



Polaris

Supporting Multilevel
Governance in Ukraine

PROFILE LYCEUMS IN ALLOCATION FORMULA FOR EDUCATION SUBVENTION



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SN 190

Profile Lyceums in Allocation Formula for Education Subvention

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Ministry of Education and Science of Ukraine (MES) is preparing the lyceum reform in September 2027, that is the introduction of profile lyceum (профільні ліцеї) as a replacement for current upper secondary school (старша середня школа). The preparations include a pilot of the reform starting a year earlier, September 2026 (as determined in Decree of Cabinet of Ministers of August 26, 2025, Nr 1058), and adjustment of several normative acts regulating profile lyceums, of which the most important ones are Order of MES Nr 765 of May 26, 2025, on teaching plans for profile lyceums, and Order of MES Nr 128 of February 20, 2002, on division of classes into groups (all legal acts cited in the present report are listed at the end). At the same time, MES needs to consider the financial consequences of the lyceum reform and the necessary adjustments to the allocation formula for education subvention from the national to local budgets.

The lyceum reform is the last stage of major reform of Ukrainian secondary education, known as New Ukrainian School (Нова українська школа) and referred to as NUSh (НУШ). NUSh reform begun in September 2018, when new students of the first grade started the school year 2018/19 to follow the new curriculum implemented with new teaching methods. That cohort will enter grade 10 in September 2027, and in this way will become also the first group of students following the new curriculum in profile lyceums.

The lyceum reform changes radically the current approach to teaching of upper secondary school (grades 10 and 11). New grade 12 will be introduced. Students will be able to choose from a multitude of different profiles, and much of the teaching will be delivered in small interclass groups (міжкласні групи), in contrast to today's approach focused primarily on class teaching. As pedagogical effort of upper secondary schools will increase, and as teaching will become more individualized, the resulting increased costs have to be taken into account in the allocation formula for education subvention. This subvention covers only the salaries of pedagogical staff of lyceums, which means that other increased costs of lyceum reform, such as need for more classrooms to accommodate teaching in interclass groups, and for more specialized equipment, will be borne by founders of secondary schools, that is territorial gromadas (TG) and regions (together forming so called 'local budgets'). Analysis of these additional costs of lyceum reform, especially the expanded needs for school infrastructure, is very important to MES but falls outside the scope of the present report.

The goal of the present Short Note 190 is to propose a way to adjust the allocation formula for education subvention to reflect the new principles of providing upper secondary education, and to provide initial estimates of resulting budget costs of the lyceum reform. The adjustment of the formula needs to take into account the following considerations:

- It should be consistent with overall design of the allocation formula, in particular it should be based on the same or analogous concepts,
- It should adequately reflect the innovations involved in the lyceum reform,
- It should allow to finance upper secondary education in the implementation period, when some students will follow the current curriculum and others will follow the new curriculum.

In order to achieve these goals, in the present SN 190 we present:

- A brief review of the current allocation formula (section 2.1),
- A brief recapitulation of key elements of lyceum reform (section 1.1),
- A review of implementation schedule of lyceum reform (sections 1.2 and 1.3).

This is the basis for proposing the new formula to finance profile lyceum in section 2, with the new concepts of normative groups size and of teaching plan for interclass groups (section 2.2), review in detail

how to estimate teaching plan for interclass groups (section 2.3), and analyze sensitivity of resulting allocation to key parameters of the new formula (section 2.4).

The step-wise implementation of the lyceum reform in successive school years (section 1.2) means that in order to estimate budget costs of the reform it is necessary to look into the future and provide prognosis of students numbers, including those following the current and the new curriculum. These projections are the topic of section 3, in which we first present projections of student numbers for school years until 2029/30 (section 3.1), then we translate them into projections for budget years until 2030 (section 3.2), and then summarize the results of these prognoses (section 3.3).

Prognoses of student numbers and proposed allocation formula can be used together to estimate budget costs of lyceum reform. These estimates are presented in section 4. We stress that any coefficients proposed for the new formula for financing profile lyceums are only preliminary and need to be reviewed in detail by experts of MES. Indeed, already in section 2.3 we show the effects of varying some of these coefficients. Together with the current SN, Excel files in which all reported estimates were obtained are being made available to the Ministry.

As is evident from the demographic prognosis in section 3.3, even with lyceum reform Ukrainian secondary education will in the near future suffer huge loss of the number of students. This is of course sad, as it reflects both declining fertility rates and massive migrations abroad following Russian aggression against Ukraine in February 2022. From the purely budget perspective, this represents savings, or opening fiscal space. In the final section we discuss this emerging fiscal space and what it means for planning major education reforms, including not only lyceum reform but also the planned reform of teacher salaries.

The present SN 190 is continuation of analytical support to MES provided by experts of Polaris Programme and of its predecessor project. Allocation formula for education subvention was one of key topics of this analytical support. Recent Short Notes focusing on the formula include “Allocation formula during the war” (SN 165, May 2024), “Normative class sizes for budget year 2025” (SN 168, July 2024), “Estimates of actual class size” (SN 173, January 2025), “Policy options for education subvention for last four months of 2025” (SN 176, March 2025), “Policy options for normative class sizes for distant classes” (SN 177, March 2025), “Steps towards allocation of education subvention for budget year 2026” (SN 181, July 2025), “Individual students in the allocation formula” (SN 182, July 2025), “Allocation formula for education subvention 2026” (SN 185, January 2026), and “Strategic issues for allocation formula for 2027” (SN 187, March 2026).

Acronyms used in the Short Note

MES	Ministry of Education and Science of Ukraine
TG	Territorial hromada
NCS	Normative class size
NGS	Normative group size (for interclass groups)
FTE	Full-time equivalent
TP	Teaching plan
TS	Average teacher salary
BY	Budget year
SY	School year
NUSh	New Ukrainian School
AIKOM	Automated Education Management System
SN	Short Note

Executive summary

Ministry of Education and Science of Ukraine is preparing for implementation of the last phase of New Ukrainian School reform, namely introduction of profile lyceums. The reform will begin in September 2027 and will conclude in September 2029. For a few years, instruction will be conducted both under the current curriculum and in profile lyceums. Key elements of the reform are extension of learning from 11 grades to 12 grades and more individualized model of instruction: instead of conducting all lessons in classes, some lessons will be conducted in smaller interclass groups. It will be necessary to amend the allocation formula for education subvention already for budget year 2027, to reflect specific features of profile lyceums as well as their implementation schedule.

The present Short Note reviews key issues of profile reform (section 1) and proposes allocation formula for profile lyceums (section 2). The proposed formula is a simple extension of the current allocation formula for education subvention, and uses analogous main parameters. It distinguishes between instruction in classes and instruction in interclass groups. Only a few new parameters are needed for this amended formula.

Further, Short Notes provides projections of student numbers for school years until 2029/2030 and for budget years until 2030 (section 3). Dramatic decline of student cohort is expected, especially in initial and basic education. Without lyceum reform, in 2030 there will be about 20% less students of secondary education than now (loss of about 650 thousand students). Implementation of lyceum reform will slow this trend by introducing new grade 12, but will not reverse it: in 2030 we can expect 14% students less than now (loss of about 450 thousand students).

In the main section 4, the formula proposed in section 2 is applied to evolving cohorts of students. This allows to analyze budget consequences of lyceum reform until budget year 2030, under some scenarios. “Hard scenario” imposes more discipline on local school networks than “soft scenario”, but leads to lower overall costs of the reform. The decline of student numbers means that overall costs of secondary education will also decline. This creates space for funding the reform: although group instruction is inherently more expensive than just class instruction, under both scenarios the additional costs are lower than budget economies due to demographic trends.

The Short Note concludes with a brief section 5 discussing strategic challenges facing the Ministry of Education and Science in addressing budget consequences of demographic trends. All considered expensive education reforms should be reviewed together to assess their costs and their benefits to Ukrainian society. Especially relevant in this context is planned reform of teacher remuneration. This means that the Ministry will have to decide on the policy of financing lyceum reform (that is, on selected implementation scenario) while balancing and comparing its different priorities. Constrained national budget in the conditions of ongoing war with the Russian Federation makes it very difficult to plan and implement education reforms.

1. Lyceum reform and its implementation schedule

In the present section we review the defining elements of the lyceum reform, which are relevant for the discussion how it should be reflected in the allocation formula for education subvention (section 1.1). We also discuss the implementation schedule (section 1.2), which is of course defined for school years, but which for the needs of allocation formula needs to be reviewed in the framework of budget years (section 1.3).

1.1. Key elements of lyceum reform

The lyceum reform is the last step of overall reform of secondary education, known as New Ukrainian School (NUSh). It will cover grades from 10 to 12. The lyceum reform consists of five crucial elements:

1. Introduction of education profiles, meaning that all students beginning upper secondary education will have to select the profile which they want to follow.
2. New curriculum, including a large part of teaching conducted in interclass groups (see section 2.2), and significantly increased share of elective subjects (both profile and non-profile subjects).
3. Grade 12 is introduced, extending obligatory education from current 11 years.
4. Division of general secondary schools into two separate education institutions, covering initial and basic education (grade 1 to 9) and upper secondary education (grades 10 to 12) is strongly encouraged but not enforced.
5. A new position of education career advisor (освітній кар'єрний радник) is created and added to obligatory school staffing levels.

Implementation of the reform will follow the grade-by-grade format (see section 1.2). Teaching in profile lyceums is conducted both in classes and in interclass groups:

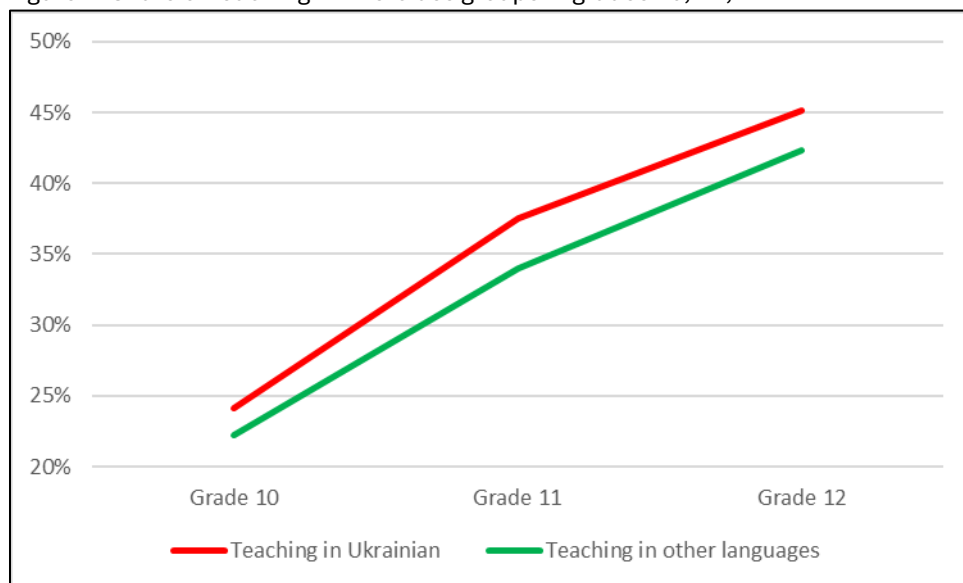
- Teaching plan determines weekly number of teaching hours for each grade, each profile, separately for classes and for interclass groups. Here teaching hour refers to a lesson lasting 45 minutes.
- Classes are relatively large, with 20 to 30 students.
- Groups are relatively small, with 8 to 12 students.

The class size and group size in profile lyceum are highly controversial. Initially, MES officials talked about imposing minimum enrollment requirements on lyceums, with each grade having at least 100 students, thus ensuring at least four classes of 25 students. These proposals were aimed at creating strong lyceums, giving their students real choice of multiple profiles. However, these norms were never adopted in normative acts, and today there are no restrictions to open a class in upper secondary school with 6 students, that is meeting the minimum class size 5 set in art. 12 of Law on Complete General Secondary Education. At the same time, minimum group size is set at 8 students, as determined in Order of MES Nr 128 of February 20, 2002. This implies that 8 is also the minimum number of students in a grade of profile lyceum (unless interclass groups allow multigrade teaching). It is of course very strange that minimum legally allowed group size is larger than minimum class size. Still, it seems that opening of two classes in a grade, with 6 students each, and forming one interclass group is allowed (even though of course very inefficient).

Here we need to stress that interclass groups are mentioned in Conceptual Principles of reform of Profile Education (Order of MES Nr 1451 of October 10, 2024). Later they were regulated in Order of Division of Classes into Groups (Order of MES Nr 128 of February 20, 2002, amended through Order of MES Nr 331 of February 23, 2026). In particular, lessons of profile subjects are obligatorily divided into interclass groups, irrespective of how large they are. This clearly indicates that by design, classes in profile lyceums are supposed to be large, even if this is not regulated. At the same time, division of classes into interclass groups for profile lyceum is formally equated with division of classes into groups when these classes are large. However, in the formula we distinguish between interclass groups and other forms of division of classes into groups, see section 2.2).

During the three grades of profile lyceum, the focus shifts from predominant teaching of general subjects to predominant teaching of profile subjects, which has to be conducted in groups. This increasing share is presented in the following Figure 1, which shows averages for all groups of profiles, separately for classes with Ukrainian instruction language and for classes conducting teaching in languages of ethnic minorities.

Figure 1. Share of teaching in interclass groups in grades 10, 11, 12



We observe that in grade 10 (the first grade of profile lyceum) about 25% of teaching is conducted in interclass groups, and this share increases to about 45 in the last grade. Data in Figure 1 are based on Table 4 and Table 5, and on the fact that in all three grades, for any instruction language, overall teaching plan is 36 hours per week.

1.2. Implementation schedule

The implementation schedule of the lyceum reform is planned for successive school years (see Figure 20. At the same time, education subvention is allocated always function for successive budget years, as it is an important part of overall education budget (see Figure 3). Thus, before the implementation is completed, for budget purposes it is necessary to “translate” school years into budget years, and to adopt corresponding budget instruments (coefficients for teaching under the current and new curriculum).

The implementation of lyceum reform is planned analogously to the start of NUSh in initial grades in the school year 2019/20. This means that students following the old, pre-NUSh curriculum in basic education will continue under the old curriculum until they graduate from grade 11, while those who started their education already under NUSh curriculum will continue into profile lyceum after they graduate from grade 9. In other words, the first cohort of students starting grade 1 back in September 2019 will begin learning in grade 10 of profile lyceum in September 2027.

The gradual implementation of lyceum reform is shown in the following two graphs. School years are denoted SY, and budget years BY. Yellow color marks the current curriculum, green color marks the new curriculum. The following Figure 2 presents implementation schedule focusing on school years.

Figure 2. Implementation of lyceum reform in school years

	BY2025		BY2026		BY2027		BY2028		BY2029		BY2030		BY2031
	SY2025/26		SY2026/7		SY2027/28		SY2028/29		SY2029/30		SY2030/31		
Grade 12													
Grade 11													
Grade 10													
	Sept 25	Jan 26	Sept 26	Jan 27	Sept 27	Jan 28	Sept 28	Jan 29	Sept 29	Jan 30	Sept 30	Jan 31	

We observe that the last new intake of students following current curriculum in grade 10 will be in September 2026. These students will continue into grade 11 in the school year 2027/28, and after graduation in June 2028 teaching under the current curriculum will be discontinued. Thus the school year 2027/28 is the only school year during which schools will be teaching students following both current and new curriculum, and after September 2028 all the grades will follow the new curriculum. The first intake of students who will follow the new curriculum into grade 10 will be in September 2027. These students will move into grade 11 in September 2028, and into grade 12 in September 2029, creating a new grade of Ukrainian secondary education. Thus school year 2029/30 will be the first school year when the implementation of lyceum reform will be complete.

As an aside, we observe that in July 2027 there will be no new graduates of secondary schools, consequently in October there will be only minimal enrollment into first year of Universities. MES needs to plan how to reorganize work of higher education for this period, especially regarding employment of teaching staff. There will be also some economies during the academic year 2029/30 which should be discussed. We do not discuss these issues as they fall outside of the focus of the present SN.

The same implementation schedule focusing on budget years is presented in Figure 3 below.

Figure 3. Implementation of lyceum reform in budget years

	BY2025		BY2026		BY2027		BY2028		BY2029		BY2030		BY2031
Grade 12													
Grade 11													
Grade 10													
	Sept 25	Jan 26	Sept 26	Jan 27	Sept 27	Jan 28	Sept 28	Jan 29	Sept 29	Jan 30	Sept 30	Jan 31	

We note that budget year 2026 is the last budget fully before the start of the lyceum reform, which will begin in the middle of budget year 2027. In budget year 2028, students in grade 11 will follow the current curriculum for 8 months, and the new curriculum for 4 months. In the middle of budget year 2029, a new grade 12 will appear, but only for the last 4 months. Finally, budget year 2030 is the first budget after national roll-out of the reform, with three grades in profile lyceums following the new curriculum.

We will also consider the hypothetical scenario when the lyceum reform is not introduced. This means that in the graphs above grade 12 is removed, and color green is replaced with yellow.

1.3. Shares of pedagogical work under the current and the new curriculum

As is evident from the two graphs above, in budget years 2026 and 2027, all students of secondary school follow the old curriculum. In budget years 2029 and beyond, all students of secondary school will follow the new curriculum. The only distinction we can see in Figure 3 that year 2030 is the first budget year which will have three grades of profile lyceum from January to December.

However, in budget years 2027 and 2028 there will be students following both curricula. Note that this is different from the school years: only in one school year 2027/28 there will be grade 10 following the new curriculum and grade 11 following the old curriculum.

For the allocation of education subvention for budget years 2027 and 2028, it is necessary to assess what proportion of pedagogical effort of secondary schools is provided under the old and under the new curriculum. For simplicity, we ignore the difference of the number of students in grade 10 and 11, as well as the change of the number of students from the start of the new school year in September.

For budget year 2027, four months of pedagogical effort (one third of the year) for grade 10 is conducted under new curriculum, and zero for grade 11. Thus $\frac{1}{6}$ or 16,7% of all pedagogical effort is provided under the new curriculum, and 83,3% under the old curriculum.

For budget year 2028, we see that old curriculum is provided for 8 months of the year for grade 11, and zero for grade 10. Thus $\frac{1}{3}$ or 33,3% of all pedagogical effort is provided under the old curriculum, and 66,7% under the new curriculum. This justifies the following table.

	2026	2027	2028	2029	2030
Share of effort under old curriculum	100,0%	83,3%	33,3%	0,0%	0,0%
Share of effort under new curriculum	0,0%	16,7%	66,7%	100,0%	100,0%

If the hypothetical scenario of non-implementation of the lyceum reform, share of pedagogical effort under the new curriculum is systematically assumed to be 0,0%.

2. Proposed formula

Our purpose is to propose a formulaic approach for financing of profile lyceums within the allocation formula for education subvention from the national to local budgets. In order to propose this, we need to state several assumptions. The validity of these assumptions must be confirmed before MES takes further steps.

2.1. Allocation formula for education subvention

The allocation formula for education subvention begins with the number of students Y (from Ukrainian учні, students). This is divided by the normative class size NCS , then multiplied by the teaching plan TP (number of lessons per week), then divided by 18 (standard weekly teaching load of Ukrainian teacher is 18 lessons), and finally multiplied by average teacher salary. These four steps are summarized in the following Table 1 (adapted from SN 185). We follow the convention that allocation parameters referred to in the text are written using Latin alphabet, while those used in the formulas are written using Cyrillic alphabet.

Table 1. Key steps of the allocation formula

Step	Formula	Result of the formula	Notation used
1	$\frac{1}{PHK} \times Y$	Number of classes	PHK – normative class size NCS
2	$\frac{1}{PHK} \times Y \times HP$	Weekly number of classes	HP – teaching plan TP
3	$\frac{1}{PHK} \times Y \times HP \times \frac{1}{18}$	Number of FTE teachers	18 hours is the weekly workload of Ukrainian teachers
4	$\frac{1}{PHK} \times Y \times \frac{1}{18} \times HP \times 3\Pi$	Subvention for conducting classes	3\Pi – average yearly teacher salary TS

This calculation is performed separately for:

- Initial (grades 1 to 4), basic (grades 5 to 9) and upper secondary education (grades 10 to 11 or 12),
- Mainstream and special education,
- Day and evening classes,
- Full curriculum and Ukrainian subjects only (українознавчий компонент)
- Communal and private schools,
- General secondary schools, professional-technical schools, and institutions of pre-higher education providing secondary education.

Separate coefficients are then used for division of classes into groups for selected subjects, for students in mountain schools, for inclusion, and for pedagogical staff not conducting lessons (including school principals, psychologists, personnel for extracurricular activities). Normative class size is determined for all territorial gromadas (TG). Detailed review of how NCS is established is presented in SN 185.

We stress that students in each of three levels of education (initial, basic, upper) are treated together, which means that separate grades are not taken into account. This is done for simplicity (to have three teaching plans for mainstream day classes), but one effect is that average teaching plans for education levels have to be used (Ukrainian legislation defines teaching plans separately for every grade). Normative class size in a gromada applies to all three levels of education.

2.2. Proposed formula for profile lyceums and its coefficients

The main challenge is to maintain the overall approach of the formula as presented in Table 1 and adapt it to the peculiar features of profile lyceum. This is achieved by separately assessing the needs for teachers conducting lessons in classes, and for teachers conducting lessons in interclass groups, even though in many cases these may be the same persons. This requires that we define four coefficients for profile lyceums, listed in Table 2

Table 2. Four coefficients for allocation for profile lyceums

Coefficient	Meaning of the coefficient
$PHK_{\text{проф, клас}}$	Normative class size for classes in profile lyceum
$HP_{\text{проф, клас}}$	Teaching plan for instruction in classes
$PHG_{\text{проф, груп}}$	Normative group size for interclass groups in profile lyceum

НП _{проф,груп}	Teaching plan for instruction min groups
-------------------------	--

With these four coefficients, we can assess overall pedagogical effort of profile lyceum, fully analogously to Table 1. Pedagogical effort for teaching in classes becomes:

$$\frac{1}{PHK_{\text{проф,клас}}} \times Y \times \frac{1}{18} \times НП_{\text{проф,клас}} \times 3П$$

where Y is the number of students of profile lyceum in territorial gromada. Analogously, the pedagogical effort for teaching in groups

$$\frac{1}{PHG_{\text{проф,груп}}} \times Y \times \frac{1}{18} \times НП_{\text{проф,груп}} \times 3П.$$

Pedagogical effort for conducting lessons in profile lyceum then becomes the sum of these two expressions:

$$Y \times \left(\frac{НП_{\text{проф,клас}}}{PHK_{\text{проф,клас}}} + \frac{НП_{\text{проф,клас}}}{PHG_{\text{проф,клас}}} \right) \times \frac{1}{18} \times 3П.$$

Our next step is to discuss each of the four coefficients for profile lyceum used in this formula. Normative class size $PHK_{\text{проф,клас}}$ should be linked to NCS for given TG, but should not be less than for example 20 or 25. We can therefore:

$$PHK_{\text{проф,клас}} = \max(PHK, 20) \text{ or } PHK_{\text{проф,клас}} = \max(PHK, 25)$$

This means that for TG with NCS above 25, normative class size for profile lyceum will be equal to NCS for the gromada. However, if gromada's NCS is for example 15, then normative class size for profile lyceum will be either 20 or 25. The number 20 or 25 used in the above formula we call NCS limit for lyceum.

Normative group size NGS should be defined by education norms. Order of MES Nr 128 of February 20, 2002 defines only that an interclass group cannot be less than 8, but may be larger, presumably depending on actual class size. Thus one option would be to set $RNG = 8$. MES experts, however, suggest that when dividing classes into interclass groups, it is better to create larger interclass groups, with maybe 12 students, so that they can keep functioning even if during the course of lyceum one or two students would leave the school or change the profile. This means that RNG may be equal, for example, to 8, 10, or 12.

We discuss teaching plans for class teaching and for group teaching in section 2.3 below, to establish the remaining two key parameters of allocation formula for profile education. As for the current allocation formula, teaching plans will have to be averaged over grades.

Finally, we do not take into account the new position of career advisor (освітній кар'єрний радник). It is still not decided how many such positions will be created, so it is impossible to estimate their costs to the national budget. It would be reasonable to allocate funds for their salaries through the increased coefficient for other pedagogical staff (for pedagogical staff not conducting lessons).

2.3. Division of classes into interclass groups

In the present section, we review the legislative basis for setting teaching plans for class instruction and for instruction in interclass groups. According to Order of MES Nr 765 of May 26, 2025, there are three clusters of profiles:

1. Language and literature profile (мовно-літературний кластер),
2. Social and humanities profile (соціально-гуманітарний кластер),
3. Science, technology, engineering and mathematics profile (STEM кластер).

Within these clusters, there are 16 groups of profiles planned for profiled lyceums: 8 for classes teaching in Ukrainian (Annex 3 to this Order), and 8 for classes teaching in minority languages (Annex 4). The following table list the clusters and profiles for instruction in Ukrainian and in minority languages, with relevant symbols for later use: UM for Ukrainian, KM for other languages.

Table 3. Clusters, groups of profiles, and their symbols

Cluster	Name of group of profiles	Symbol	Symbol
МОВНО-ЛІТЕРАТУРНИЙ КЛАСТЕР	Профілі з поглибленим вивченням української мови та літератури;	UM1	KM1
	Профілі з поглибленим вивченням української мови та літератури, мов і літератур корінних народів і національних меншин		
	Профілі з поглибленим вивченням іноземної мови	UM2	KM2
СОЦІАЛЬНО-ГУМАНІТАРНИЙ КЛАСТЕР	Профілі з поглибленим вивченням історії та громадянської освіти	UM3	KM3
	Профілі з поглибленим вивченням географії та іноземної мови	UM4	KM4
	Профілі з поглибленим вивченням мистецтва	UM5	KM5
STEM КЛАСТЕР	Профілі з поглибленим вивченням хімії та біології	UM6	KM6
	Профілі з поглибленим вивченням математики та фізики	UM7	KM7
	Профілі з поглибленим вивченням математики, інформатики, технологій	UM8	KM8

Groups of profiles for classes teaching in Ukrainian and in minority languages have the same names, except for UM1 and KM1, for which two names have been included in the table above.

Lessons in profile lyceum are conducted either in classes or in interclass groups. The following lessons have to be conducted in interclass groups:

- From the list of obligatory subjects, the profile subjects, that is the subjects which are listed in the name of the profile,
- Additional hours for obligatory profile subjects (Кількість навчальних годин для обов'язкових освітніх компонентів за обраним профілем (навчальні предмети / інтегровані курси / міжгалузеві інтегровані курси / проведення індивідуальних консультацій, групових занять та проєктної діяльності)).

For each group of profiles and each grade, total number of hours per week is 36. The following table 2 and 3 provide the number of lessons per week which need to be divided into groups for each group of profiles and for each grade, separately for instruction in Ukrainian and in minority languages (distinguished by the symbol of group of profiles). For grade 10, the value reported in tables below is the average of regulatory hours established in legislation for the first and second semester (that is why it is not always an integer). In addition, averages (mean values) are provided for groups of profiles, for grades, and overall.

Table 4. Hours per week to be divided into groups, education in Ukrainian language

Profiles	Grade 10	Grade11	Grade12	Average
UM1	10,0	15,0	17,0	14,00
UM2	9,0	13,0	16,0	12,67
UM3	10,0	13,0	16,0	13,00
UM4	7,5	13,0	16,0	12,17
UM5	8,0	11,0	14,0	11,00
UM6	3,0	11,0	14,0	9,33
UM7	7,5	15,0	18,0	13,50
UM8	11,5	15,0	19,0	15,17
Average	8,31	13,25	16,25	12,60

Table 5. Hours per week to be divided into groups, education in minority languages

Profiles	Grade 10	Grade11	Grade12	Average
KM1	11,0	15,0	18,0	14,67
KM2	7,5	11,0	14,0	10,83
KM3	9,0	12,0	15,0	12,00
KM4	9,5	16,0	18,0	14,50
KM5	6,5	10,0	13,0	9,83
KM6	2,5	9,0	12,0	7,83
KM7	8,5	12,0	16,0	12,17
KM8	9,5	13,0	16,0	12,83
Average	8,00	12,25	15,25	11,83

The diversity of the number of lessons per week which should be divided into groups is remarkable. The groups of profiles KM6 and UM6 (Профілі з поглибленим вивченням хімії та біології, minority languages and Ukrainian language) have particularly few divisions into groups, compared for example with UM8 (Профілі з поглибленим вивченням математики, інформатики, технологій, Ukrainian language). At the same time, averages for grades are quite similar between Ukrainian and minority language classes (systematically slightly lower for minority languages classes), to somewhat similarly averages for groups of profiles. This differentiation of the number of hours per week which need to be divided into groups is quite large and does not seem to be based on pedagogical principles. The following table provides two measures of this differentiation, namely the ratio of the maximum to the minimum number, and coefficient of variation (defined as standard deviation divided by the mean).

Table 6. Measures of differentiation of teaching in groups between profiles

Instruction language	Measure of differentiation	Grade 10	Grade11	Grade12	Average
Ukrainian	Ratio of maximum to minimum	3,833	1,364	1,357	1,625
	Coefficient of variation	0,288	0,118	0,101	0,134
Minority	Ratio of maximum to minimum	4,400	1,778	1,500	1,872
	Coefficient of variation	0,305	0,181	0,134	0,182

Table 6 provides statistical confirmation of what a review of tables 2 and 3 has already indicated, namely that:

- Differentiation between profiles is highest for grade 10 and declines for higher grades,
- Differentiation is larger for instruction in minority languages, for every grade.

Instruction in minority languages is a small share of overall secondary education, so it is proposed to use in the allocation formula the following values, rounded to half an integer:

- Teaching plan for profile lyceum, teaching in classes: 23, 5 hours per week.
- Teaching plan for profile lyceum, teaching in groups: 12, 5 hours per week.

2.4. Sensitivity of allocation parameters for profile lyceum

With the proposed Values of all 4 coefficients for the formula for profile lyceums, it is now possible to estimate the impact of new financing model. As this depends of course on NCS of TG (in the formula for normative class size for lyceum), we can present the impact on a few examples of actual TG, provided in the following Table 7. Positive difference in the last column means that profile lyceum is more expensive than current curriculum.

Table 7. Examples of impact of new model on gromadas

TG	NCS	Difference
Київ	27,5	37,2%
Таврійська ТГ	24,5	27,8%
Каховська ТГ	23	19,9%
Тавричанська ТГ	22	14,7%
Олешківська ТГ	20	4,3%
Гніванська ТГ	18	-6,1%
Тульчинська ТГ	16	-16,6%

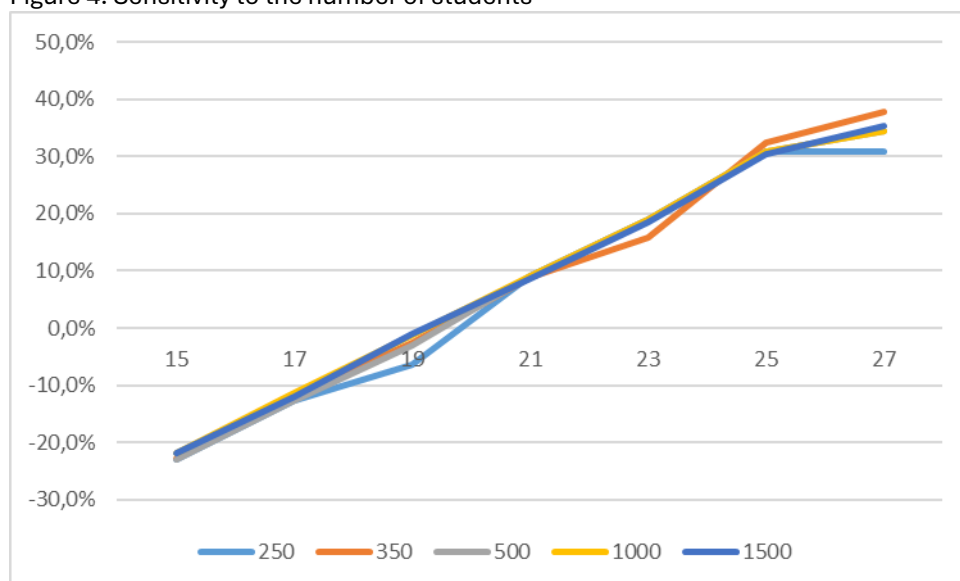
Only TG with at least 200 students in upper secondary education are presented in Table 7. We observe that for large NCS the new curriculum of profile lyceum allocates more funds (it is more expensive to the national budget), while for TG with low NCS it allocates significantly less funds. This is because for rural TG with low NCS, assumed normative class size for lyceum is larger, leading to fewer classes and lower costs.

With this in mind, we can undertake to estimate how sensitive the allocation for profile lyceums is to possible changes of its parameters. Three parameters are tested for their sensitivity for subvention costs for profile lyceums: number of students, limit for NCS for lyceums, and RNG, depending on NCS for a territorial gromada.

The following graphs present percent difference of costs of providing lyceum education compared with the current system. Positive difference means that new system is more expensive, negative difference means that it is less expensive. The difference is presented for 7 possible values of NCS of TG, from 15 to 27 (lower axis).

In Figure 4 we assume NGS = 12, limit for NCS for lyceum is 25, and the number of students varies from 250 to 1500 (different lines in the graph).

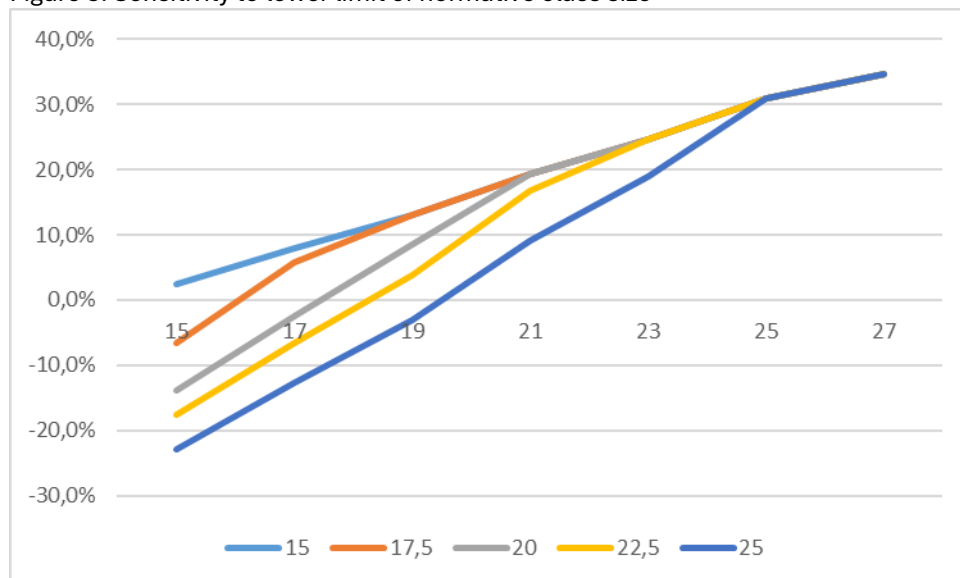
Figure 4. Sensitivity to the number of students



The difference of costs of profile lyceum education compared to current curriculum increases as NCS of TG increases (all lines are sloped upwards). For TG with low NCS, profile lyceum education is more than 20% cheaper than current curriculum. For TG with large NCS profile lyceum education is up to 30% more expensive. This is another way of expressing the findings of Table 7. We observe that there is no dependence of the costs of lyceum education on the number of students.

In Figure 5 number of students is 500, RNG is 12, and limit for NCS for lyceum varies from 15 to 25.

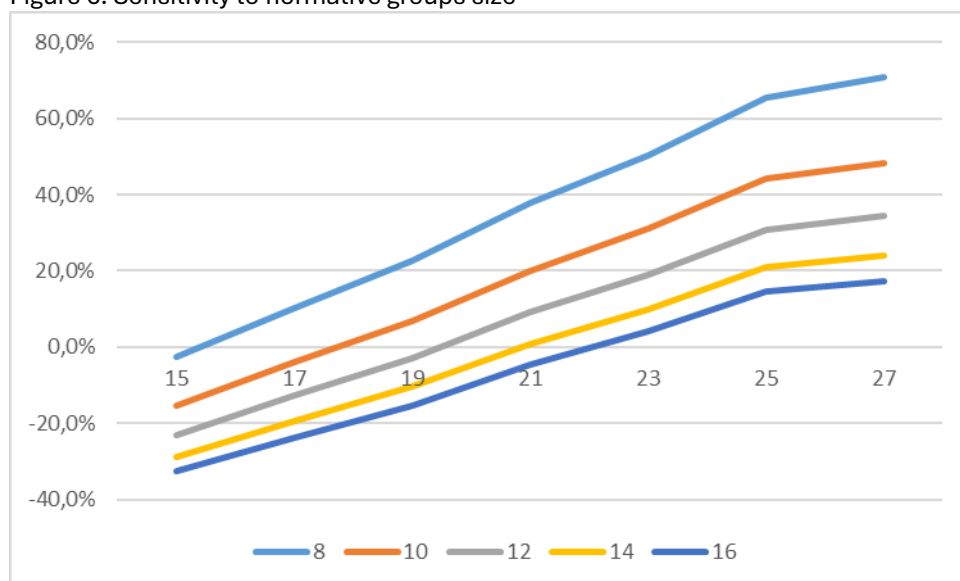
Figure 5. Sensitivity to lower limit of normative class size



Again the difference of costs of profile lyceum education becomes positive and larger as NCS of TG increases. However, if NCS limit for lyceum is small enough, for example 15, then in small TG costs of profile lyceums become comparable or even higher than costs of current curriculum. For NCS of gromada high enough, there is no difference of costs of profile lyceums compared to current curriculum for different NCS limits.

In the last Figure 6 the number of students is 500, limit for NCS for lyceums is 25, and RNG varies from 8 to 16.

Figure 6. Sensitivity to normative groups size

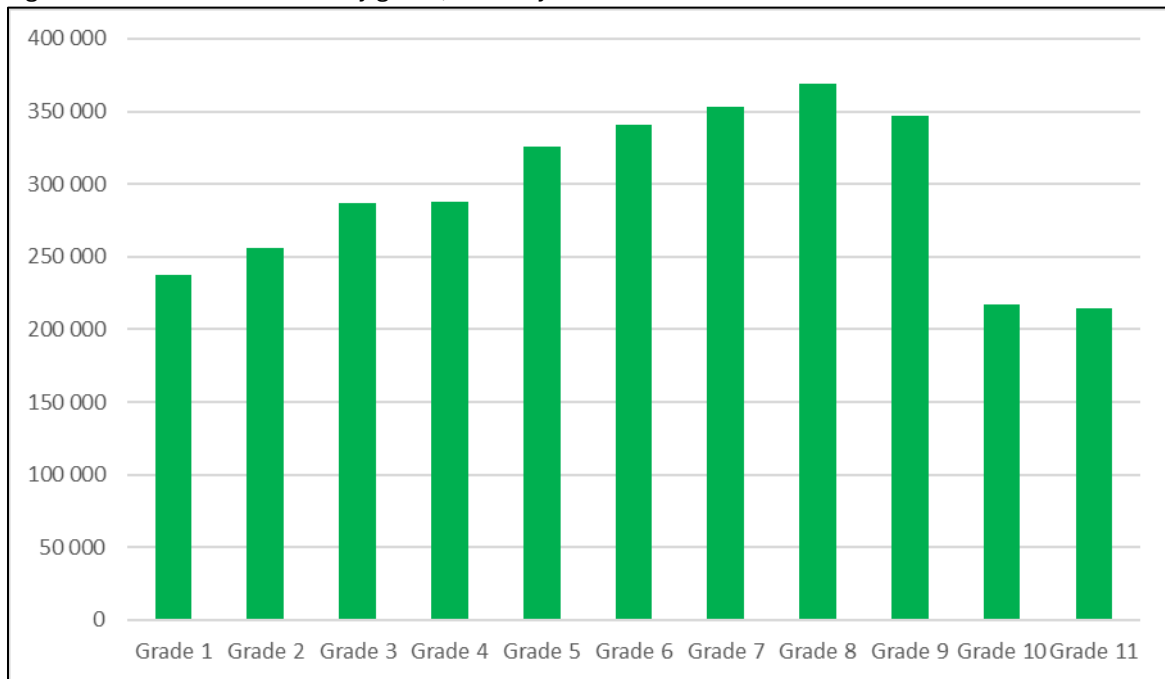


The costs of profile lyceum compared to current curriculum are very sensitive to changes in RNG: for smaller RNG they are significantly larger. For small enough RNG even in rural TG cost of new curriculum is higher than cost of current curriculum.

3. Demographic simulations

Demographic simulations (or projections) of the number of students in profile lyceum are performed as part of overall projections of the number of students in each grade, because future students of upper secondary education are now still in lower grades of basic education. The basis for these projections is the actual number of students by grade in the school year 2025/26, reported in September 2026 in Automated Education Management System AIKOM. The national data are presented in the following Figure 7.

Figure 7. Number of students by grade, school year 2026/27



We observe two features of the distribution of students between grades, which are the key to prognosis:

- The younger grades are increasingly smaller. This is the result of demographic changes which took place between 2008 and 2018, that is well before the Russian aggression of 2022. Figure 7 shows declining number of children born, a trend which was certainly continued after 2018. Without doubt, Russian aggression led to further decline of Ukrainian birthrate. This means that future cohorts of students entering grade 1 will be even smaller.
- There is sudden decrease of the number of students in grade 10 compared to previous grade. This is the effect of some students continuing their education in general secondary schools, while some move to professional-technical schools or enroll in pre-higher education. The lyceum reform will most likely not affect this feature of Ukrainian education, at least not in the immediate future.

The methodology of prognosis, discussed in the following two sections, is based on systematic analysis of these two empirical facts.

3.1. Prognosis of the number of students for school years until 2029/2030

Since the prognosis of the number of students will be used to assess the costs of the lyceum reform, and as normative class sizes and other allocation parameters are different for individual territorial gromadas, the prognosis must be conducted for each gromada.

Prognosis of the number of students for school years is performed in two ways: simple and detailed. The simple approach is to use the same coefficients of changing number of students for each gromada. The detailed approach is to assess changing number of students separately for each gromada.

Simple prognosis: number of students in initial, basic and upper secondary education is performed for the whole country (to average extremal cases). This allows to calculate change coefficients (growth of decline coefficients) for successive school years, starting with the school year 2025/26. These uniform national

coefficients are then applied to the number of students in three levels for every gromada (same percentual increase or decrease for every school year).

Detailed prognosis: number of students in every grade is assessed for future school years separately for every gromada, and then used to calculate the number of students in initial, basic and upper secondary education. This results in differentiated (non-uniform) growth or decline of student numbers in different gromadas.

Prognosis for school years:

1. For new grade 1, we need backwards prognosis depending on demographic trends. To avoid impact of individual extremal cases (or data errors), we calculate demographic coefficient equal to number of students in grades from 1 to 4, divided by number of students in grades from 2 to 5), using AIKOM data from September 2025. The demographic coefficient is assessed either for the whole country (simple prognosis) or for each TG (detailed prognosis). We assume the demographic coefficient is constant until 2030. In each year, the prognosis of the number of students in grade 1 is equal to the number of students in grade 1 a year earlier multiplied by demographic coefficient.
2. For new grade 10, we need to take into account that a certain percentage of students of secondary schools from grade 9 leave the school to continue education in professional or pre-higher education institutions. To reflect this, we calculate continuation coefficient, comparing the number of students in grade 9 in September 2024 with the number of students in grade 10 in September 2025. The continuation coefficient is assessed either for the whole country (simple prognosis) or for each TG (detailed prognosis). We assume the continuation coefficient is constant until 2030. In each year, the prognosis of the number of students in grade 10 is equal to the number of students in grade 9 a year earlier multiplied by continuation coefficient.
3. For grades 2 to 9 and for grades 10 to 12, we assume that the number of students in the new school year is the same as the number of students in the earlier grade one year earlier.

The analysis will compare the cost of the reform to the hypothetical scenario when the lyceum reform is not introduced. For the prognosis of the number of students this simply means that grade 12 is not present.

The following Table 8 provides the values of demographic and continuation coefficients at the national level (simple approach) and average values of these coefficients for groups of TG (detailed approach). We omit oblasts, for which these coefficients are not comparable, as secondary schools founded by many regions have mostly upper secondary or basic and upper secondary students. This means that for oblasts neither continuation coefficient not continuation coefficient is really applicable. However, schools founded by oblasts enroll only about 1% of all students of secondary schools.

Table 8. Average values of demographic and continuation coefficients

Model	Scope of averaging	Coefficient	
		Demographic	Continuation
Simple	National value	0,9240	0,5910
Detailed	Kyiv	0,9320	0,6314
	Former cities of oblast significance	0,9008	0,5639
	Former cities of rayon significance	0,9085	0,6049
	Settlement TG	0,9015	0,6068
	Rural TG	0,9093	0,5995
	Ukraine	0,9059	0,5989

The largest decline of the number of students (the smallest values of demographic coefficients) is seen for former cities of oblast significance and for settlement TG. Kyiv student population declines the least. Kyiv also has the highest proportion of students continuing general secondary education after grade 9 (continuation coefficient) at 63%, while the lowest again is in former cities of oblast significance, at 56%. The national value of the demographic coefficient is somewhat higher than average value over all TG, while there is practically no difference for the continuation coefficient. This suggests that the two approaches to prognosis are quite comparable.

3.2. Prognosis of the number of students for budget years until 2030

For the calculation of education subvention, the number of students in initial education (grades from 1 to 4), in basic education (grades from 5 to 9), and upper secondary education (grades from 10 to 12) should be established for calendar year. Essentially, we take the sum of students in relevant grades as of September of the year before the assessed budget year. This means that the number of students in the school year beginning in September of the assessed budget year is not taken into account.

For initial and basic education, this is standard budget procedure already employed for many years. For upper secondary education the situation is more complex, as graphs above indicate.

For budget years 2027 and 2028, the number of students of upper secondary education can be assessed as the number of students in grades 10 and 11 in September of the preceding year.

For the more complex budget year 2029, we assume that the number of students of upper secondary school is equal to the number of students of grade 10 and 11 in September 2028, plus one third of the number of students in grade 11. This reflects the fact that new grade 12 will operate from September to December only, that is for 4 months out of 12.

For budget year 2030 and beyond, the number of students of upper secondary school is equal to the number of students of grade 10, 11, and 12 in September of the previous year.

If the hypothetical scenario of non-implementation of the lyceum reform, grade 12 is not taken into account.

The following Table 9 provides comparison of two approaches to prognosis by reviewing projected number of students by level of education in budget year 2030. For simplicity option without lyceum reform was chosen.

Table 9. Comparison of two approaches to prognosis, students in 2030, by education level

Level of education	Approach		Difference	
	Simple	Detailed	Numbers	%
Initial	783 410	799 330	15 920	2,01%
Basic	1 394 333	1 394 364	31	0,00%
Lyceum	410 523	407 108	-3 415	-0,84%
All	2 588 265	2 600 802	12 537	0,48%

The largest discrepancy between two methodological approaches is observed for initial education, with simple approach projecting 2% more students. This is of course the result of an overestimation of the demographic coefficient for simple approach (see Table 8). Still, given the simplicity of both methodologies, the two results are very close.

We can also compare two approaches to prognosis by comparing their results by type of TG. As in Table 8, in Table 10 we omit oblasts, because student projections for them are not reliable.

Table 10. Comparison of two approaches to prognosis, students in 2030, by type of TG

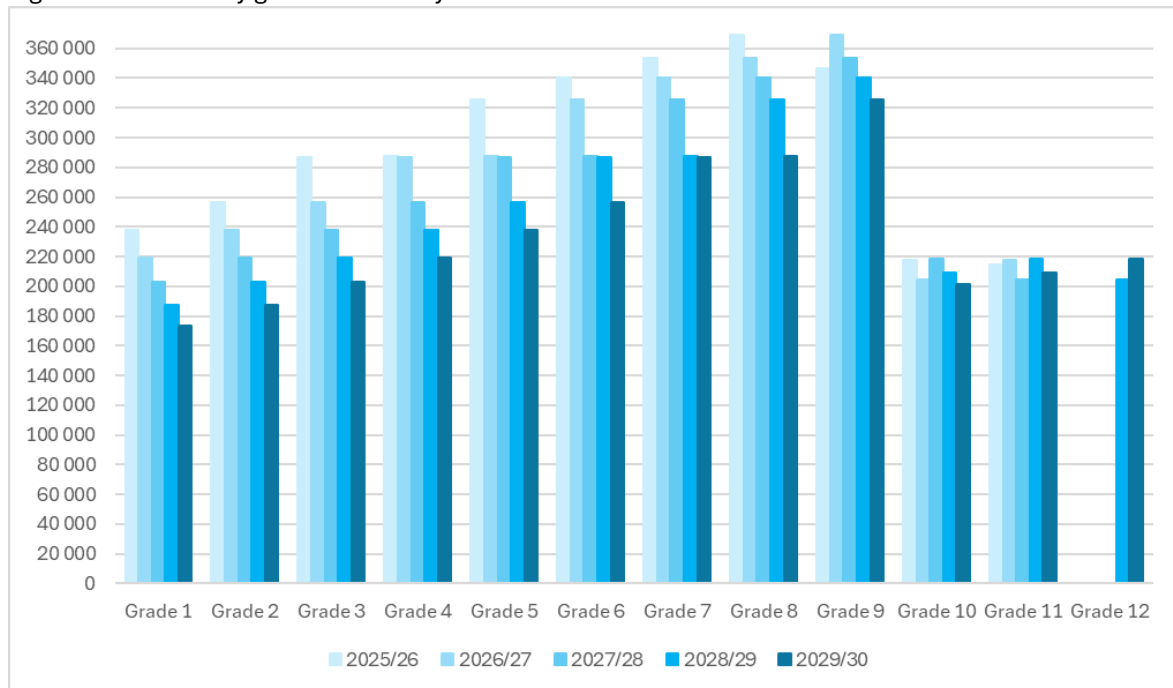
Level of education	Approach		Difference	
	Simple	Detailed	Numbers	%
Kyiv	189 129	193 112	3 983	2,08%
Former cities of oblast significance	1 183 651	1 191 010	7 359	0,62%
Former cities of rayon significance	432 308	432 869	561	0,13%
Settlement TG	407 255	412 216	4 961	1,21%
Rural TG	344 297	355 038	10 741	3,07%

Again we note that simple approach results in somewhat higher projected number of students, but the differences are not significant (they are more significant for oblasts, not presented in Table 10), even for Kyiv. We can conclude that two approaches provide very close results, and hence that both are reliable projections of the number of students.

3.3. Results of demographic simulations

Our first presentation of results of prognosis of the number of students is the distribution of students for successive school years from the current one, 2025/26, until 2029/30, shown in different shades of blue in Figure 8.

Figure 8. Students by grade in school years until 2029/30

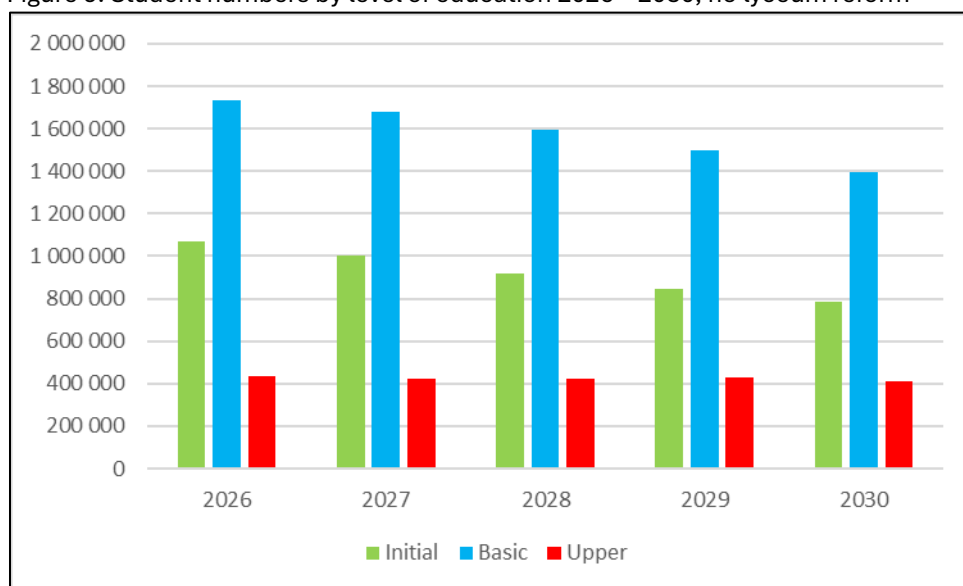


Of course, data for the current school year repeat the data in Figure 7. Furthermore, as follows from Figure 2, students in grade 12 appear only from September 2028, for school years 2028/29 and 2029/30. This is the effect of lyceum reform. If that reform would be cancelled, these students would not appear, but all other values in the figure would remain unchanged.

We observe in Figure 8 that for every grade from the first grade up to grade 8 there is a decline of the number of students with each new school year, on average by about 7%. The enrollment in grades 9 to 11 is relatively stable over the school years covered here. This simply means that the projected decline is delayed and will appear only in later school years, in 2032/33 and later. Overall, Figure 8 shows that distribution of students across grades, shown for the current school year in Figure 7, moves to the right with every school year, in line with methodology outlined in section 3.1.

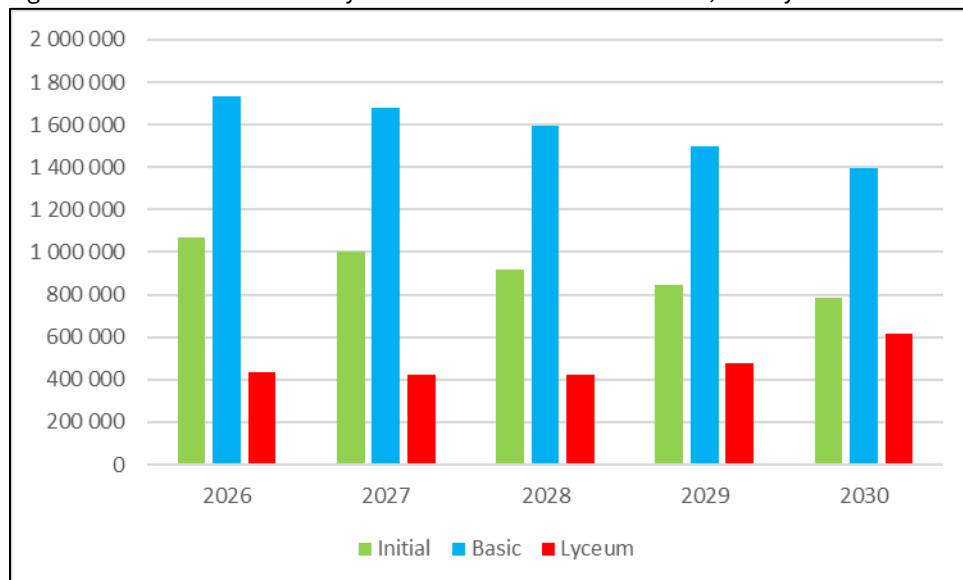
For the purposes of budget projections, we need to review the future cohort of students in initial, basic and upper secondary education for budget years until 2030. Figure 9 presents those data without lyceum reform (that is without taking into account grade 12).

Figure 9. Student numbers by level of education 2026 – 2030, no lyceum reform



We observe in Figure 9 that the number of students in upper secondary school remains roughly constant at about 0,4 million, reflecting the fact that decline will appear in about 3 years. On the other hand, the number of students in initial education declines from just over 1 million to just under 0,8 million in 2030, and number of students in basic education declines from about 1,65 million to about 1,4 million in 2030. The following Figure 10 presents the same data under the assumption that lyceum reform is fully implemented as planned.

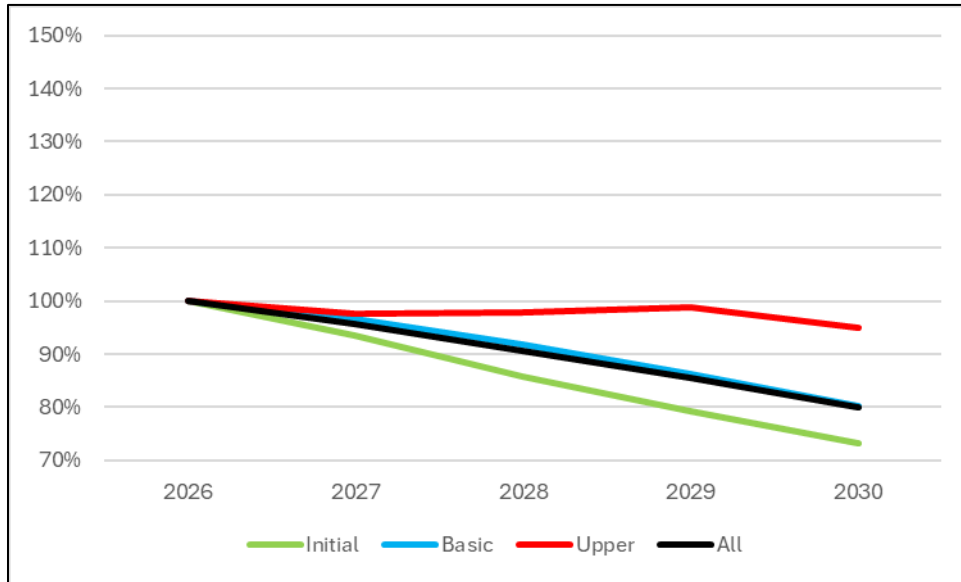
Figure 10. Student numbers by level of education 2026 – 2030, with lyceum reform



Lyceum reform of course has no impact on students cohorts in initial and basic education, but for upper secondary school the number of students increases from 0,4 million to over 0,6 million. This is of course a very significant increase and reflects the fact that in 2030 upper secondary school covers three grades, as opposed to just two grades in 2026. Nevertheless, in later budget years we should expect some decline of the number of students in profile lyceum.

It is useful to review data in Figure 9 and Figure 10 in relative terms, by presenting percentual change compared to the current budget year. We do this in Figure 11 and Figure 12 respectively. For ease of comparison, we use the same scale on vertical axis in both Figures.

Figure 11. % changes of student numbers by level of education until 2030, no lyceum reform



Without lyceum reform, between 2026 and 2030 the overall number of students declines by 20%. The decline is most acute for initial education (decline by more than 25%) and barely visible for upper secondary education.

Figure 12. % changes of student numbers by level of education until 2030, with lyceum reform

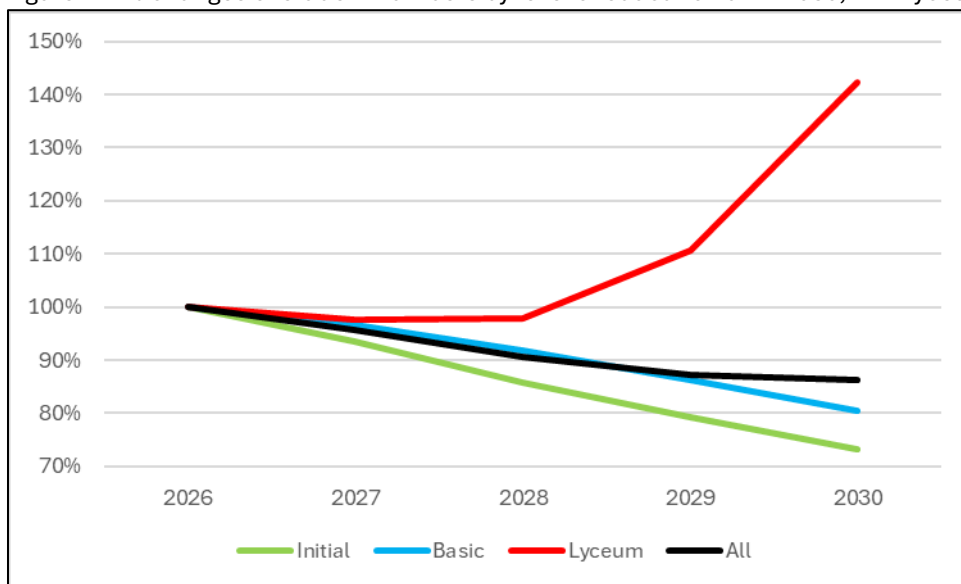


Figure 12 shows again, after comparison with Figure 9, that lyceum reform has no impact on initial and basic education, but dramatically increases the student cohort in upper secondary education by over 40%. Of course, this reduces overall decline of student numbers: without lyceum reform it was 20%, with lyceum reform it is only about 15%.

4. Projected budget cost of lyceum reform

In order to properly assess future costs of lyceum reform to the national budget, given many options of implementing the formula for lyceum (see parameters defined in section 2.2), it is first necessary to define specific scenarios which will be analyzed. We do this in section 4.1, together with a brief description of methodology used for prognosis. In section 4.2 we present projected budget costs for initial and basic education until budget year 2030, in section 4.3 – for upper secondary education, and in section 4.4 for all education levels together.

4.1. Baseline and reform scenarios

Baseline scenario is the scenario under which lyceum reform is not implemented. This scenario was repeatedly presented in the context of projected number of students in section 3. We formulate two reform scenarios, namely hard scenario and soft scenario, which differ in the choice of coefficients for normative class size and normative group size. As Figure 5 and Figure 6 imply, allocation for profile lyceum is highly sensitive to lower limit of normative class size and to normative size of interclass group, so it is reasonable to vary those coefficients in different scenarios. Other allocation parameters are the same for all scenarios.

For the hard scenario, we assume that $PHK_{\text{проф, клас}} = \max(PHK, 25)$ and $PH\Gamma_{\text{проф, груп}} = 12$. This means that a class in profile lyceum is assumed to have at least 25 students, and that an interclass group has at least 12 students.

For the soft scenario, we assume that $PHK_{\text{проф, клас}} = \max(PHK, 20)$ and $PH\Gamma_{\text{проф, груп}} = 8$. This means that a class in profile lyceum is assumed to have at least 20 students, and that an interclass group has at least 8 students. Lower bounds for class and group size imply that there will be more classes and more groups under the soft scenario, and consequently the allocation for territorial gromadas for profile lyceum will be higher.

The two reform scenarios are presented not as specific recommendations, but as different policy options for the Government of Ukraine. They illustrate range of budget costs which are possible. Ministry of Finance and MES will need to review these and other options before making the final decision regarding allocation formula for profile lyceums. In particular, adjustments to lower limit for normative class size and to normative group size should be considered separately, unlike for hard and soft scenarios presented here.

Teacher salaries were recently considerably increased. As of January 1, 2026, they were increased by 30%, and an additional increase of 20% is planned for September 2026. At the time of writing, actual average salary to be used for the allocation of education subvention the last four months of budget year 2026 has not been determined. For this reason, as average teacher salary we take $TS = 357,32$ thousand Hr. This is 20% more than the average salary used for the allocation of education subvention the first eight months of budget year 2026. The average salary we use was not used for allocation at all, therefore projected budget costs of secondary education for 2026 discussed below does not appear in any budget document. It represents, however, what would the cost be to the national budget if that average salary were used as basis for allocation for the whole year 2026.

The use of a constant average teacher salary for projections covering the period 2026 – 2030 is somewhat artificial, since in reality teacher salaries increase every year. However, it allows to compare budget costs of secondary education in different budget years, simply expressing them in Hryvnia of 2026.

Certainly for future years there will be further increases of teacher salaries, and quite possibly also a complete reform of national system of teacher remuneration, but it is not possible to make any predictions regarding these increases.

In addition, our projections include the following elements of the allocation formula, not mentioned in section2:

1. Coefficient for share of mountain students. These coefficients reflect increase of 25% of salary for teachers working in schools located in mountains. The simulations assume that the share of mountain students stays constant until 2030.
2. Coefficient for division of classes into groups. This coefficient depends on normative class size for given TG and varies from 0,017 for TG with low NCS up to 0,150 for gromadas with large NCS (with larger normative classes they also have larger actual classes, and therefore more division of these classes into groups). We stress that this refers to all groups except interclass groups, which the proposed formula addresses directly. For profile lyceum we apply coefficient for division of classes based on their NCS for lyceums, not on their NCS for initial and basic education.
3. Coefficient for other pedagogical staff (that is, for pedagogical employees who are not conducting classes). We use the values as adopted for budget year 2026, which vary from 0,23 to 0,53 (reflecting not just the number of non-teaching staff, but also higher salaries of school principals and their deputies).

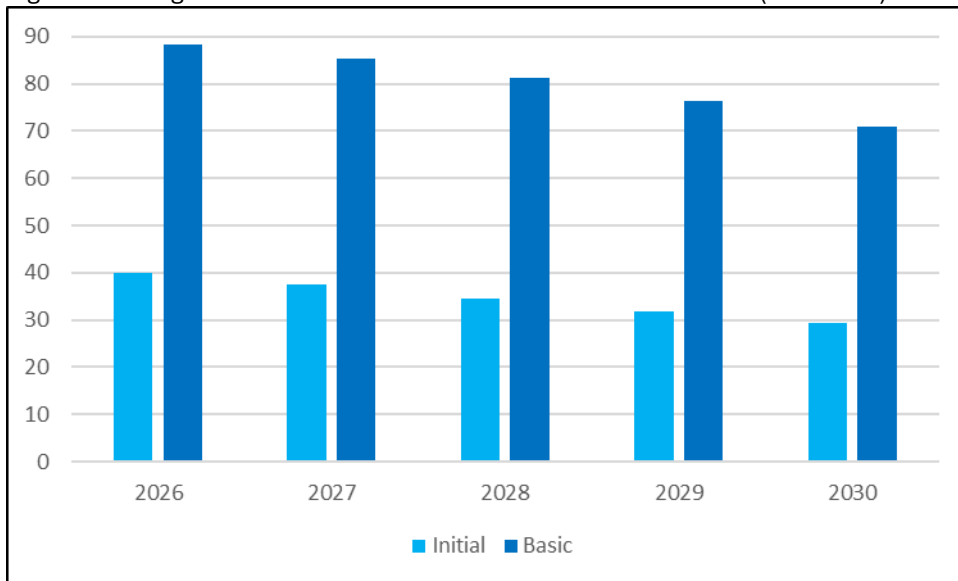
With these three elements, our estimates completely recreate allocation formula for mainstream secondary education delivered in general secondary schools. Note that we do not take into account students acquiring secondary education in professional schools, in institution of pre-higher education, in private schools, as well as costs of individual learning, of evening classes, of Inclusion Resource Centers and of special education. Allocation for mainstream general education in secondary schools constituted about 86% of overall education subvention, so the budget costs of these other components of subvention need to carefully evaluated as well.

4.1. Projected budget costs for initial and basic education

Of course, projected budget costs for initial education and basic education do not depend on whether lyceum reform is implemented, and if it is implemented: how soft or hard the education policy of MES will be. It is nevertheless important to review separately budget costs of these two levels of education for budget years 2026 to 2030, because they allow to see budget effects of lyceum reform in proper perspective.

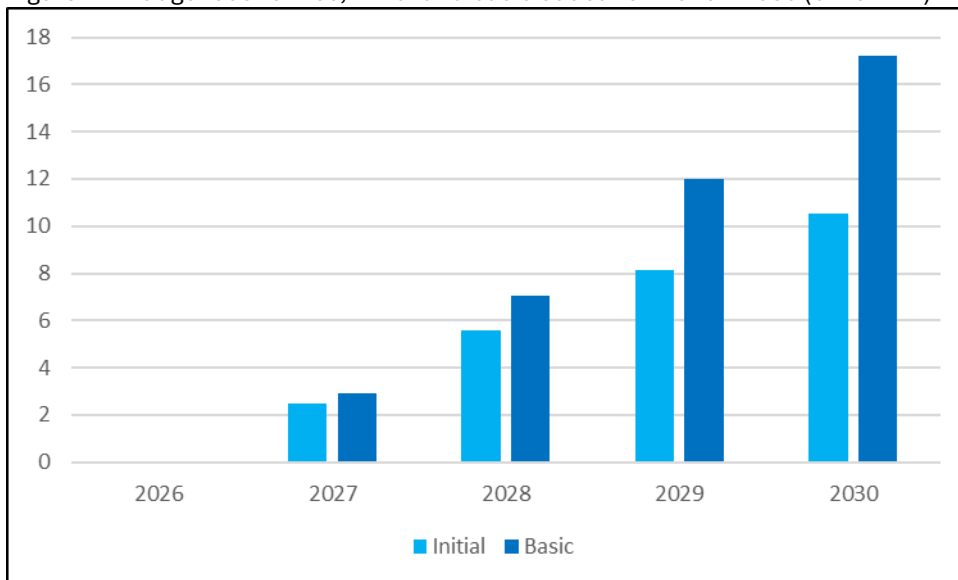
We begin with presenting in Figure 13 the expected level of budget costs for initial and basic education.

Figure 13. Budget costs of initial and basic education 2026 – 2030 (billion Hr.)



We note that costs of basic education are much higher than those of initial education, reaching respectively 88 and 40 billion Hr. in budget year 2026. This is due to two facts: There are more grades and longer teaching plans in basic education compared to initial education. However, due to demographic decline, noted in Figure 9, also the budget costs of these two levels of education decrease with each budget year, down to 70 billion Hr. and 30 billion Hr. respectively. This decrease means that there will be corresponding budget economies (often called “demographic dividend”) for both initial and basic education. These economies are presented in Figure 14.

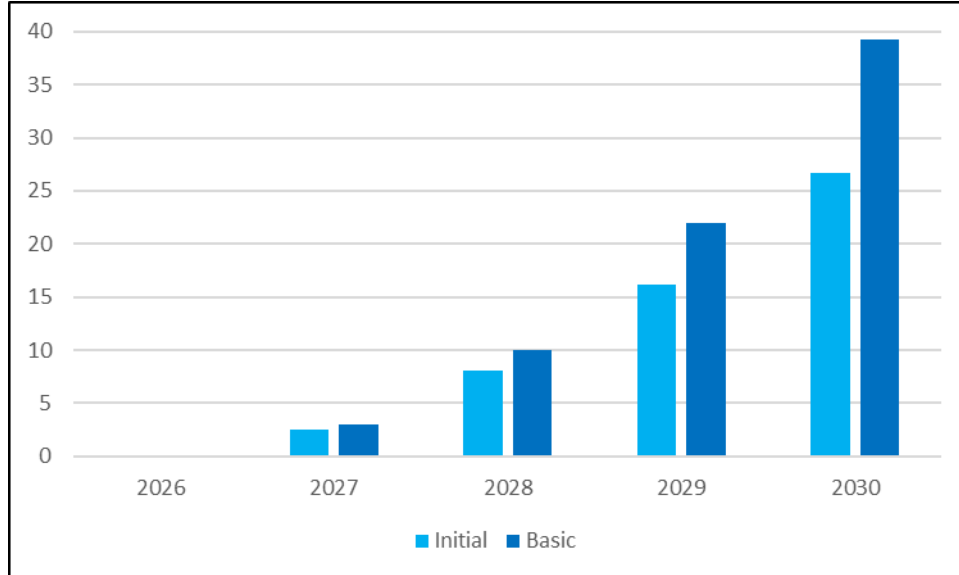
Figure 14. Budget economies, initial and basic education 2026 – 2030 (billion Hr.)



As with budget costs, and for the same reason, economies from basic education are higher than from initial education. These economies rise from about 2 billion Hr. in 2027 to quite considerable 10 billion Hr. for initial education and 17 billion Hr. for basic education in the budget year 2030. Compared to budget year 2026, this is economy of 36% for initial education and of 24% for basic education.

It is useful to review cumulative economies due to this demographic dividend, that is total budget funds “saved” due to decreasing number of students of initial and basic education. The values of cumulative economies are presented in Figure 15.

Figure 15. Cumulative economies, initial and basic education 2026 – 2030 (billion Hr.)

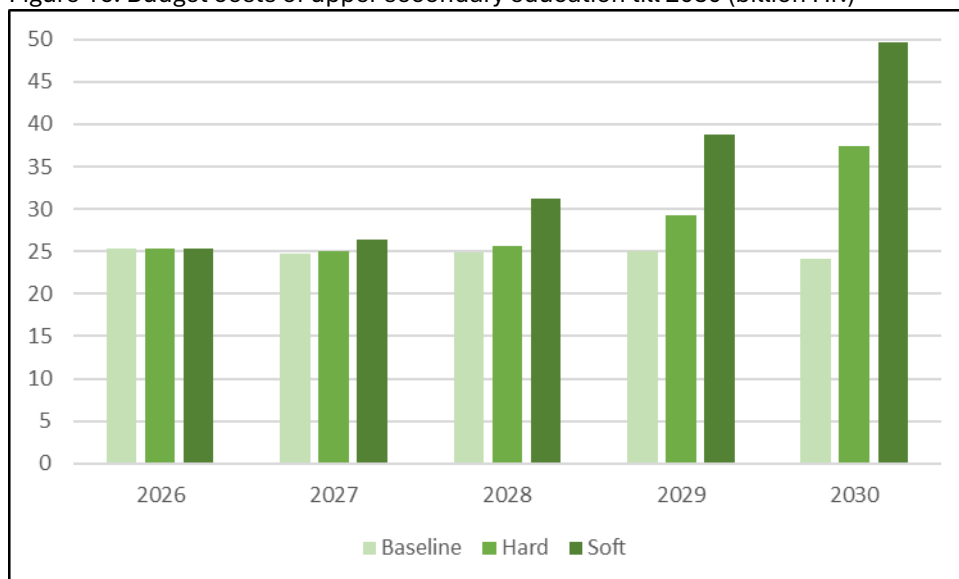


In the course of just 4 budget years, cumulative economies reach 27 billion Hr. for initial education and 39 billion Hr. for basic education. Altogether, until 2030 we can expect about 65 billion Hr. of cumulative economies for these two levels of education. This is a very large budget fund, so that serious planning is required to propose a way of exploiting it. We return to this issue in section 5.

4.3. Projected budget costs for upper secondary education

For upper secondary education we need to compare the effects of three reform scenarios, as defined in section 4.1: baseline, hard, and soft. Analogously to budget projections for initial and basic education, we begin with projected budget costs until year 2030 in Figure 16.

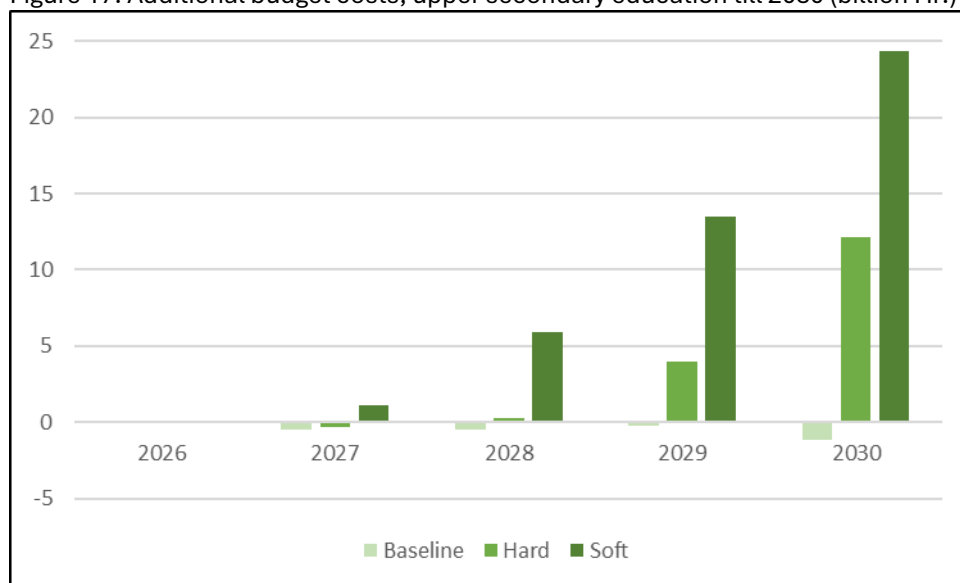
Figure 16. Budget costs of upper secondary education till 2030 (billion Hr.)



For budget year, of course, there is no difference between the three scenarios, as the reform begins only in September 2027 (see Figure 2). Under baseline scenario, budget costs of upper secondary education remain essentially constant at about 25 billion Hr. until 2030, when they begin to slowly decline. This is of course reflection of projected numbers of students in this level of education, see Figure 11. Under the hard scenario the project budget costs begin to increase in 2029, and become considerably higher than under baseline scenario in 2030. This is the appearance of full twelfth grade in this year. For soft scenario the projected costs increase considerably already in 2028, and in 2030, at 49 billion Hr., become twice as high as under baseline scenario.

Thus we observe that unlike initial and basic education, where we saw significant budget economies (Figure 14), for upper secondary education we face additional budget costs if lyceum reform is implemented. The projected additional budget costs are presented in Figure 17.

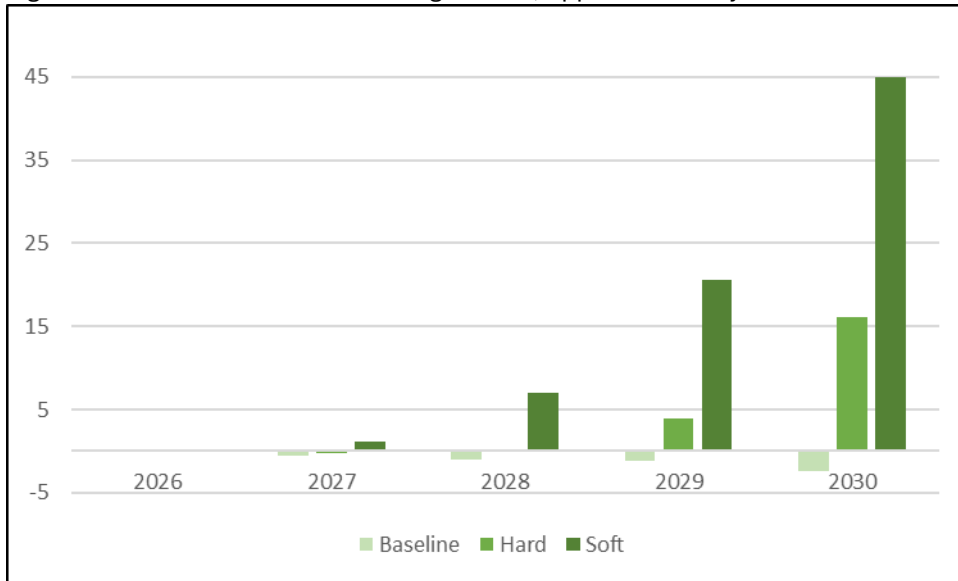
Figure 17. Additional budget costs, upper secondary education till 2030 (billion Hr.)



Additional budget costs for baseline scenario are negative, reflecting the fact that overall costs decrease over time due to decline of students. For hard scenario in 2027 we also observe negative values, albeit minimal. Under that scenario, significant additional budget costs appear in 2029 at 4 billion Hr., rising to 12 billion Hr. in 2030. Under soft scenario, additional budget costs become very significant already in 2029, at 14 billion Hr., rising to nearly 25 billion Hr. in 2030.

In the following Figure 18, we review cumulative additional budget costs of upper secondary education until 2030, under three scenarios.

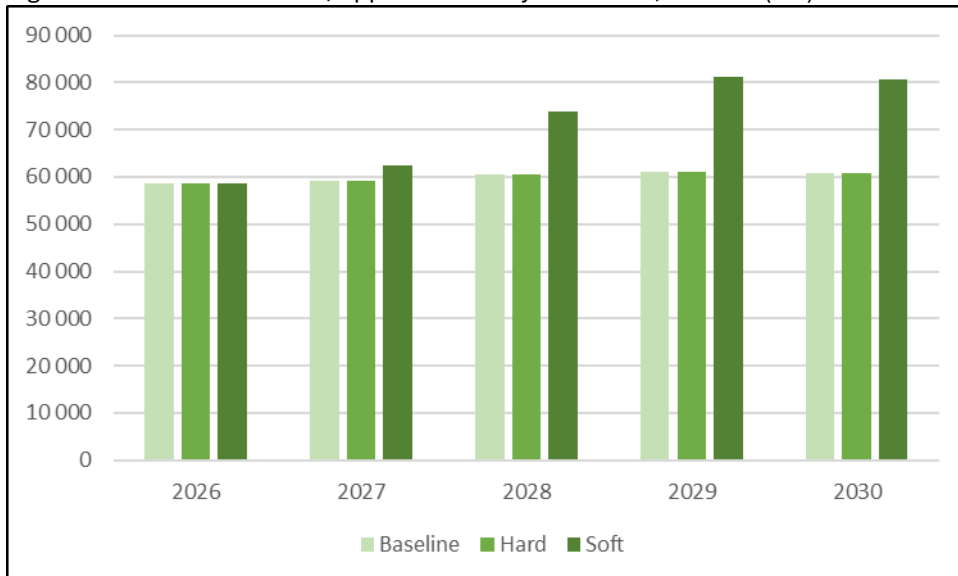
Figure 18. Cumulative additional budget costs, upper secondary education till 2030 (billion Hr.)



As already noted, there are very small economies for baseline scenario. However, cumulative costs of lyceum reform are not small. Until 2030, the reform will cost about 15 billion Hr. under hard scenario. Under the soft scenario, the cumulative costs are three times higher. Here we see why it is useful to view costs of lyceum reform within the larger context of projected budget costs of all three levels of education. As we analyze in the next section, economies in initial and basic education become the source of funds which can be used to cover the additional costs of upper secondary education.

Before we do this, we review projected average per student costs for upper secondary education from 2026 until 2030, under the three scenarios. These data are presented in Figure 19.

Figure 19. Per student costs, upper secondary education, till 2040 (Hr.)



We note a rather striking fact: despite additional salaries of pedagogical staff needed for teaching in interclass groups, average per student costs under baseline and hard scenario are almost the same, at about 60 thousand Hr. This is because, as we have seen, teaching in lyceum is more expensive than teaching under the current curriculum in gromadas with high normative class size, and is lower in gromadas

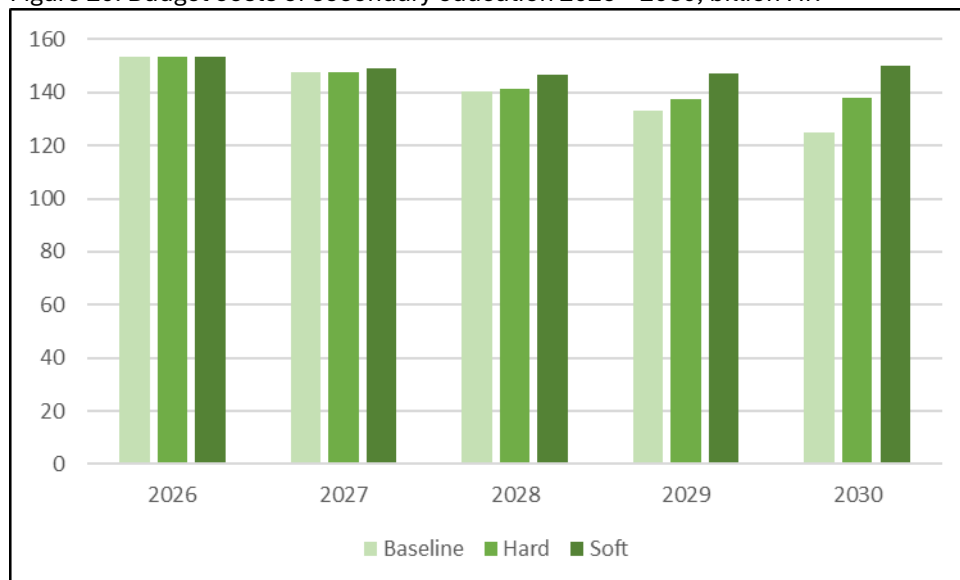
with low normative class size (see figures presented in section 2.4). The average over these two groups of gromadas cancels such differences. The allocation under the hard scenario is therefore higher than under the baseline scenario essentially due to larger student cohort, that is to introduction of grade 12.

In contrast, per student costs under the soft scenario are much higher, reaching about 80 thousand in 2029 and 2030. This is because under that scenario the lower limit for NCS for lyceums is much lower (20 instead of 25), and correspondingly the group of gromadas for which costs are higher than under the current curriculum is much larger, as demonstrated in Figure 5. This is the second reason, besides increased student cohort, for much higher additional budget costs under this scenario

4.4. Projected budget costs for all education levels

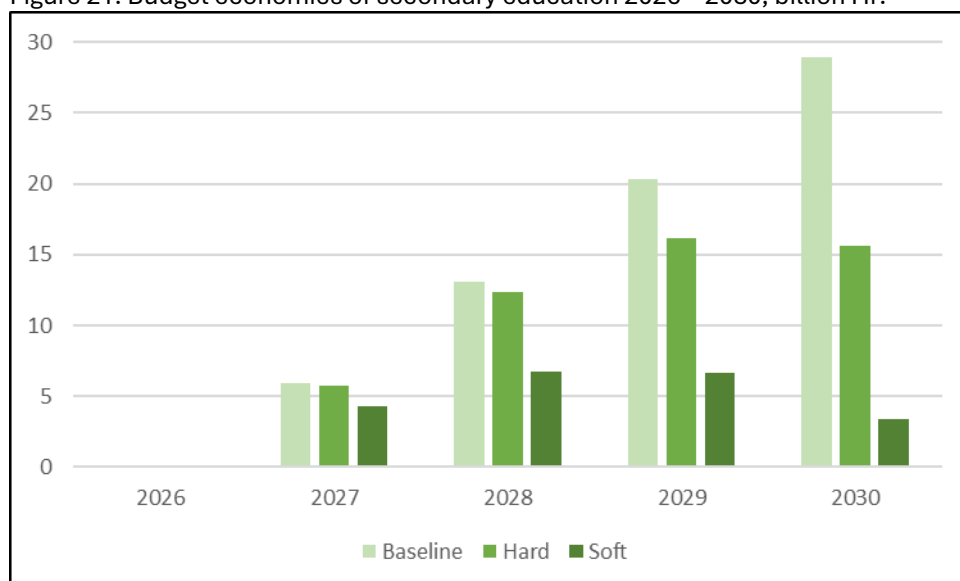
In our last section on projected budget costs under three different reform scenarios, we combine estimates for initial and basic education (section 4.2) with estimates for upper secondary education (section 4.3). We first present in Figure 20 overall projected budget costs of secondary education in communal secondary schools for budget years 2026 to 2030.

Figure 20. Budget costs of secondary education 2026 – 2030, billion Hr.



We see that overall budget costs of secondary education under all three scenarios are the same in 2026 at about 153 billion Hr. They decline considerably to 124 billion Hr. in budget year 2030 under the baseline scenario, with much smaller decline to 138 billion Hr. under the hard scenario, and remain virtually unchanged under the soft scenario, at 150 billion Hr. in 2030. This means that there will be budget economies, as displayed in Figure 21

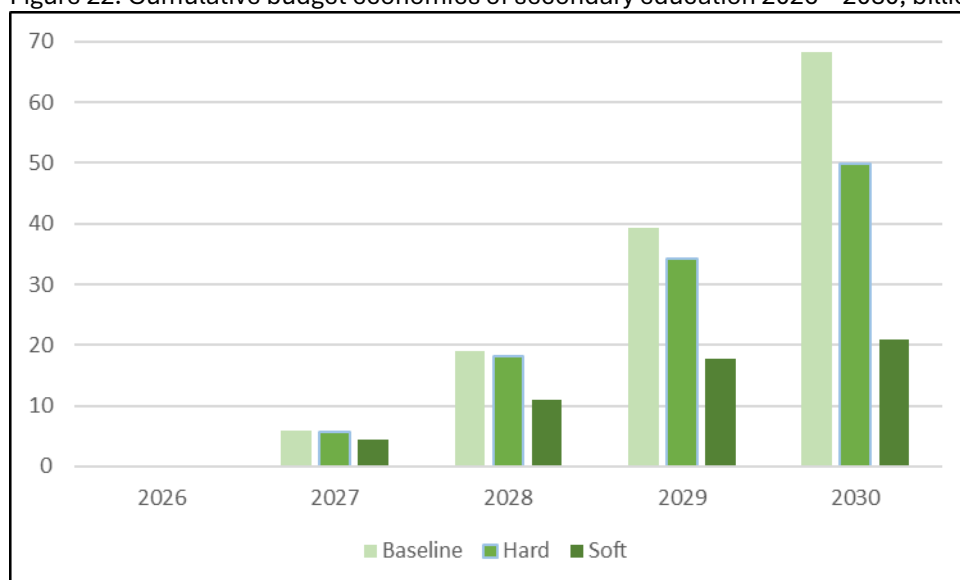
Figure 21. Budget economies of secondary education 2026 – 2030, billion Hr.



Due to different scale of Figure 21, we can see major differences in economies under the three scenarios. The economies increase with each budget year for baseline scenario up to 28 billion Hr. in 2030, and much slower for hard scenario, up to 15 billion Hr. in 2030. The case of the soft scenario is very different: economies reach 7 billion Hr. in 2028 and then decline down to 3 billion Hr. in 2030. This is about 2,7% of the overall costs under the baseline scenario. Nevertheless, it is important to observe that despite very much higher costs of the soft scenario, there is some economy, although rather small: this is the result, as already noted, to significant economies for earlier levels of education, due to demographic decline.

In Figure 22 we present cumulative economies under the three scenarios.

Figure 22. Cumulative budget economies of secondary education 2026 – 2030, billion Hr.



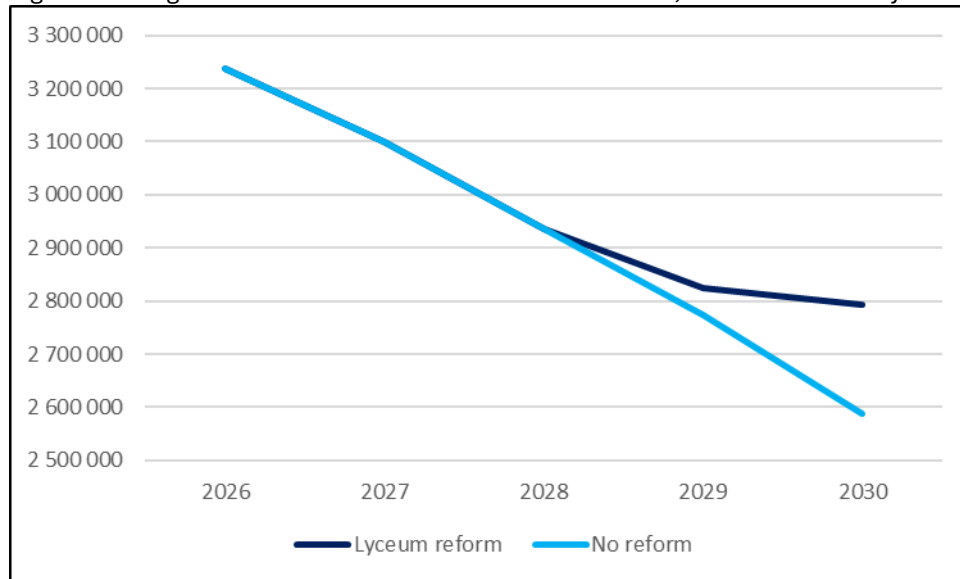
Nearly 70 billion Hr. of cumulative economies in 4 budget years under baseline scenario is the “demographic dividend”. About 18 billion Hr. of this “dividend” is spent on lyceum reform under the hard scenario, and about 47 billion Hr. is spend under the soft scenario. It is of course up to Ukrainian reformers

to decide what is the most desirable scenario and use of the demographic dividend. We offer some preliminary comments on this dilemma in the last section. .

5. Conclusions: emerging fiscal space of education finance

There is no doubt that lyceum reform, by increasing obligatory education from 11 years to 12 years, will reduce the steep decline of the number of students of secondary education in Ukraine. The data on full cohort of students under both scenarios, without and with lyceum reform, is presented in Figure 23.

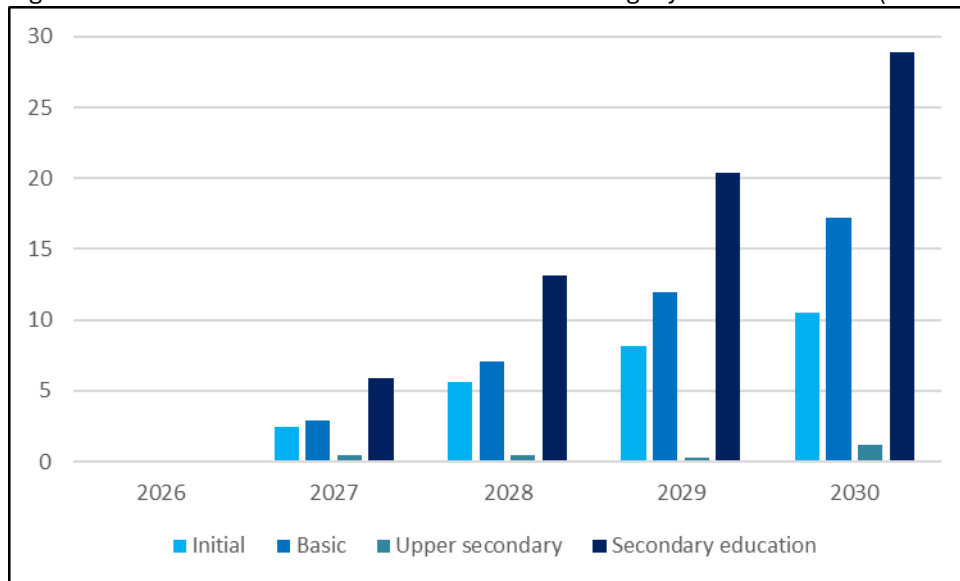
Figure 23. Prognosis of overall student numbers until 2030, with and without lyceum reform



We note that even with additional 200 thousand students in upper secondary school in 2030 due to lyceum reform (grade 12), since 2026 secondary education will lose over 400 thousand students. As noted above, see Figure 12, this represents loss of about 15% of students.

As shown under different scenarios in section 4, this decline creates “demographic dividend”, that is huge economies of education subvention under the current curriculum. Combining results of Figure 14 and Figure 17, we can present this dividend by level of education (for upper secondary education we choose of course the baseline scenario).

Figure 24. Economies of education subvention for budget years 2026 – 2030 (billion Hr.)



In budget year 2030, the combined economies reach 28 billion, about 18% of allocation for 2026. Cumulative economy over 4 budget years reaches almost 70 billion Hr. We should perhaps add to this also economies due to lack of entrants for first year of universities in October 2029.

The Ministry of Education and Science of Ukraine needs to reflect how this combined huge budget economy should be best used for the benefit of Ukrainian education. Without a clear plan and well-articulated educational priorities, the Ministry of Finance will be inclined to reduce accordingly the education subvention from the national to local budget, especially when faced with acute budget shortages due to ongoing war with the Russian Federation. Certainly, the needs of national defense today take precedence over all other societal needs, including over secondary education.

Currently, the Ministry is considering the following policy priorities:

1. Lyceum reform (the costs of which are analyzed in the present SN 190).
2. Reform of teacher salaries.

The costs of both reforms should be assessed and reviewed in the light of expected educational benefits. If hard scenario for lyceum reform is selected, about 50 billion Hr. of cumulative budget economy will remain available for other reforms, including salary reform. If, on the other hand, a very expensive variant of salary reform is selected, funds for lyceum reform even under the hard scenario may become very difficult to secure in the national budget. Certainly, the Ministry needs to think also about other educational priorities, such as building school shelters or providing improved equipment for profile lyceum. A review of all these priorities including their long-term budget costs seems necessary for fruitful discussions with all education stakeholders and with the Ministry of Finance. This means that in selecting the implementation scenario of financing lyceum reform MES needs to balance its different priorities and to compare their expected costs and planned results.

Referenced legal acts

Law of Ukraine of January 16, 2020 Nr 463-IX, On Complete General Secondary Education

Decree of Cabinet of Ministers of Ukraine of August 26, 2025, Nr 1058, On Implementation of Experimental Project to Introduce in Institutions of Secondary Education Educational Programs, Elaborated on the Basis of Typical Teaching Plan for grades 10-12 of Institutions of General Secondary Education, which Ensure Acquiring of Profile Secondary Education for Academic Direction

Order of MES Nr 128 of February 20, 2002, On Adoption of the Order of Division of Classes into Groups during Teaching of Some Subjects (Integrated Courses) in State, Communal Institutions of General Secondary Education

Order of MES Nr 1451 of October 10, 2024, On Adoption of Conceptual Principles of Reforming of Profile Secondary Education (Academic Lyceums)

Order of MES Nr 765 of May 26, 2025, On Adoption of Typical Education Program for grades 10-12

Order of MES Nr 331 of February 23, 2026, On Approval of Changes to the Order of Division of Classes into Groups during Teaching of Some Subjects (Integrated Courses) in State, Communal Institutions of General Secondary Education

Закон України від 16.01.2020 № 463-IX Про повну загальну середню освіту

Постанова КМУ від 26 серпня 2025 р. № 1058 Про реалізацію експериментального проекту щодо запровадження в закладах загальної середньої освіти освітніх програм, розроблених на основі типової освітньої програми для 10-12 класів закладів загальної середньої освіти, які забезпечують здобуття профільної середньої освіти за академічним спрямуванням

Наказ МОН № 128 від 20.02.2002 Про затвердження Порядку поділу класів на групи під час вивчення окремих навчальних предметів (інтегрованих курсів) у державних, комунальних закладах загальної середньої освіти

Наказ МОН № 1451 від 10.10.2024 Про затвердження Концептуальних засад реформування профільної середньої освіти (академічні ліцеї)

Наказ МОН № 765 від 26.05.2025 Про затвердження типової освітньої програми для 10-12 класів

Наказ МОН № 331 від 23.02.2026 Про затвердження Змін до Порядку поділу класів на групи під час вивчення окремих навчальних предметів (інтегрованих курсів) у державних, комунальних закладах загальної середньої освіти