



5.11

The information age

	Daily newspapers per 1,000 people	Households with television ^a %	Personal computers and the Internet						Information and communications technology expenditures		
			Access			Quality		Application Secure	Affordability	% of GDP	Per capita \$
			per 1,000 people	Schools connected to the Internet %	Broadband subscribers per 1,000 people ^a	International Internet bandwidth bits per capita ^a	Internet servers per million people	Price basket for Internet \$ per month ^a			
			Personal computers ^a	Internet users ^a	2005	2005	October 2006	2005	2005	2005	2005
Afghanistan	..	..	..	1	..	0.0	0	0	..	..	..
Albania	..	90	..	60	..	0.0	4	2	16.3	..	..
Algeria	27	88	11	58	53	5.9	..	0	9.4	2.4	76
Angola	11	9	..	11	..	..	..	0	34.3	..	..
Argentina	40	..	83	177	..	21.7	316	12	14.4	7.1	337
Armenia	..	91	66	53	..	0.3	12	3	52.5	..	..
Australia	161	96	683	698	97	103.4	5,903	581	22.8	6.2	2,247
Austria	309	95	607	486	..	142.8	6,681	284	15.5	5.5	2,059
Azerbaijan	10	..	23	81	..	0.3	29	0	10.0	..	..
Bangladesh	..	23	12	3	..	0.0	0	0	24.0	2.4	10
Belarus	..	97	..	347	..	0.2	48	1	10.5	..	..
Belgium	153	98	348	458	..	191.3	11,279	146	37.2	5.8	2,061
Benin	5	20	4	50	..	0.0	5	0	20.7	..	..
Bolivia	99	..	23	52	..	1.2	44	3	12.3	5.5	56
Bosnia and Herzegovina	..	87	..	206	..	3.5	40	4	7.8	..	..
Botswana	25	..	45	34	4	..	..	1	21.3	..	..
Brazil	46	91	105	195	50	17.7	149	16	26.0	7.8	333
Bulgaria	173	97	59	206	60	0.2	318	11	7.3	3.8	130
Burkina Faso	1	7	2	5	..	0.0	6	0	90.6	..	..
Burundi	2	14	5	5	..	0.0	..	0	52.0	..	..
Cambodia	..	43	3	3	..	0.0	1	0	33.1	..	..
Cameroon	6	18	10	15	..	..	..	0	44.6	5.0	52
Canada	168	99	700	520	98	207.6	6,800	645	8.9	5.9	2,034
Central African Republic	2	2	3	3	..	0.0	0	0	147.8	..	..
Chad	0	2	2	4	..	..	0	..	86.3	..	..
Chile	..	87	141	172	62	43.5	788	22	25.6	6.1	430
China	59	89	41	85	..	28.7	104	0	9.8	5.3	90
Hong Kong, China	218	99	601	508	100	238.9	9,451	191	3.9	8.9	2,280
Colombia	26	92	41	104	..	7.0	488	6	7.8	8.5	227
Congo, Dem. Rep.	3	2	..	2	..	0.0	0	0	93.2	..	..
Congo, Rep.	6	6	4	13	..	0.0	0	0	84.5	..	..
Costa Rica	70	93	219	254	15	6.6	241	67	28.1	7.7	358
Côte d'Ivoire	16	35	15	11	..	0.0	3	0	67.1	..	..
Croatia	134	94	190	327	100	20.2	1,074	48	16.1	..	..
Cuba	54	..	33	17	..	0.0	8	0	30.0	..	..
Czech Republic	..	..	240	269	95	43.7	..	64	18.8	7.1	866
Denmark	283	97	656	527	100	249.3	34,891	614	23.2	6.0	2,849
Dominican Republic	28	76	..	169	..	7.4	..	6	18.8	..	..
Ecuador	98	89	39	47	..	2.0	48	5	37.0	3.2	87
Egypt, Arab Rep.	31	89	38	68	66	1.5	49	1	5.0	1.5	18
El Salvador	29	..	51	93	..	6.1	23	6	22.6	..	..
Eritrea	..	14	8	16	..	0.0	2	..	28.6	..	..
Estonia	192	93	483	513	75	133.1	3,566	163	10.8	..	..
Ethiopia	0	2	3	2	1	0.0	..	0	23.3	..	..
Finland	445	94	481	534	..	223.8	4,326	380	22.2	6.9	2,527
France	142	95	575	430	94	155.5	3,286	96	12.4	6.3	2,213
Gabon	29	54	33	48	..	1.1	145	5	40.1	..	..
Gambia, The	2	12	16	33	13	0.0	6	1	17.8	..	..
Georgia	5	89	42	39	..	0.3	..	5	9.9	..	..
Germany	291	95	545	455	..	129.7	6,860	349	7.4	6.1	2,059
Ghana	14	26	5	18	1	0.1	8	0	23.6	..	..
Greece	..	100	89	180	..	14.4	589	40	16.4	4.1	822
Guatemala	..	..	19	79	..	2.2	57	6	54.3	..	..
Guinea	..	9	5	5	..	0.0	..	..	24.7	..	..
Guinea-Bissau	5	26	..	20	..	..	..	..	75.0	..	..
Haiti	..	27	..	70	..	..	..	1	71.0	..	..

	Daily newspapers per 1,000 people	Households with television ^a %	Personal computers and the Internet						Information and communications technology expenditures		
			Access		Schools connected to the Internet %	Quality		Application Secure Internet servers per million people October 2006	Affordability Price basket for Internet \$ per month ^a	% of GDP	Per capita \$
			per 1,000 people	per 1,000 people		Broadband subscribers per 1,000 people ^a	International Internet bandwidth bits per capita ^a				
			Personal computers ^a	Internet users ^a	2005	2005	2005	2005	2005	2005	2005	2005
Honduras	..	58	16	36	..	0.0	..	4	33.4	4.6	53
Hungary	162	96	146	297	85	64.6	991	36	11.0	5.8	632
India	60	32	16	55	..	1.2	18	1	6.8	5.8	42
Indonesia	23	65	14	73	..	..	7	1	17.3	3.4	44
Iran, Islamic Rep.	..	77	109	103	..	0.3	15	0	2.3	2.5	69
Iraq	..	..	..	1	..	..	..	0	..	..	..
Ireland	148	95	494	276	..	65.1	6,043	416	31.1	4.4	2,127
Israel	..	93	740	470	95	177.6	2,499	182	22.0	8.3	1,475
Italy	109	96	367	478	..	115.7	2,080	53	24.8	4.3	1,308
Jamaica	..	70	63	404	..	..	..	17	34.3	10.6	381
Japan	566	99	542	668	99	175.0	1,038	331	13.8	7.5	2,678
Jordan	74	96	56	118	18	1.9	58	4	11.1	8.4	195
Kazakhstan	..	..	..	27	..	0.1	..	1	15.8	..	..
Kenya	8	17	9	32	..	0.0	3	0	75.9	2.8	15
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	..	..	545	684	100	252.4	1,030	22	32.6	6.9	1,127
Kuwait	..	95	237	276	..	8.1	348	35	22.2	1.4	437
Kyrgyz Republic	..	..	19	54	..	0.5	15	1	12.0	..	..
Lao PDR	..	30	17	4	..	0.0	3	0	27.6	..	..
Latvia	138	98	217	448	97	113.4	972	46	12.5	..	..
Lebanon	63	93	114	196	20	36.3	81	11	10.0	..	..
Lesotho	9	12	..	24	..	0.0	4	..	38.6	..	..
Liberia	14	..	..	..	..	0.0	..	..	..	..	..
Libya	14	..	..	36	..	..	..	0	22.0	..	..
Lithuania	31	98	155	358	56	68.6	1,460	26	7.2	..	..
Macedonia, FYR	54	95	222	79	100	6.1	17	2	25.3	..	..
Madagascar	5	8	5	5	..	0.0	2	0	45.9	..	..
Malawi	2	3	2	4	1	0.0	2	0	41.9	..	..
Malaysia	95	89	197	435	..	19.4	128	17	7.4	7.0	360
Mali	1	15	3	4	..	0.0	2	0	28.4	..	..
Mauritania	..	21	14	7	..	0.1	15	1	54.3	..	..
Mauritius	116	93	162	146	..	2.2	50	18	17.5	..	..
Mexico	94	93	136	181	60	22.4	110	10	20.0	3.3	246
Moldova	153	..	27	96	50	2.5	97	4	24.1	..	..
Mongolia	18	30	133	105	19	0.7	16	4	10.7	..	..
Morocco	29	76	25	152	..	8.3	235	1	26.8	6.3	108
Mozambique	3	6	6	7	0	..	1	0	32.9	..	..
Myanmar	9	3	8	2	..	0.0	2	0	48.9	..	..
Namibia	17	39	109	37	13	0.0	4	8	48.7	..	..
Nepal	..	..	4	4	..	..	2	1	8.1	..	..
Netherlands	279	99	682	739	..	251.2	20,549	413	12.4	6.3	2,402
New Zealand	202	98	474	672	100	80.8	1,126	594	11.9	9.8	2,611
Nicaragua	..	..	40	26	..	1.9	1	3	28.1	..	..
Niger	0	5	1	2	..	0.0	2	0	101.8	..	..
Nigeria	25	26	7	38	..	0.0	1	0	50.4	3.5	27
Norway	569	100	573	735	..	214.4	9,368	389	29.8	5.1	3,252
Oman	..	79	47	111	..	3.3	194	3	14.5	..	..
Pakistan	39	47	..	67	..	0.3	5	0	9.5	6.9	49
Panama	..	77	46	64	..	5.4	292	57	38.4	8.4	403
Papua New Guinea	..	9	64	23	..	..	..	1	25.0	..	..
Paraguay	..	76	75	32	..	0.9	42	1	11.7	..	..
Peru	23	69	100	164	..	12.5	358	6	23.6	6.6	187
Philippines	..	63	45	54	..	0.7	39	3	1.8	7.0	83
Poland	102	91	193	262	90	32.6	560	38	11.3	4.2	331
Portugal	102	99	133	279	..	114.9	833	65	37.8	4.4	758
Puerto Rico	..	97	..	221	..	..	..	33	..	..	..



5.11

The information age

	Daily newspapers per 1,000 people	Households with television ^a %	Personal computers and the Internet							Information and communications technology expenditures	
			Access		Schools connected to the Internet %	Quality		Application Secure Internet servers per million people October 2006	Affordability Price basket for Internet \$ per month ^a	% of GDP	Per capita \$
			per 1,000 people	per 1,000 people		Broadband subscribers per 1,000 people ^a	International Internet bandwidth bits per capita ^a				
			2000	2005	2005	2005	2005	2005	2005	2005	2005
Romania	..	94	113	208	57	34.7	623	7	17.0	3.6	164
Russian Federation	..	98	122	152	43	11.1	100	3	12.7	3.6	191
Rwanda	0	2	..	6	..	..	..	..	30.1	..	..
Saudi Arabia	..	99	354	66	..	0.8	31	4	21.3	2.3	285
Senegal	..	29	21	46	..	1.6	66	0	25.6	8.3	59
Serbia and Montenegro	..	92	48	148	70	..	87	2	13.2	..	..
Sierra Leone	..	7	..	2	..	..	..	0	10.6	..	..
Singapore	273	99	..	571	100	153.3	5,826	291	20.5	9.4	2,537
Slovak Republic	131	99	358	464	65	25.7	2,636	28	18.9	5.6	486
Slovenia	168	96	404	545	96	85.0	1,258	95	18.6	3.1	532
Somalia	..	8	6	11	..	0.0	0	..	..	..	..
South Africa	25	59	85	109	..	3.5	19	23	63.2	9.9	504
Spain	98	99	277	348	..	115.1	2,822	100	31.7	3.7	959
Sri Lanka	29	32	27	14	..	0.7	25	2	4.6	5.5	66
Sudan	..	49	90	77	..	0.0	6	..	65.5	..	..
Swaziland	..	18	32	32	..	0.0	..	4	51.7	..	..
Sweden	410	94	763	764	..	214.0	17,531	405	19.2	7.4	2,941
Switzerland	372	100	865	498	..	232.0	9,671	577	7.9	7.5	3,691
Syrian Arab Republic	..	80	42	58	..	0.0	..	0	14.0	..	..
Tajikistan	..	..	..	1	..	0.0	0	..	12.3	..	..
Tanzania	..	6	7	9	..	0.0	..	0	93.6	..	..
Thailand	197	92	58	110	..	0.7	106	6	6.9	4.1	112
Togo	2	51	30	49	..	0.0	7	0	44.7	..	..
Trinidad and Tobago	..	88	79	123	15	8.3	375	28	13.4	..	..
Tunisia	19	92	57	95	25	1.6	75	2	12.4	5.8	167
Turkey	..	92	52	222	40	22.1	405	25	11.6	7.9	396
Turkmenistan	7	..	..	8	..	..	..	..	69.5	..	..
Uganda	3	5	9	17	1	..	3	0	99.6	..	..
Ukraine	175	97	38	97	..	..	17	2	7.7	8.0	141
United Arab Emirates	..	86	197	308	..	28.3	923	54	13.1	3.6	1,027
United Kingdom	326	..	600	473	99	163.8	13,062	560	27.3	7.3	2,683
United States	196	98	762	630	100	166.6	3,306	870	15.0	8.8	3,690
Uruguay	..	93	125	193	50	17.7	462	29	23.9	7.9	385
Uzbekistan	..	..	..	34	..	0.1	1	0	5.7	..	..
Venezuela, RB	..	83	82	125	..	13.4	51	5	42.6	3.9	205
Vietnam	6	83	13	129	..	2.5	43	0	10.7	15.1	95
West Bank and Gaza	..	93	48	67	..	2.1	66	1	15.6	..	..
Yemen, Rep.	..	43	15	9	..	..	..	0	10.9	..	..
Zambia	22	26	10	20	..	0.0	2	0	68.4	..	..
Zimbabwe	..	26	92	77	..	0.8	4	0	24.6	7.7	33
World	90 w	79 m	130 w	137 w	.. m	41.6 w	816 w	74 w	22.0 m	6.8 w	538 w
Low income	45	15	11	44	..	0.9	15	0	30.1	5.9	41
Middle income	55	88	58	115	..	22.6	92	5	17.0	5.4	149
Lower middle income	61	84	45	95	..	23.1	116	2	16.8	5.5	108
Upper middle income	..	91	113	196	60	21.0	218	17	17.0	5.2	312
Low & middle income	49	48	40	84	..	13.4	59	3	23.4	5.4	109
East Asia & Pacific	60	36	38	89	..	25.9	97	1	10.7	5.3	89
Europe & Central Asia	..	92	98	190	..	20.9	211	13	12.2	5.1	274
Latin America & Carib.	61	87	88	156	..	16.4	161	12	25.8	5.9	278
Middle East & N. Africa	..	84	48	89	..	0.5	..	1	11.8	3.1	66
South Asia	59	32	16	49	..	1.0	18	1	8.1	5.7	40
Sub-Saharan Africa	12	14	15	29	..	..	..	2	45.3	7.4	..
High income	263	97	579	527	..	163.2	4,530	443	19.9	7.2	2,466
European Monetary Union	188	96	421	439	..	134.7	5,784	184	20.4	5.4	1,726

a. Data are from the International Telecommunication Union's (ITU) World Telecommunication Development Report database. Please cite the ITU for third-party use of these data.

About the data

The digital and information revolution has changed the way the world learns, communicates, does business, and treats illnesses. New information and communications technologies offer vast opportunities for progress in all walks of life in all countries—opportunities for economic growth, improved health, better service delivery, learning through distance education, and social and cultural advances. The table presents indicators of the penetration of the information economy (newspapers, televisions, personal computers, and Internet use), quality (broadband subscribers, international Internet bandwidth, and secure Internet servers), and some of the economics of the information age (Internet access charges and spending on information and communications technology).

The data on the number of daily newspapers in circulation are from surveys by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. In some countries definitions, classifications, and methods of enumeration do not entirely conform to UNESCO standards. For example, newspaper circulation data should refer to the number of copies distributed, but in some cases the figures reported are the number of copies printed. The data for other electronic communications and information technology are from the International Telecommunication Union (ITU), the Internet Software Consortium, Netcraft, the World Information Technology and Services Alliance (WITSA), Global Insights, and World Bank staff estimates. Estimates of households with television are derived from household surveys; data presented in the table are from the ITU and World Bank staff estimates.

The estimates of personal computers are derived from an annual ITU questionnaire, supplemented by other sources. In many countries mainframe computers are used extensively. Since thousands of users can be connected to a single mainframe computer, the number of personal computers understates the total use of computers.

The data on Internet users and related Internet indicators are based on nationally reported data. Some countries derive these data from Internet surveys, but since survey questions and definitions differ across countries, the estimates may not be strictly comparable. For example, questions on the age of Internet users and frequency of use vary by country. Countries that do not have surveys generally derive their estimates from reported Internet service provider subscriber counts, calculated by multiplying the number of subscribers by a selected multiplier. This method may undercount the actual number of people using the Internet, particularly in developing countries, where many commercial subscribers rent out computers connected to the Internet or prepaid cards are used to access the Internet.

The number of secure Internet servers, from the Netcraft Secure Server Survey, gives an indication of how many companies are conducting encrypted transactions over the Internet.

The data on information and communications technology expenditures cover the world's 75 largest buyers of such technology among countries and regions.

Ensuring universal access to information and communication technology is a goal of many countries, but not all countries regularly track accessibility. There is no common set of information and communications technology indicators and definitions, and data are often drawn from administrative records rather than from specific surveys. Access needs to be accurately measured in three major areas: individual, household, and community access.

Definitions

- **Daily newspapers** refer to those published at least four times a week and calculated as average circulation (or copies printed) per 1,000 people.
- **Households with television** are the percentage of households with a television set. Some countries report only the number of households with a color television set, and therefore the true number may be higher than reported.
- **Personal computers** are self-contained computers designed for use by a single individual.
- **Internet users** are people with access to the worldwide network.
- **Schools connected to the Internet** are the share of primary and secondary schools in the country that have access to the Internet.
- **Broadband subscribers** are the number of broadband subscribers with a digital subscriber line, cable modem, or other high-speed technologies. Reporting countries may have different definitions of broadband, so data are not strictly comparable across countries.
- **International Internet bandwidth** is the contracted capacity of international connections between countries for transmitting Internet traffic.
- **Secure Internet servers** are servers using encryption technology in Internet transactions.
- **Price basket for Internet** is calculated based on the cheapest available tariff for accessing the Internet 20 hours a month (10 hours peak and 10 hours off-peak). The basket does not include the telephone line rental but does include telephone use charges if applicable. Data are compiled in the national currency and converted to U.S. dollars using the annual average exchange rate.
- **Information and communications technology expenditures** include computer hardware (computers, storage devices, printers, and other peripherals); computer software (operating systems, programming tools, utilities, applications, and internal software development); computer services (information technology consulting, computer and network systems integration, Web hosting, data processing services, and other services); and communications services (voice and data communications services) and wired and wireless communications equipment.

Data sources

Data on newspapers are compiled by the UNESCO Institute for Statistics. Data on televisions, personal computers, Internet users, broadband subscribers, international Internet bandwidth, and price basket for Internet are from the ITU's World Telecommunication Development Report database. Data on schools connected to the Internet are World Bank staff estimates. Data on secure Internet servers are from Netcraft (www.netcraft.com/). Data on information and communications technology expenditures are from WITSA's *Digital Planet 2006: The Global Information Economy* and from Global Insight, Inc.