Regional differences
in the light of the last PISA and the competency assessments in Hungary

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In the international measurements organized on the field of the student assessments – PIRLS, PISA, TIMSS – Hungary involved from the beginning and was also participant each data admission. These studies with their comparable data file helped the professional self-reflection of the educational policy makers and teachers continuously, and from methodological viewpoint they insured excellent preparation and training base for the Hungarian measures experts. While the current data collections and evaluation processes of the mentioned international measurements went on according to the preliminary timing, in Hungary developed the so-called competency assessments system, which today became comprehensive evaluating-certification instrument of the public education.

The Hungarian competency assessments are aimed at the exploration of the current level of the reading and mathematical literacy. Their different characteristic from the international assessments is that they touch the 6^{th}, 8^{th} and 10^{th} classes, extend to the full round of the students, and repeat in every academic year. It is complemented by the data admissions adapted in the 4. classes, extending for each students, recurrent annually, which prepare the analysis of the reading, writing, and mathematical ability, and the structuring and combinative capabilities.

The international student assessment drew early the attention of the experts to the facts that in Hungary are larger differences between the capacity levels of the schools, as between the students in the school, namely the Hungarian school system is territorially strongly divided, and qualitatively differentiated. The presentation shows these regional differences according to native and international measurements' data.

PIRLS: (Progress in International Reading Literacy Study)
PISA: (Programme for International Student Assessment)
TIMSS: (Trends in International Mathematics and Science Study)

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Introduction

In the past three years, the overall transformation of public education has been in progress in Hungary. As for the reasons, in the professional parlance, generally the following can be heard:

- the attainment level of students leaving the public education system is gradually decreasing;
- the decrease of the attainment level accounts for the correction of the contents of the curriculums;
- the professional differences among schools are gradually growing, depending on the financial conditions of the maintainers.

To solve the above-mentioned problems – irrespective of their being real problems or not -, from the measures so far taken, the following are the most significant:

- from January 1, 2013 the state nationalized the schools that used to be maintained mostly by local governments;
- from September 1, 2013 the state initiates new curriculums;
- from September 1, 2013, in order to raise quality level, the state organizes a network of professional service providers and consultants, and at the same time, transforms the contents and structure of teacher training and extension training.

From the reasons for the transformation, we are only going to deal with the gradual decrease of students' attainment level here. This argument emerged primarily in the period of absolute expansion which took place in the higher education system from 1991, then from the year 2000 – in the period of relative expansion – it grew stronger among university professors and by now has become general among decision makers in educational policy as well. This view is not confirmed by international school survey findings. Its emergence is most probably based on the 'illusion' that the average of the attainment level of students entering higher education has decreased indeed, due to having become mass education (see: Figures *1 & 2*). We are not going to deal with the current problems with the transformation further on.

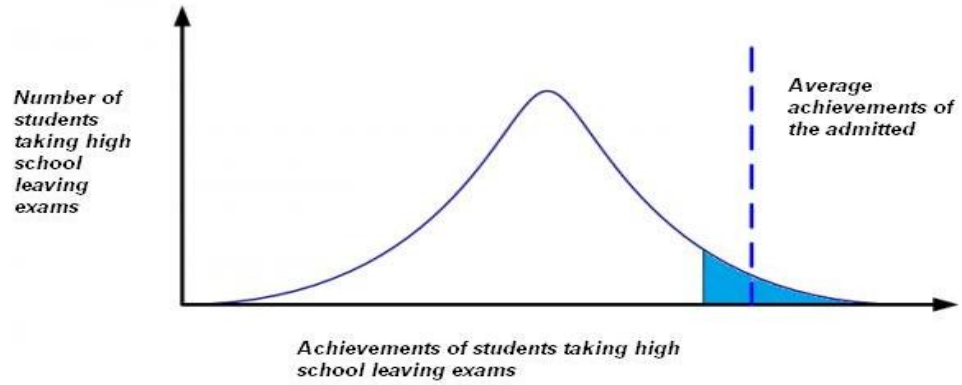

Figure 1 Average performance of the admitted in higher education in case of the entrance of 15% of the age-group[1]

[1] Source: Radó Péter: Oktatáspolitikai mítoszok: a felsőoktatás a közoktatás minőségromlásáról

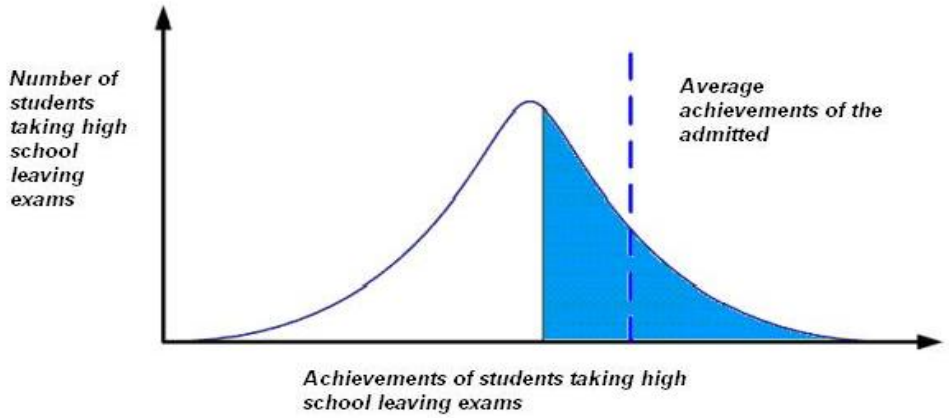

Figure 2 Average performance of the admitted in higher education assuming the entrance of 45% of the age-group[2]

Hungary in the international school progress surveys

Hungary has joined and has become a participant of the surveying from the beginning of the international surveys – PIRLS[3], PISA[4], TIMSS[5] – organized in the field of school progress surveying. The surveys of data succeed every third year in the case of PISA, every fourth year in the case of TIMSS and every fifth year in the case of PIRLS (see: Table *1*). These researches have continually helped the professional self-reflexion of our educators and politicians in charge of education with their comparable databases. At the same time, they have provided excellent scope for the preparation and expansion for Hungarian surveying experts from a methodological point of view. While the current surveying and assessing procedures of the above-mentioned international surveys were taking place according to preliminary schedule, the so-called *system of competence surveys* developed in Hungary which has become an overall means of assessment and qualification in public education today.

Table 1Hungary joins the international school progress surveys

Programme	Age or age-group	Year of study
PIRLS (Progress in International Reading Literacy Study)	4th grade students	2001.,2006., 2011.
PISA (Programme for International Student Assessment)	15-year-olds	2000., 2003., 2006., 2009., 2012.
TIMSS (Trends in International Mathematics and Science Study)	4th and 8th grade students	1995.,1999.,2003., 2007., 2011.

[2] Source: Radó Péter: Oktatáspolitikai mítoszok: a felsőoktatás a közoktatás minőségromlásáról
[3] Progress in International Reading Literacy Study
[4] Programme for International Student Assessment
[5] Trends in International Mathematics and Science Study

Hungarian school competence surveys

The Hungarian competence surveys[6] beginning in 2001 aim at investigating the current level of reading comprehension skills and practical mathematical skills. They do not assess the degree of progress specified by the curriculum, they examine, however, to what extent the students are able to apply the competences they have already acquired in public education to cope with tasks taken from everyday life. It is their distinguishing feature that, unlike in the international studies, 6th, 8th and 10th grade students are involved, the total number of students are involved, and they are repeated each academic year. The regulations determining our public education[7] have ordained this obligation from the academic year 2007-2008 on. This is complemented by the regular surveys conducted annually in 4th grades involving all students which allows for the diagnostic and criterion-oriented analysis of the current level of reading comprehension skills, writing skills, calculation skills, systematization skills and combination skills. From the academic year 2012-2013 the study of 4th grade students is not obligatory due to legal regulations, it is, however, assigned to the authority of each institution (see: Table *2*).

Table 2 System of Hungarian competence surveys

Programme	Grade	Year of study
Competence surveys	6th, 8th and 10th grade students	2001.,2003., 2004., 2006., 2007., 2008., 2009., 2010., 2011., 2012., 2013.
Skill and knowledge surveys	4th grade students	2006., 2007.,2008., 2009., 2010., 2011., 2012., from 2013: decided by the institution

The national averages of the results of Hungarian school progress surveys

The national averages of competence surveys within each competence and grade are relatively steady (see: Table *3*). The data in the surveyed period (during the temporal analysis of the performances) do not attest any change of an even statistically supportable tendency. In both scopes, only slight deviations can be observed in different directions. The values of the differences are so low that they cannot be applied to support the conclusions concerning the improvement or the declination of performance (see: *Balázs, Lak, Szabó, Vadász,* 2013., p. 7).

Table 3 Average results of the past five years of competence surveys

Year	Mean of reading comprehension			Mean of mathematics		
	6th grade	8th grade	10th grade	6th grade	8th grade	10th grade
2008.	1500	1579	1609	1500	1601	1648
2009.	1489	1564	1615	1484	1605	1618
2010.	1483	1583	1620	1498	1622	1613
2011.	1465	1577	1617	1486	1601	1635
2012.	1472	1567	1603	1489	1612	1632

Source: Balázs, Lak, Szabó, Vadász: p. 51

[6] http://www.kir.hu/okmfit/

[7] Currently the § 80 of the 2011 law CXC. about the national public education

Similarly to the tendency observed with the average results of the national competence surveys in each studied scope and grade, our students seem to produce relatively steady levels of performance in the international school progress surveys (see: Table *4*).

Table 4 Average results of Hungarian students' performance in the different international school progress surveys

Programme	Year of study	Mean of performance	
PIRLS (Progress in International Reading Literacy Study)	2001.	543	
	2006.	551	
	2011.	539	
PISA (Programme for International Student Assessment)	2000.,	480	
	2003.	482	
	2006.	482	
	2009.	494	
TIMSS (Trends in International Mathematics and Science Study)		4th grade	8th grade
	1995.	508	537
	1999.	-	552
	2003.	530	543
	2007.	536	539
	2011.	534	522

Source: Balázs, Balkányi, Bánfi, Szalay, Szepesi: p. 78; Balázs, Bánfi, Szalay, Szepesi: p. 61

The differences between average results of Hungarian competence surveys and international surveys presented so far within identical context of analysis – except for TIMSS – do not reach 3% in either case. This means that the performances of the Hungarian public education system have been relatively steady for over a decade, i.e. one of the characteristics of the school-leaving age-groups is the stability of the average of their attainment level which can be registered by surveys.

What has been presented so far also refer to the fact that certain elements of the argument system of the transformational process currently going on in our public education system are professionally unfounded. Thus, educators' innovative energies are currently not engaged by the raising of school performance level, but by the adaptation to new foundation documents and forms of organization.

Regional differences between the Hungarian results of school progress surveys

The international school progress surveys pointed out to experts early that the differences between levels of school performance in Hungary are larger than between students within schools (e.g.: *Báthory,* 2002., 2003.; *Balázs, Ostorics, Szalay,* 2007.; *Tóth, Csapó, Székely,* 2010.). Thus, the Hungarian school system draws a regionally proportioned, qualitatively subtle picture. Consequently, our students' selection of schools determines their later results to a greater extent than, for instance, in Scandinavian countries (see: Figure *3*). In the case of the latter, the variance of the differences within schools is significant, so it practically does not make a difference, which school the student is studying at. Naturally, the impact of the so-called economic, social and cultural status (the ESCS index)[8] also appear in the students' performance, while, however, in Scandinavian countries their influential role is negligible,

[8] Economic, social and cultural status

they explain a remarkable proportion of differences among schools in Hungary (see: *Balázs, Ostorics, Szalay,* 2007., p. 50).

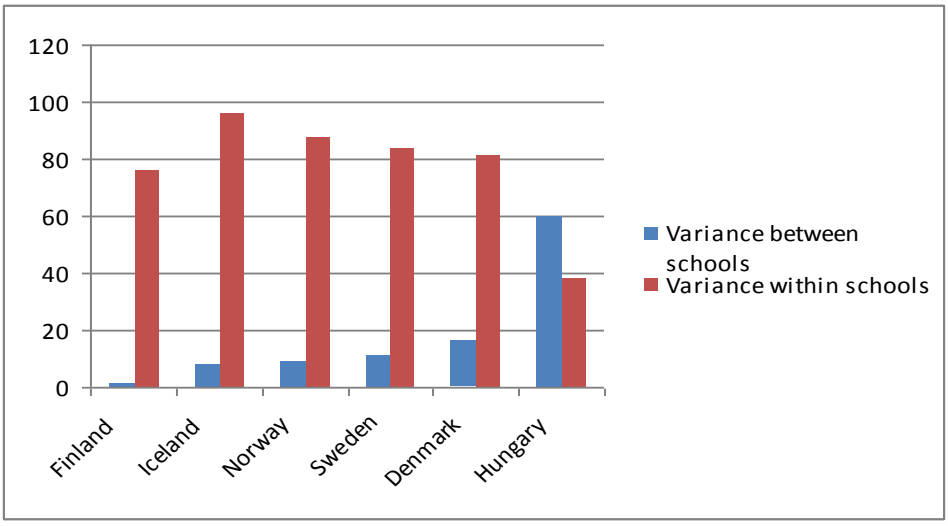

Figure3 Variance of students' performances between and within schools in the PISA surveys in 2006[9]

The average results of Hungarian school performances are significantly influenced by the types of community, i.e. the 'community slope'. In this contect, the already mentioned economic, social, and cultural status (ESCS) has an impact as well of course. The qualification, economic power, degree of infrastructural supply of people living in smaller communities – as experienced in other countries – is normally lower than of those living in big cities, the explanatory power of ESCS, however, applies for approximately 2/3 of the differences in Hungary. The performance averages of 10th grade students studying in villages are exceeded by students' averages in Budapest by 17% in the field of reading comprehension, and by 12% in the case of mathematics (see: Figures *4& 5*).

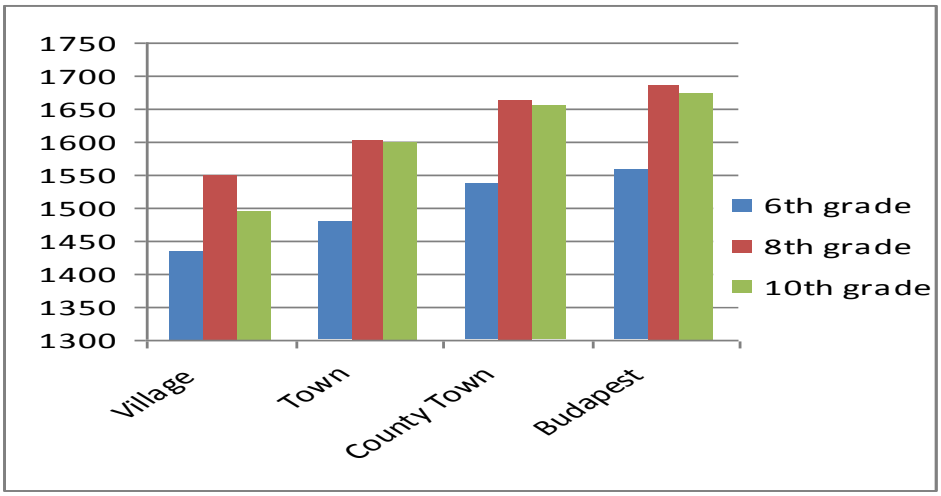

Figure 4 Students' performance in reading comprehension in competence surveys according to the type of community in the 2012[10]

[9] Source: Balázs, Ostorics, Szalay, 2007., p. 49
[10] Source: Balázs, Lak, Szabó, Vadász, 2013.,p. 63

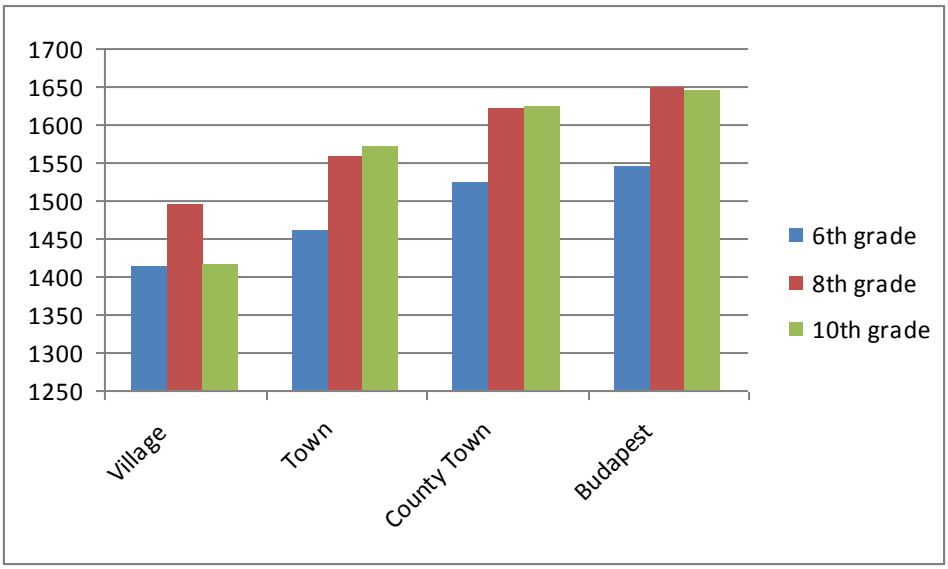

Figure 5 Students' performance in mathematics in competence surveys according to the type of community in the 2012[11]

School performances show significant regional differences as well. The relatively high rate of village schools is a general characteristic of the Northern Hungarian region, consequently, the registered averages here in the field of reading comprehension and mathematics in the 6th, 8th and 10th grades fall behind the results of other regions (see: Figures *6 & 7*). At the same time, the average performance of students in the surveyed fields in the Western Transdanubian region is remarkable. Here, the qualification, economic power and degree of infrastructural supply of people living in the region plays a positive role. Yet again, the fact that the explanatory power of ESCS normally applies for approximately 2/3 of the differences, should be mentioned (see: *Balázs, Ostorics, Szalay*, 2007., p. 49).

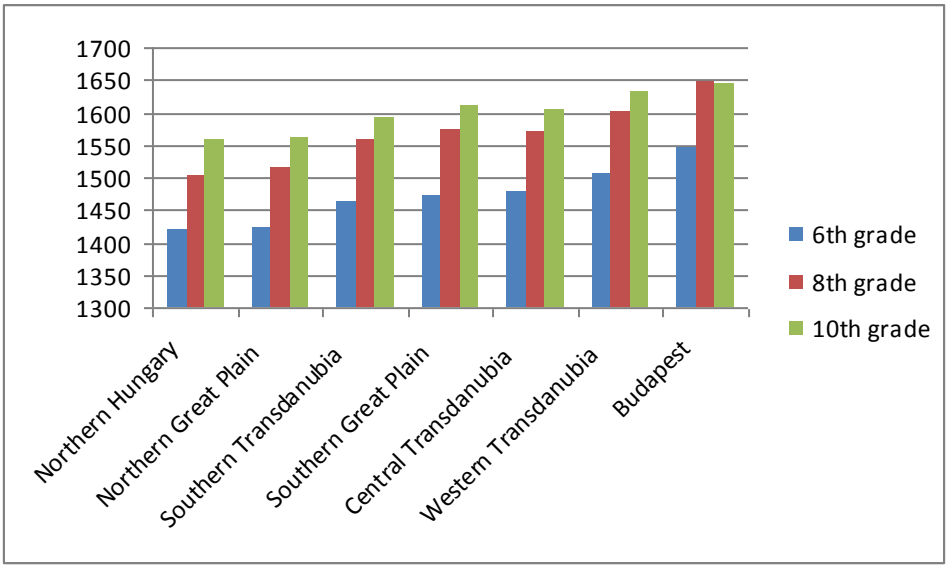

Figure 6 Students' performances in reading comprehension in competence surveys according to regions in the 2012 study[12]

[11] Source: Balázs, Lak, Szabó, Vadász, 2013., p. 63
[12] Source: Balázs, Lak, Szabó, Vadász, 2013., p. 53

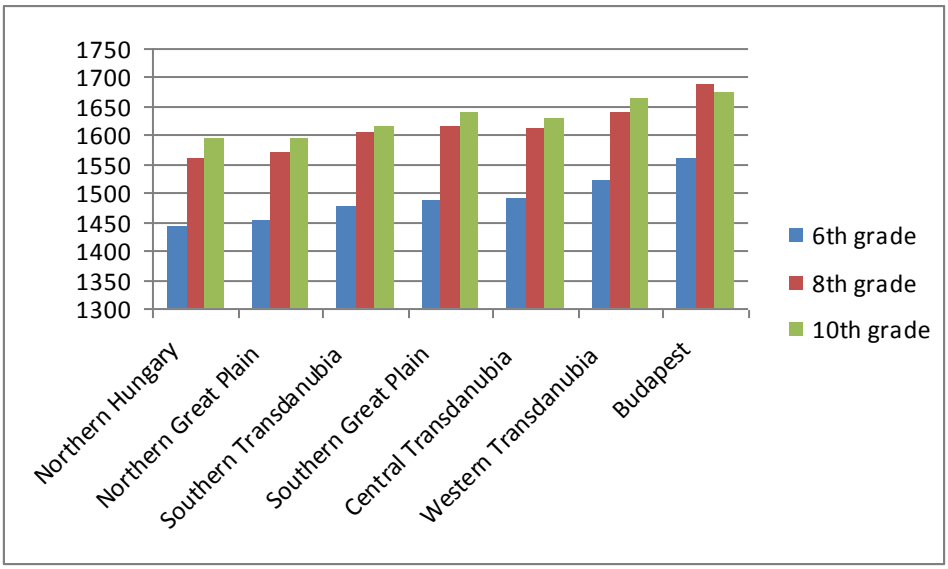

Figure 7 Students' performances in mathematics in competence surveys according to regions in the 2012 study[13]

The comparative analysis of students' performances according to counties – due to the fact that the geographical units were smaller than a region – shows larger differences (see: Figures *8 & 9*). Compared to the performances of 8th grade students attending schools in Borsod-Abaúj-Zemplén county, their peers living in Győr-Moson-Sopron county show a nearly 10% performance advantage (see: *Balázs, Lak, Szabó, Vadász*, 2013., p. 54 & 56).

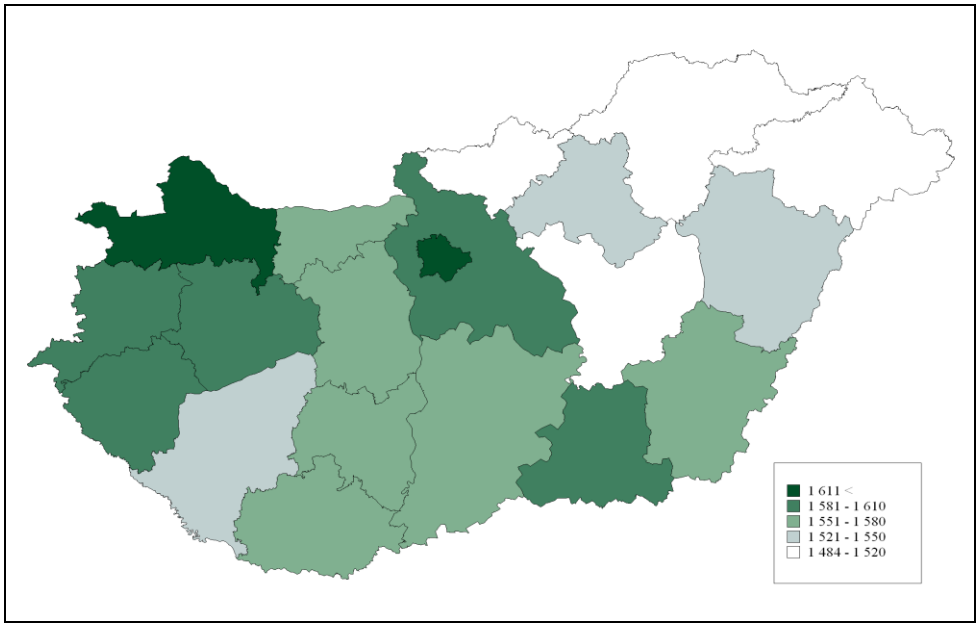

Figure 8 Performance levels of 8th grade students in reading comprehension according to counties in the 2012 competence surveys[14]

[13] Source: Balázs, Lak, Szabó, Vadász, 2013., p. 53

[14] Forrás: Balázs, Lak, Szabó, Vadász, 2013., 54. o. (Térkép: Híves Tamás szerk.)

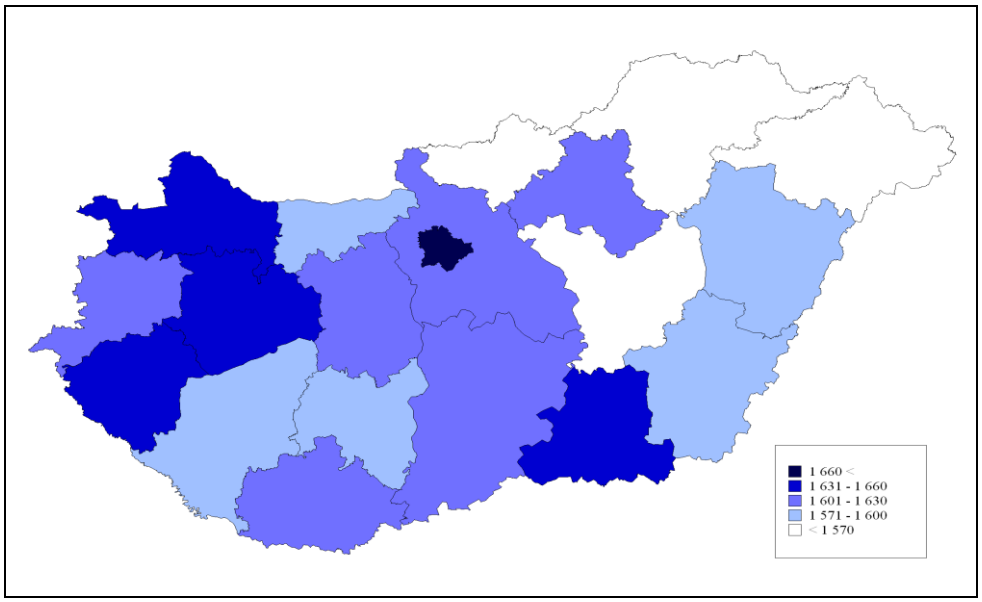

Figure 9 Performance levels of 8th grade students in mathematics according to counties in the 2012 competence surveys[15]

On the maps representing the performance level of students in each county the poorer eruditions are indicated by lighter colours in both cases. The relative backwardness of the counties in the eastern part of the country can also be seen in the case of reading comprehension and mathematics, especially in the case of Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg, Nógrád and Jász-Nagykun-Szolnok counties. Although the differences in performance are partly explained by the fact that the above-mentioned counties are also characterized by small communities, the better infrastructure, labour market conditions and the socio-cultural circumstances of the people living in the western part of the country together can improve the success of schooling to a great extent.

In Hungary, small region means the organizational level among certain institutions and counties, their current number is 175. (In our present study, we are not going to discuss the level of institutions – which shows the largest deviations in performance – for the time being, due to the protection of individual rights.) In these geographical units, accumulated advantages as well as disadvantages appear more firmly compared to counties (see: Figures *10 & 11*). The advantages in performance due to the favourable selection of schools can also reach 20% here due to the relatively large differences between small regions (see: *Balázs, Lak, Szabó, Vadász*, 2013., p. 57-62).

On the maps representing the level of students' performance in small regions, better results are indicated by the more and more dark shades of the colour blue in both cases, while the more and more dark shades of the colour red indicate a negative shift. The relatively poor performance of the eastern part of the country can also be observed in the case of small regions, out of which a few big cities, like e.g. Debrecen, Szeged, Miskolc and their surroundings are the exceptions, i.e. the community slope applies here as well. The more favourable position of the western part of the country from the aspect of schooling can be easily observed on the maps of small regions as well, and at the same time, the natural effects of big cities also apply here. We should also mention that the infrastructural differences between the two parts of the country have caused a fluctuation from east to west in Hungary,

[15] Forrás: Balázs, Lak, Szabó, Vadász, 2013., 54. o. (Térkép: Híves Tamás szerk.)

which concerns more educated adults primarily, but its impact can be observed today in the world of schools as well.

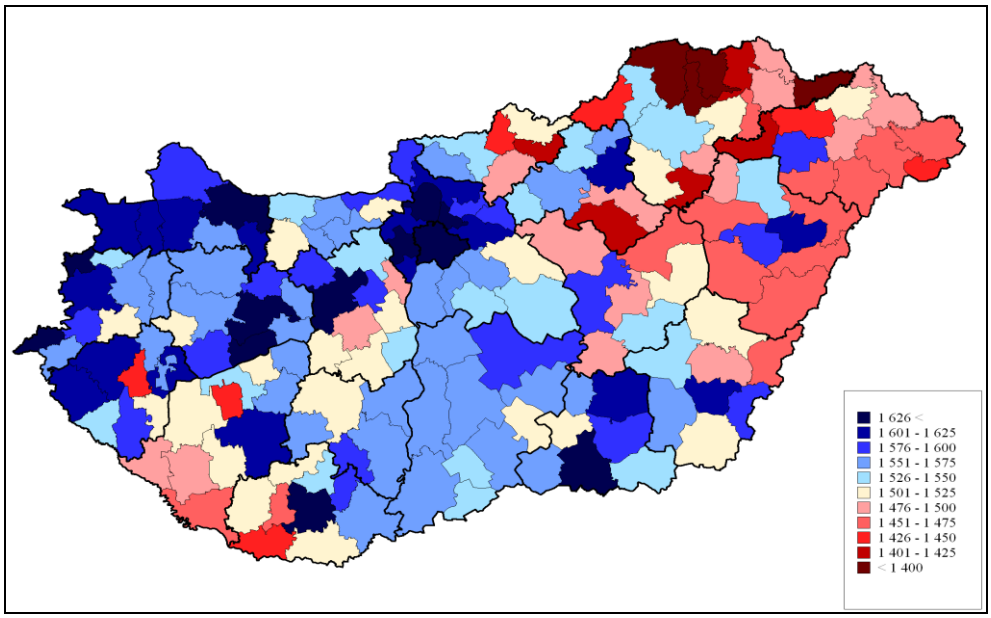

Figure 10 Levels of performance in reading comprehension of 8th grade students according to small regions in the 2012 competence surveys[16]

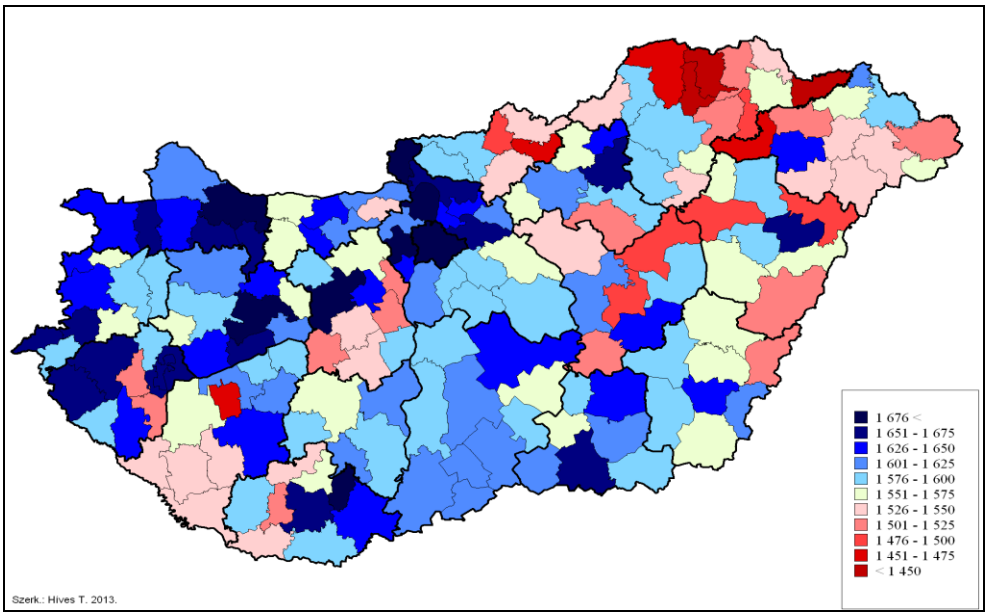

Figure 11 Levels of performance in mathematics of 8th grade students according to small regions in the 2012 competence surveys[17]

Summary

In the past decade, the findings of the Hungarian competence surveys and the international school progress surveys have continuously indicated that while the performances of Hungarian students show a relative stability in the studied fields, there are major differences between schools within the country. Consequently, the parents' selection of schools virtually

[16] Source: Balázs, Lak, Szabó, Vadász, 2013., p. 59-62 (Térkép: Híves Tamás szerk.)
[17] Source: Balázs, Lak, Szabó, Vadász, 2013., p. 59-62 (Térkép: Híves Tamás szerk.)

plays a greater role in the student's success than their individual faculty or their so-called socio-cultural background. Thus, the most important current task of the Hungarian public education system is to reduce the qualitative difference between schools and to make the schools 'at a disadvantage' catch up. The solution of the task demands enormous interventions and special attention, the ideal means for which is probably not the nationalization of the schools.

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