



## Statistical Appendix

### I: International Data

#### International Statistics on Higher Education

As part of its work, the Secretariat for the Task Force on Higher Education undertook some independent research describing and analyzing cross-country patterns and trends in higher education. The Secretariat quickly discovered that UNESCO is the main, but not the only, source of basic data on higher education. The Secretariat also discovered that the data available tend to be sketchy in terms of the countries, years, and variables covered. In addition, the quality of the data is generally not well established.

Considerable effort went into assembling and testing the consistency of the cross-country data on higher education that were used in crafting portions of this report. These data are reproduced in this Appendix, in the interests of transparency, of providing readers with the raw data needed to facilitate further comparisons, and of sparing other researchers the time-consuming and tedious task of duplicating our efforts. To increase the value of this data supplement, the tables also include many standard higher education indicators not specifically relied upon in the report, as well as a number of general indicators of social and economic development.

In addition to the printed tables, the data are available electronically as part of the website maintained at the Center for International Development at Harvard University

([www.cid.harvard.edu](http://www.cid.harvard.edu)). It is anticipated that the data maintained on this website will be supplemented from time to time with additional cross-country information related to faculty compensation, international test scores, the nature of higher education laws and regulations, faculty-to-student ratios, indexes of public and private tuition, and numbers of public and private higher education institutions and average enrollment levels at each. In the course of preparing this report, we have particularly felt the absence of reliable data on the number of institutions of each type.

While assembling these data—all of which are derived from cross-country compilations that aimed at consistency—we have noted instances in which the figures given for a particular country do not match those independently available from sources within that country. For the sake of consistency, we have not made adjustments to the tables in such cases.

The tables cover 178 countries, which are listed alphabetically. They include data on enrollment, attainment, expenditure, research output, and several other items. Past and current values are reported for most indicators. Definitions for selected variables covered in the tables appear in the notes following the tables, as do references to the underlying data sources. Data aggregations for geographical regions and economic groupings have been calculated by weighting each country's data by population. When appropriate, weighting has been based on population subgroups.

## Comparative and Historical Data on Education

The primary international source of data about education at all levels is UNESCO, the United Nations Educational, Scientific and Cultural Organisation. UNESCO's Institute for Statistics collects and disseminates data on education from all countries and territories. A large amount of data are available from 1960 onward.

The Institute's main sources of information are official replies to questionnaires sent to countries annually. Three types of questionnaire are used: a questionnaire on education at pre-primary, first, and second levels; one on education at the tertiary level; and one on educational finance and expenditure. Information is collected on enrollment by level, gender, age, and field of study (for higher education); teaching staff by level and gender; illiteracy; educational attainment; and foreign students and graduates. The Institute for Statistics also reviews ad hoc national surveys designed to meet special needs, as well as other national publications and reports. They supplement these data with information from other international sources, including the Statistics and Population Division of the United Nations (for population, literacy, and attainment data), the World Bank (for GNP and other economic data), and the International Monetary Fund (for exchange rates).

Within individual countries, the responsibility for collecting data most commonly rests with the ministry of education or the central bureau of statistics. Questionnaires completed by schools are the basis for much of the information. Statistics on education spending are an exception, and may most often be obtained from central budgetary departments. Data on the adult population, such as level of educational attainment and literacy rates, are typically collected through national population censuses or through sample surveys.

The Institute for Statistics examines the data it receives, cross-referencing it with other sources and with the information maintained on its own database. If the new information appears problematic, they send a letter to the national authority cited as the source of the information and request a clarification. Their aim is to receive either corrected data, or an understanding of why the original data are correct despite the apparent discrepancy. If the issue is not resolved to their satisfaction, they may choose not to publish the data or to add a footnote expressing their concerns.

UNESCO organizes all these data and publishes it in its annual *Statistical Yearbook*, which is a major source of internationally comparable data on education. Many additional UNESCO publications draw on this data set or supplement it, and are listed within the yearbook. UNESCO data and publications lists are now easily accessed electronically on the UNESCO Institute for Statistics website, [www.unesco.org](http://www.unesco.org). Computerized data are generally available for 1970 onward. In addition, the very detailed tables of the *Statistical Yearbook* exist as electronic spreadsheets that may be accessed through queries to the Institute for Statistics.

Additional sources of international educational data include the World Bank, which produces the *World Development Report*, and other United Nations offices, such as the United Nations Development Programme, which publishes the annual *Human Development Report*. A review of these publications demonstrates that almost all of their international data on education are ultimately attributed to UNESCO.

The most significant additional source of information on education is the Organisation for Economic Co-operation and Development (OECD). The OECD collects extensive data about its 29 member countries, all highly developed nations. Beginning in 1998, 13 developing nations also began contributing data

to the OECD. OECD data on education are significantly more detailed than those that are usually available. For example, data on literacy are collected through a specialized instrument, the International Adult Literacy Survey, and reflect specific literacy skills of the adult population. At the tertiary level, OECD releases information otherwise not easily found, including information on private as well as public sources of funding; net enrollment ratios (as opposed to the gross enrollment ratios more commonly available); and teacher/student ratios at the tertiary level.

Some educational data are constructed by economists, based on census data distributed by UNESCO or a similar source. Robert Barro and Jong-Wha Lee, for example, have created estimates of educational attainment at 5-year intervals for more than 125 countries. Their estimation procedure begins with census information on school attainment, provided by individual governments and compiled by UNESCO and other sources. The census data provide benchmark numbers for a subset of dates under consideration. Missing cells are then filled in by using school enrollment ratios at various levels of schooling to estimate changes from the benchmarks to a more current date. The basic idea is that the flow of the enrolled population can be added to prior attainment levels to determine future levels. In this manner, full estimates of educational attainment can be obtained for most countries from the benchmark figures of one or more years, and from the reasonably complete data on school enrollment ratios.

In Barro and Lee's 1996 data set, for example, 310 census observations filled 35 percent of the 882 possible cells from 1960 to 1990 for 126 countries. The estimation procedure described above allowed them to construct a complete data set at 5-year intervals for 105 of these countries. The data are incomplete for the remaining 21 countries.

## Limitations of the Data

Three main issues arise in using available national-level data on education: the comparability of the data, both across nations and over time; the consistency of the data; and the accuracy of the data.

### *Comparability*

The problem of ensuring consistency of educational data across nations is a difficult one and is broadly recognized. In the *1998 Statistical Yearbook*, UNESCO authors repeatedly warn users of the need to take care when exercising comparisons between countries, and especially across groups of countries. Many of the differences between nations are detailed in charts that demonstrate differing years of educational entry, different years of schooling offered at the various levels, and different requirements about compulsory education. Readers are warned of particular issues, such as the counting of full-time and part-time teachers, which may vary across nations and have a strong and potentially misleading impact on data about teacher/student ratios.

### *Consistency*

Efforts to deal with consistency problems have been under way for many years. Work on the standardization of educational statistics was first begun by UNESCO in 1926. Today's data reflect the impact of two sets of standards, the ISCED (International Standard Classification of Education), and the Recommendation Concerning the International Standardization of Educational Statistics that was adopted by UNESCO in 1958 and revised in 1978 to make it compatible with ISCED. ISCED provides general definitions of eight educational levels, and provides definitions for 518 programs of education and for 21 general fields of study. The recommendation details definitions and tabulations under four sections: statistics on illiteracy; on the educational attainment of the

population; on enrollment, teachers, and educational institutions; and on educational finance. Together these standards provide some basis for creating greater international consistency for educational data.

That said, there is still reason to interpret much of the international educational data with caution. Definitions, coverage, and data-collection methods still differ across countries and may vary over time within countries, making interpretation difficult. The map of the world changes over time, and countries subject to major transitions, such as those of Eastern Europe, present problems of consistency and comparability. Periods of war and internal crises will obviously affect a country's ability to produce sound statistical information. Developing countries, particularly, vary in the amount of expertise and resources they choose to devote to statistical research on education.

Attempts to present information about educational financing across countries are particularly troubled by issues of comparability. One problem is the lack of complete information. Although many countries provide data on public expenditure on education, some limit their reporting to funds from the central ministry of education and neglect to report financial support from other branches and levels of government. Few nations report anything at all about private expenditure, despite the fact that, in many countries, private spending is a considerable factor at one or more levels of educational institutions.

Another problem that makes it difficult to compare financial information across nations is the blur between operating funds and capital expenditures. For example, one UNESCO table displaying data on operating expenditures for 108 countries had 12 footnotes indicating that, for those nations, capital expenses were also included in the figures.

A final—but particularly troublesome—issue in assessing financial data relates to the

difficulties inherent in comparing different currencies across nations and over time. Without knowledge of inflationary trends within a country, for example, it can be difficult to compare the meaning of changing amounts of spending over time. Comparing spending across countries is even more difficult. Besides addressing inflationary pressures and currency conversion issues, it is necessary to adjust figures to compensate for differences in purchasing power from nation to nation over each year in question. Our research uncovered studies in which financial expenditures across the world were compared without properly considering each of these conversion issues.

### ***Accuracy***

The overall accuracy of educational data is another issue of serious concern. Jeffrey Puryear (1992) reports conversations in 1992 with experts at UNESCO who estimate that data from perhaps 70 countries—slightly fewer than half of UNESCO's member states—suffer from serious accuracy problems. Jean Drèze and Amartya Sen, in their monograph *India: Economic Development and Social Opportunity*, refuse to use official data on education, stating that these figures are known to be grossly inflated, partly due to the incentive that government employees at different levels have to report exaggerated figures. Although official statistics portray a gross enrollment ratio of 98–99 percent at the primary level, they present data from the census and a National Sample Survey that show that only 40–42 percent of rural girls between ages five and 14 attend school. India is obviously not alone in having officials overstate rates of enrollment for political reasons.

Data can also be unreliable due to poor assessment techniques. The data on illiteracy present one example. Few people realize that illiteracy rates are typically self-reported on population census forms, and that there is no

universally accepted objective standard to evaluate literacy. Among the industrial countries, the OECD has collected data on functional literacy, but similar efforts have been lacking within the developing world. In some cases UNESCO considers attainment of a fourth-grade education to be sufficient evidence of literacy, even though no data are collected about the actual outputs of the educational process, or the skills typically demonstrated by students upon completing

a given grade level. Measures such as literacy rates, which purport to reflect actual achievement, therefore need to be viewed somewhat skeptically.

In summary, though some efforts have been made to assess and correct issues of comparability and accuracy of national-level education data, much more work needs to be done. Given how extensively these data are relied upon, higher priority should be given to efforts in this area.

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**TABLE A. GROSS ENROLLMENT RATIOS (%)**

Country	Primary		Secondary		Tertiary				Tertiary 1965		Tertiary 1995	
	1965	1995	1965	1995	1965	1975	1985	1995	Male	Female	Male	Female
Afghanistan	16	49	2	22	0	1	2	2	0	0	2	1
Albania		101		35				11			9	12
Algeria	68	107	7	62	1	3	9	12	1	0	14	10
Angola	41	77	5	12	0		1	1			1	0
Argentina	100	112	28	73	15	27	36	39	17	11	35	44
Armenia		82		79				14			13	14
Australia	99	103	62	147	16	24	28	72	22	10	70	74
Austria	100	100	52	103	9	19	27	47	13	4	46	47
Azerbaijan		104		77				18			18	18
Bahamas, The		95		89				24			15	33
Bahrain	69	108	45	97		2	10	20			16	24
Bangladesh	49	78	13	19	1	2	5	6	1	0	10	2
Barbados	100	99	52	97	3	10	19	29	3	3	24	35
Belarus		97		94				43			39	46
Belgium	100	102	75	146	15	23	31	56	19	10	56	56
Belize		122		49				1			1	1
Benin	34	72	3	16	0	1	3	3	0	0	4	1
Bermuda												
Bolivia	73	104	18	39	5	11	17	24	7	3	33	15
Botswana	65	112	3	64	0	1	2	5	0	0	6	5
Brazil	100	117	16	47	2	11	11	12	3	1	11	12
Brunei		108		77				7			5	8
Bulgaria		97		78				39			29	50
Burkina Faso	12	40	1	9		0	1	1			2	1
Burundi	26	51	1	7	0	0	1	1			1	1
Cambodia		126		26				2			3	1
Cameroon	94	87	5	26	0	1	2	4	1	0	7	1
Canada	100	103	56	107	26	39	56	90	33	20	83	98
Central African Republic	56	59	2	10	0	0	1	1	0	0	2	0
Chad	34	58	1	10	0	0	0	1			1	0
Chile	100	99	34	70	6	16	16	28	7	5	30	26
China	89	118	24	67			2	5			7	4
Colombia	84	114	17	67	3	8	13	17	5	1	17	18
Comoros	24	74	3	22			0	1			1	0
Congo, Dem. Rep. of	70	72	5	28	0	1	2	2	0	0	4	1
Congo, Rep. of	100	114	10	53	1	3	7	8	1	0	13	3
Costa Rica	100	107	24	50	6	18	23	33	7	5	36	30
Côte d'Ivoire		69		23			2	5			7	2
Croatia		86		82				28			28	28
Cuba		105		80				13			10	16
Cyprus	91		42		1	2	7	17	1	1	13	20
Czech Republic		104		99				22			23	21
Denmark	98	100	83	120	14	29	29	45	17	10	39	51
Djibouti		39		13				0			0	0
Dominican Republic	87	111	12	45	2	10	19	22	3	1	19	25
Ecuador	91	123	17	53	3	27	30	23	5	2	30	17
Egypt, Arab Rep. of	75	101	26	74	7	14	20	20	11	3	24	16
El Salvador	82	88	17	32	2	8	18	18	3	1	18	18
Eritrea		57		19				1			2	0
Estonia		91		104				38			35	41
Ethiopia	11	38	2	12	0	0	1	1			1	0
Fiji	85	135	20	68	0	3	3	13	0	0	16	10
Finland	92	100	76	116	11	27	34	70	11	11	65	76
France	100	106	56	111	14	25	30	51	16	12	45	57
French Polynesia		115		86				2			2	3

**TABLE A, continued**

Country	Primary		Secondary		Tertiary				Tertiary 1965		Tertiary 1995	
	1965	1995	1965	1995	1965	1975	1985	1995	Male	Female	Male	Female
Gabon	100		11		0	2	5	8			11	5
Gambia, The	21	77	6	25	0	0	0	2	0	0	2	1
Georgia		82		73				38			35	41
Germany	100	103	45	102	9	25	30	44	13	4	47	41
Ghana	69	76	13	32	1	1	2	1	1	0	2	1
Greece	100	94	49	96	10	18	26	43	13	6	43	42
Guam		69		185				66			58	74
Guatemala	50	84	8	25	2	4	8	8	4	1	12	4
Guinea	32	48	5	12	0	3	2	1			2	0
Guinea-Bissau	26	68	2	11	0	0	0		0	0		
Guyana	100	95	53	75	1	4	2	10	1	0	10	9
Haiti	50	51	5	24	1	1	1	1	1	0	2	1
Honduras	80	110	10	32	2	5	10	11	2	1	12	10
Hong Kong, China	100	96	29	75	5	10	13	26	6	5	28	23
Hungary	100	104	60	99			16	24	15	10	22	26
Iceland	98	98	72	104	8	16	22	36	11	5	29	42
India	74	100	27	49	5	9	9	7	4	1	8	5
Indonesia	72	115	12	50	3	2	7	11	3	1	15	8
Iran, Islamic Rep. of	47	94	28	75	2	5	5	17	2	1	21	13
Iraq	74	85	28	42	4	9	12	11	6	2	14	9
Ireland	100	103	51	115	12	19	24	39	16	8	37	40
Israel	95	99	48	89	20	25	34	41	22	18	39	44
Italy	100	99	47	88	11	26	24	41	14	7	38	45
Jamaica	100	110	51	70	3	7	4	8	4	3	8	7
Japan	100	102	82	103	13	25	29	41	20	6	45	38
Jordan	95		38		2	9		17	2	1	18	17
Kazakhstan		96		83				33			29	37
Kenya	54	85	4	24	0	1	1	2	1	0	2	1
Korea, Rep. of	100	95	35	101	6	10	34	52	9	3	66	38
Kuwait	100	73	52	64	0	9	15	25	0	0	22	28
Kyrgyz Republic		107		81				12			12	13
Lao PDR		102		28				2			2	1
Latvia		89		85				26			22	30
Lebanon		109		81				27			27	27
Lesotho	94	100	4	29	0	1	2	2	1	0	2	3
Liberia	41	33	5	15	1	2	3	3	1	0	5	2
Libya		114		102				20			20	20
Lithuania		96		84				28			23	34
Luxembourg	100		33		3	2	3	3			4	2
Macao								27			28	25
Macedonia, FYR		89		57				18			16	20
Madagascar	65	73	8	13	1	1	4	2			2	2
Malawi	44	135	2	16	0	1	1	1	0	0	1	0
Malaysia	90	92	28	61	2	3	6	11	3	1	12	10
Maldives		133		58								
Mali	24	34	4	10	0	1	1	1	0	0	1	0
Malta	100	109	26	85	5	5	6	24	7	3	24	24
Mauritania	13	79	1	16	0	0	3	4			6	1
Mauritius	100	107	26	62	0	1	1	7	0	0	7	7
Mexico	92	115	17	61	4	11	16	15	6	1	16	14
Moldova		94		80				25			22	28
Mongolia		88		59				15			9	21
Morocco	57	83	11	39	1	3	8	11			13	9
Mozambique	37	60	3	7	0	0	0	0	0	0	1	0
Myanmar	71	101	15	32	1	2		6	2	1	4	7



**TABLE A, *continued***

Country	Primary		Secondary		Tertiary				Tertiary 1965		Tertiary 1995	
	1965	1995	1965	1995	1965	1975	1985	1995	Male	Female	Male	Female
Namibia		133		62				8			6	10
Nepal	20	108	5	38	1	2	5	5	2	0	7	2
Netherlands	100	107	61	137	17	26	32	49	24	9	50	47
New Caledonia		123		102				5			6	4
New Zealand	100	104	75	117	15	26	34	58	18	11	51	66
Nicaragua	69	110	14	47	2	8	10	12	4	1	12	12
Niger	11	29	1	7	0	0	1	1	0	0	1	0
Nigeria	32	88	5	32	0	1	3	4			6	2
Norway	97	99	64	117	11	22	30	59	14	8	51	66
Oman		80		67	0	0	1	5			6	5
Pakistan	40	79	12	30	2	2	5	3	3	1	4	3
Panama	100	104	34	68	7	17	26	30	7	7	24	36
Papua New Guinea	44	80	4	14	0	3	2	3	0	0	4	2
Paraguay	100	111	13	40	4	7	9	11	4	3	11	12
Peru	99	123	25	70	8	15	24	31	11	6	37	25
Philippines	100	116	41	79	19	18	38	30	17	21	25	34
Poland	100	96	48	98	13	17	17	25	19	16	21	29
Portugal	84	132	42	111	5	11	12	37	7	4	32	43
Puerto Rico								42			35	49
Qatar		86		80				28			15	42
Reunion												
Romania		100		78				18			19	18
Russian Federation		111		86				42			38	47
Rwanda	53	97	2	14	0	0	0	1	0	0	0	1
Samoa		103										
Saudi Arabia	24	78	4	58	1	4	12	16			16	15
Senegal	40	65	7	16	1	2	2	3	2	0	5	2
Seychelles												
Sierra Leone	29	53	5	17	0	1	1	2	1	0	3	1
Singapore	100	95	45	73	10	9	12	34	13	7	37	31
Slovak Republic		103		94				20			20	21
Slovenia		103		91				33			28	39
Solomon Islands		100		18								
Somalia	10	9	2	5	0	1	3	2			4	1
South Africa	90	117	15	84	4	6		17	6	2	18	17
Spain	100	106	38	121	6	20	29	49	9	3	45	53
Sri Lanka	93	113	35	75	2	1	4	5	2	1	6	4
St. Kitts and Nevis												
St. Lucia												
St. Vincent and the Grenadines												
Sudan	29	52	4	19	1	2	2	4	1	0	5	3
Suriname	100		28			6	7	13			12	14
Swaziland	74	126	8	66	0	3	4	4	0	0	4	4
Sweden	95	106	62	136	13	29	31	46	15	11	40	52
Switzerland	87		37		8	14	21	33	13	3	41	25
Syrian Arab Republic	78	101	28	43	8	12	18	15	13	3	18	13
Tajikistan		91		79				20			26	14
Tanzania	32	67	2	5	0	0	0	1	0	0	1	0
Thailand	78	87	14	55	2	4	20	20	2	1	19	22
Togo	55	119	5	27	0	1	2	3	0	0	6	1
Trinidad and Tobago	93	96	36	72	2	5	4	8	3	2	8	7
Tunisia	91	116	16	61	2	4	6	13	3	1	14	12
Turkey	100	108	16	59	4	9	10	18	6	2	22	14
Turkmenistan		110		115				20			19	21
Uganda	67	73	4	12	0	1	1	2	1	0	2	1

**TABLE A, continued**

Country	Primary		Secondary		Tertiary				Tertiary 1965		Tertiary 1995	
	1965	1995	1965	1995	1965	1975	1985	1995	Male	Female	Male	Female
Ukraine		88		92				42			36	47
United Arab Emirates		91		78	0	0	8	11		0	5	19
United Kingdom	92	116	66	133	12	19	22	50	17	7	47	52
United States	100	102	90	97	40	57	58	81	49	31	71	92
Uruguay	100	111	44	82	8	16	24	28	10	7	24	33
Uzbekistan		78		93				35			33	37
Vanuatu		105		21								
Venezuela	94	90	27	35	7	18	26	26	9	5	25	27
Vietnam		114						4			6	3
Yemen, Rep. of	9	73	0	31	0	1	2	4	0	0	7	1
Yugoslavia, FR (Serb./Mont.)	100	72	65	65	13	20	19	21	17	9	19	23
Zambia	53	89	7	28	0	2	1	3	0	0	4	2
Zimbabwe	100	116	6	47	0	2	3	6	0	0	9	4
<b>World</b>	82	102	32	63	9	14	13	18	11	6	18	18
<b>Low and middle income</b>	76	102	21	55	4	7	7	10	5	2	11	9
Sub-Saharan Africa	45	74	5	25	1	1	2	3	1	0	5	2
East Asia and Pacific	87	115	23	64	5	5	4	7	5	4	9	6
South Asia	67	95	24	44	4	7	8	6	3	1	8	4
Europe and Central Asia	100	101	39	83	9	14	13	32	13	9	29	34
Latin America and the Caribbean	94	112	19	55	4	13	16	18	6	3	18	18
Middle East and N. Africa	62	94	20	62	3	7	11	15	6	2	18	12
<b>High income</b>	99	103	67	106	20	33	37	58	25	14	55	61

Source: Columns 1, 3, 5–7, 9, and 10: Barro and Lee 1994; columns 2, 4, 8, 11, and 12: UNESCO 1999a.

## TABLE B. TERTIARY ENROLLMENT DATA

Country	Number of Tertiary Students					Number of Tertiary Students per 100,000 Inhabitants			
	1975	1980	1985 or closest yr.	1990	1995 or LYA**	1980	1985 or closest yr.	1990	1995 or LYA**
Afghanistan	12,256	20,279	22,306	24,333	26,360	142		147	
Albania		14,568	21,995	22,059	30,185	545	1,080	679	899
Algeria	41,847	79,351	132,057	285,930	347,410	530	798	1,146	1,236
Angola		2,333	5,034	6,534	8,784	33		71	
Argentina	596,736	491,473	846,145	1,008,231	1,069,617	1,741	2,792	3,293	3,117
Armenia		109,900	102,700	114,300	39,592	1,890	3,076	2,030	1,090
Australia	274,738	323,716	370,048	485,075	964,998	2,203	2,366	2,839	5,401
Austria	96,736	136,774	173,215	205,767	238,981	1,812	2,292	2,668	2,970
Azerbaijan		186,024	182,145	163,901	118,105	1,720	2,731	1,470	1,568
Bahamas, The		4,093	4,531	5,305	6,079	1,949		2,192	
Bahrain	703	1,908	4,180	6,868	7,676	550	1,011	1,365	1,445
Bangladesh		240,181	461,073	681,965	902,857	272		382	
Barbados		4,033	5,227	6,651	3,064	1,620	2,075	1,657	2,572
Belarus	314,603	339,800	342,400	335,284	313,800	1,760	3,425	1,700	3,031
Belgium	159,660	196,153	247,499	276,248	352,630	2,111	2,511	2,725	3,494
Belize		107,000	104,493	101,986	99,483				
Benin	2,118	4,822	9,063	10,873	11,227	139	225	235	208
Bermuda		608							
Bolivia	49,850	60,900	88,175	102,001	120,756	1,494		1,975	
Botswana	469	1,078	1,938	2,957	7,920	120	180	299	546
Brazil	1,089,808	1,409,243	1,451,191	1,540,080	1,716,263	1,162	1,052	1,074	1,094
Brunei		143	601	1,163	1,270	74	262	395	518
Bulgaria	128,593	101,359	113,795	188,479	250,336	1,144	1,270	2,096	2,942
Burkina Faso	1,067	1,644	4,085	5,425	9,388	24	52	60	90
Burundi	1,002	1,879	2,783	3,592	4,256	45	59	65	74
Cambodia		601	2,213	6,659	11,652				119
Cameroon		11,686	21,438	33,177	47,665	135		288	
Canada	1,079,960	1,172,750	1,639,410	1,916,801	2,011,485	4,035	6,320	5,102	6,984
Central African Republic	669	1,719	2,651	3,840	3,450	74		119	
Chad	547	1,470	1,643	2,242	3,446		38	70	54
Chile	149,647	145,497	197,437	261,800	342,788	1,305	1,639	1,938	2,412
China	500,993	1,662,796	3,515,485	3,822,371	5,621,543	117	328	186	461
Colombia	176,098	271,630	391,490	487,448	588,322	1,024	1,331	1,496	1,643
Comoros		316	281	248	348				
Congo, Dem. Rep. of	24,853	28,493	40,878	80,233	93,266	105	129	176	212
Congo, Rep. of	3,249	7,255	10,684	10,671	13,806	435	555	479	582
Costa Rica	33,239	55,593	63,771	74,681	78,819	2,434	2,414	2,461	2,919
Côte d'Ivoire	7,174	19,633	21,650	23,073	55,000	240	219		413
Croatia		64,966	55,886	72,342	86,357		1,250		1,917
Cuba	82,688	151,733	235,224	242,434	122,346	1,568	2,325	2,285	1,116
Cyprus	602	1,940	3,134	6,554	8,874	308	575		
Czech Republic	90,649	118,026	107,098	118,194	191,604		1,039		1,867
Denmark	110,271	106,241	116,319	142,968	166,545	2,074	2,275	2,625	3,188
Djibouti			53		130		10		22
Dominican Republic		42,400	123,748	123,724	176,995		1,941		2,223
Ecuador	170,173	269,775	280,594	206,541	174,924	3,321		1,950	
Egypt, Arab Rep. of	480,016	715,701	854,584	628,233	850,051	1,751	1,717	1,698	1,900
El Salvador	28,281	16,838	70,499	78,211	114,998	372	1,508	1,512	2,031
Eritrea					3,020				95
Estonia		25,500	24,680	25,900	39,726	1,723	1,625	1,636	2,670

**TABLE B, *continued***

Country	Number of Tertiary Students					Number of Tertiary Students per 100,000 Inhabitants			
	1975	1980	1985 or closest yr.	1990	1995 or LYA**	1980	1985 or closest yr.	1990	1995 or LYA**
Ethiopia		14,368	27,338	34,076	35,027	37	66	68	62
Fiji	1,653	1,666	2,313	3,509		263		1,080	
Finland	114,272	123,165	127,976	165,714	213,995	2,577	2,611	3,326	4,190
France	1,038,576	1,076,717	1,278,581	1,698,938	2,091,688	1,998	2,318	2,995	3,600
French Polynesia		27							
Gabon	1,014	4,031	4,089	4,031	3,972	216		375	
Gambia, The					1,591				148
Georgia		140,578	144,400	148,391	155,033	1,680	2,731	1,900	2,845
Germany				2,048,627	2,144,169		2,581		2,628
Ghana	9,079	7,951	8,324	9,242	10,170	144		126	
Greece	117,246	121,116	181,901	283,415	329,185	1,256	1,831	1,927	3,149
Guam	3,800	3,217	5,134	7,052	8,969				
Guatemala	22,881	50,890	48,283	64,103	80,228	736	741		755
Guinea	12,411	18,270	8,801	5,366	7,722	410	176	122	105
Guinea-Bissau									
Guyana	2,852	2,465	2,328	4,665	7,680	325	294	588	926
Haiti	2,881	4,671	6,288	7,905	9,522	87			
Honduras	11,907	25,825	36,620	43,117	54,106	705	875	854	985
Hong Kong, China	44,482	38,153	76,844	85,214	97,392	1,201	1,425		1,635
Hungary	107,555	101,166	99,344	102,387	179,563	945	939	970	1,777
Iceland	2,970	3,633	4,724	5,225	7,483	1,593	1,957	2,049	2,756
India	3,043,865	3,545,318	4,470,844	4,950,974	5,695,780	515	582		613
Indonesia	278,200	543,175	1,277,684	1,590,593	2,303,469	367	749	838	1,167
Iran, Islamic Rep. of	151,905	184,442	239,300	312,076	1,048,093	317	469	858	1,533
Iraq	86,111	106,709	169,665	209,818	249,971	820		1,240	
Ireland	46,174	54,746	70,301	90,296	128,284	1,610	1,979	2,578	3,618
Israel		97,097	116,062	134,885	198,766	2,504	2,742	2,790	3,598
Italy	976,712	1,117,742	1,185,304	1,452,286	1,775,186	1,981	2,088	2,519	3,103
Jamaica	3,963	13,999	10,969	16,018	8,191	656	475	662	770
Japan	2,248,903	2,412,117	2,347,463	2,683,035	3,917,709	2,065	1,943	2,328	3,139
Jordan	11,873	36,549	53,753	80,442	99,020	1,713		2,230	
Kazakhstan		525,400	551,000	537,441	472,000	1,730	3,481	1,710	2,807
Kenya		12,986	21,756	31,287	67,371	78		140	
Korea, Rep. of	318,683	647,505	1,455,759	1,691,429	2,225,092	1,698	3,568	3,899	4,974
Kuwait	8,104	13,630	23,678	20,787	28,705	991	1,377	1,244	2,247
Kyrgyz Republic		64,595	71,330	57,563	49,744	1,510	1,777	1,330	1,115
Lao PDR		1,408	5,382	4,730	12,732	44	150	116	253
Latvia		47,230	43,914	45,953	44,064	1,863	1,692	1,712	1,737
Lebanon		79,073	79,500	82,497	81,588	2,963	2,980	3,071	2,712
Lesotho	529	1,188	1,771	2,029	4,384	141	113	263	216
Liberia	2,404	4,900	4,889	4,878	4,847	208		218	
Libya	13,427	20,166	30,000	50,471	106,541	663		1,548	
Lithuania		70,995	96,500	88,668	75,559	2,063	2,621	1,758	2,023
Luxembourg	483	748	759			207			
Macao		7,930	7,718	7,425	7,485				1,700
Macedonia, FYR	36,049	46,281	38,065	26,515	29,583		1,979		1,372
Madagascar	8,385	22,632	38,310	35,824	28,814	257	359	298	194
Malawi	1,903	2,591	3,057	4,829	5,561	56	42	63	58
Malaysia		57,650	93,249	121,412	191,290	419	595	679	971
Maldives									

**TABLE B, *continued***

Country	Number of Tertiary Students					Number of Tertiary Students per 100,000 Inhabitants			
	1975	1980	1985 or closest yr.	1990	1995 or LYA**	1980	1985 or closest yr.	1990	1995 or LYA**
Mali	2,936	1,631	6,768	6,703	6,687	64		73	
Malta	1,425	947	1,474	3,123	5,805	292	428	791	1,595
Mauritania		5,378	4,526	5,339	8,496		256	281	374
Mauritius	1,096	1,038	1,161	3,485	6,799	107	114	208	609
Mexico	562,056	929,865	1,207,779	1,310,835	1,420,461	1,387	1,600	1,552	1,586
Moldova		110,200	113,800	104,800	87,700	1,270	2,700	1,250	1,976
Mongolia	9,861	34,543	40,099	31,434	38,643	2,234	2,101	1,416	1,569
Morocco	45,322	112,405	181,087	255,667	294,502	580	837	958	1,132
Mozambique		1,000	1,442	3,698	6,639	8	11	16	41
Myanmar	56,083	163,197	179,366	196,052	250,000	478	478	516	564
Namibia		558	1,523	4,157	11,344			280	738
Nepal	23,504	34,094	54,452	93,753	102,018	259	424	549	501
Netherlands	288,026	360,033	404,866	478,869	491,748	2,545	2,794	2,945	3,176
New Caledonia	178	438	761						
New Zealand	66,178	76,643	95,793	111,504	163,923	2,462	2,950	3,287	4,603
Nicaragua	18,282	35,268	29,001	30,733	50,769	1,259	905	836	1,231
Niger	541	1,435	2,863	3,684	5,867	26		60	
Nigeria	44,964	150,072	266,679	335,824	404,969	191		320	
Norway	66,628	79,117	94,658	142,521	180,383	1,936	2,279	3,357	4,164
Oman		18	990	6,208	9,664	2	670	391	438
Pakistan	127,932		267,742	336,689	371,162	182		266	
Panama	26,289	40,369	55,303	53,235	76,839	2,064	2,552	2,181	2,921
Papua New Guinea		5,040	5,068	6,397	13,663	163	147		318
Paraguay	18,302	26,915	32,090	32,884	40,913	855	889	769	1,031
Peru	195,641	306,353	452,462	681,801	755,929	1,771	2,321	3,450	3,268
Philippines	769,749	1,276,016	1,402,000	1,709,486	2,022,106	2,621	2,565	2,738	2,981
Poland	575,499	589,134	454,190	544,893	747,638	1,656	1,221	1,427	1,946
Portugal	79,702	92,152	129,277	185,762	300,573	944	1,305	1,882	3,060
Puerto Rico	97,517	131,184	142,407	153,680	164,854				
Qatar	779	2,269	5,344	6,485	8,271	991	1,494	1,559	1,509
Reunion									
Romania	164,567	192,769	159,798	192,810	336,141	868	703	711	1,479
Russian Federation	5,500,000	5,700,000	5,444,000	5,100,000	4,458,363	2,190	3,768	1,900	2,998
Rwanda	1,108	1,243	1,987	3,389	4,791	24		50	
Samoa	249	976	758	900	1,042				
Saudi Arabia	26,437	62,074	113,529	153,967	251,945	662	898	1,035	1,380
Senegal		13,626	13,354	18,689	24,081	246	209	253	297
Seychelles		144							
Sierra Leone	1,701	2,166	5,690	4,742	3,794	66		114	
Singapore	22,607	23,256	39,913	55,672	83,914	963	1,474		2,522
Slovak Republic		77,191	66,002	72,215	91,553		1,247		1,715
Slovenia		27,707	29,601	33,565	47,908		1,574		2,489
Solomon Islands									
Somalia	2,040	2,900	8,221	13,543	20,994	45			
South Africa		207,620		439,007	617,897				1,524
Spain	540,238	697,789	935,126	1,222,089	1,591,863	1,859	2,431	3,007	4,017
Sri Lanka	15,426	42,694	59,377	55,190	63,660	288	370	488	474
St. Kitts and Nevis		99	212	325	394				
St. Lucia		301	367	618	2,760				
St. Vincent and the Grenadines			736	677	618				

**TABLE B, continued**

Country	Number of Tertiary Students					Number of Tertiary Students per 100,000 Inhabitants			
	1975	1980	1985 or closest yr.	1990	1995 or LYA**	1980	1985 or closest yr.	1990	1995 or LYA**
Sudan	21,342	28,788	37,367	60,134	82,901	154		245	
Suriname		2,378	2,751	3,994	4,804	676		1,023	
Swaziland	1,012	1,875	2,732	3,198	3,497	332	421	426	408
Sweden	162,640	171,356	176,589	192,611	261,209	2,062	2,115	2,248	2,972
Switzerland	64,720	85,127	110,111	137,486	148,024	1,347	1,685	2,048	2,066
Syrian Arab Republic	73,660	140,180	179,473	221,628	215,734	1,611	1,726	1,740	1,559
Tajikistan		96,900	95,247	109,653	108,203	1,420	2,086	1,280	1,890
Tanzania	3,064	5,000	4,863	5,058	12,776	22	22	21	43
Thailand	130,965	361,400	1,026,952	952,012	1,220,481	1,284	2,009	1,763	2,096
Togo	2,353	4,750	5,230	8,969	11,639	182	173	226	285
Trinidad and Tobago	4,940	5,649	6,582	7,249	5,348	522	559	591	730
Tunisia	20,505	31,827	41,594	68,535	112,634	499	567	851	1,253
Turkey	327,082	246,183	469,992	749,921	1,174,299	554	934	1,339	1,960
Turkmenistan		69,800	75,800	76,000	76,200	1,240		1,130	
Uganda	5,474	5,856	10,103	17,578	30,266	45	68	100	154
Ukraine	1,570,100	1,683,500	1,662,000	1,651,700	1,541,000	1,760	3,263	1,700	2,977
United Arab Emirates		2,861	7,772	10,196	15,789	282	501	642	801
United Kingdom	732,947	827,146	1,032,491	1,258,188	1,820,843	1,468	1,824	2,170	3,135
United States	11,184,859	12,096,895	12,247,055	13,710,150	14,261,778	5,311	5,064	5,591	5,339
Uruguay	32,627	36,298	53,955	71,612	79,691	1,338		2,315	2,488
Uzbekistan		515,800	567,200	602,700	691,450	1,720		1,650	
Vanuatu									
Venezuela	213,542	307,133	443,064	550,030	551,912	2,044		2,847	
Vietnam	80,323	114,701	121,159	129,600	297,900	214	202		404
Yemen, Rep. of		7,811	26,673	45,536	65,675				419
Yugoslavia, FR (Serb./Mont.)					159,512				1,556
Zambia	8,403	3,425	14,492	15,343	10,489	131	221	189	241
Zimbabwe	8,479	8,339	30,843	49,361	45,593	117	368	496	626
<b>World</b>	<b>40,267,422</b>	<b>50,758,289</b>	<b>58,394,175</b>	<b>68,275,579</b>	<b>80,459,713</b>	<b>1,021</b>	<b>1,335</b>	<b>1,318</b>	<b>1,531</b>
<b>Low and middle income</b>	<b>18,986,254</b>	<b>26,929,371</b>	<b>33,645,255</b>	<b>37,313,806</b>	<b>44,155,455</b>	<b>602</b>	<b>879</b>	<b>761</b>	<b>980</b>
Sub-Saharan Africa	181,386	618,089	660,360	1,316,906	1,750,684	117	124	181	339
East Asia and Pacific	1,828,765	4,224,145	7,673,191	8,575,155	11,984,521	293	521	441	704
South Asia	3,222,983	3,882,888	5,335,794	6,142,904	7,161,837	445	574	338	608
Europe and Central Asia	9,209,689	11,649,860	11,453,615	11,579,161	11,547,310	1,656	2,539	1,608	2,436
Latin America and the Caribbean	3,590,200	4,945,840	6,389,251	7,267,699	7,923,878	1,346	1,493	1,706	1,638
Middle East and N. Africa	953,231	1,608,549	2,133,044	2,431,981	3,787,225	943	1,053	1,251	1,465
<b>High income</b>	<b>21,281,168</b>	<b>23,828,918</b>	<b>24,748,920</b>	<b>30,961,773</b>	<b>36,304,258</b>	<b>3,033</b>	<b>3,197</b>	<b>3,701</b>	<b>4,071</b>

\*\*LYA Last year available.

Source: Column 1: UNESCO 1999a; columns 2 and 4: UNESCO 1999a, supplemented by Bloom and Rivera-Batiz 1999; columns 3 and 5: UNESCO 1998a, supplemented by Bloom and Rivera-Batiz 1999; columns 6 and 8: UNESCO 1993; columns 7 and 9: UNESCO 1998a.

**TABLE C. ATTAINMENT RATES (% , population over 25)**

Country	Primary Attained		Secondary Attained		Tertiary Attained				Average Years of Schooling in Population over 25	
	1965	1990	1965	1990	1965	1975	1985	1995	1965	1990
Afghanistan	4	9	3	3	3	2	3	2	0.9	1.0
Albania								7		
Algeria	10	32	2	9	0	1	2	5	0.6	2.8
Angola								1		
Argentina	72	57	12	25	4	6	8	15	5.2	7.8
Armenia								23		
Australia	37	27	57	48	5	21	22	24	8.9	10.1
Austria	86	43	8	47	3	4	6	12	4.0	7.4
Azerbaijan								18		
Bahamas, The										
Bahrain	9	26	6	25	3	3	3	11	1.4	4.6
Bangladesh	11	23	6	14	1	1	2	3	0.9	2.2
Barbados	81	48	18	42	1	2	6	10	5.4	8.2
Belarus								24		
Belgium	64	48	29	37	5	7	11	16	7.8	8.8
Belize								14		
Benin		13	1	5	0	0	1	2		1.3
Bermuda										
Bolivia	22	39	26	11	4	5	8	12	4.2	4.1
Botswana	25	41	2	7	0	1	1	2	1.3	2.6
Brazil	44	66	11	5	2	4	6	8	2.8	3.6
Brunei										
Bulgaria	63	44	15	36	5	7	9	17	6.4	9.3
Burkina Faso								0		
Burundi								1		
Cambodia										
Cameroon	20	38	5	7	0	0	1	2	1.3	2.3
Canada	47	16	36	62	14	31	19	29	7.8	10.3
Central African Republic	5	22	2	4	0	0	0	1	0.4	1.3
Chad								1		
Chile	57	57	21	25	2	5	8	12	4.7	6.2
China		34		34	1	1	1	2		5.2
Colombia	49	52	10	17	2	3	6	9	2.8	4.3
Comoros								0		
Congo, Dem. Rep. of	17	32	1	10	0	0	1	1	0.7	2.2
Congo, Rep. of		21	13	23	3	2	3	4		3.9
Costa Rica	69	62	8	11	3	6	12	16	3.8	5.4
Côte d'Ivoire								8		
Croatia								8		
Cuba	61	57	5	27	2	3	7	12	3.7	6.6
Cyprus	59	41	15	40	1	9	14	13	4.3	7.8
Czech Republic								9		
Denmark	50	39	34	42	16	16	19	21	10.0	11.2
Djibouti								0		
Dominican Republic	48	36	3	11	1	3	6	11	2.2	3.8
Ecuador	52	49	7	9	2	3	14	18	2.9	5.6
Egypt, Arab Rep. of		19		16	2	3	5	9		3.6
El Salvador	33	54	4	5	1	2	3	8	1.7	3.4
Eritrea										
Estonia								15		

**TABLE C, *continued***

Country	Primary Attained		Secondary Attained		Tertiary Attained				Average Years of Schooling in Population over 25	
	1965	1990	1965	1990	1965	1975	1985	1995	1965	1990
Ethiopia								1		
Fiji	64	54	8	33	5	3	5	6	4.7	7.5
Finland	84	49	11	35	5	7	14	19	7.7	9.8
France	88	58	10	28	3	5	11	16	4.8	6.9
French Polynesia										
Gabon								3		
Gambia, The		6	3	6	0	0	0			0.9
Georgia								23		
Germany	81	65	16	22	2	6	8	15	7.9	8.8
Ghana	14	24	2	17	1	1	1	1	0.8	2.8
Greece	69	57	10	29	3	5	9	11	5.0	7.7
Guam										
Guatemala	27	37	4	6	1	1	4	5	1.4	2.6
Guinea								2		
Guinea-Bissau										
Guyana	82	57	5	30	0	1	2	3	3.7	5.4
Haiti	6	28	4	10	0	0	1	1	0.7	2.2
Honduras	34	52	3	11	1	1	3	6	1.7	3.7
Hong Kong, China	40	30	18	43	5	4	8	14	4.9	8.4
Hungary	86	63	8	26	4	6	8	11	6.9	8.4
Iceland	82	53	13	35	4	6	9	13	5.9	8.0
India	21	20	3	14	0	2	4	5	1.5	3.6
Indonesia	25	54	2	12	0	1	1	4	1.3	3.9
Iran, Islamic Rep. of	7	18	3	19	1	2	3	5	0.8	3.3
Iraq	3	22	2	13	1	2	5	8	0.4	3.1
Ireland	65	40	27	44	5	6	10	14	6.5	8.2
Israel	43	28	27	34	10	16	24	27	6.8	9.0
Italy	72	44	14	32	3	4	7	12	4.8	6.2
Jamaica	78	64	5	29	1	2	3	4	2.5	4.5
Japan	54	34	37	45	7	7	16	22	7.1	9.2
Jordan	16	17	8	18	1	1	11	19	1.7	5.2
Kazakhstan								16		
Kenya	20	45	2	7	0	1	1	1	1.2	2.8
Korea, Rep. of	35	22	18	54	4	7	12	19	4.4	9.3
Kuwait	36	6	12	34	3	7	13	13	2.7	5.7
Kyrgyz Republic								15		
Lao PDR								1		
Latvia								15		
Lebanon								21		
Lesotho	57	59	2	6	0	0	1	1	2.7	3.3
Liberia	8	17	2	11	1	2	2	2	0.6	1.9
Libya	15	27	1	20	0	1	3	7	0.6	3.9
Lithuania								15		
Luxembourg										
Macao								9		
Macedonia, FYR								16		
Madagascar								2		
Malawi	32	39	0	4	0	0	0	1	1.7	2.4
Malaysia	39	45	8	27	1	2	2	4	2.7	5.6
Maldives										



**TABLE C, *continued***

Country	Primary Attained		Secondary Attained		Tertiary Attained				Average Years of Schooling in Population over 25	
	1965	1990	1965	1990	1965	1975	1985	1995	1965	1990
Mali	3	8	0	3	0	0	0	1	0.2	0.8
Malta	58	44	17	31	2	3	3	5	5.1	6.6
Mauritania								2		
Mauritius	47	49	8	31	1	2	3	2	2.8	5.2
Mexico	47	49	4	23	2	3	7	10	2.5	5.9
Moldova								14		
Mongolia								10		
Morocco								6		
Mozambique	8	26	1	1	0	0	0	0	0.3	0.7
Myanmar	11	32	8	14	1	0	2	3	0.9	2.2
Namibia										
Nepal	0	9	1	5	0	0	2	3	0.1	1.0
Netherlands	82	34	14	46	3	9	14	19	5.6	8.6
New Caledonia										
New Zealand	40	37	54	24	5	20	30	39	9.4	11.2
Nicaragua	33	44	3	6	4	5	8	8	2.0	3.3
Niger	4	10	0	1	0	0	0	0	0.2	0.6
Nigeria								2		
Norway	77	50	16	32	2	9	14	19	5.6	7.9
Oman								1		
Pakistan	12	10	4	14	0	3	2	3	0.9	2.3
Panama	55	42	15	29	3	5	11	18	4.1	7.6
Papua New Guinea	15	24	5	6	0	0	1	1	1.0	1.7
Paraguay	67	67	6	14	1	3	5	6	3.3	4.7
Peru	45	46	9	17	3	6	12	17	3.0	5.5
Philippines	52	54	10	15	8	12	18	23	3.9	6.7
Poland	67	43	22	48	4	7	8	9	7.1	9.6
Portugal	50	59	3	11	1	2	5	8	2.2	3.6
Puerto Rico								34		
Qatar								17		
Reunion	45		8		1	1	1		2.3	
Romania	67	24	16	63	3	5	6	8	5.6	9.2
Russian Federation								18		
Rwanda		35	2	2	0	0	0	0		1.5
Samoa										
Saudi Arabia								7		
Senegal	28	31	2	4	1	1	1	2	1.4	1.9
Seychelles										
Sierra Leone	4	13	2	5	0	0	1	1	0.5	1.3
Singapore	26	35	22	31	1	3	4	7	3.5	5.5
Slovak Republic								10		
Slovenia								11		
Solomon Islands										
Somalia										
South Africa	27	47	24	23	1	4	2	4	3.8	4.8
Spain	64	64	5	21	4	4	7	13	3.8	6.3
Sri Lanka	48	46	20	36	0	2	1	2	3.6	5.4
St. Kitts and Nevis										
St. Lucia										
St. Vincent and the Grenadines										

**TABLE C, *continued***

Country	Primary Attained		Secondary Attained		Tertiary Attained				Average Years of Schooling in Population over 25	
	1965	1990	1965	1990	1965	1975	1985	1995	1965	1990
Sudan	10	21	1	6	0	0	1	1	0.3	1.2
Suriname										
Swaziland	21	43	6	11	0	0	1	2	1.7	3.5
Sweden	57	35	35	44	8	12	17	20	7.7	9.5
Switzerland	69	29	22	52	9	9	12	14	6.9	8.9
Syrian Arab Republic	24	35	3	14	1	3	8	12	1.3	4.4
Tajikistan								13		
Tanzania								0		
Thailand	50	65	5	5	1	2	5	10	3.1	5.2
Togo	7	23	1	13	0	0	2	2	0.4	2.5
Trinidad and Tobago	75	62	12	29	1	2	3	4	4.4	6.3
Tunisia	7	26	3	13	1	1	3	4	0.7	3.0
Turkey	33	41	6	12	1	2	4	7	2.1	3.4
Turkmenistan								19		
Uganda	27	31	2	3	0	0	0	1	1.1	1.4
Ukraine								24		
United Arab Emirates						6		6		
United Kingdom	69	44	27	39	3	11	13	16	7.2	8.7
United States	36	9	44	44	18	25	34	49	9.3	12.0
Uruguay	70	56	10	27	5	6	8	14	4.8	6.7
Uzbekistan								23		
Vanuatu										
Venezuela	44	55	5	12	2	5	10	15	2.4	4.9
Vietnam								3		
Yemen, Rep. of								2		
Yugoslavia, FR (Serb./Mont.)	59	42	8	31	3	6	9	11	4.8	7.2
Zambia	32	50	1	12	0	1	1	1	1.8	4.1
Zimbabwe	46	56	2	4	0	1	1	2	1.6	2.3
<b>World</b>	42	34	15	26	3	5	7	10	4.2	5.7
<b>Low and middle income</b>	30	34	6	22	1	2	3	6	2.1	4.4
Sub-Saharan Africa	19	33	5	10	0	1	1	2	1.4	2.5
East Asia and Pacific	31	38	4	30	1	1	2	3	2.0	5.1
South Asia	19	20	3	14	0	2	3	4	1.4	3.3
Europe and Central Asia	60	41	14	35	3	5	6	16	5.4	7.3
Latin America and the Caribbean	49	56	9	14	2	4	7	11	3.1	4.8
Middle East and N. Africa	9	22	3	16	1	2	4	7	0.8	3.4
<b>High income</b>	58	34	28	39	8	13	18	26	7.1	9.4

Source: Columns 1 through 7: Barro and Lee 1996; column 8: Bloom and Rivera-Batiz 1999; columns 9 and 10: Barro and Lee 1996.

**TABLE D. PUBLIC EXPENDITURE ON EDUCATION AS A WHOLE**

Country	% of	% of	% of	% of	% of	% of	% of	% of
	GNP	Gov't Spending	GNP	Gov't Spending	GNP	Gov't Spending	GNP	Gov't Spending
	1970	1970	1980	1980	1990	1990	1995	1995
Afghanistan	1.1		2.0	12.7				
Albania				10.3	5.8			
Algeria	7.9	31.6	7.8	24.3	5.5	21.1	5.8	14.7
Angola					4.9	10.7		
Argentina		9.1	2.7	15.1	1.1	10.9	3.3	11.6
Armenia					7.3	20.5		
Australia	4.1	13.3	5.5	14.8	5.4	14.8		
Austria	4.5	8.1	5.5	8.0	5.4	7.6	5.7	10.6
Azerbaijan					7.0	23.5	2.9	17.5
Bahamas, The	4.8	19.4			4.3	17.8		
Bahrain		20.0	2.9	9.4	5.0	14.6	4.8	12.8
Bangladesh			1.5	7.8	2.0	10.3		
Barbados	5.8	21.2	6.5	20.5	7.9	22.2		
Belarus		18.7			4.9		5.6	17.1
Belgium			6.0	16.3	5.1		3.1	5.8
Belize	3.8		2.4	14.5	4.8	18.5	5.3	19.6
Benin							3.2	15.2
Bermuda	3.6	18.8	4.0		3.3	14.5		
Bolivia	3.4	28.4	4.4	25.3	2.7		6.6	
Botswana	4.7		6.0	16.0	6.9	17.0	8.6	15.8
Brazil	2.9	10.6	3.6				5.5	
Brunei		13.9		11.8	2.5			
Bulgaria		9.1	4.5		5.6		4.0	
Burkina Faso			2.2	19.8	2.7		1.4	
Burundi					3.4	16.7	4.1	
Cambodia	5.8	23.5						
Cameroon	3.4	19.6	3.6	20.3	3.5	19.6		
Canada	8.7	24.1	6.9	16.3	6.8	14.2		
Central African Republic					2.2			
Chad								
Chile	5.1	22.0	4.6	11.9	2.7	10.4	3.0	14.0
China	1.2	4.3	2.5	9.3	2.3	12.8	2.3	
Colombia	1.9	13.6	2.4	19.2	2.6	16.0	4.0	18.6
Comoros								
Congo, Dem. Rep. of			2.6	24.2				
Congo, Rep. of	5.9	23.7	7.0	23.6	5.9	14.4	6.2	14.7
Costa Rica	5.2	31.8	7.8	22.2	4.4	20.8	4.6	19.8
Côte d'Ivoire	5.5	19.3	7.3	22.6			5.2	
Croatia							5.3	
Cuba	4.2	18.4	7.2		6.6	12.3		10.9
Cyprus		17.4	3.5	12.9	3.4	11.3		13.2
Czech Republic							5.8	13.6
Denmark	6.9	16.9	6.9	9.5			8.2	13.1
Djibouti						10.5		
Dominican Republic	2.9	15.9	2.2	16.0			1.9	13.2
Ecuador	4.2	23.2	5.6	33.3	3.1	17.2	3.4	15.2
Egypt, Arab Rep. of	4.8	15.8			4.0		4.8	14.9
El Salvador	2.6	27.6	3.9	17.1	2.0	28.1	2.2	
Eritrea								
Estonia							6.9	25.5

**TABLE D, continued**

Country	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending
	1970	1970	1980	1980	1990	1990	1995	1995
Ethiopia		14.1		10.4	3.4	9.4	4.0	13.9
Fiji	4.2	15.6	5.1		4.7			
Finland	5.9		5.3		5.7	11.9	7.6	12.2
France	4.8	24.9	5.0		5.4		6.1	11.1
French Polynesia	0.3							
Gabon	3.2	16.2	2.7				2.8	
Gambia, The	2.3	10.8	3.3		4.2	14.6	6.0	
Georgia								
Germany							4.8	9.5
Ghana	4.3	19.6	3.1	17.1	3.3	24.3		
Greece	1.7	9.6			2.5		2.9	8.2
Guam								
Guatemala	2.0	17.5	1.8	11.9	1.4	11.8	1.7	18.2
Guinea								
Guinea-Bissau								
Guyana	4.7	13.2			4.8	4.4	4.3	8.1
Haiti			1.5	14.9	1.5	20.0		
Honduras	3.1	18.4	3.2	14.2			3.6	16.5
Hong Kong, China	2.4	22.8	2.4	14.6	2.8	17.4	2.9	
Hungary		6.9	4.7	5.2	6.1	7.8	5.3	9.4
Iceland	3.6	17.7	4.4	14.0	5.6		5.0	12.3
India	2.6	10.7	3.0	11.2	3.9	12.2	3.4	11.6
Indonesia	2.6		1.7	8.9	1.0		1.4	7.8
Iran, Islamic Rep. of		9.6	7.5	15.7	4.1	22.4	4.0	17.8
Iraq			3.0					
Ireland	4.8	10.8	6.3		5.6	10.2	6.1	13.5
Israel	5.6	8.1	7.9	7.3	6.2	11.3		
Italy	3.7	11.9			3.2		4.7	9.0
Jamaica	3.6		7.0	13.1	5.4	12.8	6.4	7.7
Japan	3.9	20.4	5.8	19.6				
Jordan	3.7	9.3	6.6	14.4	8.9	17.1	8.7	21.
Kazakhstan					3.2	17.6	4.6	17.6
Kenya	5.0	17.6	6.8	18.1	7.1	17.0	6.8	16.9
Korea, Rep. of	3.4	21.4	3.7	23.7	3.5	22.4	3.7	17.5
Kuwait	4.2	11.2	2.4	8.1	3.5	3.4	5.7	8.9
Kyrgyz Republic				22.2	8.4	22.5	6.9	23.1
Lao PDR				1.3			2.3	
Latvia			3.3	15.3	3.8	10.8	6.7	16.8
Lebanon		16.8		13.2			2.6	8.7
Lesotho	3.0	16.2	5.1	14.8	3.6	12.2		
Liberia	2.0	9.5	5.7	24.3				
Libya	4.5	17.4	3.4					
Lithuania				15.4	4.8	13.8	5.7	21.8
Luxembourg	3.6	14.8	5.7	14.9	2.6	10.4	4.1	15.1
Macao						10.7		
Macedonia, FYR							5.5	18.7
Madagascar			4.4		1.5			
Malawi	4.6	13.2	3.4	8.4	3.3	11.1	5.5	
Malaysia	4.2	17.7	6.0	14.7	5.5	18.3		
Maldives					6.3	10.0	6.4	10.5

**TABLE D, *continued***

Country	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending
	1970	1970	1980	1980	1990	1990	1995	1995
Mali			3.7	30.8			2.2	
Malta	6.3	13.0	3.0	7.8	4.0	8.3	5.2	11.4
Mauritania	3.3	21.9					5.1	16.2
Mauritius	3.1	11.5	5.3	11.6	3.5	11.8		
Mexico	2.3		4.7	20.4	3.7	12.8	4.9	23.0
Moldova					5.6	17.2	7.7	22.9
Mongolia		15.6		19.1	12.9	17.6	6.0	17.0
Morocco	3.5	16.6	6.1	18.5	5.5	26.1	5.8	24.7
Mozambique			4.4	12.1	6.0	12.0		
Myanmar	3.1	17.9	1.7					
Namibia					7.4		8.4	24.6
Nepal	0.6	6.7	1.8	10.5	2.0	8.5	3.2	14.0
Netherlands	7.2		7.6	22.6	6.0	14.8	5.2	8.7
New Caledonia	0.2							
New Zealand	4.7		5.8	23.1	6.6			
Nicaragua	2.3	18.1	3.4	10.4			3.7	
Niger	1.1	17.7	3.1	22.9				
Nigeria					1.0		0.9	11.5
Norway	5.4	15.5	6.5	13.7	7.3	14.6	8.1	16.7
Oman			2.1	4.1	3.5	11.1	4.4	16.3
Pakistan	1.7	4.2	2.0	5.0	2.6		2.8	7.1
Panama	5.3	22.1	4.9	19.0	4.9	20.9		
Papua New Guinea	4.5	13.2						
Paraguay	2.2	15.3	1.5	16.4	1.1	9.1	3.4	18.0
Peru	3.3	18.8	3.1	15.2				
Philippines	2.8	24.4	1.7	9.1	2.9	10.1	2.2	
Poland							5.2	
Portugal	1.5	6.6	3.8		4.3		5.5	
Puerto Rico	7.8							
Qatar	3.3	8.9	2.6	7.2	3.4			
Reunion			15.6					
Romania		8.0	3.3	6.7	2.8	7.3		
Russian Federation	3.9		3.5		3.5			
Rwanda	2.3	26.6	2.7	21.6				
Samoa		20.0			4.2	10.7		
Saudi Arabia	3.5	9.8	4.1	8.7	6.0	17.8	5.5	17.7
Senegal	3.8	21.3			4.0	26.9	3.6	33.1
Seychelles	4.2	11.5	5.8	14.4	8.1	14.8	7.6	16.3
Sierra Leone	3.2	17.5	3.5	11.8				
Singapore	3.1	11.7	2.8	7.3	3.0	18.2	3.0	23.4
Slovak Republic					5.1		5.1	
Slovenia							5.8	12.6
Solomon Islands		13.8	5.6	11.2				
Somalia	1.0	7.6	1.0	8.7				
South Africa					6.5		6.8	20.5
Spain	2.0	15.2	2.3	14.7	4.4	9.4	4.9	12.8
Sri Lanka	4.0	13.6	2.7	7.7	2.7	8.1	3.0	8.1
St. Kitts and Nevis		9.7	5.3	9.4	2.8		3.7	9.8
St. Lucia								
St. Vincent and the Grenadines	5.8				6.9	13.8		

**TABLE D, *continued***

Country	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending	% of GNP	% of Gov't Spending
	1970	1970	1980	1980	1990	1990	1995	1995
Sudan	3.9	12.6	4.8	9.1	0.9	2.8		
Suriname	7.3	17.9	6.7	22.5				
Swaziland	4.9	17.3	6.0		5.9	19.5	7.6	19.9
Sweden	7.6		9.0	14.1	7.7	13.8	8.1	11.6
Switzerland	3.9	18.4	4.9	18.8	4.8	18.7	5.3	14.7
Syrian Arab Republic	3.9	9.4	4.6	8.1	4.3	17.3	3.3	11.2
Tajikistan				29.2	9.7	24.7	2.4	16.1
Tanzania		16.0		11.2	3.4	11.4		
Thailand	3.2	17.3	3.4	20.6	3.6	20.0	4.1	20.1
Togo	2.2	19.0	5.6	19.4	5.6	26.4		
Trinidad and Tobago	3.4	14.0	4.0	11.5	4.0	11.6		
Tunisia	7.1	23.2	5.4	16.4	6.2	13.5	6.8	17.4
Turkey	2.1	13.7	2.2	10.5	2.1		2.2	
Turkmenistan					4.3	21.0		
Uganda	4.1	17.7	1.2	11.3	1.5	11.5	2.6	21.4
Ukraine	5.5	28.1	5.6	24.5	5.2	19.7	7.2	
United Arab Emirates			1.3		1.7	14.6	1.8	16.3
United Kingdom	5.3	14.1	5.6	13.9	4.9		5.4	
United States	7.5	22.7	6.7		5.2	12.3		
Uruguay	3.9	26.1	2.3	10.0	3.1	15.9	2.8	
Uzbekistan				23.0	9.5	20.4	7.4	22.8
Vanuatu		32.1			4.4		4.9	
Venezuela	4.1	22.9	4.4	14.7	3.1	12.0		
Vietnam						7.5		
Yemen, Rep. of								
Yugoslavia, FR (Serb./Mont.)								
Zambia	4.5	9.0	4.5	7.6	2.3	8.7	2.2	7.1
Zimbabwe	3.4		6.6	13.7	10.4			
<b>World</b>	3.1	12.1	3.5	12.2	3.4	13.2	3.4	13.0
<b>Low and middle income</b>	2.4	10.0	3.0	11.6	3.1	13.2	3.3	13.2
Sub-Saharan Africa	3.8	16.0	4.0	15.5	3.4	12.8	3.4	15.2
East Asia and Pacific	1.6	6.3	2.4	9.7	2.3	12.8	2.3	10.7
South Asia	2.5	10.0	2.7	10.2	3.5	11.9	3.3	11.0
Europe and Central Asia	4.0	17.5	3.7	16.2	4.3	17.1	5.0	18.1
Latin America and the Caribbean	3.0	14.5	3.8	17.8	3.0	13.6	4.6	18.1
Middle East and N. Africa	5.0	15.9	6.1	16.2	4.7	21.1	4.9	17.0
<b>High income</b>	5.4	19.3	5.8	17.3	4.9	13.4	5.0	11.4

Source: Columns 1 through 8: UNESCO 1999a; columns 1 and 2 supplemented by UNESCO 1999b.

## TABLE E. EXPENDITURES ON TERTIARY EDUCATION

Country	Public Current Spending on Higher Education as % of Total Public Current Spending on Education		Tertiary Expenditure per Student as % of GNP per Capita	
	1985 or closest yr.	1995 or LYA**	1980	1995
Afghanistan				
Albania		10.3		36
Algeria				
Angola				
Argentina	19.2	21.0	10	17
Armenia	13.2		19	
Australia	30.5	29.8	30	30
Austria	16.6	21.4	38	32
Azerbaijan		7.8		13
Bahamas, The				
Bahrain				
Bangladesh	10.4	7.9	47	30
Barbados	22.3			
Belarus	14.0	11.0	33	20
Belgium	16.7	20.3	35	35
Belize	2.3	7.4		
Benin		18.8		240
Bermuda	21.4			
Bolivia		28.7		67
Botswana	17.2		665	
Brazil			0	
Brunei				
Bulgaria	12.4	15.8		21
Burkina Faso	30.7		3,371	
Burundi	19.8	15.6		941
Cambodia				
Cameroon	27.4		363	
Canada	28.7	34.7*	28	36
Central African Republic	18.8	24.0		
Chad		9.0		234
Chile	20.3*	18.1		21
China	21.8	15.4		81
Colombia	21.2	18.5	41	29
Comoros		17.2		
Congo, Dem. Rep. of	28.7		749	
Congo, Rep. of	34.4	28.0		224
Costa Rica	41.4	30.9	76	44
Côte d'Ivoire	17.1	16.4		
Croatia				
Cuba	12.9	15.4	29	
Cyprus	4.2	6.5		
Czech Republic		14.7		41
Denmark	21.9	22.8		55
Djibouti				
Dominican Republic	20.8	9.0		5
Ecuador	17.8	18.1	22	34
Egypt, Arab Rep. of		35.4		108
El Salvador		7.2	103	8
Eritrea				
Estonia		17.6		40

**TABLE E, continued**

Country	Public Current Spending on Higher Education as % of Total Public Current Spending on Education		Tertiary Expenditure per Student as % of GNP per Capita	
	1985 or closest yr.	1995 or LYA**	1980	1995
Ethiopia	14.4	14.9		592
Fiji				
Finland	18.7	28.8	28	46
France	12.9	17.0	22	24
French Polynesia				
Gabon				
Gambia, The	13.8	10.9		235
Georgia		18.5		28
Germany		22.6		35
Ghana	12.5			
Greece	20.1	22.6*	27	29
Guam				
Guatemala		15.5		33
Guinea	23.5	17.2		498
Guinea-Bissau				
Guyana	17.8	7.7		
Haiti	10.8		65	
Honduras	21.3	16.6	72	59
Hong Kong, China	25.1	37.1		52
Hungary	16.9	18.3	75	73
Iceland		20.8		
India	15.3	13.7		78
Indonesia				
Iran, Islamic Rep. of	10.7	22.9		62
Iraq	25.0*			
Ireland	17.7	22.6	39	38
Israel	18.9	18.2	52	31
Italy	10.2	15.0		23
Jamaica	19.4	23.1	167	193
Japan		12.1	21	16
Jordan	34.1	34.9		111
Kazakhstan		12.5		20
Kenya	12.4	13.7	808	540
Korea, Rep. of	10.9	9.5*	7	6
Kuwait	16.7	29.9	28	
Kyrgyz Republic	8.8	8.3		49
Lao PDR		4.0		55
Latvia	10.3	12.2*		45
Lebanon				
Lesotho	22.3	17.0	642	399
Liberia				
Libya				
Lithuania		18.0		51
Luxembourg	3.3	4.8		
Macao				
Macedonia, FYR		22.2		
Madagascar	27.2			
Malawi	23.3	20.5	1,137	979
Malaysia	14.6	16.8	149	77
Maldives				



**TABLE E, continued**

Country	Public Current Spending on Higher Education as % of Total Public Current Spending on Education		Tertiary Expenditure per Student as % of GNP per Capita	
	1985 or closest yr.	1995 or LYA**	1980	1995
Mali	13.4	17.7		522
Malta	8.2	12.7		
Mauritania	17.5	20.1		157
Mauritius			163	
Mexico		17.2		61
Moldova				
Mongolia	17.3	17.9		74
Morocco	17.1	16.5		74
Mozambique				
Myanmar		11.7		21
Namibia		9.4		86
Nepal	33.4	17.3	272	156
Netherlands	26.4	29.9	54	44
New Caledonia				
New Zealand	28.3	29.4	33	39
Nicaragua	23.2		86	
Niger			1,493	
Nigeria			345	
Norway	13.5	27.1	29	50
Oman	15.3	5.8		
Pakistan	18.2	13.2	236	
Panama	20.4	24.8	29	47
Papua New Guinea				
Paraguay	23.8	19.7		52
Peru			5	
Philippines	22.5			
Poland	18.2	14.6*		42
Portugal	12.7	16.4		25
Puerto Rico				
Qatar				
Reunion				
Romania		15.9*		40
Russian Federation				
Rwanda	11.5			
Samoa				
Saudi Arabia	27.1	17.8		63
Senegal	19.0	23.2		
Seychelles				
Sierra Leone	15.1			
Singapore	27.9	34.8	31	32
Slovak Republic		16.7		39
Slovenia		16.9		38
Solomon Islands				
Somalia				
South Africa	24.8	15.4		59
Spain		15.1		18
Sri Lanka	9.8	12.2	62	64
St. Kitts and Nevis	2.1	11.6		
St. Lucia	4.5	12.5		
St. Vincent and the Grenadines				

**TABLE E, continued**

Country	Public Current Spending on Higher Education as % of Total Public Current Spending on Education		Tertiary Expenditure per Student as % of GNP per Capita	
	1985 or closest yr.	1995 or LYA**	1980	1995
Sudan			441	
Suriname	7.7	7.6		
Swaziland	21.0	27.5		
Sweden	13.1	27.7*	26	76
Switzerland	18.1	19.7	56	
Syrian Arab Republic	33.6*	25.9*		
Tajikistan	7.7	10.3	30	39
Tanzania	12.7		2,195	
Thailand	13.2	19.4		25
Togo	22.8	32.9	892	521
Trinidad and Tobago	8.9	13.3	55	77
Tunisia	18.2	18.8	194	89
Turkey	23.9	34.7	108	51
Turkmenistan				
Uganda	13.2			
Ukraine	13.5	10.7	39	20
United Arab Emirates				
United Kingdom	19.8	23.7*	80	44
United States	25.1	25.2*	48	23
Uruguay	22.4	27.0		28
Uzbekistan		9.7		28
Vanuatu		6.4		
Venezuela			57	
Vietnam				
Yemen, Rep. of				
Yugoslavia, FR (Serb./Mont.)		21.8		
Zambia	18.3	23.2	762	160
Zimbabwe	9.0	17.3*	260	234
<b>World</b>	<b>18.8</b>	<b>16.0</b>	<b>163</b>	<b>77</b>
<b>Low and middle income</b>	<b>18.5</b>	<b>15.7</b>	<b>259</b>	<b>91</b>
Sub-Saharan Africa	19.1	16.7	802	422
East Asia and Pacific	21.4	15.4	149	76
South Asia	15.3	13.1	143	74
Europe and Central Asia	17.3	18.3	67	36
Latin America and the Caribbean		19.5		
Middle East and N. Africa	15.9	25.5	194	82
<b>High income</b>	<b>20.3</b>	<b>18.2</b>	<b>39</b>	<b>26</b>

\*Data include capital expenditures. These data are not included in regional and world aggregations.

\*\*LYA Last year available.

Source: Columns 1 and 2: UNESCO 1998a; columns 3 and 4: World Bank 1998.

**TABLE F. OTHER EDUCATIONAL DATA**

Country	Summary Publication and Citation Statistics on Research in the Sciences and Social Sciences				Nationals Studying Abroad as % of	Tertiary Science Enrollment as % of	
	Number of Papers	Number of Papers	Number of Citations	Number of Citations	Students at Home	Total Tertiary	
	1981	1995	1981-85	1993-97	1995 or LYA**	1987-88	1995
Afghanistan						22	
Albania						35	24
Algeria	103	291	561	1,814	7.4	14	52
Angola						26	
Argentina	1,051	2,589	10,015	28,240		37	30
Armenia		248		1,249			
Australia	10,519	18,088	147,733	301,320		32	29
Austria	2,735	5,287	28,921	94,144	4.1	34	29
Azerbaijan		208		444			38
Bahamas, The							
Bahrain							39
Bangladesh	123	355	1,385	2,299		34	
Barbados						39	19
Belarus		1,033		4,220	2.2		35
Belgium	4,273	8,167	67,888	166,223		15	25
Belize							
Benin						18	19
Bermuda							
Bolivia						21	
Botswana						26	24
Brazil	1,913	5,440	14,446	55,170	0.7	40	22
Brunei							6
Bulgaria	1,109	1,374	4,683	11,198		48	25
Burkina Faso						21	18
Burundi						45	
Cambodia							
Cameroon	38	144	149	1,386	18.2	35	
Canada	19,560	33,426	299,529	669,313	1.4	22	
Central African Republic						34	
Chad						12	14
Chile	673	1,376	6,521	15,940		17	42
China	1,293	11,435	8,517	77,841	2.1	18	37
Colombia	135	294	1,015	4,138		36	31
Comoros							
Congo, Dem. Rep. of						34	
Congo, Rep. of						8	11
Costa Rica	71	193	538	1,882		41	18
Côte d'Ivoire	163	98	520	1,515		28	26
Croatia		898		8,138			38
Cuba	139	344	382	2,289		25	23
Cyprus					104.1	33	19
Czech Republic		3,150		21,106			36
Denmark	3,855	6,414	73,093	147,212		38	24
Djibouti							
Dominican Republic							
Ecuador						21	
Egypt, Arab Rep. of	1,304	2,091	5,133	9,730	0.9	38	15
El Salvador						50	25
Eritrea							
Estonia		390		4,314			34

**TABLE F, *continued***

Country	Summary Publication and Citation Statistics on Research in the Sciences and Social Sciences				Nationals Studying Abroad as % of	Tertiary Science Enrollment as % of	
	Number of Papers	Number of Papers	Number of Citations	Number of Citations	Students at Home	Total Tertiary	
	1981	1995	1981-85	1993-97	1995 or LYA**	1987-88	1995
Ethiopia	47	193	521	1,609		37	36
Fiji						35	
Finland	2,615	5,732	41,094	119,304		50	37
France	23,101	41,039	319,296	782,069	1.5		24
French Polynesia							
Gabon						22	
Gambia, The							
Georgia							48
Germany	33,602	53,160	467,933	1,068,338	2.1	46	35
Ghana	81	116	435	892		30	
Greece	968	3,259	8,981	34,790	13.3	43	30
Guam							
Guatemala						39	
Guinea							
Guinea-Bissau							
Guyana						41	43
Haiti							
Honduras						29	26
Hong Kong, China	375	2,382	3,770	24,706	36.1	43	36
Hungary	2,598	3,047	21,591	39,407		32	29
Iceland	44	255	852	5,521			
India	13,623	14,883	56,464	90,162	0.7	32	
Indonesia	89	310	694	3,364	1.0	39	28
Iran, Islamic Rep. of	253	438	894	2,441	2.6	39	37
Iraq	208	84	774	327		33	
Ireland	881	1,891	9,047	27,772	9.1	35	31
Israel	4,934	8,279	73,973	148,182	4.8	13	27
Italy	9,618	24,695	133,715	442,636	2.1	39	28
Jamaica	136	154	1,143	1,261		37	
Japan	27,177	58,910	378,092	930,981	1.6	26	23
Jordan	56	278	263	1,018	15.4		28
Kazakhstan		221		690	3.4		42
Kenya	362	542	2,963	6,364		21	
Korea, Rep. of	234	5,393	2,656	43,561	3.1	31	39
Kuwait	134	324	695	1,576		35	23
Kyrgyz Republic							28
Lao PDR						42	45
Latvia		275		2,234			34
Lebanon	111	110	572	715	12.9	45	17
Lesotho						16	25
Liberia							
Libya							
Lithuania		292		3,218			
Luxembourg							
Macao							
Macedonia, FYR							41
Madagascar						20	23
Malawi						37	18
Malaysia	229	587	1,332	3,450	21.5	34	
Maldives							

**TABLE F, *continued***

Country	Summary Publication and Citation Statistics on Research in the Sciences and Social Sciences				Nationals Studying Abroad as % of	Tertiary Science Enrollment as % of	
	Number of Papers	Number of Papers	Number of Citations	Number of Citations	Students at Home	Total Tertiary	
	1981	1995	1981-85	1993-97	1995 or LYA**	1987-88	1995
Mali						3	
Malta						38	13
Mauritania						12	8
Mauritius							
Mexico	907	2,901	8,779	28,589	0.8	36	33
Moldova					8.0		34
Mongolia						56	24
Morocco	92	554	597	3,031	11.9	59	29
Mozambique						25	50
Myanmar						32	36
Namibia						9	5
Nepal						30	17
Netherlands	7,270	16,702	143,320	384,977	2.3	30	20
New Caledonia							
New Zealand	2,200	3,539	23,181	53,775		29	20
Nicaragua						43	
Niger						24	
Nigeria	1,062	741	3,670	3,559		30	41
Norway	2,306	4,264	34,601	70,109	4.7	30	19
Oman						34	
Pakistan	189	618	935	2,803	2.4		
Panama	32	80	525	1,818		32	26
Papua New Guinea	114	105	584	989		11	
Paraguay						50	25
Peru	72	143	620	1,614	1.1	25	
Philippines	243	294	1,379	2,893			31
Poland	4,563	7,097	30,960	71,003	1.4	37	29
Portugal	237	1,580	2,956	19,617	2.7	35	30
Puerto Rico							
Qatar						10	
Reunion							
Romania	950	1,154	3,970	7,894	2.0		51
Russian Federation		24,958		159,065	0.3		49
Rwanda						25	
Samoa							14
Saudi Arabia	299	1,409	1,494	7,826	2.8	34	
Senegal						31	
Seychelles							45
Sierra Leone							30
Singapore	192	1,914	1,302	16,257	19.7	29	
Slovak Republic		1,901		8,691			
Slovenia		693		7,969			18
Solomon Islands							29
Somalia						18	
South Africa	2,211	3,413	19,549	35,056		47	57
Spain	3,462	15,367	31,272	227,637	1.3	32	
Sri Lanka	121	139	616	967		37	
St. Kitts and Nevis						14	
St. Lucia						40	
St. Vincent and the Grenadines							

**TABLE F, continued**

Country	Summary Publication and Citation Statistics on Research in the Sciences and Social Sciences				Nationals Studying Abroad as % of	Tertiary Science Enrollment as % of	
	Number of Papers	Number of Papers	Number of Citations	Number of Citations	Students at Home	Total Tertiary	
	1981	1995	1981-85	1993-97	1995 or LYA**	1987-88	1995
Sudan	133	101	615	852		27	
Suriname							22
Swaziland							
Sweden	6,891	12,825	145,644	289,268	3.5	42	29
Switzerland	6,160	11,510	146,664	341,129	5.2	40	32
Syrian Arab Republic					6.8	31	29
Tajikistan							23
Tanzania	98	198	554	2,638		9	39
Thailand	373	648	2,419	8,398	1.3	25	19
Togo						52	16
Trinidad and Tobago	57	82	269	557		43	45
Tunisia	111	300	567	2,148	9.4	31	24
Turkey	332	2,449	2,139	15,404	3.2		21
Turkmenistan							
Uganda						41	13
Ukraine		3,723		16,679	1.4		
United Arab Emirates	11	224	30	1,352		46	
United Kingdom	38,580	61,734	684,437	1,334,782	1.3	42	31
United States	174,123	249,386	3,496,945	6,475,200	0.2		
Uruguay	42	170	588	2,763		48	
Uzbekistan		356		1,371			
Vanuatu							
Venezuela	348	660	3,962	7,847		26	
Vietnam	49	192	203	1,657			
Yemen, Rep. of						12	
Yugoslavia, FR (Serb./Mont.)	1,148	747	8,150	5,618	4.5		
Zambia	46	81	242	552			
Zimbabwe	96	212	522	1,687		32	23
<b>World</b>	<b>459,457</b>	<b>772,036</b>	<b>7,138,219</b>	<b>15,116,724</b>		<b>29</b>	<b>33</b>
<b>Low and middle income</b>	<b>72,871</b>	<b>108,929</b>	<b>365,818</b>	<b>830,881</b>		<b>28</b>	<b>34</b>
Sub-Saharan Africa	4,337	5,839	29,740	56,110		29	36
East Asia and Pacific	2,390	13,571	15,128	98,592		22	35
South Asia	14,056	15,995	59,400	96,231		32	17
Europe and Central Asia	43,975	53,543	201,892	398,790		38	39
Latin America and the Caribbean	5,576	14,426	48,803	152,108		35	27
Middle East and N. Africa	2,537	5,555	10,855	29,050		35	30
<b>High income</b>	<b>386,586</b>	<b>663,107</b>	<b>6,772,401</b>	<b>14,285,843</b>		<b>34</b>	<b>29</b>

\*\*LYA Last year available.

Source: Columns 1 through 4: ISI 1998; column 5: UNESCO 1998a; column 6: UNDP 1992; columns 7 and 9: UNDP 1998; column 8: UNDP 1990 and UNDP 1998. Data for column 5 are not aggregated by region because only 50 countries are represented.

**TABLE G. OTHER DATA**

Country	Adult Literacy Rate (%)		GDP per Capita		Life Expectancy at Birth (Years)	Human Development Index (HDI)
	1970	1995	1965	1995	1995	1995
Afghanistan						
Albania		85			70.6	0.656
Algeria	25	62	1,584	2,569	68.1	0.746
Angola		42	1,062	710	47.4	0.344
Argentina	93	96	5,018	5,634	72.6	0.888
Armenia		99			70.9	0.674
Australia		99	8,823	15,952	78.2	0.932
Austria		99	6,144	13,334	76.7	0.933
Azerbaijan		96			71.1	0.623
Bahamas, The	95	98		10,687	73.2	0.893
Bahrain	53	85		9,302	72.2	0.872
Bangladesh	25	38	1,136	1,662	56.9	0.371
Barbados	92	97	3,274	6,755	76.0	0.909
Belarus		98			69.3	0.783
Belgium	99	99	6,749	13,778	76.9	0.933
Belize		70		4,265	74.2	0.807
Benin	10	37	1,191	1,082	54.4	0.378
Bermuda						
Bolivia	58	83	1,346	1,845	60.5	0.593
Botswana	44	70	574	2,398	51.7	0.678
Brazil	68	83	1,871	4,114	66.6	0.809
Brunei	57	88			75.1	0.889
Bulgaria	94	98		5,461	71.2	0.789
Burkina Faso	8	19	373	490	46.3	0.219
Burundi	18	35	390	426	44.5	0.241
Cambodia		65			52.9	0.422
Cameroon	32	63	673	912	55.3	0.481
Canada		99	8,664	17,213	79.1	0.960
Central African Republic	13	60	663	516	48.4	0.347
Chad	24	48	736	357	47.2	0.318
Chile	88	95	3,264	5,703	75.1	0.893
China	52	82	577	2,047	69.2	0.650
Colombia	81	91	1,816	3,774	70.3	0.850
Comoros	42	57	646	480	56.5	0.411
Congo, Dem. Rep. of	44	77	548	211	52.4	0.383
Congo, Rep. of		75	1,084	1,863	51.2	0.519
Costa Rica	88	95	2,459	3,817	76.6	0.889
Côte d'Ivoire	16	40	1,400	1,111	51.8	0.368
Croatia		98			71.6	0.759
Cuba	82	96			75.7	0.729
Cyprus		94	2,717		77.2	0.913
Czech Republic		99			72.4	0.884
Denmark		99	8,436	15,170	75.3	0.928
Djibouti	23	46			49.2	0.324
Dominican Republic	68	82	1,271	2,396	70.3	0.720
Ecuador	75	90	1,591	2,865	69.5	0.767
Egypt, Arab Rep. of	32	51	1,024	1,974	64.8	0.612
El Salvador	56	72	1,739	2,090	69.4	0.604
Eritrea		25			50.2	0.275
Estonia		99			69.2	0.758

**TABLE G, continued**

Country	Adult Literacy Rate (%)		GDP per Capita	GDP per Capita	Life Expectancy at Birth (Years)	Human Development Index (HDI)
	1970	1995	1965	1995	1995	1995
Ethiopia	16	36	290	321	48.7	0.252
Fiji	74	92	2,160	4,166	72.1	0.869
Finland		99	6,514	12,762	76.4	0.942
France	99	99	7,304	14,286	78.7	0.946
French Polynesia						
Gabon	26	63	2,587	3,718	54.5	0.568
Gambia, The	17	39	724	728	46.0	0.291
Georgia		99			73.2	0.633
Germany		99	7,912	15,419	76.4	0.925
Ghana	31	65	883	1,001	57.0	0.473
Greece	93	97	3,067	7,112	77.9	0.924
Guam						
Guatemala	44	65	1,781	2,147	66.1	0.615
Guinea	16	36	545	778	45.5	0.277
Guinea-Bissau	30	55	612	665	43.4	0.295
Guyana	91	98	1,575	1,417	63.5	0.670
Haiti	24	45	894	525	54.6	0.340
Honduras	54	73	1,121	1,385	68.8	0.573
Hong Kong, China	79	92	3,492	18,240	79.0	0.909
Hungary	98	99		4,874	68.9	0.857
Iceland		99	6,215	13,019	79.2	0.942
India	34	52	751	1,467	61.6	0.451
Indonesia	56	84	608	2,478	64.0	0.679
Iran, Islamic Rep. of	35	69	3,364	3,618	68.5	0.758
Iraq	30	58	4,412		58.5	0.538
Ireland		99	4,000	11,690	76.4	0.930
Israel	93	95	4,644	11,006	77.5	0.913
Italy	95	98	5,691	13,174	78.0	0.922
Jamaica	70	85	2,104	2,473	74.1	0.735
Japan	99	99	4,491	15,338	79.9	0.940
Jordan	54	87	1,604	3,187	68.9	0.729
Kazakhstan		99			67.5	0.695
Kenya	43	78	614	901	53.8	0.463
Korea, Rep. of	87	98	1,058	9,250	71.7	0.894
Kuwait	57	79		8,046	75.4	0.848
Kyrgyz Republic		97			67.9	0.633
Lao PDR	32	57		1,652	52.2	0.465
Latvia		99			68.0	0.704
Lebanon	80	92			69.3	0.796
Lesotho	47	71	409	1,138	58.1	0.469
Liberia			824			
Libya		76			64.3	0.806
Lithuania		99			70.2	0.750
Luxembourg		99	8,569	18,939	76.1	0.900
Macao						
Macedonia, FYR		94			71.9	0.749
Madagascar		46	1,111	586	57.6	0.348
Malawi	38	56	412	501	41.0	0.334
Malaysia	57	84	1,671	6,916	71.4	0.834
Maldives	87	93			63.3	0.683



**TABLE G, continued**

Country	Adult Literacy Rate (%)		GDP per Capita	GDP per Capita	Life Expectancy at Birth (Years)	Human Development Index (HDI)
	1970	1995	1965	1995	1995	1995
Mali	7	31	435	523	47.0	0.236
Malta		91	1,487	8,523	76.5	0.899
Mauritania	27	38	882	895	52.5	0.361
Mauritius	65	83	3,136	6,821	70.9	0.833
Mexico	75	90	3,351	5,899	72.1	0.855
Moldova		99			67.8	0.610
Mongolia	63	83		1,420	64.8	0.669
Morocco	21	44	1,221	2,109	65.7	0.557
Mozambique	16	40	1,265	783	46.3	0.281
Myanmar	72	83	415		58.9	0.481
Namibia		76	2,325	2,834	55.8	0.644
Nepal	14	28	650	1,177	55.9	0.351
Netherlands		99	7,396	13,917	77.5	0.941
New Caledonia						
New Zealand		99	9,032	12,582	76.6	0.939
Nicaragua	57	66	2,246	1,436	67.5	0.547
Niger	6	14	641	428	47.5	0.207
Nigeria	21	57	624	951	51.4	0.391
Norway		99	6,950	17,171	77.6	0.943
Oman		59		7,862	70.3	0.771
Pakistan	20	38	889	1,461	62.8	0.453
Panama	79	91	2,014	3,481	73.4	0.868
Papua New Guinea	47	72	1,700	1,799	56.8	0.507
Paraguay	81	92	1,277	2,122	69.1	0.707
Peru	71	89	2,501	2,531	67.7	0.729
Philippines	84	95	1,243	1,760	67.4	0.677
Poland	98	99		4,396	71.1	0.851
Portugal	78	90	2,407	8,075	74.8	0.892
Puerto Rico			4,414			
Qatar	58	79		11,473	71.1	0.840
Reunion			1,526			
Romania	96	98	590	1,725	69.6	0.767
Russian Federation		99			65.5	0.769
Rwanda			350	412		
Samoa		98			68.4	0.694
Saudi Arabia	36	63	5,991	6,510	70.7	0.778
Senegal	15	33	1,143	1,116	50.3	0.342
Seychelles		88	1,338		72.0	0.845
Sierra Leone	13	31	1,114	609	34.7	0.185
Singapore	74	91	1,864	15,774	77.1	0.896
Slovak Republic		99			70.9	0.875
Slovenia		96			73.2	0.887
Solomon Islands		62		2,219	71.1	0.560
Somalia			959			
South Africa	70	82	2,617	3,150	64.1	0.717
Spain	93	97	4,580	10,132	77.7	0.935
Sri Lanka	80	90	1,179	2,495	72.5	0.716
St. Kitts and Nevis		90		5,407	69.0	0.854
St. Lucia		82		3,797	71.0	0.839
St. Vincent and the Grenadines		82		3,802	72.0	0.845

**TABLE G, continued**

Country	Adult Literacy Rate (%)		GDP per Capita	GDP per Capita	Life Expectancy at Birth (Years)	Human Development Index (HDI)
	1970	1995	1965	1995	1995	1995
Sudan	21	46			52.2	0.343
Suriname	82	93	2,272		70.9	0.796
Swaziland	49	77	1,705	2,603	58.8	0.597
Sweden		99	9,402	14,393	78.4	0.936
Switzerland		99	11,150	15,667	78.2	0.930
Syrian Arab Republic	41	71	2,011	4,977	68.1	0.749
Tajikistan		99			66.9	0.575
Tanzania	37	68	371		50.6	0.358
Thailand	78	94	1,136	4,869	69.5	0.838
Togo	23	52	489	464	50.5	0.380
Trinidad and Tobago	92	98	6,428	8,277	73.1	0.880
Tunisia	28	67	1,236	3,158	68.7	0.744
Turkey	57	82	1,812	3,935	68.5	0.782
Turkmenistan		98			64.9	0.660
Uganda	37	62	614	627	40.5	0.340
Ukraine		98			68.5	0.665
United Arab Emirates	54	79		13,855	74.4	0.855
United Kingdom		99	7,679	13,711	76.8	0.932
United States		99	11,649	18,980	76.4	0.943
Uruguay	93	97	3,698	5,401	72.7	0.885
Uzbekistan		99			67.5	0.659
Vanuatu		64		1,513	66.3	0.559
Venezuela	76	91	7,512	6,678	72.3	0.860
Vietnam	73	94			66.4	0.560
Yemen, Rep. of		38			56.7	0.356
Yugoslavia, FR (Serb./Mont.)			2,407			
Zambia	48	78	1,110	578	42.7	0.378
Zimbabwe	66	85	946	1,161	48.9	0.507
<b>World</b>	<b>53</b>	<b>76</b>	<b>2,641</b>	<b>4,532</b>	<b>66.3</b>	<b>0.647</b>
<b>Low and middle income</b>	<b>48</b>	<b>71</b>	<b>1,031</b>	<b>2,208</b>	<b>64.3</b>	<b>0.593</b>
Sub-Saharan Africa	30	56	841	933	51.2	0.385
East Asia and Pacific	55	83	632	2,253	68.0	0.654
South Asia	32	49	805	1,495	61.3	0.446
Europe and Central Asia	84	96	1,500	3,864	68.0	0.751
Latin America and the Caribbean	73	86	2,738	4,348	69.3	0.801
Middle East and N. Africa	32	60	2,201	3,228	66.1	0.669
<b>High income</b>	<b>95</b>	<b>98</b>	<b>7,665</b>	<b>15,358</b>	<b>77.2</b>	<b>0.934</b>

Source: Columns 1, 2, 3, and 4: Gallup 1999; columns 5 and 6: UNDP 1998.