

# Latin American Performance in an International Perspective

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- Part I. The Global Competitiveness Programme and the Global Information Technology Report (GITR).
- Part II. The Networked Readiness Index and the 2004 Rankings.

# I. The Global Competitiveness Programme and the GTR

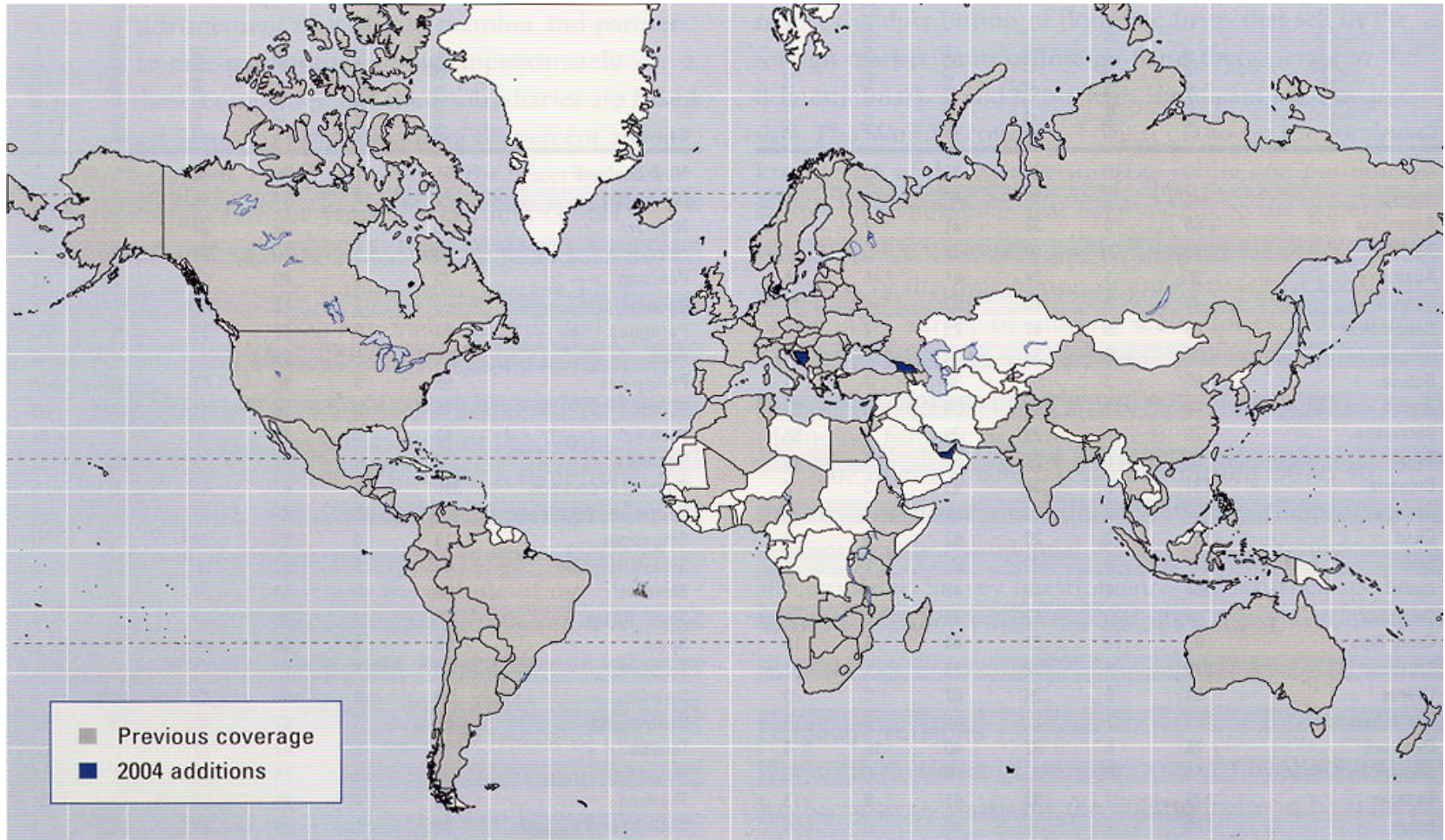
- ▶ Flagship product: Global Competitiveness Report (GCR)



- ▶ Launched in 1979 covering 16 countries
- ▶ The Report has since expanded its coverage, to 104 countries in 2004 and it is expected to expand further to about 120 in 2005
- ▶ 2004 marked the 25th Anniversary of the GCR

# I. The Global Competitiveness Programme and the GTR

## Geographic coverage

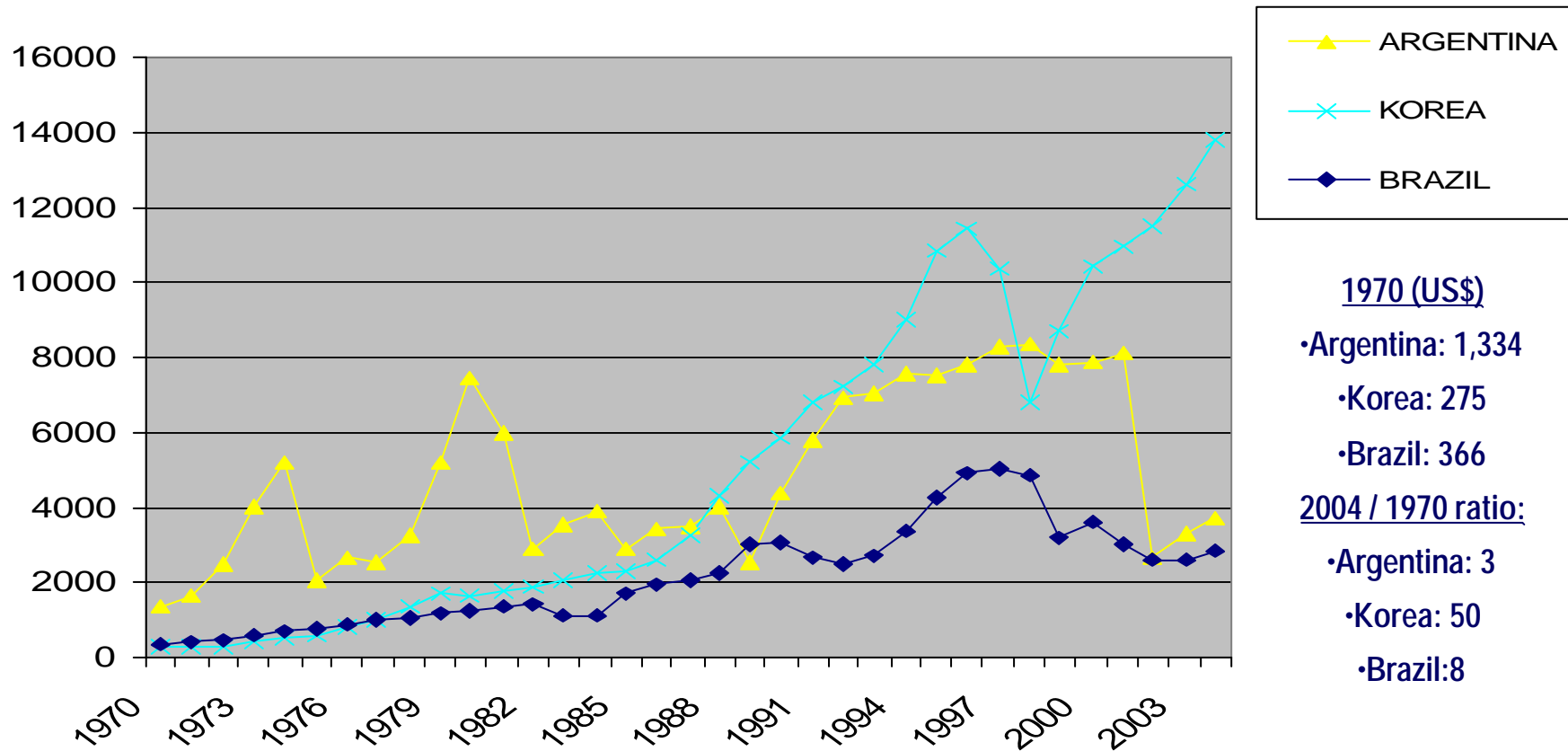




# I. The Global Competitiveness Programme and the GTR

## What are we trying to achieve?

**GDP per capita, current US\$**



Source: IMF World Economic Outlook

# I. The Global Competitiveness Programme and the GTR

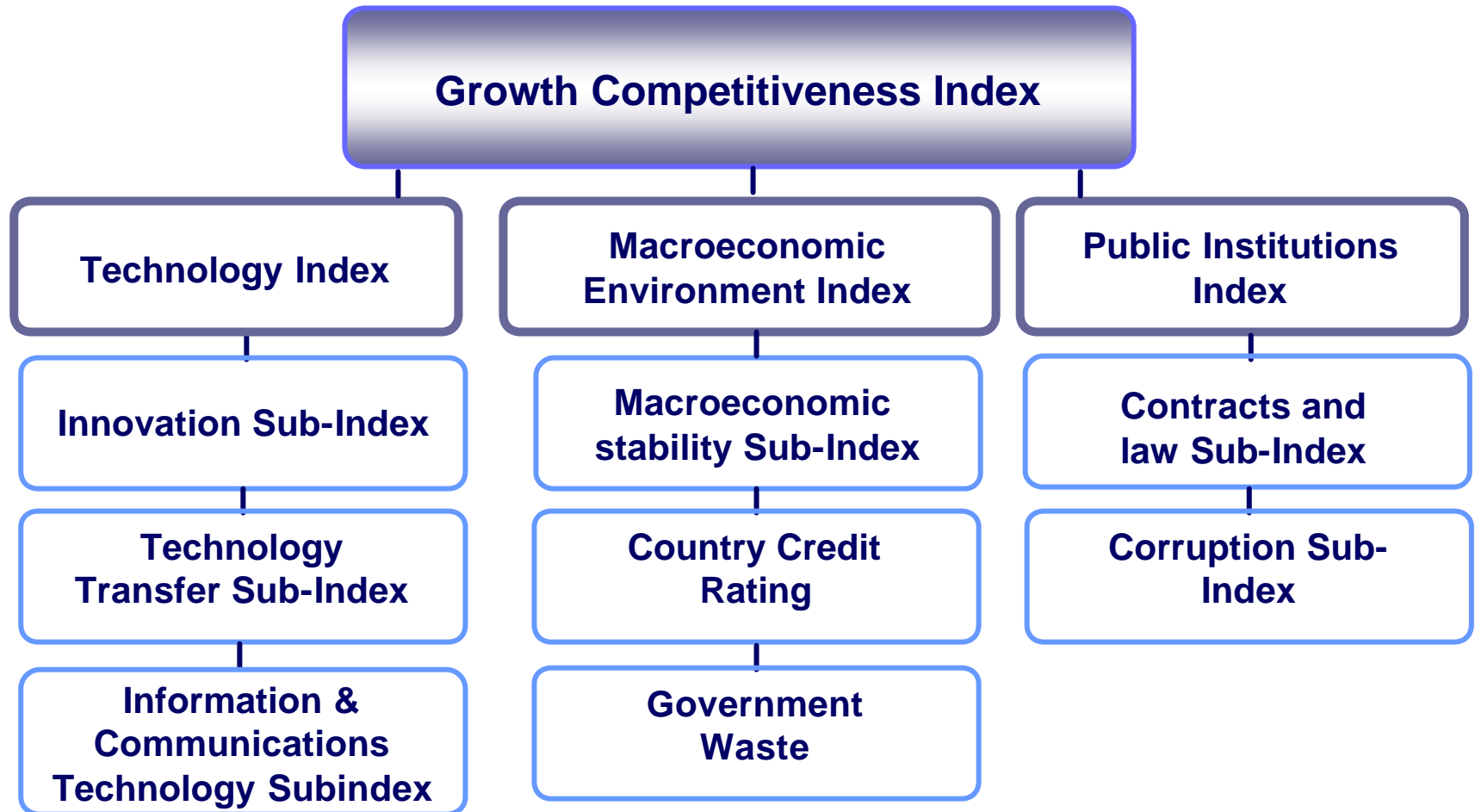
What are we trying to achieve?



- ▶ We would like to cast some light on the factors that help explain these differences and their relative importance.
- ▶ Why is it that Argentina's and Korea's GDP per capita have diverged to such an extent in the last 3 decades?
- ▶ What variables are crucial to enhancing the capacity of an economy to achieve sustained growth over the medium term, controlling for the current level of development ?
- ▶ The Growth Competitiveness Index (GCI) attempts to identify several key factors which play a crucial role in safeguarding the health of a nation's economy and its ability to grow on a sustained basis.

# I. The Global Competitiveness Programme

## The Growth Competitiveness Index



## II. The Global Competitiveness Programme

### Latin American Competitiveness Rankings

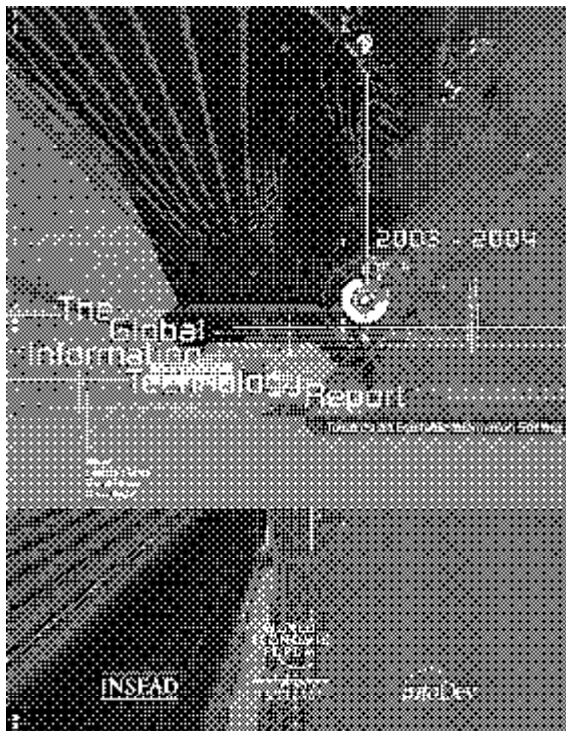
(ranks out of 104 countries)

Country	GCI Index	Technology Index	Public Institutions Index	Macroeconomic Environment Index
Chile	22	32	20	27
Mexico	48	48	59	49
Costa Rica	50	55	47	64
Brazil	57	42	50	80
Colombia	64	68	61	66
Argentina	74	57	79	94



# I. The Global Competitiveness Programme and the GTR

► Regional and special topic reports in recent years, among which the Global Information Technology Report series:



- ▶ Launched in 2001, at first, in collaboration with the Information Technologies Group of the Center for International Development at Harvard University and, from 2002, with INSEAD.
- ▶ Taking into account the crucial importance of ICT for countries' development and growth, the GTR is a powerful tool for business leaders and policy makers in understanding the enabling factors of ICT advancement.
- ▶ The Networked Readiness Index (NRI) measures the propensity for countries to exploit the opportunities offered by ICT and establishes a broad international framework mapping out the enabling factors of such capacity.

# I. The Global Competitiveness Programme and the GTR

## Data and Analysis

- ▶ Both “hard data” (publicly available information) and survey data (from the Executive Opinion Survey) are used in calculating indices
- ▶ Use most recent data available

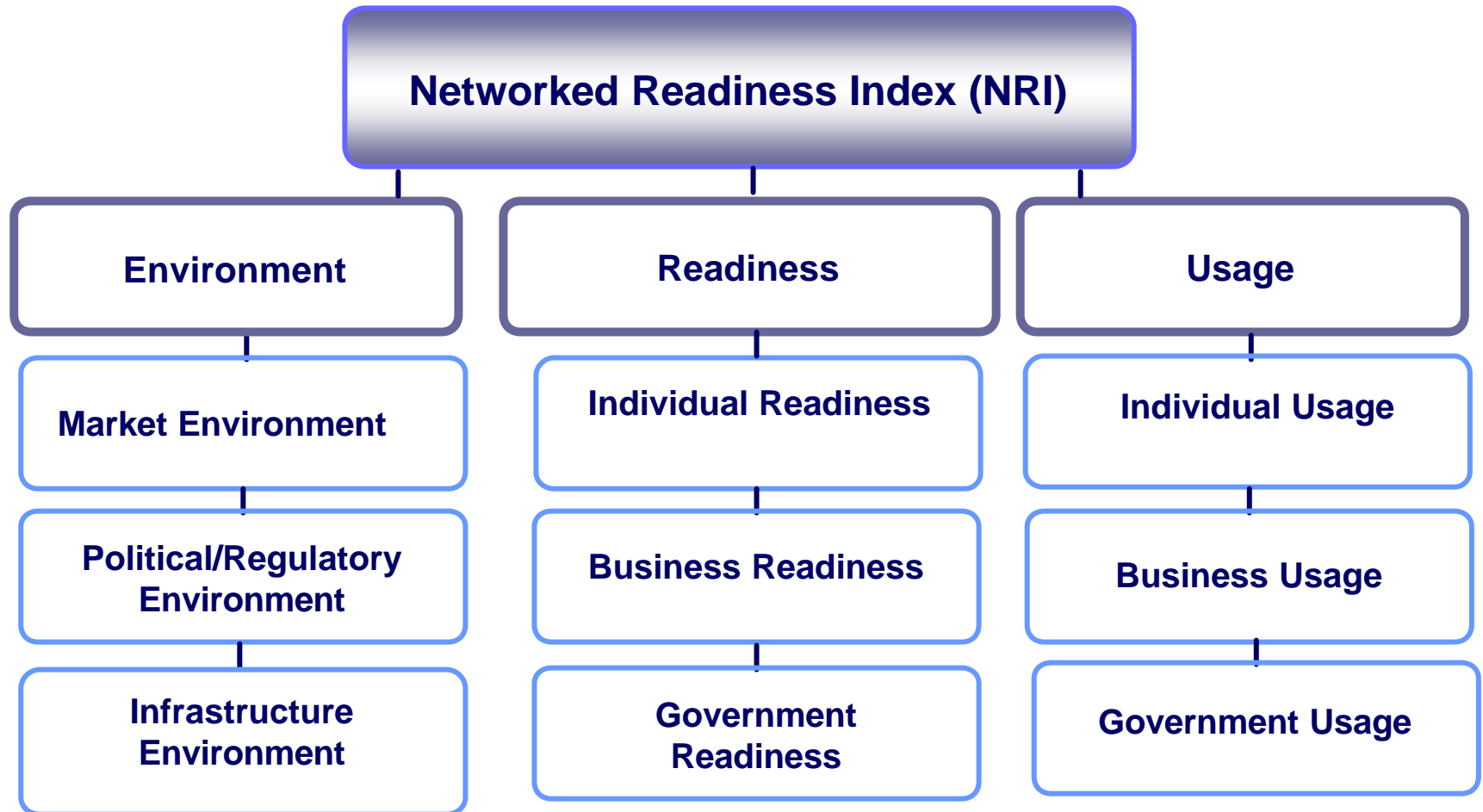
Timeliness of Data Variables Used		
Year	Number of Variables	% of the total
2002	11	21.6
2003	4	7.8
2004	36	70.6

## Why is the GTR important?

- ▶ Need to move beyond anecdotes
- ▶ Comprehensive scope
- ▶ Longitudinal study
- ▶ Identify trends, best practices
- ▶ ICT is critical for development and competitiveness
- ▶ Guidance for policy decisions

## II. The Networked Readiness Index

### Composition



## II. The Networked Readiness Index

### Examples of Variables Used in the Index's Calculation

#### Environment (20 variables)

- Ease to start a new business
- Administrative burden
- Availability of scientists and engineers
- Sophistication of financial markets
- Effectiveness of Judiciary
- Telephone mainlines
- Secure Internet servers
- Internet hosts
- University-industry collaboration

#### Usage (15 Variables)

- Cellular mobile subscribers
- Telephone subscribers
- Broadband-DSL Internet subscribers
- Government online services
- Firm-level technology absorption
- Internet users

#### Readiness (16 variables)

- Quality of math and science education
- Internet access in schools
- Residential telephone connection charges
- Quality of business schools
- Business telephone connection charges
- Government procurement of ICT



## II. The Networked Readiness Index 2004

Overall Ranks for the NRI (out of 104 countries)

Top Twenty

Country	NRI	Environment	Readiness	Usage
Singapore	1	6	1	1
Iceland	2	1	15	12
Finland	3	2	2	9
Denmark	4	3	6	4
United States	5	4	5	5
Sweden	6	5	9	3
Hong Kong	7	15	12	2
Japan	8	16	3	6
Switzerland	9	11	7	14
Canada	10	10	22	8
Australia	11	9	11	16
United Kingdom	12	7	13	19
Norway	13	8	20	18
Germany	14	18	8	10
Taiwan	15	23	4	11
Netherlands	16	14	16	21
Luxembourg	17	13	14	27
Israel	18	20	19	13
Austria	19	19	21	15
France	20	22	10	17

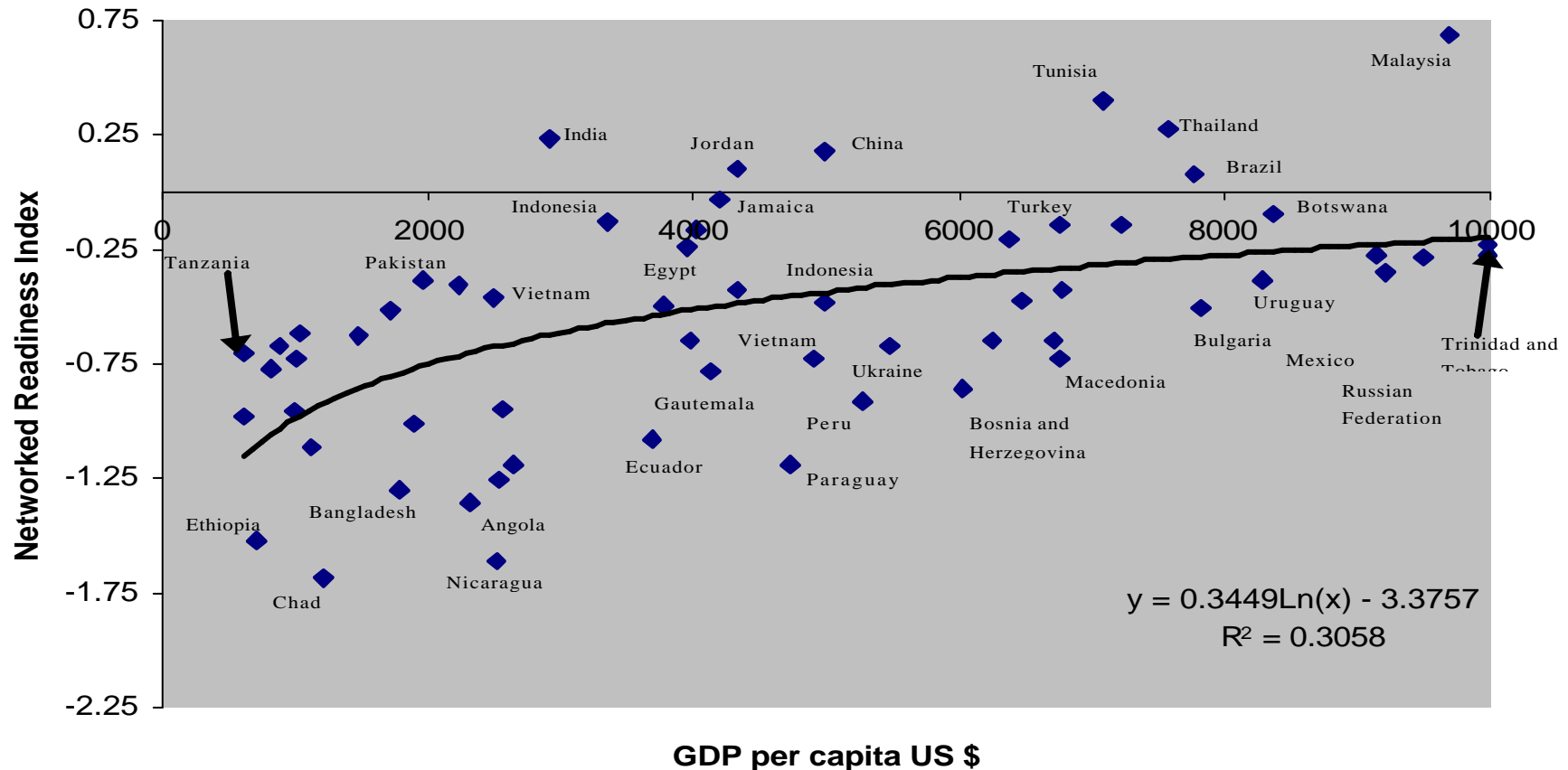
## II. The Networked Readiness Index 2004

### Top Ten: Evolution from 2001 to 2004

Country (number of nations analysed)	2001 75	2002 82	2003 102	2004 104
Singapore	8	3	2	1
Iceland	2	5	10	2
Finland	3	1	3	3
Denmark	7	8	5	4
United States	1	2	1	5
Sweden	4	4	4	6
Hong Kong	13	18	18	7
Japan	21	20	12	8
Switzerland	16	13	7	9
Canada	12	6	6	10

## II. The Networked Readiness Index 2004

**Networked Readiness versus Gross Domestic Product per Capita (ppp), Partial Log Regression for countries with GDP/Capita < US\$ 10000**

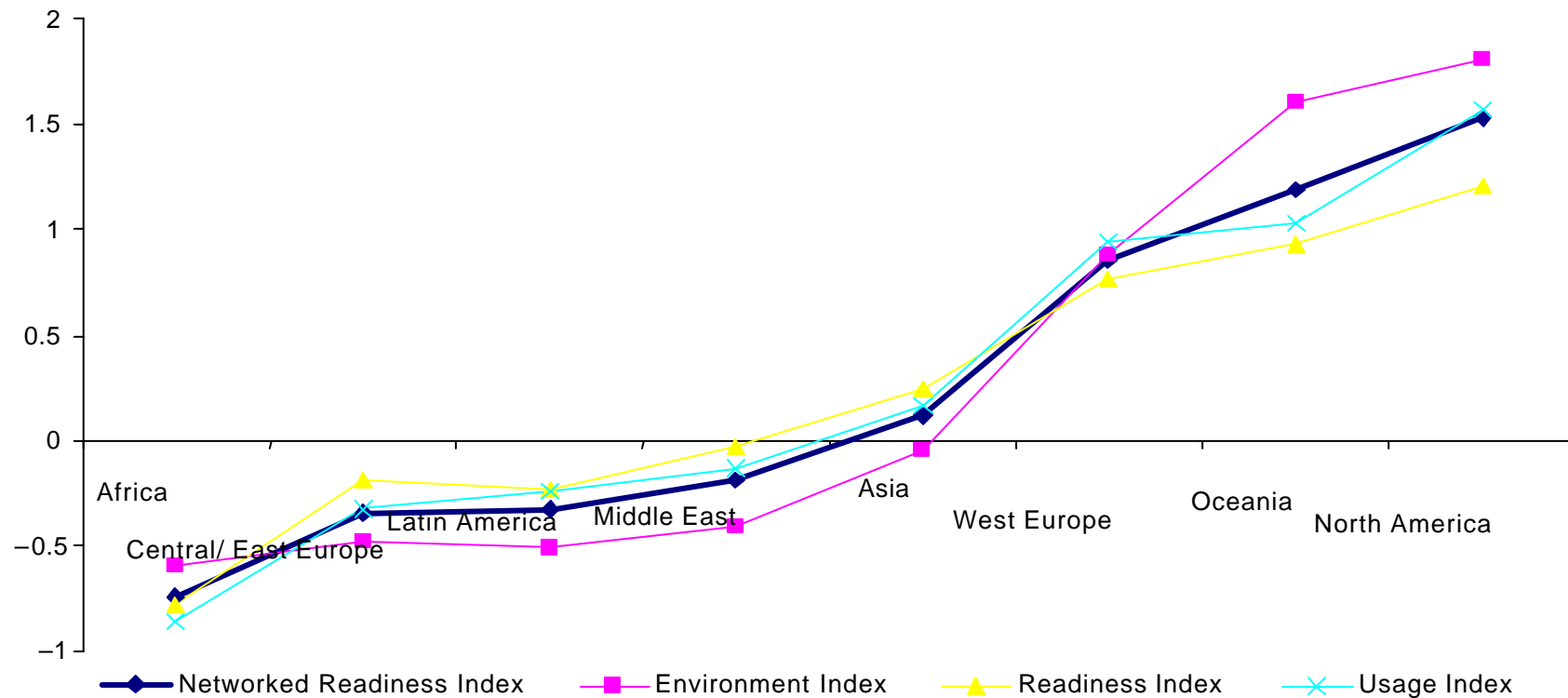


Source: Authors' Analysis of data from The World Bank

## II. The Networked Readiness Index 2004

### A regional comparison

Networked Readiness Index and Sub-indexes by Region



## II. The Networked Readiness Index

### Asia & the Pacific: Evolution from 2003 to 2004

(ranks out of 104 countries)

Country	2003	2004	positions gained/lost
Singapore	2	1	+ 1
Hong Kong	18	7	+ 11
Japan	12	8	+ 4
Taiwan	17	15	+ 2
Thailand	38	36	+ 2
India	45	39	+ 6
China	51	41	+ 10
Indonesia	73	51	+ 22
Pakistan	76	63	+ 13
Philippines	69	67	+ 2
Vietnam	68	68	0

## II. The Networked Readiness Index

### Asia & the Pacific: A Region to Watch

(ranks out of 104 countries)

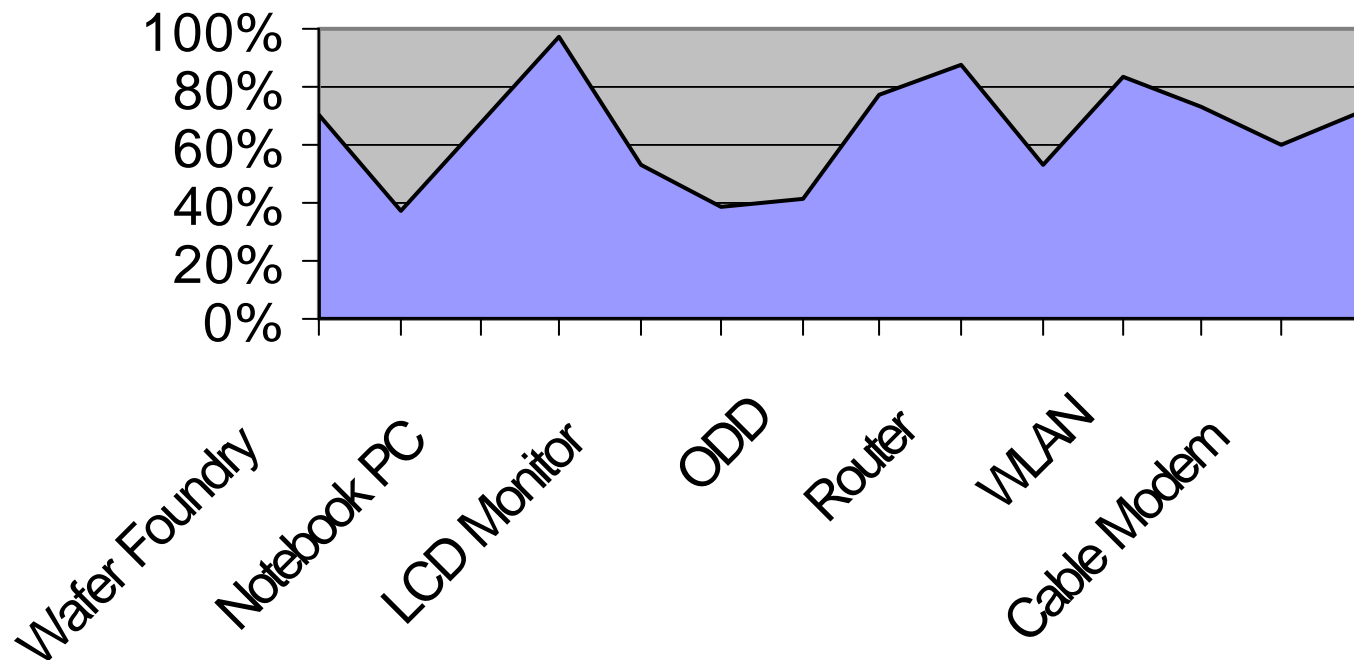
Country	Broadband-DSL Internet Subscribers, 2002-3	Internet Access in Schools, 2004	Internet Users per 100 Inhabitants, 2002
Korea	1	3	3
Singapore	11	6	9
Canada	6	9	5
France	20	31	26



## II. The Networked Readiness Index

### Asia & the Pacific: A Region to Watch

**Taiwan's Global Share of ICT Products,  
2003**



## II. The Networked Readiness Index

### Europe: Evolution from 2003 to 2004

(ranks out of 104 countries)

Country	2003	2004	positions gained/lost
Iceland	10	2	+8
Finland	3	3	0
Denmark	5	4	+1
United Kingdom	15	12	+3
Austria	21	19	+2
Ireland	22	22	0
Estonia	25	25	0
Spain	29	29	0
Portugal	31	30	0
Italy	28	45	-17
Turkey	56	52	+4
Romania	61	53	+8
Russian Federation	63	62	+1

## II. The Networked Readiness Index

### Latin America: Evolution from 2003 to 2004

(ranks out of 104 countries)

Country	2003	2004	positions gained/lost
Chile	32	35	-3
Brazil	39	46	-7
Mexico	44	60	-16
Costa Rica	49	61	-12
Uruguay	54	64	-10
Colombia	60	66	-6
Panama	58	69	-11
El Salvador	62	70	-8
Argentina	50	76	-26
Venezuela	72	84	-12
Peru	70	90	-20
Ecuador	89	95	-6
Paraguay	91	98	-7
Bolivia	90	99	-9
Nicaragua	94	103	-9

## II. The Networked Readiness Index

### Latin America: Selected Variables

(ranks out of 104 countries)

	Argentina	Brazil	Chile	Costa Rica	Colombia	Mexico
Internet Users per 100 Inhabitants, 2002	47	53	34	39	65	51
Cellular Mobile Subscribers, 2003	67	57	42	75	71	52
Ease to Start a New Business, 2004	95	96	52	70	85	91
Administrative Burden, 2004	92	96	21	47	61	87
Quality of Educational System, 2004	84	85	71	24	69	77
Broadband-DSL Internet Subscribers, 2002-3	44	38	35	56	58	48
Effectiveness of Judiciary, 2004	97	51	37	33	73	65

## II. The Networked Readiness Index

### Africa: Evolution from 2003 to 2004

(ranks out of 104 countries)

Country	2003	2004	positions gained/lost
Tunisia	40	31	+9
South Africa	37	34	+3
Botswana	55	50	+5
Morocco	64	54	+10
Namibia	59	55	+4
Egypt	65	57	+8
Ghana	74	65	+9
Gambia	82	74	+8
Kenya	84	75	+9
Uganda	80	77	+3
Algeria	87	80	+7
Zambia	85	81	+4
Nigeria	79	86	-7
Madagascar	92	87	+5
Mali	96	92	+4
Zimbabwe	95	94	+1
Mozambique	97	96	+1

## Key Indicators

Population (mn), 2003	38.4
GDP per capita (PPP US\$), 2003	11,586
Internet users per 100 inhabitants, 2002	11.2

## Networked Readiness Index Rank

Year (number of countries) Rank

**2004** (104) **76**

2003 (102) 50

2002 (82) 45

RANK/104

### Environment Component Index 88

Market Environment	90
Political and Regulatory Environment	96
Infrastructure Environment	49

### Readiness Component Index 81

Individual Readiness	69
Business Readiness	46
Government Readiness	99

### Usage Component Index 59

Individual Usage	51
Business Usage	70
Government Usage	74



## NOTABLE COMPETITIVE ADVANTAGES

	Environment Component	
3.03	Internet hosts, 2003	32
	Readiness Component	
4.08	Affordability of Internet access, 2004	34
5.03	Quality of business school, 2004	29
	Usage Component	
7.03	Public Payphones, 2002	11

## NOTABLE COMPETITIVE DISADVANTAGES

	Environment Component	
1.02	Venture capital availability, 2004	95
1.06	Collaboration in clusters, 2004	89

1.07	University-industry collaboration, 2004	88
1.09	Subsidies for firm-level R&D, 2004	92
1.11	Ease of access to loans, 2004	99
1.12	Administrative burden, 2004	92
1.13	Ease to start a new business, 2004	95
2.01	Effectiveness of lawmaking, 2004	102
2.03	Effectiveness of judiciary	97
2.04	Intellectual property protection, 2004	88
	Readiness Component	
6.01	Government prioritisation of ICT, 2004	103
6.02	Government procurement of ICT, 2004	89
	Usage Component	
8.03	Capacity for innovation, 2004	85
9.01	Government success in ICT promotion, 2004	104

## Key Indicators

Population (mn), 2003	179
GDP per capita (PPP US\$), 2003	7,767
Internet users per 100 inhabitants, 2002	8.2

## Networked Readiness Index Rank

Year (number of countries) Rank

**2004** (104) **46**

2003 (102) 39

2002 (82) 29

RANK/104

### Environment Component Index 47

Market Environment	46
Political and Regulatory Environment	50
Infrastructure Environment	48

### Readiness Component Index 43

Individual Readiness	63
Business Readiness	32
Government Readiness	50

### Usage Component Index 43

Individual Usage	44
Business Usage	28
Government Usage	56

## NOTABLE COMPETITIVE ADVANTAGES

	Environment Component	
1.03	Sophistication of financial markets, 2004	26
1.05	State of cluster development, 2004	26
1.06	Collaboration in clusters, 2004	18
1.07	University-industry collaboration, 2004	28
	Readiness Component	
5.01	Investment in training, 2004	27
5.02	Availability of training services, 2004	17
	Usage Component	
7.03	Public payphones, 2002	4
8.01	Prevalence of foreign technology licensing, 2004	24

## NOTABLE COMPETITIVE DISADVANTAGES

	Environment Component	
1.01	Availability of scientists and engineers	58
1.12	Administrative burden, 2004	96
1.13	Ease to start a new business, 2004	96
2.01	Effectiveness of lawmaking, 2004	61
2.03	Effectiveness of judiciary, 2004	51
3.01	Telephone mainlines, 2002	53
	Readiness Component	
4.01	Quality of math and science education, 2004	79
4.02	Quality of educational system, 2004	85
	Usage Component	
7.01	Cellular mobile subscribers, 2003	57
9.01	Government success in ICT promotion, 2004	52
9.02	Government online services, 2003	61

## Key Indicators

Population (mn), 2003	15.8
GDP per capita (PPP US\$), 2003	10,206
Internet users per 100 inhabitants, 2002	23.8

## Networked Readiness Index Rank

Year (number of countries) Rank

2004 (104) 35

2003 (102) 32

2002 (82) 35

RANK/104

## Environment Component Index 34

Market Environment	32
Political and Regulatory Environment	35
Infrastructure Environment	47

## Readiness Component Index 40

Individual Readiness	51
Business Readiness	33
Government Readiness	44

## Usage Component Index 36

Individual Usage	38
Business Usage	32
Government Usage	38

## NOTABLE COMPETITIVE ADVANTAGES

	Environment Component	
1.03	Sophistication of financial markets, 2004	22
1.04	Technological sophistication, 2004	23
1.10	Brain drain, 2004	7
1.12	Administrative burden, 2004	21
	Readiness Component	
5.03	Quality of business school, 2004	17
	Usage Component	
7.03	Public payphones, 2002	15
7.06	Broadband-cable modem, 2002-3	27
8.04	Availability of new telephone lines, 2004	15
8.01	Availability of cellular phones, 2004	20

## NOTABLE COMPETITIVE DISADVANTAGES

	Environment Component	
1.06	Collaboration in clusters, 2004	65
1.08	Quality of scientific research institutions, 2004	59
1.09	Subsidies for firm-level R&D, 2004	73
	Readiness Component	
4.01	Quality of math and science education, 2004	87
4.02	Quality of educational system, 2004	71
4.03	Quality of public school, 2004	75

## Key Indicators

Population (mn), 2003	44.2
GDP per capita (PPP US\$), 2003	6,784
Internet users per 100 inhabitants, 2002	4.6

## Networked Readiness Index Rank

Year (number of countries) Rank

2004 (104) **66**

2003 (102) 60

2002 (82) 59

RANK/104

## Environment Component Index 72

Market Environment	71
Political and Regulatory Environment	69
Infrastructure Environment	59

## Readiness Component Index 66

Individual Readiness	71
Business Readiness	62
Government Readiness	69

## Usage Component Index 65

Individual Usage	61
Business Usage	73
Government Usage	72

## NOTABLE COMPETITIVE ADVANTAGES

	Environment Component	
1.03	Sophistication of financial markets, 2004	46
	Readiness Component	
5.03	Quality of business schools, 2004	42
	Usage Component	
7.03	Public Payphones, 2002	27
7.05	Television Sets, 2002	45
7.07	Broadband-cable modem, 2002-3	40

## NOTABLE COMPETITIVE DISADVANTAGES

	Environment Component	
1.01	Availability of scientists and engineers, 2004	82
1.02	Venture capital availability, 2004	75
1.13	Ease to start a new business, 2004	85
	Readiness Component	
4.01	Quality of math and science education, 2004	78
4.04	Internet access in school, 2004	77
5.02	Availability of training services, 2004	82
5.06	Business telephone connection charges, 2002-3	72
	Usage Component	
7.01	Cellular mobile subscribers, 2003	71
8.01	Prevalence of foreign technology licensing, 2004	82
8.02	Firm-level technology absorption, 2004	80
9.02	Government online services, 2003	79

## Key Indicators

Population (mn), 2003	4.2
GDP per capita (PPP US\$), 2003	9,490
Internet users per 100 inhabitants, 2002	19.3

## Networked Readiness Index Rank

Year (number of countries) Rank

**2004** (104) **61**

2003 (102) 49

2002 (82) 49

RANK/104

### Environment Component Index 52

Market Environment 50

Political and Regulatory Environment 58

Infrastructure Environment 43

### Readiness Component Index 51

Individual Readiness 42

Business Readiness 31

Government Readiness 78

### Usage Component Index 77

Individual Usage 50

Business Usage 85

Government Usage 85



## NOTABLE COMPETITIVE ADVANTAGES

	Environment Component	
1.01	Brain drain, 2004	20
2.03	Effectiveness of judiciary, 2004	33
3.02	Secure Internet servers, 2003	27
	Readiness Component	
4.02	Quality of math and science education, 2004	24
5.03	Quality of business schools, 2004	24
5.04	Business investment in R &D, 2004	33
	Usage Component	
7.03	Public Payphones, 2002	7

## NOTABLE COMPETITIVE DISADVANTAGES

	Environment Component	
1.13	Ease to start a new business, 2004	70
2.01	Effectiveness of lawmaking, 2004	88
	Readiness Component	
6.01	Government prioritisation of ICT, 2004	75
6.02	Government procurement of ICT, 2004	76
	Usage Component	
8.04	Availability of new telephone lines, 2004	98
8.05	Availability of cellular phones, 2004	99
9.01	Government success in ICT promotion, 2004	77
9.02	Government online services, 2003	86

## Key Indicators

Population (mn), 2003	104
GDP per capita (PPP US\$), 2003	9,136
Internet users per 100 inhabitants, 2002	9.8

## Networked Readiness Index Rank

Year (number of countries) Rank

**2004** (104) **60**

2003 (102) 44

2002 (82) 47

RANK/104

### Environment Component Index 74

Market Environment 73

Political and Regulatory Environment 73

Infrastructure Environment 57

### Readiness Component Index 57

Individual Readiness 68

Business Readiness 45

Government Readiness 64

### Usage Component Index 55

Individual Usage 55

Business Usage 61

Government Usage 50

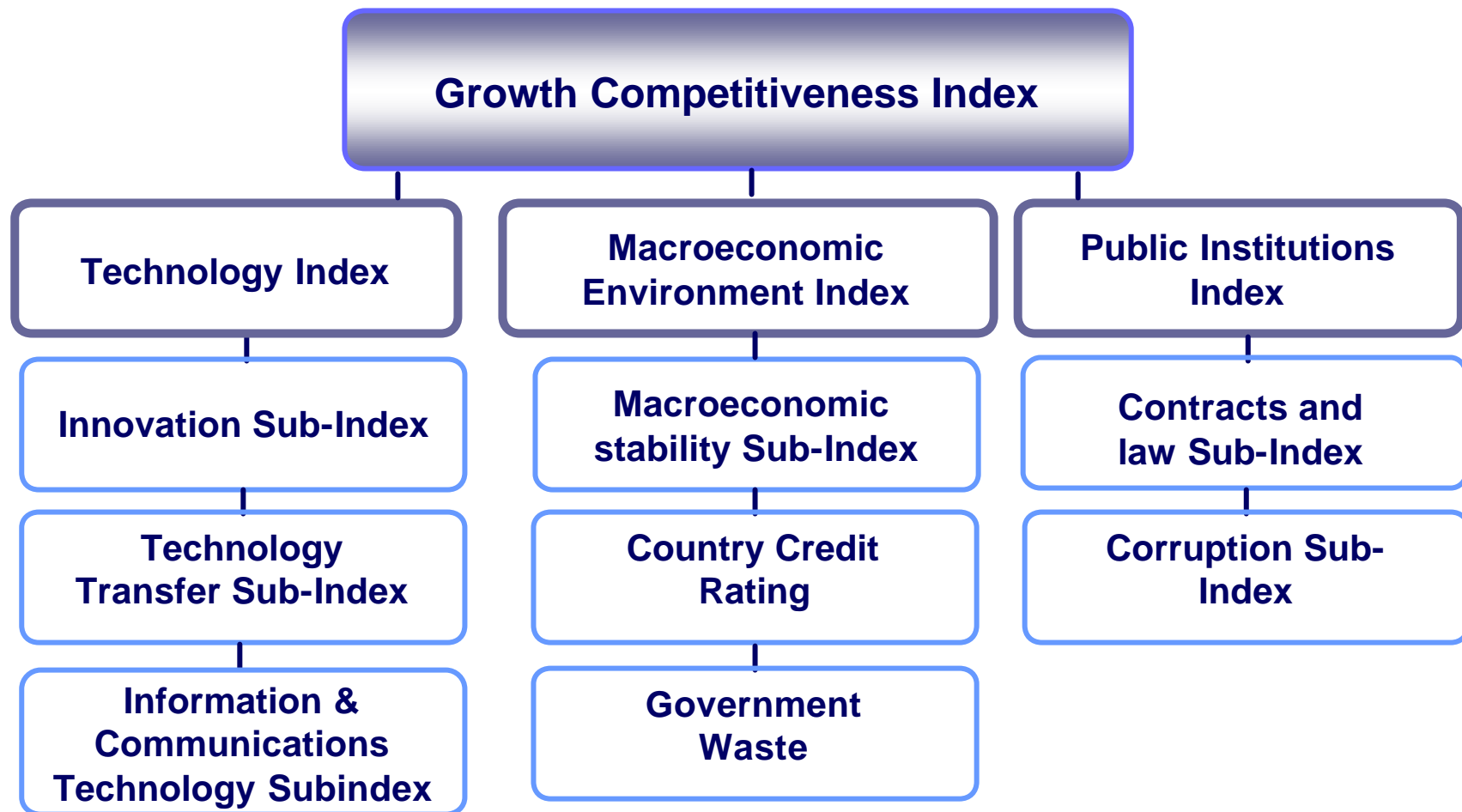
## NOTABLE COMPETITIVE ADVANTAGES

	Environment Component	
1.03	Sophistication of financial markets, 2004	35
	Readiness Component	
5.03	Quality of business schools, 2004	36
5.06	Business telephone connection charge, 2002-3	1
	Usage Component	
7.07	Broad-cable modem, 2002-3	31
9.02	Government online Services, 2003	24

## NOTABLE COMPETITIVE DISADVANTAGES

	Environment Component	
1.01	Availability of scientists and engineers, 2004	89
1.02	Venture capital availability, 2004	85
1.12	Administrative burden, 2004	87
1.13	Ease to start a new business, 2004	91
2.01	Effectiveness of lawmaking, 2004	96
2.03	Effectiveness of judiciary, 2004	65
	Readiness Component	
4.01	Quality of math and science education, 2004	88
4.02	Quality of educational system, 2004	77
	Usage Component	
8.02	Firm-level technology absorption, 2004	68
8.04	Availability of new telephone lines, 2004	67
9.01	Government success in ICT promotion, 2004	73

# Appendix : The Growth Competitiveness Index



# Appendix : The Growth Competitiveness Index

## Latin American Competitiveness Rankings

(ranks out of 104 countries)

Country	GCI Index	Technology Index	Public Institutions Index	Macroeconomic Environment Index
Chile	22	32	20	27
Mexico	48	48	59	49
Costa Rica	50	55	47	64
Brazil	57	42	50	80
Colombia	64	68	61	66
Argentina	74	57	79	94

# Appendix : The Growth Competitiveness Index

## Selected Macroeconomic Indicators 2003

Countries	Budget Deficit (% of GDP)	Real Exchange Rate (2002=100)	Interest Rate Spread (ranks)	Inflation 2003	Government Debt (% of GDP)
Argentina	0.5	101.6	75	13.4	65.7
Brazil	-5.1	92.7	101	14.8	58.5
Chile	-0.5	91.5	27	2.8	13.3
Colombia	-3.1	86.1	64	7.1	51.9
Costa Rica	-3.1	91.9	95	9.4	56.1
Mexico	-0.7	87.2	32	4.5	51.1
China	-2.5	93.9	26	1.2	31.3
Finland	2.6	103.5	10	1.3	52.6
Estonia	2.6	102.6	20	1.3	7.4
Germany	-4.0	104.4	65	1.1	65.3
Korea	2.3	99.6	6	3.5	16.0
India	-10.0	97.7	57	3.8	81.1
Singapore	1.8	95.6	45	0.5	106.4
Spain	0.3	104.8	2	3	63.3

# Appendix : The Growth Competitiveness Index

## Quality of Public Institutions Indicators 2003

(out of 104 countries)

	Argentina	Brazil	Chile	Colombia	Costa Rica	Mexico	China	Finland	Germany	Korea	India	Singapore
Wastefulness of Government Spending	99	72	23	64	56	55	30	5	44	57	51	1
Judicial Independence	97	51	37	73	33	65	61	2	3	48	32	24
Property Rights	104	47	31	65	52	63	62	2	9	27	34	12
Favoritism in Decisions of Government Officials	93	47	19	81	51	58	38	3	13	49	44	7
Business Costs of Crime and Violence	99	89	53	88	80	93	51	1	7	32	22	5
Irregular Payments in Tax Collection	60	55	19	46	48	53	62	6	14	63	73	11
Diversion of Public Funds	91	64	30	98	36	80	62	1	14	52	54	7
Public Trust of Politicians	98	61	24	74	46	88	18	3	21	85	64	1
Efficiency of Legal Framework	99	53	29	65	39	75	55	7	6	56	33	14
Extent of Bureaucratic Red Tape	59	86	12	15	47	93	94	35	31	21	52	16
Freedom of the Press	73	27	32	60	26	39	101	6	4	51	28	98

# Appendix : The Growth Competitiveness Index

## Technology, Innovation, Human Capital and Other 2003

(out of 104 countries)

	Argentina	Brazil	Chile	Colombia	Costa Rica	Mexico	China	Finland	Israel	India	Singapore	Taiwan
Utility Patents	37	46	47	63	39	44	62	1	4	55	10	3
Tertiary Enrollment	28	67	38	59	69	63	75	1	23		32	2
University/Industry Research Collaboration	88	28	44	46	52	45	22	1	12	34	5	6
Internet Users (per 10,000 inhabitants)	51*	57*	37*	64	45*	50	63	10	31	86	5	19
PC (per 100 inhabitants)	50*	53*	41*	59*	30*	49*	72	13	26	87*	3*	19
Telephone Lines (per 100 inhabitants)	54*	52	53*	58	46*	61	56	21	26	82	27	13
Technological Readiness	50	36	23	66	37	46	60	3	1	26	8	11
Company Spending on R&D	75	31	46	58	33	57	27	6	7	26	9	12
Overall Infrastructure	55	59	30	76	72	61	62	5	27	63	3	24
Quality of Scientific Research	83	37	59	66	38	58	40	4	3	17	13	21
*data from 2002												