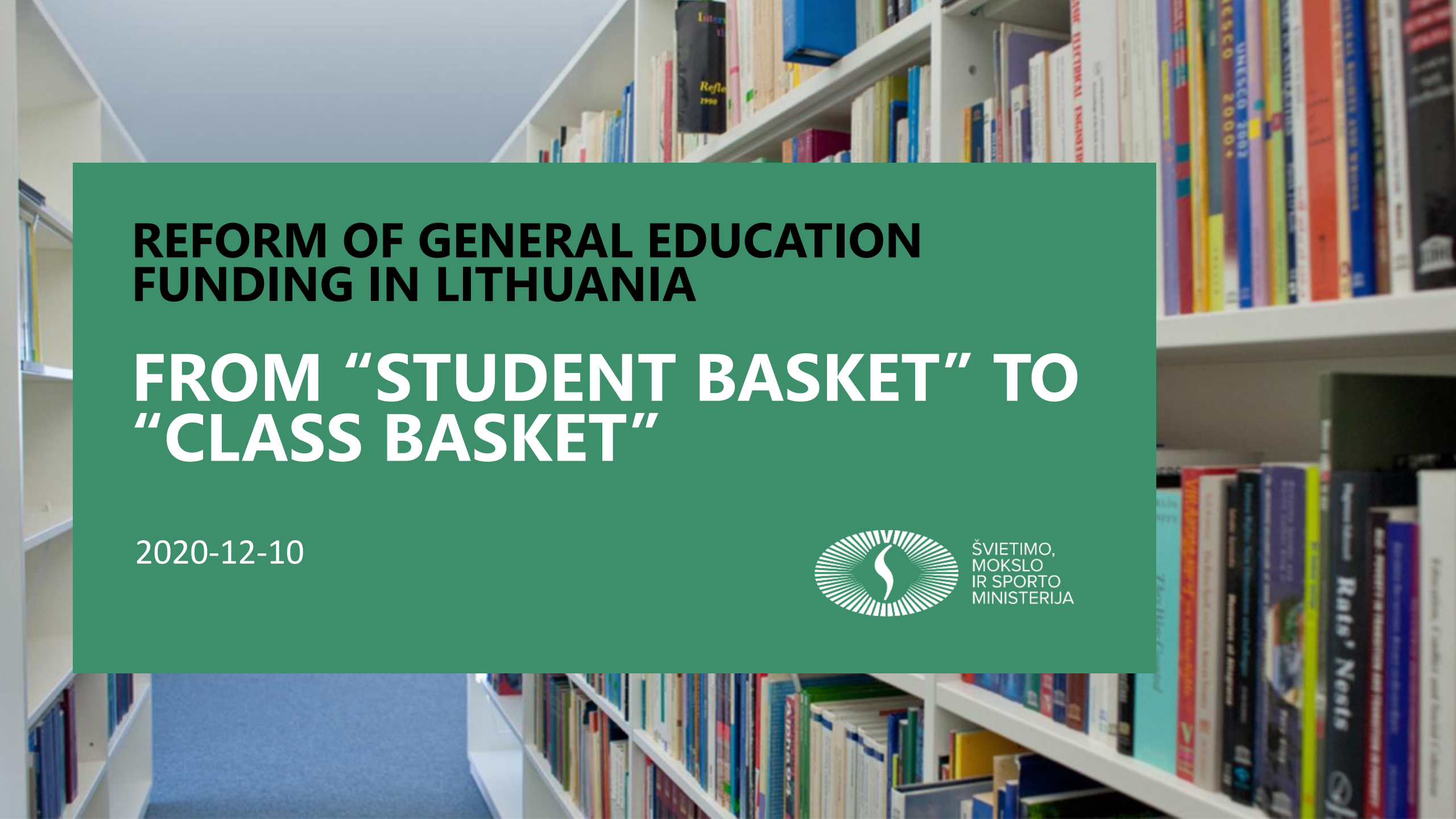


REFORM OF GENERAL EDUCATION FUNDING IN LITHUANIA

FROM “STUDENT BASKET” TO “CLASS BASKET”

2020-12-10

ŠVIETIMO, MOKSLO IR SPORTO MINISTERIJA

Why was it necessary to change funding model?

Problems of “student basket”

- Inequalities in education funding in urban and rural areas, schools with bigger or smaller student number led to **unequal provision** of human and material resources, what created conditions for different quality of education and inequalities in student achievement
- Changes in the number of students led to **inadequate changes in funding**, what didn’t ensure optimal provision of the educational process (the number of class sets varied slower than the number of students)
- Competition for the student basket **encouraged bigger and stronger schools**, but **didn’t help smaller and weaker schools** to improve their performance (on the contrary, they were "penalized" by less funding), which widened the gap between schools
- Calculation and **distribution** of funds between different educational needs within student basket was **not efficient** (funds for school administration, educational assistance were calculated together as percentage of funds for implementation of curricula; the amount of money allocated for each of these needs was not clear)
- The funding system **lacked transparency**, with more than 25% of schools benefiting from various exceptions (their exclusivity was based on criteria unrelated to the organization of the educational process, such as location of a school: on the outskirts of a city, in a border area, the only one such school in a given area)
- Schools were focused on **number** of students rather than on quality of education

Why “class basket” is better option?

- The “class basket“ creates conditions to **mitigate educational attainment inequality** and enables to provide the financial **resources** necessary for implementation of the curriculum (the “student basket” resulted in larger differences in school funding and larger inequality)
- The “class basket” guarantees more **stable funding** of educational needs, if the number of pupils is changing (the “student basket” resulted in inadequate fluctuations of funding)
- “Class basket” leads to **optimal use of recourses**: optimal number of class sets and optimal class sizes (“student basket” motivated to have oversized classes)

It took a bit time to change funding model

- **“Student basket” model** was applied in LT since 2001. It was heavily criticized, but multiple attempts to improve it didn’t give significant results
- In **2014 idea of “class basket”** was suggested and consistent and complete model of funding according number of class sets was developed
- In the end of **2015** the Government of Lithuania approved an **Experimental model for education funding**, which was applied in 5 municipalities since 2016
- **Experiment** took 2 years (2016-2017), its results were analyzed and the model was improved
- In July **2018**, the Government of Lithuania approved a **new model for education funding** and since 1 September 2018 the class basket funding model is applied at all schools across the country (The Rules for estimation, distribution and use of education funding were approved at 11 of July 2018 by Lithuanian Government decision No. 679)
- Implementation of the funding reform went quite slightly, because **additional funds** were allocated to reduce negative impact of funding losses in some schools (+2,6% of subsidy or 16 mil. EUR per year)
- Funding reform was **combined with teacher payment reform** (payment for working hours was replaced with payment per position) with additional 95 mil. EUR

Experiments and results

Costs on Education

Student Basket model

Pedagogical Psychological Service
Examination
Informal Education

Implementation of Curriculum Costs
(ICC)

School Administration
Educational Assistance
(14% of ICC)

Textbooks and other facilities
Qualification of staff
ICT

Municipality
6%

School
94%

Rethinking (History of the Basket)

SB size	1056	870,74	Eur	SB indicators											
School		Number of students		1 - 4 grade			5 - 8 grade			9 - 10 grade			11 - 12 grade		
		class size	max	24 (+2)			30 (+2)								
		school size	min	ASC	CNS	ICC	ASC	CNS	ICC	ASC	CNS	ICC	ASC	CNS	ICC
PRIMARY	RURAL	up to 40	N/A	10	1,9177	16698	ASC - average of students in the class (pcs) CNS - conditional number of students (factor) ICC - implementation of curriculum costs (Eur)								
		41-50		12	1,5644	16346									
		51-80		15	1,2435	16241									
		from 81		20	0,9963	17350									
	URBAN			22	0,9963	19085									
LOWER SECONDARY PROGYMNASIUM	RURAL	up to 80		10	1,8264	15903	10	2,2644	19717	10	2,7438	23891	+35% SEN		
		81-120		12	1,5644	16346	12	1,9095	19952	12	2,4028	25106			
		121-200		15	1,2435	16241	15	1,5276	19952	15	1,9222	25106			
		201-300		15	1,2435	16241	15	1,5276	19952	18	1,6018	25105			
		from 301		20	0,9792	17053	22	1,2685	24300	22	1,4206	27213			
	URBAN			22	0,9461	18124	25	1,2064	26261	25	1,4077	30643			
SECONDARY, GYMNASIUM	RURAL	up to 300		15	1,2435	16241	15	1,5276	19952	18	1,6018	25105	18	1,6661	26113
		301-500		20	0,9792	17053	22	1,2685	24300	22	1,4206	27213	22	1,4735	28227
		from 501					25	1,2064	26261	25	1,4077	30643	25	1,4345	31227
	URBAN			22	0,9461	18124	25	1,1274	24542	25	1,4077	30643	25	1,4345	31227

Average per class vs implementation of curriculum costs (Eur)					
	10, 12	s	16323	22167	N/A
	15, 18, 20	m	16632	22529	26113
	22, 25	l	18444	26889	30227

Assumptions (HoB)

R size	13,78	410,07	Eur	CB indicators											
Program (curriculum)				PRIMARY				LOWER SECONDARY						SECONDARY	
				1 grade	2 grade	3 grade	4 grade	5 grade	6 grade	7 grade	8 grade	9 grade	10 grade	11 grade	12 grade
Flow of students			min	9										15	
			max	24				30							
Size of class set	[9: 11)	ASC	10	34,94	38,84	41,44	40,14	47,53	50,19	51,47	52,16	61,03	61,34	+ extra 1 for SEN + extra 2 for SEN	
		ICC		14328	15927	16993	16460	19491	20582	21107	21389	25027	25154		
	[12; 20)	ASC	16	36,32	41,63	44,29	42,96	51,88	56,03	56,94	57,69	67,17	67,88		
		ICC		14894	17071	18162	17617	21275	22976	23350	23657	27545	27836		
	[21; ...)	ASC	25	36,64	42,03	44,72	43,38	56,16	61,65	62,28	62,41	72,77	73,31		
		ICC		15025	17235	18339	17789	23030	25281	25539	25593	29841	30063		
	[15; ...)	ASC	22	ASC - average scope of curriculum (hrs)										77,82	77,82
		ICC		ICC - implementation of curriculum costs (Eur)										31912	31912
Average per class vs implementation of curriculum costs (Eur)		[9: 11)	s	15927				22125							
		[12; 20)	m	16936				24440							
		[21; ...)	l	17097				26558							
		[15; ...)												31912	

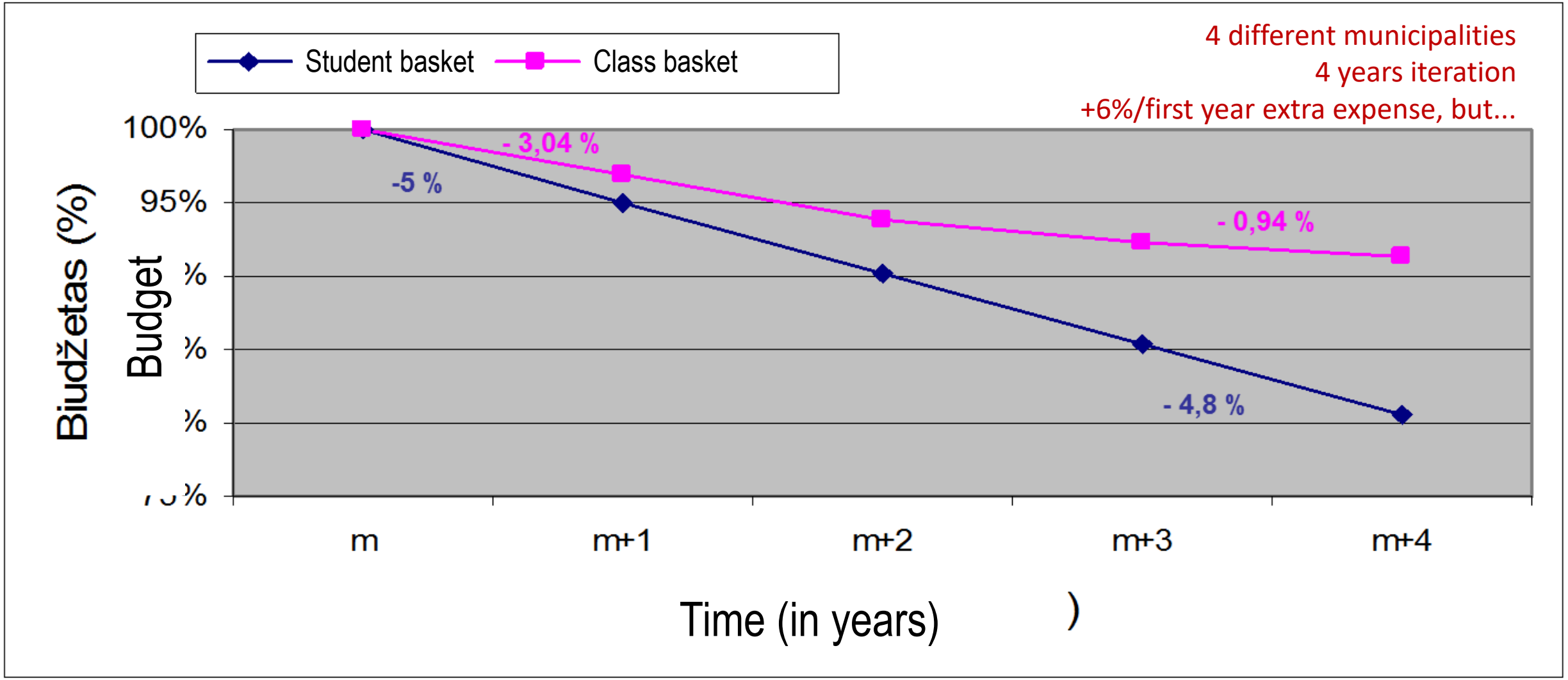
Class (group)	1 - 10 kl.		11 - 12 kl.	
Factual number of students in class set	1 - 4 students	5 - 8 students	1 - 8 students	9 - 14 students
Conditional number of class set	0,33	0,5	0,33	0,5

No stairs: school size, rural/urban areas, +35%

Yes for risk: (+2 in formula), ICC approximately the same, no stress for nobody yet…

Prognosis (HoB)

Changes in funding using „student basket“ and „class basket“ when number of students decreases
(“class basket” methodology ensures ***more stable*** funding)



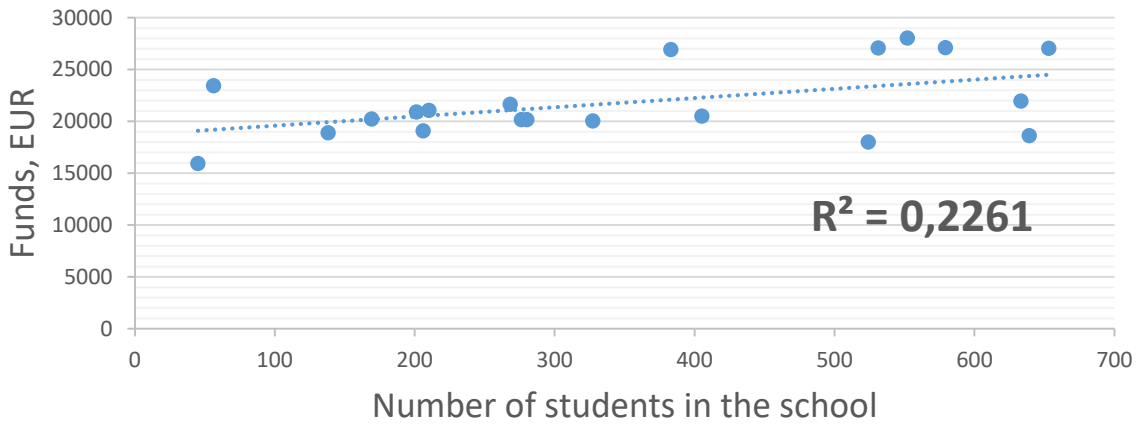
***Note**: modeled on the assumption that the number of students decreases by 5% each year*

Impact (HoB)

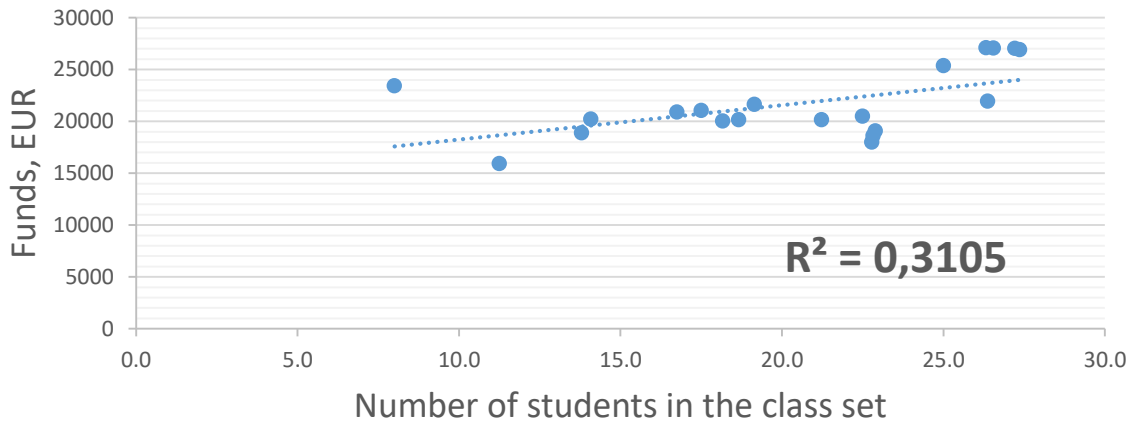
Distribution of funds by schools and class sets

(„class basket“ ensures ***smoother distribution*** of funds between schools and class sets)

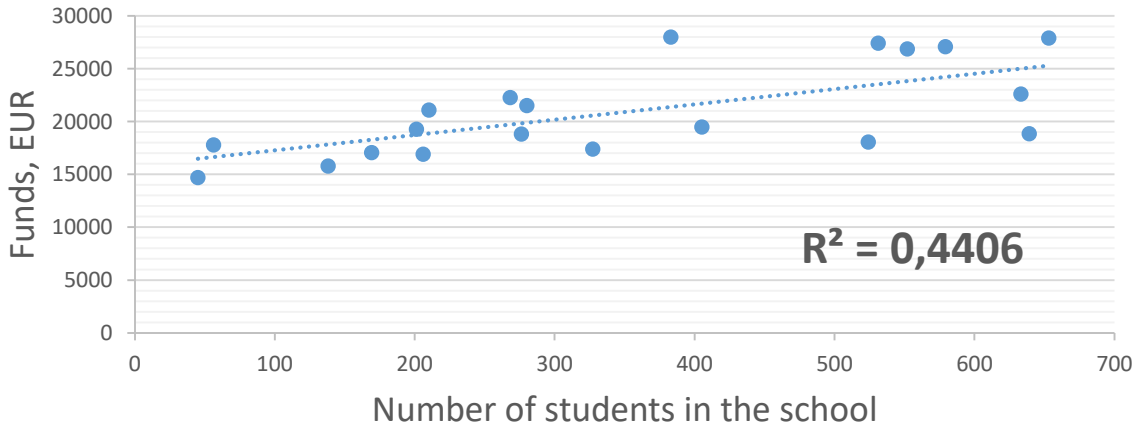
The relationship between “**class basket**” funds per class set and **school size**



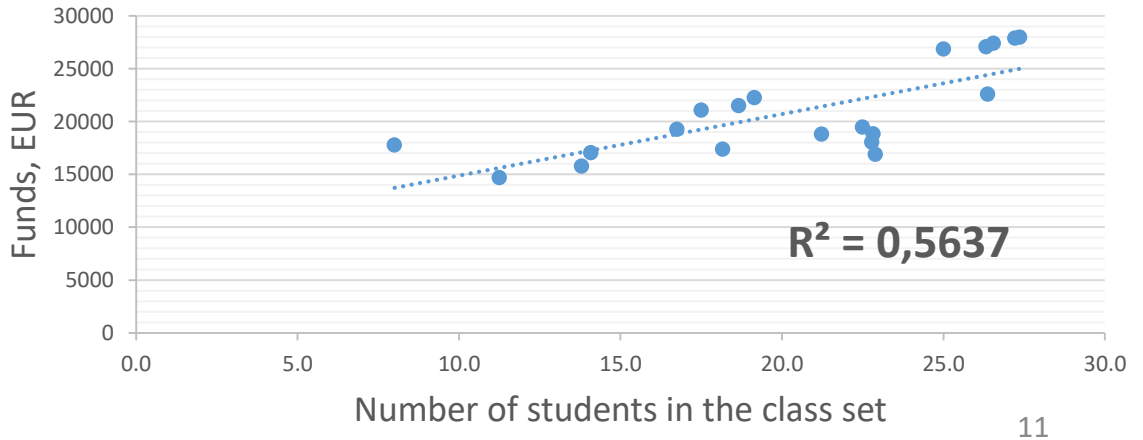
The relationship between the “**class basket**” funds per class set and the **class size**



The relationship between “**student basket**” funds per class set and **school size**



The relationship between the “**student basket**” funds per class set and the **class size**



2 in 1 (HoB)

+ Teachers' salary reform...

Goal function $W^{tot} = 12 n^{mokyt} W = 12 \frac{n^{mokyt}}{n^{moksl}} n^{moksl} (k \cdot W^{vidut}) = 12 \frac{50}{500} 500 (1.5 \cdot 1) = 900$

		GOAL	2017 m.		Additional need (mln. Eur)				
			total hrs.	tariff (Eur)	BRUTO	SODRA	TOTAL	+ (PM, NŠ)	7%
Average teachers salary (BRUTO, Eur)	W=	1047,5	818476,84	29	22,37	6,82	29,18	31,23	4 months
Salary found (BRUTO, mln. Eur)	W(tot)=	351,98	total mln. Eur	284,88	67,10	20,45	87,55	93,68	1 year
Teachers/students ratio	r=	12	nuo 2017-09-01		848	conditional position 21/30		0,00	mln. Eur/4 mon
Number of students	n(mok)=	330000	I stage from 2018-09-01		957	0,92 of full position		17,00	mln. Eur/4 mon
Ambition (compare LT)	k=	1,25	II stage from 2019-09-01		1044	1 full position (36 hrs.)		14,00	mln. Eur/4 mon
Average salary in LT (BRUTO, Eur)	W(vid)=	838	total mln. Eur	350,83	65,95	20,10	86,05	92,08	1 Year
Number of full position	e(MOK)=	28000	189523,16	29	21,98	6,70	28,68	30,69	4 months
		SOLUTION	extra hrs.	tariff (Eur)	BRUTO	SODRA	TOTAL	+ kiti (PM, NŠ)	7%
			2019 m.		Additional need to full positions (mln. Eur)				

Regional aspects (HoB)

Total class sets		16800		CB indicators											
Program (curriculum)				PRIMARY				LOWER SECONDARY						SECONDARY	
				1 grade	2 grade	3 grade	4 grade	5 grade	6 grade	7 grade	8 grade	9 grade	10 grade	11 grade	12 grade
2640	1097	13063		1335	1366	1322	1243	1015	1032	1036	1063	987	1029	790	845
Flow of students			min	9										15	
			max	24				30							
Size of class set	[9; 11)	Urban	176	12	11	11	14	9	10	18	15	33	43		
		Town	320	34	35	43	34	34	32	27	26	26	29		
		Rural	436	41	46	42	52	42	45	32	54	45	37		
	[12; 20)	Urban	2068	340	388	409	391	61	97	87	110	80	105		
		Town	777	67	85	86	85	67	73	82	91	63	78		
		Rural	586	69	65	65	68	50	52	62	64	43	48		
	[21; ...)	Urban	6563	719	686	631	572	698	669	671	645	636	636		
		Town	290	23	22	14	11	33	34	35	38	45	35		
		Rural	212	30	28	21	16	21	20	22	20	16	18		
	[15; ...)	Urban	1414											688	726
		Town	156											74	82
		Rural	65											28	37
Other	1097	small	312	5	6	9	3	8	8	10	7	8	15	110	123
		middle	341	49	43	49	49	19	18	24	24	27	39		
		large	444	36	41	35	31	50	49	43	49	54	56		
Does not much the minimum conditions	2640	Urban	1369	70	134	113	87	114	70	103	94	117	178	119	170
		Town	18	3	0	1	0	5	1	2	2	2	1	0	1
		Rural	67	2	18	1	1	5	3	4	8	9	16	0	0
		Other	1186	48	46	69	45	216	200	134	100	88	191	23	26
Exeptions (50%)		1320	Total	319				531				301		170	

Interaction (HoB)

		Number of teachers			Need for funds
III ALTERNATIVE		13836	11999	9429	
		39%	34%	27%	
		URBAN (5)	**TOWN** (55)	**RURAL** (47+48+1+1)	
Contact hrs.	556300	230347,3	192533,16	133419,74	
Total hrs.	788795	326858,56	275719,66	186216,77	
190405,01	full positions	10700	9500	7000	
	Contact hrs./w	21,53	20,26	19,00	**93,4**
7,00	Total hrs./w	30,55	29,02	26,60	
In addition up to	36	5,45	6,98	9	
1 position/1month/Eur	29	158	202	273	
1 position/1 year	12	1897	2428	3270	
Total (mln. Eur)	BRUTO	20,30	23,07	22,89	
+ SODRA (mln. Eur)	30,48%		86,46		
Distribution of positions		39%	35%	26%	mln. Eur

Contact hrs./year	776	732	688	R=7,61
Total hrs./year	1512	1512	1512	1316,53
Size of class set	Large	Middle	Small	Eur

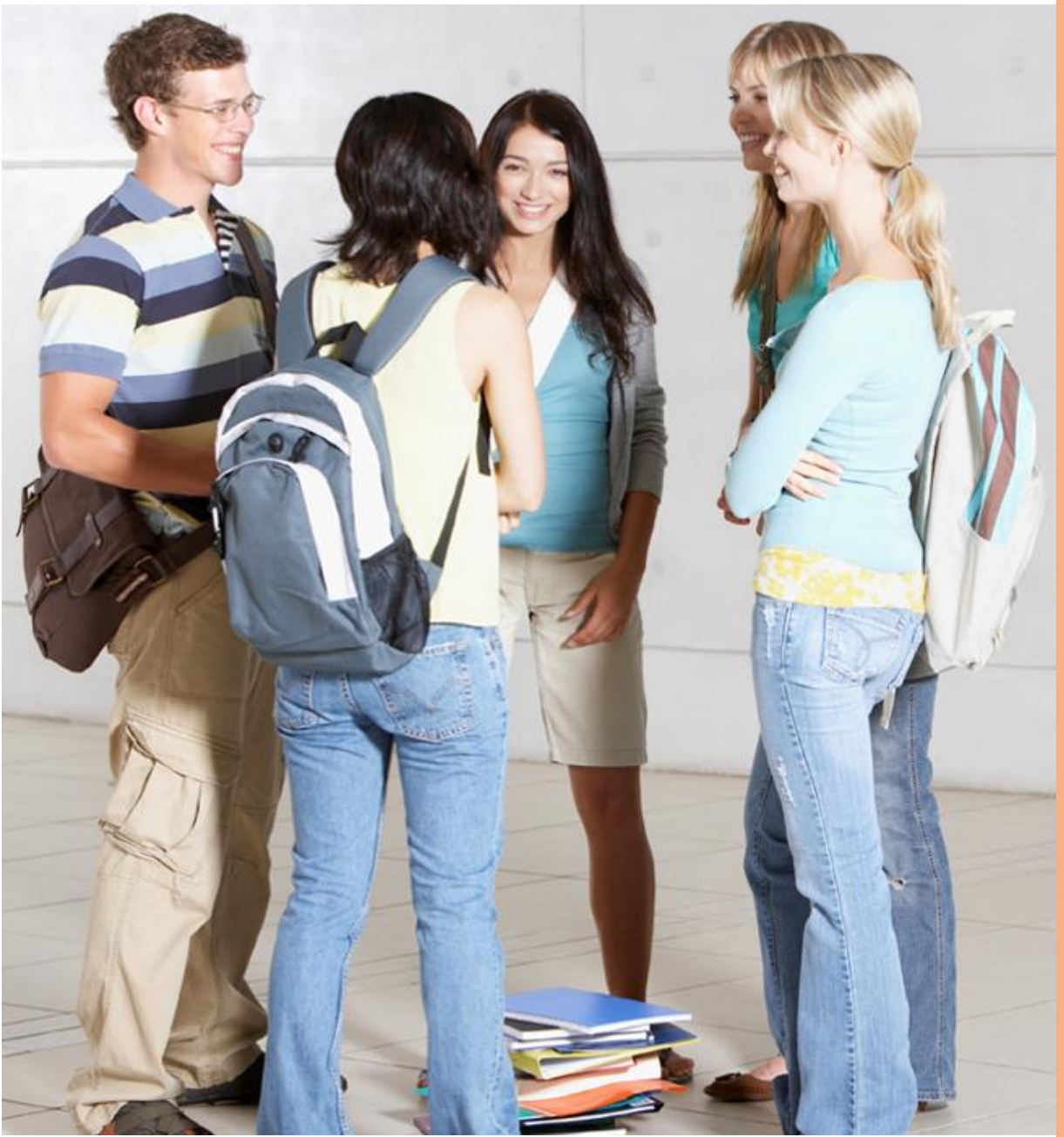
Final (HoB)

8,2	176	1,47	17572,9805	BENDROJO UGDYMO LĖŠŲ (BUL) UGDYMO PLANUI ĮGYVENDINTI APSKAIČIAVIMO RODIKLIAI (pagal ugdymo programas)												Jungtinėms klasėms (5.2)					
3. Vidutinis santykinis mokytojo pareiginės algos pastoviosios dalies koeficientas	Pareiginės algos bazinis dydis (Eur)	Socialinio draudimo įmokos dydis (%)	BUL apskaičiavimo vienai pareigybei metams koeficientas	PRADINIO				PAGRINDINIO						VIDURINIO		1 - 4 kl.			5 - 8 kl.	9 - 10 kl.	11-12 kl.
				1 kl.	2 kl.	3 kl.	4 kl.	5 kl.	6 kl.	7 kl.	8 kl.	9 kl.	10 kl.	11 kl. - 12 kl.		Pradinio ugdymo			Pagrindinio ugdymo		Vidurinio ugdymo
2. Mažiausias santykinės klasės mokinių skaičius				8										12							
1. Bazinis klasės dydis (mokinių skaičius)				24				30													
6. Vidutinė kontaktinių valandų, tenkančių vienai pareigybei, norma per mokslo metus	688	7. Santykinio pareigybių skaičiaus klasei indeksavimo koeficientai:	(7.1)	Nenumatyta								1,0000		0,7680		(5.2.1)	(5.2.2)	(5.2.3)	(5.2.1)		
	732		(7.2)	1,2400				1,2200				1,2000		1,2000		kai sujungtos 2 klasės	kai sujungtos 3 klasės	kai sujungtos 4 klasės	kai sujungtos 2 klasės		
	776		(7.3)	1,2000																	
Mokymas namie (5 priedas, 5.1)			Indeksavimo koeficientai	0,3983	0,3830	0,3688	0,3688	0,4015	0,3764	0,3650	0,3543	0,3673	0,3576	0,3359	0,3359						
4. Santykinis klasės dydis (mokinių skaičius)	5. Klasės kontaktinių valandų skaičius per mokslo metus			850	884	918	918	1080	1152	1188	1224	1332	1368	Nenumatyta		1088	1224	1326	1476	Nenumatyta	
	[8; 11]	m	pareigybių	1,0954	1,1392	1,183	1,183	1,5698	1,6744	1,7267	1,7791	1,936	1,9884			1,4021	1,5773	1,7088	2,1453		
	5. Klasės kontaktinių valandų skaičius per mokslo metus			850	918	952	952	1188	1296	1332	1332	1476	1512	1620	1620	1190	1326	1428	1764		
	[12; 20]	v	pareigybių	1,0954	1,183	1,2268	1,2268	1,623	1,7705	1,8197	1,8197	2,0164	2,0656	2,2131	2,2131	1,5335	1,7088	1,8402	2,4098		
	5. Klasės kontaktinių valandų skaičius per mokslo metus			850	952	986	986	1404	1584	1584	1584	1728	1764	1908	1908	1224	1394	1530	1872		
	[21; ...)	d	pareigybių	1,0954	1,2268	1,2706	1,2706	1,8093	2,0412	2,0412	2,0412	2,2268	2,2732	2,4588	2,4588	1,5773	1,7964	1,9716	2,4124		

(1 priedas, 2.1.1)	Vadovėliams ir kitoms mokymo priemonėms	0,1176
(1 priedas, 2.1.2)	Teatrinių muzikų ir daugiakalbėje aplinkoje	0,1411
(1 priedas, 2.2)	Mokinių pažintinei veiklai ir profesiniam orientavimui	0,0239
(1 priedas, 2.4)	IKT diegti ir naudoti	0,0336
(1 priedas, 2.3)	Ugdymo procese dalyvaujančių asmenų kvalifikacijai tobulinti	0,044

Mokyklos profilis		UGDYMO PROGRAMA										Jungtiniai ugdymo planai			
	Bendrojo ugdymo mokykla	PRADINIO				PAGRINDINIO						VIDURINIO		Pradinio ugdymo kl.		Pagrindinio ugdymo kl.	
	Lietuvių kalba																
	Vykdanti bendrąsias programas	1 kl.	2 kl.	3 kl.	4 kl.	5 kl.	6 kl.	7 kl.	8 kl.	9 kl.	10 kl.	11 kl. - 12 kl.					
Mokinių, kurie mokosi klasėse (grupėse), skaičius														0	0	0	0
Mokinių, mokomų namuose (pavieniai), skaičius														LAIKOTARPIS			
Ugdymo plano valandų skaičius pagal programas		0				0						0		Kalendoriniai metai			
Mokytojo pareigybių skaičius pagal programas		0,0000				0,0000						0,0000		ŠVIS2020			

Investment in Education



Class Basket model

Pedagogical Psychological Service
Examination
Informal Education

School Administration
Educational Assistance

Municipality
20 %

Implementation of Curriculum Costs
(ICC – “**Class basket”**)

Textbooks and other facilities
Qualification of staff
ICT

School
80 %

How does it work?

Main principles of “class basket”

How funds for "class basket" are calculated? (1)

Based on the **"class basket"**, the funds for schools are allocated according to the optimum number of class sets that is estimated taking into consideration the number of school students according to the specified formula. The estimated average number of students per class set enables to identify whether a small, medium or large class basket will be allocated

CALCULATIONS

- Based on the 'class basket', the funds for schools are allocated according to the **conditional number of class sets**.

$$\text{conditional number of class sets} = \frac{\text{factual number of students in each grade at school}}{\text{basic class size}\ (24\ in\ 1-4\ grades\ or\ 30\ in\ 5-12\ grades)}$$

If conditional number of class sets isn't integer, then 1 is added.

For instance: if 61/30=2,03, the conditional number of class sets is 3; if 60/30=2, the conditional number of class sets is 2; if 25/30=0,83, the conditional number of class sets is 1

- The estimated **conditional average number of students per class set** enables to identify whether a **small, medium or large class basket** will be allocated

$$\text{conditional average number of students per class set} = \frac{\text{factual number of students in each grade}}{\text{conditional number of class sets}}$$

Small class basket is allocated, when conditional average number of students per class set is 11 or less, **medium** – 12-20 students, **large** – 21 and more students

For instance: 61/3=20 falls into the range of '12-20 students' and medium class basket is allocated for each class set; 60/2=30 falls into the range of '21 and more students' and large class basket is allocated for each class set; 25/1=25 falls into the range of '21 and more students' and large class basket is allocated for each class set

How funds for "class basket" are calculated? (2)

- The **size of class basket** (small, medium and large) in each grade depends on number of **curriculum hours**, necessary for class of some particular size (<11, 12-20 or 21< students). These hours vary because of need to split classes in some subjects. Calculation of class basket are based on average hours for individual subjects
- To get **conditional number of teachers**, necessary for 1 school year of particular class, curriculum hours are divided by contact hours for one teacher position
- To get **class basket amount** conditional number of teachers is multiplied by average teacher annual salary (coefficient R is average of coefficients set in the law for Payment of public sector workers with regard to the actual distribution of teachers by their qualifications and work experience). Taxes are included too
- In order to prevent from having very small classes (what would be very costly) the **minimum class size** is set: 8 students in 1-10 grades and 12 students in 11-12 grades. When actual student number is less then minimum class size, only part of class basket is assigned (Annex 4 of the Rules). The other part should guaranty the founder of the school (for instance, municipality from its budget recourses)
- All indicators, necessary for calculation of class basket are set by the **law acts**. Number of students and their individual attributes (grade, learning language, belonging to ethnic minorities, special needs, at cetera) are taken from the **Education information system**.
- **Exceptions** from the general rules are presented in the Annex 5 of the Rules (classes for students with special needs, adult classes, classes in hospitals, learning at home, et cetera)

Teachers' payment system

Teacher salary depends on qualification and pedagogical work experience

Qualification category	Salary coefficient (expressed in the basic amount of the official salary – 176 EUR)						
	Pedagogical work experience (in years)						
	to 2	from more than 2 to 5	from more than 5 to 10	from more than 10 to 15	from more than 15 to 20	from more than 20 to 25	more than 25
Teacher without qualification categorie	6,91	6,94	7,0	7,13	7,35	7,38	7,42
Teacher with qualification categorie	7,43	7,44	7,45	7,49	7,51	7,54	7,59
Senior teacher		7,6	7,63	7,67	7,97	8,01	8,05
Teacher methodologist			8,12	8,27	8,53	8,57	8,62
Teacher expert			9,24	9,39	9,63	9,67	9,71

Structure of working hours depends on experience

Teacher per school year works **1512 hours** (42 weeks), where **maximum number of contact hours is**:

- for teacher with pedagogical work experience **to 2 years – 756 hours**
- for teacher with pedagogical work experience **more than 2 years – 888 hours**


THANK YOU
FOR YOUR
ATTENTION
ŠVIETIMO,
MOKSLO
IR SPORTO
MINISTERIJA