	2,315,039
Trgovište	7,243	1,811
Kučevo	40,178	10,045
Knić	12,397	3,099
Bajina Bašta	29,440	7,360
Čajetina	13,842	3,460
Temerin	39,944	9,986
Lajkovac	10,484	2,621
Sremski Karlovci	9,761	2,440
Average hypothetical municipality	55,120	13,780

¹⁰³ Assuming that transportation will be needed for approximately 30% trainers.

¹⁰⁴ If one trainer held approximately 200 days of training, whereas a training would last 2 days, the total number of trainings per trainer may total 100. Assuming that a majority of trainers would provide training in their immediate environment or further proximity, the cost of transportation would be paid for no higher than 30% of trainers. The amount of a return ticket totals approximately RSD 2,000.

¹⁰⁵ The cost of transportation is reduced considering that the trainings are organized in the local community.

Printing and distribution of promotional material

Table 41. Estimated cost of promotional material

	Number of families	Cost of promotional material per family, in RSD
	214,977	300
Total, in RSD		64,493,100
Total, in EUR		586,301
Average allocation per municipality, in EUR ¹⁰⁶		3,490

The cost of associated promotional material is approx. EUR 586,301 (according to the unit cost of producing the promotional material, in the amount of RSD 300, which would be available for every disadvantaged family with children).

Table 42. Total cost of the measures and promotional material

Total cost of training on parenting, in RSD	1,822,469,100
Total cost of training of parents in providing learning support to their children, in RSD	1,018,616,950
Cost of promotional material	64,493,100
Cost, in RSD	2,905,579,150
Cost, in EUR	26,414,356
Cost, in million EUR	26.4

Overall, the provision of support to parents is worth EUR 26.4m, while the cost for an average hypothetical municipality would amount to EUR 157,228.

As an illustration, in the selected municipalities, the cost weighted by the share of CA and PSA recipients in each individual municipality would range from EUR 20,660 in Trgovište to EUR 114,607 in Kučevo. Since this measure can be stretched to four years, the annual expenditure of an average municipality in Serbia is estimated at about EUR 39,307.

	Cost of the measure, EUR	Annual cost of the measure, if implemented over a period of four years, EUR
Serbia	26,414,356	6,603,589
Trgovište	20,660	5,165
Kučevo	114,607	28,652
Knić	35,362	8,841
Bajina Bašta	83,978	20,995
Čajetina	39,483	9,871
Temerin	113,939	28,485
Lajkovac	29,905	7,476
Sremski Karlovci	27,844	6,961
Average hypothetical municipality	157,228	39,307

¹⁰⁶ <http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=321>, 168 municipalities.

ANNEX – ADDITIONAL MEASURES

A1. Pedagogical Value Added (PeVD)

No additional funds are required to implement this measure.

A2. Financing support per Inter-sector Committee

Financing from local budgets. It is necessary to conduct an estimate of annual funds needed to finance Inter-sector Committee's recommendations. The components cannot be provided at this moment.

A3. Optimization of the staff employed in the education system who provide support to poor and disadvantaged children

- The goal of this measure is to optimize the number of staff in schools¹⁰⁷ who provide support to poor and disadvantaged children. The optimization of staff that provides additional support in schools to disadvantaged population, such as psychologists, pedagogues and/or professional associates, will call for an increase in the number of the staff in the majority of schools.
- Current "amount of attention" is estimated at 4 minutes per week (the time dedicated to a child by experts employed for these purposes), whereas the desired amount of attention is 60 minutes per week. The number of disadvantaged children is estimated at 252,596 children (children of school age who are beneficiaries of child allowance).
- A psychologist/pedagogue/professional associate disposes of 68,850 minutes per annum;
- Additional time required to provide care for a child during a year totals: 56 minutes*4 weeks*12 months =2688;
- When the amount of time at the disposal of a psychologist/pedagogue/professional associate over a year is deduced by additional time necessary to provide care for a child over a year, it may inferred that one case manager would be able to provide care for $68850/2688 = 26$ children;
- It would be necessary to hire another 9,751 persons for 252,596 children (although this number may be smaller in case of additional work engagement of teachers who are not using their full fond sati).
- Taking into account the average monthly gross salary of RSD 45,000, the cost of hiring the said number of persons totals: $45,000*12*9,751 = \text{RSD } 5,265,540,000$ and/or EUR 47.9 million.

Table 43. Calculation of costs relating to the optimization of staff providing support for poor and disadvantaged children

Additional annual attention needed per child in minutes ¹⁰⁸	2,688
Number of hours per annum which an employee may dedicate to case management	1,147.5
Number of minutes per annum which an employee may dedicate to case management	68,850
Number of children that may be taken care of by one staff member	$68,850/2,688 = 26$
Necessary number of newly hired staff	$252,596 / 26 = 9,751$
Total monthly cost per employee	45,000
Annual cost of hiring new staff, in RSD	5,265,540,000
Annual cost of hiring new staff, in million EUR	47.9

¹⁰⁷ As opposed to the measure no. 13, where the optimization referred to the number of staff employed in CSW.

¹⁰⁸ 56 minutes per week * 4 weeks * 12 months = 2688 minutes per annum.

5. SUMMARY OVERVIEW OF ANNUAL COST OF THE PROPOSED MEASURES

Since the above shows the costs of individual measures, the goal of this chapter is to provide an overview of the summary costs and compare them to the basic economic parameters. Considering the markedly varied character of the measures, efforts were made to arrive at a framework annual investment level.

Understanding the derived calculations requires having in mind that the provided costs were derived based on the number of vulnerable children in the education system at any one time. Therefore, measures encompass children in all grades up to the end of secondary education in “one” school year. In other words, the above cost estimates are not for one single generation, but for all children as found in the same calendar year (thus encompassing multiple generations), therefore it represents a transversal, not a longitudinal calculation.

The first two columns of the table below in fact provide an overview of costs per measure as elaborated in the above analysis. The first column represents costs in RSD, the second costs in EUR.

The costs thus presented encompass measures of a different character, with attempted explanations provided in column three. Measures having a systemic character are, in fact, to be adopted once (up until a potential new systemic change in the future), a certain number of measures need to be fully repeated every year – such as the cost of meals, for example, while there are also measures that may be spread over several years both in duration and cost.

Furthermore, logic dictates placing these costs in the temporal framework of the duration of education (the duration of primary and secondary education), in order for the measure to support the education of one generation of vulnerable children through all grades of education. This cost is under column 4.

The average annual cost was derived by analysing the expenditures required to provide additional support to one generation of children through the entire system of education, from the PPE to the end of secondary education, and dividing it with the number of years of education. According to the calculation, the average annual costs of the proposed package of measures lie between 92.2 million EUR and 124.7 million EUR (the average annual costs were derived by dividing the twelve-year costs by 12 years).

Having in mind that the budget of the ministry in charge of education for 2010, as per the amendments to the Budget Law for 2010 was approximately 1,246 million EUR, increasing this budget by between 7.4% and 10% could allow the financing of the implementation of this comprehensive reform.

However, as the changes envisaged by the measures are multisectoral in nature, they would entail financing by at least three competent ministries (the ministry in charge of social affairs, the ministry in charge of local self-government and the ministry in charge of education). Thus, in an ideal case, the increase would be distributed among them.

The average annual expenditure of the proposed measures in the total gross domestic product (GDP) spans between 0.33% and 0.45% of the GDP¹⁰⁹.

¹⁰⁹ According to <http://mfin.gov.rs/pages/article.php?id=7161>, the GDP in 2010 amounted to EUR 28,006 million.

		1		2		3	4	
		In RSD		In EUR		Timeframe for the measure	Cost of the measure in a 12-year timeframe, in EUR	
		Alternative 1	Alternative 2	Alternative 1	Alternative 2	-	Alternative 1	Alternative 2
A	PACKAGE OF SUPPORT FOR MEETING THE BASIC NEEDS	10,630,950,487	10,630,816,987	96,645,004	96,643,791	-	533,227,484	533,226,270
1	Modernisation and enhancement of the children's allowance scheme with respect to targeting, coverage and administration of the support scheme	162,337,500		1,475,795		-	4,339,427	
a.	Analysis of the social welfare system's IT requirements	2,587,000		23,518		Systemic (only during introductory year)	23,518	
b.	Cost-benefit analysis of validity of the "schooling as a requirement" concept	2,250,000		20,455		Systemic (only during introductory year)	20,455	
c.	Promotional activities aimed at improved targeting of children's allowances	157,500,000		1,431,818		Considering the planned scope and intensity of promotional activities, intensive advertising would be sufficient every four years		4,295,454
2	Systemic provision of food and clothes/footwear to satisfy basic needs of poor children	Alternative 1	Alternative 2	Alternative 1	Alternative 2	-	Alternative 1	Alternative 2
		5,814,862,987	5,814,729,487	52,862,391	52,861,177	-	181,349,370	181,348,156
a.	Legal/systemic definition of new obligations under the measure	600,000		5,455		Systemic (only during introductory year)	5,455	
b.	Capacity raising of local self-governments and the development of guidelines aimed at more efficient implementation of measures	Alternative 1	Alternative 2	Alternative 1	Alternative 2	Systemic (only during introductory year)	Alternative 1	Alternative 2
		1,520,500	1,387,000	13,823	12,609		13,823	12,609
c.	The cost of food	1,565,304,487		14,230,041		Regular annual cost amount	170,760,492	
d.	The cost of clothes and footwear	96,888,000		880,800		Regular annual cost amount	10,569,600	

		1	2	3	4				
		In RSD	In EUR	Timeframe for the measure	Cost of the measure in a 12-year timeframe, in EUR				
3	Modernisation of instruments targeting children from disadvantaged categories with a view to subsidising their education costs	4,653,750,000	42,306,818	-	347,538,687				
a.	Legal/systemic definition of new obligations arising from the measures	600,000	5,455	Systemic (only during introductory year)	5,455				
b.	Provision of free textbooks and school supplies for poor and vulnerable children in all school grades	2,063,262,000	18,756,927	The cost of providing textbook during the year of introduction of the measure is 15.3 million EUR and every fourth year would require approx. 3.85 million EUR to renew the textbook fund (i.e. ¼ of the value of the entire fund). The annual cost of providing tools for all vulnerable children is 3.5 million EUR	65,000,000				
c.	Scholarships, loans, residence halls, mentoring at the secondary school level	2,589,888,000	23,544,436	Regular annual cost amount	282,533,232				
B	THE SUPPORT PACKAGE FOR ENHANCING EDUCATIONAL RESULTS	Alternative 1	Alternative 2	Alternative 1	Alternative 2	-	Alternative 1	Alternative 2	
		Alternative A – CA from measure B1	14,510,391,080	9,584,006,380	131,912,646	87,127,331	-	1,194,558,670	657,134,878
		Alternative B - PSA from measure B1	8,776,181,523	6,565,987,002	79,783,468	59,690,791	-	569,008,534	327,896,398
1	Modernisation of instruments for early inclusion of children in preschool education	Alternative 1 – Full daycare	Alternative 2 – Half daycare	Alternative 1 – Full daycare	Alternative 2 – Half daycare	Regular annual cost amount	Alternative 1 – Full daycare	Alternative 2 – Half daycare	
	Alternative A - CA	10,626,460,200	5,700,075,500	96,604,184	51,818,868	Regular annual cost amount	1,159,250,208	621,826,416	
	Alternative B - PSA	4,892,250,643	2,682,056,122	44,475,006	24,382,328	Regular annual cost amount	533,700,072	292,587,936	
2	Revitalization and modernization of remedial teaching	*the summary overview of the costs of package B used costs with rental under measure B2				Total five-year cost, no costs thereafter			
	Without rental	116,010,880		1,054,644			1,054,644		
	With rental	121,980,880		1,108,917			1,108,917		

		1	2	3	4
		In RSD	In EUR	Timeframe for the measure	Cost of the measure in a 12-year timeframe, in EUR
3	Modernization of school libraries and IT centres	3,486,510,000	31,695,545	Total cost of the modernization of all schools that could be spread over a number of years	31,695,545
4	Revitalization of school development planning	275,440,000	2,504,000	Cost of the measure for the full four-year duration	2,504,000
C	PACKAGE OF SUPPORT FOR IMPROVING THE EFFICIENCY OF THE SOCIAL WELFARE SYSTEM	2.963.425.817	26.940.235	-	80.820.704
1	Stimulating system provision of services targeting disadvantaged families and children ¹¹⁰	57,846,667	525,879	Annual cost, the total duration of the measure is three years	1,577,636
2	Parent participation and training	2,905,579,150	26,414,356	Total cost of the measure that could be spread over four years, thereafter the measure could be provided again.	79,243,068
The total twelve-year cost of the proposed measures, in EUR			Alternative 1		Alternative 2
			Alternative A – CA from measure B1	1.808.606.858	1.271.181.852
Total cost for variants 1 and 2 (calculated as the average cost of the measure with children's allowance and pecuniary social assistance beneficiaries)			Alternative B – PSA from measure B1		
				1.183.056.722	941.943.372
Average annual cost (total twelve-year cost divided by 12)				1.495.831.790	1.106.562.612
				124.652.649	92.213.551

¹¹⁰ Annual costs

5. SOCIETAL BENEFITS OF THE PROPOSED SUPPORT MEASURES

In order to stimulate the implementation of such a comprehensive reform, the social benefits and expected level of returns need to be understood. Therefore, below is a rough estimate of social benefits that were then compared to the required costs.

proposed measures is based on the average number of children covered by the measures.

The number of children covered by measures is deduced by computing the arithmetic mean of the number of children living in families receiving pecuniary social assistance (PSA) and the number of children living in families receiving children's allowance (CA).

According to the data presented in the costs analysis, the number of children beneficiaries in the relevant age group is between 64,592 children (children who are beneficiaries of PSA) and 199,939 children (children which are beneficiaries of CA). The restrictive assessment of the number of children to be covered by the comprehensive support package, defined in this manner, amounts to 132,266. This number of children in the age group from the preparatory preschool programme (PPP) to the end of secondary school accounts for only 12% of the total number of children in the relevant age group (amounting to 1,091,212¹¹¹), as shown in the table below.

As stated above, this number is not in regards to a single generation, but for all children found in the same calendar year, encompassing multiple generations.

As elaborated below, the assumption used to derive the model of social benefits assumes that the above 132,266 children were "pushed" through the educational system until they finished secondary school, and received additional support from the system during their education. However, as the cost section was derived according to the number of children at one time (one school year), this number of children needs to be pushed through at least 12 years (that would encompass most of the formal part of education, until the end of secondary school). Therefore, the costs of measures were derived for a duration of 12 years, and compared to the benefits of education during the same period for children exposed to additional stimulating measures.

Table 44. Number of children by age groups

Children's age	Number of children ¹¹²	Children's age	Number of children ¹¹³		
5	74,975	12	73,790		
6	78,476	13	76,846		
7	78,593	14	80,620		
8	77,135	15	82,483		
9	73,479	16	83,051		
10	70,564	17	84,042		
11	71,217	18	85,941	Total	1,091,212

¹¹¹ According to SORS: Demographic Yearbook in the Republic of Serbia 2010, Belgrade 2011

¹¹² According to SORS: Demographic Yearbook in the Republic of Serbia 2010, Belgrade 2011

¹¹³ According to SORS: Demographic Yearbook in the Republic of Serbia 2010, Belgrade 2011

Under the assumption that the proposed package of measures will be capable of correctly covering the most disadvantaged ones first, followed by those less disadvantaged, it may be assumed that the 12% of children covered by support are precisely those most disadvantaged. With respect to educational achievements, this category of children can also be assumed to achieve less compared to their peers with a higher family socio-economic status.

The data on the educational structure of the Serbian population show that 13.7% of the population has incomplete primary education or even no education (according to the 2011 Census data).

Table 45. Educational structure according to the last two censuses

	Census 2002		Census 2011	
	total	%	total	%
Republic of Serbia	6 321 231	100	6 161 584	100
No education	357 552	5.66	164 884	2.68
Incomplete primary education	1 022 974	16.18	677 499	11.00
Primary education	1 509 462	23.88	1 279 116	20.76
Secondary education	2 596 348	41.07	3 015 092	48.93
Non-university higher education	285 056	4.51	348 335	5.65
University-level higher education	411 944	6.52	652 234	10.59
Unknown	137 895	2.18	24 424	0.40

A comparison of the data from the last two censuses shows a decrease in the share of people with the lowest educational attainment, accompanied by an increase in the share of those with secondary, non-university higher and university-level higher education, which is a result not only of the education policy, but, indubitably, also of demographic trends.

Yet, it may be stated that the children from families with the lowest socio-economic status are, without doubt, those who will face the highest risks in realising their full capacities in education in the future as well.

Although, without carrying out a small-scale social experiment, it is difficult to assess the impacts of the measures within the proposed support package with full precision, for the purposes of the present analysis these impacts can be defined as enabling each covered child to attain one extra level of education.

This moderate assumption appears to be realistic, given the scope and duration of the proposed measures (they would follow a child from the PPP to the end of his/her education).

In view of the shift in the importance of education, we assume that, even without additional support, a part of the most disadvantaged children will still succeed in finishing secondary education (20% of them), while most will stay at the level of completed primary education (70% of them). Yet, the reality is that, without additional support, a part of these children will even drop out of the initial grades of primary school.

With the impact of measures as defined above, we assume that the adoption and efficient implementation of measures will result in most of the disadvantaged children finishing secondary education (80%) and a part of them (20%) even attaining higher education.

Table 46. Impacts of adopting the support package

	Estimated impacts of measures to education results		Additional number of individuals with completed secondary education (instead of primary)	Additional number of individuals with completed higher education (instead of primary)	Monthly earnings premium between education levels, RSD	Earnings differential over the hypothetical working life, RSD	Societal benefit manifested in higher earnings
	Status without additional support	Status with additional support					
Total number of children potentially covered by support	132,266	132,266					
Primary and incomplete primary	105,813						
Secondary	26,453	105,813	79,360		15,266 ¹¹⁴	5,495,760	436,141,315,296
Higher		26,453		26,453	11,773 ¹¹⁵	4,238,280	112,116,068,496
Total RSD							548,257,383,792
Total EUR							4,984,158,034
Total EUR m							4,984.2

¹¹⁴ Represented by the difference in average monthly salaries of persons with secondary education compared to persons with lower education, according to SORS – Communication ZP12: Employees in legal entities in the Republic of Serbia, by salaries and wages size and level of educational attainment, Table 4, September 2012.

¹¹⁵ Represented by the difference in average monthly salaries of persons with secondary education compared to persons with lower education, according to SORS – Communication ZP12: Employees in legal entities in the Republic of Serbia, by salaries and wages size and level of educational attainment, Table 4, September 2012.

If these changes in education levels are viewed in relation to earnings premiums in today's labour market, these monthly premiums range from approximately RSD 11,773 (the average monthly earnings premium of an individual with secondary education over an individual with primary education) to 15,266 (the average monthly earnings premium of an individual with higher education over an individual with secondary education)¹¹⁶. The total gains for an individual, measured over the hypothetical 30-year working life (with 12 payments of monthly earnings), range from EUR 40,000 to EUR 50,000. It is important to note that the calculation is based on the present labour market conditions and that it does not take into account the qualities of other segments of life that accompany better educational attainment.

The societal benefit amounts to almost EUR 5bn and higher earnings will also entail higher GDP, higher tax revenues, higher consumption and the like.

As regards the social welfare system, it would also unquestionably benefit from these measures, since a part of individuals who would certainly become its beneficiaries without additional support, would now rise above the eligibility ceiling. This is the case with various social benefits. In particular, the number of pecuniary social assistance beneficiaries would decrease, as would the number of children's allowance beneficiaries.

More precisely, the benefit to the social welfare system is deduced by comparing the costs to the system in the "status quo" situation – i.e. without introducing a support system – to the costs in a situation where, following participation in additional support measures, a significant proportion of the individuals has reached better educational attainment and thus also the possibility of attaining higher earnings and leaving the category of the socially disadvantaged.

Status quo situation:

Since the population in question consists of pronouncedly socio-economically disadvantaged children (roughly – the first decile), and in view of the severity of intergenerational transmission of poverty, it may be considered that, without additional support, after leaving the educational system, these children will continue to be beneficiaries of pecuniary social assistance in their newly created families and also that their children will be beneficiaries of the children's allowance (given the birth rate and the individualist approach used in the analysis, one individual has one child on average, and a couple – two children).

Given that the pecuniary social assistance amounts vary depending to the number of household members, the average PSA amount used here is RSD 5,000 per month. As the average lifespan in Serbia is 72 years, it may roughly be assumed that, in their lifetime after leaving education, individuals with the lowest socio-economic status will, in most cases, become PSA beneficiaries upon starting their own families and will often retain that status for the rest of their lives. For the purposes of the present analysis, the average number of years during which these individuals would receive PSA is 50.

As regards the other form of social assistance – the children's allowance, it may be assumed that individuals who fail to attain appropriate educational levels and thereby increase their chances of finding higher-paying jobs in the labour market will also be dependent on the social welfare system and that their children will receive not only PSA, but also children's allowance.

In this situation, the costs to the social welfare system are defined as follows:

¹¹⁶ According to SORS – Communication ZP12: Employees in legal entities in the Republic of Serbia, by salaries and wages size and level of educational attainment, Table 4, September 2012.

Table 47. Social welfare costs to be incurred in the status quo situation

Status quo		Lifetime costs per individual, RSD	Number of individuals	By social benefit types, RSD
Individual missing education today	PSA	3,000,000 ¹¹⁷	132,266	396,796,500,000
Child of an individual missing education today	PSA	1,080,000 ¹¹⁸	132,266	142,846,740,000
	CA	432,000 ¹¹⁹	132,266	57,138,696,000
Total RSD				596,781,936,000
Total EUR				5,425,290,327
Total EUR m				5,425

With additional education support measures, it may be expected that, in line with improved educational attainment levels and, therefore, also higher earnings after entry into the labour market, a part of these individuals will not be in need of social benefits. The assumption of decreasing number of beneficiaries has been deduced as follows:

- It is assumed that half of the individuals who attain up to secondary education will still be PSA beneficiaries and that their children will be CA beneficiaries. As for the other half, it is assumed that they will not be PSA beneficiaries, but that their children will still be CA beneficiaries.
- With regard to those who finish higher education following education support measures, it is assumed that only 5% of them will be PSA beneficiaries with their children also being CA beneficiaries, and that the children of 20% of the individuals in this category will be CA beneficiaries.

The costs to the social welfare system in this situation are defined as follows:

Table 48. Social welfare costs to be incurred in the event of introducing the package of measures

	Lifetime costs per individual, RSD	Number of individuals	By social benefit types, RSD
Secondary		105,812	
of which 50% – PSA, CA	3,000,000 ¹²⁰	52,906 ¹²¹	158,718,600,000
	1,080,000 ¹²²	52,906	57,138,696,000
of which 50% – CA	1,080,000	52,906	57,138,696,000
Higher		26,453	
of which 20% – CA	1,080,000	5291 ¹²³	5,713,869,600
of which 5% – PSA, CA	3,000,000	1,323 ¹²⁴	3,967,965,000
	1,080,000		1,428,467,400
Total RSD			284,106,294,000
Total EUR			2,582,784,491
Total EUR m			2,583

¹¹⁷ = RSD 5,000 per month * 12 months * 50 years of life

¹¹⁸ = RSD 5,000 per month * 12 months * 18 years of life

¹¹⁹ = RSD 2,000 per month * 12 months * 18 years of life

¹²⁰ = RSD 5,000 per month * 12 months * 50 years of life

¹²¹ 50% of 105,812

¹²² = RSD 5,000 per month * 12 months * 18 years of life

¹²³ 20% of 26,453

¹²⁴ 5% of 26,453

The difference in social welfare expenditures, i.e. the decrease thereof, is shown in the table below.

Table 49. Decrease of social welfare expenditures that would result from implementation of measures

	Status quo	Adoption of measures	Difference
Total RSD	596,781,936,000	284,106,294,000	312,675,642,000
Total EUR	5,425,290,327	2,582,784,491	2,842,505,836
Total EUR m	5,425	2,583	2,843

The total measurable societal benefit resulting from the adoption of measures amounts to about **EUR 7,827m**, i.e. about **EUR 7.8bn** (of which EUR 4,984m as a result of higher earnings and the remaining EUR 2,843m as a result of lower social benefits).

The non-measurable societal benefits of enhanced educational attainment levels are multiple and may be seen in all spheres of life – from lower health care expenditures, given that, on average, better educated individuals pay more attention to prevention and health preservation, to higher security and lower crime rates, to higher social cohesion and creation of a society pervaded by a sense of care for each individual.

Since the costs of implementing this package of measures for a single longitudinally monitored generation in education (with derived social benefits of education) lie on average between EUR 1,107 million and EUR 1,496 million, compared to the EUR 7,827 million “returned” to society, the benefits of these measures are without doubt. Additional support measures for a single generation of vulnerable children require between EUR 1,107 million and EUR 1,496 million to support their education from the preparatory preschool age to the end of secondary education. Following their completed education, the social returns of their additional education would amount to EUR 7,827 million. This vivid example clearly shows the cost effectiveness of education and amount of social returns.

Concluding Observations

- The proportion of children in three-year and four-year secondary education will change – Education Development Strategy in the Republic of Serbia until 2020.
- Cost impact of introducing compulsory secondary education.
- Phased introduction – regional, pilot municipal introduction programme.
- Prioritising measures, so as not to introduce all measures at once, but rather with a certain time lag.
- The breakdown of costs by measures may change in the future with a decrease in the drop-out rate. The expenditures on support to children in school would increase, while expenditures on outreach measures, case management and similar measures would decrease.
- The breakdown of costs by measures may change with changes in the ratio of labour prices to prices of other goods (food, books, housing, footwear, clothing and the like).
- Overall economic growth may affect shifts in the significance of the proposed measures.
- How to ensure the principle of equity in cases where children in families with income slightly above the eligibility ceiling for children's allowance are excluded from all these support measures (in those cases, would the solution lie in introducing a higher income ceiling for a given set of measures – such as textbooks, school supplies, school trips, meals and the like)?
- How to solve the problem of stigma attached to children and families? Consider in particular how to organise the provision of specific services without creating differences among children (e.g. free school meals provided only to specific children during breaks between classes – should the provision of school meals to all schoolchildren then be introduced as a requirement, etc.)?

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