5 HUMAN CAPITAL, PART II TEST SCORES AND SCHOOL PERFORMANCE

5.1 CHANGES IN THE GENDER GAP IN EDUCATIONAL ATTAINMENT

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By the end of the 1990s, in most developed countries the gender gap in educational attainment had reversed (see for example *Schofer–Meyer,* 2005, *Goldin et al*. 2006, *Vincent-Lancrin*, 2008, *Parro*, 2012). While men used to have a higher educational attainment than women, in recent decades women have obtained tertiary or higher qualifications in greater proportions than men and have been low-qualified in lesser proportions. Research has revealed several reasons for such an increase in female educational attainment. For example, because labour market participation of women has become widely accepted, this encouraged women to invest in human capital (*Goldin et al*. 2006). The increase in the labour demand for higher education graduates and the additional wage return to higher education also supported the participation of women in higher education (see for example *Charles–Luoh,* 2003, *DiPrete–Buchmann*, 2006). *Becker et al.* (2010) conclude that the costs of higher education are lower for women because of the gender differences in non-cognitive skills and explain the higher participation of women by the lower costs. Women have not only overtaken men in higher education participation rates but female higher education students also graduate in a higher proportion (*DiPrete–Buchmann*, 2006, *OECD*, 2016), which further increases their advantage in the share of higher education graduates.

In 2017 the share of those with a lower-secondary qualification at most (ISCED 0–2) in young people in the EU28 was nearly 5 percentage points higher among men than among women, while the share of those with a higher education (tertiary) qualification was 17.5 percentage points higher among women than among men. In the age group 30–34, the share of those with a higher education qualification was 10 percentage points higher among women (*Table 5.1.1*). This gender gap was smaller in Hungary than the EU28 average but there is a similar tendency.

In 1990, at the start of the economic changeover, the educational attainment of women in the population over 15 was lower than that of men in Hungary – except for those with an upper-secondary qualification. Compared to men, women had a smaller share of those with a lower-secondary qualification or less, a substantially smaller share of those with a secondary vocational qualification without an upper-secondary school leaving certificate (Matura) and a somewhat smaller share of those with a higher education qualification.

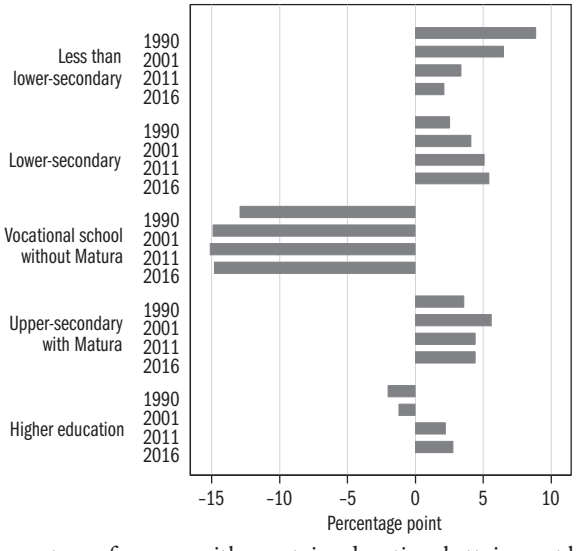
However, they had a larger share of those with an upper-secondary qualification with Matura (*Figure 5.1.1*).

Table 5.1.1: Difference in the share of educational attainment between women and men in younger age groups, 2017

	EU28 average			Hungary		
	women	men	difference	women	men	difference
	percentage					
Aged 20–24						
Lower-secondary at most (ISCED 0–2)	14.2	19.1	–4.9	15.5	15.8	–0.3
Upper-secondary (ISCED 3)	64.4	65.8	–1.4	73.1	78.5	–5.5
Tertiary (ISCED 5–8)	32.4	14.9	17.5	11.4	5.7	5.7
Aged 30–34						
Tertiary (ISCED 5–8)	44.2	33.9	10.3	35.8	24.7	11.1

Note: The percentage of women with a certain educational attainment level aged 20–24 (and aged 30–34) within the female population aged 20–24 (and aged 30–34 respectively) minus the percentage of men with the same educational attainment level aged 20–24 (and aged 30–34) within the male population aged 20–24 (and aged 30–34 respectively).
Source: *Eurostat*.

Figure 5.1.1: The difference in the share of educational attainment levels among men and women aged over 15 in Hungary, 1990, 2001, 2011 and 2016 (percentage point)



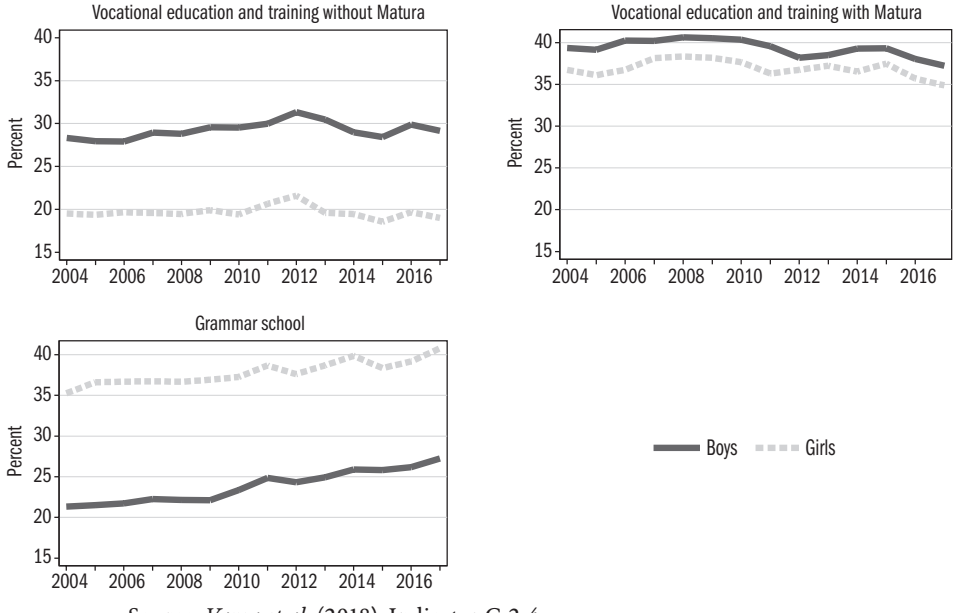
Note: The percentage of women with a certain educational attainment level minus the percentage of men with the same educational attainment level.
Source: Calculated from data from the 1990, 2001 and 2011 census and the 2016 micro-census (CSO). The positive section of the graph indicates the predominance of women, while the negative section indicates the predominance of men.

However, in younger age groups women were already more qualified in 1990 than men. There was no difference in the share of those with a lower-second-

ary educational attainment level at most between the genders but women had a greater share of higher education graduates (*Table 5.1.1*) since in Hungary (similarly to the Scandinavian countries and the other post-communist countries) the share of women in higher education had already reached 50 per cent by 1981, then exceeded it (*Bavel*, 2012). As a result of the expansion of education after the political changeover, by 2011 the share of women in higher education graduates had already exceeded that of men in the entire population over 15, and this advantage further increased up until 2016.

In the coming years the gender gap is likely to increase further. On the one hand, when continuing their studies in upper secondary education, the share of boys in vocational education and training, which does not lead to an upper-secondary school leaving exam (Matura) and in this way does not enable pupils to enter higher education, is 10 percentage points higher. By contrast, the share of girls in general upper-secondary education (gymnasiums) is 10 percentage points higher (*Figure 5.1.2*). Boys have only a 2–3 percentage points higher share in upper-secondary vocational education than girls, therefore girls are, on the whole, in a higher proportion in education leading to a Matura.

Figure 5.1.2: The share of the genders within the pupils of the different types of upper-secondary schools in Hungary, 2004–2017 (percentage)

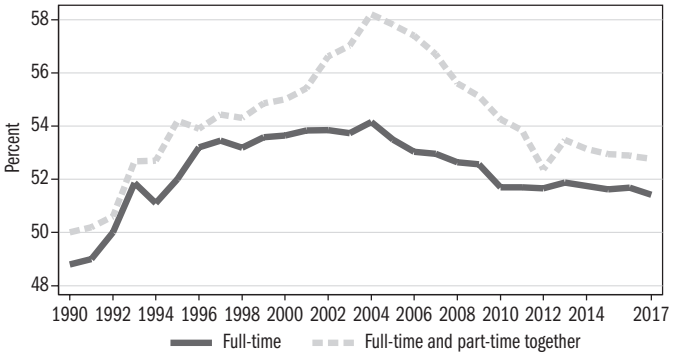


Source: *Varga et al.* (2018), Indicator C.2.4.

The share of women in higher education decreased after 2004 but it still exceeds 50 per cent in both full-time and part-time programmes (*Figure 5.1.3*). Furthermore, since women also complete their studies in higher proportions than men in Hungary, there is an even greater difference between the share

of women and men among higher education graduates – to the advantage of women (see *Hermann–Varga*, 2012).

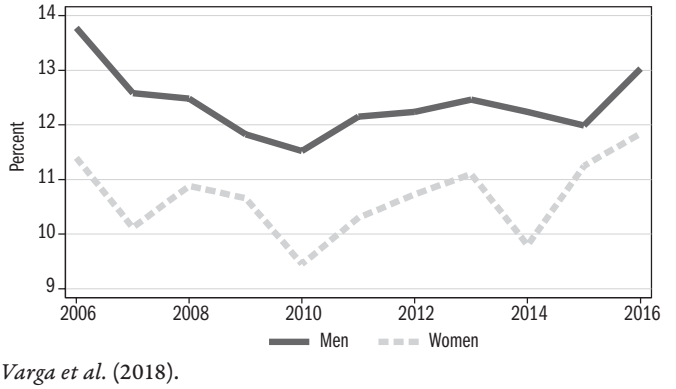
Figure 5.1.3: The share of women in higher education in Hungary, 1990–2017 (percentage)



Source: Data from the yearbooks of education published by the Ministry for Education in the period 1990–2000 and data from the Educational Authority since 2000.

The proportion of the low-qualified is also likely to decrease more (or increase less) among women, because there is a lower share of early school leavers among women than among men, although after 2010, along with the increasing proportion of early school leavers in general, the share of early school leavers among women started to approach that of men (*Figure 5.1.4*).

Figure 5.1.4: The proportion of early school leavers in Hungary broken down by gender, 2006–2016 (percentage)

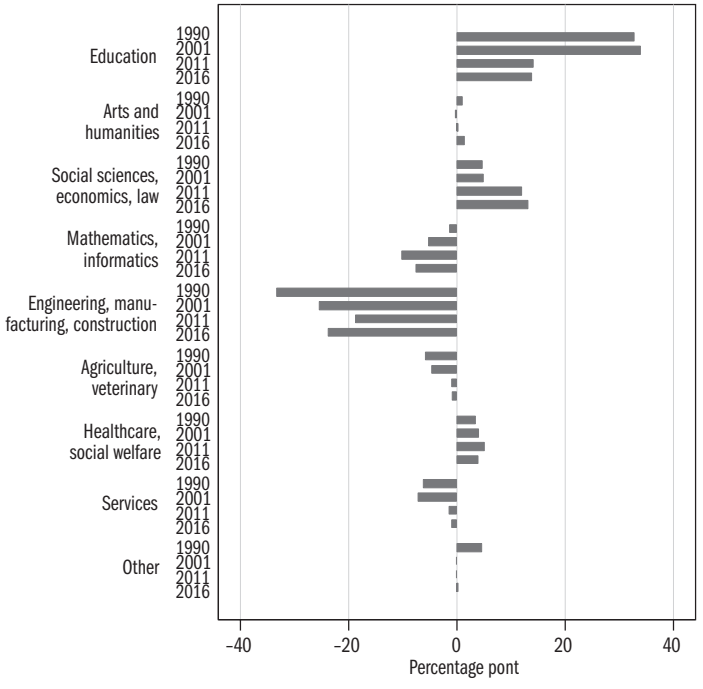


Source: *Varga et al.* (2018).

Although women at present obtain a higher education qualification in a greater proportion than men, they do not form a majority in all fields of science. There is significant gender segregation in terms of fields of study in most countries but there are considerable differences across countries. Women are underrepresented in Science, Technology, Engineering and Maths (the STEM subjects) and overrepresented in the fields of teacher education, humanities,

social sciences, law and healthcare (*Charles–Bradley,* 2002, *Vincent-Lancrin,* 2008 and *Zafar*, 2013). These differences have important consequences for the earning potential of men and women (*Brown–Corcoran,* 1997, *Jurajda*, 2003 and *Machin–Puhani*, 2003).

Figure 5.1.5: Differences in the proportions of fields of studies of degrees obtained by women and men aged 30–34 in Hungary 1990, 2001, 2011 and 2016 (percentage point)



Source: Calculated from data from the 1990, 2001 and 2011 census and the 2016 micro-census (CSO).

In 1990, nearly half of women with a higher education qualification, aged 30–34, had a degree in teaching in Hungary. Even though women remained overrepresented in this area over the next decade, the gender gap in the share of teaching degrees decreased (from 33 percentage points to 14 percentage points). By contrast, the difference in the share of social sciences, economics and law degrees has increased, to the advantage of women. While in 1990 women only had a 5 percentage points higher share of degrees obtained in such disciplines than men, in 2016 they already had a 13 percentage higher share. As for the share in degrees in engineering, industry and construction, women started to close the gap in the period 1990–2011. In 1990, men had an advantage of 33 percentage points, which decreased to 18 percentage points by 2011. However, the advantage of men in Mathematics, Informatics and Science grew from less than 1.5 percentage points in 1990 to more than

10 percentage points in 2011. Between 1990 and 2016 the very small gender gap in human sciences, arts, healthcare and social welfare did not change and it disappeared in agriculture and veterinary studies.

In spite of the significant changes in the proportions across disciplines, considerable differences remained in Hungary between the two genders in the shares of degrees in different disciplines, which profoundly affects the labour market opportunities of the genders and also has an impact on the proportions of disciplines in higher education degrees in general. In Hungary it seems unlikely to increase the proportion of STEM graduates substantially without the increase in the share of women in these disciplines.

References

BAVEL, J. V. (2012): The reversal of gender inequality in education, union formation and fertility in Europe. Vienna Yearbook of Population Research, Vol. 10. pp. 127–154.

BECKER, G. S.–HUBBARD, W. H. J–MURPHY, K. M. (2010): Explaining the Worldwide Boom in Higher Education of Women. Journal of Human Capital, Vol. 4. No. 3. pp. 203–241.

BROWN, C.–CORCORAN, M. (1997): Sex-based differences in school content and the Male-Female Wage Gap. Journal of Labor Economics, Vol. 15. No. 3. pp. 431–465.

CHARLES, K. K.–LUOH, M. C. (2003): Gender differences in completed schooling. Review of Economics and Statistics, Vol. 85. No. 3. pp. 559–577.

CHARLES, M.–BRADLEY, K. (2002): Equal but separate? A cross-national study of sex segregation in higher education. American Sociological Review, Vol. 67. No. 4. pp. 573–599.

DIPRETE, T. A.–BUCHMANN, C. (2006): Gender-specific trends in the value of education and the emerging gender gap in college completion. Demography, Vol. 43. No. 1. pp. 1–24.

GOLDIN, C.–KATZ, L. F.–KUZIEMK, I. (2006): The Homecoming of American College Women: The Reversal of the College Gender Gap. Journal of Economic Perspectives, Vol. 20. No. 4. pp. 133–156.

HERMANN, Z.–VARGA, J. (2012): A népesség iskolázottságának előrejelzése 2020-ig. Iskolázási mikroszimulációs modell (ISMIK). Közgazdasági Szemle, Vol. 59. No. 7–8. pp. 854–891.

JURAJDA, S. (2003): Gender wage gap and segregation in enterprises and the public sector in late transition countries. Journal of Comparative Economics, Vol. 31. No. 2. pp. 199–222.

MACHIN, S.–PUHANI, P. A. (2003): Subject of degree and the gender wage differential. Evidence from the UK and Germany. Economics Letters, Vol. 79. No. 3. pp. 393–400.

OECD (2016): Completion rate of full-time students by level of education, gender, method and duration (2014). In: *Education at a Glance 2016*. Chapter A. The Output of Educational. Institutions and the Impact of Learning, Table A9.1. OECD, Paris, pp. 31–171.

PARRO, F. (2012): International Evidence on the Gender Gap in Education over the Past Six Decades. A Puzzle and an Answer to It. Journal of Human Capital, Vol. 6. No. 2. pp. 150–185.

SCHOFER, E.–MEYER, J. W. (2005): The Worldwide Expansion of Higher Education in the Twentieth Century. American Sociological Review, Vol. 70. No. 6. pp. 898–920.

VARGA, J.–HAJDU, T.–HERMANN, Z.–HORN, D. (2018): A közoktatás indikátorrendszere, 2017. Ed: Varga, J. MTA KRTK KTI, Budapest.

VINCENT-LANCRIN, S. (2008): The Reversal of Gender Inequalities in Higher Education: An On-going Trend. In: *Higher Education to 2030*. Vol. 1. Demography–OECD, Paris, pp. 265–298.

ZAFAR, B. (2013): College Major Choice and the Gender Gap. Journal of Human Resources, Vol. 48. No. 3. pp. 545–595.