



## The External Conditions of Teachers' Career in Hungary

Hungarian Educational Research Journal  
2014, Vol. 4(2) 89–102  
© The Author(s) 2014  
<http://herj.lib.unideb.hu>  
Debrecen University Press



**Krisztián Széll**

DOI: 10.14413/herj.2014.02.08.

### Abstract

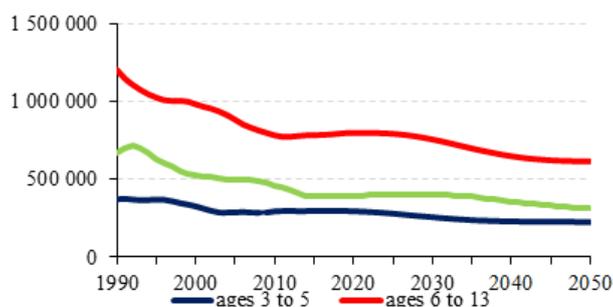
The future, sustainability and competitiveness of economy and society are determined basically by the quality of education, which in turn is determined by the quality of the teachers in a society, and by their quality-based selection and development. Consequently, when determining education development priorities and education strategy programmes, special attention needs to be paid to teachers (who form the main pillar of the educational system) and to the main stages of their selection. The present study focuses on the external system of conditions, the factors that make teachers stay in the profession, as well as their labour market status. To deal with these issues, the study demonstrates the major changes in the number, composition, workload and working conditions of teachers, their employment status, wages and the social prestige of the teaching profession.

**Keywords:** Teachers, Teacher Employment, Teacher Salaries, Teacher Workload, Social Prestige, Socioeconomic Background

## The number, composition and workload of teachers

The changes in the number of teachers which have occurred since the early 1990s need to be examined together with the changes of the school-age population. With regard to the changes in the number of individuals in specific age groups associated with each level of education, it can be established that – due to the fact that the birth rate has been steadily declining for a longer period and the number of births is regularly under 100,000 – the number of kindergarten-age and school-age children is decreasing. Consequently, it is expected that the number of children entering the public education system will decrease<sup>1</sup> while the total population will fluctuate (*Figure 1*). Obviously, the age structure of the population segment of individuals participating in school-based education is more complex (e.g. students who are older than the majority of students in a given grade; adult training); nevertheless, changes within the above mentioned age groups determine the number of those entering public education.

Figure 1 Changes in the age groups of individuals who typically participate in public education, 1990-2050 (persons)



Source: own figure<sup>2</sup>

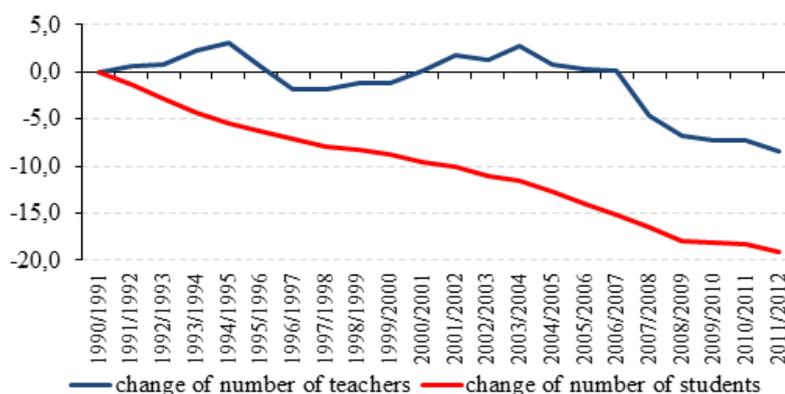
The changes of the school-age population and their long-term consequences define the number of teachers required for efficient education. In general, it is to be concluded that the number of teachers employed in public education reacted slowly to demographic trends: its adaption to students' number (decreasing due to demographic reasons) started only in the last 5-6 years (*Figure 2*).

<sup>1</sup> Primarily, the fluctuations of population are a result of Hungary's demographic policy of the 1950s (Ratkó era).

<sup>2</sup> Age structure data provided by the Central Statistical Office until 2009; from 2010 onwards: projection data base 2009 of the Demographic Research Institute of the Central Statistical Office (calculation by the author)

Note: Data of the period from 1990 to 2009 are projected on the basis of the data of the census of 1 February 2001 and then are retroactively corrected.

Figure 2 The change in the number of teachers and students from school year 1990/91 to 2011/12 (in %) (1990/91=100%)



Source: *Annals of Education Statistics, 2004/05*<sup>3</sup>.

If compared to the data of other countries, the number of children per teacher is still lower in Hungary than the OECD or EU 21 average. In Hungary, the number of students per full-time teacher (the number the auxiliary staff included) has been lower than the OECD or EU average for a long time, primarily at the lower levels of education (the basic and the lower secondary levels). However, the average number of students in a class in Hungary is close to the international average rate (*Table 1*). This means that the higher employment rate of teachers in Hungary is not due to the lower number of students in one class. With regard to the number of students in a class and the number of teachers, it is to be noted that research shows that – with the exception of the very first school years – the decrease of the number of students in a class and the increase of the number of teachers do not exercise significant effect on students' performance. On the contrary, such measures raise costs and counteract the selection process of those intending to enter the teaching profession (Barber & Mourshed, 2007).

Table 1 The number of students per full-time teacher and the average number of students in a class in Hungary compared with the OECD and the EU 21 average, 2010 (persons)

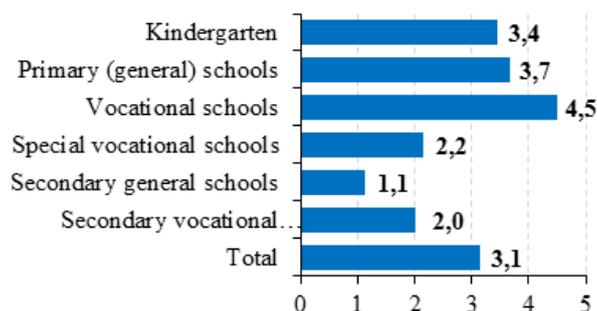
LEVEL OF EDUCATION	NUMBER OF STUDENTS PER TEACHER			AVERAGE NUMBER OF STUDENTS IN A CLASS		
	HU	OECD average	EU 21 average	HU	OECD average	EU 21 average
Primary education (ISCED 1)	10.8	15.8	14.3	20.8	21.2	19.8
Lower secondary education (ISCED 2)	10.7	13.7	11.7	21.4	23.4	21.8
Upper secondary education (ISCED 3)	12.7	13.8	12.5	-	-	-

Source: OECD (2012)<sup>4</sup>

<sup>3</sup> KIR-STAT Database

Hungarian and international surveys of students' performance clearly evidence that the parents and the social and cultural status of the family influence performance to a considerable degree.<sup>5</sup> Consequently, special attention needs to be paid to the large number and rate of disadvantaged students. In school year 2011/12, 475,000 students (27% of all students) were disadvantaged. This means, among others, that there are more and more teachers who work with more and more children whose social status and family background need to be compensated for in some manner. At the lower levels of education, the number of disadvantaged children per teacher is much higher than at the higher levels; the rate is exceptionally high in vocational schools (*Figure 3*).

*Figure 3 Number of disadvantaged students per teacher broken down by institutions of public education, 2011/12 (persons)*



Source: KIS-STAT Database

In public education, the rate of female teachers has been above 80% for a longer period of time; currently, 83 in every 100 teachers are women.<sup>6</sup> The higher rate of women working in public education is a widespread phenomenon in Europe; however, Hungary's rate is higher than that of most EU member states (EACEA, 2012). The vast majority of primary school teachers and kindergarten teachers are women. In the teaching profession, the proportion of men is highest among vocational teachers.

The age structure of teachers continues to change: more and more of them are older individuals. Currently more than one third of teachers are above 50, while the rate of those under 30 is lower than 10% (*Figure 4*). The "aging society of teachers" is a problem in several countries; data show that many European countries will face a lack of teachers (EACEA, 2012). At the same time, Hungarian education policy needs to prepare for the fact that in the next 5-10 years – regardless of the decreasing number of children

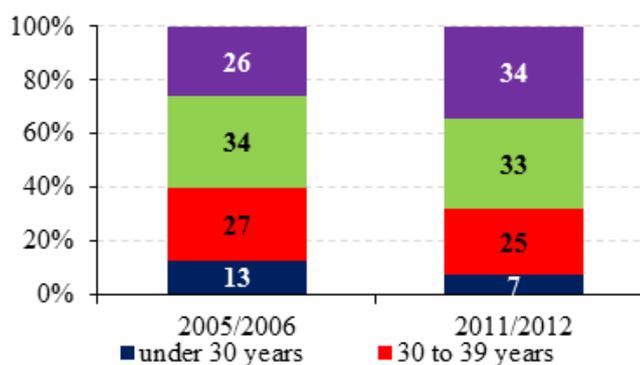
<sup>4</sup> Education at a Glance 2012. Data of Table D.2.1.

<sup>5</sup> For Hungary, a most relevant result of the PISA surveys (Programme for International Students Assessment) is that in all the three areas of education (mathematics, natural sciences, reading literacy) it is the socio-demographic background of the family that most affects students' performance. Furthermore, Hungary is one of the countries where the performance disparities resulting from the differences between schools are exceptionally great. Similar conclusions may be drawn from the results of the National Assessment of Basic Competences (NABC). For the results of the PISA survey and NABC, please refer to: <http://www.oecd.org/pisa/pisaproducts/>.

<sup>6</sup> Source of data: KIS-STAT Database

– the demand for teachers will increase. The changes in the age structure of teachers anticipate that a large number of teachers will retire in the near future and career starters (or teachers leaving and then returning to their career) will be required. In certain micro-regions and education types, this problem is likely to occur in the near future in a severe form. The initial education and in-service training of teachers need to prepare for this situation in time (Sági & Varga, 2011).

Figure 4 The age structure of Hungarian teachers in public education, 2005/2006 and 2011/12 (%)



Source: KIS-STAT Database

In spite of the relatively large number of teachers in Hungarian public education, there is a lack of teachers: there are vacancies in one fourth of schools. In many cases, schools attempt to manage such problems with overtime work. There is a greater lack of teachers in vocational education: there are vacancies in almost 50% of vocational schools. As a rule, a lack of teachers is detected in the case of subjects related to competences which can be used more profitably in other market sectors (Sági & Varga, 2011).

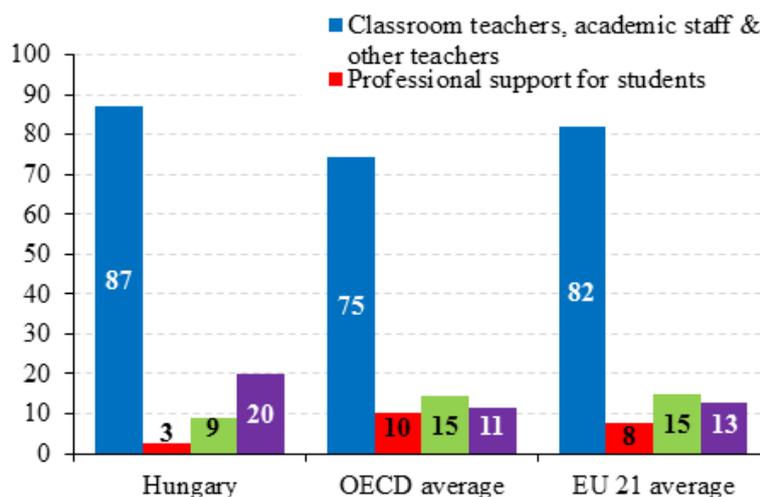
As shown by OECD data, the number of the annual compulsory classes of Hungarian teachers is lower than the OECD or EU 21 average: at all the three levels of education (primary level, lower secondary level, upper secondary level) it is in the bottom third of the ranking. At the same time, the total annual working hours of teachers in Hungary is 150-200 hours longer than the international average values (OECD, 2012).

A significant research result is that vocational schools – where the rate of disadvantaged students is high – experience unevenly distributed great workload. This means that the highest workload is on those institutions where personalised educational services would be most needed (Lannert & Sinka, 2009). The results of the time budget survey conducted in Hungary in 2010 evidence that Hungarian teachers feel that their second biggest problem is workload, the first being problems with the educational policy. To sum up, the employment structure of Hungarian public education is unfavourable: despite the fact that a relatively large number of teachers are employed, their workload is still extremely high and unevenly distributed among and within schools. Satisfaction with the teaching profession and the efficiency of teaching would be greatly contributed to by an even distribution of workload, by proper performance assessment and a system

of differentiated salaries providing incentives for and being in harmony with such assessment, as well as by the provision of more assistance (TÁRKI-TUDOK, 2010).

Teachers' perception of workload is greatly influenced by the inadequate compensation for their extra performance and by the fact that they are commissioned with administrative or organisational tasks which do not require their specific expertise or professional skills. With regard to the latter aspect, it is to be highlighted that almost four tenths of the teachers reported that the lack of employees assisting teachers' work is a severe problem for them (TÁRKI-TUDOK, 2010). The lack of employees assisting pedagogical work exercises considerable influence on the international comparison and interpretation of the number of teachers per person. As for excessive workload, many point out that in Hungary – if compared to other countries where the number of students per teacher is higher – the number of classes held is lower, yet teachers have much more administrative and organisational tasks than their foreign peers. International comparison indeed shows that – if compared to the OECD countries and the EU 21 countries – the number of employees who assist teachers' work or work in the field of school management, quality control and administration per student is evidently lower in Hungary. At the same time, the number of class teachers and other teachers and the employees employed in positions related to the maintenance and operation of institutions is much higher than the international average. All these aspects result in the fact that in Hungary the number of persons employed in public education per one thousand students is relatively high (*Figure 5*).

*Figure 5 The number of teachers and other employees employed in public education per 1,000 students in Hungary, compared with the OECD and EU 21 average, 2010 (persons)*



Source: OECD (2012)<sup>7</sup>

As for the composition of teachers, it is to be noted that – despite the relatively high number of teachers – in some regions there is a lack of high-quality teachers, which means that some specialised subjects are taught by teachers who do not have a

<sup>7</sup> Education at a Glance 2012. Data of Table D.2.4.a

qualification related to the given subject. In school year 2011/12, almost 3% of teachers employed in public education did not have the qualification for teaching their subjects. Their rate was exceptionally high in institutions in small localities (7%). The education of teachers of natural sciences is almost in crisis, which is evidenced by the fact that in basic schools the rate of teachers who teach natural sciences subjects without a special qualification has been rising for years now (currently, it is above 4%).<sup>8</sup> This fact has spill-over effects on the pool of potential natural sciences teachers, as a teacher without a special qualification is less likely to inspire students to get interested in the given subject. The 2008 teacher survey of OECD<sup>9</sup> also highlighted that the countries under survey experience a severe lack of properly qualified teachers. 30-50% of those teaching in lower secondary education (ISCED 2) work in schools where – as reported by school heads – the lack of properly qualified teachers hinders efficient pedagogical work. At the time of data collection, the rate in Hungary (22%) was below the international average; however, it may not be regarded as low (OECD, 2009; Hermann et al, 2009).

The fields most severely affected by the lack of properly qualified teachers are those where the number of disadvantaged children – and their proportion to teachers – is much higher than the average. Júlia Varga (2009) states in her analysis that the number of available teachers is much lower than the average in disadvantaged localities or in schools offering education for disadvantaged children. Such educational institutions are more likely to employ teachers without proper qualification (lack of higher education qualification or of a university degree); furthermore, it is more likely that the teachers are either career starters or older than 50. To sum up, Hungarian schools educating students who come from an unfavourable social background employ teachers whose abilities are not up to the standards.

### **The labour market: employment and salaries**

Primarily, the deterioration of the quality of teachers' work is related to the changes in their employment and wage conditions and labour market status (Varga, 2011). If expenditure on education is a constant, teachers' employment rate and wage level are inversely proportional. This means that a precondition of the long-term and competitive improvement of teachers' wages is the streamlining of employment; otherwise the wage increase would result in an excessive burden for the central budget (Varga, 2008; Varga, 2011).

As concluded above in the section on the composition of teachers, the age structure of teachers displays the signs of continuous ageing, which means that in the near future more teachers will reach the retirement age in more public education institutions. In view of the current demographic trends, this fact would not necessarily constitute a problem; however, given the lack of career starter teachers with proper qualification, it

---

<sup>8</sup> Source of data: KIS-STAT Database

<sup>9</sup> TALIS: Teaching And Learning International Survey

is still to be seen who will be employed in such vacancies. So far, educational institutions have adapted to demographic changes and to the new legislative framework by refusing to seek new employees for the positions of retiring teachers, which, in turn, continued to increase the burden on other teachers (as a rule, teachers with good abilities). As the majority of teachers are women, statistics show a higher rate of teacher's employment than the actual rate. This is due to the fact that women, in general, are more likely to be on relatively longer leaves and that women on childcare leave are indicated in the official employment statistics. In the institutions of public education, the average rate of those on a relatively long leave is approximately 6%, the four fifths of whom are receiving child care benefit or child care fee.<sup>10</sup>

At various points of the process of becoming a teacher (at the time admission, finding employment, in the 5th or 6th year after finishing studies) a specific type of negative auto-selection is detected. This has been an evident trend since the democratic transition of Hungary and has become stronger since the 1990s. Consequently, many are likely to leave the teaching profession, which, in turn, means that individuals of relatively low skills and abilities seek employment or continue to pursue their career in the teaching profession (Varga, 2005a; Varga, 2007). One of the principal factors of this process is the low wages of teachers: individuals of good abilities have considerably better chances on the general labour market than in the teaching profession, which means that they are more likely to leave the profession (Polónyi & Timár, 2006; Varga, 2005a; Varga, 2007). Furthermore, the rate of graduated students who are employed as teachers in public education is decreasing. In the early 2000s in Hungary more than six tenths of students who graduated in teacher training programmes decided to pursue a career outside of the teaching profession. Individuals graduated as kindergarten teachers or primary school teachers were an exception, their rate being below 40% (Varga, 2005a).

All available Hungarian and international statistical surveys and results prove that the wage level of Hungarian teachers is very low. Even in 1989, teachers' wages were considerably lower than the average wage of higher education graduates. The wages of kindergarten teachers or teachers in primary education and the wages of teachers in secondary education were lower than 60% and 70% of the wages of higher education graduates, respectively. In the 1990s, the process of the relative loss of prestige of those working in the public education accelerated: at the end of the 1990s, the rate of difference between the wages was 60%. This trend was counteracted by the wage increase of public employees in 2002; the wage conditions improved to a certain degree, after that, however, the rates started to deteriorate steadily again. Currently, the wage difference is 30-45% (which equals the level of the early 1990s). The wage difference in the case of men is much higher than in the case of women. This is a possible reason for

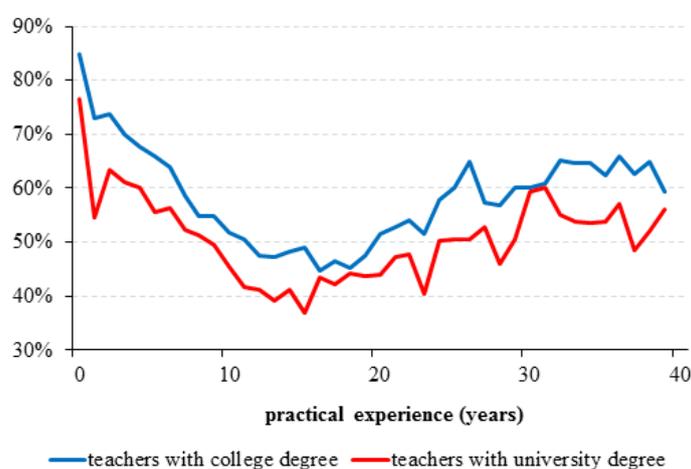
---

<sup>10</sup> Source of data: KIS-STAT Database

the fact that men are less likely to decide to pursue a career in the teaching profession (Sági & Varga, 2011; Varga, 2005b; Varga, 2008; Varga, 2011).

At the beginning of their career, both teachers with college degrees and university degrees experience that in the first years their wage is lower than it would be in a profession requiring the same qualification and expertise. The wage gap is continuously growing in the first fifteen years of their career, which results from the fact that in the education sector, the wages of career starters are low and tend to rise slower than in other professions requiring higher education qualification. As for the teaching profession as a whole, it is to be concluded that the gap between the wages of teachers with university degrees and other university degree holders is bigger than in the case of college degree holders (Sági & Varga, 2011) (Figure 6).

Figure 6 The gross salary of teachers with a university/college degree compared with that of degree holders employed in positions outside of the teaching profession, based on the period of practical experience, 2009 (%)

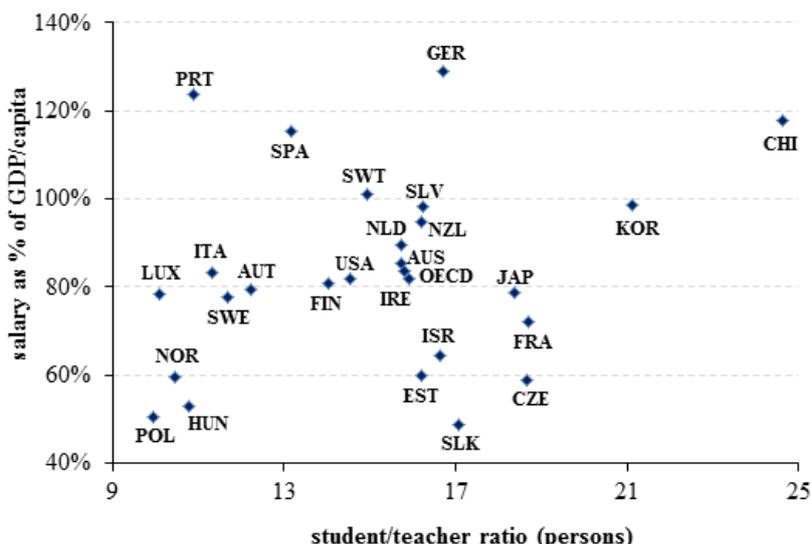


Source: Sági & Varga (2011): The reproduction of the calculation by Júlia Varga (on the basis of the wage rate data of the National Employment Service of Hungary).

Júlia Varga (2009) – having removed all effects of other factors – comes to the conclusion in her analysis that teachers working in disadvantaged schools earn less than teachers employed in schools of a more favourable composition. Consequently, the wage differences based on the social background may prevail and continue to grow.

If the wages of career starter teachers are much lower than those of others with higher education qualification, those individuals will decide to enter the teaching profession whose skills and abilities are not optimal for the profession. In those systems of education which perform outstandingly, the proportion of wages of career starter teachers and the per capita GDP is equal to or higher than the OECD average (Barber & Mourshed, 2007). In Hungary – if compared to other countries – the proportion of the wages of career starter teachers/experienced teachers and the per capita GDP (calculated in percentage) is very low, while the student/teacher ratio is also low (Figure 7).

Figure 7 The salaries of career starter primary school teachers in percentage of GDP per capita and the student/teacher ratio at the primary level (ISCED 1), 2010



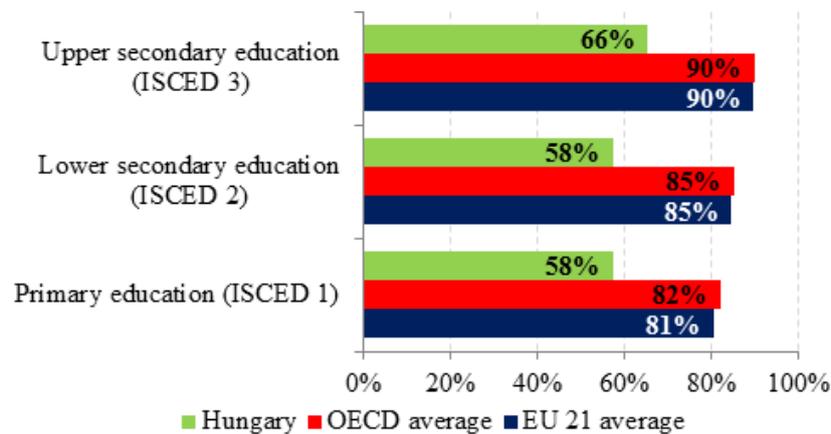
Source: Own figure<sup>11</sup>

An informative piece of data is the fact that in the institutions maintained by the state the salary of career starter teachers (calculated on the basis of purchasing power parity<sup>12</sup> is among the lowest in Hungary at all levels of education. The exceptionally unfavourable wage conditions of Hungarian teachers are shown also by the comparison between teachers' salaries with the salary higher education graduates between 25-64 years of age in the same country (calculated in percentage). At all levels of education, the rates in Hungary are significantly lower than the average rates of the OECD and EU 21 countries (*Figure 8*). Furthermore, the number of years an individual must spend in the teaching profession to achieve the highest wage category is higher in Hungary than in any other country. For a teacher at the lower secondary level of education, this is 40 years, as opposed to the average 24 years of the OECD and the EU 21 countries.

<sup>11</sup> Calculated by the author on the basis of the Education at a Glance 2012 data OECD (2012). Country names abbreviations: AUS: Australia; AUT: Austria; CHI: Chile; CZE: Czech Republic; EST: Estonia; FIN: Finland; FRA: France; GER: Germany; HUN: Hungary; IRE: Ireland; ISR: Israel; ITA: Italy; JAP: Japan; KOR: Korea; LUX: Luxembourg; NLD: Netherlands; NZL: New Zealand; NOR: Norway; OECD: OECD average; POL: Poland; PRT: Portugal; SLK: Slovak Republic; SLV: Slovenia; SPA: Spain; SWE: Sweden; SWT: Switzerland; USA: United States

<sup>12</sup> An artificial common reference currency unit that takes purchasing power parity into consideration and thus eliminates the price level differences in the various countries.

Figure 8 The salary of teachers with a 10-15-year period of practical experience at the various levels of education, compared with the salaries of higher education graduates in Hungary



Source: OECD (2012)<sup>13</sup>

### The social prestige of the teaching profession

Most international surveys of the reputation categorises the teaching profession – on the basis of its financial and social reputation – as a career of relatively low reputation (Blau & Duncan, 1998). To our knowledge, no surveys of prestige have been recently performed in Hungary; however, previous studies show that the low reputation of the teaching profession is an ongoing trend (Szabó, 1999; Köcséné, 2001; Biró, 2002, Halász & Lannert, 1998).

It can then be presumed that the social and financial prestige of the teaching career continues to be low. The results of a student motivation survey conducted in 2009 among university students seem to corroborate this presumption. They evidence that the financial reputation of teaching careers (primary school teachers and secondary school teachers of humanities) is the worst. As for social prestige, only 5-6% of those asked mentioned the teaching profession in this context (Table 2).

<sup>13</sup> Education at a Glance 2012. Data of Table D.3.1.

Table 2 The financial and social prestige of professions (number of times a profession was mentioned, in %, N=7,872 persons)

	SOCIAL PRESTIGE (%)	FINANCIAL PRESTIGE (%)
Doctor of medicine	71	26
Lawyer	54	46
Engineer	20	40
Economist	20	38
Natural scientist	10	2
IT professional	8	42
Secondary school teacher of humanities	5	< 1
Primary school teacher	5	< 1
Agricultural engineer	2	4
Social analyst	4	2

Source: *Educatio*, 2010<sup>14</sup>

To improve the social reputation of the teaching profession, adequate, quality-centred personal, financial, infrastructural, educational and assessment-related conditions are needed. Teachers are part of the society and are influenced by the same social, economic, political and ethical norms as the society itself – teachers are affected by the atmosphere, expectations and value systems of the society as a whole. However, if teachers show positive results to social actors, the social reputation and prestige of the teaching profession may be improved gradually.

## Conclusions

In Hungary, the teaching profession is characterised by highly unfavourable wage conditions and low social prestige. International experience shows that the teaching profession can become more attractive if its financial prestige (which does not necessarily mean outstanding wages but rather closing the wage gap between career starter teachers and other higher education graduates employed outside of the teaching profession) and social prestige improve and a creative and constructive work environment is offered. The financial and social prestige of the teaching profession may be restored only through the joint efforts of actors in the fields of educational policy, society and education. At the same time, it is to be noted that a key actor of the process is none other than the teacher. A major factor of respect and acknowledgement lies in adequate professional and pedagogical expertise and in the high-quality education offered to students, which, in turn, manifest in the improvement of students' abilities and performance.

The wages available for teachers constitute a factor that defines the popularity of the teaching profession and the abilities of students who decide to start a career in that profession. Consequently, a wage system providing adequate incentive should be

<sup>14</sup> The students participating in the survey could mention two professions

introduced. Educational policy measures related to employment and wages need to be coherent. The decrease of the number of teachers is a result of demographic trends; however, the disparities in the composition of students and teachers (the regional distribution of teachers performing high-quality work, retirement, disadvantaged persons, etc.) call for well-designed and objective interventions of educational policy. Before and after such interventions, the effects of the measures and draft legislation need to be examined with scientific methods.

The educational policy needs to pay special attention to the education of disadvantaged children as they need a type of attention that is different from that required by average students. Only highly trained teachers who are well versed in and apply variegated pedagogical methods are able to counteract the differences in performance which result from social disadvantages. However, the lack of teachers with adequate expertise and skills is most prominent in disadvantaged micro-regions, localities and schools. A reason for this is that the diversified (in some cases, greater) workload and inadequate wage compensation does not inspire teachers to work in such schools.

## References

- Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. London: McKinsey & Company.
- Biró, Zs. (2002). Tanárok a 2002/2003-as tanévben [Teachers in school year 2002/2003]. *Educatio*, 11(2), 293-301.
- Blau, P. M., & Duncan, O. D. (1998). A foglalkozási státusz mérése [Measuring the status of occupation]. In Róbert, P. (Ed.), *A társadalmi mobilitás. Hagyományos és új megközelítések* (pp. 130-140). Budapest: Új Mandátum Könyvkiadó.
- EACEA (2012): *Data on Education in Europe 2012*. Brussels: Education, Audiovisual and Culture Executive Agency P9 Eurydice. [DOI:10.2797/77414](https://doi.org/10.2797/77414)
- Halász, G., & Lannert, J. (Eds.). (1998). *Jelentés a magyar közoktatásról 1997 [Education in Hungary 1997]*. Budapest: Országos Közoktatási Intézet.
- Hermann, Z., Imre, A., Kádárné Fülöp, J., Nagy, M., Sági, M., & Varga, J. (2009). *Pedagógusok az oktatás kulcsszereplői. Összefoglaló jelentés az OECD nemzetközi tanárkutató (TALIS) első eredményeiről [Teachers are key players in education. Summary report of the OECD's Teaching and Learning International Survey (TALIS) first results]*. Budapest: Oktatókutatás és Fejlesztő Intézet.
- Köcséné, Sz. I. (2001). Tanárokat képez-e a tanárképző főiskola? [Does teacher training college train teachers?] In Boreczky, Á. (Ed.), *Pedagógiai Műhely. Beszélgetések* (pp. 57-64). Pécs: PTE Tanárképző Intézet Pedagógia Tanszék.
- Lannert, J., & Sinka, E. (Eds.). (2009). *A pedagógusok munka- és munkaidő-terhelése. Kutatási beszámoló [The teachers' workload and worktime. Research report]*. Budapest: TÁRKI-TUDOK Zrt.
- OECD (2009). *Creating Effective Teaching and Learning Environments: First results from TALIS*. Paris: OECD Publishing.
- OECD (2012). *Education at a Glance 2012: OECD Indicators*. Paris: OECD Publishing. [DOI:10.1787/eag-2012-en](https://doi.org/10.1787/eag-2012-en)
- TÁRKI-TUDOK (2010). *Pedagógus 2010. Pedagógusok időmérleg vizsgálata. Kutatási zárójelentés [Teacher 2010. Examination of time scale of teachers. Research report]*. Budapest: TÁRKI-TUDOK Zrt.

- Polónyi, I., & Timár, J. (2006). A pedagógusprobléma [The teacher problem]. *Új Pedagógiai Szemle*, 55(4), 15-31.
- Szabó, I. (1999). Iskola és társadalom. Közoktatással kapcsolatos társadalmi elvárások Magyarországon [School and society. Social expectations of public education in Hungary]. *Új Pedagógiai Szemle*, 49(9), 27-42.
- Sági, M., & Varga, J. (2011). Pedagógusok [Teachers]. In Balázs, É., Kocsis M., & Vágó, I. (Eds.), *Jelentés a magyar közoktatásról 2010* (pp. 295-324). Budapest: Oktatókutató és Fejlesztő Intézet.
- Varga, J. (2005a). A pedagógus szakokra jelentkezők és a pedagóguspályán elhelyezkedő pályakezdők jellemzői [Features of applicants for teacher training course and new entrant teachers]. In Hermann, Z. (Ed.), *Hatékonyági problémák a közoktatásban*. Budapest: Országos Közoktatási Intézet.
- Varga, J. (2005b). A közoktatásban foglalkoztatottak összetételének és keresetének változása [Change in composition and earnings of employees in education]. In Z. Hermann (Ed.), *Hatékonyági problémák a közoktatásban*. Budapest: Országos Közoktatási Intézet.
- Varga, J. (2007). Kiből lesz ma tanár: a tanári pálya választásának empirikus elemzése [Who becomes a teacher?]. *Közgazdasági Szemle*, 54(7-8), 609-627.
- Varga, J. (2008). Institutional structure and funding in education. In Fazekas, K., Köllő, J. & Varga, J. (Eds.), *Green Book for the renewal of public education in Hungary* (pp. 245-268). Budapest: Ecostat.
- Varga, J. (2009). A tanárok elosztása a különböző szociokulturális háttérű tanulókat tanító iskolák között [The distribution of teachers among schools with different socio-cultural backgrounds]. In Fazekas, K. (Ed.), *Oktatás és foglalkoztatás* (pp. 65-82). Budapest: MTA Közgazdaságtudományi Intézet.
- Varga, J. (2011). A tanárok foglalkoztatása és bérezése – hazai és nemzetközi kitekintés [Employment and salaries of teachers – domestic and international outlook]. In Sági, M. (Ed.), *Erők és eredők. A pedagógusok munkaerő-piaci helyzete és szakmai továbbfejlődése: nemzetközi kitekintés és hazai gyakorlat* (pp. 11-46). Budapest: Oktatókutató és Fejlesztő Intézet.