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Review of the Current Allocation Formula for Education Subvention

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Education subvention has been introduced in Ukraine in December 2014 with the reform of the Budget Code. The reform created a modern system of local government finance in Ukraine, with a fixed list of revenues of local governments, including shared taxes, own revenues, subventions (targeted, conditional transfers) and dotations (general, non-conditional transfers), each with its own allocation rules. This system of specific revenue streams replaced a previous, much more complex set of formulas encompassing both the planned expenditures and the planned revenues of rayons (so called “gap filling calculation”, to assess and cover for all individual rayons and cities the gap between foreseen revenues and foreseen expenditures), introduced in Ukrainian Budget Code in 2000 and used with some changes until 2014.

Two subventions in the education sector are foreseen in the Budget Code, namely *education subvention* to finance general secondary schools to rayons and amalgamated gromadas, and *subvention for preparation of working cadres* for oblasts to finance vocational education. The present note focuses on education subvention only¹.

By law, the allocation formula for education subvention is approved by the Cabinet of Ministers following a proposal submitted by the Ministry of Education and Science (MES) and reviewed by the Ministry of Finance (MF). In 2015, the first year of functioning of education subvention, the allocation formula was included already in the Budget Law, adopted by the Parliament². It was understood that

¹ The subvention for preparation of working cadres was used in 2015 and was discontinued in 2016. It will be discussed in a separate short note to be prepared by SDU project. There are also discussions about possible introduction of a separate subvention for textbook, but no concrete proposals have been presented.

² See Закон України «Про державний бюджет України на 2015 рік». The same formula was used in 2015 for allocation of the subvention for preparation of working cadres.

MES had no time and experience to propose an allocation formula of its own. This formula was in fact the education expenditure component of the gap-filling calculation mentioned above. For fiscal year 2016 MES proposed the same formula, without any changes. This current allocation formula is the topic of the present short note. Its goal is to discuss how it works and what are its strengths and limitations. We try to provide a clear explanatory presentation of the current formula for all Ukrainian education stakeholders.

The present note is part of ongoing analytical work conducted by the Swedish-Ukrainian project “Support to Decentralization in Ukraine” (SDU), in cooperation with the Institute of Education Analytics (IEA). SDU project submitted recently to MES a related short note *Proposed Structure of Allocation Formula for Education Subvention*.

1. Overall structure of the current allocation formula

The current allocation formula for education subvention is a pure per student formula. This means that education subvention is allocated to rayons and amalgamated gromadas³ only on the basis of the number of students belonging to different groups with different weights associated to them, and no other factors are being used. This is important to stress, because many education allocation formulas in transition countries use some additional factors, such as composition of teacher workforce (for example, in Poland) or lump sum allocation in addition to per student allocation (for example, in Macedonia).

Ukrainian allocation formula is a top-down formula. This means that with each group of students, for example students in some types of sanatorium schools, the formula associates a specific *coefficient* or *weight*, which reflects different costs of providing education to this group of students. For each rayon, the number of weighted students is calculated by summing up over all the groups of students defined in the formula, with the number of students in the group multiplied by the weight. The allocation of education subvention to rayons is proportional to the number of weighted students calculated for every rayon. In other words, the total pool of funds given to education subvention is divided by the total number of weighted students, and the resulting amount is *per student standard*. Each rayon receives the amount of education subvention equal to its number of weighted students multiplied by the per student standard. This is very similar to the Polish allocation formula, but quite different from the Lithuanian formula (which calculates per student normatives on the basis of programmatic and salary indicators). On the other hand, unlike in the Polish formula, groups of students to whom different weights are applied are mutually exclusive (the weights are not additive, see below).

There are altogether 32 weights used in the current allocation formula, see Table 1 below. With one exception, the weights are applied to students of different school types taking into account school location. This has an important implication: to each student in Ukrainian school system only one weight is applied. This is unlike some allocation formulas in transition countries. For example, Polish formula may associate a number of different weights to one student, for example if she attends a gymnasium school (first weight) located in the rural area (second weight) and belongs to a national

³ In 2015, general secondary schools were managed and financed by rayons. As of January 2016, 159 newly established amalgamated gromadas manage and finance schools located on their territory. Whenever below we refer to rayons, this reference includes also the amalgamated gromadas.

minority (third weight), and then all these weights are added. In Ukrainian formula weights are associated with school types, including also school location.

The one exception to this rule is the very high weight for students without parental support (and therefore in need of full support from the state, including dormitories, food, cloths, school supplies and other living expenses, see weight 32 in Table 1 below). This weight is applied independently of the school where these students are enrolled (see comment under Table 1). It is important to note that if a student without parental support attends a school with dormitory, only one weight is associated with this student, namely this exceptional one. Thus for students in schools with dormitories with parental support there is a different weight if the school is located in the mountains or not, but the same uniform weight is applied for students without parental support. We note that for these students also only one weight is applied (no adding of weights).

As noted, most weights are applied to types of school, in some cases taking into account its location. Weights are assigned to the following types of schools: general secondary schools, special schools, schools with dormitories. A specific separate type of school is “Olympic reserve school” for especially gifted students (sport schools, IT and science schools, and similar, weight 24 in Table 1). This weight is very high, because it also includes costs of dormitories.

There are three criteria regarding school location used in the current allocation formula:

1. Whether the school is located in urban or rural areas.
2. Whether the school is located in the area recognized as mountain or not.
3. Whether the school is located on the territory of city of oblast significance or in a rayon.

Thus, for example, there are four locations for urban schools (see weights 1 to 4 in Table 1). A separate location category are small mining towns and mono-functional cities with small average class sizes (see weight 15 in Table 1 below).

The third school location criterion is administrative and is related to who is the school founder: a city of oblast significance or a rayon. It should be remembered that cities of oblast significance (of which there are 171 in Ukraine) often include some areas around actual main cities, and these areas can be both rural (villages, sela) and urban (urban settlements, selishta miskogo tipu). Thus there can be rural schools in cities of oblast significance (altogether under 6 thousand students in 2015). Of cities of oblast significance, two are located in the mountains (Yaremche and Bolehiv, ivanofrankovska oblast), and one which is not actually located in the mountains, but does include a mountainous urban settlement (settlement Skhidnitsa, city of oblast significance Borislav, Lvivska oblast). It is to the very few students of schools located in these three towns that weight 3 in Table 1 applies.

2. Details of the formula

The official description of the allocation formula is provided in the Annex. The following Table 1 lists all the weights, provides the number of students to whom the weights apply, number of weighted students (equal to the number of physical students multiplied by the weight), as well as percentage of the overall sum of education subvention. In this way the table provides an estimate of how important different weights are in the allocation process. The order of the weights in the table was chosen to facilitate analysis and does not correspond to order in official Ukrainian documents.

Tab. 1. Weights used in 2015 together with the number of students.

	Definition of group of students	Weight	Students	Weighted students	Share of subvention	
1	Учнів у денних загальноосвітніх школах без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах міська місцевість – місто	0,841	1 954 838	1 644 019	33,85%	
2	Учнів у денних загальноосвітніх школах без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах міська місцевість – район	0,926	618 491	572 723	11,79%	
3	Учнів у денних загальноосвітніх школах, розташованих у гірських населених пунктах міська місцевість - місто	0,968	2 943	2 849	0,06%	
4	Учнів у денних загальноосвітніх школах, розташованих у гірських населених пунктах міська місцевість – район	1,064	24 607	26 182	0,54%	
5	Учнів денних загальноосвітніх шкіл, без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах сільська місцевість	Over 22,2	1,010			
6		17,8 – 22,2	1,178	74 798	88 112	1,81%
7		14,8 – 17,8	1,305	199 878	260 841	5,37%
8		11,7 – 14,8	1,431	325 072	465 178	9,58%
9		Under 11,7	1,751	529 385	926 953	19,09%
10	Учнів денних загальноосвітніх шкіл, які за статусом віднесені до гірських - сільська місцевість	Over 22,2	1,162			
11		17,8 – 22,2	1,355	13 654	18 501	0,38%
12		14,8 – 17,8	1,500	31 799	47 699	0,98%
13		11,7 – 14,8	1,645	20 883	34 353	0,71%
14		Under 11,7	1,936	5 733	11 099	0,23%
15	Учнів у малокомплектних денних загальноосвітніх навчальних закладах у малих шахтарських та монофункціональних містах з наповнюваністю не вище 11,7 учня на клас	1,751	11 512	20 158	0,42%	
16	Учнів вечірніх загальноосвітніх шкіл – місто	0,430	30 995	13 328	0,27%	
17	Учнів вечірніх загальноосвітніх шкіл – район	0,290	19 093	5 537	0,11%	
18	Учнів у спеціальних школах	2,500	2 084	5 210	0,11%	
19	Учні, які потребують корекції фізичного та (або) розумового розвитку і навчаються у класах з інклюзивним навчанням (без учнів спеціальних шкіл (шкіл-інтернатів) міська місцевість	2,500	3 370	8 425	0,17%	
20	Учні, які потребують корекції фізичного та (або) розумового розвитку і навчаються у класах з інклюзивним навчанням (без учнів спеціальних шкіл (шкіл-інтернатів) сільська місцевість	2,500	848	2 120	0,04%	
21	Учні, які потребують корекції фізичного та (або) розумового розвитку і навчаються у спеціальних класах	2,500	5 478	13 695	0,28%	
22	Вихованців у санаторних школах-інтернатах	5,400	14 036	75 794	1,56%	
23	Вихованців у школах-інтернатах з посиленою військовою підготовкою	6,500	4 761	30 947	0,64%	
24	Учнів у ліцеях (училищах) олімпійського резерву	8,400	3 855	32 382	0,67%	
25	Вихованців у загальноосвітніх школах-інтернатах (без вихованців ш-і у гірських населених пунктах, у ш-і з посиленою військ.підг.та ліцеїв (училищ) олімпійського резерву, вищих училищ фізкультури, санаторних шкіл-інтернатів)	5,000	27 387	136 935	2,82%	
26	Крім того, учні, що приходять на навчання у загальноосвітніх школах-інтернатах (без вихованців ш-і у гірських населених пунктах, у ш-і з посиленою військ.підг.та ліцеїв (училищ) олімпійського резерву, вищих училищ фізкультури, санаторних шкіл-інтернатів)	1,000	8 258	8 258	0,17%	
27	Вихованців у загальноосвітніх школах-інтернатах гірської місцевості	5,700	2 679	15 270	0,31%	
28	Крім того, учні, що приходять на навчання у загальноосвітніх школах-інтернатах гірської місцевості	1,100	432	475	0,01%	
29	Вихованців у спеціальних школах-інтернатах для дітей з вадами	6,600	32 155	212 223	4,37%	

30	Крім того, приходять учнів у спеціальних школах-інтернатах для дітей з вадами	2,500	1 479	3 698	0,08%
31	Вихованців у спеціальних школах-інтернатах для дітей з вадами, що знаходяться у гірській місц.	7,500	606	4 545	0,09%
32	дітей-сиріт та дітей, позбавлених батьківського піклування	12,020	14 068	169 097	3,48%
	Total		3 985 177	4 856 604	100,00%

Overall, for 3.98 million physical students covered by the education subvention, there are 4.8 million weighted students (average weight equal to 1,2187).

The first four weights in Table 1 apply to students in mainstream general secondary schools urban schools⁴, according to four school locations defined by location criteria listed in the previous section:

1. Weights 1 and 3 are for cities of oblast significance, weights 2 and 4 for rayons.
2. Weights 1 and 2 are for non-mountain schools, weights 3 and 4 for mountain schools.

Weights 5 to 14 in Table 1 correspond to students in rural schools. Weights 5 to 9 are applied to students of mainstream schools in rural areas, and weights 10 to 14 to mainstream schools located in rural areas in the mountains⁵. For both non-mountain and mountain rural schools, rayons are divided into 5 categories depending on the actual average class size. The first category (with the largest class sizes, above 22,2 students, weighs 5 and 10) does not apply to any students, because there are no rayons with rural schools with such large average class sizes. Nevertheless, the weights are defined for them anyway, and historically there were rayons falling into this category (see Table XX below). For this reason we include these “empty weights”, stating that the number of both physical and weighted students in these categories is zero. Thus there are in fact 8 categories of rural schools, with different allocation weights. This provides for considerable flexibility in the allocation process (in contrast, the Polish formula uses one weight for all rural schools).

Some weights are lower than 1. This is the case of students enrolled in evening schools (weights 16 and 17 in Tab. 1), and reflects the relatively reduced teaching effort in those schools. Interestingly, also the weights for two largest groups of students, namely for urban general secondary schools located in non-mountain areas (weight 1) and in the mountains (weight 2), are less than 1⁶. This distinguishes Ukrainian allocation formula from many formulas in transition countries, where a “reference” student, typically a student in basic education in the city, has weight 1 (for example, in Poland and in Lithuania). This is, of course, a matter of choice. We note here that by multiplying all the weights by an appropriate amount it is possible to make weight 1 equal to 1 without affecting in any way the allocation of the subvention. However, this would make Table 1 somewhat easier to read for non-specialists.

Finally, we observe that the highest weight (weight 32) is associated with orphan students, who not only attend schools, but also need to be provided with appropriate additional support (dormitories,

⁴ By mainstream general secondary school here we mean all day general secondary schools, except those located in small or in mining cities, and excluding special schools, schools with boarding houses, students in inclusive (integrated) classes or in special classes in general secondary schools.

⁵ Unlike for urban schools, same weights apply to students of rural schools irrespective of whether they are located within the city of oblast significance or in the rayon.

⁶ These two groups of students comprise 65% of all secondary school students in Ukraine and only 46% of all weighted students.

food, school materials, other living expenses). These students attend different types of schools with dormitories (in parenthesis we list the number of orphans in that school type): general secondary schools (2874), special schools (4622), schools with in-depth military training (160), Olympic reserve schools (59), schools for orphans and orphanages (6353).

3. Review of the formula

The most important issue of education finance in Ukraine concerns the level of funding of mainstream urban and rural schools. As noted in the previous section, there are 2 categories of cities (cities of oblast significance, cities in the rayons) and 4 categories of rayons. For mainstream schools, without schools located in the mountains, the current formula uses weights 1, 2 and 5 to 9 (see Tab. 1, we address the mountain schools below). The different coefficients used in the formula reflect different per student costs in these schools, mainly due to different average class sizes.

The following Table 2 provides overall allocation to mainstream secondary schools not located in mountains (this includes general secondary schools excluding special and inclusive classes). Please note that the number of administrative units refers separately to rural and urban parts of rayons, and excludes rayons wholly located in the mountains.

Tab. 2. Administrative units, students and classes for non-mountain urban and rural schools

Учнів денних загальноосвітніх шкіл, без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах		Administrative units	Students (thousand)	Classes (thousand)
міська місцевість	місто	169	1 954,8	78,2
	район	435	618,5	30,7
сільська місцевість	17,8 – 22,2	13	74,8	3,9
	14,8 – 17,8	44	199,9	12,3
	11,7 – 14,8	108	325,1	24,9
	Under 11,7	324	529,4	54,5

Of the urban school students, about 76% attend schools in cities of oblast significance, and under 25% attend schools in small cities in the rayons. This is expected, because large cities have very large student population. However, the distribution of students among the 4 categories of rural rayons is somewhat surprising. The fourth category, with the highest weight, comprises 46,9% of all students in non-mountain rural schools, while the first category, with the lowest coefficient, comprises only 6,6% of them.

To better assess the functioning of the formula, in the following Tab. 3 we provide the weights (as in Tab. 1 above), average class size and average weighted class size (that is the class size multiplied by the applicable weight).

Tab. 3. Weights, class sizes and weighted class sizes for non-mountain urban and rural schools

Учнів денних загальноосвітніх шкіл, без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах		Formula weight	Class size	Weighted class size
	місто	0,841	25,13	21,13

міська місцевість	район	0,926	20,64	19,11
сільська місцевість	17,8 – 22,2	1,178	17,62	20,75
	14,8 – 17,8	1,305	16,90	22,06
	11,7 – 14,8	1,431	13,09	18,74
	Under 11,7	1,751	10,10	17,68

We note that the system of weights to some extent equalizes allocation per class, as it is intended to. The discrepancy in class size between urban and rural schools is very much reduced after application of the weights, especially for the cities of oblast significance. The discrepancies in class size of rural schools in different groups of rayons, however, were reduced only partially. In particular, even after the use of weights the difference of per class allocation for rayons with average class size 14,8 – 17,8 and with average class size under 11,7 remain significant. The first of these two groups of rayons is probably relatively overfunded, the second is probably relatively underfunded. We note that this last group of rayons covers almost a half of all rural students in Ukraine.

We now turn to mainstream city and rural schools located in the mountains (weights 3, 4 and 10 to 15 in Tab. 1). We know already from Tab. 1 that there are far fewer schools located in the mountains than non-mountain schools. The following Tab. 4 provides number of administrative units, students and classes for six groups of mountain general secondary schools.

Tab. 4. Administrative units, students and classes for mountain urban and rural schools

Учнів денних загальноосвітніх шкіл , які за статусом віднесені до гірських		Administrative units	Students (thousand)	Classes (thousand)
міська місцевість	місто	3	2,9	0,14
	район	16	24,6	1,13
сільська місцевість	17,8 – 22,2	3	13,7	0,74
	14,8 – 17,8	11	31,8	2,15
	11,7 – 14,8	9	20,9	1,17
	Under 11,7	4	5,7	0,52

As for non-mountain schools, in the following Tab. 5 we provide the weights, average class size and average weighted class size (that is the class size multiplied by the applicable weight).

Tab. 5. Weights, class sizes and weighted class sizes for mountain urban and rural schools

Учнів денних загальноосвітніх шкіл , які за статусом віднесені до гірських		Formula weight	Class size	Weighted class size
міська місцевість	місто	0,968	21,48	20,79
	район	1,064	21,80	23,19
сільська місцевість	17,8 – 22,2	1,355	18,38	24,90
	14,8 – 17,8	1,500	14,80	22,21
	11,7 – 14,8	1,645	12,47	20,51
	Under 11,7	1,936	11,09	21,47

Again, we note that the effect of using weights is as expected, namely huge variation of actual class size has been reduced. However, while the schools in rayons with mountain class size under 11,7

seems to have been quite precisely compensated, urban schools in rayons and especially rural schools in rayons with class size over 17,8 seem to have been compensated excessively.

It is also useful to compare directly weighted class sizes, provided in last columns in Tab. 3 and Tab. 5 above. For urban schools in cities of oblast significance and for rural school with class sizes between 14,8 and 17,8 mountain and non-mountain schools are treated in the same manner. For urban schools in the rayons, rural schools in rayons with class size over 17,8 and with class size under 11,7 mountain schools have per class allocation about 20% higher than non-mountain schools. In the remaining category, rural schools in rayons with class size between 11,7 and 14,8, mountain schools have allocation about 10% higher than non-mountain schools. Thus we can conclude that in general, the current system of weights gives some preference to mountain general secondary schools, both urban and rural.

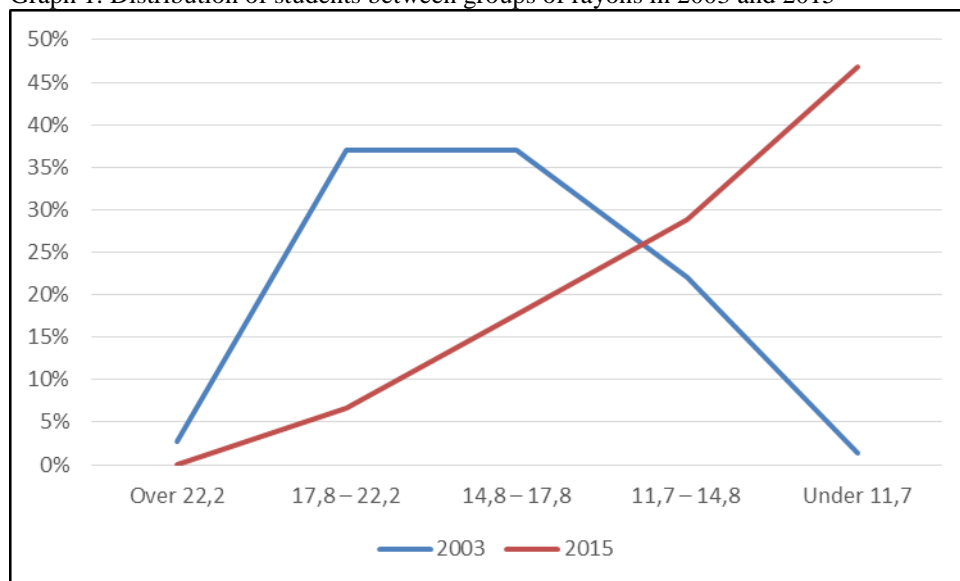
In order to better understand the allocation described in Tab. 2 and Tab. 3, it is useful to compare these data with information from 2003, available in V. Voytov (2003). The following table provides the number of administrative units, and students for mainstream non-mountain rural secondary schools (unfortunately data in this article do not include urban schools nor mountain schools, so complete historical comparison is not possible).

Tab. 6. Administrative units, students, class sizes for non-mountain rural schools (2003)

Учнів денних загальноосвітніх шкіл, без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах		Administrative units	Students (thousand)
сільська місцевість	Over 22,2	8	55,3
	17,8 – 22,2	116	759,3
	14,8 – 17,8	203	761,2
	11,7 – 14,8	148	453,7
	Under 11,7	13	26,8

We note that in 2003 the distribution of administrative units and especially of students was very different: the extreme categories of rayons included very few rayons, schools and students. We also note that the number of students in mainstream rural schools declined considerably between 2003 and 2015: it fell from 2,06 million to 1,13 million, a decline of 45%. The following graph shows this difference more clearly (to discount for overall decline of the number of students we display the percentages only).

Graph 1. Distribution of students between groups of rayons in 2003 and 2015



What has happened over the intervening 12 years was a steady loss of efficiency of Ukrainian rural education. Year after year, the rayons were reclassified as belonging to category with smaller class sizes, until the first category became empty, and the last one became the largest. Graph 1 illustrates the dramatic effects of this process.

It is worth reviewing class sizes in 2003. As in above Tab. 3 and Tab. 5, we provide both actual class sizes and weighted class sizes.

Tab. 7. Administrative units, students, class sizes for non-mountain urban and rural schools (2003)

Учнів денних загальноосвітніх шкіл, без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах		Allocation weight	Class size	Weighted class size
сільська місцевість	Over 22,2	1,010	23,0	23,2
	17,8 – 22,2	1,178	19,5	23,0
	14,8 – 17,8	1,305	16,0	20,9
	11,7 – 14,8	1,431	13,7	19,6
	Under 11,7	1,684	11,0	18,5

Similarly to Tab. 3, we note also that in 2003 the use of weights contributed to a reduction of class size discrepancies between different groups of rayons, but even then they were not entirely reduced.

We should also point out that the coefficients used in 2003 were almost fully the same as the coefficients used in 2015 (the formula used in 2002 is provided in Voitov 2003). In this period the coefficient for rural non-mountain schools with class size under 11,7 has changed⁷. This coefficient was increased from 1,684 in 2003 to 1,751 in 2015.

There are very good reasons why out of 5 coefficients for mainstream rural non-mountain schools (weights 5 to 9 in Tab. 1) only the last one was changed. Indeed the first category of rayons became empty, and the others are defined by both a lower bound and an upper bound of actual class size.

⁷ A few other coefficients have also been changed, and some coefficients have changed the way they are applied in the formula.

This means that average class size cannot change in such a group of rayons. If in a particular rayon due to demographic decline actual class size falls below the lower bound, that rayon will automatically be moved to the next category of rayons, without affecting much the average class size. The last category, however, is defined only using an upper bound on the class size (namely 11,7), so with the demographic decline and without network optimization the average class size will also decline. This effect can be seen by comparing Tab. 3 and Tab. 6. The appropriate coefficient was increased in order to compensate for this loss of efficiency. This certainly indicates that experts in the Ministry of Finance were monitoring the situation very closely and were able to respond adequately. We do not have the data to review why the analogous coefficient for mountain schools was not adjusted.

Finally we return to the allocation formula presented in Tab. 1 and address two specific issues. Recall that there are three “pairs” of weights, one for schools in cities of oblast significance, one for cities in rayons. It is worth noting these pairs and the difference between the relevant weights. The following Table 8 provides the list of these pairs of weights, the two values depending on the school location, and the percentage of rural weight in relation to urban weight.

Tab. 8. Pairs of city and rayon weights in Tab. 1.

School type	City of oblast significance	Rayon	% difference
Учнів у денних загальноосвітніх школах без гірських населених пунктів, шахтарських та малих міст, учнів у інклюзивних та спеціальних класах міська місцевість	0,841	0,926	10%
Учнів у денних загальноосвітніх школах, розташованих у гірських населених пунктах міська місцевість	0,968	1,064	10%
Учнів вечірніх загальноосвітніх шкіл	0,430	0,290	-33%

Interestingly, the weights for students in schools located in rayons for urban general secondary schools, both in non-mountain areas and in mountains, are higher than corresponding weights for cities of oblast significance school by 10%, but for evening schools they are one third lower. This suggests that evening schools outside of cities of oblast significance have for some reason larger classes, unlike day general schools.

There are also three pairs of weights for schools with dormitories, applying to resident students and incoming students⁸. Weights for resident students are higher, and the difference is used to cover the costs of accommodation and food. The comparison of those weights is provided in the table below.

Tab. 9. Pairs of weights for resident and incoming students in schools with dormitories in Tab. 1.

Type of school with dormitory	Resident	Incoming	Difference
Mainstream general education school with dormitories	6,6	2,5	4,1
Mainstream school with dormitories in the mountains	5,0	1,0	4,0
Special school with dormitories	5,7	1,1	4,6

⁸ Incoming students only attend the lessons, but do not use the dormitory itself.

Tab. 8 indicates that the cost of dormitory per student are assumed to be roughly the same in different types of schools with dormitories.

3. Strengths and weaknesses of current allocation formula

The allocation formula used currently in Ukraine has been in operation for over 15 years, initially as a part of gap-filling calculation, and for the last two years as a stand-alone formula allocating education subvention. It is therefore well established, and in particular there are tested procedures necessary for the yearly collection of all necessary data. Thanks to this experience it was relatively easy for the Ministry of Finance to implement new education subvention in December 2014.

We can identify the following strong points of the current formula:

1. The formula is a pure per student formula allocating education subvention in a transparent, publicly known and predictable manner.
2. The formula addresses the differences in average class sizes to compensate higher per student expenditures of schools in rural rayons. Moreover the formula allows flexibility in treating different rural rayons differently.
3. MF has been able to address changes in the efficiency of Ukrainian education by adequately adjusting a number of coefficients (for example the coefficient for rural non-mountain schools with class sizes under 11,7).
4. The development of the formula shows some flexibility in the application of the coefficients. For example the coefficient for students without family support became independent of the school type (in 2003 it was tied to schools with dormitories for orphans).
5. The consistency of difference between weights for resident and incoming students in schools with dormitories will make it quite easy to separate funding of schools from funding of dormitories.

At the same time, Ukrainian formula has a number of weaknesses. We list below the main ones:

1. By using actual (empirical) class sizes, the formula does not put pressure on optimization of school networks. Indeed, the effort put into optimization results in increasing average class size, and therefore leads to a reduction of education subvention allocated. This is clearly evident in the movement of rayons across the 5 categories (see Graph 1).
2. Analysis reveals that different groups of schools are not treated in a similar way. Many rural schools are relatively underfunded, while many mountain schools are relatively overfunded.
3. It is very difficult to assess whether the level of funding allocated through education subvention is sufficient. Neither MES nor MF conduct systematic calculations addressing the problem of adequacy, therefore they cannot respond to criticism that the funds are insufficient.
4. Ukrainian local governments assume that education subvention should cover all education expenditures, because the legislation does not specify for which specific types (budget lines) of expenditures it is allocated. This means that any shortfall is attributed to insufficient allocation from the national budget, and not to inefficient organization of school networks at the local level.
5. In theory the system of coefficients can be used to flexibly adjust allocation to the changing needs of different groups of municipalities. However, in practice there has been remarkably

little change in the values of coefficients in 15 years of the operation of the formula. This shows that MF is reluctant to question and review the current formula.

Kiev, February 12, 2016

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