The Impact of Social and Economic Factors on the Academic Performance of Youth in Slovenia

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Abstract In this research, we assessed the impact of the socio-economic status (average net wages, the registered unemployment rate), education structure and demographic risk (the age dependency ratio) of residents of different Slovenian municipalities on scores on the nationwide, external assessment of knowledge given to pupils in grade 9 of primary school. The analysis was conducted using data for 201 Slovenian municipalities where the National Assessment of Knowledge (NAK) was given to 9th-grade primary school pupils in the years 2012, 2013 and 2014. This test assesses learners' knowledge of the Slovene language and mathematics. The data were used to calculate basic descriptive statistics, as well as coefficients, correlations and validated regression models. The findings show that registered unemployment rate, average educational attainment and the age dependency ratio influence achievements in mathematics. The findings for the Slovene portion of the National Assessment of Knowledge are not as expressive, but do indicate that the registered unemployment rate and age dependency ratio have an impact.

KEYWORDS: • municipalities • socio-economic indicators • primary school • academic achievements • Slovenia

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1   Introduction

A person's level of education is closely linked to their opportunities in life and to their income and sense of well-being (Battle and Lewis, 2002). It is therefore important to identify those factors that facilitate or obstruct the process of acquiring knowledge. A number of researchers have already dealt with the question of why certain students adapt well to school and are academically successful while others do not (Martin et al., 2000, Burchinal et al., 2002, Mullis et al., 2004, Marjanovič Umek et al., 2006, 2006a, 2006b, 2007, Johnson et al., 2007, Caro, 2009, Žakelj et al., 2011, Cankar et al., 2011, Shah et al., 2012, Mega et al., 2014). These researchers have found that the most important factors for explaining individual differences in academic performance include psychological features of children or youth (intellectual abilities, language competence, motivation for school work) and factors pertaining to family (for example, a family's socio-economic status, parents' attitude towards the academic achievements of their children) and the extended social environment (the climate at a given school, education policy, regional development). The research presented here will focus on processes on the level of Slovenian municipalities and will seek to explain how certain socio-economic factors impact the academic achievements of primary-school pupils.

A number of studies (Jeynes, 2002, Hochschild, 2003, Morakinyo, 2003, Eamon, 2005, Krahn and Taylor, 2007, Saifi and Mehmood, 2011, Cankar et al., 2011, Shah et al., 2012) have shown socio-economic status to be a key factor that to a large extent influences the academic performance of young people. This metric is usually determined by parents' educational attainment, employment status and income level (Jeynes, 2002). A combination of these factors is decisive when locating an individual or family within society. Authors in the field of education (Duncan et al., 2011) have expanded the selection of variables that determine socio-economic status to include academic achievements of the family and parents, family income, poverty, life in a single-parent family, motivation for learning, drug and alcohol use, criminal activities, the local environment and others.

For some time now, researchers (Heyneman, 2005, Eamon, 2005, Engle and Black, 2008) have been pointing out that parents of pupils who do not perform well academically tend to have a lower socio-economic status. Newer research has confirmed this finding (Žakelj et al., 2011, Farooq et al., 2011, Saifi and Mehmood, 2011, Suleman et al., 2012). Rouse and Barrow (2006) report that socio-economic status significantly impacts academic achievements as measured through testing. This impact continues throughout one's entire schooling period. A low socio-economic status negatively impacts the academic achievements of young people and has a destimulating effect: these pupils do not have access to important resources and are confronted with an additional source of stress and

tension in the home (Eamon, 2005, Jeynes, 2002). At the same time, one of the most basic and destructive factors that negatively impacts the academic performance of young people is poverty.

Studies on the relationship between socio-economic status and academic performance have shown that various socio-economic status variables (education, income and employment status) influence educational achievements in different ways (Sirin, 2005). One particularly important factor is the level of education of parents (Marjanovič Umek et al., 2006b, Laidra et al., 2007, Vellymalay, 2012, Cankar et al., 2012). Authors report that parents with a higher level of education are engaged in the process of their children's education to a greater degree than parents with a low socio-economic status. The former get involved in the work of the school to a greater extent, demonstrate a more positive view on school work, help their children with homework, guide them in living a healthy lifestyle and support them in achieving good academic results (Stivenson and Baker, 1987). Educated parents also have an impact on their children's attitude towards school and on their awareness of the importance of education in general (Vellymalay, 2012); they provide a higher level of psychological support to their children and work to create an atmosphere that promotes and encourages the development of abilities needed to achieve academic success (Willms and Somers, 2001). The domestic environment, as the primary factor in the socialization of children, impacts children's interest in school and their aspirations for the future. Here the level of education of the mother is especially important. Mothers have a 20% greater impact on the academic achievements of children than fathers, as revealed by the fact that the children of mothers with a higher level of education achieve better results on standardized tests (Eamon, 2005). The level of education of the mother has a greater impact than family income. This finding indicates that education may be linked to specific behaviour at home which encourages reading, play and discussion.

Parents' employment also significantly influences the academic performance of young people. It plays an important role in their efficacy and success at school. A study conducted by Saifi and Mehmood (2011) revealed that parents' education and employment, as well as the provision of various learning aides for children, influence the academic achievements of the latter. Maurin (2002) lists reasons underpinning his argument that parents' income represents a very important factor of children's success in school. He feels that wealthier parents can afford better food, better supplies and better medical care. They can afford more of the basic goods and support services that facilitate child development and are better able to support their children in their school work. To assess whether parents' demand for these specific goods and services rises in parallel with their income, it would be necessary to assess the significant effect of income on children's achievements. One author who has focused on this question is Krueger (2004). He assessed the impact of different factors that represent financial limitations and that significantly

influence the educational achievements of young people. Sum and Fogg (1991) report that poor pupils fall in the 19th percentile in terms of grades in school, while children of middle-high income parents fall in the 66th percentile. Klebanov et al. (1994) concluded that both the education of the mother and family income are key indicators of the domestic atmosphere as a part of the learning process.

The debate on the good or poor academic performance of pupils in Slovenian schools and on the underlying causes for one or the other has not been particularly lively in recent years. Regardless, some studies (Žakelj et al., 2011, Cankar et al., 2011) have revealed to the public the previously unknown fact that the knowledge acquired on average by pupils in the Pomurje region (northeast Slovenia) is not equivalent to that acquired by pupils in the other parts of Slovenia. The findings of the most recent study (Cankar et al., 2011) show that a greater or higher creativity index, net wages, educational attainment and employment rate on the one hand and a lower share of self-employed farmers and lower marks on the regional vulnerability index on the other correlate with better achievements by pupils in this region on the Slovene portion, and especially on the mathematics portion of the National Assessment of Knowledge. The collected data serve as a warning that environmental factors are to a large degree linked to the efficacy of primary-school education and that this influence, in negative form, reveals itself most clearly in the Pomurje region. The opposite can be said of the central Slovenian region.

In light of the above, we may conclude that factors that influence success in school (or a lack thereof) need to be taken very seriously. Ultimately, one's future success at work (or lack thereof) and one's material status are linked to school. From a broader societal perspective, national income as a whole, the competitiveness of the economy and societal development are inevitably dependent on success in school; individuals who are not successful in school do not bring in income for the state or do so to a lesser degree (Richman and Bowen, in Flere et al., 2009). 4). In today's societies, this correlation is even more stringent than it once was because modern societies are based on the knowledge of their citizens and on their functional capabilities. It is therefore important to identify processes that take place in local communities and that are linked to the academic achievements of young people. The aim of this research was to study some of these factors and to analyze their impact on the academic achievements of young people in Slovenian schools. We were interested in learning whether - and in what ways - certain socio-economic factors on the level of Slovenian municipalities are linked to the academic achievements of students in the 9th grade of primary school. In line with the purpose of the research, the following objectives were outlined:

- To assess the impact of the economic status of residents of municipalities on scores on the National Assessment of Knowledge, a standardized test given to pupils in the 9th grade of primary school

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- To assess the impact of the education structure of municipalities on scores on the National Assessment of Knowledge, a standardized test given to pupils in the 9th grade of primary school
- To assess the impact of the vulnerability of municipalities on scores on the National Assessment of Knowledge, a standardized test given to pupils in the 9th grade of primary school

2 Methods

The analysis was conducted using data for 201 Slovenian municipalities where pupils in the 9th grade of primary school completed the National Assessment of Knowledge (NAK) in the Slovene language and mathematics. Some smaller Slovenian municipalities were excluded from the analysis because they did not have any students in the 9th grade of primary school (these were usually municipalities that do not have a primary school with all nine grades) who would be eligible to take the NAK in mathematics and Slovene. The data used to design the independent variables was obtained from the Statistical Office of the Republic of Slovenia (2014), and data on scores on the National Assessment of Knowledge was obtained from the National Examinations Centre (2014). The data was used to calculate averages and other basic descriptive statistics as well as Pearson correlation coefficients and validated regression models.

The economic status of municipality residents was captured in two indicators: average monthly net wages and the registered unemployment rate. The education structure of residents was captured in the formal educational attainment of residents, and the age dependency ratio for young people was used to capture the demographic vulnerability of municipalities. In the preliminary analysis, the age dependency ratio was shown to be the most adequate available indicator of the demographic vulnerability of municipalities. The following social and economic indicators were used as independent variables on the level of municipalities for the years 2012 and 2013:

- Average monthly net wages (in euros)
- Age dependency ratio for young people (the ration of children ages 0 to 14 to residents ages 15 to 64 multiplied by 100 as of July 1 of each year)
- Average educational attainment (the average is calculated as the weighted arithmetic mean of the level of education attained; it is expressed on a scale: 1 - no education, incomplete basic education, 2 - basic education, 3 - lower vocational, middle vocational education, 4 - secondary vocational education, general secondary education, 5 - higher education level 1, 6 - higher education level 2, 7 - higher education level 3, etc.)
- The registered unemployment rate (percentage share of registered unemployed persons in the active population; yearly average was calculated from information for the last day of each month)

- Pupil scores on the National Assessment of Knowledge on the level of municipalities in the years 2012, 2013 and 2014 and in the three-year period from 2012 to 2014 were used as dependent variables:
- Average score on the mathematics portion of the NAK (average number of points, as a percentage, achieved by ninth-grade pupils on the mathematics portion of the NAK)
- Average score on the Slovene portion of the NAK (average number of points, as a percentage, achieved by ninth-grade pupils on the Slovene portion of the NAK)

Average scores in mathematics and Slovene were calculated for the three-year period as the weighted arithmetic mean of the data for individual years.

3   Results

The results are presented by individual research objectives and are shown in the tables below. Tables 1 and 2 present the social and economic indicators for the years 2012 and 2013; data is shown for Slovenia (the national average) and for the individual municipalities included in the analysis (201 Slovenian municipalities). The figure in the last column represents an unweighted arithmetic mean calculated from municipality-level data.

Table 1:   Social and economic factors in 2012

Indicators in 2012	National average	Number of municipalities	Minimum	Maximum	Average
Average monthly wages, 2012	991.44	201	710.74	1187.71	891.92
Age dependency ratio for young people, 2012	20.9	201	14.8	31.3	21.30
Average educational attainment, 2012	3.48	201	2.67	4.15	3.29
Registered unemployment rate, 2012	12.2	201	4.6	22.9	11.98

Source: Statistical Office of the Republic of Slovenia, own calculations.

Table 2:   Social and economic factors in 2013

Indicators in 2013	National average	Number of municipalities	Minimum	Maximum	Average
Average monthly wages, 2013	997.01	201	702.33	1378.65	898.59
Age dependency ratio for young people, 2013	21.3	201	14.5	32.0	21.64
Average educational attainment, 2013	3.51	201	2.71	4.17	3.32
Registered unemployment rate, 2013	12.9	201	4.9	23.1	12.53

Source: Statistical Office of the Republic of Slovenia (2014), own calculations.

The average monthly net wage in Slovenia in 2013 was €997, with considerable differences between different municipalities. In the municipality with the highest average wages, this figure was €1378.65 (€1187.71 in 2012), while in the municipality with the lowest average wages, it was €693.41 (€656.54 in 2012). The municipality with the lowest average wages was not included in the analysis because it does not have a primary school with 9 grades (i.e. no pupils who take the National Assessment of Knowledge, see above); the lowest figure for average net wages found among the municipalities included in the analysis was €702.33 (€710.74 for 2012).

The age dependency ratio for young people in Slovenia was 21.3 in 2013, a slightly higher figure than in 2012, when the ratio was 20.9. In the middle of 2013, there were 21.3 people between the ages of 0 and 14 for every 100 people between the ages of 15 and 64. There were considerable differences between the municipalities. In the municipality with the fewest children, the ratio was 14.2 in 2013 (this municipality was excluded from the analysis), and in the municipality with the most children it was 32.0. The value of the ratio reflects the birth rate in a given municipality as well as movements of young people. This ratio gives a fairly good picture of how further changes in resident structure will occur in the future in many Slovenian municipalities. The number of residents will either fall in municipalities with a low age dependency ratio for young people, or it will rise in municipalities with a high age dependency ratio for young people.

On average, the residents of Slovenia had attained an average level of education equal to 3.51; on the scale used in the research, this average falls between lower vocational and middle vocational education (level 3) and secondary vocational/general secondary education (level 4). In 2013, the municipality with the lowest average level of education had an average equal to 2.71, which is below level 3 (lower vocational and middle vocational education), while the municipality with the highest average level of education had an average equal to 4.17, which is above level 4 (secondary vocational/general secondary education).

The registered unemployment rate in Slovenia in 2013 was 12.9%, which is somewhat higher than in 2012, when unemployed persons made up 12.2% of the active population. In 2013, the unemployment rate in the municipality with the lowest unemployment rate was 4.9%; in the municipality with the highest unemployment rate it was 23.1%.

The data in Tables 3 and 4 reveal sizeable differences between the municipalities in the average scores achieved by pupils on the NAK. In 2012, the difference between the municipality with the lowest average scores on the NAK and the one with the highest scores was highest in mathematics (48.46 percentage points) and lowest in Slovene (23.99 percentage points). For the three-year average, the difference between the highest and lowest scores in mathematics was 32.86 percentage points, and for Slovene it was 24.85 percentage points.

Table 3: Average pupil scores on the mathematics portion of the NAK

Mathematics portion of the NAK	National average	Number of municipalities	Minimum	Maximum	Average
Average score on the mathematics portion of the NAK, 2012	51.44	201	31.14	79.60	50.72
Average score on the mathematics portion of the NAK, 2013	55.26	201	40.00	68.34	54.99
Average score on the mathematics portion of the NAK, 2014	53.39	201	34.00	68.48	53.02
Average score on the mathematics portion of the NAK, 2012-2014	53.37	201	37.08	69.94	52.88

Source: National Examinations Centre (2014), own calculations.

Table 4: Average pupil scores on the Slovene portion of the NAK

Slovene portion of the NAK	National average	Number of municipalities	Minimum	Maximum	Average
Average score on the Slovene portion of the NAK, 2012	54.94	201	40.86	68.97	54.57
Average score on the Slovene portion of the NAK, 2013	51.77	201	40.42	64.41	51.85
Average score on the Slovene portion of the NAK, 2014	55.07	201	39.55	69.69	55.17
Average score on the Slovene portion of the NAK, 2012-2014	53.92	201	42.27	67.12	53.83

Source: National Examinations Centre (2014), own calculations.

The NAK scores correlate strongly (all possible combinations are statistically significant at a significance level of 0.01) both between individual years and between the two subjects. The Pearson correlation coefficient for mathematics and

Slovene is 0.590 for the three-year results. We are primarily interested in the correlations between the NAK results and the independent variables. These are shown in Tables 5 and 6 (two-part statistical significance is shown with asterisks; one asterisk indicates significance at a significance level of 0.05 and two asterisks indicate significance at a significance level of 0.01).

Table 5: Correlations between NAK scores and social and economic indicators for 2012

Pearson correlation coefficient (n=201)	Mathematics 2012	Mathematics 2013	Mathematics 2014	Mathematics 2012-2014	Slovene 2012	Slovene 2013	Slovene 2014	Slovene 2012-2014
Average monthly net wages, 2012	0.134	0.008	0.110	0.102	0.110	0.023	0.034	0.078
Age dependency ratio for young people, 2012	0.364(**)	0,288(**)	0.295(**)	0.365(**)	0.274(**)	0.210(**)	0.176(*)	0.271(**)
Average educational attainment, 2012	0.301(**)	0.288(**)	0.262(**)	0.338(**)	0.215(**)	0.134	0.031	0.158(*)
Registered unemployment rate, 2012	-0.401(**)	-0.386(**)	-0.375(**)	-0.451(**)	-0.285(**)	-0.263(**)	-0.176(*)	-0.296(**)

Table 6: Correlations between NAK scores and social and economic indicators for 2013

Pearson correlation coefficient (n=201)	Mathematics 2012	Mathematics 2013	Mathematics 2014	Mathematics 2012-2014	Slovene 2012	Slovene 2013	Slovene 2014	Slovene 2012-2014
Average monthly net wages, 2012	0.134	0.008	0.110	0.102	0.110	0.023	0.034	0.078
Age dependency ratio for young people, 2012	0.364(**)	0,288(**)	0.295(**)	0.365(**)	0.274(**)	0.210(**)	0.176(*)	0.271(**)
Average educational attainment, 2012	0.301(**)	0.288(**)	0.262(**)	0.338(**)	0.215(**)	0.134	0.031	0.158(*)
Registered unemployment rate, 2012	-0.401(**)	-0.386(**)	-0.375(**)	-0.451(**)	-0.285(**)	-0.263(**)	-0.176(*)	-0.296(**)

The data presented in both tables reveals that the registered unemployment rate in a municipality in particular has a middle-high to high negative correlation with pupil scores in mathematics for the three-year period from 2012 to 2014. A similar (but positive) correlation was expressed for average education and the age dependency ratio for young people, while the correlation between average

monthly net wages and scores was noticeably low.

Regression models were used to check the effect of social and economic factors (the independent variables) on pupil scores on the NAK (the dependent variables). Multiple regression models were applied: a model with two groups of independent variables (for 2012 and 2013) and a model with multiple dependent variables (scores on the NAK for mathematics and Slovene for the years 2012, 2013 and 2014 and for the 2012-2014 three-year period). Table 7 (mathematics) and Table 8 (Slovene) show how well the data fit the models and how much variance in the dependent variables is explained by the models.

Table 7: Assessing the adequacy of regression models for data on NAK scores in mathematics

Independent variables	Dependent variables	R	R^2	$\overline{R}^2$	F	sig.
Average monthly net wages, 2012; Age dependency ratio for young people, 2012; Average obtained education, 2013; Registered unemployment rate, 2012	Mathematics 2012	0.454	0.206	0.190	12.736	0.000
	Mathematics 2013	0.427	0.182	0.166	10.916	0.000
	Mathematics 2014	0.403	0.162	0.145	9.489	0.000
	Mathematics 2012-2014	0.494	0.244	0.228	15.808	0.000
Average monthly net wages, 2013; Age dependency ratio for young people, 2013; Average obtained education, 2013; Registered unemployment rate, 2013	Mathematics 2012	0.431	0.186	0.169	11.175	0.000
	Mathematics 2013	0.400	0.160	0.143	9.341	0.000
	Mathematics 2014	0.358	0.128	0.111	7.217	0.000
	Mathematics 2012-2014	0.458	0.210	0.194	13.006	0.000

In explaining the effects of the selected socio-economic indicators on pupils' academic achievements in mathematics, the model used to explain the three-year results on the mathematics portion of the NAK with indicators for 2012 was shown to be the best model. This model explains over 24% of the variance of the independent variable. Taking into account all the regression models used in the analysis, it is possible to note two general principles: the variance of the dependent variable is better explained with indicators for 2012, and the explained portion of the variance of the dependent variable declines with each year.

Table 8: Assessing the adequacy of regression models for data on NAK scores in Slovene

Independent variables	Dependent variables	R	R^2	$\overline{R}^2$	F	sig.
Average monthly net wages, 2012; Age dependency ratio for young people, 2012; Average	Slovene 2012	0.332	0.110	0.092	6.052	0.000
	Slovene 2013	0.276	0.076	0.058	4.051	0.004
	Slovene 2014	0.210	0.044	0.025	2.257	0.064

obtained education, 2013; Registered unemployment rate, 2012	Slovene 2012-2014	0.324	0.105	0.087	5.744	0.000
Average monthly net wages, 2013; Age dependency ratio for young people, 2013; Average obtained education, 2013; Registered unemployment rate, 2013	Slovene 2012	0.324	0.105	0.086	5.727	0.000
	Slovene 2013	0.258	0.067	0.048	3.499	0.009
	Slovene 2014	0.189	0.036	0.016	1.814	0.128
	Slovene 2012-2014	0.304	0.092	0.074	4.987	0.001

With scores on the Slovene portion of the NAK, the selected indicators do not explain as much variance as they did with mathematics. The best model, which included indicators and NAK score data for 2012, could explain only 11% of the variance of the dependent variable. As was the case with mathematics, the variance of the dependent variable is better explained with indicators for 2012, and the explained portion of the variance of the dependent variable declines with each year. The explained portion of the variance of the dependent variable was actually exceptionally low for 2014 (below 5% for both the 2012 and 2013 NAK scores), while the high significance further indicates that new independent variables would be needed to successfully explain the variance of the independent variable in this year. Either way, the effect of the selected socio-economic factors on scores on the Slovene portion of the NAK was not great in 2014.

Tables 9 and 10 show regression models with data from the mathematics portion of the NAK, and Tables 11 and 12 show regression models with data from the Slovene portion of the NAK.

Table 9:   Regression models with indicators for 2012 (mathematics portion of the NAK)

Independent variables	Mathematics 2012		Mathematics 2013		Mathematics 2014		Mathematics 2012-2014	
	Beta	sig.	Beta	sig.	Beta	sig.	Beta	sig.
Average monthly net wages, 2012	0.037	0.583	-0.100	0.141	0.021	0.759	-0.014	0.833
Age dependency ratio for young people, 2012	0.187	0.016	0.084	0.283	0.110	0.166	0.143	0.060
Average educational attainment, 2012	0.128	0.081	0.167	0.025	0.107	0.156	0.165	0.022
Registered unemployment rate, 2012	-0.237	0.004	-0.286	0.001	-0.265	0.002	-0.305	0.000

Table 10: Regression models with indicators for 2013 (mathematics portion of the NAK)

Independent variables	Mathematics 2012		Mathematics 2013		Mathematics 2014		Mathematics 2012-2014	
	Beta	sig.	Beta	sig.	Beta	sig.	Beta	sig.
Average monthly net wages, 2013	0.036	0.589	-0.100	0.147	0.011	0.880	-0.017	0.797
Age dependency ratio for young people, 2013	0.241	0.002	0.130	0.102	0.198	0.015	0.213	0.006
Average educational attainment, 2013	0.159	0.030	0.197	0.008	0.146	0.053	0.202	0.005
Registered unemployment rate, 2013	-0.132	0.091	-0.203	0.011	-0.106	0.190	-0.175	0.023

Looking at the model with the most explained variance (the last model in Table 9), it is possible to conclude that the registered unemployment rate has by far the largest impact. The effect is negative, which means that a higher unemployment rate in a municipality results in lower scores on the mathematics portion of the NAK. A somewhat smaller, but nonetheless statistically significant effect was revealed for educational attainment; a higher average educational attainment in a municipality meant better results on the mathematics portion of the NAK. A slightly lesser effect that borders on statistical significance (and appears to be statistically significant in a similar model that takes indicators for 2013) is the age dependency ratio for young people: greater age dependency in a municipality leads to lower scores on the mathematics portion of the NAK. No effects were noted for the average net wage variable.

The effects of the socio-economic indicators generally are not statistically significant across all years, the registered unemployment rate for 2012 being an exception; they do however approach statistical significance (at least) in individual years. It seems that different (temporary) effects are present in individual years, but are not expressed in the models for NAK scores over a three-year period.

Table 11: Regression models with indicators for 2012 (Slovene portion of the NAK)

Independent variables	Slovene 2012		Slovene 2013		Slovene 2014		Slovene 2012-2014	
	Beta	sig.	Beta	sig.	Beta	sig.	Beta	sig.
Average monthly net wages, 2012	0.042	0.554	-0.030	0.677	0.018	0.803	0.023	0.745
Age dependency ratio for young people, 2012	0.156	0.058	0.090	0.281	0.123	0.146	0.152	0.065
Average educational attainment, 2012	0.085	0.271	0.024	0.761	-0.073	0.365	0.016	0.839
Registered	-0.155	0.070	-0.209	0.017	-0.136	0.126	-0.201	0.020

unemployment rate, 2012								

Table 12:   Regression models with indicators for 2013 (Slovene portion of the NAK)

Independent variables	Slovene 2012		Slovene 2013		Slovene 2014		Slovene 2012-2014	
	Beta	sig.	Beta	sig.	Beta	sig.	Beta	sig.
Average monthly net wages, 2013	0.040	0.572	-0.028	0.699	0.011	0.883	0.022	0.758
Age dependency ratio for young people, 2013	0.124	0.131	0.110	0.190	0.152	0.074	0.158	0.056
Average educational attainment, 2013	0.106	0.165	0.044	0.577	-0.056	0.477	0.037	0.627
Registered unemployment rate, 2013	-0.164	0.045	-0.165	0.048	-0.077	0.365	-0.164	0.047

Scores on the Slovene portion of the NAK did not appear to be affected by average monthly wages (the same could be noted for mathematics) or by average educational attainment. The effect of the other two indicators is not as pronounced as it was for mathematics. The largest effect was noted for the registered unemployment rate (statistically significant for the three-year data), and a somewhat smaller effect was observed for the age dependency ratio for young people (borders on statistical significance for the three-year data). The finding that the results on the Slovene portion of the NAK are not as markedly influenced by socio-economic indicators as the results on the mathematics portion is thus confirmed.

4   Discussion

The results show that the academic performance of pupils as measured through a standardized test, the National Assessment of Knowledge, were most affected in all three years by the level of registered unemployment among residents of Slovenian municipalities. This is especially true of the mathematics portion of the test, and somewhat less so for the Slovene portion. The level of registered unemployment of the population is linked to both social and economic problems, and often also to poverty. It reveals the social exclusion of certain social groups and human resources that are going unused. The level of unemployment in different Slovenian municipalities varies greatly. While the percentage of unemployed residents fluctuated from 4.6% to 4.9% in the municipalities with the lowest unemployment rate in 2012 and 2013, the municipalities with the highest unemployment rate recorded unemployment of 23% in both 2012 and 2013. Comparing this data with the level of unemployment on the national level, which was at 12.9% in 2013 (a somewhat higher figure than in 2012), it can be seen that the residents of a number of municipalities are truly living in poverty.

It is clear that a relatively high unemployment rate in the local social environment is a factor that strongly affects the academic performance of children. The long-term unemployment of one or both parents, which again rose sharply in Slovenia in 2013 (Institute of Macroeconomic Analysis and Development, 2014: 168), sets in motion processes that force many residents to the brink of or over the poverty threshold. A lack of income and a life marked by constant existential uncertainty are without a doubt one of the most destructive elements in people's lives. Other authors have reported similar findings (McLoyd and Wilson, 1990, Engle and Black, 2008, Murnane, 2007, Fan, 2012). They agree that in all countries, poverty represents a source of stress for children and families and makes itself felt in different areas of life (health, well-being, etc.), including performance in school. Some authors (for example Ravallion, 1992) describe poverty using only economic indicators, while others (Narayan and Petesch, 2002, 2007, Engle et al., 2007, Murnane, 2007, Fan, 2012) apply a broader definition. These authors feel that poverty is not merely a lack of material goods and emphasize factors rooted in social exclusion that limit people's social belonging, cultural identity and access to information, as well as their respect and dignity and access to education. Not only are children who grow up in poverty directly exposed to risks both at home and in the local community; they also often experience the consequences of risks more acutely than children from materially more stable families (Murnane, 2007, Suleman et al., 2012). They are deprived of a number of experiences, as they usually do not receive the necessary encouragement or encounter opportunities in the cognitive, social and motivational-emotional areas life. This is true both of their domestic and broader social environments. Magajna et al. (2008) report that teachers and other professionals in the school system attribute students' learning problems to factors linked to the individual student, and to a lesser degree to environmental factors including social vulnerability. When faced with poor students they feel uncertain, as very few teachers know how to identify and make the connection between poverty and success in school.

The second factor used to show the economic status of municipality residents and establish a connection between economic status and success in school is average monthly net wages on the level of the municipality. Although a considerable range can be noted in the wages of residents in different municipalities, the correlation between average monthly net wages and students' achievements is notably low. This observation is valid for both mathematics and Slovene. That is not all. The power of the average monthly net wages of the residents of a municipality to predict students' academic achievements is not significant and does not have an effect.

Reasons for this can be traced to minimum wage growth, which over the past years has been considerably higher than average wage growth. The latter has slowed due to austerity measures in the public sector and a general decline in

economic activity. The share of recipients of the minimum wage has risen - from 3.8% to 9.3% over the 2009-2013 period - and at the same time the minimum wage as a percentage of the average wage has risen - from 41.2% to 51.4% over the same period (Institute of Macroeconomic Analysis and Development, 2014: 176). This resulted in reduced variation in wages lower than the average wage, which probably served to cancel out the effect of wage on pupil scores on the National Assessment of Knowledge, despite sizeable differences in the average wage in different municipalities. The fact of the matter is the amount of income received by residents of Slovenian municipalities is not significantly correlated with children's success at school. Although a portion of the residents of Slovenia have relatively lower incomes, what matters is that they have an income. A regular salary represents a stable income and reduces people's existential uncertainty. They may face certain limitations in their lives, but this obviously does not erode their ambitions and expectations. And they seem to pass this attitude on to their children. In the period analyzed, the negative impact of the economic status of residents of Slovenian municipalities only appeared to affect NAK scores through the unemployment rate.

The educational structure of the residents of Slovenian municipalities presents quite a different picture, as the findings showed that this variable strongly affects achievements in mathematics. In this case as well, the findings are not new and do not come as a surprise, and other authors from Slovenia and elsewhere have reported similar conclusions (for example Mullis et al., 2004, Marjanovič Umek et al., 2007, Dunlop, 2013). The indirect effect of parents' education is usually associated with the fact that parents with a higher level of education generally offer their children better material conditions for learning. Parents with a higher level of education are usually also more involved in their children's school work (they monitor their progress to a greater extent and provide help when needed); they have a more positive view of education, they hold knowledge in greater esteem and they have higher expectations regarding the academic achievements of their children.

Although the education structure variable was shown to be a strong predictor for achievements in mathematics, it was not seen as having an effect on achievements in Slovene. Marjanovič Umek et al. (2007) report similar results. In a study that compared the relative predictive power of a young person's language competence and general intelligence, they found that general intelligence is a stronger predictor than language competence only for the mathematics portion of the National Assessment of Knowledge. With all other academic metrics (grades in Slovene and mathematics, general success at school and scores on the Slovene portion of the National Assessment of Knowledge), a greater number of differences in academic performance can be explained through language competence than through differences in general intelligence. When these authors examined the reasons behind their findings, they found that the indirect effect of

the level of education of the mother makes itself felt more strongly through language competence than through general intelligence, and that the indirect effect of the level of education of the father is more noticeable in students' general intelligence than in their language competence.

We then checked the effect of the demographic vulnerability of municipalities on 9th-grade pupils' scores on the National Assessment of Knowledge. An age dependency ratio for young people was used. This statistic measures the ratio of children ages 0 to 14 to residents ages 15 to 64. The predictive power of the age dependency ratio was found to be fairly high for mathematics, with a somewhat lesser effect noted for achievements in Slovene. There are two key reasons for this. The first is linked to municipal underdevelopment, which is reflected in a shortage of jobs and low incomes, in other words, in an unsatisfactory economic situation for residents, which leads to a decline in the number of births and to emigration, mostly of younger residents. The second reason is linked primarily to the fact that the social climate in a community whose future is far from certain can be destimulating and have a negative effect on residents' expectations and, consequently, on children's success in school.

The fact is the achievements of Slovenian students on the National Assessment of Knowledge are linked to and co-dependent on certain social and economic factors on the level of Slovenian municipalities. This means that the socialization power of the broader local environment is decisive in the development of children's academic success. Žakelj et al. (2011) have found that only 6.8% of the scores in Slovene and only 11.7% of the scores in mathematics can be attributed to the schools; the remaining 93.2% and 88.3% respectively represent differences between students within schools. Other researchers have reached similar conclusions. Marjanovič Umek et al. (2006) claim that schools differ little in terms of the general knowledge of their pupils and that variations of only 0 to 9% in pupils' knowledge can be attributed to schools. The intellectual abilities of young people, parents' education and the effects of factors in the broader social environment are much more important (Marjanovič Umek et al., 2006).

5   Conclusion

The latest crisis in Slovenia has widened the gap between rich and poor. Once it grows too large, this gap becomes one of the most destructive factors in a society. A high unemployment rate has come to the fore as the biggest problem. Widespread unemployment creates an underclass of poor citizens pushed to the edge of society and denied a wide range of basic goods, including opportunities to participate equally in mandatory primary education. Concern about survival in difficult economic times plays a considerable role in determining the attitudes of parents and children towards education: in existentially critical situations, it is seen as being of secondary importance. Measures which would push the

unemployment rate in municipalities even higher are therefore unacceptable. Improvements in children's academic performance do not depend solely on school policy, but on complex interventions aimed first and foremost at reducing unemployment and, by doing so, creating a positive environment in which to educate children. It is the job of school policy to develop suitable strategies and, in line with its powers, to intervene and assist those schools that fall below the Slovenian average in terms of the academic achievements of young people. By doing so, it would be possible to balance out, at least partially, negative effects produced by the local environment.

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