

A “Research” Database on Infrastructure Economic Performance*

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Abstract:

Estache and Goicoechea present an infrastructure database that was assembled from multiple sources. Its main purposes are: (i) to provide a snapshot of the sector as of the end of 2004; and (ii) to facilitate quantitative analytical research on infrastructure sectors. The working paper includes definitions, source information and the most recent data available for 37 performance indicators that proxy access, affordability and quality of service. Additionally, the database includes a snapshot of 15 reform indicators across infrastructure sectors.

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1. Introduction

This paper presents a database put together to allow economic performance benchmarking of infrastructure sectors¹. The database brings together in a single document multiple sources of information on sector specific performance indicators and offers new data on the institutional characteristics of the sector. It is ultimately intended to also facilitate analytical assessments of sectors' economic health.

The data collected focus on four basic policy areas:

- access
- affordability
- quality
- institutional reform

The database reports as much information as possible on these four policy areas for 207 countries. It was organized in a systematic manner to facilitate policy analysis and research, providing a service-oriented view of the sector with emphasis on the needs of residential users, and complementing recent survey efforts generating information on the investment climate.

The data are from publicly available sources and experts in international organizations. The main sources are Demographic and Health Surveys (DHS), Global Competitiveness Report (GCR), International Energy Agency (IEA), International Telecommunications Union (ITU), World Health Organization (WHO), and World Development Indicators (WDI). We have also been able to rely on data generated by published academic research. Whenever possible we have validated the data by cross-referencing multiple sources and consulting with staff at international organizations to double, and sometimes triple, check the data.

This is a first attempt, since the effort made in the World Development Report 1994, at generating a database on infrastructure sectors and it needs to be recognized as such. This database is not a state of the art output—this is being worked on by sector experts on a different time table. The effort has however generated a significant amount of new information. The database already provides enough information to launch a much more quantitative debate on the state of infrastructure. But much more is needed and by circulating this information at this stage, we hope to be able to generate feedback and fill the major knowledge gaps and inconsistencies we have identified.

The rest of the paper is organized as follows. Section 2 explains how the database is organized, presents the criteria used to select indicators, and presents definitions for indicators included. Section 3 discusses the main limitations in terms of reliability, coverage, and policy analysis. Section 4 presents web addresses to the most useful sources we have relied on.

¹ The database is based on the design described in Briceño-Garmendia and Goicoechea (2005).

2. The Database

The database encompasses indicators for the following infrastructure sectors: Energy, Water and Sanitation, Transport, and Information and Communication Technology (ICT). These indicators are grouped in two sections: the first one assesses **sector performance** and the second one deals with **institutional reform**.

2.1 Sector Performance Indicators

Sector performance can be assessed in many ways. This database has been built with indicators that allow assessments around outcome measures widely seen to be the main concern for policy makers (i.e. access, affordability, and quality of service). In this context, a particular sector is considered to improve its economic performance if access to the service increases among the population, if the service becomes more affordable, and/or if the quality of the service improves.

Access indicators should measure the extent to which people have the right to obtain or make use of or take advantage of infrastructure services—it does not necessarily mean they use the service. Almunia and Byrne in the European Commission report on the evaluation of the performance of network industries define access through multiple dimensions. Geographically, it captures how far the next access point is. Time wise, it measures how frequently the service is provided or how long does it take to be connected. Socially, it measures if all citizens have access to services, or if services are limited to specific groups (e.g. special tariffs, families, elderly, etc.).

Affordability indicators should give a sense of the extent to which infrastructure services are provided at a reasonable price. Ideally, measures of this outcome should tell us the extent to which the price of a standard consumption bundle is consistent with the ability to pay of the users. Ideally also, these measures should be gathered from household surveys—e.g. surveys specifying the percentage of the household income or household expenditure allocated to a specific service for different income classes. In practice, the only information not too difficult to collect is the average or sometimes the nominal price and occasionally, the tariff structure.

Quality indicators should encompass both qualitative and quantitative measures. The former are **perceived quality** indicators collected by asking qualitative questions (like rank from 1 to 7 the quality of the service). The latter are **technical quality** indicators with a low degree of discretion involved; usually reported by the utilities or providers. Examples are electric outages or reported phone faults.

There are other outcomes that were considered relevant to the performance of a particular sector in order to support analytical research. Examples are: cost and economic efficiency, financial autonomy, and fiscal costs. As only a few indicators are reported by public sources (mainly for ICT) and coverage remains extremely low, these indicators

were not included in the database at this stage. Additionally, these outcomes need to be further developed and better defined.

Table 1 presents an overview of the number of indicators available for each performance outcome by sector. Note that these figures do not imply that data are available for all countries for each indicator. In the following sections, tables 2 to 5 present specific definitions and sources of sector performance indicators actually included in the database. The latest observation available between 1997 and 2002 for each indicator, as well as region and income level aggregates are reported in the appendix. These aggregates correspond to arithmetic averages of available data. Further effort is needed to report averages weighted by population, which would allow more accurate comparisons.

Table 1: Number of Performance Indicators by Sector

	Energy	Water & Sanitation	ICT	Transport
Access	3	2	5	4
Affordability	1	-	3	2
Perceived quality	2	1	4	5
Technical quality	1	1	2	1
Total	7	4	14	12

2.1.1 Energy

The energy sector is relatively well covered by the database, at least in terms of providing a relatively recent snapshot for the main policy areas. The best covered area is access where data are available for 2000 for about 61% of the 207 countries included in the database. The technical quality indicator is available for 60% of the countries, and at least one of the perceived quality indicators is available for 40% of the countries. Price information is available for about 41% of the countries, distinguishing between residential and non residential.

Table 2: Energy Performance Indicators

ACCESS		
Indicator	Sources and Coverage	Definition
1. Access to Electricity Network (% of population)	<p>World Bank Energy Help Desk. Data collected from different household surveys and weighted by population.</p> <p>Coverage consists on data for the year 2000 for 126 countries.</p> <p>Latest observation by country reported on table A1-1.</p>	<p><i>Electricity access at the population level. It comprises commercially sold electricity, both on-grid and off-grid. It also includes self-generated electricity, for those countries where access to electricity has been assessed through surveys by government or government agencies. The data do not capture unauthorized connections (World Energy Outlook 2002, Annex 13.1 pag.35)</i></p>
2. Households Reporting Access to Electricity (% of households)	<p>Demographic and Health Surveys (DHS): 54 countries with data. One/three surveys per country between 1990 and 2001.</p> <p>Rural/urban and Wealth Group breakdown is provided by DHS.</p> <p>Latest observation by country reported on table A1-2.</p>	<p><i>Electricity access at the household level. Refers to the percentage of households who answered "yes" to the question: "does your household have electricity"? (DHS)</i></p>
3. Energy Use per PPP GDP (kg of oil equivalent/1000 PPP dollars, constant 2000)	<p>World Development Indicators 2004: 121 countries, 1980-2002.</p> <p>Latest observation by country reported on table A1-3.</p>	<p><i>Energy use refers to apparent consumption, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport. (International Energy Agency, and World Bank PPP data). Measure of energy intensity. Differences in this ratio over time and across countries reflect in part structural changes in the economy, changes in the energy efficiency of particular sectors, and differences in fuel mixes (World Health Organization. IEA, The World Bank, WDI 2002, Table 3.8).</i></p>

AFFORDABILITY		
Indicator	Sources and Coverage	Definition
4. Electricity Average End-User Prices (US ¢/ kWh)	<p>International Energy Agency (IEA), Data Services: 29 OECD Countries, 1980-2003. Organización Latinoamericana de Energía (OLADE), Sistema de Información Económica Energética (SIEE): 25 LAC Countries, 1980-2003. Energy Regulators Regional Association (ERRA): 17 Central and Eastern Europe and Eurasia countries, 2000-2004. South African Development through Electricity (SAD-ELEC): 13 Southern and East Africa, as of February 2002. Total: 84 countries.</p> <p>Breakdown by residential and non-residential customers is available.</p> <p>Latest observation by country reported on table A1-4.</p>	<p><i>End-user prices include transport costs to the consumer; are prices actually paid, i.e. net of rebates; include taxes which have to be paid by the consumer as part of the transaction and which are not refundable. This excludes value added tax.</i></p>
PERCEIVED QUALITY		
Indicator	Sources and Coverage	Definition
5. Commercial Perception of Electricity Service (index)	<p>World Economic Forum Firm Level Surveys - Global Competitiveness Report 2002-2003: 82 countries, 2001 and 2002.</p> <p>Latest observation by country reported on table A1-5.</p>	<p><i>Weighted average of firm-perception ratings of quality services –based on a predetermined scale 1=worst 7 =best (WB INFVP). Question in survey: Rank the quality of electricity supply in your country (in terms of lack of interruptions and lack of voltage fluctuations 1 = it is worse than most other countries, 7 = it is equal to the highest in the world.</i></p>
6. Commercial Perception of Public Agency Electricity Provider (index)	<p>World Bank-Firm Level Surveys, World Business Environment Survey 2000: 79 countries, 2000.</p> <p>Latest observation by country reported on table A1-6.</p>	<p><i>Weighted average of firm-perception ratings of quality services –based on a predetermined scale 1= worst, 7=best (WB INFVP). Question in survey: How would you rate the quality and efficiency of power public services?</i></p>

TECHNICAL QUALITY		
Indicator	Sources and Coverage	Definition
7. Electric Power Transmission and Distribution Losses (% total output)	World Development Indicators 2004: 124 countries, 1980-2002. Latest observation by country reported on table A1-7.	<i>Technical and non-technical losses. Includes electricity losses due to operation of the system and the delivery of electricity as well as those caused by unmetered supply. This comprises all losses due to transport and distribution of electrical energy and heat (WB Energy Team). Electric power transmission and distribution losses include losses in transmission between sources of supply and points of distribution and in the distribution to consumers, including pilferage (WDI).</i>

2.1.2 Water & Sanitation

Because the sector is part of the Millennium Development Goals (MDGs), it enjoys a lot of effort on data generation in terms of the access rates. The WHO is the main engine behind this effort in collaboration with the multilateral and bilateral aid agencies. The coverage is actually quite high —some national, urban and rural information is available for 75 to 85% of the countries— but there are significant concerns among the research community about the fact that access rates have been measured without much consideration to the quality of access level. The data on technical quality are only available for 27% of the countries. There are data on perceived quality for roughly 39% of the countries but it cannot be used to qualify the information provided by the raw access rates (i.e. access 3 hours a day is not equivalent to access 24 hours a day).

Table 3: Water & Sanitation Indicators

ACCESS		
Indicator	Sources and Coverage	Definition
1. Access to Improved Water Sources (% of population)	Joint Monitoring Programme: 163-175 countries, 1990 and 2002. Rural/urban breakdown is provided. Latest observation by country reported on table A2-1.	<i>"Improved" water supply technologies are: household connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection. Availability of at least 20 liters per person per day from a source within one kilometer of the user's dwelling. "Not improved" are: unprotected well, unprotected spring, vendor-provided water, bottled water (based on concerns about the quantity of supplied water, not concerns over the water quality), and tanker truck-provided water. (World Health Organization and United Nations Children's Fund, JMP report (2004), Geneva and New York (pp. 24-31)).</i>

2. Access to Improved Sanitation (% of population)	<p>Joint Monitoring Programme: 153-160 countries, 1990 and 2002.</p> <p>Rural/urban breakdown is provided.</p> <p>Latest observation by country reported on table A2-2.</p>	<p><i>"Improved" sanitation technologies are: connection to a public sewer, connection to septic system, pour-flush latrine, simple pit latrine, ventilated improved pit latrine. The excreta disposal system is considered adequate if it is private or shared (but not public) and if hygienically separates human excreta from human contact. "Not improved" are: service or bucket latrines (where excreta are manually removed), public latrines, latrines with an open pit. (World Health Organization and United Nations Children's Fund, JMP report (2004), Geneva and New York (pp. 24-31)).</i></p>
PERCEIVED QUALITY		
Indicator	Sources and Coverage	Definition
3. Commercial Perception of Water Service (index)	<p>World Bank-Firm Level Surveys, World Business Environment Survey 2000: 80 countries, 2000.</p> <p>Latest observation by country reported on table A2-3.</p>	<p><i>Weighted average of firm-perception ratings of quality services –based on a predetermined scale 1=worst 7=best (WB INFVP). Question in survey: How would you rate the quality and efficiency of water public services?</i></p>
TECHNICAL QUALITY		
Indicator	Sources and Coverage	Definition
4. Households Using Piped or Well Water as Main Source of Drinking Water (% of households)	<p>Demographic and Health Surveys (DHS): 55 countries, one/three surveys per country between 1990 and 2002.</p> <p>Rural/urban breakdown is provided.</p> <p>Latest observation by country reported on tables A2-4.</p>	<p><i>Percentage distribution of households according to major source of drinking water. Question in questionnaire asks "what is the main source of drinking water for members of your household? Piped, Well, Surface, Rain, Tanker Truck, Bottled, or other" (DHS). The options Piped and Well were aggregated to calculate this indicator.</i></p>

2.1.3 Information and Communication Technology

The ICT sector is probably the best covered among the infrastructure sub-sectors to a large extent thanks to the fact that the International Telecommunications Union (ITU) has taken on the responsibility to collect the data. ITU covers a wide spectrum of activity under the communications heading and its coverage ranges from 85 to 99% for all national access indicators. The information on prices needed to make assessments of affordability is also quite extensive since it covers roughly 85 to 95% of the 207 countries. With respect to quality, the coverage of technical indicators is over 88% while the information on perceived quality is only available for roughly 40% of the countries.

Table 4: ICT Performance Indicators

ACCESS		
Indicator	Sources and Coverage	Definition
1. Teledensity (total telephone subscribers/1000 people)	ITU-ICT Indicators: 203 countries, 1980-2003. Latest observation by country reported on table A3-1.	<i>Total telephone (fixed mainlines plus cellular) subscribers per 1000 inhabitants (ICT Team).</i>
2. Mainlines Teledensity (mainlines subscribers/ 1000 people)	ITU-ICT Indicators: 203 countries, 1980-2003. Latest observation by country reported on table A3-2.	<i>The number of fixed mainlines per 1000 inhabitants (ICT Team). Telephone mainlines are telephone lines connecting a customer's equipment to the public switched telephone network (WDI).</i>
3. Cellular Teledensity (cellular subscribers/ 1000 people)	ITU-ICT Indicators: 204 countries, 1980-2003. Latest observation by country reported on table A3-3.	<i>Refers to users of portable telephones subscribing to an automatic public mobile telephone service which provides access to the Public Switched Telephone Network (PSTN) using cellular technology. This can include analogue and digital cellular systems but should not include non-cellular systems. Subscribers to fixed wireless (e.g. Wireless Local Loop (WLL)), public mobile data services, or radio paging services are not included. Calculated by dividing the number of cellular mobile subscribers by the population and multiplying by 100 (ITU).</i>
4. Mainlines Teledensity Outside Largest City (mainlines/1000 people)	ITU-ICT Indicators and WDI: 183 countries, 1980-2003. Latest observation by country reported on table A3-4.	<i>Proxied by the difference between main telephone lines in operation and main telephone lines in largest city divided by the difference between total population and population of largest city. "This indicator captures a sense of rural access, it subtracts the teledensity in the largest city (in %) from the total. It's not a perfect proxy since there is more than one large urban area, but it is widely used in this way until a better rural measure is available" (ICT Team).</i>
5. Households with Own Telephone (% of households)	Demographic and Health Surveys (DHS): 45 countries, one/three surveys per country between 1990 and 2002. Rural/urban breakdown is provided. Latest observation by country reported on table A3-5.	<i>Percentage of households possessing a telephone. Question in survey: Does your household have a telephone? Yes/no</i>

AFFORDABILITY		
Indicator	Sources and Coverage	Definition
6. Cost of Local Phone Call (US cents/3 minutes)	ITU-ICT Indicators: 196 countries, 1981-2003. Latest observation by country reported on table A3-6.	<i>Local call refers to the cost of a peak rate 3-minute fixed line call within the same exchange area using the subscriber's own terminal (i.e. not from a public telephone). This indicator is expressed in US cents (ITU-World Telecommunication Development Report).</i>
7. Cost of Phone Call to the US (US cents/ 3 minutes)	World Development Indicators 2004: 175 countries, 1996-2003. Latest observation by country reported on table A3-7.	<i>Cost of international call to U.S. is the cost of a three-minute, peak rate, fixed line call from the country to the United States (ITU-World Telecommunication Development Report).</i>
8. Cost of Cellular Local Call (US cents/ 3 off-peak minutes)	ITU-ICT Indicators: 195 countries, 1980-2003. Latest observation by country reported on table A3-8.	<i>Cellular - cost of 3-minute local call (off-peak). Expressed in US cents (ITU).</i>
PERCEIVED QUALITY		
Indicator	Sources and Coverage	Definition
9. Commercial Perception of Telephone/Fax Infrastructure Quality (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-02. Latest observation by country reported on table A3-9.	<i>Weighted average of firm-perception ratings of quality of services based on a predetermined scale 1= worst 7= best. The relevant question in the GCR survey is: New telephone lines in your business are 1= scarce and difficult to obtain, 7= widely available and highly reliable.</i>
10. Commercial Perception of Availability of Mobile or Cellular Telephone (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-02. Latest observation by country reported on table A3-10.	<i>Weighted average of firm-perception ratings of quality of services based on a predetermined scale 1= worst 7= best. The relevant question in the GCR survey is: Mobile or cellular telephones for your business are 1= not available, 7= as accessible and affordable as in the world's most technologically advance countries.</i>
11. Commercial Perception of Internet Access in Schools (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-02. Latest observation by country reported on table A3-11.	<i>Weighted average of firm-perception ratings of quality of services based on a predetermined scale 1= worst 7= best. The relevant question in the GCR survey is: Internet access in schools is: 1= very limited, 7= pervasive-most children have frequent access.</i>
12. Commercial Perception of Postal Efficiency (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-2002. Latest observation by country reported on table A3-12.	<i>Weighted average of firm-perception ratings of quality of services based on a predetermined scale 1= worst 7= best. The relevant question in the GCR survey is: Do you trust your country's postal system sufficiently to have a friend mail a small package worth US\$100 to you? 1= not at all, 7= yes, trust the system entirely.</i>

TECHNICAL QUALITY		
Indicator	Sources and Coverage	Definition
13. Phone Faults (reported faults/ 100 mainlines)	ITU-ICT Indicators: 182 countries, 1980-2003. Latest observation by country reported on table A3-13.	<i>This is calculated by dividing the total number of reported faults for the year by the total number of main lines in operation and multiplying by 100. The definition of fault can vary. Some countries include faulty customer equipment. Others distinguish between reported and actual found faults. There is also sometimes a distinction between residential and business lines. Another consideration is the time period as some countries report this indicator on a monthly basis; in these cases data are converted to yearly estimates (ITU).</i>
14. Unmet Demand (% of main telephone lines in operation)	ITU-ICT Indicators: 199 countries, 1980-2003. Latest observation by country reported on table A3-14.	<i>This series divides un-met applications for connection to the Public Switched Telephone Network (PSTN) which have had to be held over owing to a lack of technical facilities (equipment, lines, etc.) by main telephone lines in operation. This indicator refers to registered applications and thus may not be indicative of the total unmet demand (ICT Team).</i>

2.1.4 Transport

The transport sector is possibly the least well covered in terms of the service orientation of infrastructure indicators. Regarding access, network density is the closest approximation to access to the service and is covered at a rate close to 90% for roads but only at a rate of 50% for rail. The relevant data on prices only cover about 30% of the sample for railways. Some type of technical quality information is available for 86% of the countries. Quality perception is only available for about 40% of the countries.

Table 5: Transport Performance Indicators

ACCESS		
Indicator	Sources and Coverage	Definition
1. Road Density in Terms of Population (road-km/1000 people)	World Development Indicators 2004: 184 countries, 1990-2002. Latest observation by country reported on table A4-1.	<i>It is the total road network in km divided by total population and multiplied by 1000 (INFVPFO). Total road network includes motorways, highways, and main or national roads, secondary or regional roads, and all other roads in a country. (International Road Federation, World Road Statistics).</i>
2. Road Density in Terms of Land (road- km/1000 sq km)	World Development Indicators 2004: 185 countries, 1990-2002. Latest observation by country reported on table A4-2.	<i>It is the total road network in km divided by total land area in sq km and multiplied by 1000 (INFVPFO). Total road network includes motorways, highways, and main or national roads, secondary or regional roads, and all other roads in a country. (Int. Road Federation, World Road Statistics).</i>

3. Rail Lines Density in Terms of Population (rail- km/1000 people)	World Development Indicators 2004: 104 countries, 1995-2002. Only a few observations per year, except for 2000 and 2002. Latest observation by country reported on table A4-3.	<i>It is the total rail lines in km divided by total population and multiplied by 1000 (INFVPFO). Rail lines are the length of railway route available for train service, irrespective of the number of parallel tracks (World Bank, Transportation, Water, and Urban Development Department, Transport Division).</i>
4. Rail Lines Density in Terms of Land (rail- km/1000 sqkm)	World Development Indicators 2004: 104 countries, 1995-2002. Only a few observations per year, except for 2000 and 2002. Latest observation by country reported on table A4-4.	<i>It is the total rail lines in km divided by total land area in sq km and multiplied by 1000 (INFVPFO). Rail lines are the length of railway route available for train service, irrespective of the number of parallel tracks (World Bank, Transportation, Water, and Urban Development Department, Transport Division).</i>
AFFORDABILITY		
Indicator	Sources and Coverage	Definition
5. Average Passenger Rail Tariff (PPP cents/passenger-km)	Unpublished World Development Indicators: 62 countries, 1986-2000. One year per country. Latest observation by country reported on table A4-5.	<i>Proxied by PPP rail revenue per passenger-km (DEC Team).</i>
6. Average Freight Rail Tariff (PPP cents/ton-km)	Unpublished World Development Indicators: 65 countries, 1986-2000. One year per country. Latest observation by country reported on table A4-6.	<i>Proxied by PPP rail revenue per ton-km (DEC Team).</i>
PERCEIVED QUALITY		
Indicator	Sources and Coverage	Definition
7. Travel Time to Work in Main Cities (minutes/one-way work trip)	UN-Habitat: Available for 87 countries, 1998. Latest observation by country reported on table A4-7.	<i>Average time in minutes for a one-way work trip. This is an average over all modes of transport (UN-Habitat). In order to aggregate data at the country level simple averages of cities' travel time to work were taken even though the list of cities was not exhaustive. A more accurate approach, should more data becomes available, would be to use averages weighted by city population with a comprehensive list of cities per country (INFVPFO).</i>
8. Commercial Perception of Services Delivered by Road Department/Public Works (index)	World Bank-Firm Level Surveys, World Business Environment Survey 2000: 80 countries, 2000. Latest observation by country reported on table A4-8.	<i>Weighted average of firm-perception ratings of services delivered by the Road Department/Public Works 1 =worst 7 =best. The question in WBES 2000 is: "Please rate the overall quality and efficiency of services delivered by the Roads Department/Public Works."</i>

9. Commercial Perception of Port Facilities (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-02. Latest observation by country reported on table A4-9.	<i>Weighted average of firm-perception ratings of quality services in port facilities based on a predetermined scale 1 =worst 7 =best. The question in the GCR survey is: "Rank from 1 to 7 port facilities and inland waterways in your country. 1 = underdeveloped. 7 = as developed as the world's best."</i>
10. Commercial Perception of Railroad Services (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-02. Latest observation by country reported on table A4-10.	<i>Weighted average of firm-perception ratings of quality of railroad services based on a predetermined scale 1 =worst 7 =best . The relevant question in the GCR survey is: Rank from 1 to 7 the railroads in your country. 1 = underdeveloped. 7 = as extensive and efficient as the world's best.</i>
11. Commercial Perception of Air Transport Services (index)	World Economic Forum- Firm Level Surveys, Global Competitiveness Report 2002-2003: 82 countries, 2001-02. Latest observation by country reported on table A4-11.	<i>Weighted average of firm-perception ratings of quality of air transport services based on a predetermined scale 1 =worst 7 =best . The relevant question in the GCR survey is: Rank from 1 to 7 air transport in your country. 1 = infrequent and inefficient, 7 = as extensive and efficient as the world's best.</i>
TECHNICAL QUALITY		
Indicator	Sources and Coverage	Definition
12. Paved Roads (% of total roads)	World Development Indicators 2004: 178 countries, 1990-2002. Latest observation by country reported on table A4-12.	<i>Paved roads are those surfaced with crushed stone (macadam) and hydrocarbon binder or bituminized agents, with concrete, or with cobblestones, as a percentage of all the country's roads, measured in length (WDI).</i>

2.2 Institutional Reform Indicators

The main purpose of the institutional reform indicators is to better document governance and institutional developments related to infrastructure at the sector level. Ideally, the database should include measures to identify every step of reforms and their intensity. For example: a measure of ownership (public/ private/ mixed) along with a measure of the percentage of private capital in the sector and the degree of competition prevailing in the sector or the type and extend of regulation. There is currently no international database generating this type of information in detail for all countries, probably because some of these assessments could be somewhat subjective. There are however a lot of studies providing partial information we collected.

In order to generate some information, we narrowed down to three major groups of indicators: (i) the existence of a regulatory institution, (ii) the existence of any private sector participation and (iii) the market structure. These three categories correspond to the main areas of institutional reforms that have been considered or have taken place during the 1990s. The existence of an independent regulator in a sector reflects the extent to which a country is willing to separate the regulatory function form other sector policies to avoid conflicts of interests. The existence of private sector participation of any type gives a sense of the willingness of the government to open a sector to private operators. In some cases, we were able to distinguish among service types within a sector to refine the information generated. It is however clearly very rough since it does not differentiate between contract types in most cases². The third group of indicators gives a sense of the commitment or scope for competition in the sector in a country. Again, when possible, we distinguished between services. Considered jointly, the three groups of indicators provide a useful snapshot of the level and type of institutional reforms in any given country.

Table 6 gives an overview of the number and types of policy reform indicators contained in the database for each area of interest and each sector. ICT indicators were collected from ITU regulatory database. Electricity and Water indicators were collected by the World Bank from various published document and from a questionnaire applied to World Bank country directors, managers, and staff. An issue to be addressed in the future is that the quality and coverage of the information varies significantly across sectors.

Table 6: Number of Policy Reform Indicators by Sector

	Electricity	Water	ICT	Transport
Regulatory Institution	1	1	1	1
Existence of Private Capital	2	1	1	1
Market Structure	1	-	5	-
Total	4	2	7	2

² When reporting data, a distinction was made between “private capital” and “private participation” . The first term refers only to contracts that require capital investment from private parties (such as concessions, BOT, and divestitures). The second term was used to report any type of private participation, including service and management, affermage, and lease contracts.

2.2.1 Electricity

The data on electricity policy reform were collected from the following sources: ABS Electricity Deregulation Report (2004), AEI-Brookings telecommunications and electricity regulation database (2003), Bacon (1999), Estache and Gassner (2004), Estache, Trujillo, and Tovar de la Fe (2004), Global Regulatory Network Program (2004), Henisz *et al.* (2003), International Power Finance Review (2003-04), International Power and Utilities Finance Review (2004-05), Kikukawa (2004), Wallsten *et al.* (2004), World Bank Caribbean Infrastructure Assessment (2004), World Bank Global Energy Sector Reform in Developing Countries (1999), World Bank staff, and country regulators.

The coverage for the three types of institutional indicators is quite good for the electricity sector. For regulatory institutions and private participation in generation and distribution, the coverage is about 80% of the 207 countries. It is somewhat lower on the market structure with only 58%.

Table 7: Electricity Policy Reform Indicators

REGULATION		
Indicator	Coverage	Definition
1. Existence of Independent Regulatory Agency (Y/N)	165 countries. Latest observation by country reported on table A5-1.	<i>Indicates whether the country has a regulatory agency independent in its structure, decision making and finance from the incumbent operator and from the Ministry. Question in questionnaire: Has a regulatory body that is financially separate from the utility and from the energy ministry started work? Yes/ No. When?</i>
OWNERSHIP		
2. Existence of Private Participation in Electricity Generation (Y/N)	164 countries. Latest observation by country reported on table A5-1.	<i>Question in questionnaire: Is electricity generation private? a. Yes, please specify the year in which privatization in generation started b. No</i>
3. Existence of Private Participation in Electricity Distribution (Y/N)	159 countries. Latest observation by country reported on table A5-1.	<i>Question in questionnaire: Is electricity distribution private? a. Yes, please specify the year in which privatization in distribution started b. No</i>
MARKET STRUCTURE		
4. Vertical Integration from Electricity Generation to Supply (Y/N)	120 countries. Latest observation by country reported on table A5-1.	<i>Question in questionnaire: Is the Electricity Sector vertically integrated? In which year did vertical separation occur?</i>

2.2.2 Water & Sanitation

The data on water policy reform were collected from the following sources: ABS Water and Waste Utilities of the World (2004), Asian Developing Bank (2000), Bayliss (2002), Benoit (2004), Budds and McGranahan (2003), Hall, Bayliss, and Lobina (2002), Hall and Lobina (2002), Hall, Lobina, and De La Mote (2002), Halpern (2002), Lobina (2001), World Bank Caribbean Infrastructure Assessment (2004), World Bank Sector Note on Water Supply and Sanitation for Infrastructure in EAP (2004), and World Bank staff.

The coverage for institutional reforms in W&S is not as exhaustive as for the other utilities. Information on the regulatory institutions responsible for large utilities is available for about 67% of the countries. Ownership data are available for about 70% of the countries. There is no information on the market structure good enough to be reported here at this stage. In most countries small scale operators are important private actors but there is no systematic record of their existence. Most of the information available on their role and importance is only anecdotal.

Table 8: Water Policy Reform Indicators

REGULATION		
Indicator	Coverage	Definition
1. Existence of Independence Regulatory Agency (Y/N)	138 countries. Latest observation by country reported on table A5-2.	<i>Indicates whether the country has a regulatory agency independent in its structure, decision making and finance from the incumbent operator and from the Ministry.</i> <i>Question in questionnaire: Has a regulatory body that is financially separate from the utility and from the energy ministry started work? Yes/ No. When?</i>
OWNERSHIP		
2. Existence of Private Capital in Water Utilities (Y/N)	148 countries. Latest observation by country reported on table A5-2.	<i>Question in questionnaire: Is there private capital in the main Water Utilities?</i> a. <i>Yes, please specify the year in which "privatization" in Water Utilities started</i> b. <i>No</i> <i>Privatization in the water sector was recorded in cases in which private participation took the form of concessions, built-operate-transfer (BOT), or divestitures signed by private parties. These three types of contracts require capital investment by private parties. On the other hand, service, management, or affermage contracts were not classified as existence of private capital.</i>

2.2.3 Information and Communication Technology

The report Trends in Telecommunications Reform from ITU (revised by World Bank staff) is the main source of information for this sector. The information on institutional reforms in the sector is however not as exhaustive as it is for its sector performance indicators. While the coverage on the regulatory institutions is 100%, it varies between 76 and 90% of the countries for more of the other indicators. Quite surprisingly also, in contrast to what is available for other sectors, it proved difficult to obtain data on the timing of reforms and of the creation of the regulatory agencies.

Table 9: ICT Policy Reform Indicators

REGULATION		
Indicator	Coverage	Definition
1. Existence of Independence Regulatory Agency (Y/N)	207 countries. Latest observation by country reported on table A5-3.	<i>Indicates whether the country has a telecommunications regulatory authority separate from the Ministry and from the operator in terms of its structure, financing, and decision-making. It was assumed, after consulting ITU experts, that countries that do not appear in the ITU list of countries with Independent Agency do not have an Independent Agency.</i>
OWNERSHIP		
2. Existence of Private Capital in Telephone Companies (Y/N)	184 countries. Latest observation by country reported on table A5-3.	<i>Indicates if the companies are state-owned or if there is some private capital (ITU).</i>
MARKET STRUCTURE		
3. Local Phone Monopoly (Y/N)	186 countries. Latest observation by country reported on table A5-3.	<i>The level of competition in the local PSTN market is based on the number of legal operators in the market (may not reflect the actual number of operators) (ICT Team). No refers to duopoly, partial or full competition, while Yes refers to monopoly.</i>
4. Digital Mobile Monopoly (Y/N)	170 countries. Latest observation by country reported on table A5-3.	<i>The level of competition in the mobile market is based on the number of legal operators in the market (may not reflect the actual number of operators). (ICT Team). No refers to duopoly, partial or full competition, while Yes refers to monopoly.</i>
5. Long Distance Monopoly (Y/N)	179 countries. Latest observation by country reported on table A5-3.	<i>The level of competition in the international long distance market is based on the number of legal operators in the market (may not reflect the actual number of operators) (ICT Team). No refers to duopoly, partial or full competition, while Yes refers to monopoly.</i>

6. Leased Lines Monopoly (Y/N)	175 countries. Latest observation by country reported on table A5-3.	<i>The level of competition in the leased lines market is based on the number of legal operators in the market (may not reflect the actual number of operators) (ICT Team). No refers to duopoly, partial or full competition, while Yes refers to monopoly.</i>
7. Internet Service Provider Monopoly (Y/N)	158 countries. Latest observation by country reported on table A5-3.	<i>The level of competition in the Internet Service Provider market is based on the number of legal operators in the market (may not reflect the actual number of operators) (ICT Team). No refers to duopoly, partial or full competition, while Yes refers to monopoly.</i>

2.2.4 Transport

Information on transport institutions and reforms is not systematically generated by any agency. Even though more data are needed to have a more comprehensive picture of the transport sector, it was possible to collect data on railways policy reform from Janes World Railways (2003-04) and complement it with interviews to World Bank task managers. When possible, data were cross-checked by colleagues from other multilateral agencies, and experts in private companies. Data are available for 65% of the countries.

Table 10: Railways Policy Reform Indicators

REGULATION		
Indicator	Coverage	Definition
1. Existence of Independence Regulatory Agency (Y/N)	134 countries. Latest observation by country reported on table A5-4.	<i>Indicates whether the country has a regulatory agency independent in its structure, decision making and finance from operators and from the Ministry.</i>
OWNERSHIP		
3. Existence of Private Participation in Railways Systems (Y/N)	134 countries. Latest observation by country reported on table A5-4.	<i>Includes any type of private participation (i.e. concessions, BOTs, divestitures, service contracts, management contracts, affermages, and leases.</i>

3. Limitations

The main limitations of the database come from 3 main sources: (i) data reliability; (ii) coverage and (iii) subjectivity of the institutional variables.

3.1 Data Reliability

The first phase of the database project consisted in collecting data from publicly available sources. Thus, the quality of the data depends on the source's methods and consistency and it is not uniform across the database. A preliminary check was conducted by various auditors and users over a 12 month period but this check has not been thorough enough to be able to argue that all data are fully reliable.

3.2 Coverage

Coverage is overall low and needs to be increased to allow for good cross-country analysis. As usual, better data are available the higher the income of the countries. Thus, efforts should be placed to produce good quality data in low income countries of the region. Also, when possible, experts should suggest methods to consistently complete or improve the coverage of infrastructure indicators building on what has been already collected.

3.3 Institutions

On policy reform indicators the main issue is the subjective character of the data collected. With the exception of ICT related data, all the data reported are based on questionnaires collected by academic authors or by us with a view to minimize the time the experts have to allocate to generate the information needed. We tried long questionnaires and the return was quite low and in a second round we focused on yes vs. no questions to the extent possible.

Policy reform indicators included in the database were defined to capture the existence of a certain step of reforms. However, the database doesn't include, at the moment, indicators that measure the "degree" of reforms. For instance, the degree of independence of the regulatory agency and the degree of private participation in a particular sector.

4. Where to get most of the data

The following websites were particularly useful to gather data and information related to infrastructure sector performance and infrastructure policy reforms:

Source	Website
Multiple Sectors	
Global Competitiveness Report	www.weforum.org
World Business Environmental Survey	http://info.worldbank.org/governance/wbes/
Demographic and Health Surveys	http://www.measuredhs.com/
UN Millennium Indicators Database	http://unstats.un.org/unsd/mi/mi_goals.asp
UN-habitat Database	http://www.unhabitat.org/programmes/guo/guo_indicators.asp
Energy	
International Energy Agency	www.iea.org
World Energy Outlook	www.worldenergyoutlook.org
Energy Information Administration	www.eia.doe.gov/emeu/international/electric.html
South African Development through Electricity (SAD-ELEC)	http://www.sad-elec.com/
Energy Regulators Regional Association (ERRA). Energy Tariff Data.	http://www.erranet.org/Products/TariffDatabase
Organización Latinoamericana de Energía (OLADE). Sistema de Información Económica-Energética.	http://www.olade.org.ec/siee/defaultin.asp
Water & Sanitation	
WB Benchmarking Water & Sanitation	http://www.worldbank.org/html/tpd/water/topics/bench_network.html
Joint Monitoring Programme WHO-UNICEF	http://www.wssinfo.org/en/welcome.html
World Health Organization	http://www.who.int/en/
Water Utilities Partnership (Africa)	http://www.wupafrica.org/spbnet/angl/waterf.html
ICT	
International telecommunications Union	http://www.itu.int/home/index.html
ITU Regulatory Database	http://www.itu.int/ITU-D/treg/profiles/guide.asp?lang=en
Universal Postal Union	http://www.upu.int/statistics/en/index.shtml
Transport	
Railisa Database	http://www.uic.asso.fr/stats/
Janes World Railways 2003/04. Franklin Watts, New York 2004.	http://jwr.janes.com/

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APPENDIX 1: Energy Data by Country

Table A1-1: Access to Electricity Network (% of population)

Country Name	Latest Observation	Year
Afghanistan	5	2000
Albania	90	2000
Algeria	96	2000
American Samoa	..	..
Andorra	..	..
Angola	5	2000
Antigua and Barbuda	..	..
Argentina	90	2000
Armenia	100	2000
Aruba	..	..
Australia	..	..
Austria	..	..
Azerbaijan	100	2000
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	25	2000
Barbados	..	..
Belarus	100	2000
Belgium	..	..
Belize	..	..
Benin	22	2000
Bermuda	..	..
Bhutan	5	2000
Bolivia	72	2000
Bosnia and Herzegovina	100	2000
Botswana	10	2000
Brazil	90	2000
Brunei	..	..
Bulgaria	100	2000
Burkina Faso	6	2000
Burundi	5	2000
Cambodia	10	2000
Cameroon	31	2000
Canada	..	..
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	5	2000
Chad	3	2000
Channel Islands	..	..
Chile	98	2000
China	97	2000
Colombia	91	2000
Comoros	..	..
Congo, Dem. Rep.	5	2000
Congo, Rep.	5	2000
Costa Rica	90	2000
Cote d'Ivoire	39	2000
Croatia	100	2000
Cuba	100	2000
Cyprus	..	..
Czech Republic	100	2000
Denmark	..	..
Djibouti	..	..
Dominica	..	..
Dominican Republic	67	2000
Ecuador	90	2000
Egypt, Arab Rep.	96	2000
El Salvador	90	2000
Equatorial Guinea	..	..
Eritrea	5	2000
Estonia	100	2000
Ethiopia	12	2000
Faeroe Islands	..	..
Fiji	..	..
Finland	..	..
France	..	..
French Polynesia	..	..
Gabon	5	2000
Gambia, The	5	2000
Georgia	100	2000
Germany	..	..
Ghana	35	2000
Greece	..	..
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	59	2000
Guinea	5	2000

Table A1-1: Access to Electricity Network (% of population)

Country Name	Latest Observation	Year
Guinea-Bissau	5	2000
Guyana	..	..
Haiti	31	2000
Honduras	5	2000
Hong Kong, China	..	..
Hungary	100	2000
Iceland	..	..
India	40	2000
Indonesia	80	2000
Iran, Islamic Rep.	95	2000
Iraq	95	2000
Ireland	..	..
Isle of Man	..	..
Israel	100	2000
Italy	..	..
Jamaica	90	2000
Japan	..	..
Jordan	95	2000
Kazakhstan	95	2000
Kenya	12	2000
Kiribati	..	..
Korea, Dem. Rep.	20	2000
Korea, Rep.	..	..
Kuwait	100	2000
Kyrgyz Republic	100	2000
Lao PDR	18	2000
Latvia	100	2000
Lebanon	95	2000
Lesotho	6	2000
Liberia	..	..
Libya	95	2000
Liechtenstein	..	..
Lithuania	100	2000
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	95	2000
Madagascar	11	2000
Malawi	5	2000
Malaysia	95	2000
Maldives	..	..
Mali	8	2000
Malta	..	..
Marshall Islands	..	..
Mauritania	50	2000
Mauritius	50	2000
Mayotte	..	..
Mexico	95	2000
Micronesia, Fed. Sts.	..	..
Moldova	100	2000
Monaco	..	..
Mongolia	90	2000
Morocco	47	2000
Mozambique	6	2000
Myanmar	5	2000
Namibia	20	2000
Nepal	15	2000
Netherlands	..	..
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	..	..
Nicaragua	68	2000
Niger	8	2000
Nigeria	20	2000
Northern Mariana Islands	..	..
Norway	..	..
Oman	..	..
Pakistan	55	2000
Palau	..	..
Panama	95	2000
Papua New Guinea	5	2000
Paraguay	49	2000
Peru	72	2000
Philippines	78	2000
Poland	100	2000
Portugal	..	..
Puerto Rico	..	..
Qatar	..	..
Romania	100	2000
Russian Federation	100	2000
Rwanda	5	2000
Samoa	..	..
San Marino	..	..

Table A1-2: Households Reporting Access to Electricity (% of households)

Country Name	Rural	Urban	Total	Year
Afghanistan	..	..	..	..
Albania	..	..	..	..
Algeria	..	..	..	..
American Samoa	..	..	..	..
Andorra	..	..	..	..
Angola	..	..	..	..
Antigua and Barbuda	..	..	..	..
Argentina	..	..	..	..
Armenia	99	99	99	2000
Aruba	..	..	..	..
Australia	..	..	..	..
Austria	..	..	..	..
Azerbaijan	..	..	..	..
Bahamas, The	..	..	..	..
Bahrain	..	..	..	..
Bangladesh	21	81	32	2000
Barbados	..	..	..	..
Belarus	..	..	..	..
Belgium	..	..	..	..
Belize	..	..	..	..
Benin	6	50	22	2001
Bermuda	..	..	..	..
Bhutan	..	..	..	..
Bolivia	29	96	71	1998
Bosnia and Herzegovina	..	..	..	..
Botswana	..	..	..	..
Brazil	..	..	..	..
Brunei	..	..	..	..
Bulgaria	..	..	..	..
Burkina Faso	0	40	7	1999
Burundi	..	..	..	..
Cambodia	9	61	17	2000
Cameroon	22	79	41	1998
Canada	..	..	..	..
Cape Verde	..	..	..	..
Cayman Islands	..	..	..	..
Central African Republic	..	..	..	..
Chad	0	9	2	1997
Channel Islands	..	..	..	..
Chile	..	..	..	..
China	..	..	..	..
Colombia	84	99	95	2000
Comoros	..	..	..	..
Congo, Dem. Rep.	..	..	..	..
Congo, Rep.	..	..	..	..
Costa Rica	..	..	..	..
Cote d'Ivoire	23	86	48	1999
Croatia	..	..	..	..
Cuba	..	..	..	..
Cyprus	..	..	..	..
Czech Republic	..	..	..	..
Denmark	..	..	..	..
Djibouti	..	..	..	..
Dominica	..	..	..	..
Dominican Republic	77	99	91	1999
Ecuador	..	..	..	..
Egypt, Arab Rep.	96	100	98	2000
El Salvador	..	..	..	..
Equatorial Guinea	..	..	..	..
Eritrea	..	..	..	..
Estonia	..	..	..	..
Ethiopia	0	76	13	2000
Faeroe Islands	..	..	..	..
Fiji	..	..	..	..
Finland	..	..	..	..
France	..	..	..	..
French Polynesia	..	..	..	..
Gabon	30	90	74	2000
Gambia, The	..	..	..	..
Georgia	..	..	..	..
Germany	..	..	..	..
Ghana	21	82	43	1998
Greece	..	..	..	..
Greenland	..	..	..	..
Grenada	..	..	..	..
Guam	..	..	..	..
Guatemala	54	91	71	1999
Guinea	2	54	16	1999

Table A1-2: Households Reporting Access to Electricity (% of households)

Country Name	Rural	Urban	Total	Year
Guinea-Bissau	..	..	..	..
Guyana	..	..	..	..
Haiti	5	82	34	2000
Honduras	..	..	..	..
Hong Kong, China	..	..	..	..
Hungary	..	..	..	..
Iceland	..	..	..	..
India	48	91	60	1999
Indonesia	73	98	80	1997
Iran, Islamic Rep.	..	..	..	..
Iraq	..	..	..	..
Ireland	..	..	..	..
Isle of Man	..	..	..	..
Israel	..	..	..	..
Italy	..	..	..	..
Jamaica	..	..	..	..
Japan	..	..	..	..
Jordan	94	100	99	1997
Kazakhstan	94	..	97	1999
Kenya	4	48	15	1998
Kiribati	..	..	..	..
Korea, Dem. Rep.	..	..	..	..
Korea, Rep.	..	..	..	..
Kuwait	..	..	..	..
Kyrgyz Republic	100	100	100	1999
Lao PDR	..	..	..	..
Latvia	..	..	..	..
Lebanon	..	..	..	..
Lesotho	..	..	..	..
Liberia	..	..	..	..
Libya	..	..	..	..
Liechtenstein	..	..	..	..
Lithuania	..	..	..	..
Luxembourg	..	..	..	..
Macao, China	..	..	..	..
Macedonia, FYR	..	..	..	..
Madagascar	2	38	11	1997
Malawi	1	29	5	2000
Malaysia	..	..	..	..
Maldives	..	..	..	..
Mali	2	37	11	2001
Malta	..	..	..	..
Marshall Islands	..	..	..	..
Mauritania	3	50	22	2001
Mauritius	..	..	..	..
Mayotte	..	..	..	..
Mexico	..	..	..	..
Micronesia, Fed. Sts.	..	..	..	..
Moldova	..	..	..	..
Monaco	..	..	..	..
Mongolia	..	..	..	..
Morocco	..	..	..	..
Mozambique	2	26	7	1997
Myanmar	..	..	..	..
Namibia	..	..	..	..
Nepal	17	86	25	2001
Netherlands	..	..	..	..
Netherlands Antilles	..	..	..	..
New Caledonia	..	..	..	..
New Zealand	..	..	..	..
Nicaragua	37	91	70	1998
Niger	0	37	7	1998
Nigeria	28	84	45	1999
Northern Mariana Islands	..	..	..	..
Norway	..	..	..	..
Oman	..	..	..	..
Pakistan	..	..	..	..
Palau	..	..	..	..
Panama	..	..	..	..
Papua New Guinea	..	..	..	..
Paraguay	..	..	..	..
Peru	29	93	69	2000
Philippines	52	91	71	1998
Poland	..	..	..	..
Portugal	..	..	..	..
Puerto Rico	..	..	..	..
Qatar	..	..	..	..
Romania	..	..	..	..
Russian Federation	..	..	..	..
Rwanda	1	39	6	2000
Samoa	..	..	..	..

Table A1-3: Energy Use per PPP GDP (kg of oil equivalent/1000 PPP dollars, constant 2000)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	150	2002
Algeria	177	2002
American Samoa	..	..
Andorra	..	..
Angola	313	2002
Antigua and Barbuda	..	..
Argentina	145	2002
Armenia	209	2002
Aruba	..	..
Australia	210	2002
Austria	134	2002
Azerbaijan	464	2002
Bahamas, The	..	..
Bahrain	596	2002
Bangladesh	95	2002
Barbados	..	..
Belarus	468	2002
Belgium	208	2002
Belize	..	..
Benin	330	2002
Bermuda	..	..
Bhutan	..	..
Bolivia	208	2002
Bosnia and Herzegovina	190	2002
Botswana	..	..
Brazil	146	2002
Brunei	..	..
Bulgaria	350	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	213	2002
Canada	278	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	168	2002
China	219	2002
Colombia	102	2002
Comoros	..	..
Congo, Dem. Rep.	463	2002
Congo, Rep.	268	2002
Costa Rica	106	2002
Cote d'Ivoire	267	2002
Croatia	188	2002
Cuba	..	..
Cyprus	182	2001
Czech Republic	272	2002
Denmark	124	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	148	2002
Ecuador	208	2002
Egypt, Arab Rep.	215	2002
El Salvador	141	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	279	2002
Ethiopia	417	2002
Faeroe Islands	..	..
Fiji	..	..
Finland	268	2002
France	171	2002
French Polynesia	..	..
Gabon	196	2002
Gambia, The	..	..
Georgia	228	2002
Germany	161	2002
Ghana	201	2002
Greece	146	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	157	2002
Guinea	..	..

Table A1-3: Energy Use per PPP GDP (kg of oil equivalent/1000 PPP dollars, constant 2000)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	152	2002
Honduras	201	2002
Hong Kong, China	94	2002
Hungary	187	2002
Iceland	414	2002
India	200	2002
Indonesia	241	2002
Iran, Islamic Rep.	326	2002
Iraq	..	..
Ireland	110	2002
Isle of Man	..	..
Israel	167	2002
Italy	118	2002
Jamaica	393	2002
Japan	157	2002
Jordan	255	2002
Kazakhstan	551	2002
Kenya	498	2002
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	258	2002
Kuwait	605	2002
Kyrgyz Republic	323	2002
Lao PDR	..	..
Latvia	205	2002
Lebanon	264	2002
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	249	2002
Luxembourg	158	2002
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	242	2002
Maldives	..	..
Mali	..	..
Malta	131	2002
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	180	2002
Micronesia, Fed. Sts.	..	..
Moldova	495	2002
Monaco	..	..
Mongolia	..	..
Morocco	99	2002
Mozambique	433	2002
Myanmar	..	..
Namibia	98	2002
Nepal	265	2002
Netherlands	173	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	218	2002
Nicaragua	176	2002
Niger	..	..
Nigeria	789	2002
Northern Mariana Islands	..	..
Norway	164	2002
Oman	332	2002
Pakistan	234	2002
Palau	..	..
Panama	170	2002
Papua New Guinea	..	..
Paraguay	160	2002
Peru	93	2002
Philippines	131	2002
Poland	226	2002
Portugal	146	2002
Puerto Rico	..	..
Qatar	..	..
Romania	262	2002
Russian Federation	537	2002
Rwanda	..	..
Samoa	..	..

Table A1-4: Electricity Average End-User Prices (US cents/kWh)

Latest Observation			
Country Name	Residential	Non-Residential	Year
Afghanistan	..	..	..
Albania	5	8	2003
Algeria	..	..	..
American Samoa	..	..	..
Andorra	..	..	..
Angola	..	..	..
Antigua and Barbuda	..	..	..
Argentina	4	2	2002
Armenia	4	3	2003
Aruba	..	..	..
Australia	6	4	2002
Austria	15	4	2003
Azerbaijan	..	..	..
Bahamas, The	..	..	..
Bahrain	..	..	..
Bangladesh	..	..	..
Barbados	18	18	2002
Belarus	..	..	..
Belgium	13	5	2000
Belize	..	..	..
Benin	..	..	..
Bermuda	..	..	..
Bhutan	..	..	..
Bolivia	6	4	2002
Bosnia and Herzegovina	8	9	2004
Botswana	4	3	2002
Brazil	8	4	2002
Brunei	..	..	..
Bulgaria	5	5	2003
Burkina Faso	..	..	..
Burundi	..	..	..
Cambodia	..	..	..
Cameroon	..	..	..
Canada	..	..	..
Cape Verde	..	..	..
Cayman Islands	..	..	..
Central African Republic	..	..	..
Chad	..	..	..
Channel Islands	..	..	..
Chile	8	6	2002
China	..	..	..
Colombia	7	6	2002
Comoros	..	..	..
Congo, Dem. Rep.	..	..	..
Congo, Rep.	..	..	..
Costa Rica	6	7	2003
Cote d'Ivoire	..	..	..
Croatia	10	8	2003
Cuba	14	8	2003
Cyprus	..	..	..
Czech Republic	9	6	2003
Denmark	26	9	2003
Djibouti	..	..	..
Dominica	..	..	..
Dominican Republic	10	10	2002
Ecuador	9	8	2002
Egypt, Arab Rep.	..	..	..
El Salvador	9	11	2002
Equatorial Guinea	..	..	..
Eritrea	..	..	..
Estonia	6	6	2003
Ethiopia	..	..	..
Faeroe Islands	..	..	..
Fiji	..	..	..
Finland	11	7	2003
France	13	5	2003
French Polynesia	..	..	..
Gabon	..	..	..
Gambia, The	..	..	..
Georgia	4	2	2003
Germany	14	5	2002
Ghana	..	..	..
Greece	10	6	2003
Greenland	..	..	..
Grenada	22	19	2002
Guam	..	..	..
Guatemala	8	8	2002

Table A1-4: Electricity Average End-User Prices (US cents/kWh)

Country Name	Latest Observation		
	Residential	Non-Residential	Year
Guinea	..	..	..
Guinea-Bissau	..	..	..
Guyana	6	8	2002
Haiti	8	12	2002
Honduras	7	6	2002
Hong Kong, China	..	..	..
Hungary	10	8	2003
Iceland	..	..	..
India	..	..	..
Indonesia	..	..	..
Iran, Islamic Rep.	..	..	..
Iraq	..	..	..
Ireland	15	9	2003
Isle of Man	..	..	..
Israel	..	..	..
Italy	16	11	2002
Jamaica	16	11	2002
Japan	17	12	2002
Jordan	..	..	..
Kazakhstan	3	3	2003
Kenya	8	7	2002
Kiribati	..	..	..
Korea, Dem. Rep.	..	..	..
Korea, Rep.	7	5	2003
Kuwait	..	..	..
Kyrgyz Republic	1	2	2003
Lao PDR	..	..	..
Latvia	7	6	2003
Lebanon	..	..	..
Lesotho	8	3	2002
Liberia	..	..	..
Libya	..	..	..
Liechtenstein	..	..	..
Lithuania	9	8	2003
Luxembourg	11	..	2002
Macao, China	..	..	..
Macedonia, FYR	5	9	2004
Madagascar	..	..	..
Malawi	4	5	2002
Malaysia	..	..	..
Maldives	..	..	..
Mali	..	..	..
Malta	..	..	..
Marshall Islands	..	..	..
Mauritania	..	..	..
Mauritius	14	10	2002
Mayotte	..	..	..
Mexico	9	6	2003
Micronesia, Fed. Sts.	..	..	..
Moldova	5	6	2003
Monaco	..	..	..
Mongolia	5	5	2003
Morocco	..	..	..
Mozambique	3	2	2002
Myanmar	..	..	..
Namibia	4	2	2002
Nepal	..	..	..
Netherlands	19	6	2003
Netherlands Antilles	..	..	..
New Caledonia	..	..	..
New Zealand	10	4	2003
Nicaragua	13	11	2002
Niger	..	..	..
Nigeria	..	..	..
Northern Mariana Islands	..	..	..
Norway	8	5	2003
Oman	..	..	..
Pakistan	..	..	..
Palau	..	..	..
Panama	11	11	2002
Papua New Guinea	..	..	..
Paraguay	5	3	2002
Peru	11	7	2002
Philippines	..	..	..
Poland	10	6	2003
Portugal	16	8	2003
Puerto Rico	..	..	..
Qatar	..	..	..
Romania	8	6	2003

Table A1-4: Electricity Average End-User Prices (US cents/kWh)

Latest Observation			
Country Name	Residential	Non-Residential	Year
Russian Federation	3	3	2004
Rwanda	..	..	..
Samoa	..	..	..
San Marino	..	..	..
Sao Tome and Principe	..	..	..
Saudi Arabia	..	..	..
Senegal	..	..	..
Seychelles	..	..	..
Sierra Leone	..	..	..
Singapore	..	..	..
Slovak Republic	10	7	2003
Slovenia	..	..	..
Solomon Islands	..	..	..
Somalia	..	..	..
South Africa	3	2	2002
Spain	11	5	2002
Sri Lanka	..	..	..
St. Kitts and Nevis	..	..	..
St. Lucia	..	..	..
St. Vincent and the Grenadines	..	..	..
Sudan	..	..	..
Suriname	17	13	2002
Swaziland	4	3	2002
Sweden	10	3	1997
Switzerland	13	8	2003
Syrian Arab Republic	..	..	..
Tajikistan	..	..	..
Tanzania	5	9	2002
Thailand	..	..	..
Togo	..	..	..
Tonga	..	..	..
Trinidad and Tobago	3	2	2002
Tunisia	..	..	..
Turkey	9	9	2003
Turkmenistan	..	..	..
Uganda	9	7	2002
Ukraine	3	4	2003
United Arab Emirates	..	..	..
United Kingdom	12	6	2003
United States	9	5	2003
Uruguay	10	5	2002
Uzbekistan	..	..	..
Vanuatu	..	..	..
Venezuela, RB	6	3	2002
Vietnam	..	..	..
Virgin Islands (U.S.)	..	..	..
West Bank and Gaza	..	..	..
Yemen, Rep.	..	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..	..
Zambia	2	3	2002
Zimbabwe	6	10	2002
UNWEIGHTED AVERAGES (1997-2003)			
World	9	6	
Low Income	6	6	
Middle Income	8	7	
Lower Middle Income	8	7	
Upper Middle Income	9	7	
Low & Middle Income (developing)	7	6	
East Asia & Pacific	5	5	
Europe & Central Asia	6	6	
Latin American & Caribbean	10	8	
Middle East & North Africa	..	..
South Asia	..	..
Sub-Saharan Africa	6	5	
High Income OECD	13	6	
High Income Non-OECD	..	..

Table A1-5: Commercial Perception of Electricity Service (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	5.2	2002
Armenia	..	..
Aruba	..	..
Australia	6.4	2002
Austria	6.8	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	2.0	2002
Barbados	..	..
Belarus	..	..
Belgium	6.8	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	4.1	2002
Bosnia and Herzegovina	..	..
Botswana	4.8	2002
Brazil	4.4	2002
Brunei	..	..
Bulgaria	4.1	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.7	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	5.6	2002
China	4.6	2002
Colombia	4.5	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	4.8	2002
Cote d'Ivoire	..	..
Croatia	4.9	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	6.5	2002
Denmark	7.0	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	2.0	2002
Ecuador	2.9	2002
Egypt, Arab Rep.	5.0	2001
El Salvador	4.9	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	5.2	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	6.8	2002
France	6.5	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.9	2002
Ghana	..	..
Greece	4.8	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	3.8	2002
Guinea	..	..

Table A1-5: Commercial Perception of Electricity Service (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	1.1	2002
Honduras	3.1	2002
Hong Kong, China	6.8	2002
Hungary	5.8	2002
Iceland	7.0	2002
India	2.7	2002
Indonesia	3.4	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	6.0	2002
Isle of Man	..	..
Israel	6.4	2002
Italy	5.9	2002
Jamaica	3.5	2002
Japan	6.7	2002
Jordan	5.5	2002
Kazakhstan	3.5	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	6.2	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	5.0	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	5.1	2002
Luxembourg	6.2	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	5.7	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	4.9	2002
Mayotte	..	..
Mexico	3.6	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	4.7	2002
Mozambique	..	..
Myanmar	..	..
Namibia	5.6	2002
Nepal	..	..
Netherlands	6.9	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	6.3	2002
Nicaragua	3.5	2002
Niger	..	..
Nigeria	1.8	2002
Northern Mariana Islands	..	..
Norway	6.6	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	5.1	2002
Papua New Guinea	..	..
Paraguay	3.5	2002
Peru	4.6	2002
Philippines	3.1	2002
Poland	5.0	2002
Portugal	5.8	2002
Puerto Rico	..	..
Qatar	..	..
Romania	3.6	2002
Russian Federation	3.7	2002
Rwanda	..	..
Samoa	..	..

Table A1-5: Commercial Perception of Electricity Service (1=worst 7=best)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.6	2002
Slovak Republic	5.8	2002
Slovenia	5.9	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	5.8	2002
Spain	4.9	2002
Sri Lanka	2.9	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	6.9	2002
Switzerland	6.9	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	5.3	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	5.3	2002
Tunisia	5.2	2002
Turkey	5.3	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	3.9	2002
United Arab Emirates	..	..
United Kingdom	2.6	2002
United States	6.8	2002
Uruguay	6.6	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	5.5	2002
Vietnam	3.8	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	3.0	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	5.0	
Low Income	2.8	
Middle Income	4.7	
Lower Middle Income	4.2	
Upper Middle Income	5.2	
Low & Middle Income (developing)	3.8	
East Asia & Pacific	4.3	
Europe & Central Asia	4.8	
Latin American & Caribbean	4.2	
Middle East & North Africa	5.1	
South Asia	2.6	
Sub-Saharan Africa	4.3	
High Income OECD	6.3	
High Income Non-OECD	6.4	

Table A1-6: Commercial Perception of Public Agency Electricity Provider (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	4.4	2000
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	5.5	2000
Armenia	4.4	2000
Aruba	..	..
Australia	..	..
Austria	..	..
Azerbaijan	4.1	2000
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	3.1	2000
Barbados	..	..
Belarus	5.3	2000
Belgium	..	..
Belize	5.1	2000
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	5.3	2000
Bosnia and Herzegovina	4.0	2000
Botswana	5.7	2000
Brazil	..	..
Brunei	..	..
Bulgaria	4.7	2000
Burkina Faso	..	..
Burundi	..	..
Cambodia	4.5	2000
Cameroon	3.5	2000
Canada	6.0	2000
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	5.3	2000
China	4.9	2000
Colombia	4.9	2000
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	5.6	2000
Cote d'Ivoire	5.2	2000
Croatia	5.6	2000
Cuba	..	..
Cyprus	..	..
Czech Republic	5.1	2000
Denmark	..	..
Djibouti	..	..
Dominica	..	..
Dominican Republic	2.6	2000
Ecuador	4.9	2000
Egypt, Arab Rep.	5.7	2000
El Salvador	4.9	2000
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	5.3	2000
Ethiopia	4.6	2000
Faeroe Islands	..	..
Fiji	..	..
Finland	..	..
France	5.3	2000
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	4.1	2000
Germany	5.0	2000
Ghana	4.8	2000
Greece	..	..
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	5.1	2000
Guinea	..	..

Table A1-6: Commercial Perception of Public Agency Electricity Provider (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	2.0	2000
Honduras	4.5	2000
Hong Kong, China	..	..
Hungary	5.6	2000
Iceland	..	..
India	4.3	2000
Indonesia	5.1	2000
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	..	..
Isle of Man	..	..
Israel	..	..
Italy	5.1	2000
Jamaica	..	..
Japan	..	..
Jordan	..	..
Kazakhstan	4.7	2000
Kenya	3.9	2000
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	..	..
Kuwait	..	..
Kyrgyz Republic	4.4	2000
Lao PDR	..	..
Latvia	..	..
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	5.3	2000
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	4.7	2000
Malawi	3.2	2000
Malaysia	5.5	2000
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	4.9	2000
Micronesia, Fed. Sts.	..	..
Moldova	3.1	2000
Monaco	..	..
Mongolia	..	..
Morocco	..	..
Mozambique	..	..
Myanmar	..	..
Namibia	6.3	2000
Nepal	..	..
Netherlands	..	..
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	..	..
Nicaragua	4.8	2000
Niger	..	..
Nigeria	2.1	2000
Northern Mariana Islands	..	..
Norway	..	..
Oman	..	..
Pakistan	3.9	2000
Palau	..	..
Panama	4.4	2000
Papua New Guinea	..	..
Paraguay	..	..
Peru	5.2	2000
Philippines	5.2	2000
Poland	5.3	2000
Portugal	4.6	2000
Puerto Rico	..	..
Qatar	..	..
Romania	5.0	2000
Russian Federation	4.7	2000
Rwanda	..	..
Samoa	..	..

Table A1-7: Electric Power Transmission and Distribution Losses (% of total output)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	35	2002
Algeria	16	2002
American Samoa	..	..
Andorra	..	..
Angola	14	2002
Antigua and Barbuda	..	..
Argentina	17	2002
Armenia	26	2002
Aruba	..	..
Australia	7	2002
Austria	5	2002
Azerbaijan	20	2002
Bahamas, The	..	..
Bahrain	7	2002
Bangladesh	21	2002
Barbados	..	..
Belarus	13	2002
Belgium	5	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	13	2002
Bosnia and Herzegovina	17	2002
Botswana	..	..
Brazil	17	2002
Brunei	5	2002
Bulgaria	15	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	23	2002
Canada	8	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	6	2002
China	7	2002
Colombia	19	2002
Comoros	..	..
Congo, Dem. Rep.	4	2002
Congo, Rep.	70	2002
Costa Rica	10	2002
Cote d'Ivoire	..	..
Croatia	17	2002
Cuba	15	2002
Cyprus	4	2002
Czech Republic	6	2002
Denmark	6	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	33	2002
Ecuador	24	2002
Egypt, Arab Rep.	13	2002
El Salvador	13	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	15	2002
Ethiopia	10	2002
Faeroe Islands	..	..
Fiji	..	..
Finland	4	2002
France	6	2002
French Polynesia	..	..
Gabon	18	2002
Gambia, The	..	..
Georgia	17	2002
Germany	5	2002
Ghana	24	2002
Greece	7	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	22	2002
Guinea	..	..

Table A1-7: Electric Power Transmission and Distribution Losses (% of total output)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	51	2002
Honduras	23	2002
Hong Kong, China	12	2002
Hungary	12	2002
Iceland	5	2002
India	26	2002
Indonesia	16	2002
Iran, Islamic Rep.	16	2002
Iraq	6	2002
Ireland	8	2002
Isle of Man	..	..
Israel	3	2002
Italy	7	2002
Jamaica	9	2002
Japan	5	2002
Jordan	12	2002
Kazakhstan	16	2002
Kenya	21	2002
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	6	2002
Kuwait	5	2002
Kyrgyz Republic	37	2002
Lao PDR	..	..
Latvia	25	2002
Lebanon	16	2002
Lesotho	..	..
Liberia	..	..
Libya	20	2002
Liechtenstein	..	..
Lithuania	8	2002
Luxembourg	7	2002
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	6	2002
Maldives	..	..
Mali	..	..
Malta	13	2002
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	15	2002
Micronesia, Fed. Sts.	..	..
Moldova	50	2002
Monaco	..	..
Mongolia	..	..
Morocco	7	2002
Mozambique	8	2002
Myanmar	19	2002
Namibia	..	..
Nepal	20	2002
Netherlands	4	2002
Netherlands Antilles	14	2002
New Caledonia	..	..
New Zealand	10	2002
Nicaragua	29	2002
Niger	..	..
Nigeria	38	2002
Northern Mariana Islands	..	..
Norway	7	2002
Oman	17	2002
Pakistan	26	2002
Palau	..	..
Panama	22	2002
Papua New Guinea	..	..
Paraguay	3	2002
Peru	10	2002
Philippines	16	2002
Poland	10	2002
Portugal	8	2002
Puerto Rico	..	..
Qatar	6	2002
Romania	13	2002
Russian Federation	12	2002
Rwanda	..	..
Samoa	..	..

APPENDIX 2: Water & Sanitation Data by Country

Table A2-1: Access to Improved Water Sources (% of population)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Afghanistan	13	11	19	2002
Albania	97	95	99	2002
Algeria	87	80	92	2002
American Samoa	..	..	..	..
Andorra	100	100	100	2002
Angola	50	40	70	2002
Antigua and Barbuda	91	89	95	2002
Argentina	..	..	97	2002
Armenia	92	80	99	2002
Aruba	100	100	100	2002
Australia	100	100	100	2002
Austria	100	100	100	2002
Azerbaijan	77	59	95	2002
Bahamas, The	97	86	98	2002
Bahrain	..	..	100	2002
Bangladesh	75	72	82	2002
Barbados	100	100	100	2002
Belarus	100	100	100	2002
Belgium	..	..	100	2002
Belize	91	82	100	2002
Benin	68	60	79	2002
Bermuda	..	..	..	..
Bhutan	62	60	86	2002
Bolivia	85	68	95	2002
Bosnia and Herzegovina	98	96	100	2002
Botswana	95	90	100	2002
Brazil	89	58	96	2002
Brunei	..	..	..	..
Bulgaria	100	100	100	2002
Burkina Faso	51	44	82	2002
Burundi	79	78	90	2002
Cambodia	34	29	58	2002
Cameroon	63	41	84	2002
Canada	100	99	100	2002
Cape Verde	80	73	86	2002
Cayman Islands	..	..	..	..
Central African Republic	75	61	93	2002
Chad	34	32	40	2002
Channel Islands	..	..	..	..
Chile	95	59	100	2002
China	77	68	92	2002
Colombia	92	71	99	2002
Comoros	94	96	90	2002
Congo, Dem. Rep.	46	29	83	2002
Congo, Rep.	46	17	72	2002
Costa Rica	97	92	100	2002
Cote d'Ivoire	84	74	98	2002
Croatia	..	..	..	..
Cuba	91	78	95	2002
Cyprus	100	100	100	2002
Czech Republic	..	..	..	..
Denmark	100	100	100	2002
Djibouti	80	67	82	2002
Dominica	97	90	100	2002
Dominican Republic	93	85	98	2002
Ecuador	86	77	92	2002
Egypt, Arab Rep.	98	97	100	2002
El Salvador	82	68	91	2002
Equatorial Guinea	44	42	45	2002
Eritrea	57	54	72	2002
Estonia	..	..	..	..
Ethiopia	22	11	81	2002
Faeroe Islands	..	..	..	..
Fiji	..	..	..	..
Finland	100	100	100	2002
France	..	..	100	2002
French Polynesia	100	100	100	2002
Gabon	87	47	95	2002
Gambia, The	82	77	95	2002
Georgia	76	61	90	2002
Germany	100	100	100	2002
Ghana	79	68	93	2002
Greece	..	..	..	..
Greenland	..	..	..	..
Grenada	95	93	97	2002
Guam	100	100	100	2002
Guatemala	95	92	99	2002

Table A2-1: Access to Improved Water Sources (% of population)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Guinea	51	38	78	2002
Guinea-Bissau	59	49	79	2002
Guyana	83	83	83	2002
Haiti	71	59	91	2002
Honduras	90	82	99	2002
Hong Kong, China	..	..	..	..
Hungary	99	98	100	2002
Iceland	100	100	100	2002
India	86	82	96	2002
Indonesia	78	69	89	2002
Iran, Islamic Rep.	93	83	98	2002
Iraq	81	50	97	2002
Ireland	..	..	100	2002
Isle of Man	..	..	..	..
Israel	100	100	100	2002
Italy	..	..	100	2002
Jamaica	93	87	98	2002
Japan	100	100	100	2002
Jordan	91	91	91	2002
Kazakhstan	86	72	96	2002
Kenya	62	46	89	2002
Kiribati	64	53	77	2002
Korea, Dem. Rep.	100	100	100	2002
Korea, Rep.	92	71	97	2002
Kuwait	..	..	..	..
Kyrgyz Republic	76	66	98	2002
Lao PDR	43	38	66	2002
Latvia	..	..	..	..
Lebanon	100	100	100	2002
Lesotho	76	74	88	2002
Liberia	62	52	72	2002
Libya	72	68	72	2002
Liechtenstein	..	..	..	..
Lithuania	..	..	..	..
Luxembourg	100	100	100	2002
Macao, China	..	..	..	..
Macedonia, FYR	..	..	..	..
Madagascar	45	34	75	2002
Malawi	67	62	96	2002
Malaysia	95	94	96	2002
Maldives	84	78	99	2002
Mali	48	35	76	2002
Malta	100	100	100	2002
Marshall Islands	85	95	80	2002
Mauritania	56	45	63	2002
Mauritius	100	100	100	2002
Mayotte	..	..	..	..
Mexico	91	72	97	2002
Micronesia, Fed. Sts.	94	94	95	2002
Moldova	92	88	97	2002
Monaco	..	..	100	2002
Mongolia	62	30	87	2002
Morocco	80	56	99	2002
Mozambique	42	24	76	2002
Myanmar	80	74	95	2002
Namibia	80	72	98	2002
Nepal	84	82	93	2002
Netherlands	100	99	100	2002
Netherlands Antilles	..	..	..	..
New Caledonia	..	..	..	..
New Zealand	..	..	100	2002
Nicaragua	81	65	93	2002
Niger	46	36	80	2002
Nigeria	60	49	72	2002
Northern Mariana Islands	98	97	98	2002
Norway	100	100	100	2002
Oman	79	72	81	2002
Pakistan	90	87	95	2002
Palau	84	94	79	2002
Panama	91	79	99	2002
Papua New Guinea	39	32	88	2002
Paraguay	83	62	100	2002
Peru	81	66	87	2002
Philippines	85	77	90	2002
Poland	..	..	100	2002
Portugal	..	..	..	..
Puerto Rico	..	..	..	..
Qatar	100	100	100	2002
Romania	57	16	91	2002

Table A2-1: Access to Improved Water Sources (% of population)

Latest Observation				
Country Name	Total	Rural	Urban	Year
Russian Federation	96	88	99	2002
Rwanda	73	69	92	2002
Samoa	88	88	91	2002
San Marino	..	..	..	..
Sao Tome and Principe	79	73	89	2002
Saudi Arabia	..	..	97	2002
Senegal	72	54	90	2002
Seychelles	87	75	100	2002
Sierra Leone	57	46	75	2002
Singapore	..	..	100	2002
Slovak Republic	100	100	100	2002
Slovenia	..	..	..	..
Solomon Islands	70	65	94	2002
Somalia	29	27	32	2002
South Africa	87	73	98	2002
Spain	..	..	..	..
Sri Lanka	78	72	99	2002
St. Kitts and Nevis	99	99	99	2002
St. Lucia	98	98	98	2002
St. Vincent and the Grenadines	..	93	..	2002
Sudan	69	64	78	2002
Suriname	92	73	98	2002
Swaziland	52	42	87	2002
Sweden	100	100	100	2002
Switzerland	100	100	100	2002
Syrian Arab Republic	79	64	94	2002
Tajikistan	58	47	93	2002
Tanzania	73	62	92	2002
Thailand	85	80	95	2002
Togo	51	36	80	2002
Tonga	100	100	100	2002
Trinidad and Tobago	91	88	92	2002
Tunisia	82	60	94	2002
Turkey	93	87	96	2002
Turkmenistan	71	54	93	2002
Uganda	56	52	87	2002
Ukraine	98	94	100	2002
United Arab Emirates	..	..	..	..
United Kingdom	..	..	100	2002
United States	100	100	100	2002
Uruguay	98	93	98	2002
Uzbekistan	89	84	97	2002
Vanuatu	60	52	85	2002
Venezuela, RB	83	70	85	2002
Vietnam	73	67	93	2002
Virgin Islands (U.S.)	..	..	..	..
West Bank and Gaza	..	..	..	..
Yemen, Rep.	69	68	74	2002
Yugoslavia, FR (Serbia/Montenegro)	93	86	99	2002
Zambia	55	36	90	2002
Zimbabwe	83	74	100	2002
UNWEIGHTED AVERAGES (2002)				
World	80	73	91	
Low Income	65	56	83	
Middle Income	89	81	95	
Lower Middle Income	85	76	94	
Upper Middle Income	93	85	96	
Low & Middle Income (developing)	77	68	89	
East Asia & Pacific	75	70	88	
Europe & Central Asia	87	79	97	
Latin American & Caribbean	90	80	96	
Middle East & North Africa	85	75	91	
South Asia	72	68	84	
Sub-Saharan Africa	64	54	83	
High Income OECD	99	98	100	
High Income Non-OECD	99	98	100	

Table A2-2: Access to Improved Sanitation (% of population)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Afghanistan	8	5	16	2002
Albania	89	81	99	2002
Algeria	92	82	99	2002
American Samoa	..	..	..	..
Andorra	100	100	100	2002
Angola	30	16	56	2002
Antigua and Barbuda	95	94	98	2002
Argentina	..	..	..	..
Armenia	84	61	96	2002
Aruba	..	..	..	..
Australia	100	100	100	2002
Austria	100	100	100	2002
Azerbaijan	55	36	73	2002
Bahamas, The	100	100	100	2002
Bahrain	..	..	100	2002
Bangladesh	48	39	75	2002
Barbados	99	100	99	2002
Belarus	..	..	..	..
Belgium	..	..	..	..
Belize	47	25	71	2002
Benin	32	12	58	2002
Bermuda	..	..	..	..
Bhutan	70	70	65	2002
Bolivia	45	23	58	2002
Bosnia and Herzegovina	93	88	99	2002
Botswana	41	25	57	2002
Brazil	75	35	83	2002
Brunei	..	..	..	..
Bulgaria	100	100	100	2002
Burkina Faso	12	5	45	2002
Burundi	36	35	47	2002
Cambodia	16	8	53	2002
Cameroon	48	33	63	2002
Canada	100	99	100	2002
Cape Verde	42	19	61	2002
Cayman Islands	..	..	..	..
Central African Republic	27	12	47	2002
Chad	8	0	30	2002
Channel Islands	..	..	..	..
Chile	92	64	96	2002
China	44	29	69	2002
Colombia	86	54	96	2002
Comoros	23	15	38	2002
Congo, Dem. Rep.	29	23	43	2002
Congo, Rep.	9	2	14	2002
Costa Rica	92	97	89	2002
Cote d'Ivoire	40	23	61	2002
Croatia	..	..	..	..
Cuba	98	95	99	2002
Cyprus	100	100	100	2002
Czech Republic	..	..	..	..
Denmark	..	..	..	..
Djibouti	50	27	55	2002
Dominica	83	75	86	2002
Dominican Republic	57	43	67	2002
Ecuador	72	59	80	2002
Egypt, Arab Rep.	68	56	84	2002
El Salvador	63	40	78	2002
Equatorial Guinea	53	46	60	2002
Eritrea	9	3	34	2002
Estonia	..	..	93	2002
Ethiopia	6	4	19	2002
Faeroe Islands	..	..	..	..
Fiji	98	98	99	2002
Finland	100	100	100	2002
France	..	..	..	..
French Polynesia	98	97	99	2002
Gabon	36	30	37	2002
Gambia, The	53	46	72	2002
Georgia	83	69	96	2002
Germany	..	..	..	..
Ghana	58	46	74	2002
Greece	..	..	..	..
Greenland	..	..	..	..
Grenada	97	97	96	2002
Guam	99	98	99	2002
Guatemala	61	52	72	2002

Table A2-2: Access to Improved Sanitation (% of population)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Guinea	13	6	25	2002
Guinea-Bissau	34	23	57	2002
Guyana	70	60	86	2002
Haiti	34	23	52	2002
Honduras	68	52	89	2002
Hong Kong, China	..	..	..	..
Hungary	95	85	100	2002
Iceland	..	..	..	..
India	30	18	58	2002
Indonesia	52	38	71	2002
Iran, Islamic Rep.	84	78	86	2002
Iraq	80	48	95	2002
Ireland	..	..	..	..
Isle of Man	..	..	..	..
Israel	..	..	100	2002
Italy	..	..	..	..
Jamaica	80	68	90	2002
Japan	100	100	100	2002
Jordan	93	85	94	2002
Kazakhstan	72	52	87	2002
Kenya	48	43	56	2002
Kiribati	39	22	59	2002
Korea, Dem. Rep.	59	60	58	2002
Korea, Rep.	..	..	..	..
Kuwait	..	..	..	..
Kyrgyz Republic	60	51	75	2002
Lao PDR	24	14	61	2002
Latvia	..	..	..	..
Lebanon	98	87	100	2002
Lesotho	37	32	61	2002
Liberia	26	7	49	2002
Libya	97	96	97	2002
Liechtenstein	..	..	..	..
Lithuania	..	..	..	..
Luxembourg	..	..	..	..
Macao, China	..	..	..	..
Macedonia, FYR	..	..	..	..
Madagascar	33	27	49	2002
Malawi	46	42	66	2002
Malaysia	..	98	..	2002
Maldives	58	42	100	2002
Mali	45	38	59	2002
Malta	..	..	100	2002
Marshall Islands	82	59	93	2002
Mauritania	42	9	64	2002
Mauritius	99	99	100	2002
Mayotte	..	..	..	..
Mexico	77	39	90	2002
Micronesia, Fed. Sts.	28	14	61	2002
Moldova	68	52	86	2002
Monaco	..	..	100	2002
Mongolia	59	37	75	2002
Morocco	61	31	83	2002
Mozambique	27	14	51	2002
Myanmar	73	63	96	2002
Namibia	30	14	66	2002
Nepal	27	20	68	2002
Netherlands	100	100	100	2002
Netherlands Antilles	..	..	..	..
New Caledonia	..	..	..	..
New Zealand	..	..	..	..
Nicaragua	66	51	78	2002
Niger	12	4	43	2002
Nigeria	38	30	48	2002
Northern Mariana Islands	94	96	94	2002
Norway	..	..	..	..
Oman	89	61	97	2002
Pakistan	54	35	92	2002
Palau	83	52	96	2002
Panama	72	51	89	2002
Papua New Guinea	45	41	67	2002
Paraguay	78	58	94	2002
Peru	62	33	72	2002
Philippines	73	61	81	2002
Poland	..	..	..	..
Portugal	..	..	..	..
Puerto Rico	..	..	..	..
Qatar	100	100	100	2002
Romania	51	10	86	2002

Table A2-2: Access to Improved Sanitation (% of population)

Latest Observation				
Country Name	Total	Rural	Urban	Year
Russian Federation	87	70	93	2002
Rwanda	41	38	56	2002
Samoa	100	100	100	2002
San Marino	..	..	..	..
Sao Tome and Principe	24	20	32	2002
Saudi Arabia	..	..	100	2002
Senegal	52	34	70	2002
Seychelles	..	100	..	2002
Sierra Leone	39	30	53	2002
Singapore	..	..	100	2002
Slovak Republic	100	100	100	2002
Slovenia	..	..	..	..
Solomon Islands	31	18	98	2002
Somalia	25	14	47	2002
South Africa	67	44	86	2002
Spain	..	..	..	..
Sri Lanka	91	89	98	2002
St. Kitts and Nevis	96	96	96	2002
St. Lucia	89	89	89	2002
St. Vincent and the Grenadines	..	96	..	2002
Sudan	34	24	50	2002
Suriname	93	76	99	2002
Swaziland	52	44	78	2002
Sweden	100	100	100	2002
Switzerland	100	100	100	2002
Syrian Arab Republic	77	56	97	2002
Tajikistan	53	47	71	2002
Tanzania	46	41	54	2002
Thailand	99	100	97	2002
Togo	34	15	71	2002
Tonga	97	96	98	2002
Trinidad and Tobago	100	100	100	2002
Tunisia	80	62	90	2002
Turkey	83	62	94	2002
Turkmenistan	62	50	77	2002
Uganda	41	39	53	2002
Ukraine	99	97	100	2002
United Arab Emirates	100	100	100	2002
United Kingdom	..	..	..	..
United States	100	100	100	2002
Uruguay	94	85	95	2002
Uzbekistan	57	48	73	2002
Vanuatu	50	42	78	2002
Venezuela, RB	68	48	71	2002
Vietnam	41	26	84	2002
Virgin Islands (U.S.)	..	..	..	..
West Bank and Gaza	..	..	..	..
Yemen, Rep.	30	14	76	2002
Yugoslavia, FR (Serbia/Montenegro)	87	77	97	2002
Zambia	45	32	68	2002
Zimbabwe	57	51	69	2002
UNWEIGHTED AVERAGES (2002)				
World	64	54	78	
Low Income	41	30	60	
Middle Income	79	67	88	
Lower Middle Income	72	58	85	
Upper Middle Income	86	76	91	
Low & Middle Income (developing)	60	49	74	
East Asia & Pacific	60	51	80	
Europe & Central Asia	78	65	90	
Latin American & Caribbean	77	64	85	
Middle East & North Africa	77	60	90	
South Asia	48	40	72	
Sub-Saharan Africa	37	28	54	
High Income OECD	100	100	100	
High Income Non-OECD	99	99	99	

Table A2-3: Commercial Perception of Water Service (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	3.6	2000
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	5.4	2000
Armenia	3.9	2000
Aruba	..	..
Australia	..	..
Austria	..	..
Azerbaijan	3.9	2000
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	3.8	2000
Barbados	..	..
Belarus	5.0	2000
Belgium	..	..
Belize	5.4	2000
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	4.8	2000
Bosnia and Herzegovina	4.1	2000
Botswana	5.7	2000
Brazil	5.3	2000
Brunei	..	..
Bulgaria	4.6	2000
Burkina Faso	..	..
Burundi	..	..
Cambodia	4.5	2000
Cameroon	3.0	2000
Canada	6.0	2000
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	5.1	2000
China	4.9	2000
Colombia	4.7	2000
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	5.1	2000
Cote d'Ivoire	4.8	2000
Croatia	5.2	2000
Cuba	..	..
Cyprus	..	..
Czech Republic	5.1	2000
Denmark	..	..
Djibouti	..	..
Dominica	..	..
Dominican Republic	4.0	2000
Ecuador	4.4	2000
Egypt, Arab Rep.	5.5	2000
El Salvador	4.5	2000
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	4.9	2000
Ethiopia	4.5	2000
Faeroe Islands	..	..
Fiji	..	..
Finland	..	..
France	5.1	2000
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	4.6	2000
Germany	5.2	2000
Ghana	4.7	2000
Greece	..	..
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	4.8	2000
Guinea	..	..

Table A2-3: Commercial Perception of Water Service (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	3.5	2000
Honduras	4.5	2000
Hong Kong, China	..	..
Hungary	5.3	2000
Iceland	..	..
India	4.6	2000
Indonesia	4.8	2000
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	..	..
Isle of Man	..	..
Israel	..	..
Italy	4.8	2000
Jamaica	..	..
Japan	..	..
Jordan	..	..
Kazakhstan	4.8	2000
Kenya	2.5	2000
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	..	..
Kuwait	..	..
Kyrgyz Republic	4.5	2000
Lao PDR	..	..
Latvia	..	..
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	4.7	2000
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	3.5	2000
Malawi	4.2	2000
Malaysia	5.2	2000
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	4.7	2000
Micronesia, Fed. Sts.	..	..
Moldova	3.7	2000
Monaco	..	..
Mongolia	..	..
Morocco	..	..
Mozambique	..	..
Myanmar	..	..
Namibia	6.2	2000
Nepal	..	..
Netherlands	..	..
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	..	..
Nicaragua	4.7	2000
Niger	..	..
Nigeria	2.6	2000
Northern Mariana Islands	..	..
Norway	..	..
Oman	..	..
Pakistan	4.0	2000
Palau	..	..
Panama	4.7	2000
Papua New Guinea	..	..
Paraguay	..	..
Peru	4.9	2000
Philippines	4.8	2000
Poland	5.3	2000
Portugal	4.7	2000
Puerto Rico	..	..
Qatar	..	..
Romania	4.6	2000
Russian Federation	4.4	2000
Rwanda	..	..
Samoa	..	..

Table A2-4: Households Using Piped or Well Water as Main Source of Drinking Water (% of households)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Afghanistan
Albania
Algeria
American Samoa
Andorra
Angola
Antigua and Barbuda
Argentina
Armenia	93	84	98	2000
Aruba
Australia
Austria
Azerbaijan
Bahamas, The
Bahrain
Bangladesh	97	97	100	2000
Barbados
Belarus
Belgium
Belize
Benin	83	76	94	2001
Bermuda
Bhutan
Bolivia	85	67	96	1998
Bosnia and Herzegovina
Botswana
Brazil
Brunei
Bulgaria
Burkina Faso	94	94	94	1999
Burundi
Cambodia	63	61	72	2000
Cameroon	63	52	86	1998
Canada
Cape Verde
Cayman Islands
Central African Republic
Chad	80	84	66	1997
Channel Islands
Chile
China
Colombia	91	69	99	2000
Comoros
Congo, Dem. Rep.
Congo, Rep.
Costa Rica
Cote d'Ivoire	93	88	100	1999
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Djibouti
Dominica
Dominican Republic	42	48	39	1999
Ecuador
Egypt, Arab Rep.	99	98	100	2000
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia	100	100	100	2000
Faeroe Islands
Fiji
Finland
France
French Polynesia
Gabon	80	41	95	2000
Gambia, The
Georgia
Germany
Ghana	73	62	93	1998
Greece
Greenland
Grenada

Table A2-4: Households Using Piped or Well Water as Main Source of Drinking Water (% of households)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Guam	..	..	..	..
Guatemala	77	82	71	1999
Guinea	65	52	95	1999
Guinea-Bissau	..	..	..	..
Guyana	..	..	..	..
Haiti	64	48	91	2000
Honduras	..	..	..	..
Hong Kong, China	..	..	..	..
Hungary	..	..	..	..
Iceland	..	..	..	..
India	97	96	99	1999
Indonesia	78	70	97	1997
Iran, Islamic Rep.	..	..	..	..
Iraq	..	..	..	..
Ireland	..	..	..	..
Isle of Man	..	..	..	..
Israel	..	..	..	..
Italy	..	..	..	..
Jamaica	..	..	..	..
Japan	..	..	..	..
Jordan	96	86	98	1997
Kazakhstan	96	94	98	1999
Kenya	54	42	91	1998
Kiribati	..	..	..	..
Korea, Dem. Rep.	..	..	..	..
Korea, Rep.	..	..	..	..
Kuwait	..	..	..	..
Kyrgyz Republic	81	68	98	1997
Lao PDR	..	..	..	..
Latvia	..	..	..	..
Lebanon	..	..	..	..
Lesotho	..	..	..	..
Liberia	..	..	..	..
Libya	..	..	..	..
Liechtenstein	..	..	..	..
Lithuania	..	..	..	..
Luxembourg	..	..	..	..
Macao, China	..	..	..	..
Macedonia, FYR	..	..	..	..
Madagascar	41	29	76	1997
Malawi	89	88	99	2000
Malaysia	..	..	..	..
Maldives	..	..	..	..
Mali	94	93	97	2001
Malta	..	..	..	..
Marshall Islands	..	..	..	..
Mauritania	89	88	91	2001
Mauritius	..	..	..	..
Mayotte	..	..	..	..
Mexico	..	..	..	..
Micronesia, Fed. Sts.	..	..	..	..
Moldova	..	..	..	..
Monaco	..	..	..	..
Mongolia	..	..	..	..
Morocco	..	..	..	..
Mozambique	70	63	98	1997
Myanmar	..	..	..	..
Namibia	..	..	..	..
Nepal	77	75	97	2001
Netherlands	..	..	..	..
Netherlands Antilles	..	..	..	..
New Caledonia	..	..	..	..
New Zealand	..	..	..	..
Nicaragua	88	73	97	1998
Niger	90	93	71	1998
Nigeria	57	48	76	1999
Northern Mariana Islands	..	..	..	..
Norway	..	..	..	..
Oman	..	..	..	..
Pakistan	..	..	..	..
Palau	..	..	..	..
Panama	..	..	..	..
Papua New Guinea	..	..	..	..
Paraguay	..	..	..	..
Peru	80	58	92	2000
Philippines	87	82	93	1998
Poland	..	..	..	..
Portugal	..	..	..	..

Table A2-4: Households Using Piped or Well Water as Main Source of Drinking Water (% of households)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Puerto Rico	..	..	..	..
Qatar	..	..	..	..
Romania	..	..	..	..
Russian Federation	..	..	..	..
Rwanda	44	39	81	2000
Samoa	..	..	..	..
San Marino	..	..	..	..
Sao Tome and Principe	..	..	..	..
Saudi Arabia	..	..	..	..
Senegal	96	96	97	1997
Seychelles	..	..	..	..
Sierra Leone	..	..	..	..
Singapore	..	..	..	..
Slovak Republic	..	..	..	..
Slovenia	..	..	..	..
Solomon Islands	..	..	..	..
Somalia	..	..	..	..
South Africa	85	65	98	1998
Spain	..	..	..	..
Sri Lanka	..	..	..	..
St. Kitts and Nevis	..	..	..	..
St. Lucia	..	..	..	..
St. Vincent and the Grenadines	..	..	..	..
Sudan	..	..	..	..
Suriname	..	..	..	..
Swaziland	..	..	..	..
Sweden	..	..	..	..
Switzerland	..	..	..	..
Syrian Arab Republic	..	..	..	..
Tajikistan	..	..	..	..
Tanzania	76	70	94	1999
Thailand	..	..	..	..
Togo	74	62	98	1998
Tonga	..	..	..	..
Trinidad and Tobago	..	..	..	..
Tunisia	..	..	..	..
Turkey	60	43	69	1998
Turkmenistan	85	73	97	2000
Uganda	77	74	95	2001
Ukraine	..	..	..	..
United Arab Emirates	..	..	..	..
United Kingdom	..	..	..	..
United States	..	..	..	..
Uruguay	..	..	..	..
Uzbekistan	..	..	..	..
Vanuatu	..	..	..	..
Venezuela, RB	..	..	..	..
Vietnam	70	65	90	1997
Virgin Islands (U.S.)	..	..	..	..
West Bank and Gaza	..	..	..	..
Yemen, Rep.	73	72	74	1997
Yugoslavia, FR (Serbia/Montenegro)	..	..	..	..
Zambia	80	71	98	2002
Zimbabwe	100	100	100	1999
UNWEIGHTED AVERAGES (1997-2002)				
World	79	72	90	
Low Income	78	73	91	
Middle Income	81	56	91	
Lower Middle Income	82	72	88	
Upper Middle Income	80	41	95	
Low & Middle Income (developing)	80	64	91	
East Asia & Pacific	74	70	88	
Europe & Central Asia	83	72	92	
Latin American & Caribbean	75	64	84	
Middle East & North Africa	89	85	91	
South Asia	90	89	98	
Sub-Saharan Africa	78	71	91	
High Income OECD	..	..	..
High Income Non-OECD	..	..	..

APPENDIX 3: ICT Data by Country

Table A3-1: Teledensity (total telephone subscribers/1000 people)

Country Name	Latest Observation	Year
Afghanistan	12	2003
Albania	441	2003
Algeria	115	2003
American Samoa	290	1999
Andorra	1152	2003
Angola	15	2002
Antigua and Barbuda	978	2002
Argentina	396	2002
Armenia	178	2003
Aruba	850	2001
Australia	1262	2003
Austria	1360	2003
Azerbaijan	242	2003
Bahamas, The	782	2003
Bahrain	906	2003
Bangladesh	16	2003
Barbados	1016	2003
Belarus	424	2003
Belgium	1282	2003
Belize	317	2003
Benin	43	2003
Bermuda	1323	2002
Bhutan	45	2003
Bolivia	224	2003
Bosnia and Herzegovina	519	2003
Botswana	372	2003
Brazil	486	2003
Brunei	659	2001
Bulgaria	847	2003
Burkina Faso	24	2003
Burundi	12	2003
Cambodia	38	2003
Cameroon	51	2002
Canada	1070	2003
Cape Verde	273	2003
Cayman Islands	1229	2001
Central African Republic	5	2002
Chad	6	2002
Channel Islands	..	..
Chile	732	2003
China	424	2003
Colombia	321	2003
Comoros	19	2003
Congo, Dem. Rep.	11	2002
Congo, Rep.	96	2003
Costa Rica	459	2003
Cote d'Ivoire	91	2003
Croatia	952	2002
Cuba	67	2003
Cyprus	1316	2003
Czech Republic	1325	2003
Denmark	1553	2003
Djibouti	50	2003
Dominica	424	2002
Dominican Republic	387	2003
Ecuador	312	2003
Egypt, Arab Rep.	212	2003
El Salvador	287	2003
Equatorial Guinea	94	2003
Eritrea	9	2003
Estonia	1119	2003
Ethiopia	8	2003
Faeroe Islands	1126	2002
Fiji	257	2003
Finland	1402	2003
France	1262	2003
French Polynesia	583	2002
Gabon	253	2003
Gambia, The	104	2002
Georgia	280	2003
Germany	1442	2003
Ghana	49	2003
Greece	1356	2003
Greenland	798	2002
Grenada	667	2003
Guam	716	2001
Guatemala	202	2002
Guinea	18	2003

Table A3-1: Teledensity (total telephone subscribers/1000 people)

Country Name	Latest Observation	Year
Guinea-Bissau	9	2003
Guyana	191	2002
Haiti	55	2003
Honduras	104	2003
Hong Kong, China	1638	2003
Hungary	1117	2003
Iceland	1626	2003
India	71	2003
Indonesia	127	2003
Iran, Islamic Rep.	271	2003
Iraq	29	2002
Ireland	1371	2003
Isle of Man	..	..
Israel	1419	2003
Italy	1502	2003
Jamaica	702	2002
Japan	1151	2003
Jordan	356	2003
Kazakhstan	195	2002
Kenya	61	2003
Kiribati	57	2002
Korea, Dem. Rep.	39	2002
Korea, Rep.	1239	2003
Kuwait	768	2003
Kyrgyz Republic	103	2003
Lao PDR	32	2003
Latvia	811	2003
Lebanon	434	2003
Lesotho	63	2003
Liberia	3	2001
Libya	159	2003
Liechtenstein	925	2002
Lithuania	869	2003
Luxembourg	1991	2003
Macao, China	1201	2003
Macedonia, FYR	448	2002
Madagascar	21	2003
Malawi	21	2003
Malaysia	624	2003
Maldives	251	2002
Mali	10	2002
Malta	1246	2003
Marshall Islands	94	2003
Mauritania	141	2003
Mauritius	552	2003
Mayotte	198	2002
Mexico	454	2003
Micronesia, Fed. Sts.	158	2003
Moldova	351	2003
Monaco	..	..
Mongolia	186	2003
Morocco	285	2003
Mozambique	19	2002
Myanmar	8	2003
Namibia	182	2003
Nepal	18	2003
Netherlands	1382	2003
Netherlands Antilles	442	1998
New Caledonia	651	2003
New Zealand	1097	2003
Nicaragua	123	2003
Niger	3	2002
Nigeria	32	2003
Northern Mariana Islands	353	2000
Norway	1622	2003
Oman	317	2003
Pakistan	44	2003
Palau	..	..
Panama	390	2003
Papua New Guinea	14	2002
Paraguay	345	2003
Peru	173	2003
Philippines	311	2003
Poland	770	2003
Portugal	1310	2003
Puerto Rico	797	2002
Qatar	794	2003
Romania	524	2003
Russian Federation	502	2003
Rwanda	16	2002
Samoa	131	2003

Table A3-1: Teledensity (total telephone subscribers/1000 people)

Country Name	Latest Observation	Year
San Marino	1392	2003
Sao Tome and Principe	78	2003
Saudi Arabia	477	2003
Senegal	78	2003
Seychelles	851	2003
Sierra Leone	18	2002
Singapore	1303	2003
Slovak Republic	925	2003
Slovenia	1278	2003
Solomon Islands	16	2003
Somalia	48	2003
South Africa	408	2002
Spain	1345	2003
Sri Lanka	122	2003
St. Kitts and Nevis	606	2002
St. Lucia	409	2002
St. Vincent and the Grenadines	801	2003
Sudan	47	2003
Suriname	472	2003
Swaziland	129	2003
Sweden	1625	2002
Switzerland	1571	2003
Syrian Arab Republic	147	2002
Tajikistan	45	2003
Tanzania	29	2003
Thailand	499	2003
Togo	56	2003
Tonga	147	2002
Trinidad and Tobago	528	2002
Tunisia	315	2003
Turkey	662	2003
Turkmenistan	79	2002
Uganda	33	2003
Ukraine	369	2003
United Arab Emirates	1017	2003
United Kingdom	1431	2002
United States	1170	2003
Uruguay	472	2002
Uzbekistan	80	2003
Vanuatu	69	2003
Venezuela, RB	384	2003
Vietnam	88	2003
Virgin Islands (U.S.)	1010	2001
West Bank and Gaza	220	2003
Yemen, Rep.	49	2002
Yugoslavia, FR (Serbia/Montenegro)	581	2003
Zambia	29	2003
Zimbabwe	58	2003
UNWEIGHTED AVERAGES (1998-2003)		
World	501	
Low Income	64	
Middle Income	468	
Lower Middle Income	301	
Upper Middle Income	635	
Low & Middle Income (developing)	266	
East Asia & Pacific	172	
Europe & Central Asia	547	
Latin American & Caribbean	433	
Middle East & North Africa	292	
South Asia	72	
Sub-Saharan Africa	99	
High Income OECD	1393	
High Income Non-OECD	986	

Table A3-2: Mainlines Teledensity (mainlines subscribers/1000 people)

Country Name	Latest Observation	Year
Afghanistan	2	2003
Albania	83	2003
Algeria	69	2003
American Samoa	252	2001
Andorra	535	2003
Angola	7	2003
Antigua and Barbuda	488	2002
Argentina	219	2002
Armenia	148	2003
Aruba	350	2001
Australia	542	2003
Austria	481	2003
Azerbaijan	114	2003
Bahamas, The	415	2003
Bahrain	268	2003
Bangladesh	5	2003
Barbados	497	2003
Belarus	311	2003
Belgium	489	2003
Belize	113	2003
Benin	9	2003
Bermuda	862	2002
Bhutan	34	2003
Bolivia	72	2003
Bosnia and Herzegovina	245	2003
Botswana	75	2003
Brazil	223	2003
Brunei	256	2002
Bulgaria	380	2003
Burkina Faso	5	2003
Burundi	3	2003
Cambodia	3	2003
Cameroon	7	2002
Canada	651	2003
Cape Verde	156	2003
Cayman Islands	849	2001
Central African Republic	2	2002
Chad	2	2002
Channel Islands	..	..
Chile	221	2003
China	209	2003
Colombia	179	2003
Comoros	17	2003
Congo, Dem. Rep.	0	2002
Congo, Rep.	2	2003
Costa Rica	278	2003
Cote d'Ivoire	14	2003
Croatia	417	2002
Cuba	64	2003
Cyprus	572	2003
Czech Republic	360	2003
Denmark	669	2003
Djibouti	15	2003
Dominica	304	2002
Dominican Republic	115	2003
Ecuador	122	2003
Egypt, Arab Rep.	127	2003
El Salvador	113	2003
Equatorial Guinea	18	2003
Eritrea	9	2003
Estonia	341	2003
Ethiopia	6	2003
Faeroe Islands	482	2002
Fiji	124	2003
Finland	492	2003
France	566	2003
French Polynesia	214	2003
Gabon	29	2003
Gambia, The	29	2002
Georgia	134	2003
Germany	657	2003
Ghana	13	2003
Greece	454	2003
Greenland	447	2002
Grenada	290	2003
Guam	509	2001
Guatemala	71	2002
Guinea	3	2003

Table A3-2: Mainlines Teledensity (mainlines subscribers/1000 people)

Country Name	Latest Observation	Year
Guinea-Bissau	8	2003
Guyana	92	2002
Haiti	17	2003
Honduras	49	2003
Hong Kong, China	559	2003
Hungary	349	2003
Iceland	660	2003
India	46	2003
Indonesia	39	2003
Iran, Islamic Rep.	220	2003
Iraq	28	2002
Ireland	491	2003
Isle of Man	..	..
Israel	458	2003
Italy	484	2003
Jamaica	169	2002
Japan	472	2003
Jordan	114	2003
Kazakhstan	141	2003
Kenya	10	2003
Kiribati	51	2002
Korea, Dem. Rep.	41	2003
Korea, Rep.	538	2003
Kuwait	196	2003
Kyrgyz Republic	76	2003
Lao PDR	12	2003
Latvia	285	2003
Lebanon	200	2003
Lesotho	16	2003
Liberia	2	2002
Libya	136	2003
Liechtenstein	588	2002
Lithuania	239	2003
Luxembourg	797	2003
Macao, China	389	2003
Macedonia, FYR	271	2002
Madagascar	4	2003
Malawi	8	2003
Malaysia	182	2003
Maldives	102	2002
Mali	5	2002
Malta	521	2003
Marshall Islands	83	2003
Mauritania	14	2003
Mauritius	285	2003
Mayotte	62	2002
Mexico	160	2003
Micronesia, Fed. Sts.	103	2003
Moldova	219	2003
Monaco	..	..
Mongolia	56	2003
Morocco	40	2003
Mozambique	5	2002
Myanmar	7	2003
Namibia	66	2003
Nepal	16	2003
Netherlands	614	2003
Netherlands Antilles	372	2001
New Caledonia	227	2003
New Zealand	448	2003
Nicaragua	37	2003
Niger	2	2002
Nigeria	7	2003
Northern Mariana Islands	309	2000
Norway	713	2003
Oman	88	2003
Pakistan	27	2003
Palau	..	..
Panama	122	2003
Papua New Guinea	11	2002
Paraguay	46	2003
Peru	67	2003
Philippines	41	2003
Poland	319	2003
Portugal	411	2003
Puerto Rico	331	2002
Qatar	261	2003
Romania	199	2003
Russian Federation	253	2003
Rwanda	3	2002
Samoa	73	2003

Table A3-3: Cellular Teledensity (cellular subscribers/1000 people)

Country Name	Latest Observation	Year
Afghanistan	10	2003
Albania	358	2003
Algeria	45	2003
American Samoa	42	1999
Andorra	616	2003
Angola	9	2002
Antigua and Barbuda	490	2002
Argentina	178	2002
Armenia	30	2003
Aruba	500	2001
Australia	719	2003
Austria	879	2003
Azerbaijan	128	2003
Bahamas, The	367	2003
Bahrain	638	2003
Bangladesh	10	2003
Barbados	519	2003
Belarus	113	2003
Belgium	793	2003
Belize	205	2003
Benin	34	2003
Bermuda	462	2002
Bhutan	11	2003
Bolivia	152	2003
Bosnia and Herzegovina	274	2003
Botswana	297	2003
Brazil	264	2003
Brunei	401	2001
Bulgaria	466	2003
Burkina Faso	19	2003
Burundi	9	2003
Cambodia	35	2003
Cameroon	66	2003
Canada	419	2003
Cape Verde	116	2003
Cayman Islands	380	2001
Central African Republic	10	2003
Chad	8	2003
Channel Islands	..	..
Chile	511	2003
China	215	2003
Colombia	141	2003
Comoros	3	2003
Congo, Dem. Rep.	19	2003
Congo, Rep.	94	2003
Costa Rica	181	2003
Cote d'Ivoire	77	2003
Croatia	584	2003
Cuba	3	2003
Cyprus	744	2003
Czech Republic	965	2003
Denmark	883	2003
Djibouti	34	2003
Dominica	120	2002
Dominican Republic	272	2003
Ecuador	189	2003
Egypt, Arab Rep.	84	2003
El Salvador	173	2003
Equatorial Guinea	76	2003
Eritrea	0	2003
Estonia	777	2003
Ethiopia	1	2003
Faeroe Islands	644	2002
Fiji	133	2003
Finland	910	2003
France	696	2003
French Polynesia	367	2002
Gabon	224	2003
Gambia, The	75	2002
Georgia	145	2003
Germany	785	2003
Ghana	36	2003
Greece	902	2003
Greenland	352	2002
Grenada	376	2003
Guam	207	2001
Guatemala	131	2002
Guinea	14	2003

Table A3-3: Cellular Teledensity (cellular subscribers/1000 people)

Country Name	Latest Observation	Year
Guinea-Bissau	1	2003
Guyana	99	2002
Haiti	38	2003
Honduras	55	2003
Hong Kong, China	1079	2003
Hungary	769	2003
Iceland	966	2003
India	25	2003
Indonesia	87	2003
Iran, Islamic Rep.	51	2003
Iraq	3	2003
Ireland	880	2003
Isle of Man	..	..
Israel	961	2003
Italy	1018	2003
Jamaica	680	2003
Japan	679	2003
Jordan	242	2003
Kazakhstan	64	2002
Kenya	50	2003
Kiribati	6	2003
Korea, Dem. Rep.	0	2002
Korea, Rep.	701	2003
Kuwait	572	2003
Kyrgyz Republic	27	2003
Lao PDR	20	2003
Latvia	526	2003
Lebanon	234	2003
Lesotho	47	2003
Liberia	1	2001
Libya	23	2003
Liechtenstein	337	2002
Lithuania	630	2003
Luxembourg	1194	2003
Macao, China	812	2003
Macedonia, FYR	177	2002
Madagascar	17	2003
Malawi	13	2003
Malaysia	442	2003
Maldives	149	2002
Mali	23	2003
Malta	725	2003
Marshall Islands	11	2003
Mauritania	127	2003
Mauritius	267	2003
Mayotte	216	2003
Mexico	295	2003
Micronesia, Fed. Sts.	54	2003
Moldova	132	2003
Monaco	..	..
Mongolia	130	2003
Morocco	244	2003
Mozambique	23	2003
Myanmar	1	2003
Namibia	116	2003
Nepal	2	2003
Netherlands	768	2003
Netherlands Antilles	899	2003
New Caledonia	424	2003
New Zealand	648	2003
Nicaragua	85	2003
Niger	6	2003
Nigeria	26	2003
Northern Mariana Islands	44	2000
Norway	909	2003
Oman	228	2003
Pakistan	18	2003
Palau	..	..
Panama	268	2003
Papua New Guinea	3	2002
Paraguay	299	2003
Peru	106	2003
Philippines	270	2003
Poland	451	2003
Portugal	898	2003
Puerto Rico	467	2002
Qatar	533	2003
Romania	324	2003
Russian Federation	249	2003
Rwanda	16	2003
Samoa	58	2003

Table A3-4: Mainlines Teledensity Outside Largest City (mainlines/1000 people)

Country Name	Latest Observation	Year
Afghanistan	0	2001
Albania	38	2000
Algeria	55	2001
American Samoa	..	..
Andorra	..	..
Angola	1	2000
Antigua and Barbuda	430	1998
Argentina	188	1998
Armenia	101	2001
Aruba	..	..
Australia	516	1998
Austria	452	1997
Azerbaijan	53	2001
Bahamas, The	283	2001
Bahrain	..	..
Bangladesh	2	2001
Barbados	..	..
Belarus	250	2000
Belgium	..	..
Belize	116	2001
Benin	4	2000
Bermuda	..	..
Bhutan	17	2002
Bolivia	54	2001
Bosnia and Herzegovina	183	2000
Botswana	..	..
Brazil	167	2000
Brunei	106	2001
Bulgaria	305	1999
Burkina Faso	2	2001
Burundi	0	1998
Cambodia	1	2001
Cameroon	3	1999
Canada	..	..
Cape Verde	113	2000
Cayman Islands	909	1998
Central African Republic	..	..
Chad	0	2000
Channel Islands	..	..
Chile	153	2001
China	132	2001
Colombia	146	2001
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	..	..
Cote d'Ivoire	9	2002
Croatia	..	..
Cuba	34	2001
Cyprus	627	2001
Czech Republic	339	2001
Denmark	..	..
Djibouti	3	2000
Dominica	..	..
Dominican Republic	163	2002
Ecuador	94	2001
Egypt, Arab Rep.	108	2003
El Salvador	..	..
Equatorial Guinea	4	1998
Eritrea	2	2001
Estonia	261	2001
Ethiopia	2	2001
Faeroe Islands	..	..
Fiji	114	2001
Finland	512	1997
France	..	..
French Polynesia	233	1998
Gabon	12	1997
Gambia, The	10	2001
Georgia	57	2000
Germany	632	2001
Ghana	4	2001
Greece	454	2000
Greenland	..	..
Grenada	281	2000
Guam	..	..
Guatemala	..	..
Guinea	1	1997

Table A3-4: Mainlines Teledensity Outside Largest City (mainlines/1000 people)

Country Name	Latest Observation	Year
Guinea-Bissau	0	1998
Guyana	61	1999
Haiti	..	..
Honduras	31	1999
Hong Kong, China	..	..
Hungary	330	2001
Iceland	562	2001
India	36	2001
Indonesia	23	2001
Iran, Islamic Rep.	142	2001
Iraq	18	1998
Ireland	..	..
Isle of Man	..	..
Israel	..	..
Italy	..	..
Jamaica	..	..
Japan	481	2000
Jordan	86	2000
Kazakhstan	99	1998
Kenya	4	2001
Kiribati	10	1998
Korea, Dem. Rep.	..	..
Korea, Rep.	518	2001
Kuwait	413	2000
Kyrgyz Republic	56	2001
Lao PDR	5	2001
Latvia	217	2001
Lebanon	382	1998
Lesotho	5	2000
Liberia	..	..
Libya	93	1999
Liechtenstein	..	..
Lithuania	302	2000
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	1	2000
Malawi	3	2000
Malaysia	198	1999
Maldives	36	2001
Mali	1	2000
Malta	498	2001
Marshall Islands	49	2001
Mauritania	2	1999
Mauritius	241	2001
Mayotte	80	1998
Mexico	132	2001
Micronesia, Fed. Sts.	..	..
Moldova	128	2001
Monaco	..	..
Mongolia	28	2000
Morocco	41	1998
Mozambique	..	..
Myanmar	4	2001
Namibia	45	2000
Nepal	2	2001
Netherlands	..	..
Netherlands Antilles	..	..
New Caledonia	152	2000
New Zealand	..	..
Nicaragua	16	1999
Niger	1	2001
Nigeria	4	2000
Northern Mariana Islands	..	..
Norway	640	1998
Oman	..	..
Pakistan	17	1998
Palau	..	..
Panama	79	2000
Papua New Guinea	7	2000
Paraguay	39	2001
Peru	..	..
Philippines	7	2001
Poland	230	1998
Portugal	334	1997
Puerto Rico	..	..
Qatar	..	..
Romania	146	1999
Russian Federation	195	1999
Rwanda	0	1999
Samoa	4	1998

Table A3-5: Households with Own Telephone (% of households)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Afghanistan	..	..	..	..
Albania	..	..	..	..
Algeria	..	..	..	..
American Samoa	..	..	..	..
Andorra	..	..	..	..
Angola	..	..	..	..
Antigua and Barbuda	..	..	..	..
Argentina	..	..	..	..
Armenia	61	40	75	2000
Aruba	..	..	..	..
Australia	..	..	..	..
Austria	..	..	..	..
Azerbaijan	..	..	..	..
Bahamas, The	..	..	..	..
Bahrain	..	..	..	..
Bangladesh	2	0	8	2000
Barbados	..	..	..	..
Belarus	..	..	..	..
Belgium	..	..	..	..
Belize	..	..	..	..
Benin	4	1	9	2001
Bermuda	..	..	..	..
Bhutan	..	..	..	..
Bolivia	23	1	36	1998
Bosnia and Herzegovina	..	..	..	..
Botswana	..	..	..	..
Brazil	..	..	..	..
Brunei	..	..	..	..
Bulgaria	..	..	..	..
Burkina Faso	2	0	10	1999
Burundi	..	..	..	..
Cambodia	4	1	17	2000
Cameroon	2	0	5	1998
Canada	..	..	..	..
Cape Verde	..	..	..	..
Cayman Islands	..	..	..	..
Central African Republic	..	..	..	..
Chad	0	0	1	1997
Channel Islands	..	..	..	..
Chile	..	..	..	..
China	..	..	..	..
Colombia	52	10	67	2000
Comoros	..	..	..	..
Congo, Dem. Rep.	..	..	..	..
Congo, Rep.	..	..	..	..
Costa Rica	..	..	..	..
Cote d'Ivoire	5	2	10	1999
Croatia	..	..	..	..
Cuba	..	..	..	..
Cyprus	..	..	..	..
Czech Republic	..	..	..	..
Denmark	..	..	..	..
Djibouti	..	..	..	..
Dominica	..	..	..	..
Dominican Republic	33	9	47	1999
Ecuador	..	..	..	..
Egypt, Arab Rep.	28	11	45	2000
El Salvador	..	..	..	..
Equatorial Guinea	..	..	..	..
Eritrea	..	..	..	..
Estonia	..	..	..	..
Ethiopia	1	0	8	2000
Faeroe Islands	..	..	..	..
Fiji	..	..	..	..
Finland	..	..	..	..
France	..	..	..	..
French Polynesia	..	..	..	..
Gabon	13	1	17	2000
Gambia, The	..	..	..	..
Georgia	..	..	..	..
Germany	..	..	..	..
Ghana	2	0	5	1998
Greece	..	..	..	..
Greenland	..	..	..	..
Grenada	..	..	..	..
Guam	..	..	..	..
Guatemala	16	6	27	1999

Table A3-5: Households with Own Telephone (% of households)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Guinea	2	0	6	1999
Guinea-Bissau	..	..	..	..
Guyana	..	..	..	..
Haiti	4	0	11	2000
Honduras	..	..	..	..
Hong Kong, China	..	..	..	..
Hungary	..	..	..	..
Iceland	..	..	..	..
India	7	3	20	1999
Indonesia	..	..	..	..
Iran, Islamic Rep.	..	..	..	..
Iraq	..	..	..	..
Ireland	..	..	..	..
Isle of Man	..	..	..	..
Israel	..	..	..	..
Italy	..	..	..	..
Jamaica	..	..	..	..
Japan	..	..	..	..
Jordan	38	20	42	1997
Kazakhstan	39	20	55	1999
Kenya	3	1	9	1998
Kiribati	..	..	..	..
Korea, Dem. Rep.	..	..	..	..
Korea, Rep.	..	..	..	..
Kuwait	..	..	..	..
Kyrgyz Republic	30	14	54	1997
Lao PDR	..	..	..	..
Latvia	..	..	..	..
Lebanon	..	..	..	..
Lesotho	..	..	..	..
Liberia	..	..	..	..
Libya	..	..	..	..
Liechtenstein	..	..	..	..
Lithuania	..	..	..	..
Luxembourg	..	..	..	..
Macao, China	..	..	..	..
Macedonia, FYR	..	..	..	..
Madagascar	1	0	2	1997
Malawi	..	..	..	..
Malaysia	..	..	..	..
Maldives	..	..	..	..
Mali	2	0	9	2001
Malta	..	..	..	..
Marshall Islands	..	..	..	..
Mauritania	3	0	7	2001
Mauritius	..	..	..	..
Mayotte	..	..	..	..
Mexico	..	..	..	..
Micronesia, Fed. Sts.	..	..	..	..
Moldova	..	..	..	..
Monaco	..	..	..	..
Mongolia	..	..	..	..
Morocco	..	..	..	..
Mozambique	1	0	5	1997
Myanmar	..	..	..	..
Namibia	..	..	..	..
Nepal	3	1	18	2001
Netherlands	..	..	..	..
Netherlands Antilles	..	..	..	..
New Caledonia	..	..	..	..
New Zealand	..	..	..	..
Nicaragua	11	1	16	1998
Niger	1	0	3	1998
Nigeria	2	0	5	1999
Northern Mariana Islands	..	..	..	..
Norway	..	..	..	..
Oman	..	..	..	..
Pakistan	..	..	..	..
Palau	..	..	..	..
Panama	..	..	..	..
Papua New Guinea	..	..	..	..
Paraguay	..	..	..	..
Peru	24	1	37	2000
Philippines	16	3	29	1998
Poland	..	..	..	..
Portugal	..	..	..	..
Puerto Rico	..	..	..	..
Qatar	..	..	..	..
Romania	..	..	..	..

Table A3-5: Households with Own Telephone (% of households)

Country Name	Latest Observation			Year
	Total	Rural	Urban	
Russian Federation	..	..	..	..
Rwanda	1	0	8	2000
Samoa	..	..	..	..
San Marino	..	..	..	..
Sao Tome and Principe	..	..	..	..
Saudi Arabia	..	..	..	..
Senegal	..	..	..	..
Seychelles	..	..	..	..
Sierra Leone	..	..	..	..
Singapore	..	..	..	..
Slovak Republic	..	..	..	..
Slovenia	..	..	..	..
Solomon Islands	..	..	..	..
Somalia	..	..	..	..
South Africa	28	6	43	1998
Spain	..	..	..	..
Sri Lanka	..	..	..	..
St. Kitts and Nevis	..	..	..	..
St. Lucia	..	..	..	..
St. Vincent and the Grenadines	..	..	..	..
Sudan	..	..	..	..
Suriname	..	..	..	..
Swaziland	..	..	..	..
Sweden	..	..	..	..
Switzerland	..	..	..	..
Syrian Arab Republic	..	..	..	..
Tajikistan	..	..	..	..
Tanzania	..	..	..	..
Thailand	..	..	..	..
Togo	..	..	..	..
Tonga	..	..	..	..
Trinidad and Tobago	..	..	..	..
Tunisia	..	..	..	..
Turkey	..	..	..	..
Turkmenistan	42	17	66	2000
Uganda	3	1	15	2001
Ukraine	..	..	..	..
United Arab Emirates	..	..	..	..
United Kingdom	..	..	..	..
United States	..	..	..	..
Uruguay	..	..	..	..
Uzbekistan	..	..	..	..
Vanuatu	..	..	..	..
Venezuela, RB	..	..	..	..
Vietnam	7	2	27	1997
Virgin Islands (U.S.)	..	..	..	..
West Bank and Gaza	..	..	..	..
Yemen, Rep.	8	1	26	1997
Yugoslavia, FR (Serbia/Montenegro)	..	..	..	..
Zambia	4	0	10	2002
Zimbabwe	7	1	17	1999
UNWEIGHTED AVERAGES (1997-2002)				
World	13	4	23	
Low Income	6	2	14	
Middle Income	22	5	31	
Lower Middle Income	31	9	45	
Upper Middle Income	13	1	17	
Low & Middle Income (developing)	14	4	23	
East Asia & Pacific	9	2	24	
Europe & Central Asia	43	23	62	
Latin American & Caribbean	23	4	34	
Middle East & North Africa	24	11	38	
South Asia	4	1	15	
Sub-Saharan Africa	4	1	10	
High Income OECD	..	..	..
High Income Non-OECD	..	..	..

Table A3-6: Cost of Local Phone Call (US cents/3 minutes)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	2	2002
Algeria	4	2003
American Samoa	0	2001
Andorra	8	2001
Angola	9	2002
Antigua and Barbuda	6	1999
Argentina	2	2003
Armenia	2	2003
Aruba	9	2003
Australia	19	2003
Austria	19	2003
Azerbaijan	10	2002
Bahamas, The	..	..
Bahrain	5	2003
Bangladesh	3	2003
Barbados	0	2002
Belarus	1	2002
Belgium	17	2003
Belize	15	2003
Benin	11	2003
Bermuda	20	2003
Bhutan	2	2003
Bolivia	9	2000
Bosnia and Herzegovina	2	2003
Botswana	2	2003
Brazil	5	2003
Brunei	0	2001
Bulgaria	3	2003
Burkina Faso	10	2002
Burundi	7	2003
Cambodia	3	2003
Cameroon	6	2002
Canada	0	2002
Cape Verde	5	2003
Cayman Islands	11	2000
Central African Republic	43	2002
Chad	11	2002
Channel Islands	..	..
Chile	10	2003
China	3	2003
Colombia	2	2003
Comoros	17	2003
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	2	2003
Cote d'Ivoire	9	2003
Croatia	10	2003
Cuba	9	2003
Cyprus	8	2003
Czech Republic	15	2003
Denmark	11	2003
Djibouti	8	2003
Dominica	10	2002
Dominican Republic	6	2002
Ecuador	3	2003
Egypt, Arab Rep.	2	2003
El Salvador	1	2003
Equatorial Guinea	5	1998
Eritrea	3	2002
Estonia	11	2003
Ethiopia	2	2003
Faeroe Islands	40	1997
Fiji	6	2003
Finland	16	2003
France	15	2003
French Polynesia	32	2003
Gabon	26	2003
Gambia, The	3	2002
Georgia	3	2003
Germany	11	2003
Ghana	3	2002
Greece	9	2003
Greenland	27	2000
Grenada	9	2003
Guam	0	2001
Guatemala	8	2001
Guinea	8	2002

Table A3-6: Cost of Local Phone Call (US cents/3 minutes)

Country Name	Latest Observation	Year
Guinea-Bissau	15	1997
Guyana	0	2003
Haiti	..	..
Honduras	6	2003
Hong Kong, China	0	2003
Hungary	16	2003
Iceland	9	2002
India	2	2003
Indonesia	3	2003
Iran, Islamic Rep.	1	2003
Iraq	..	..
Ireland	17	2003
Isle of Man	..	..
Israel	2	2002
Italy	11	2001
Jamaica	2	2003
Japan	7	2003
Jordan	5	2003
Kazakhstan	0	2002
Kenya	9	2002
Kiribati	12	2003
Korea, Dem. Rep.	..	..
Korea, Rep.	3	2003
Kuwait	0	2003
Kyrgyz Republic	10	2003
Lao PDR	6	2003
Latvia	12	2003
Lebanon	10	2003
Lesotho	22	2003
Liberia	..	..
Libya	..	..
Liechtenstein	11	2001
Lithuania	16	2003
Luxembourg	104	2003
Macao, China	0	2003
Macedonia, FYR	1	2001
Madagascar	7	2002
Malawi	6	2002
Malaysia	2	2003
Maldives	6	2003
Mali	7	2001
Malta	12	2002
Marshall Islands	0	2003
Mauritania	11	2003
Mauritius	4	2002
Mayotte	11	1999
Mexico	14	2003
Micronesia, Fed. Sts.	0	2003
Moldova	2	2003
Monaco	..	..
Mongolia	2	2003
Morocco	17	2003
Mozambique	8	2002
Myanmar	6	2003
Namibia	4	2003
Nepal	1	2003
Netherlands	11	2001
Netherlands Antilles	..	..
New Caledonia	27	2001
New Zealand	0	2003
Nicaragua	8	2003
Niger	10	2001
Nigeria	10	2003
Northern Mariana Islands	..	..
Norway	15	2002
Oman	7	2003
Pakistan	2	2003
Palau	..	..
Panama	12	2001
Papua New Guinea	8	2003
Paraguay	9	2001
Peru	8	2002
Philippines	0	2003
Poland	9	2003
Portugal	13	2003
Puerto Rico	..	..
Qatar	0	2003
Romania	12	2003
Russian Federation	2	1999
Rwanda	9	2002
Samoa	4	2003

Table A3-6: Cost of Local Phone Call (US cents/3 minutes)

Country Name	Latest Observation	Year
San Marino	6	2000
Sao Tome and Principe	17	2002
Saudi Arabia	5	2003
Senegal	20	2003
Seychelles	16	2003
Sierra Leone	3	2002
Singapore	2	2003
Slovak Republic	19	2003
Slovenia	8	2003
Solomon Islands	6	2003
Somalia	5	2003
South Africa	15	2003
Spain	7	2001
Sri Lanka	9	2003
St. Kitts and Nevis	..	..
St. Lucia	9	2002
St. Vincent and the Grenadines	13	2002
Sudan	3	2003
Suriname	6	2003
Swaziland	5	2003
Sweden	11	2001
Switzerland	15	2002
Syrian Arab Republic	1	2002
Tajikistan	1	2003
Tanzania	12	2002
Thailand	7	2003
Togo	10	2002
Tonga	5	2002
Trinidad and Tobago	4	2003
Tunisia	2	2003
Turkey	14	2003
Turkmenistan	..	..
Uganda	21	2002
Ukraine	0	1999
United Arab Emirates	0	2003
United Kingdom	18	2002
United States	0	2003
Uruguay	17	2000
Uzbekistan	1	2001
Vanuatu	25	2003
Venezuela, RB	2	2003
Vietnam	2	2003
Virgin Islands (U.S.)	0	2000
West Bank and Gaza	5	2002
Yemen, Rep.	2	2002
Yugoslavia, FR (Serbia/Montenegro)	1	2002
Zambia	9	2002
Zimbabwe	1	2002
UNWEIGHTED AVERAGES (1997-2003)		
World	9	
Low Income	8	
Middle Income	7	
Lower Middle Income	6	
Upper Middle Income	9	
Low & Middle Income (developing)	8	
East Asia & Pacific	5	
Europe & Central Asia	7	
Latin American & Caribbean	7	
Middle East & North Africa	6	
South Asia	4	
Sub-Saharan Africa	10	
High Income OECD	15	
High Income Non-OECD	9	

Table A3-7: Cost of Phone Call to the US (US cents/3 minutes)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	247	2003
Algeria	415	1999
American Samoa	..	..
Andorra	230	1998
Angola	134	2003
Antigua and Barbuda	590	1998
Argentina	277	1999
Armenia	581	1999
Aruba	290	1999
Australia	68	2003
Austria	160	1998
Azerbaijan	555	2003
Bahamas, The	240	1999
Bahrain	199	2003
Bangladesh	207	2003
Barbados	405	2003
Belarus	225	2003
Belgium	200	1998
Belize	284	2003
Benin	576	2001
Bermuda	350	1998
Bhutan	115	2003
Bolivia	367	1999
Bosnia and Herzegovina	302	2003
Botswana	364	1999
Brazil	177	1999
Brunei	..	..
Bulgaria	146	2003
Burkina Faso	258	2003
Burundi	371	2003
Cambodia	..	..
Cameroon	325	1999
Canada	120	1998
Cape Verde	526	1999
Cayman Islands	..	..
Central African Republic	1359	2003
Chad	911	2001
Channel Islands	..	..
Chile	218	2001
China	670	1998
Colombia	200	1999
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	193	2000
Cote d'Ivoire	638	2003
Croatia	..	..
Cuba	735	2001
Cyprus	28	2003
Czech Republic	83	2003
Denmark	152	1999
Djibouti	473	2003
Dominica	..	..
Dominican Republic	390	1998
Ecuador	175	2001
Egypt, Arab Rep.	257	2003
El Salvador	123	2001
Equatorial Guinea	..	..
Eritrea	355	2003
Estonia	74	2003
Ethiopia	705	2003
Faeroe Islands	..	..
Fiji	407	1999
Finland	106	2002
France	638	1999
French Polynesia	367	2000
Gabon	1088	2003
Gambia, The	346	2003
Georgia	68	2003
Germany	35	2002
Ghana	113	2003
Greece	67	2001
Greenland	241	2000
Grenada	397	1999
Guam	..	..
Guatemala	76	1999
Guinea	461	2001

Table A3-7: Cost of Phone Call to the US (US cents/3 minutes)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	389	1999
Haiti	710	1998
Honduras	285	2003
Hong Kong, China	262	2003
Hungary	79	2003
Iceland	84	2000
India	320	2001
Indonesia	418	1999
Iran, Islamic Rep.	195	2003
Iraq	..	..
Ireland	73	1999
Isle of Man	..	..
Israel	330	1998
Italy	140	1999
Jamaica	520	1998
Japan	167	2000
Jordan	196	2003
Kazakhstan	276	1999
Kenya	436	2003
Kiribati	696	2000
Korea, Dem. Rep.	..	..
Korea, Rep.	174	2003
Kuwait	148	2003
Kyrgyz Republic	904	2003
Lao PDR	637	2001
Latvia	202	2003
Lebanon	448	1999
Lesotho	231	2001
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	231	2003
Luxembourg	40	2000
Macao, China	112	2003
Macedonia, FYR	395	1999
Madagascar	741	2003
Malawi	6	2001
Malaysia	237	2001
Maldives	586	2003
Mali	1228	2001
Malta	333	2001
Marshall Islands	..	..
Mauritania	436	1999
Mauritius	250	2003
Mayotte	..	..
Mexico	304	2001
Micronesia, Fed. Sts.	600	2003
Moldova	221	2003
Monaco	..	..
Mongolia	492	2000
Morocco	163	2003
Mozambique	522	1999
Myanmar	36	2001
Namibia	428	2000
Nepal	528	1999
Netherlands	65	1999
Netherlands Antilles	..	..
New Caledonia	343	2000
New Zealand	94	1999
Nicaragua	320	2003
Niger	877	2001
Nigeria	715	1999
Northern Mariana Islands	..	..
Norway	31	2003
Oman	78	2003
Pakistan	360	2000
Palau	..	..
Panama	436	2000
Papua New Guinea	432	2000
Paraguay	82	2001
Peru	245	1999
Philippines	481	1999
Poland	179	2003
Portugal	93	2002
Puerto Rico	87	1998
Qatar	195	2003
Romania	182	2003
Russian Federation	291	1999
Rwanda	1123	1999
Samoa	136	2003

Table A3-7: Cost of Phone Call to the US (US cents/3 minutes)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	495	2003
Saudi Arabia	240	2003
Senegal	181	2001
Seychelles	559	1999
Sierra Leone	274	1999
Singapore	68	2000
Slovak Republic	79	2001
Slovenia	52	2003
Solomon Islands	..	..
Somalia	..	..
South Africa	58	2001
Spain	188	1998
Sri Lanka	233	2003
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	397	2000
Sudan	392	2001
Suriname	129	2002
Swaziland	242	2003
Sweden	32	2001
Switzerland	98	1999
Syrian Arab Republic	481	2001
Tajikistan	695	2003
Tanzania	528	2003
Thailand	154	2003
Togo	215	2003
Tonga	109	2003
Trinidad and Tobago	222	2001
Tunisia	228	2003
Turkey	209	2003
Turkmenistan	..	..
Uganda	351	2003
Ukraine	..	..
United Arab Emirates	173	2003
United Kingdom	115	1999
United States	..	..
Uruguay	488	2000
Uzbekistan	1395	2000
Vanuatu	745	2000
Venezuela, RB	520	1998
Vietnam	944	1999
Virgin Islands (U.S.)	87	1998
West Bank and Gaza	15	2003
Yemen, Rep.	410	2003
Yugoslavia, FR (Serbia/Montenegro)	208	2003
Zambia	645	2003
Zimbabwe	436	2000
UNWEIGHTED AVERAGES (1998-2003)		
World	335	
Low Income	504	
Middle Income	309	
Lower Middle Income	314	
Upper Middle Income	305	
Low & Middle Income (developing)	407	
East Asia & Pacific	450	
Europe & Central Asia	326	
Latin American & Caribbean	325	
Middle East & North Africa	281	
South Asia	336	
Sub-Saharan Africa	497	
High Income OECD	128	
High Income Non-OECD	206	

Table A3-8: Cost of Cellular Local Call (US cents/3 off-peak minutes)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	20	2001
Algeria	78	2003
American Samoa	30	2003
Andorra	24	2001
Angola	8	2003
Antigua and Barbuda	..	..
Argentina	123	1999
Armenia	35	2002
Aruba	75	2001
Australia	189	2003
Austria	101	2003
Azerbaijan	30	2002
Bahamas, The	90	1999
Bahrain	32	2002
Bangladesh	31	2003
Barbados	105	2002
Belarus	10	2002
Belgium	84	2003
Belize	90	2002
Benin	59	2003
Bermuda	75	2002
Bhutan	..	..
Bolivia	15	2000
Bosnia and Herzegovina	46	2001
Botswana	33	2003
Brazil	36	2002
Brunei	..	..
Bulgaria	..	..
Burkina Faso	103	2003
Burundi	68	2003
Cambodia	57	2002
Cameroon	103	2003
Canada	20	1999
Cape Verde	90	2002
Cayman Islands	..	..
Central African Republic	52	2003
Chad	..	..
Channel Islands	..	..
Chile	59	1999
China	14	2002
Colombia	2	2003
Comoros	73	2003
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	25	2001
Cote d'Ivoire	62	2003
Croatia	51	1999
Cuba	90	2001
Cyprus	44	2002
Czech Republic	25	2001
Denmark	25	2001
Djibouti	34	2003
Dominica	..	..
Dominican Republic	37	1999
Ecuador	..	..
Egypt, Arab Rep.	13	2003
El Salvador	..	..
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	43	2001
Ethiopia	11	2002
Faeroe Islands	159	1997
Fiji	30	2002
Finland	42	2001
France	101	2003
French Polynesia	282	2003
Gabon	65	2003
Gambia, The	48	2001
Georgia	20	2003
Germany	54	2002
Ghana	71	2002
Greece	96	1999
Greenland	14	2000
Grenada	44	2001
Guam	240	2002
Guatemala	38	2001
Guinea	46	2002

Table A3-8: Cost of Cellular Local Call (US cents/3 off-peak minutes)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	46	2002
Haiti	..	..
Honduras	149	2002
Hong Kong, China	18	2002
Hungary	26	2001
Iceland	35	2001
India	13	2003
Indonesia	..	..
Iran, Islamic Rep.	66	2001
Iraq	..	..
Ireland	62	2001
Isle of Man	..	..
Israel	..	..
Italy	28	1999
Jamaica	50	2002
Japan	32	2002
Jordan	59	2002
Kazakhstan	..	..
Kenya	57	2002
Kiribati	117	2003
Korea, Dem. Rep.	..	..
Korea, Rep.	21	2003
Kuwait	20	2002
Kyrgyz Republic	..	..
Lao PDR	21	2002
Latvia	39	2000
Lebanon	168	2003
Lesotho	26	2002
Liberia	..	..
Libya	..	..
Liechtenstein	142	2001
Lithuania	41	2002
Luxembourg	42	2003
Macao, China	26	2002
Macedonia, FYR	47	1999
Madagascar	58	2003
Malawi	65	2002
Malaysia	31	2002
Maldives	47	2003
Mali	98	2001
Malta	80	2001
Marshall Islands	30	2003
Mauritania	..	..
Mauritius	10	2002
Mayotte	..	..
Mexico	83	2001
Micronesia, Fed. Sts.	120	2003
Moldova	106	1997
Monaco	..	..
Mongolia	95	2002
Morocco	33	2002
Mozambique	35	2003
Myanmar	1	2002
Namibia	30	2002
Nepal	7	2003
Netherlands	35	2000
Netherlands Antilles	..	..
New Caledonia	27	2001
New Zealand	85	2003
Nicaragua	25	2003
Niger	23	2001
Nigeria	90	2002
Northern Mariana Islands	..	..
Norway	40	2001
Oman	100	2003
Pakistan	29	2002
Palau	..	..
Panama	45	1999
Papua New Guinea	58	2002
Paraguay	47	2000
Peru	29	2002
Philippines	23	2002
Poland	57	1999
Portugal	34	2002
Puerto Rico	72	1999
Qatar	59	2003
Romania	45	2002
Russian Federation	2	1999
Rwanda	37	2002
Samoa	..	..

**Table A3-9: Commercial Perception of Telephone/Fax Infrastructure Quality
(1=worst 7=best)**

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	5.8	2002
Armenia	..	..
Aruba	..	..
Australia	6.6	2002
Austria	6.7	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	1.8	2002
Barbados	..	..
Belarus	..	..
Belgium	6.4	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	4.7	2002
Bosnia and Herzegovina	..	..
Botswana	4.6	2002
Brazil	6.0	2002
Brunei	..	..
Bulgaria	4.5	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.7	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	6.7	2002
China	5.5	2002
Colombia	5.5	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	2.7	2002
Cote d'Ivoire	..	..
Croatia	6.2	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	6.2	2002
Denmark	6.9	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	5.5	2002
Ecuador	2.8	2002
Egypt, Arab Rep.	5.5	2001
El Salvador	6.2	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	6.2	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	7.0	2002
France	6.7	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.8	2002
Ghana	..	..
Greece	6.0	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	4.7	2002
Guinea	..	..

**Table A3-9: Commercial Perception of Telephone/Fax Infrastructure Quality
(1=worst 7=best)**

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	1.8	2002
Honduras	1.6	2002
Hong Kong, China	6.9	2002
Hungary	6.4	2002
Iceland	7.0	2002
India	5.6	2002
Indonesia	4.5	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	6.3	2002
Isle of Man	..	..
Israel	6.8	2002
Italy	5.9	2002
Jamaica	4.7	2002
Japan	6.7	2002
Jordan	5.9	2002
Kazakhstan	4.8	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	6.4	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	5.7	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	5.7	2002
Luxembourg	5.8	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	6.0	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	5.2	2002
Mayotte	..	..
Mexico	5.0	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	6.1	2002
Mozambique	..	..
Myanmar	..	..
Namibia	5.1	2002
Nepal	..	..
Netherlands	6.7	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	6.7	2002
Nicaragua	2.3	2002
Niger	..	..
Nigeria	3.1	2002
Northern Mariana Islands	..	..
Norway	6.6	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	5.7	2002
Papua New Guinea	..	..
Paraguay	3.2	2002
Peru	5.9	2002
Philippines	4.4	2002
Poland	5.1	2002
Portugal	6.5	2002
Puerto Rico	..	..
Qatar	..	..
Romania	4.4	2002
Russian Federation	4.5	2002
Rwanda	..	..

**Table A3-9: Commercial Perception of Telephone/Fax Infrastructure Quality
(1=worst 7=best)**

Country Name	Latest Observation	Year
Samoa	..	..
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.8	2002
Slovak Republic	6.0	2002
Slovenia	6.2	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	5.1	2002
Spain	6.0	2002
Sri Lanka	5.4	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	6.7	2002
Switzerland	6.9	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	6.2	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	4.8	2002
Tunisia	5.5	2002
Turkey	5.2	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	3.7	2002
United Arab Emirates	..	..
United Kingdom	6.6	2002
United States	6.8	2002
Uruguay	6.4	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	5.3	2002
Vietnam	4.8	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	2.9	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	5.5	
Low Income	3.4	
Middle Income	5.3	
Lower Middle Income	4.9	
Upper Middle Income	5.6	
Low & Middle Income (developing)	4.3	
East Asia & Pacific	5.2	
Europe & Central Asia	5.3	
Latin American & Caribbean	4.6	
Middle East & North Africa	5.8	
South Asia	4.3	
Sub-Saharan Africa	4.3	
High Income OECD	6.6	
High Income Non-OECD	6.7	

Table A3-10: Commercial Perception of Availability of Mobile or Cellular Telephone (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	6.0	2002
Armenia	..	..
Aruba	..	..
Australia	6.6	2002
Austria	6.9	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	5.8	2002
Barbados	..	..
Belarus	..	..
Belgium	6.9	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	5.2	2002
Bosnia and Herzegovina	..	..
Botswana	5.7	2002
Brazil	6.4	2002
Brunei	..	..
Bulgaria	5.2	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.7	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	6.7	2002
China	5.1	2002
Colombia	5.5	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	2.9	2002
Cote d'Ivoire	..	..
Croatia	6.5	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	6.8	2002
Denmark	6.8	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	5.9	2002
Ecuador	5.1	2002
Egypt, Arab Rep.	6.1	2001
El Salvador	6.0	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	6.7	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	7.0	2002
France	6.6	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.9	2002
Ghana	..	..
Greece	6.3	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	5.7	2002
Guinea	..	..

Table A3-10: Commercial Perception of Availability of Mobile or Cellular Telephone (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	5.1	2002
Honduras	4.4	2002
Hong Kong, China	6.9	2002
Hungary	6.5	2002
Iceland	7.0	2002
India	6.1	2002
Indonesia	5.6	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	6.2	2002
Isle of Man	..	..
Israel	7.0	2002
Italy	6.6	2002
Jamaica	6.3	2002
Japan	6.6	2002
Jordan	6.3	2002
Kazakhstan	5.8	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	6.6	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	6.1	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	6.4	2002
Luxembourg	6.2	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	6.3	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	6.1	2002
Mayotte	..	..
Mexico	5.2	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	6.4	2002
Mozambique	..	..
Myanmar	..	..
Namibia	5.9	2002
Nepal	..	..
Netherlands	6.9	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	6.7	2002
Nicaragua	4.2	2002
Niger	..	..
Nigeria	5.3	2002
Northern Mariana Islands	..	..
Norway	6.8	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	5.8	2002
Papua New Guinea	..	..
Paraguay	5.9	2002
Peru	5.8	2002
Philippines	6.3	2002
Poland	6.1	2002
Portugal	6.7	2002
Puerto Rico	..	..
Qatar	..	..
Romania	6.1	2002
Russian Federation	5.4	2002
Rwanda	..	..

Table A3-10: Commercial Perception of Availability of Mobile or Cellular Telephone (1=worst 7=best)

Country Name	Latest Observation	Year
Samoa	..	..
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.7	2002
Slovak Republic	6.5	2002
Slovenia	6.8	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	6.3	2002
Spain	6.3	2002
Sri Lanka	5.8	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	7.0	2002
Switzerland	6.8	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	6.3	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	5.7	2002
Tunisia	4.9	2002
Turkey	6.5	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	3.8	2002
United Arab Emirates	..	..
United Kingdom	6.9	2002
United States	6.4	2002
Uruguay	5.7	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	5.9	2002
Vietnam	4.8	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	4.8	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	6.1	
Low Income	5.0	
Middle Income	5.9	
Lower Middle Income	5.8	
Upper Middle Income	6.0	
Low & Middle Income (developing)	5.5	
East Asia & Pacific	5.7	
Europe & Central Asia	6.0	
Latin American & Caribbean	5.5	
Middle East & North Africa	5.9	
South Asia	5.9	
Sub-Saharan Africa	5.7	
High Income OECD	6.7	
High Income Non-OECD	6.9	

Table A3-11: Commercial Perception of Internet Access in Schools (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	3.2	2002
Armenia	..	..
Aruba	..	..
Australia	5.8	2002
Austria	5.7	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	2.0	2002
Barbados	..	..
Belarus	..	..
Belgium	5.3	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	2.5	2002
Bosnia and Herzegovina	..	..
Botswana	3.2	2002
Brazil	4.2	2002
Brunei	..	..
Bulgaria	2.8	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.2	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	4.6	2002
China	3.1	2002
Colombia	3.0	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	3.5	2002
Cote d'Ivoire	..	..
Croatia	3.7	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	4.8	2002
Denmark	5.8	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	3.4	2002
Ecuador	2.2	2002
Egypt, Arab Rep.	2.3	2001
El Salvador	3.3	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	5.8	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	6.7	2002
France	4.8	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	5.2	2002
Ghana	..	..
Greece	3.5	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	2.0	2002
Guinea	..	..

Table A3-11: Commercial Perception of Internet Access in Schools (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	1.4	2002
Honduras	1.9	2002
Hong Kong, China	6.0	2002
Hungary	5.0	2002
Iceland	6.3	2002
India	3.2	2002
Indonesia	2.8	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	4.9	2002
Isle of Man	..	..
Israel	6.0	2002
Italy	3.4	2002
Jamaica	2.8	2002
Japan	4.8	2002
Jordan	4.2	2002
Kazakhstan	2.1	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	6.3	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	4.3	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	3.6	2002
Luxembourg	4.7	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	4.1	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	3.4	2002
Mayotte	..	..
Mexico	3.1	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	2.8	2002
Mozambique	..	..
Myanmar	..	..
Namibia	3.4	2002
Nepal	..	..
Netherlands	5.7	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	5.8	2002
Nicaragua	1.5	2002
Niger	..	..
Nigeria	1.3	2002
Northern Mariana Islands	..	..
Norway	5.3	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	3.3	2002
Papua New Guinea	..	..
Paraguay	2.0	2002
Peru	2.8	2002
Philippines	3.5	2002
Poland	3.6	2002
Portugal	4.7	2002
Puerto Rico	..	..
Qatar	..	..
Romania	3.3	2002
Russian Federation	3.0	2002
Rwanda	..	..
Samoa	..	..

Table A3-11: Commercial Perception of Internet Access in Schools (1=worst 7=best)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.3	2002
Slovak Republic	4.2	2002
Slovenia	5.5	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	3.6	2002
Spain	4.7	2002
Sri Lanka	2.8	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	6.2	2002
Switzerland	5.9	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	4.2	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	2.9	2002
Tunisia	4.6	2002
Turkey	3.2	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	2.1	2002
United Arab Emirates	..	..
United Kingdom	5.7	2002
United States	5.9	2002
Uruguay	3.7	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	2.7	2002
Vietnam	2.7	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	2.1	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	4.0	
Low Income	2.1	
Middle Income	3.4	
Lower Middle Income	3.0	
Upper Middle Income	3.8	
Low & Middle Income (developing)	2.8	
East Asia & Pacific	3.4	
Europe & Central Asia	3.7	
Latin American & Caribbean	2.8	
Middle East & North Africa	3.5	
South Asia	2.7	
Sub-Saharan Africa	2.8	
High Income OECD	5.4	
High Income Non-OECD	6.0	

Table A3-12: Commercial Perception of Postal Efficiency (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	3.5	2002
Armenia	..	..
Aruba	..	..
Australia	6.5	2002
Austria	6.4	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	2.8	2002
Barbados	..	..
Belarus	..	..
Belgium	6.1	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	3.1	2002
Bosnia and Herzegovina	..	..
Botswana	5.2	2002
Brazil	5.3	2002
Brunei	..	..
Bulgaria	3.5	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.5	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	4.7	2002
China	4.9	2002
Colombia	3.9	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	3.0	2002
Cote d'Ivoire	..	..
Croatia	5.3	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	6.0	2002
Denmark	6.8	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	2.6	2002
Ecuador	2.2	2002
Egypt, Arab Rep.	4.7	2001
El Salvador	2.3	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	5.6	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	6.8	2002
France	6.0	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.7	2002
Ghana	..	..
Greece	4.5	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	3.0	2002
Guinea	..	..

Table A3-12: Commercial Perception of Postal Efficiency (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	2.8	2002
Honduras	1.9	2002
Hong Kong, China	6.6	2002
Hungary	5.1	2002
Iceland	6.7	2002
India	3.9	2002
Indonesia	3.3	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	5.7	2002
Isle of Man	..	..
Israel	6.5	2002
Italy	4.6	2002
Jamaica	3.1	2002
Japan	6.8	2002
Jordan	4.4	2002
Kazakhstan	2.5	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	6.0	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	4.3	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	4.2	2002
Luxembourg	6.8	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	5.2	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	4.5	2002
Mayotte	..	..
Mexico	2.6	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	5.2	2002
Mozambique	..	..
Myanmar	..	..
Namibia	4.1	2002
Nepal	..	..
Netherlands	6.0	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	6.7	2002
Nicaragua	2.7	2002
Niger	..	..
Nigeria	1.9	2002
Northern Mariana Islands	..	..
Norway	6.2	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	3.1	2002
Papua New Guinea	..	..
Paraguay	2.3	2002
Peru	3.2	2002
Philippines	1.8	2002
Poland	4.4	2002
Portugal	6.3	2002
Puerto Rico	..	..
Qatar	..	..
Romania	3.8	2002
Russian Federation	3.7	2002
Rwanda	..	..
Samoa	..	..

Table A3-12: Commercial Perception of Postal Efficiency (1=worst 7=best)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.5	2002
Slovak Republic	5.4	2002
Slovenia	6.4	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	3.3	2002
Spain	5.2	2002
Sri Lanka	3.3	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	6.6	2002
Switzerland	6.7	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	5.1	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	4.4	2002
Tunisia	5.3	2002
Turkey	4.1	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	3.0	2002
United Arab Emirates	..	..
United Kingdom	5.9	2002
United States	6.7	2002
Uruguay	4.0	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	1.9	2002
Vietnam	4.7	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	2.8	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	4.6	
Low Income	3.1	
Middle Income	3.9	
Lower Middle Income	3.5	
Upper Middle Income	4.4	
Low & Middle Income (developing)	3.5	
East Asia & Pacific	4.2	
Europe & Central Asia	4.3	
Latin American & Caribbean	3.1	
Middle East & North Africa	4.9	
South Asia	3.3	
Sub-Saharan Africa	3.7	
High Income OECD	6.2	
High Income Non-OECD	6.5	

Table A3-13: Phone Faults (reported faults/100 mainlines)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	57	2002
Algeria	6	2001
American Samoa	..	..
Andorra	14	1997
Angola	37	1999
Antigua and Barbuda	59	1998
Argentina	17	1998
Armenia	53	2003
Aruba	..	..
Australia	8	2002
Austria	5	2003
Azerbaijan	45	2003
Bahamas, The	..	..
Bahrain	15	2001
Bangladesh	208	1998
Barbados	..	..
Belarus	25	2003
Belgium	6	2003
Belize	50	2003
Benin	6	2001
Bermuda	..	..
Bhutan	..	..
Bolivia	..	..
Bosnia and Herzegovina	..	..
Botswana	37	1997
Brazil	2	2003
Brunei	86	1998
Bulgaria	3	2003
Burkina Faso	20	2002
Burundi	32	1998
Cambodia	7	1999
Cameroon	60	1998
Canada	..	..
Cape Verde	43	2003
Cayman Islands	56	1998
Central African Republic	..	..
Chad	61	2001
Channel Islands	..	..
Chile	25	2001
China	..	..
Colombia	33	2003
Comoros	56	2002
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	5	2003
Cote d'Ivoire	81	2003
Croatia	12	2002
Cuba	10	2002
Cyprus	26	2002
Czech Republic	7	2003
Denmark	9	2003
Djibouti	9	2002
Dominica	..	..
Dominican Republic	..	..
Ecuador	35	2001
Egypt, Arab Rep.	1	2003
El Salvador	35	2003
Equatorial Guinea	62	1998
Eritrea	51	2003
Estonia	16	2001
Ethiopia	100	2003
Faeroe Islands	..	..
Fiji	9	2002
Finland	8	1998
France	..	..
French Polynesia	25	1999
Gabon	1	2003
Gambia, The	..	..
Georgia	17	2002
Germany	..	..
Ghana	67	2001
Greece	14	2003
Greenland	..	..
Grenada	9	1998
Guam	..	..
Guatemala	..	..
Guinea	2	2002

Table A3-13: Phone Faults (reported faults/100 mainlines)

Country Name	Latest Observation	Year
Guinea-Bissau	71	2000
Guyana	87	1999
Haiti	..	..
Honduras	4	2002
Hong Kong, China	1	2003
Hungary	17	1997
Iceland	..	..
India	126	2002
Indonesia	20	2001
Iran, Islamic Rep.	3	1998
Iraq	..	..
Ireland	6	2003
Isle of Man	..	..
Israel	..	..
Italy	16	1998
Jamaica	40	2002
Japan	..	..
Jordan	13	2003
Kazakhstan	..	..
Kenya	149	2002
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	1	2003
Kuwait	4	2003
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	20	2003
Lebanon	..	..
Lesotho	75	2003
Liberia	144	1997
Libya	..	..
Liechtenstein	1	2002
Lithuania	16	2003
Luxembourg	7	2001
Macao, China	15	2003
Macedonia, FYR	..	..
Madagascar	43	2002
Malawi	..	..
Malaysia	40	2002
Maldives	46	2002
Mali	178	2000
Malta	21	2002
Marshall Islands	..	..
Mauritania	115	1999
Mauritius	41	2002
Mayotte	13	1998
Mexico	2	2003
Micronesia, Fed. Sts.	48	2003
Moldova	5	2003
Monaco	..	..
Mongolia	21	2003
Morocco	25	2000
Mozambique	70	2002
Myanmar	155	2003
Namibia	40	2003
Nepal	88	2002
Netherlands	1	1999
Netherlands Antilles	..	..
New Caledonia	27	2003
New Zealand	31	2000
Nicaragua	5	2003
Niger	105	2001
Nigeria	21	2003
Northern Mariana Islands	..	..
Norway	14	1997
Oman	..	..
Pakistan	99	1998
Palau	..	..
Panama	8	2003
Papua New Guinea	..	..
Paraguay	3	2001
Peru	17	1999
Philippines	5	1997
Poland	17	2001
Portugal	10	2003
Puerto Rico	..	..
Qatar	23	2003
Romania	9	2003
Russian Federation	35	1999
Rwanda	16	1999
Samoa	22	1999

Table A3-13: Phone Faults (reported faults/100 mainlines)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	4	1999
Saudi Arabia	2	2002
Senegal	17	2001
Seychelles	6	2003
Sierra Leone	23	1998
Singapore	99	2003
Slovak Republic	10	2003
Slovenia	23	2003
Solomon Islands	5	1999
Somalia	..	..
South Africa	48	2002
Spain	14	2003
Sri Lanka	17	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	17	2003
Sudan	5	1999
Suriname	39	2003
Swaziland	70	2003
Sweden	..	..
Switzerland	18	1999
Syrian Arab Republic	50	2001
Tajikistan	144	2003
Tanzania	24	2002
Thailand	92	2003
Togo	6	2002
Tonga	..	..
Trinidad and Tobago	75	1997
Tunisia	28	2002
Turkey	30	2003
Turkmenistan	86	2001
Uganda	80	1998
Ukraine	34	1999
United Arab Emirates	0	2002
United Kingdom	11	2002
United States	13	2003
Uruguay	6	1999
Uzbekistan	87	2001
Vanuatu	..	..
Venezuela, RB	2	2001
Vietnam	..	..
Virgin Islands (U.S.)	..	..
West Bank and Gaza	94	2003
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	91	2002
Zimbabwe	223	1997
UNWEIGHTED AVERAGES (1997-2003)		
World	37	
Low Income	64	
Middle Income	25	
Lower Middle Income	33	
Upper Middle Income	18	
Low & Middle Income (developing)	45	
East Asia & Pacific	39	
Europe & Central Asia	34	
Latin American & Caribbean	24	
Middle East & North Africa	23	
South Asia	97	
Sub-Saharan Africa	57	
High Income OECD	11	
High Income Non-OECD	28	

Table A3-14: Unmet Demand (% of main telephone lines in operation)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	45	2002
Algeria	39	2001
American Samoa	..	..
Andorra	0	2000
Angola	31	1999
Antigua and Barbuda	..	..
Argentina	1	2000
Armenia	11	2003
Aruba	..	..
Australia	0	2003
Austria	0	2002
Azerbaijan	0	2003
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	21	2003
Barbados	1	2001
Belarus	10	2003
Belgium	..	..
Belize	4	2003
Benin	45	2000
Bermuda	0	1999
Bhutan	10	2003
Bolivia	1	1999
Bosnia and Herzegovina	..	..
Botswana	19	1998
Brazil	1	2001
Brunei	2	1998
Bulgaria	4	2003
Burkina Faso	20	2002
Burundi	23	2001
Cambodia	..	..
Cameroon	53	1998
Canada	0	2002
Cape Verde	1	2003
Cayman Islands	0	1998
Central African Republic	13	2002
Chad	6	1999
Channel Islands	..	..
Chile	1	2001
China	..	..
Colombia	16	2001
Comoros	33	2002
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	1	2003
Cote d'Ivoire	1	2003
Croatia	0	2002
Cuba	..	..
Cyprus	1	2003
Czech Republic	1	2003
Denmark	0	2001
Djibouti	0	2003
Dominica	..	..
Dominican Republic	..	..
Ecuador	1	2001
Egypt, Arab Rep.	1	2003
El Salvador	6	2001
Equatorial Guinea	34	1998
Eritrea	121	2003
Estonia	1	2003
Ethiopia	34	2003
Faeroe Islands	0	2000
Fiji	5	2002
Finland	0	2002
France	0	2001
French Polynesia	..	..
Gabon	11	2002
Gambia, The	28	2002
Georgia	13	2003
Germany	0	2003
Ghana	64	2001
Greece	0	2003
Greenland	0	2000
Grenada	0	2000
Guam	0	1999
Guatemala	..	..
Guinea	6	2001

Table A3-14: Unmet Demand (% of main telephone lines in operation)

Country Name	Latest Observation	Year
Guinea-Bissau	46	2000
Guyana	118	1999
Haiti	..	..
Honduras	99	2003
Hong Kong, China	0	2003
Hungary	1	2003
Iceland	0	2002
India	4	2001
Indonesia	..	..
Iran, Islamic Rep.	11	2003
Iraq	..	..
Ireland	..	..
Isle of Man	..	..
Israel	..	..
Italy	0	2000
Jamaica	38	2002
Japan	0	2001
Jordan	0	2003
Kazakhstan	9	2001
Kenya	34	2002
Kiribati	1	1998
Korea, Dem. Rep.	..	..
Korea, Rep.	0	2003
Kuwait	0	2003
Kyrgyz Republic	10	2003
Lao PDR	14	2000
Latvia	2	2003
Lebanon	..	..
Lesotho	73	2003
Liberia	36	1999
Libya	15	1999
Liechtenstein	0	2001
Lithuania	0	2003
Luxembourg	0	2003
Macao, China	0	2003
Macedonia, FYR	..	..
Madagascar	3	2002
Malawi	24	2002
Malaysia	1	2003
Maldives	0	2002
Mali	..	..
Malta	0	2002
Marshall Islands	..	..
Mauritania	289	1999
Mauritius	4	2002
Mayotte	10	1998
Mexico	0	2001
Micronesia, Fed. Sts.	1	2003
Moldova	11	2003
Monaco	..	..
Mongolia	26	2003
Morocco	0	2000
Mozambique	15	2002
Myanmar	28	2003
Namibia	2	2002
Nepal	86	2003
Netherlands	0	2000
Netherlands Antilles	..	..
New Caledonia	2	2000
New Zealand	0	2003
Nicaragua	72	1999
Niger	..	..
Nigeria	0	2003
Northern Mariana Islands	0	1999
Norway	0	2002
Oman	1	2002
Pakistan	5	2003
Palau	..	..
Panama	..	..
Papua New Guinea	0	2000
Paraguay	8	1998
Peru	2	2001
Philippines	..	..
Poland	4	2001
Portugal	1	1999
Puerto Rico	..	..
Qatar	0	2003
Romania	11	2003
Russian Federation	17	2001
Rwanda	63	1999
Samoa	37	2003

APPENDIX 4: Transport Data by Country

Table A4-1: Road Density in Terms of Population (road-km/1000 people)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	5.7	2002
Algeria	3.5	1999
American Samoa	..	..
Andorra	..	..
Angola	4.0	2001
Antigua and Barbuda	3.5	1999
Argentina	6.1	1999
Armenia	2.7	2002
Aruba	..	..
Australia	42.8	1999
Austria	24.8	2002
Azerbaijan	3.4	2002
Bahamas, The	9.0	1999
Bahrain	5.0	2002
Bangladesh	1.6	1999
Barbados	5.9	2002
Belarus	8.1	2002
Belgium	14.4	2002
Belize	11.8	1999
Benin	1.1	1999
Bermuda	..	..
Bhutan	4.7	2002
Bolivia	7.0	2002
Bosnia and Herzegovina	5.6	1999
Botswana	6.2	1999
Brazil	10.1	2000
Brunei	3.5	1999
Bulgaria	4.7	2002
Burkina Faso	1.1	1999
Burundi	..	..
Cambodia	1.0	2000
Cameroon	2.3	1999
Canada	44.9	2002
Cape Verde	2.6	1999
Cayman Islands	..	..
Central African Republic	6.5	1999
Chad	4.4	1999
Channel Islands	..	..
Chile	5.2	2001
China	1.4	2002
Colombia	2.7	1999
Comoros	1.6	1999
Congo, Dem. Rep.	3.4	1997
Congo, Rep.	3.8	1999
Costa Rica	9.0	2002
Cote d'Ivoire	3.3	1999
Croatia	6.4	2002
Cuba	5.5	1999
Cyprus	15.2	2002
Czech Republic	12.5	2002
Denmark	13.4	2002
Djibouti	4.4	1999
Dominica	10.9	1999
Dominican Republic	1.5	1999
Ecuador	3.4	2002
Egypt, Arab Rep.	1.0	1999
El Salvador	1.6	1999
Equatorial Guinea	6.5	1999
Eritrea	1.0	1999
Estonia	41.2	2002
Ethiopia	0.5	2002
Faeroe Islands	..	..
Fiji	4.3	1999
Finland	15.1	2002
France	15.0	2002
French Polynesia	..	..
Gabon	6.7	2000
Gambia, The	2.1	1999
Georgia	3.9	2002
Germany	2.8	1999
Ghana	2.3	2001
Greece	10.8	1999
Greenland	..	..
Grenada	10.3	1999
Guam	..	..
Guatemala	1.3	1999
Guinea	4.2	1999

Table A4-1: Road Density in Terms of Population (road-km/1000 people)

Country Name	Latest Observation	Year
Guinea-Bissau	3.3	1999
Guyana	10.5	1999
Haiti	0.5	1999
Honduras	2.2	1999
Hong Kong, China	0.3	1999
Hungary	15.7	2002
Iceland	45.1	2002
India	3.2	2002
Indonesia	1.7	2002
Iran, Islamic Rep.	2.7	1998
Iraq	2.0	1999
Ireland	24.4	2002
Isle of Man	..	..
Israel	2.6	2002
Italy	8.3	1999
Jamaica	7.3	1999
Japan	9.2	2001
Jordan	1.4	2002
Kazakhstan	5.6	2002
Kenya	2.1	2000
Kiribati	7.6	1999
Korea, Dem. Rep.	1.4	1999
Korea, Rep.	1.9	1999
Kuwait	2.1	1999
Kyrgyz Republic	3.8	1999
Lao PDR	4.2	1999
Latvia	25.9	2002
Lebanon	1.7	1999
Lesotho	3.4	1999
Liberia	3.5	1999
Libya	16.2	1999
Liechtenstein	..	..
Lithuania	22.2	2002
Luxembourg	11.9	2000
Macao, China	0.8	2002
Macedonia, FYR	4.3	1999
Madagascar	3.3	1999
Malawi	2.8	1999
Malaysia	2.9	1999
Maldives	..	..
Mali	1.4	1999
Malta	5.6	2002
Marshall Islands	..	..
Mauritania	3.0	1999
Mauritius	1.7	2002
Mayotte	..	..
Mexico	3.4	1999
Micronesia, Fed. Sts.	2.1	1999
Moldova	3.0	2002
Monaco	..	..
Mongolia	20.1	2002
Morocco	1.9	2002
Mozambique	1.8	1999
Myanmar	..	..
Namibia	21.3	2002
Nepal	0.6	2002
Netherlands	7.4	1999
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	23.5	2002
Nicaragua	3.5	2002
Niger	1.0	1999
Nigeria	1.6	1999
Northern Mariana Islands	..	..
Norway	20.2	2002
Oman	14.0	1999
Pakistan	1.8	2001
Palau	..	..
Panama	4.1	2000
Papua New Guinea	3.9	1999
Paraguay	5.7	1999
Peru	3.0	2001
Philippines	2.5	2002
Poland	9.5	2001
Portugal	1.7	2001
Puerto Rico	6.3	2001
Qatar	2.2	1999
Romania	9.1	2002
Russian Federation	3.7	2001
Rwanda	1.6	1999
Samoa	4.6	1999

Table A4-2: Road Density in Terms of Land (road-km/1000 sq km)

Country Name	Latest Observation	Year
Afghanistan	32.2	1999
Albania	656.9	2002
Algeria	43.7	1999
American Samoa	..	..
Andorra	..	..
Angola	41.3	2001
Antigua and Barbuda	568.2	1999
Argentina	78.7	1999
Armenia	299.0	2002
Aruba	..	..
Australia	105.6	1999
Austria	2417.5	2002
Azerbaijan	339.3	2002
Bahamas, The	269.0	1999
Bahrain	4871.8	2002
Bangladesh	1594.0	1999
Barbados	3720.9	2002
Belarus	385.5	2002
Belgium	4929.8	2002
Belize	126.0	1999
Benin	61.4	1999
Bermuda	..	..
Bhutan	85.3	2002
Bolivia	55.6	2002
Bosnia and Herzegovina	426.7	1999
Botswana	18.0	1999
Brazil	203.9	2000
Brunei	218.2	1999
Bulgaria	335.1	2002
Burkina Faso	45.7	1999
Burundi	..	..
Cambodia	69.8	2000
Cameroon	73.7	1999
Canada	152.8	2002
Cape Verde	273.0	1999
Cayman Islands	..	..
Central African Republic	38.2	1999
Chad	26.5	1999
Channel Islands	..	..
Chile	106.3	2001
China	189.3	2002
Colombia	108.8	1999
Comoros	394.6	1999
Congo, Dem. Rep.	69.3	1997
Congo, Rep.	37.5	1999
Costa Rica	691.4	2002
Cote d'Ivoire	158.5	1999
Croatia	506.9	2002
Cuba	554.2	1999
Cyprus	1254.7	2002
Czech Republic	1646.0	2002
Denmark	1693.3	2002
Djibouti	124.7	1999
Dominica	1040.0	1999
Dominican Republic	260.4	1999
Ecuador	156.0	2002
Egypt, Arab Rep.	64.3	1999
El Salvador	484.0	1999
Equatorial Guinea	102.7	1999
Eritrea	39.7	1999
Estonia	1319.7	2002
Ethiopia	33.3	2002
Faeroe Islands	..	..
Fiji	188.3	1999
Finland	258.2	2002
France	1623.5	2002
French Polynesia	..	..
Gabon	32.8	2000
Gambia, The	270.0	1999
Georgia	291.1	2002
Germany	661.2	1999
Ghana	202.9	2001
Greece	907.7	1999
Greenland	..	..
Grenada	3058.8	1999
Guam	..	..
Guatemala	130.2	1999
Guinea	124.1	1999

Table A4-2: Road Density in Terms of Land (road-km/1000 sq km)

Country Name	Latest Observation	Year
Guinea-Bissau	156.5	1999
Guyana	40.5	1999
Haiti	150.9	1999
Honduras	121.6	1999
Hong Kong, China	1757.2	1999
Hungary	1732.6	2002
Iceland	129.5	2002
India	1115.0	2002
Indonesia	203.3	2002
Iran, Islamic Rep.	102.2	1998
Iraq	104.1	1999
Ireland	1389.7	2002
Isle of Man	..	..
Israel	778.6	2002
Italy	1631.0	1999
Jamaica	1726.7	1999
Japan	3214.4	2001
Jordan	82.1	2002
Kazakhstan	30.7	2002
Kenya	112.3	2000
Kiribati	917.8	1999
Korea, Dem. Rep.	259.1	1999
Korea, Rep.	881.1	1999
Kuwait	249.7	1999
Kyrgyz Republic	96.5	1999
Lao PDR	94.1	1999
Latvia	974.6	2002
Lebanon	713.6	1999
Lesotho	195.7	1999
Liberia	110.0	1999
Libya	47.3	1999
Liechtenstein	..	..
Lithuania	1230.8	2002
Luxembourg	2014.7	2000
Macao, China	16238.1	2002
Macedonia, FYR	341.5	1999
Madagascar	85.7	1999
Malawi	301.9	1999
Malaysia	200.5	1999
Maldives	..	..
Mali	12.4	1999
Malta	6943.8	2002
Marshall Islands	..	..
Mauritania	7.5	1999
Mauritius	985.2	2002
Mayotte	..	..
Mexico	172.6	1999
Micronesia, Fed. Sts.	341.9	1999
Moldova	386.8	2002
Monaco	25641.0	1999
Mongolia	31.4	2002
Morocco	129.3	2002
Mozambique	38.8	1999
Myanmar	..	..
Namibia	51.3	2002
Nepal	107.0	2002
Netherlands	3438.6	1999
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	344.7	2002
Nicaragua	154.1	2002
Niger	8.0	1999
Nigeria	213.4	1999
Northern Mariana Islands	..	..
Norway	299.9	2002
Oman	106.0	1999
Pakistan	334.3	2001
Palau	..	..
Panama	156.4	2000
Papua New Guinea	43.3	1999
Paraguay	74.3	1999
Peru	61.1	2001
Philippines	677.9	2002
Poland	1198.3	2001
Portugal	187.3	2001
Puerto Rico	2708.3	2001
Qatar	111.8	1999
Romania	864.6	2002
Russian Federation	31.8	2001
Rwanda	486.4	1999
Samoa	279.2	1999

Table A4-3: Rail Lines Density in Terms of Population (rail-km/1000 people)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	0.14	2002
Algeria	0.11	2002
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	0.98	2002
Armenia	0.23	2002
Aruba	..	..
Australia	..	..
Austria	0.71	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	0.02	2002
Barbados	..	..
Belarus	0.56	2002
Belgium	0.34	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	0.43	2002
Bosnia and Herzegovina	0.25	2002
Botswana	..	..
Brazil	0.17	2002
Brunei	..	..
Bulgaria	0.55	2002
Burkina Faso	0.05	2002
Burundi	..	..
Cambodia	0.05	2002
Cameroon	0.06	2002
Canada	1.31	1997
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	0.32	2002
China	0.05	2002
Colombia	0.07	2002
Comoros	..	..
Congo, Dem. Rep.	0.07	2002
Congo, Rep.	0.28	2002
Costa Rica	0.22	2002
Cote d'Ivoire	0.04	2002
Croatia	0.61	2002
Cuba	0.39	2002
Cyprus	..	..
Czech Republic	0.93	2002
Denmark	0.42	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	..	..
Ecuador	..	..
Egypt, Arab Rep.	0.08	2002
El Salvador	0.19	2000
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	0.71	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	1.13	2002
France	0.49	2002
French Polynesia	..	..
Gabon	0.56	2002
Gambia, The	..	..
Georgia	0.30	2002
Germany	0.43	2002
Ghana	0.05	2000
Greece	0.22	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	..	..
Guinea	..	..

Table A4-3: Rail Lines Density in Terms of Population (rail-km/1000 people)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	..	..
Honduras	..	..
Hong Kong, China	..	..
Hungary	0.76	2002
Iceland	..	..
India	0.06	2002
Indonesia	0.03	1998
Iran, Islamic Rep.	0.09	2002
Iraq	0.10	2002
Ireland	0.49	2002
Isle of Man	..	..
Israel	0.10	2002
Italy	0.28	2002
Jamaica	..	..
Japan	0.16	2002
Jordan	0.06	2002
Kazakhstan	0.91	2002
Kenya	0.08	2002
Kiribati	..	..
Korea, Dem. Rep.	0.23	2002
Korea, Rep.	0.07	2000
Kuwait	..	..
Kyrgyz Republic	0.08	2002
Lao PDR	..	..
Latvia	0.97	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	0.51	2002
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	0.34	2002
Madagascar	0.05	2002
Malawi	0.07	2000
Malaysia	0.07	2002
Maldives	..	..
Mali	0.06	2002
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	0.26	2002
Micronesia, Fed. Sts.	..	..
Moldova	0.26	2002
Monaco	..	..
Mongolia	0.74	2002
Morocco	0.06	2002
Mozambique	0.11	2002
Myanmar	..	..
Namibia	1.23	2001
Nepal	..	..
Netherlands	0.17	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	1.02	1999
Nicaragua	..	..
Niger	..	..
Nigeria	0.03	2002
Northern Mariana Islands	..	..
Norway	0.90	2002
Oman	..	..
Pakistan	0.05	2002
Palau	..	..
Panama	..	..
Papua New Guinea	..	..
Paraguay	..	..
Peru	0.08	2002
Philippines	0.01	1999
Poland	0.53	2002
Portugal	0.28	2002
Puerto Rico	..	..
Qatar	..	..
Romania	0.52	2002
Russian Federation	0.59	2002
Rwanda	..	..
Samoa	..	..

Table A4-3: Rail Lines Density in Terms of Population (rail-km/1000 people)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	0.05	2002
Senegal	0.09	2002
Seychelles	..	..
Sierra Leone	..	..
Singapore	..	..
Slovak Republic	0.68	2002
Slovenia	0.62	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	0.44	2002
Spain	0.34	2002
Sri Lanka	0.08	1999
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	0.14	2002
Suriname	..	..
Swaziland	..	..
Sweden	1.10	2002
Switzerland	0.44	2002
Syrian Arab Republic	0.14	2002
Tajikistan	0.10	2002
Tanzania	0.13	2002
Thailand	0.07	2000
Togo	..	..
Tonga	..	..
Trinidad and Tobago	..	..
Tunisia	0.20	2002
Turkey	0.12	2002
Turkmenistan	0.53	2002
Uganda	0.01	2002
Ukraine	0.45	2002
United Arab Emirates	..	..
United Kingdom	0.29	2002
United States	0.57	2000
Uruguay	0.89	2002
Uzbekistan	0.16	2002
Vanuatu	..	..
Venezuela, RB	0.02	2002
Vietnam	0.03	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	0.47	2002
Zambia	0.13	2000
Zimbabwe	..	..
UNWEIGHTED AVERAGES (1997-2002)		
World	0.33	
Low Income	0.13	
Middle Income	0.40	
Lower Middle Income	0.30	
Upper Middle Income	0.51	
Low & Middle Income (developing)	0.27	
East Asia & Pacific	0.14	
Europe & Central Asia	0.47	
Latin American & Caribbean	0.33	
Middle East & North Africa	0.10	
South Asia	0.05	
Sub-Saharan Africa	0.18	
High Income OECD	0.53	
High Income Non-OECD	0.36	

Table A4-4: Rail Lines Density in Terms of Land (rail-km/1000 sq km)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	16.31	2002
Algeria	1.50	2002
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	13.06	2002
Armenia	25.21	2002
Aruba	..	..
Australia	..	..
Austria	68.81	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	21.44	2002
Barbados	..	..
Belarus	26.57	2002
Belgium	116.37	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	3.41	2002
Bosnia and Herzegovina	20.16	2002
Botswana	..	..
Brazil	3.59	2002
Brunei	..	..
Bulgaria	39.03	2002
Burkina Faso	2.27	2002
Burundi	..	..
Cambodia	3.42	2002
Cameroon	2.18	2002
Canada	4.27	1997
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	6.57	2002
China	6.50	2002
Colombia	3.04	2002
Comoros	..	..
Congo, Dem. Rep.	1.61	2002
Congo, Rep.	3.00	2002
Costa Rica	16.61	2002
Cote d'Ivoire	2.01	2002
Croatia	48.75	2002
Cuba	39.90	2002
Cyprus	..	..
Czech Republic	122.92	2002
Denmark	53.57	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	..	..
Ecuador	..	..
Egypt, Arab Rep.	5.17	2002
El Salvador	58.01	2000
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	22.81	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	19.21	2002
France	53.36	2002
French Polynesia	..	..
Gabon	2.84	2002
Gambia, The	..	..
Georgia	22.52	2002
Germany	102.79	2002
Ghana	4.19	2000
Greece	18.49	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	..	..
Guinea	..	..

Table A4-4: Rail Lines Density in Terms of Land (rail-km/1000 sq km)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	..	..
Honduras	..	..
Hong Kong, China	..	..
Hungary	83.92	2002
Iceland	..	..
India	21.24	2002
Indonesia	2.94	1998
Iran, Islamic Rep.	3.76	2002
Iraq	5.35	2002
Ireland	27.86	2002
Isle of Man	..	..
Israel	31.14	2002
Italy	55.45	2002
Jamaica	..	..
Japan	55.13	2002
Jordan	3.28	2002
Kazakhstan	5.04	2002
Kenya	4.63	2002
Kiribati	..	..
Korea, Dem. Rep.	43.30	2002
Korea, Rep.	31.63	2000
Kuwait	..	..
Kyrgyz Republic	2.17	2002
Lao PDR	..	..
Latvia	36.57	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	28.32	2002
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	27.49	2002
Madagascar	1.52	2002
Malawi	7.55	2000
Malaysia	4.98	2002
Maldives	..	..
Mali	0.60	2002
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	13.97	2002
Micronesia, Fed. Sts.	..	..
Moldova	34.06	2002
Monaco	..	..
Mongolia	1.16	2002
Morocco	4.27	2002
Mozambique	2.64	2002
Myanmar	..	..
Namibia	2.89	2001
Nepal	..	..
Netherlands	82.82	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	14.60	1999
Nicaragua	..	..
Niger	..	..
Nigeria	3.85	2002
Northern Mariana Islands	..	..
Norway	13.31	2002
Oman	..	..
Pakistan	10.11	2002
Palau	..	..
Panama	..	..
Papua New Guinea	..	..
Paraguay	..	..
Peru	1.66	2002
Philippines	1.65	1999
Poland	66.03	2002
Portugal	31.48	2002
Puerto Rico	..	..
Qatar	..	..
Romania	49.44	2002
Russian Federation	5.07	2002
Rwanda	..	..
Samoa	..	..

Table A4-4: Rail Lines Density in Terms of Land (rail-km/1000 sq km)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	0.50	2002
Senegal	4.71	2002
Seychelles	..	..
Sierra Leone	..	..
Singapore	..	..
Slovak Republic	74.94	2002
Slovenia	61.08	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	16.50	2002
Spain	27.74	2002
Sri Lanka	22.39	1999
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	1.93	2002
Suriname	..	..
Swaziland	..	..
Sweden	23.95	2002
Switzerland	81.49	2002
Syrian Arab Republic	13.33	2002
Tajikistan	4.39	2002
Tanzania	5.05	2002
Thailand	7.92	2000
Togo	..	..
Tonga	..	..
Trinidad and Tobago	..	..
Tunisia	12.29	2002
Turkey	11.27	2002
Turkmenistan	5.37	2002
Uganda	1.31	2002
Ukraine	38.11	2002
United Arab Emirates	..	..
United Kingdom	70.79	2002
United States	17.47	2000
Uruguay	17.10	2002
Uzbekistan	9.96	2002
Vanuatu	..	..
Venezuela, RB	0.49	2002
Vietnam	7.82	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	37.34	2002
Zambia	1.71	2000
Zimbabwe	..	..
UNWEIGHTED AVERAGES (1997-2002)		
World	23.12	
Low Income	9.33	
Middle Income	23.26	
Lower Middle Income	15.20	
Upper Middle Income	31.33	
Low & Middle Income (developing)	16.30	
East Asia & Pacific	8.85	
Europe & Central Asia	33.22	
Latin American & Caribbean	14.78	
Middle East & North Africa	5.50	
South Asia	18.79	
Sub-Saharan Africa	3.65	
High Income OECD	46.22	
High Income Non-OECD	46.11	

Table A4-5: Average Passenger Rail Tariff (PPP cents/passenger-km)

Country Name	Latest Observation	Year
Afghanistan
Albania
Algeria
American Samoa
Andorra
Angola
Antigua and Barbuda
Argentina	5	1999
Armenia	3	1999
Aruba
Australia
Austria	7	1998
Azerbaijan
Bahamas, The
Bahrain
Bangladesh
Barbados
Belarus
Belgium	7	1998
Belize
Benin
Bermuda
Bhutan
Bolivia	4	1999
Bosnia and Herzegovina
Botswana
Brazil
Brunei
Bulgaria	4702	2000
Burkina Faso
Burundi
Cambodia	3	1997
Cameroon
Canada	13	1997
Cape Verde
Cayman Islands
Central African Republic
Chad
Channel Islands
Chile
China	5	1999
Colombia
Comoros
Congo, Dem. Rep.
Congo, Rep.
Costa Rica
Cote d'Ivoire	7	1999
Croatia	5	1999
Cuba
Cyprus
Czech Republic
Denmark
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt, Arab Rep.	1	1999
El Salvador
Equatorial Guinea
Eritrea
Estonia	7	1997
Ethiopia
Faeroe Islands
Fiji
Finland	8	2000
France	8	1998
French Polynesia
Gabon
Gambia, The
Georgia
Germany
Ghana
Greece
Greenland
Grenada
Guam
Guatemala
Guinea

Table A4-5: Average Passenger Rail Tariff (PPP cents/passenger-km)

Country Name	Latest Observation	Year
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong, China
Hungary
Iceland
India	3	1999
Indonesia
Iran, Islamic Rep.
Iraq
Ireland
Isle of Man
Israel
Italy	5	2000
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kiribati
Korea, Dem. Rep.
Korea, Rep.	7	1998
Kuwait
Kyrgyz Republic
Lao PDR
Latvia
Lebanon
Lesotho
Liberia
Libya
Liechtenstein
Lithuania
Luxembourg
Macao, China
Macedonia, FYR
Madagascar
Malawi
Malaysia	6	1998
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mayotte
Mexico
Micronesia, Fed. Sts.
Moldova
Monaco
Mongolia
Morocco	7	1999
Mozambique
Myanmar
Namibia
Nepal
Netherlands	10	2000
Netherlands Antilles
New Caledonia
New Zealand	12	1997
Nicaragua
Niger
Nigeria	0	2000
Northern Mariana Islands
Norway
Oman
Pakistan	2	2000
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines	5	1998
Poland	4	2000
Portugal
Puerto Rico
Qatar
Romania	13	2000
Russian Federation	3452	1998
Rwanda
Samoa

Table A4-5: Average Passenger Rail Tariff (PPP cents/passenger-km)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	..	..
Slovak Republic	10	2000
Slovenia	..	..
Solomon Islands	..	..
Somalia	..	..
South Africa	..	..
Spain	..	..
Sri Lanka	..	..
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	8	2000
Switzerland	..	..
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	3	1999
Thailand	3	2000
Togo	..	..
Tonga	..	..
Trinidad and Tobago	..	..
Tunisia	8	1999
Turkey	3	2000
Turkmenistan	..	..
Uganda	..	..
Ukraine	..	..
United Arab Emirates	..	..
United Kingdom	..	..
United States	14	2000
Uruguay	..	..
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	..	..
Vietnam	8	2000
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	..	..
UNWEIGHTED AVERAGES (1997-2000)		
World	232	
Low Income	4	
Middle Income	376	
Lower Middle Income	745	
Upper Middle Income	6	
Low & Middle Income (developing)	190	
East Asia & Pacific	5	
Europe & Central Asia	911	
Latin American & Caribbean	4	
Middle East & North Africa	5	
South Asia	2	
Sub-Saharan Africa	4	
High Income OECD	9	
High Income Non-OECD	..	

Table A4-6: Average Freight Rail Tariff (PPP cents/ton-km)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	4	1999
Armenia	12	1999
Aruba	..	..
Australia	..	..
Austria	6	1998
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	..	..
Barbados	..	..
Belarus	..	..
Belgium	6	1998
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	12	1999
Bosnia and Herzegovina	..	..
Botswana	..	..
Brazil	3	1999
Brunei	..	..
Bulgaria	6428	2000
Burkina Faso	..	..
Burundi	..	..
Cambodia	9	1997
Cameroon	..	..
Canada	2	1998
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	6	1999
China	4	1999
Colombia	..	..
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	..	..
Cote d'Ivoire	11	1999
Croatia	7	1999
Cuba	..	..
Cyprus	..	..
Czech Republic	..	..
Denmark	..	..
Djibouti	..	..
Dominica	..	..
Dominican Republic	..	..
Ecuador	..	..
Egypt, Arab Rep.	3	1999
El Salvador	..	..
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	3	1997
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	3	2000
France	5	1998
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	..	..
Ghana	..	..
Greece	..	..
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	..	..
Guinea	..	..

Table A4-6: Average Freight Rail Tariff (PPP cents/ton-km)

Country Name	Latest Observation	Year
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong, China
Hungary
Iceland
India	8	1999
Indonesia
Iran, Islamic Rep.
Iraq
Ireland
Isle of Man
Israel
Italy	4	2000
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kiribati
Korea, Dem. Rep.
Korea, Rep.	5	1998
Kuwait
Kyrgyz Republic
Lao PDR
Latvia
Lebanon
Lesotho
Liberia
Libya
Liechtenstein
Lithuania
Luxembourg
Macao, China
Macedonia, FYR
Madagascar
Malawi
Malaysia	4	1997
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mayotte
Mexico	4	1999
Micronesia, Fed. Sts.
Moldova
Monaco
Mongolia
Morocco	8	1999
Mozambique
Myanmar
Namibia
Nepal
Netherlands	4	1999
Netherlands Antilles
New Caledonia
New Zealand	8	1997
Nicaragua
Niger
Nigeria	4	2000
Northern Mariana Islands
Norway
Oman
Pakistan	9	2000
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines	50	1998
Poland	5	2000
Portugal
Puerto Rico
Qatar
Romania	10	2000
Russian Federation	3545	1998
Rwanda
Samoa

Table A4-6: Average Freight Rail Tariff (PPP cents/ton-km)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	..	..
Slovak Republic	9	2000
Slovenia	..	..
Solomon Islands	..	..
Somalia	..	..
South Africa	..	..
Spain	..	..
Sri Lanka	..	..
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	4	2000
Switzerland	..	..
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	8	1999
Thailand	4	2000
Togo	..	..
Tonga	..	..
Trinidad and Tobago	..	..
Tunisia	6	1999
Turkey	2	2000
Turkmenistan	..	..
Uganda	0	1998
Ukraine	..	..
United Arab Emirates	..	..
United Kingdom	..	..
United States	2	2000
Uruguay	..	..
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	..	..
Vietnam	9	2000
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	..	..
UNWEIGHTED AVERAGES (1997-2000)		
World	256	
Low Income	8	
Middle Income	460	
Lower Middle Income	916	
Upper Middle Income	5	
Low & Middle Income (developing)	234	
East Asia & Pacific	13	
Europe & Central Asia	1114	
Latin American & Caribbean	5	
Middle East & North Africa	6	
South Asia	9	
Sub-Saharan Africa	6	
High Income OECD	4	
High Income Non-OECD	..	

Table A4-7: Travel Time to Work in Main Cities (minutes/one-way work trip)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	25	1998
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	31	1998
Armenia	30	1998
Aruba	..	..
Australia	..	..
Austria	..	..
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	43	1998
Barbados	..	..
Belarus	..	..
Belgium	..	..
Belize	..	..
Benin	48	1998
Bermuda	..	..
Bhutan	..	..
Bolivia	29	1998
Bosnia and Herzegovina	12	1998
Botswana	..	..
Brazil	31	1998
Brunei	..	..
Bulgaria	29	1998
Burkina Faso	..	..
Burundi	25	1998
Cambodia	45	1998
Cameroon	43	1998
Canada	..	..
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	37	1998
China	..	..
Colombia	37	1998
Comoros	..	..
Congo, Dem. Rep.	57	1998
Congo, Rep.	25	1998
Costa Rica	..	..
Cote d'Ivoire	33	1998
Croatia	31	1998
Cuba	54	1998
Cyprus	..	..
Czech Republic	24	1998
Denmark	..	..
Djibouti	..	..
Dominica	..	..
Dominican Republic	30	1998
Ecuador	26	1998
Egypt, Arab Rep.	40	1998
El Salvador	..	..
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	35	1998
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	..	..
France	..	..
French Polynesia	..	..
Gabon	38	1998
Gambia, The	22	1998
Georgia	..	..
Germany	..	..
Ghana	21	1998
Greece	..	..
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	15	1998
Guinea	45	1998

Table A4-7: Travel Time to Work in Main Cities (minutes/one-way work trip)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	..	..
Honduras	..	..
Hong Kong, China	..	..
Hungary	..	..
Iceland	..	..
India	24	1998
Indonesia	33	1998
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	..	..
Isle of Man	..	..
Israel	..	..
Italy	..	..
Jamaica	..	..
Japan	45	1998
Jordan	25	1998
Kazakhstan	27	1998
Kenya	34	1998
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	51	1998
Kuwait	10	1998
Kyrgyz Republic	35	1998
Lao PDR	27	1998
Latvia	..	..
Lebanon	10	1998
Lesotho	15	1998
Liberia	60	1998
Libya	20	1998
Liechtenstein	..	..
Lithuania	37	1998
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	60	1998
Malawi	5	1998
Malaysia	40	1998
Maldives	..	..
Mali	30	1998
Malta	..	..
Marshall Islands	..	..
Mauritania	50	1998
Mauritius	..	..
Mayotte	..	..
Mexico	23	1998
Micronesia, Fed. Sts.	..	..
Moldova	23	1998
Monaco	..	..
Mongolia	30	1998
Morocco	25	1998
Mozambique	60	1998
Myanmar	45	1998
Namibia	20	1998
Nepal	18	1998
Netherlands	..	..
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	..	..
Nicaragua	15	1998
Niger	23	1998
Nigeria	53	1998
Northern Mariana Islands	..	..
Norway	..	..
Oman	20	1998
Pakistan	..	..
Palau	..	..
Panama	15	1998
Papua New Guinea	..	..
Paraguay	25	1998
Peru	18	1998
Philippines	35	1998
Poland	25	1998
Portugal	..	..
Puerto Rico	..	..
Qatar	..	..
Romania	..	..
Russian Federation	35	1998
Rwanda	45	1998
Samoa	..	..

**Table A4-8: Commercial Perception of Services Delivered by Road
Department/Public Works (1=worst 7=best)**

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	3.4	2000
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	4.4	2000
Armenia	3.0	2000
Aruba	..	..
Australia	..	..
Austria	..	..
Azerbaijan	3.6	2000
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	3.9	2000
Barbados	..	..
Belarus	4.4	2000
Belgium	..	..
Belize	4.5	2000
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	2.4	2000
Bosnia and Herzegovina	3.2	2000
Botswana	5.3	2000
Brazil	3.5	2000
Brunei	..	..
Bulgaria	2.3	2000
Burkina Faso	..	..
Burundi	..	..
Cambodia	4.2	2000
Cameroon	2.4	2000
Canada	4.6	2000
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	4.2	2000
China	4.6	2000
Colombia	3.5	2000
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	3.1	2000
Cote d'Ivoire	4.2	2000
Croatia	4.1	2000
Cuba	..	..
Cyprus	..	..
Czech Republic	3.5	2000
Denmark	..	..
Djibouti	..	..
Dominica	..	..
Dominican Republic	4.2	2000
Ecuador	3.6	2000
Egypt, Arab Rep.	5.4	2000
El Salvador	4.2	2000
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	3.1	2000
Ethiopia	3.5	2000
Faeroe Islands	..	..
Fiji	..	..
Finland	..	..
France	4.9	2000
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	3.8	2000
Germany	4.3	2000
Ghana	4.6	2000
Greece	..	..
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	5.7	2000
Guinea	..	..

**Table A4-8: Commercial Perception of Services Delivered by Road
Department/Public Works (1=worst 7=best)**

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	2.4	2000
Honduras	3.9	2000
Hong Kong, China	..	..
Hungary	4.1	2000
Iceland	..	..
India	3.3	2000
Indonesia	4.2	2000
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	..	..
Isle of Man	..	..
Israel	..	..
Italy	3.5	2000
Jamaica	..	..
Japan	..	..
Jordan	..	..
Kazakhstan	3.3	2000
Kenya	1.7	2000
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	..	..
Kuwait	..	..
Kyrgyz Republic	3.1	2000
Lao PDR	..	..
Latvia	..	..
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	4.6	2000
Luxembourg	..	..
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	2.5	2000
Malawi	2.7	2000
Malaysia	5.0	2000
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	..	..
Mayotte	..	..
Mexico	4.5	2000
Micronesia, Fed. Sts.	..	..
Moldova	2.7	2000
Monaco	..	..
Mongolia	..	..
Morocco	..	..
Mozambique	..	..
Myanmar	..	..
Namibia	5.9	2000
Nepal	..	..
Netherlands	..	..
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	..	..
Nicaragua	3.8	2000
Niger	..	..
Nigeria	3.1	2000
Northern Mariana Islands	..	..
Norway	..	..
Oman	..	..
Pakistan	4.5	2000
Palau	..	..
Panama	4.7	2000
Papua New Guinea	..	..
Paraguay	..	..
Peru	4.7	2000
Philippines	4.2	2000
Poland	3.4	2000
Portugal	4.1	2000
Puerto Rico	..	..
Qatar	..	..
Romania	3.5	2000
Russian Federation	3.6	2000
Rwanda	..	..

Table A4-9: Commercial Perception of Port Facilities (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	3.8	2002
Armenia	..	..
Aruba	..	..
Australia	5.8	2002
Austria	4.6	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	2.2	2002
Barbados	..	..
Belarus	..	..
Belgium	6.6	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	1.5	2002
Bosnia and Herzegovina	..	..
Botswana	2.9	2002
Brazil	3.6	2002
Brunei	..	..
Bulgaria	3.6	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.3	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	4.3	2002
China	3.8	2002
Colombia	2.5	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	2.0	2002
Cote d'Ivoire	..	..
Croatia	2.5	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	2.7	2002
Denmark	6.2	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	3.0	2002
Ecuador	3.1	2002
Egypt, Arab Rep.	4.4	2001
El Salvador	2.7	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	5.1	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	6.3	2002
France	5.7	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.4	2002
Ghana	..	..
Greece	3.7	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	2.3	2002
Guinea	..	..

Table A4-9: Commercial Perception of Port Facilities (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	1.6	2002
Honduras	3.5	2002
Hong Kong, China	6.7	2002
Hungary	3.2	2002
Iceland	6.1	2002
India	3.0	2002
Indonesia	2.9	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	3.6	2002
Isle of Man	..	..
Israel	5.2	2002
Italy	3.9	2002
Jamaica	4.9	2002
Japan	5.7	2002
Jordan	4.0	2002
Kazakhstan	3.1	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	5.2	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	4.4	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	3.9	2002
Luxembourg	4.6	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	5.7	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	4.9	2002
Mayotte	..	..
Mexico	3.1	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	3.7	2002
Mozambique	..	..
Myanmar	..	..
Namibia	5.0	2002
Nepal	..	..
Netherlands	6.5	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	5.8	2002
Nicaragua	2.1	2002
Niger	..	..
Nigeria	3.1	2002
Northern Mariana Islands	..	..
Norway	5.7	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	6.0	2002
Papua New Guinea	..	..
Paraguay	2.2	2002
Peru	2.7	2002
Philippines	2.2	2002
Poland	3.3	2002
Portugal	4.5	2002
Puerto Rico	..	..
Qatar	..	..
Romania	3.3	2002
Russian Federation	4.1	2002
Rwanda	..	..
Samoa	..	..

Table A4-9: Commercial Perception of Port Facilities (1=worst 7=best)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.7	2002
Slovak Republic	3.8	2002
Slovenia	5.0	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	4.7	2002
Spain	4.9	2002
Sri Lanka	4.9	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	6.0	2002
Switzerland	5.1	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	4.4	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	4.5	2002
Tunisia	4.4	2002
Turkey	3.5	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	3.5	2002
United Arab Emirates	..	..
United Kingdom	5.4	2002
United States	6.3	2002
Uruguay	3.7	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	2.3	2002
Vietnam	2.9	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	2.0	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	4.2	
Low Income	2.6	
Middle Income	3.6	
Lower Middle Income	3.5	
Upper Middle Income	3.8	
Low & Middle Income (developing)	3.1	
East Asia & Pacific	3.6	
Europe & Central Asia	3.6	
Latin American & Caribbean	3.1	
Middle East & North Africa	4.1	
South Asia	3.4	
Sub-Saharan Africa	3.8	
High Income OECD	5.4	
High Income Non-OECD	5.9	

Table A4-10: Commercial Perception of Railroad Services (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	2.7	2002
Argentina	..	..
Armenia	..	..
Aruba	..	..
Australia	5.0	2002
Austria	5.4	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	2.3	2002
Barbados	..	..
Belarus	..	..
Belgium	6.2	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	1.5	2002
Bosnia and Herzegovina	..	..
Botswana	4.0	2002
Brazil	2.5	2002
Brunei	..	..
Bulgaria	3.5	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	5.3	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	1.8	2002
China	3.7	2002
Colombia	1.3	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	1.1	2002
Cote d'Ivoire	..	..
Croatia	2.3	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	4.8	2002
Denmark	6.0	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	1.4	2002
Ecuador	1.1	2002
Egypt, Arab Rep.	4.5	2001
El Salvador	1.1	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	3.6	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	6.0	2002
France	6.5	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.2	2002
Ghana	..	..
Greece	2.8	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	1.3	2002
Guinea	..	..

Table A4-10: Commercial Perception of Railroad Services (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	1.1	2002
Honduras	1.2	2002
Hong Kong, China	5.7	2002
Hungary	4.0	2002
Iceland	2.6	2002
India	4.9	2002
Indonesia	2.6	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	2.5	2002
Isle of Man	..	..
Israel	2.9	2002
Italy	3.7	2002
Jamaica	1.2	2002
Japan	6.7	2002
Jordan	2.4	2002
Kazakhstan	4.3	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	5.3	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	3.9	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	3.6	2002
Luxembourg	4.0	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	4.9	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	2.1	2002
Mayotte	..	..
Mexico	2.0	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	3.2	2002
Mozambique	..	..
Myanmar	..	..
Namibia	4.1	2002
Nepal	..	..
Netherlands	5.0	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	3.9	2002
Nicaragua	1.8	2002
Niger	..	..
Nigeria	1.2	2002
Northern Mariana Islands	..	..
Norway	4.0	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	2.6	2002
Papua New Guinea	..	..
Paraguay	1.0	2002
Peru	1.7	2002
Philippines	1.6	2002
Poland	3.2	2002
Portugal	4.0	2002
Puerto Rico	..	..
Qatar	..	..
Romania	2.9	2002
Russian Federation	4.7	2002
Rwanda	..	..
Samoa	..	..

Table A4-10: Commercial Perception of Railroad Services (1=worst 7=best)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	5.6	2002
Slovak Republic	4.7	2002
Slovenia	3.8	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	4.3	2002
Spain	4.3	2002
Sri Lanka	3.7	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	5.4	2002
Switzerland	6.6	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	3.6	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	1.4	2002
Tunisia	3.7	2002
Turkey	2.2	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	4.3	2002
United Arab Emirates	..	..
United Kingdom	3.6	2002
United States	4.6	2002
Uruguay	1.4	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	1.0	2002
Vietnam	2.5	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	3.4	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	3.4	
Low Income	2.7	
Middle Income	2.7	
Lower Middle Income	2.6	
Upper Middle Income	2.9	
Low & Middle Income (developing)	2.7	
East Asia & Pacific	3.1	
Europe & Central Asia	3.7	
Latin American & Caribbean	1.5	
Middle East & North Africa	3.5	
South Asia	3.6	
Sub-Saharan Africa	3.2	
High Income OECD	4.8	
High Income Non-OECD	4.5	

Table A4-11: Commercial Perception of Air Transport Services (1=worst 7=best)

Country Name	Latest Observation	Year
Afghanistan	..	..
Albania	..	..
Algeria	..	..
American Samoa	..	..
Andorra	..	..
Angola	..	..
Antigua and Barbuda	..	..
Argentina	4.3	2002
Armenia	..	..
Aruba	..	..
Australia	6.0	2002
Austria	6.0	2002
Azerbaijan	..	..
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	2.8	2002
Barbados	..	..
Belarus	..	..
Belgium	6.0	2002
Belize	..	..
Benin	..	..
Bermuda	..	..
Bhutan	..	..
Bolivia	3.1	2002
Bosnia and Herzegovina	..	..
Botswana	4.3	2002
Brazil	5.2	2002
Brunei	..	..
Bulgaria	2.9	2002
Burkina Faso	..	..
Burundi	..	..
Cambodia	..	..
Cameroon	..	..
Canada	6.1	2002
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	..	..
Chile	5.5	2002
China	3.6	2002
Colombia	4.5	2002
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Costa Rica	3.8	2002
Cote d'Ivoire	..	..
Croatia	3.9	2002
Cuba	..	..
Cyprus	..	..
Czech Republic	4.9	2002
Denmark	6.2	2002
Djibouti	..	..
Dominica	..	..
Dominican Republic	5.3	2002
Ecuador	2.8	2002
Egypt, Arab Rep.	4.6	2001
El Salvador	5.4	2002
Equatorial Guinea	..	..
Eritrea	..	..
Estonia	4.9	2002
Ethiopia	..	..
Faeroe Islands	..	..
Fiji	..	..
Finland	6.3	2002
France	5.9	2002
French Polynesia	..	..
Gabon	..	..
Gambia, The	..	..
Georgia	..	..
Germany	6.6	2002
Ghana	..	..
Greece	4.8	2002
Greenland	..	..
Grenada	..	..
Guam	..	..
Guatemala	3.4	2002
Guinea	..	..

Table A4-11: Commercial Perception of Air Transport Services (1=worst 7=best)

Country Name	Latest Observation	Year
Guinea-Bissau	..	..
Guyana	..	..
Haiti	3.1	2002
Honduras	3.0	2002
Hong Kong, China	6.7	2002
Hungary	4.2	2002
Iceland	5.7	2002
India	4.8	2002
Indonesia	4.2	2002
Iran, Islamic Rep.	..	..
Iraq	..	..
Ireland	4.6	2002
Isle of Man	..	..
Israel	5.8	2002
Italy	4.9	2002
Jamaica	5.8	2002
Japan	5.1	2002
Jordan	4.9	2002
Kazakhstan	3.1	2001
Kenya	..	..
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	5.7	2002
Kuwait	..	..
Kyrgyz Republic	..	..
Lao PDR	..	..
Latvia	4.5	2002
Lebanon	..	..
Lesotho	..	..
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	4.3	2002
Luxembourg	4.8	2001
Macao, China	..	..
Macedonia, FYR	..	..
Madagascar	..	..
Malawi	..	..
Malaysia	5.9	2002
Maldives	..	..
Mali	..	..
Malta	..	..
Marshall Islands	..	..
Mauritania	..	..
Mauritius	5.3	2002
Mayotte	..	..
Mexico	4.8	2002
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	..
Morocco	4.8	2002
Mozambique	..	..
Myanmar	..	..
Namibia	4.7	2002
Nepal	..	..
Netherlands	6.6	2002
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	5.7	2002
Nicaragua	3.3	2002
Niger	..	..
Nigeria	4.0	2002
Northern Mariana Islands	..	..
Norway	5.5	2002
Oman	..	..
Pakistan	..	..
Palau	..	..
Panama	5.4	2002
Papua New Guinea	..	..
Paraguay	3.3	2002
Peru	3.5	2002
Philippines	3.6	2002
Poland	3.8	2002
Portugal	5.7	2002
Puerto Rico	..	..
Qatar	..	..
Romania	3.7	2002
Russian Federation	4.1	2002
Rwanda	..	..
Samoa	..	..

Table A4-11: Commercial Perception of Air Transport Services (1=worst 7=best)

Country Name	Latest Observation	Year
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	..	..
Senegal	..	..
Seychelles	..	..
Sierra Leone	..	..
Singapore	6.8	2002
Slovak Republic	2.5	2002
Slovenia	4.7	2002
Solomon Islands	..	..
Somalia	..	..
South Africa	5.6	2002
Spain	5.4	2002
Sri Lanka	5.0	2002
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	..	..
Suriname	..	..
Swaziland	..	..
Sweden	6.2	2002
Switzerland	5.4	2002
Syrian Arab Republic	..	..
Tajikistan	..	..
Tanzania	..	..
Thailand	5.2	2002
Togo	..	..
Tonga	..	..
Trinidad and Tobago	5.1	2002
Tunisia	5.4	2002
Turkey	5.0	2002
Turkmenistan	..	..
Uganda	..	..
Ukraine	3.4	2002
United Arab Emirates	..	..
United Kingdom	6.2	2002
United States	6.7	2002
Uruguay	3.2	2002
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	4.0	2002
Vietnam	3.6	2002
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	..	..
Zambia	..	..
Zimbabwe	3.3	2002
UNWEIGHTED AVERAGES (2001-2002)		
World	4.8	
Low Income	3.6	
Middle Income	4.4	
Lower Middle Income	4.2	
Upper Middle Income	4.5	
Low & Middle Income (developing)	4.0	
East Asia & Pacific	4.4	
Europe & Central Asia	3.9	
Latin American & Caribbean	4.2	
Middle East & North Africa	4.9	
South Asia	4.2	
Sub-Saharan Africa	4.5	
High Income OECD	5.7	
High Income Non-OECD	6.0	

Table A4-12: Paved Roads (% of total roads)

Country Name	Latest Observation	Year
Afghanistan	13	1999
Albania	39	2002
Algeria	69	1999
American Samoa	..	..
Andorra	..	..
Angola	10	2001
Antigua and Barbuda	..	..
Argentina	29	1999
Armenia	97	2002
Aruba	..	..
Australia	39	1998
Austria	100	2002
Azerbaijan	92	2002
Bahamas, The	57	1999
Bahrain	77	2002
Bangladesh	10	1999
Barbados	99	2002
Belarus	87	2002
Belgium	78	2002
Belize	17	1999
Benin	20	1999
Bermuda	..	..
Bhutan	61	1997
Bolivia	7	2002
Bosnia and Herzegovina	52	1999
Botswana	55	1999
Brazil	6	2000
Brunei	100	2000
Bulgaria	92	2002
Burkina Faso	16	1999
Burundi	..	..
Cambodia	16	2000
Cameroon	13	1999
Canada	..	..
Cape Verde	78	1999
Cayman Islands	..	..
Central African Republic	3	1998
Chad	1	1999
Channel Islands	..	..
Chile	20	2001
China	..	..
Colombia	14	1999
Comoros	77	1999
Congo, Dem. Rep.	..	..
Congo, Rep.	10	1999
Costa Rica	12	2002
Cote d'Ivoire	10	1999
Croatia	85	1999
Cuba	49	1999
Cyprus	62	2002
Czech Republic	100	2002
Denmark	100	2002
Djibouti	13	1999
Dominica	50	1999
Dominican Republic	49	1999
Ecuador	19	2002
Egypt, Arab Rep.	78	1999
El Salvador	20	1999
Equatorial Guinea	..	..
Eritrea	22	1999
Estonia	25	2002
Ethiopia	12	2002
Faeroe Islands	..	..
Fiji	49	1999
Finland	64	2002
France	100	2002
French Polynesia	..	..
Gabon	10	2000
Gambia, The	35	1999
Georgia	94	2002
Germany	..	..
Ghana	18	2001
Greece	92	1999
Greenland	..	..
Grenada	61	1999
Guam	..	..
Guatemala	35	1999
Guinea	17	1999

Table A4-12: Paved Roads (% of total roads)

Country Name	Latest Observation	Year
Guinea-Bissau	10	1999
Guyana	7	1999
Haiti	24	1999
Honduras	20	1999
Hong Kong, China	100	1999
Hungary	44	2002
Iceland	32	2002
India	57	1999
Indonesia	58	2002
Iran, Islamic Rep.	56	1998
Iraq	84	1999
Ireland	100	2002
Isle of Man	..	..
Israel	100	2002
Italy	100	1999
Jamaica	70	1999
Japan	77	2001
Jordan	100	1999
Kazakhstan	94	2002
Kenya	12	2000
Kiribati	..	..
Korea, Dem. Rep.	6	1999
Korea, Rep.	77	2001
Kuwait	81	1999
Kyrgyz Republic	91	1999
Lao PDR	45	1999
Latvia	95	2002
Lebanon	85	1999
Lesotho	18	1999
Liberia	6	1999
Libya	57	1999
Liechtenstein	..	..
Lithuania	90	2002
Luxembourg	100	2002
Macao, China	100	2000
Macedonia, FYR	64	1999
Madagascar	12	1999
Malawi	19	1999
Malaysia	78	2001
Maldives	..	..
Mali	12	1999
Malta	90	2002
Marshall Islands	..	..
Mauritania	11	1999
Mauritius	98	2002
Mayotte	..	..
Mexico	33	1999
Micronesia, Fed. Sts.	18	1999
Moldova	86	2002
Monaco	100	1999
Mongolia	4	2002
Morocco	56	2002
Mozambique	19	1999
Myanmar	..	..
Namibia	13	2002
Nepal	31	2002
Netherlands	90	1999
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	64	2002
Nicaragua	11	2002
Niger	8	1999
Nigeria	31	1999
Northern Mariana Islands	..	..
Norway	78	2002
Oman	30	1999
Pakistan	59	2001
Palau	..	..
Panama	35	1999
Papua New Guinea	4	1999
Paraguay	51	1999
Peru	13	2001
Philippines	10	2002
Poland	68	2001
Portugal	86	1999
Puerto Rico	94	2001
Qatar	90	1999
Romania	50	2002
Russian Federation	67	1999
Rwanda	8	1999
Samoa	42	1999

APPENDIX 5: Institutional Reform Data by Country

Table A5-1: Electricity Reform Indicators as of 2004

Country Name	Regulation	Ownership		Market Structure
	Existence of Independent Regulatory Agency	Existence of Private Participation in Generation	Existence of Private Participation in Distribution	Vertical Integration
Afghanistan	NO	NO	NO	YES
Albania	YES	NO	NO	YES
Algeria	YES	YES	NO	YES
American Samoa	..	..	..	..
Andorra	..	..	..	..
Angola	NO	YES	NO	YES
Antigua and Barbuda	NO	NO	NO	YES
Argentina	YES	YES	YES	NO
Armenia	YES	YES	YES	NO
Aruba	..	..	..	..
Australia	YES	YES	..	NO
Austria	YES	YES	..	NO
Azerbaijan	NO	NO	NO	YES
Bahamas, The	..	..	..	..
Bahrain	NO	NO	..	YES
Bangladesh	YES	YES	NO	NO
Barbados	YES	YES	YES	YES
Belarus	NO	NO	NO	YES
Belgium	YES	YES	NO	..
Belize	..	YES	YES	..
Benin	NO	NO	NO	..
Bermuda	..	YES	..	YES
Bhutan	NO	NO	NO	YES
Bolivia	YES	YES	YES	NO
Bosnia and Herzegovina	YES	NO	NO	YES
Botswana	NO	NO	NO	YES
Brazil	YES	YES	YES	NO
Brunei	..	..	..	..
Bulgaria	YES	NO	NO	NO
Burkina Faso	NO	YES	NO	YES
Burundi	NO	NO	NO	..
Cambodia	YES	..	YES	..
Cameroon	YES	YES	YES	YES
Canada	YES	..	..	NO
Cape Verde	YES	YES	YES	..
Cayman Islands	..	..	..	..
Central African Republic	NO	NO	NO	YES
Chad	NO	YES	NO	YES
Channel Islands	..	..	..	..
Chile	YES	YES	YES	NO
China	NO	NO	NO	..
Colombia	YES	YES	YES	NO
Comoros	..	YES	YES	..
Congo, Dem. Rep.	NO	NO	NO	YES
Congo, Rep.	NO	NO	NO	YES
Costa Rica	YES	YES	NO	..
Cote d'Ivoire	YES	YES	YES	YES
Croatia	YES	NO	NO	YES
Cuba	NO	NO	NO	YES
Cyprus	..	NO	NO	..
Czech Republic	YES	YES	YES	NO
Denmark	YES	YES	YES	NO
Djibouti	NO	NO	NO	..
Dominica	NO	YES	YES	YES
Dominican Republic	YES	YES	YES	NO
Ecuador	YES	..	..	NO
Egypt, Arab Rep.	NO	YES	NO	..
El Salvador	YES	..	YES	NO
Equatorial Guinea	NO	NO	NO	YES
Eritrea	NO	NO	NO	..
Estonia	YES	YES	YES	YES
Ethiopia	NO	NO	NO	YES
Faeroe Islands	..	..	..	..
Fiji	..	..	..	..
Finland	YES	..	..	NO
France	YES	..	NO	YES
French Polynesia	..	..	..	..
Gabon	NO	YES	YES	YES
Gambia, The	NO	YES	NO	YES
Georgia	YES	YES	YES	NO
Germany	YES	YES	YES	NO
Ghana	YES	YES	YES	YES
Greece	YES	YES	NO	NO
Greenland	..	..	..	..
Grenada	NO	YES	YES	YES

Table A5-1: Electricity Reform Indicators as of 2004

Country Name	Regulation	Ownership		Market Structure
	Existence of Independent Regulatory Agency	Existence of Private Participation in Generation	Existence of Private Participation in Distribution	Vertical Integration
Guam	..	..	..	..
Guatemala	YES	YES	YES	..
Guinea	..	YES	YES	..
Guinea-Bissau	NO	NO	NO	..
Guyana	YES	YES	YES	YES
Haiti	NO	NO	NO	..
Honduras	YES	NO	NO	..
Hong Kong, China	..	YES	..	..
Hungary	YES	YES	YES	NO
Iceland	..	NO	NO	..
India	YES	YES	YES	NO
Indonesia	NO	YES	NO	..
Iran, Islamic Rep.	NO	NO	NO	YES
Iraq	NO	NO	NO	..
Ireland	YES	..	..	NO
Isle of Man	..	..	..	..
Israel	YES	NO	NO	..
Italy	YES	YES	YES	NO
Jamaica	YES	YES	YES	YES
Japan	..	YES	..	YES
Jordan	YES	NO	YES	YES
Kazakhstan	YES	YES	NO	NO
Kenya	YES	YES	NO	NO
Kiribati	..	..	..	..
Korea, Dem. Rep.	NO	YES	NO	NO
Korea, Rep.	NO	NO	NO	..
Kuwait	NO	NO	NO	..
Kyrgyz Republic	YES	NO	NO	NO
Lao PDR	NO	..	NO	..
Latvia	YES	NO	NO	NO
Lebanon	NO	NO	NO	..
Lesotho	NO	NO	NO	YES
Liberia	NO	NO	NO	..
Libya	NO	NO	NO	..
Liechtenstein	..	..	..	..
Lithuania	YES	YES	YES	NO
Luxembourg	YES	YES	YES	..
Macao, China	..	..	..	..
Macedonia, FYR	YES	NO	NO	YES
Madagascar	NO	NO	NO	YES
Malawi	NO	NO	NO	YES
Malaysia	YES	YES	NO	NO
Maldives	NO	NO	NO	..
Mali	YES	YES	YES	YES
Malta	YES	NO	NO	YES
Marshall Islands	..	..	..	..
Mauritania	YES	NO	NO	YES
Mauritius	NO	YES	NO	..
Mayotte	..	..	..	..
Mexico	YES	NO	NO	YES
Micronesia, Fed. Sts.	..	..	..	..
Moldova	YES	NO	YES	NO
Monaco	..	..	..	..
Mongolia	YES	..	NO	..
Morocco	NO	YES	YES	..
Mozambique	YES	YES	YES	YES
Myanmar	NO	..	..	..
Namibia	YES	NO	NO	NO
Nepal	NO	NO	NO	YES
Netherlands	YES	YES	YES	NO
Netherlands Antilles	..	..	..	..
New Caledonia	..	..	..	..
New Zealand	YES	YES	..	NO
Nicaragua	YES	YES	YES	NO
Niger	YES	NO	NO	YES
Nigeria	YES	YES	NO	YES
Northern Mariana Islands	..	..	..	..
Norway	YES	YES	NO	NO
Oman	NO	NO	NO	..
Pakistan	YES	NO	NO	NO
Palau	..	..	..	..
Panama	YES	YES	YES	NO
Papua New Guinea	..	..	..	..
Paraguay	YES	..	NO	..
Peru	YES	YES	YES	..
Philippines	YES	..	YES	YES
Poland	YES	YES	YES	NO
Portugal	YES	YES	YES	NO

Table A5-1: Electricity Reform Indicators as of 2004

Country Name	Regulation	Ownership		Market Structure
	Existence of Independent Regulatory Agency	Existence of Private Participation in Generation	Existence of Private Participation in Distribution	Vertical Integration
Puerto Rico	..	NO	NO	..
Qatar	NO	YES	..	..
Romania	YES	NO	YES	..
Russian Federation	YES	YES	YES	YES
Rwanda	YES	NO	NO	..
Samoa	..	..	..	..
San Marino	..	..	..	..
Sao Tome and Principe	NO	NO	NO	..
Saudi Arabia	NO	NO	NO	YES
Senegal	YES	YES	YES	YES
Seychelles	..	..	..	..
Sierra Leone	NO	NO	NO	..
Singapore	YES	..	..	NO
Slovak Republic	YES	..	YES	NO
Slovenia	YES	NO	NO	NO
Solomon Islands	..	..	..	..
Somalia	NO	NO	NO	..
South Africa	YES	NO	NO	YES
Spain	YES	YES	NO	NO
Sri Lanka	YES	YES	NO	YES
St. Kitts and Nevis	NO	NO	NO	YES
St. Lucia	NO	YES	YES	YES
St. Vincent and the Grenadines	NO	NO	NO	YES
Sudan	NO	NO	NO	..
Suriname	..	YES	..	..
Swaziland	YES	NO	NO	YES
Sweden	YES	YES	YES	..
Switzerland	NO	..	..	NO
Syrian Arab Republic	NO	NO	NO	..
Tajikistan	NO	NO	NO	YES
Tanzania	NO	NO	NO	YES
Thailand	NO	YES	NO	..
Togo	YES	YES	YES	YES
Tonga	..	..	..	..
Trinidad and Tobago	YES	YES	NO	NO
Tunisia	NO	YES	NO	YES
Turkey	YES	YES	YES	NO
Turkmenistan	NO	NO	NO	YES
Uganda	YES	YES	YES	NO
Ukraine	YES	YES	YES	NO
United Arab Emirates	NO	YES	..	..
United Kingdom	YES	YES	YES	NO
United States	YES	YES	YES	NO
Uruguay	YES	NO	NO	..
Uzbekistan	NO	NO	NO	YES
Vanuatu	..	..	..	..
Venezuela, RB	YES	YES	YES	NO
Vietnam	NO	NO	NO	..
Virgin Islands (U.S.)	..	NO	NO	..
West Bank and Gaza	NO	YES	NO	..
Yemen, Rep.	NO	NO	NO	..
Yugoslavia, FR (Serbia/Montenegro)	NO	NO	NO	YES
Zambia	YES	NO	YES	YES
Zimbabwe	NO	NO	NO	YES

Table A5-2: Water Reform Indicators as of 2004

Country Name	Regulation	Ownership
	Existence of Independent Regulatory Agency	Existence of Private Capital
Afghanistan	NO	NO
Albania	YES	YES
Algeria	NO	YES
American Samoa	..	..
Andorra	..	..
Angola	NO	NO
Antigua and Barbuda	NO	NO
Argentina	YES	YES
Armenia	NO	NO
Aruba	..	..
Australia	..	YES
Austria	NO	YES
Azerbaijan	NO	NO
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	NO	NO
Barbados	YES	NO
Belarus	NO	..
Belgium	..	YES
Belize	YES	..
Benin	NO	NO
Bermuda	..	..
Bhutan	NO	NO
Bolivia	YES	YES
Bosnia and Herzegovina	YES	..
Botswana	NO	NO
Brazil	NO	YES
Brunei	..	..
Bulgaria	NO	YES
Burkina Faso	NO	NO
Burundi	NO	NO
Cambodia	NO	YES
Cameroon	NO	YES
Canada	..	..
Cape Verde	YES	YES
Cayman Islands	..	..
Central African Republic	NO	NO
Chad	NO	NO
Channel Islands	..	..
Chile	YES	YES
China	..	YES
Colombia	YES	YES
Comoros	..	..
Congo, Dem. Rep.	NO	NO
Congo, Rep.	NO	YES
Costa Rica	YES	NO
Cote d'Ivoire	NO	YES
Croatia	YES	YES
Cuba	..	YES
Cyprus	NO	NO
Czech Republic	..	YES
Denmark	NO	NO
Djibouti	NO	..
Dominica	NO	YES
Dominican Republic	NO	NO
Ecuador	NO	YES
Egypt, Arab Rep.	NO	NO
El Salvador	NO	NO
Equatorial Guinea	NO	NO
Eritrea	NO	NO
Estonia	NO	YES
Ethiopia	NO	NO
Faeroe Islands	..	..
Fiji	..	..
Finland	NO	YES
France	NO	YES
French Polynesia	..	..
Gabon	NO	YES
Gambia, The	NO	NO
Georgia	NO	NO
Germany	NO	YES
Ghana	YES	NO
Greece	NO	YES
Greenland	..	..
Grenada	NO	NO
Guam	..	..

Table A5-2: Water Reform Indicators as of 2004

Country Name	Regulation	Ownership
	Existence of Independent Regulatory Agency	Existence of Private Capital
Guatemala	NO	NO
Guinea	NO	NO
Guinea-Bissau	NO	NO
Guyana	NO	YES
Haiti	NO	..
Honduras	YES	YES
Hong Kong, China	..	NO
Hungary	NO	YES
Iceland	NO	..
India	NO	YES
Indonesia	NO	YES
Iran, Islamic Rep.	NO	NO
Iraq	NO	NO
Ireland	NO	YES
Isle of Man	..	..
Israel	..	..
Italy	YES	YES
Jamaica	YES	NO
Japan	..	..
Jordan	NO	NO
Kazakhstan	NO	YES
Kenya	NO	NO
Kiribati	..	..
Korea, Dem. Rep.	..	..
Korea, Rep.	..	..
Kuwait	..	..
Kyrgyz Republic	NO	..
Lao PDR	YES	NO
Latvia	NO	NO
Lebanon	NO	NO
Lesotho	NO	NO
Liberia	NO	NO
Libya	..	NO
Liechtenstein	..	..
Lithuania	NO	NO
Luxembourg	NO	..
Macao, China	..	..
Macedonia, FYR	..	NO
Madagascar	..	NO
Malawi	NO	NO
Malaysia	NO	YES
Maldives	NO	NO
Mali	YES	YES
Malta	NO	..
Marshall Islands	..	..
Mauritania	NO	NO
Mauritius	..	NO
Mayotte	..	..
Mexico	YES	YES
Micronesia, Fed. Sts.	..	..
Moldova	..	..
Monaco	..	..
Mongolia	..	NO
Morocco	NO	YES
Mozambique	YES	YES
Myanmar	..	..
Namibia	NO	NO
Nepal	NO	NO
Netherlands	NO	YES
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	..	YES
Nicaragua	YES	NO
Niger	YES	YES
Nigeria	NO	NO
Northern Mariana Islands	..	..
Norway	..	..
Oman	..	NO
Pakistan	NO	NO
Palau	NO	NO
Panama	YES	NO
Papua New Guinea	NO	NO
Paraguay	YES	NO
Peru	YES	NO
Philippines	YES	YES
Poland	NO	YES
Portugal	..	YES
Puerto Rico	..	..

Table A5-2: Water Reform Indicators as of 2004

Country Name	Regulation	Ownership
	Existence of Independent Regulatory Agency	Existence of Private Capital
Qatar	..	YES
Romania	YES	YES
Russian Federation	..	YES
Rwanda	NO	NO
Samoa	..	..
San Marino	..	..
Sao Tome and Principe	NO	NO
Saudi Arabia	NO	YES
Senegal	NO	NO
Seychelles	..	..
Sierra Leone	NO	NO
Singapore	..	NO
Slovak Republic	NO	YES
Slovenia	NO	YES
Solomon Islands	..	..
Somalia	..	..
South Africa	NO	YES
Spain	YES	YES
Sri Lanka	NO	NO
St. Kitts and Nevis	NO	NO
St. Lucia	NO	NO
St. Vincent and the Grenadines	NO	NO
Sudan	NO	NO
Suriname	..	..
Swaziland	NO	NO
Sweden	NO	..
Switzerland	..	..
Syrian Arab Republic	NO	NO
Tajikistan	NO	NO
Tanzania	NO	NO
Thailand	..	YES
Togo	NO	NO
Tonga	..	..
Trinidad and Tobago	NO	NO
Tunisia	NO	NO
Turkey	..	YES
Turkmenistan	NO	NO
Uganda	NO	NO
Ukraine	..	..
United Arab Emirates	..	..
United Kingdom	YES	YES
United States	..	YES
Uruguay	YES	YES
Uzbekistan	..	..
Vanuatu	..	..
Venezuela, RB	NO	NO
Vietnam	NO	YES
Virgin Islands (U.S.)	..	..
West Bank and Gaza	NO	NO
Yemen, Rep.	NO	NO
Yugoslavia, FR (Serbia/Montenegro)	NO	YES
Zambia	YES	NO
Zimbabwe	NO	NO

Table A5-3: ICT Reform Indicators as of 2004

Country Name	Regulation	Ownership	Market Structure				
	Existence of Independent Regulatory Agency	Existence of Private Capital	Local Phone Monopoly	Digital Mobile Monopoly	Long Distance Monopoly	Leased Lines Monopoly	Internet Service Provider Monopoly
Afghanistan	YES	NO	NO	NO	NO	NO	NO
Albania	YES	NO	NO	NO	NO	NO	NO
Algeria	YES	NO	YES	NO	YES	YES	NO
American Samoa	NO	..	..	..	..	..	..
Andorra	NO	NO	YES	YES	YES	YES	..
Angola	YES	YES	NO	NO	NO	NO	NO
Antigua and Barbuda	NO	NO	NO	NO	..	YES	NO
Argentina	YES	YES	NO	NO	NO	NO	NO
Armenia	NO	YES	YES	YES	YES	YES	NO
Aruba	NO	..	..	..	..	..	..
Australia	YES	YES	NO	NO	NO	NO	NO
Austria	YES	YES	NO	NO	NO	NO	NO
Azerbaijan	NO	NO	NO	NO	YES	NO	..
Bahamas, The	YES	NO	YES	YES	YES	NO	NO
Bahrain	YES	YES	NO	NO	NO	YES	NO
Bangladesh	YES	NO	NO	NO	NO	YES	NO
Barbados	YES	YES	YES	NO	..	YES	NO
Belarus	NO	NO	NO	NO	YES	YES	NO
Belgium	YES	YES	NO	NO	NO	NO	NO
Belize	YES	YES	YES	..	YES	YES	YES
Benin	YES	NO	YES	NO	YES	YES	..
Bermuda	NO	..	..	..	..	..	..
Bhutan	YES	NO	YES	YES	YES	YES	NO
Bolivia	YES	YES	YES	NO	YES	YES	NO
Bosnia and Herzegovina	YES	YES	YES	NO	YES	YES	NO
Botswana	YES	NO	NO	NO	NO	NO	NO
Brazil	YES	YES	NO	NO	NO	NO	NO
Brunei	YES	NO	NO	YES	NO	NO	NO
Bulgaria	YES	YES	NO	NO	NO	NO	NO
Burkina Faso	YES	NO	YES	NO	YES	NO	NO
Burundi	YES	NO	NO	NO	NO	NO	NO
Cambodia	NO	NO	NO	NO	NO	NO	NO
Cameroon	YES	NO	YES	NO	YES	YES	NO
Canada	YES	YES	NO	NO	NO	NO	NO
Cape Verde	YES	YES	YES	NO	YES	YES	NO
Cayman Islands	NO	..	..	..	..	..	..
Central African Republic	YES	YES	YES	NO	YES	NO	..
Chad	YES	NO	YES	NO	NO	YES	NO
Channel Islands	NO	..	..	..	..	..	..
Chile	YES	YES	NO	NO	NO	NO	NO
China	NO	YES	NO	NO	NO	NO	NO
Colombia	YES	YES	NO	NO	NO	NO	NO
Comoros	NO	NO	YES	..	YES	YES	YES
Congo, Dem. Rep.	YES	NO	NO	NO	NO	NO	NO
Congo, Rep.	NO	NO	NO	NO	NO	..	..
Costa Rica	YES	NO	YES	YES	YES	YES	YES
Cote d'Ivoire	YES	YES	NO	NO	NO	NO	NO
Croatia	YES	YES	NO	NO	NO	NO	NO
Cuba	NO	YES	YES	NO	YES	YES	NO
Cyprus	YES	NO	NO	NO	NO	NO	NO
Czech Republic	YES	YES	NO	NO	NO	NO	NO
Denmark	YES	YES	NO	NO	NO	NO	NO
Djibouti	NO	NO	YES	..	YES	YES	YES
Dominica	NO	YES	YES	YES	YES	YES	..
Dominican Republic	YES	YES	NO	NO	NO	NO	NO
Ecuador	YES	NO	YES	NO	YES	NO	NO
Egypt, Arab Rep.	YES	NO	YES	NO	YES	YES	NO
El Salvador	YES	YES	NO	NO	NO	NO	NO
Equatorial Guinea	NO	YES	YES	..	YES	..	YES
Eritrea	YES	NO	YES	NO	YES	YES	NO
Estonia	YES	YES	NO	NO	NO	NO	NO
Ethiopia	YES	NO	YES	YES	YES	YES	YES
Faeroe Islands	NO	..	..	..	..	..	..
Fiji	NO	YES	YES	YES	YES	YES	NO
Finland	YES	YES	NO	NO	NO	NO	NO
France	YES	YES	NO	NO	NO	NO	NO
French Polynesia	NO	..	..	..	..	..	..
Gabon	YES	NO	NO	NO	NO	..	NO
Gambia, The	YES	NO	NO	NO	NO	YES	NO
Georgia	YES	YES	NO	NO	NO	YES	NO
Germany	YES	YES	NO	NO	NO	NO	NO
Ghana	YES	YES	NO	NO	NO	NO	NO
Greece	YES	YES	NO	NO	NO	NO	NO
Greenland	NO	..	..	..	..	..	..
Grenada	YES	YES	YES	YES	YES	YES	..

Table A5-3: ICT Reform Indicators as of 2004

Country Name	Regulation	Ownership	Market Structure					
	Existence of Independent Regulatory Agency	Existence of Private Capital	Local Phone Monopoly	Digital Monopoly	Mobile Monopoly	Long Distance Monopoly	Leased Lines Monopoly	Internet Service Provider Monopoly
Guam	NO
Guatemala	YES	YES	NO	NO	YES	NO	NO	
Guinea	YES	YES	NO	NO	NO	YES	NO	
Guinea-Bissau	YES	YES	YES	NO	YES	YES	NO	
Guyana	YES	YES	YES	NO	YES	YES	NO	
Haiti	YES	YES	NO	NO	NO	YES	NO	
Honduras	YES	NO	YES	YES	YES	NO	..	
Hong Kong, China	NO	..	..	..	..	..	..
Hungary	YES	YES	NO	NO	NO	NO	NO	
Iceland	YES	YES	NO	NO	NO	NO	NO	
India	YES	YES	NO	NO	NO	..	NO	
Indonesia	YES	YES	NO	NO	NO	NO	NO	
Iran, Islamic Rep.	NO	YES	YES	YES	YES	YES	YES	
Iraq	NO	NO	YES	..	YES	..	..
Ireland	YES	YES	NO	NO	NO	NO	NO	
Isle of Man	NO	..	..	..	..	..	..
Israel	NO	YES	YES	NO	YES	YES	NO	
Italy	YES	YES	NO	NO	NO	NO	NO	
Jamaica	YES	YES	NO	NO	NO	NO	NO	
Japan	NO	YES	NO	NO	NO	NO	NO	
Jordan	YES	YES	YES	NO	YES	YES	NO	
Kazakhstan	NO	YES	NO	NO	NO	NO	..	
Kenya	YES	NO	NO	NO	NO	NO	NO	
Kiribati	NO	YES	YES	..	YES	YES	..	
Korea, Dem. Rep.	NO	..	YES	..	YES	..	..
Korea, Rep.	YES	YES	NO	NO	NO	NO	NO	
Kuwait	NO	NO	YES	NO	..	YES	NO	
Kyrgyz Republic	YES	YES	NO	NO	NO	NO	NO	
Lao PDR	NO	YES	NO	NO	YES	YES	NO	
Latvia	YES	YES	NO	NO	NO	NO	NO	
Lebanon	NO	NO	YES	..	YES	..	..
Lesotho	YES	YES	NO	NO	NO	YES	NO	
Liberia	NO	NO	NO	NO	NO	..	..
Libya	NO	NO	YES	YES	YES	YES	..	
Liechtenstein	YES	NO	NO	NO	..	NO	NO	
Lithuania	YES	YES	NO	NO	NO	NO	NO	
Luxembourg	YES	YES	NO	NO	NO	NO	NO	
Macao, China	NO	..	..	..	..	..	..
Macedonia, FYR	NO	YES	YES	NO	YES	YES	NO	
Madagascar	YES	YES	NO	NO	NO	NO	NO	
Malawi	YES	NO	YES	NO	YES	NO	NO	
Malaysia	YES	YES	NO	NO	NO	NO	NO	
Maldives	YES	YES	YES	YES	YES	YES	YES	
Mali	YES	YES	NO	NO	NO	NO	NO	
Malta	YES	YES	NO	NO	YES	NO	NO	
Marshall Islands	NO	YES	YES	..	YES	YES	..	
Mauritania	YES	YES	YES	NO	NO	NO	NO	
Mauritius	YES	YES	NO	NO	..	NO	NO	
Mayotte	NO	..	..	..	..	..	..
Mexico	YES	YES	NO	NO	NO	NO	NO	
Micronesia, Fed. Sts.	NO	NO	YES	NO	YES	YES	..	
Moldova	YES	NO	NO	NO	YES	YES	NO	
Monaco	NO	YES	YES	YES	YES	YES	NO	
Mongolia	YES	YES	NO	NO	NO	NO	NO	
Morocco	YES	YES	YES	NO	YES	YES	NO	
Mozambique	YES	YES	YES	NO	YES	YES	NO	
Myanmar	NO	NO	YES	YES	YES	NO	NO	
Namibia	YES	NO	YES	YES	YES	YES	NO	
Nepal	YES	NO	NO	YES	YES	YES	NO	
Netherlands	YES	YES	NO	NO	NO	NO	NO	
Netherlands Antilles	NO	..	..	..	..	..	..
New Caledonia	NO	..	..	..	..	..	..
New Zealand	NO	YES	NO	NO	NO	NO	NO	
Nicaragua	YES	YES	YES	NO	YES	NO	NO	
Niger	NO	YES	YES	NO	YES	YES	YES	
Nigeria	YES	NO	NO	NO	NO	NO	NO	
Northern Mariana Islands	NO	..	..	..	..	..	..
Norway	YES	YES	NO	NO	NO	NO	NO	
Oman	YES	NO	YES	YES	YES	YES	YES	
Pakistan	YES	YES	NO	NO	NO	NO	NO	
Palau	NO	..	..	..	..	..	..
Panama	YES	YES	NO	NO	NO	YES	NO	
Papua New Guinea	YES	NO	YES	YES	YES	YES	NO	
Paraguay	YES	NO	YES	NO	YES	YES	NO	
Peru	YES	YES	NO	NO	NO	NO	NO	
Philippines	YES	YES	NO	NO	NO	NO	NO	
Poland	YES	YES	NO	NO	NO	NO	NO	
Portugal	YES	YES	NO	NO	NO	NO	NO	

Table A5-3: ICT Reform Indicators as of 2004

Country Name	Regulation	Ownership	Market Structure					
	Existence of Independent Regulatory Agency	Existence of Private Capital	Local Phone Monopoly	Digital Monopoly	Mobile Monopoly	Long Distance Monopoly	Leased Lines Monopoly	Internet Service Provider Monopoly
Puerto Rico	NO	..	..	..	..	..	..	..
Qatar	NO	YES	YES	YES	YES	YES	YES	YES
Romania	YES	YES	NO	NO	NO	NO	NO	NO
Russian Federation	NO	YES	NO	NO	NO	NO	YES	..
Rwanda	YES	YES	NO	NO	NO	NO	NO	NO
Samoa	NO	NO	YES	..	YES	YES	YES	NO
San Marino	NO	YES	YES	NO	YES	NO	NO	..
Sao Tome and Principe	NO	YES	YES	..	..	YES	..	..
Saudi Arabia	YES	YES	YES	YES	YES	YES	YES	NO
Senegal	YES	YES	NO	NO	NO	NO	NO	NO
Seychelles	NO	YES	NO	NO	NO	NO	NO	NO
Sierra Leone	NO	NO	YES	NO	YES	NO	NO	NO
Singapore	YES	YES	NO	NO	..	NO	NO	NO
Slovak Republic	YES	YES	NO	NO	NO	NO	NO	NO
Slovenia	YES	YES	YES	NO	YES	NO	NO	NO
Solomon Islands	NO	YES	YES	..	YES	..	..	..
Somalia	NO	YES	NO	..	NO	..	..	..
South Africa	YES	YES	NO	NO	NO	YES	NO	NO
Spain	YES	YES	NO	NO	NO	NO	NO	NO
Sri Lanka	YES	YES	NO	NO	NO	NO	NO	NO
St. Kitts and Nevis	NO	..	..	..	..	..	..	..
St. Lucia	YES	YES	YES	YES	YES	YES	YES	YES
St. Vincent and the Grenadines	YES	YES	NO	NO	NO	NO	NO	NO
Sudan	YES	YES	YES	NO	NO	YES	YES	NO
Suriname	YES	NO	YES	YES	YES	YES	YES	NO
Swaziland	NO	NO	YES	YES	YES	YES	YES	NO
Sweden	YES	YES	NO	NO	NO	NO	NO	NO
Switzerland	YES	YES	NO	NO	NO	NO	NO	NO
Syrian Arab Republic	NO	NO	YES	NO	YES	YES	YES	NO
Tajikistan	NO	YES	YES	..	YES	YES	YES	..
Tanzania	YES	YES	YES	NO	YES	YES	YES	NO
Thailand	YES	..	NO	NO	NO	NO	NO	NO
Togo	YES	NO	NO	NO	YES	YES	YES	NO
Tonga	NO	NO	NO	..	NO	YES	NO	NO
Trinidad and Tobago	YES	NO	YES	YES	YES	YES	YES	NO
Tunisia	YES	NO	YES	NO	YES	YES	YES	NO
Turkey	YES	NO	NO	NO	NO	NO	NO	NO
Turkmenistan	NO	NO	NO	NO	YES	NO	..	..
Uganda	YES	YES	NO	NO	NO	NO	NO	NO
Ukraine	NO	NO	NO	NO	YES	YES	..	..
United Arab Emirates	NO	YES	YES	YES	YES	YES	YES	YES
United Kingdom	YES	YES	NO	NO	NO	NO	NO	NO
United States	YES	YES	NO	NO	NO	NO	NO	NO
Uruguay	YES	NO	YES	NO	YES	YES	YES	NO
Uzbekistan	NO	NO	NO	NO	NO	NO	..	..
Vanuatu	NO	YES	YES	..	YES	..	..	..
Venezuela, RB	YES	YES	NO	NO	NO	NO	NO	NO
Vietnam	NO	NO	NO	YES	YES	YES	YES	NO
Virgin Islands (U.S.)	NO	..	..	..	..	..	..	..
West Bank and Gaza	NO	..	..	..	..	..	..	..
Yemen, Rep.	NO	NO	YES	NO	YES	YES	YES	NO
Yugoslavia, FR (Serbia/Montenegro)	NO	YES	NO	NO	NO	NO	..	..
Zambia	YES	NO	YES	NO	YES	YES	YES	NO
Zimbabwe	YES	NO	NO	NO	NO	NO	NO	NO

Table A5-4: Railways Reform Indicators as of 2004

Country Name	Regulation	Ownership
	Existence of Independent Regulatory Agency	Existence of Private Participation
Afghanistan	NO	NO
Albania	NO	NO
Algeria	NO	NO
American Samoa	..	..
Andorra	..	..
Angola	NO	NO
Antigua and Barbuda	..	..
Argentina	YES	YES
Armenia	NO	NO
Aruba	..	..
Australia	YES	YES
Austria	NO	YES
Azerbaijan	NO	NO
Bahamas, The	..	..
Bahrain	..	..
Bangladesh	NO	YES
Barbados	..	..
Belarus	NO	NO
Belgium	NO	YES
Belize	..	..
Benin	NO	NO
Bermuda	..	..
Bhutan	..	..
Bolivia	YES	YES
Bosnia and Herzegovina	NO	NO
Botswana	NO	NO
Brazil	YES	YES
Brunei	..	..
Bulgaria	NO	NO
Burkina Faso	NO	YES
Burundi	..	..
Cambodia	NO	NO
Cameroon	NO	YES
Canada	YES	YES
Cape Verde	..	..
Cayman Islands	..	..
Central African Republic	..	..
Chad	..	..
Channel Islands	NO	NO
Chile	YES	YES
China	NO	YES
Colombia	YES	YES
Comoros	..	..
Congo, Dem. Rep.	NO	NO
Congo, Rep.	YES	YES
Costa Rica	NO	NO
Cote d'Ivoire	NO	YES
Croatia	NO	NO
Cuba	NO	NO
Cyprus	..	..
Czech Republic	NO	YES
Denmark	NO	YES
Djibouti	NO	NO
Dominica	..	..
Dominican Republic	NO	NO
Ecuador	NO	NO
Egypt, Arab Rep.	NO	NO
El Salvador	NO	NO
Equatorial Guinea	..	..
Eritrea	NO	NO
Estonia	NO	YES
Ethiopia	NO	NO
Faeroe Islands	..	..
Fiji	..	..
Finland	NO	NO
France	NO	YES
French Polynesia	..	..
Gabon	NO	YES
Gambia, The	..	..
Georgia	NO	NO
Germany	NO	YES
Ghana	NO	NO
Greece	NO	NO
Greenland	..	..
Grenada	..	..
Guam	..	..

Table A5-4: Railways Reform Indicators as of 2004

Country Name	Regulation	Ownership
	Existence of Independent Regulatory Agency	Existence of Private Participation
Guatemala	NO	YES
Guinea	NO	YES
Guinea-Bissau	..	..
Guyana	..	..
Haiti	..	..
Honduras	NO	NO
Hong Kong, China	NO	YES
Hungary	NO	YES
Iceland	..	..
India	NO	NO
Indonesia	NO	NO
Iran, Islamic Rep.	NO	YES
Iraq	NO	NO
Ireland	NO	NO
Isle of Man	NO	NO
Israel	YES	NO
Italy	NO	YES
Jamaica	NO	YES
Japan	NO	YES
Jordan	NO	NO
Kazakhstan	NO	NO
Kenya	NO	NO
Kiribati	..	..
Korea, Dem. Rep.	NO	NO
Korea, Rep.	NO	NO
Kuwait	..	..
Kyrgyz Republic	NO	NO
Lao PDR	NO	NO
Latvia	NO	NO
Lebanon	..	..
Lesotho	NO	NO
Liberia	..	..
Libya	..	..
Liechtenstein	..	..
Lithuania	NO	NO
Luxembourg	NO	YES
Macao, China	NO	NO
Macedonia, FYR	NO	NO
Madagascar	NO	YES
Malawi	NO	YES
Malaysia	NO	YES
Maldives	..	..
Mali	NO	YES
Malta	..	..
Marshall Islands	..	..
Mauritania	NO	YES
Mauritius	..	..
Mayotte	..	..
Mexico	NO	YES
Micronesia, Fed. Sts.	..	..
Moldova	NO	NO
Monaco	..	..
Mongolia	NO	NO
Morocco	NO	NO
Mozambique	NO	YES
Myanmar	NO	NO
Namibia	NO	NO
Nepal	..	..
Netherlands	NO	YES
Netherlands Antilles	..	..
New Caledonia	..	..
New Zealand	NO	YES
Nicaragua	..	..
Niger	..	..
Nigeria	NO	NO
Northern Mariana Islands	..	..
Norway	NO	NO
Oman	..	..
Pakistan	NO	NO
Palau	NO	NO
Panama	NO	YES
Papua New Guinea	..	..
Paraguay	NO	NO
Peru	NO	YES
Philippines	NO	YES
Poland	YES	NO
Portugal	NO	NO
Puerto Rico	NO	NO
Qatar	..	..

Table A5-4: Railways Reform Indicators as of 2004

Country Name	Regulation	Ownership
	Existence of Independent Regulatory Agency	Existence of Private Participation
Romania	NO	NO
Russian Federation	YES	YES
Rwanda	..	..
Samoa	..	..
San Marino	..	..
Sao Tome and Principe	..	..
Saudi Arabia	NO	NO
Senegal	NO	YES
Seychelles	..	..
Sierra Leone	..	..
Singapore	..	..
Slovak Republic	NO	YES
Slovenia	NO	NO
Solomon Islands	..	..
Somalia	..	..
South Africa	NO	NO
Spain	NO	NO
Sri Lanka	NO	NO
St. Kitts and Nevis	..	..
St. Lucia	..	..
St. Vincent and the Grenadines	..	..
Sudan	NO	NO
Suriname	..	..
Swaziland	NO	YES
Sweden	NO	YES
Switzerland	NO	YES
Syrian Arab Republic	NO	NO
Tajikistan	NO	NO
Tanzania	NO	NO
Thailand	NO	NO
Togo	NO	YES
Tonga	..	..
Trinidad and Tobago	..	..
Tunisia	NO	NO
Turkey	NO	NO
Turkmenistan	NO	NO
Uganda	NO	NO
Ukraine	NO	NO
United Arab Emirates	..	..
United Kingdom	YES	YES
United States	YES	YES
Uruguay	NO	YES
Uzbekistan	NO	NO
Vanuatu	..	..
Venezuela, RB	NO	NO
Vietnam	NO	NO
Virgin Islands (U.S.)	..	..
West Bank and Gaza	..	..
Yemen, Rep.	..	..
Yugoslavia, FR (Serbia/Montenegro)	NO	NO
Zambia	NO	YES
Zimbabwe	NO	NO