

GlobalSSH Data Book: findings and trends in the targeted countries

Presentation for GlobalSSH project workshop
*“Assessing social sciences and humanities research capacities in Russia, other
CIS countries and China in a view of the internationalisation of science”*

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Tartu University Eurocollege
Lossi 3 - 306, Tartu, Estonia

by Liudmila Pippiya,
**Institute of Science, Innovation and Socio-
Economic Programmes (ISISEP)**

l-pippiya@isisep.ru

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- 3. Trends of SSH potential in the targeted countries**

1. Principles of the Data Book design

Objectives of the Data Book representation:

- to assess macro-environment of the big regions of the political map*: China and New Independent States (NIS) originated from the collapse of the former Soviet Union;
- to assess the SSH potential of the targeted countries on the base of national educational statistics and science & technology statistics.

*Estonia does not belong to any of the studied regions. The country was added as targeted for certain subjective reasons of the project mainly due to the INTAS financial contribution to the GlobalSSH project funded by the EC.

**The principles of the Data Book design
originate from its objectives:**

- I. to perform countries according to the project tasks and partner representation in the consortium**

- II. to optimize the data compatibility as much as possible for an SSA project such as GlobalSSH**

To satisfy the project tasks and principles the Data Book is designed in two major parts for which indicators had to be selected in different ways:

- International section where all CIS countries, China and Estonia are represented by the selected indicators of general macro-environmental conditions
- Sections of the targeted countries' profiles in which quantitative data of SSH potential are shown

2. Outlines from macro-environmental indicators

- **The indicators represented in the 1st Section of the Data Book describe the studied regions in the most compatible way.**
- **The compatibility of values for each indicator by countries means that each indicator must be taken from the same source.**

Selection of sources of macro-environmental data

The opportunities for such selection are not many - international organizations such as UN organizations, World Bank, International Monetary Fund and some others (e. g. World Economic Forum, open sources of the intelligence services of some countries, etc.) keep their on-line data bases for free access. There are also many others that offer their data for international comparisons in certain areas such as competitiveness, ICT readiness, etc., but we don't discuss them here since their data are disseminating on the commercial basis.

I had to fix my choice on those statistical sources which:

- 1) were open**
- 2) had a representation of all countries from the studied regions.**

Sources for macro-environment data

Thus, the following organizations served as sources for macro-environment data:

- World Bank on-line data base;
- UNESCO on-line data bases in EDU and S&T;
- UNDP with its major products such as Human Development Reports, and selected country reports;
- The Fact Book of CIA in which countries all over the world are represented and which is regularly updated.

Types of macro-environmental data

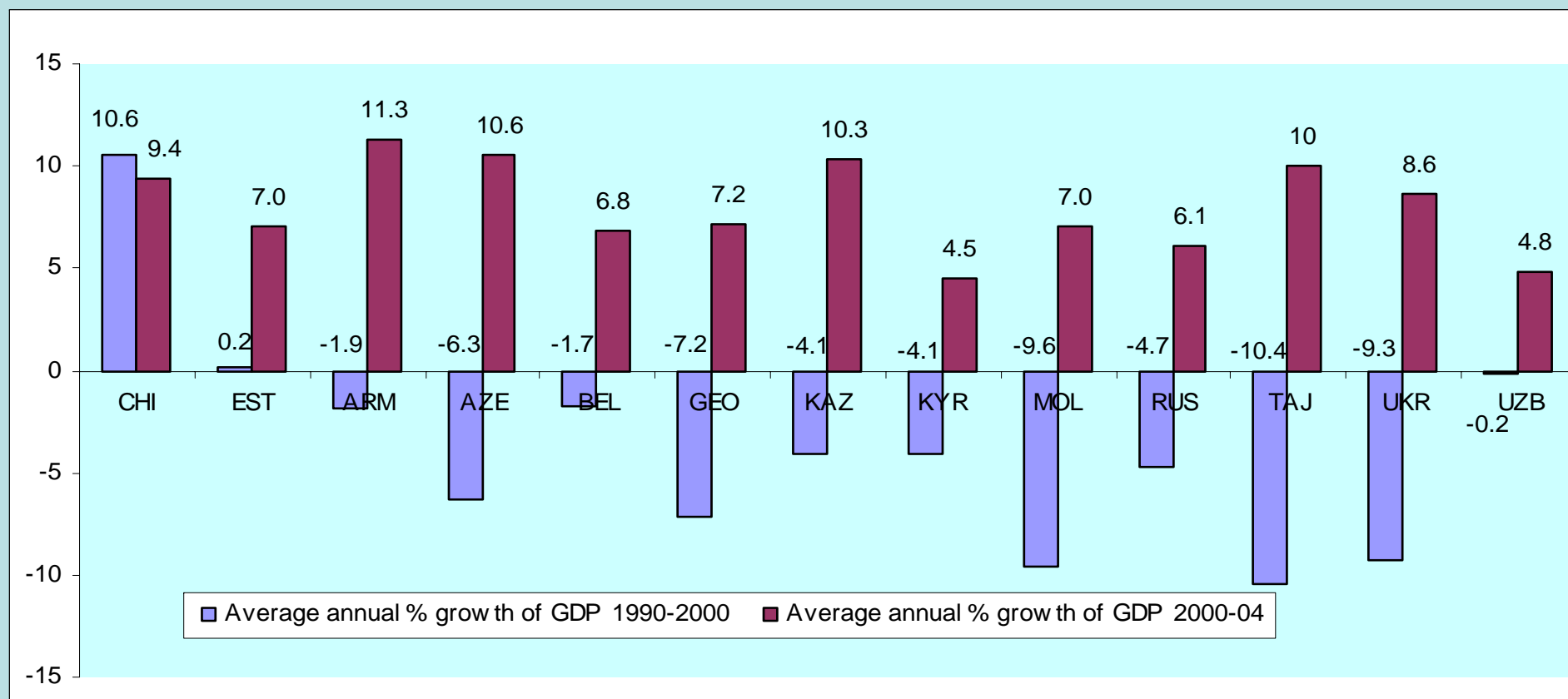
- The description of macro-environment of NIS and China focuses on such indicators as population and GDP, and their secondary data
- EDU and S&T indicators (rather poorly represented and taken from the UNESCO sources)
- Indicators of ICT expansion

Speaking more concretely, let's analyze examples

	Total population (000) 2004 year	Annual population growth rate (%) [*]	Life expectancy at birth (years) [*]	Infant mortality rate (0/00) [*]	National currency	GDP per capita (PPP) US\$ [*]
China	1,307,989	0.6	71	30	Yuan	5,003
Estonia	1,335	-0.4	71	8	Kroon	13,539
NIS:						
Armenia	3,026	-0.4	75	30	Dram	3,671
Azerbaijan	8,355	0.7	65**	75	Manat	3,617
Belarus	9,811	-0.4	68	13	Ruble	6,052
Georgia	4,518	-1.0	73	41	Lari	2,588
Kazakhstan	14,839	-0.0	61	63	Tenge	6,671
Kyrgyzstan	5,204	1.0	65	59	Som	1,751
Moldova	3,607	-0.4	67	26	Leu	1,510
Russian Federation	143,899	-0.4	66	16	Ruble	9,230
Tajikistan	6,430	0.6	66	76	Somoni	1,106
Ukraine	46,989	-0.7	68	15	Hryvnia	5,491
Uzbekistan	26,209	1.3	67	57	Sum	1,744

Source: UNESCO Institute for Statistics, Country/Regional Profiles, on-line at <http://www.uis.unesco.org>, accessed January 2007

Average annual growth of GDP in 1990-2000 and 2000-2005



Data source: World Bank, World Development Indicators 2006 on-line at <http://devdata.worldbank.org/wdi2006/contents/index2.htm>, accessed May, 2006

Human development index (HDI) trends

	1990	1995	2000	2003	2004	HDI Rank*
China	0.627	0.683	...	0.755	0.768	81
Estonia	0.813	0.793	0.831	0.853	0.858	40
NIS:						
Armenia	0.737	0.698	0.735	0.759	0.768	80
Azerbaijan	...	...	...	0.729	0.736	99
Belarus	0.787	0.751	0.774	0.786	0.794	67
Georgia	...	...	...	0.732	0.743	97
Kazakhstan	0.767	0.721	0.731	0.761	0.774	79
Kyrgyzstan	...	...	...	0.702	0.705	110
Moldova	0.739	0.682	0.665	0.671	0.694	114
Russian Federation	0.817	0.770	...	0.795	0.797	65
Tajikistan	0.696	0.629	0.630	0.652	0.652	122
Ukraine	0.799	0.747	0.754	0.766	0.774	77
Uzbekistan	...	0.679	...	0.694	0.696	113

Source: *Human Development Report*, Statistics on-line at: <http://hdr.undp.org/statistics/data/countries.cfm>, accessed April, 2006; January, 2007.

GlobalSSH Data Book Measuring SSH Potential

ICT access indicators

	Telephones - main lines in use (per 1,000 population) – 2005	Telephones - mobile cellular (per 1,000 population) – 2005	Internet hosts (per 1,000 population) – 2006	Internet users (per 1,000 population) – 2005
China	269	335	(0.2)	94
Estonia	329	1074	39	513
NIS:				
Armenia	195	107	3	50
Azerbaijan	138	283	(0.1)	86
Belarus	319	398	3	330
Georgia	146	312	2	38
Kazakhstan	165	329	1	26
Kyrgyzstan	85	105	4	54
Moldova	209	245	13	91
Russian Federation	280	837	14	165
Tajikistan	34	37	(0.01)	0.7
Ukraine	256	363	5	111
Uzbekistan	64	27	(0.3)	33

Estimated by ISISEP on the base of the Fact Book 2006 and 2007 data on-line at <http://www.odci.gov/cia/publications/factbook>, accessed May, 2006; at <https://www.cia.gov/cia/publications/factbook/index.htm>, accessed February, 2007

What kind of conclusions could be made on the base of international comparisons of this Data Book?

- **Level of economic performance**
- **Outline demographic and social challenges**
- **Show the scope of tertiary education and S&T potential of the country**
- **Benchmark ICT penetration in the countries**

To what extent the conclusions could relate to SSH capacity of the countries?

- How much favourable are the economic and social conditions for SSH in a country? E.g. one cannot expect strong SSH performance in a poor country.
- What socio-economic problems does a country challenge? E.g. high growth rate vs. high rate of infant mortality like in Kazakhstan.
- In other words, the indicators could show you where a problem lies. Interpretation and answer why the problem exists are totally a matter of further (mostly qualitative) analysis.

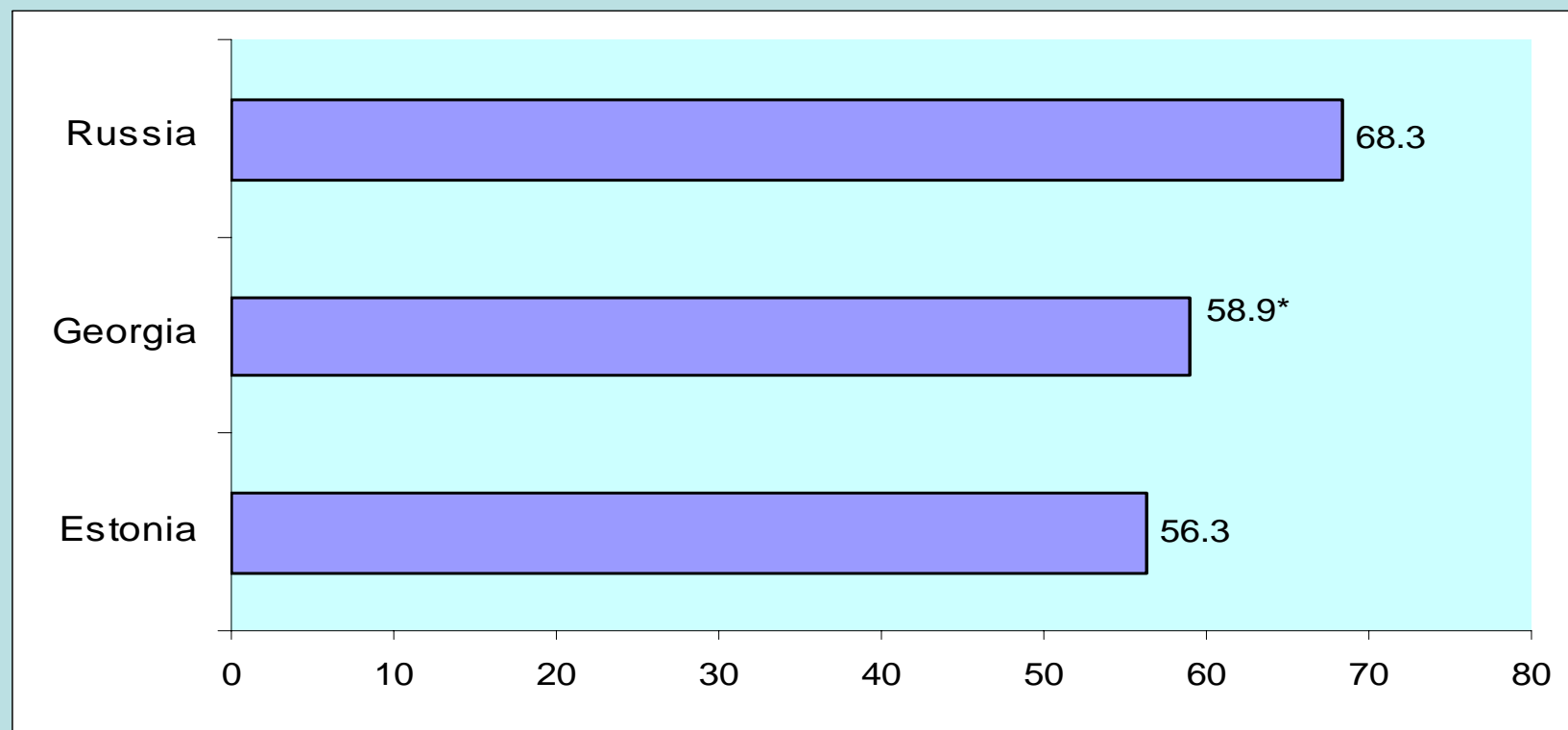
3. Trends of SSH potential in the targeted countries

- The main principle adhered to in the Sections of countries' profiles is the reflection of the quantitative indicators that helps a user of data to make quantitative assessments of SSH potentials of the examined countries.
- This approach gives an opportunity to understand the specific features of both national statistic systems and particular characteristics of SSH capacities (for the most part, human resources in SSH) of the represented countries.
- The countries' data are broken down in two classes: data picked out from Higher Education statistics including data referred to R&D personnel training, and data selected from Science and Technology statistics.

What kind of assessments could be done using the national data?

- The scale of representations of SSH undergraduate and postgraduate students
- Scope of research and higher education institutions with the representation of SSH
- Different kinds of proportions of SSH researchers (by scientific degree, gender, field of SSH)
- Level of financial support of Science and Education (and SSH where the relative data are available)
- Benchmarking of the countries on the base of the secondary data (such as proportions, shares, ratios) calculated from the indicators given in the Data Book

**Just a few examples:
Share of SSH enrolment in the total enrolment of HE students
in 2005/06 (%)**

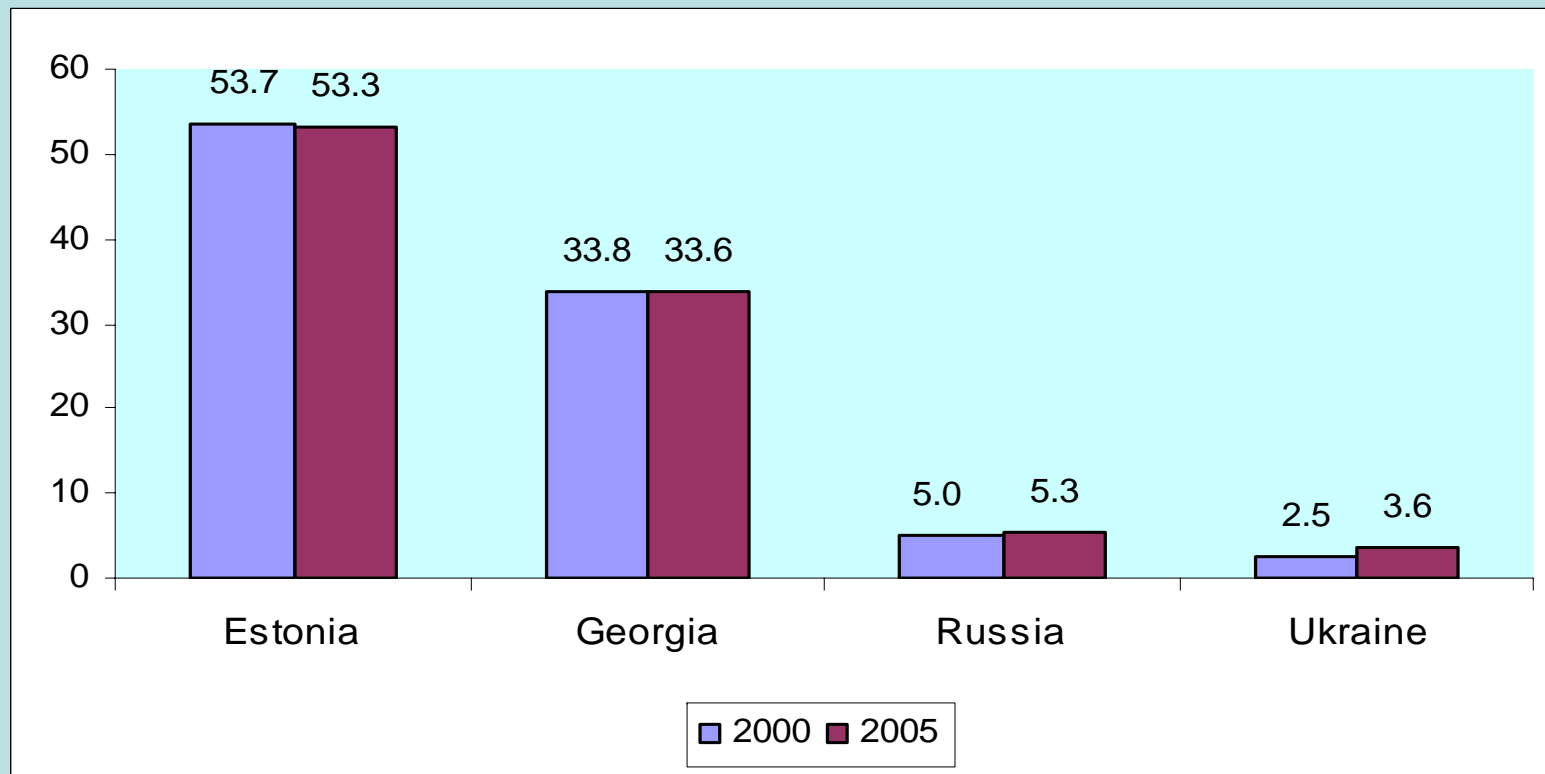


* Latest 2004/05

**Rates of growth of SSH postgraduate students
in 2000–05**

	2000	2001	2002	2003	2004	2005
Estonia	-0.08	0.27	0.13	0.02	0.44	0.04
Georgia	-0.13	-0.10	0.12	0.00	-0.05	-0.41
Russia	0.15	0.13	0.08	0.04	0.01	0.01
Ukraine	0.11	0.00	0.04	0.10	0.03	0.06

Share of SSH researchers in the total number of researchers in 2000 and 2005 (%) – this is an example where the compatibility of formally compatible data is under question.



Examples could be continued

Comparative calculations also can be done:

- for HR indicators (researchers, students, postgraduate and doctoral students) by SSH field, gender;
- for financial indicators. The latter ones are sensible when the indicators are reduced and calculated in PPP/orPPS and per capita (population, researchers, students, etc.)
- in dynamics (rates of growth);
- in ratios (proportions)
- both in dynamics and ratios

Using data from this Data Book,

it is possible to make different types of calculations having in view standard statistical principles of data compatibility some of examples of which were shown above.

Thanks for your attention!

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