6.2 NEIGHBOURHOOD-RELATED DIFFERENCES IN THE SHARE OF YOUTH NOT IN EDUCATION, EMPLOYMENT OR TRAINING BEFORE AND AFTER LOWERING THE SCHOOL-LEAVING AGE

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Unemployment among working-age minors (aged 15–18) continuously decreased after the first years of the political changeover and then fell to less than three percent as a result of raising the school-leaving age to 18.[1] This situation changed when Act CXC of 2011 took effect, which set the school-leaving age at 16 years again, enabling pupils older than that to exit to the labour market and (according to the plans of the decision makers) take up employment.

Using elementary methods, this short Subchapter aims at describing how the activity composition of the affected age group changed in disadvantaged and better off neighbourhoods of the country as a result of the measure. We focus on youth who have passed the age of 17 but have not yet reached 18, who, with a few exceptions, were subject to compulsory education before 2011 but not thereafter. We point out that participation in education decreased the most in the most disadvantaged neighbourhoods, while expansion in employment was unable to prevent, even in the most effective labour markets, an increase in the number of youth not in education, employment or training (NEET).

Our analysis is based on the total census population of ten million of the 2011 census and the random sample of one-million of the 2016 micro-census.[2] Data on the 17-year-olds are not possible to examine in a detailed geographical breakdown in this way: in order to reach an adequate sample size and grasp the characteristics of the micro-environment, the 45,500 Hungarian census tracts with an average population of 250 were divided into quartiles according to various dimensions, based on their data as observed in 2011. The dimensions considered are the employment and unemployment rate of the local population with a lower-secondary qualification; an indicator describing the size and quality of the labour market accessible for those with a lower-secondary qualification, and the proportion of the Roma within the population.[3]

The changing role of regional differences over time is measured using probabilistic regression. The outcome variable indicates whether the i^{th} 17-year old living in the j^{th} census district was in education or was NEET in 2011 and 2016. The estimated coefficients in the first three columns of figures in *Table 6.2.1* show how likely the individual belonging to a given group (Roma boy, Roma girl, non-Roma girl) was employed in the given year compared with *non-Roma boys*. In the 4–6th columns of figures, the coefficients indicate how the probability of the outcome is influenced by the immediate neigh-

1 For the impact of the School Education Act of 1996, see Subchapter 2.5.

2 The calculations were carried out in the research lab operated jointly by the Central Statistical Office and CERS HAS.

3 For the detailed calculation method of indicators see the *Appendix* at the end of the Subchapter.

bourhood belonging to the second, third or fourth worst census tract quartile (Q_2 –Q_4) instead of the best quartile (Q_1) determined by the 2011 indicator (employment rate, unemployment rate, etc.).

Table 6.2.1: The impact of gender, ethnic group and neighbourhood characteristics on participation in education, 2011, 2016 (probabilistic regression)

Census tract indicator	Roma boy	Non-Roma girl	Roma girl	Census tract quartiles			Constant	R^2	N
				2.	3.	4.			
Employment rate									
2011	–10.8	–0.4	–29.2	–0.0	–0.4	–4.0	99.2	0.11	9358
	(4.5)	(1.5)	(9.3)	(0.1)	(1.5)	(5.8)			
2016	–25.4	0.0	–26.0	0.1	–3.0	–12.7	97.6	0.14	7464
	(9.6)	(1.2)	(8.9)	(0.2)	(4.5)	(12.5)			
Unemployment rate									
2011	–12.1	–0.4	–30.3	–0.5	–1.0	–3.0	99.5	0.10	9358
	(5.1)	(1.5)	(9.6)	(1.5)	(2.6)	(4.5)			
2016	–29.3	0.1	–30.3	–2.3	–4.3	–10.1	98.3	0.12	7464
	(11.3)	(0.3)	(10.5)	(3.7)	(6.1)	(10.4)			
Quality of the labour market[a]									
2011	–12.8	–0.4	–30.8	–0.5	–0.9	–1.9	99.6	0.10	9358
	(5.4)	(1.8)	(9.8)	(1.4)	(2.5)	(4.4)			
2016	–30.7	0.1	–31.4	–1.7	–3.9	–7.1	98.2	0.11	7464
	(11.9)	(0.2)	(10.9)	(2.2)	(5.1)	(8.8)			
Proportion of the Roma									
2011	–10.3	–0.4	–28.5	–3.6	–3.6	–4.1	95.2	0.11	9358
	(4.3)	(1.5)	(9.0)	(4.9)	(5.1)	(6.5)			
2016	–25.6	0.2	–26.3	–7.2	–10.1	–10.8	86.1	0.13	7464
	(9.6)	(0.4)	(8.9)	(6.0)	(9.2)	(10.8)			

[a] See the *Appendix* at the end of the Subchapter.

Sample: 17-year-old residents of the census tracts observed in both the 2011 census and the 2016 micro-census. A Roma is defined as someone who identifies themselves as Roma first or secondly when asked about ethnicity or speaks Roma, Boyash or Romani as a first or second language.

N = the number of individuals observed. Coefficients were multiplied by one-hundred, *t*-values are provided in brackets.

Roma and non-Roma youngsters are differentiated between because the former attend much worse basic and secondary schools on average compared with the non-Roma, their immediate neighbourhood is less likely to encourage them to complete their education, or their families are less likely to afford the additional costs of learning and thus they are more inclined or forced to drop out of education. In the strongly segregated and typically bad quality "Roma schools" these effects are further magnified.

Please note that, for 2011 the equations are estimated only for the subset of census tracts also observed in the micro-census. Q_1 – Q_4 groups contain *the same* census tracts in 2011 as in 2016. (Results concerning the total sample of the census are similar.)

Apparently, there is no significant difference in the participation of non-Roma boys and non-Roma girls either in 2011 or in 2016. A much (about thirty percentage points) smaller proportion of Roma girls attended school in 2011 but their situation did not change until 2016 and even slightly improved compared with non-Roma girls. However, there is an enormous decline among Roma boys, who were 10–13 percentage points less likely to attend school in 2011 and their disadvantage had increased to 25–31 percentage points by 2016.[4]

Considering neighbourhood characteristics, a similar pattern is seen in the first three blocks of the Table: participation in education was already (2–4 percentage points) lower in 2011 in the quartile the most disadvantaged, based on the given indicator, than in the best quartile. However, this lag had become much more dramatic (7–13 percentage points, depending on the neighbourhood indicator considered) by 2016, when comparing individuals of the same gender and ethnicity.

The constants of the equations measure the participation in education of non-Roma boys living in the best neighbourhood: even this indicator deteriorated by one to one and a half percentage points.

In the lowest block of the Table, census tracts were divided into quartiles according to the proportion of the Roma in the population in 2011. This does not have an impact on the coefficients obtained with individual variables. Participation in education was increasingly low towards the fourth quartile in 2011 and also – to a far greater extent – in 2016. Controlled for ethnicity, these results suggest participation of non-Roma youth also decreased significantly in census tracts with a high proportion of the Roma.

The values of constants in the equations are also different from those in the first three blocks. The low share (practically zero in the first quartile) of the Roma does not, in itself, guarantee high participation in education and the share of boys attending school also declined in these (primarily rural) quartiles.

The dependent variable of the similarly structured *Table 6.2.2* is NEET (not in education, employment or training) status. The estimations using the four indicators, yielding similar results are not described, only the calculation relying on quartiles based on the 2011 employment rate is presented, this time focusing more on NEET levels in 2016.

The probability of a 17-year-old Roma boy living in the worst census tract quartile not being in education, employment or training is estimated at 14.8 per cent (11.3 + 3.0 + 0.5) in 2011. Calculated similarly, the probability is at 38.7 per cent in 2016, which is essentially the same as the actually observed figure in the given population (38.5 per cent).[5] Although our estimations are not pinpoint accurate (as revealed by the relatively low explanatory power of the equations), they are sufficiently reliable to show that the proportion of the 17-year-olds attending school decreased significantly between 2011 and

4 The estimated value depends on which census tract indicators were controlled for when assessing individual effects.

5 Please note that estimations using weighted and unweighted population figures hardly differ, which is explained by the fact that the census tracts were defined by taking into account the workload of census takers and thus their size is fairly similar.

2016, which was hardly offset by the increase in employment. As regards the social consequences, it is especially worrying that by 2016 the proportion of Roma boys living in a disadvantaged neighbourhood, not in education, employment or training had increased to an alarmingly high level (at least double the 2011 level). In 2016, four out of ten such youth were not in education, employment or training.

Table 6.2.2: The effect of gender, ethnicity and certain neighbourhood characteristics on NEET status (not in education, employment or training), 2011, 2016 (probabilistic regression)

Census tract indicator	Roma boy	Non-Roma girl	Roma girl	Census tract quartiles			Constant	R^2	N
				2.	3.	4.			
Employment rate									
2011	11.3	0.5	30.4	0.4	0.9	3.0	0.5	0.10	9358
	(4.9)	(1.8)	(9.7)	(1.5)	(2.3)	(4.4)			
2016	28.5	0.5	31.3	2.1	3.7	9.3	0.9	0.13	7464
	(11.2)	(0.9)	(10.9)	(3.8)	(5.7)	(10.2)			

Sample: 17-year-old residents of the census tracts observed in both the 2011 census and the 2016 micro-census. A Roma is defined as someone who identifies themselves as Roma first or secondly when asked about ethnicity or speaks Roma, Boyash or Romani as a first or second language.
N = the number of individuals observed. Coefficients were multiplied by one-hundred, *t*-values are provided in brackets.

Appendix

Definition of the census tract indicators

Employment rate. The proportion of those engaged in a gainful activity during the week preceding the interview within the working age population. Those who were not working that week but were temporarily away from work are also regarded as employed.
Unemployment rate. Unemployed is defined as someone who does not work, were actively seeking employment during the month preceding the interview and would be able to take up a job if found. Their number is compared with the active age population.
The proportion of the Roma. A Roma is defined as someone who identifies themselves as Roma first or secondly when asked about ethnicity or speaks Roma, Boyash or Romani as a first or second language. Their number is compared with the active age population.
Indicator for the quality of the labour market. The labour market for a census tract population with certain educational attainment is described with an indicator ($Q = V/A$), where V is the number of jobs profitably accessible for an individual from their census tract and A is the number of competitors for whom these jobs are also accessible. A job is considered accessible if

the net wages less travel-related monetary and time costs are higher than the expected amount of available benefits and public works wages. The related estimation was undertaken by *Melinda Tir* and *János Köllő,* using the GEO-database of the Hungarian Academy of Sciences (http://adatbank.krtk.mta.hu/adatbazisok___geo).