THE BALKANS BELL CURVE: IQ, EDUCATIONS AND INEQUALITY

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Abstract: *In famous book „The Bell Curve" fromRichard Herrnstein and Charles Murray[1] was showed that in the United States there is a socioeconomic hierarchy of race and intelligence. They showed that whites are at the top of this hierarchy with the highest average IQ (103) and the highest socioeconomic status and earnings. Hispanics come next with an average IQ of 89 and intermediate socioeconomic status and earnings. Blacks come last with the lowest average IQ of 85 and the lowest socioeconomic status and earnings. They argued that the racial socioeconomic hierarchy is largely determined by differences in intelligence. IQ was consequence of education and will to be successful. Inequality is also link between educations and will to be successful. This paper present link between tree parameters: will, education and GDP.*

Keywords: *Albania, Austria, Balkans, Bulgaria, Croatia, Education, Flynn effect, GDP per capita, Greece, IQ, IQ of nations, Montenegro, Serbia, Slovenia, Turkey*

1. INTRODUCTION

The first attempt to measure the intelligence of man dating back to the late 19th century. Alfred Binet and Theodore Simon had several attempts of making an intelligence test - a success arrived in 1905. From this time, lots of methods are changed - lot of different tests for the assessment of intelligence and emotion were produced.

In the USA more than fifty years exist hypothesis that all races what living on her territory are not equally intelligent. After few trials, an idea that intelligence depends of social conditions (chrysies, financial instability of countries) was born. In 1994, American psychologist Herrnstein and political scientist Murray published cult edition of the book with the title: „The Bell Curve". [1] Its central argument is that human intelligence is substantially influenced by both inherited and environmental factors and is a better predictor of many personal dynamics, including financial income, job performance, chance of unwanted pregnancy, and involvement in crime than are an individual's parental socioeconomic status, or

education level. The book also argues that those with high intelligence, the „cognitive elite", are becoming separated from those of average and below-average intelligence, and that this is a dangerous social trend with the United States moving toward a more divided society similar to that in Latin America.

This book was base for further works. [2] [3] [4]. The book „The Bell Curve" was controversial, especially where the authors wrote about racial differences in intelligence and discussed the implications of those differences. The authors were reported throughout the popular press as arguing that these IQ differences are genetic. They wrote in chapter 13: „*It seems highly likely to us that both genes and the environment have something to do with racial differences."* The introduction to the chapter more cautiously states. „The debate about whether and how much genes and environment have to do with ethnic differences remains unresolved."

The book's title comes from the bell-shaped normal distribution of intelligence quotient (IQ) scores in a population. Shortly after publication, many people rallied both in criticism and defense of the book. A number of critical texts were written in response to the book. Book argues that: (i) Intelligence exists and is accurately measurable across racial, language, and national boundaries. Intelligence is one of, if not the most, important factors correlated to economic, social, and overall success in the United States, and its importance is increasing. (ii) Intelligence is largely (40% to 80%) heritable, (iii) No one has so far been able to manipulate IQ to a significant degree through changes in environmental factors—except for child adoption and that they conclude is not large in the long term—and in light of these failures, such approaches are becoming less promising (iv) The United States has been in denial of these facts. A better public understanding of the nature of intelligence and its social correlates is necessary to guide future policy decisions.

2. CLASSES OF IQ SCORES

Their evidence comes from an analysis of data compiled in the National Longitudinal Study of Youth (NLSY), a study conducted by the United States Department of Labor's Bureau of Labor Statistics tracking thousands of Americans starting in the 1980s. All participants in the NLSY took the Armed Services Vocational Aptitude Battery (ASVAB), a battery of ten tests taken by all who apply for entry into the armed services. (Some had taken an IQ test in high school, and the median correlation of the Armed Forces Qualification Test (AFQT) scores and those IQ test scores was .81.) Participants were later evaluated for social and economic outcomes. In general, IQ/AFQT scores were a better predictor of life outcomes than social class background. Similarly, after statistically controlling for differences in IQ, many outcome differences between racial-ethnic groups disappeared. So, basic categories are:

- Those who did not finished any school have IQ 40 and less
- Three years of finished school – IQ 50
- Four-seven years of finished school - IQ 60
- Eight years of finished school – IQ 75
- Twelve years of finished school – IQ 90
- Fifteen years of finished school – IQ 110
- Sixteen and more years of finished school - IQ 125

We know that all of us foes not have financial support to finish high schools, but they have high IQ. But opposite is also truth: many graduated studentsdo not have IQ mentioned in previous paragraph.

As conclusion for this part:

- For calculation of IQ of nations we watching educational structure of citizens
- All countries does not have the same system of educations and census – so we have to recalculate system and to normalize to the mentioned parameterization UNESCO in his publication identify fifty educational systems around the globe, but they recalculated all fifty to eight - on upper list they add tree year school and post-highs school education which exists in many countries.

3. BASIC CRITERIA OF STUDY

In this study author take criteria what Herrnstein and Murray describe in their study, as well as other researchers. Data from Balkans countries are show plus data for Italy, Austria and Hungary. Basic characteristics of this research are:

- All Balkan countries do not have results for year 2013. So results for 2012 are used, and in some cases for 2011 and 2010.
- All education systems has to be modeled to past equal schema
- It was noted that 10-12% of the population has completed eight grades of elementary school.
- With high school we have up to 50% of the population. Few per cent are of those who completed only three grades, and 5-8 per cents of those who completed seven grades; others are university graduates

In Table 1 are shown data for every mentioned category of population and calculated IQ coefficient and IQ coefficient with Flynn effect (to be discussed later).

4. RESULT OF IQ ANALYSIS OF NATIONS

In Lynn and Vatanen study from 2006 [4] there are few criteria for measuring and calculation of IQ of the nations. Only 119 countries are shown as one where IQ of nation is measured, and the rest are estimated using calculation on the base of three neighbor countries. Also results from PISA test and all other relevant tests are included.

We will compare our results with results in Table 4.1, chapter 4. Only 38 countries have better scores than fifteen measured in Table 1 in Balkans, what represents 32.2%. Our 15 countries represent 12.7%. Practically, Balkan countries are in first half of the world countries (this doe's not mean population because of 2.7 billion of citizens of China and India).

Second, except Italy and Turkey and in some circumstances Romania, all other countries can change their IQ of nation in 5-10 years, what is not possible in countries with larger number of citizens. Implication of this is that variation of +/- of 2 IQ points can be changed rapidly. This will be shown in example of Serbia.

One thing is interesting: Yugoslavia will today have IQ of87 (Table 1). In 1992, Yugoslavia had IQ of 95. Where those clever people disappeared?

Table 1. Data for 15 countries (most of them are from Balkans) and projection for Yugoslavia

	Serbia (w/o Kosovo) [7]	Croatia [8]	Slovenia [9]	Macedonia [10]	Montenegro [11]	Bosnia & Herzegovina [12]	Yugoslavia (w/o Kosovo)
Census (year)	2012	2011	2012	2011	2011	2012	
No classes	164,884	62,092	5,580	44,553	8,181	163,323	448,613
1-3 years of education	68,898	34,786	6,950	256,013	58,090	81,230	505,968
4-7 years of education	608,601	249,081	61,395	50,040	38,375	391,975	1,399,467
8 years of education	1,279,116	773,849	420,529	52,528	77,748	818,361	3,422,130
12 years of education	3,015,092	1,911,815	935,495	957,367	262,783	1,412,392	8,494,943
15 years of education	348,335	212,059	142,143	118,394	35,694	122,501	979,126
16 years of education	652,234	383,130	189,265	234,300	71,388	182,967	1,713,284
Unknown	24,424	5,965	-	-	-	93,903	124,292
Total with education	6,161,584	3,632,777	1,761,357	1,713,195	552,259	3,266,652	17,087,824
Total population	7,224,000	4,284,889	2,059,000	2,058,539	621,081	3,791,622	20,039,131
Population	☐	☐	☐	☐	☐	☐	
IQ	87	88	90	88	87	82	87
Flynn Effect correction	87	89	90	88	87	82	87

Notes
Italy - 6 years and older
Austria - 25 years and older (est. for 15-25)

Table 1. Data for 15 countries (most of them are from Balkans) and projection for Yugoslavia								
Italy [13]	Austria [14]	Hungary [15]	Romania [16]	Bulgaria [17]	Greece [18]	Albania [19]	Turkey [20]	Cyprus [21]
2012	2011	2011	2011	2011	2001	2011	2011	2012
1,193,165	5,000	46,529	439,980	80,963	371,453	96,365	3,319,737	44,680
596,582	204,429	254,561	643,047	88,014	644,699	220,000	1,254,828	11,170
5,369,240	486,736	580,658	1,962,987	777,455	654,322	320,000	5,142,452	78,190
15,511,139	820,498	1,863,990	3,452,149	1,591,348	3,139,307	420,000	7,803,242	156,380
17,300,886	3,380,988	2,608,461	6,768,920	2,990,424	3,460,850	1,147,739	28,234,102	524,990
14,914,557	1,152,933	479,872	778,426	674,325	723,829	125,578	4,193,429	234,570
4,772,658	827,451	959,744	2,690,646	674,325	940,407	289,795	8,386,859	67,020
-	54,736	-	186,145	-	-	-	-	-
59,658,227	6,932,772	6,793,814	16,922,300	6,876,854	9,934,867	2,619,477	58,334,649	1,117,000
59,943,333	8,504,580	9,879,000	21,330,000	7,364,570	10,815,917	3,011,405	76,667,000	
☐	☐	☐	☐	☐	☐	☐	☐	☐
90	92	88	87	87	84	84	88	90
90	93	88	87	88	85	84	88	90

5. SERBIA AND IQ OF NATION IN THE PERIOD FROM 1953-2012

Table 2 shows data for Serbia in the period from 1953-2012. The Flynn effect is the substantial and long-sustained increase in both fluid and crystallized intelligence test scores measured in many parts of the world from roughly 1930 to the present day. When intelli

gence quotient (IQ) tests are initially standardized using a sample of test-takers, by convention the average of the test results is set to 100 and their standard deviation is set to 15 or 16 IQ points. When IQ tests are revised, they are again standardized using a new sample of test-takers, usually born more recently than the first. Again, the average result is set to 100. However, when the new test subjects take the older tests, in almost every case their average scores are significantly above 100. [5]

Table2. Serbia – education categories in censuses from 1953-2012								
Census (year)	1953	1961	1971	1981	1991	2002	2011	2012
No classes	2,178,437	1,579,552	1,313,083	1,061,175	590,682	357,552	164,884	164,884
1-3 years of education	255,877	336,351	329,666	231,875	167,490	126,127	68,427	68,898
4-7 years of education	1,876,429	2,466,575	2,508,328	1,876,083	1,355,149	896,847	609,072	608,601
8 years of education	242,296	374,180	915,026	1,729,906	1,541,778	1,509,462	1,279,116	1,279,116
12 years of education	370,279	544,313	1,030,125	1,734,433	2,022,048	2,596,348	3,015,092	3,015,092
15 years of education	12,279	27,225	86,425	174,413	241,416	285,056	348,335	348,335
16 years of education	24,558	60,767	125,634	229,570	322,888	411,944	652,234	652,234
Unknown	20,097	8,778	23,058	36,620	52,899	137,895	24,424	24,424
Total with education	4,980,252	5,397,741	6,331,345	7,074,075	6,294,350	6,321,231	6,161,584	6,161,584
IQ	54	59	64	71	77	82	87	87
Flynn Effect correction	61	65	69	74	79	83	87	87

The Flynn effect is named for James R. Flynn, who did much to document it and promote awareness of its implications. The term itself was coined by Richard Herrnstein and Charles Murray, authors of The Bell Curve. [1] In average, this coefficient is 0.2 points. This coefficient showing that our IQ levels are higher than our grandparents. In Table 2 and Figure 1 is used backward Flynn correction.

What is the impact that Serbian improves IQ? Most of two factors: (i) the number of primary school students rose from 4 to 21 percent and (ii) high school students from 7.5 to 49 percent.

6. IQ AND GDP OF NATIONS

Balkan region is full of contrasts. We have countries rich with natural resources (such are petrol and gas), with and without touristic resources, industrial resources. Table 3 showing this link between GDP (PPP) and IQ of the nations.

Table 3. Balkan Countries with IQ and GDP per capita (PPP)		
Country	IQ	GDP per capita (PPP) in USD
Italy	90	29,812
Slovenia	90	27,837
Austria	95	41,908
Croatia	88	17,617
Hungary	88	19,497
Bosnia and Herzegovina	75	8,127
Montenegro	87	11,610
Serbia	87	10,722
Croatia	87	12,722
Bulgaria	87	14,103
Macedonia	88	10,465
Greece	84	24,260
Albania	79	7,997
Turkey	88	14,912

GDP figures are taken from Wikipedia [6].

Figure 1. Serbia IQ with and without Flynn Effect
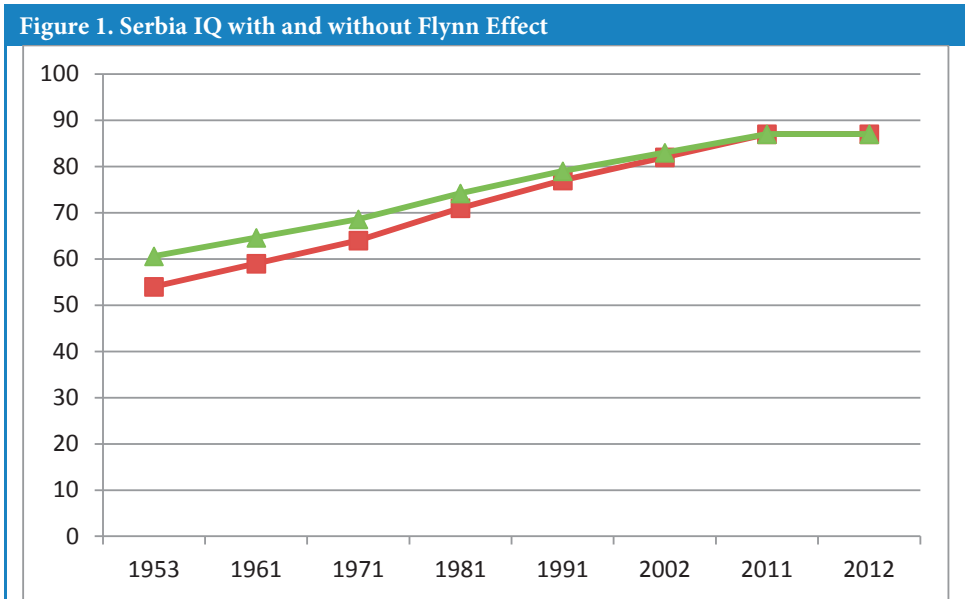
7. CONCLUSION

Based on the research in this paper conclusion is:
- Education is important element of wealth of nations, as well as natural resources
- Battle for illiterate people in each country is concept of prosperity
- Concept of secondary and higher education is extremely important for Balkan countries. Third industrial revolution and IT society will be just a dream in the mind of Balkan people so they will travel to other developed countries to work in ICT sector for example
- People from less educational Balkan countries will be in the future place for garbage collecting, including transferring dirty technologies (chemical, nuclear) from developed countries
- School system in all level of education has to be changed
- Lynn and Vatennen showing that developed countries increasing the level of IQ over the years, partly because of evolution in education system [4] [3] [2]

Battle for better education in Balkans start.

Figure 2. Relations between GDP per capita (PPP) and IQ for 2012
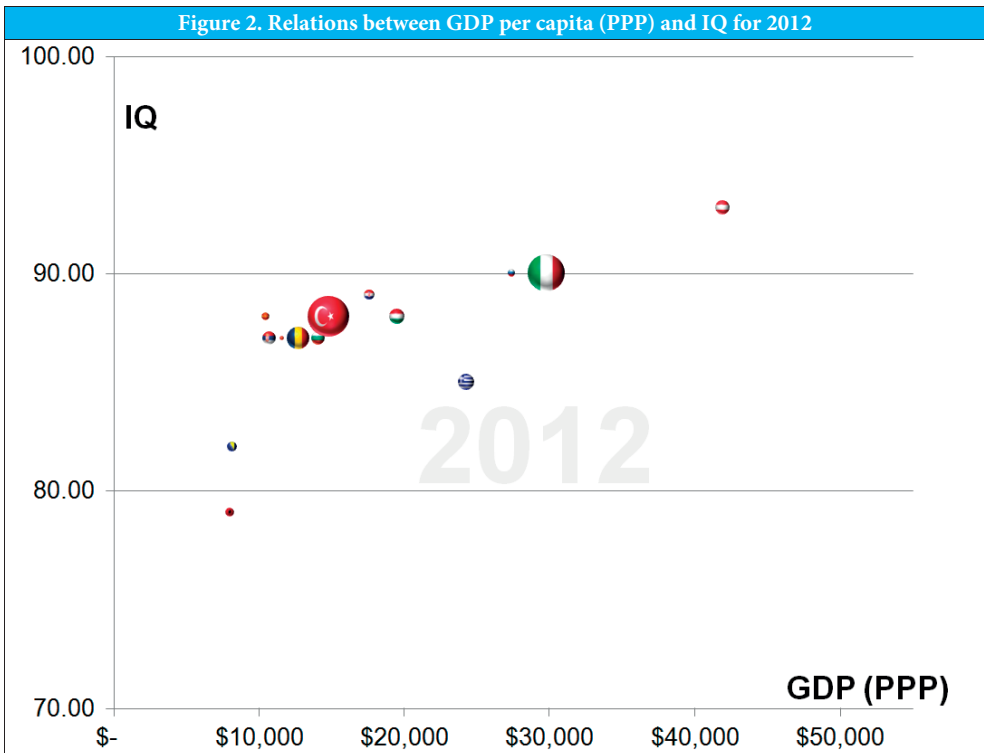
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