

Slovak Information Society and Competitiveness Strategies♂

A view from the World Bank

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Three points

- Benchmarking Slovakia as a Information and Knowledge Society
- Slovakia's strengths and weaknesses in an innovation-intensive global economy
- The way ahead

Point 1

- Benchmarking Slovakia as a Information and Knowledge Society
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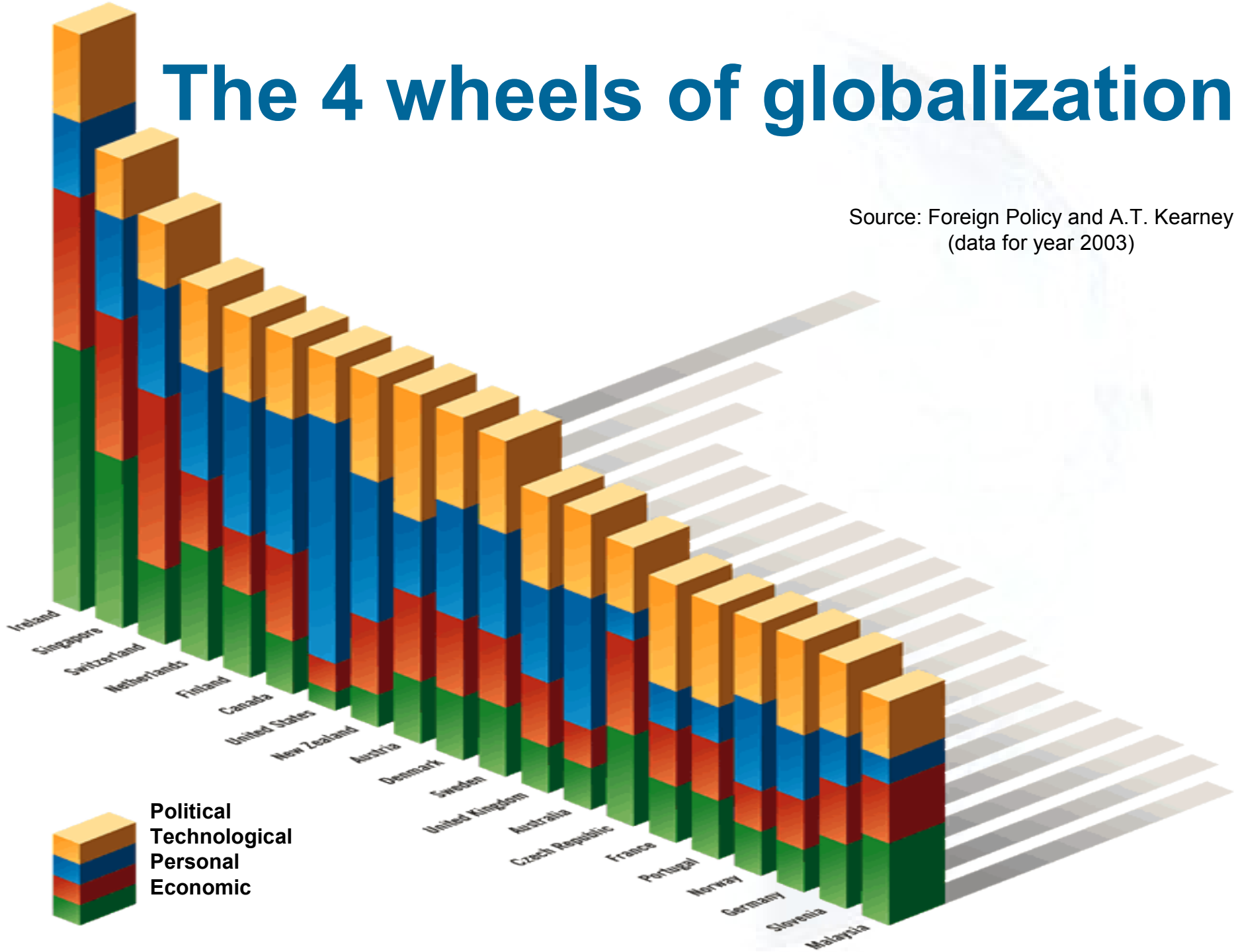
Benchmarking Slovakia as an Information and Knowledge Society



- SK as global competitor
- SK as information society
- SK as knowledge society

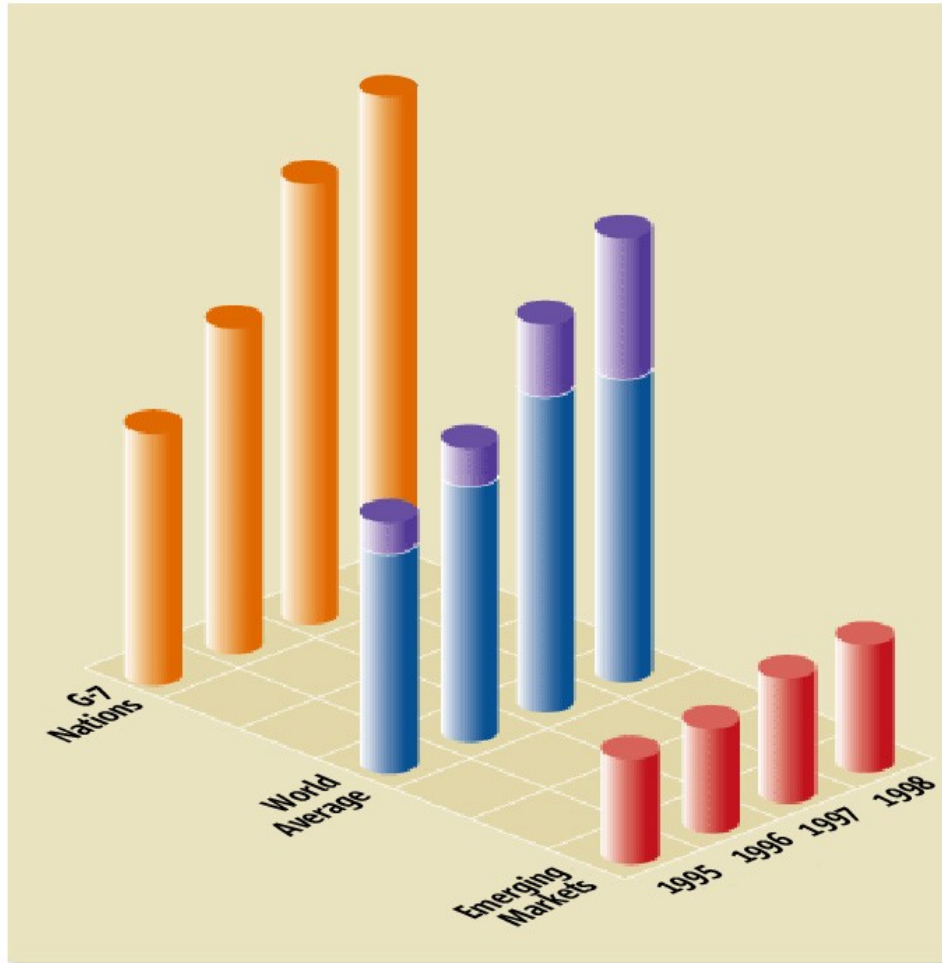
The 4 wheels of globalization

Source: Foreign Policy and A.T. Kearney
(data for year 2003)



Political
Technological
Personal
Economic

Is Globalization Slowing Down ?



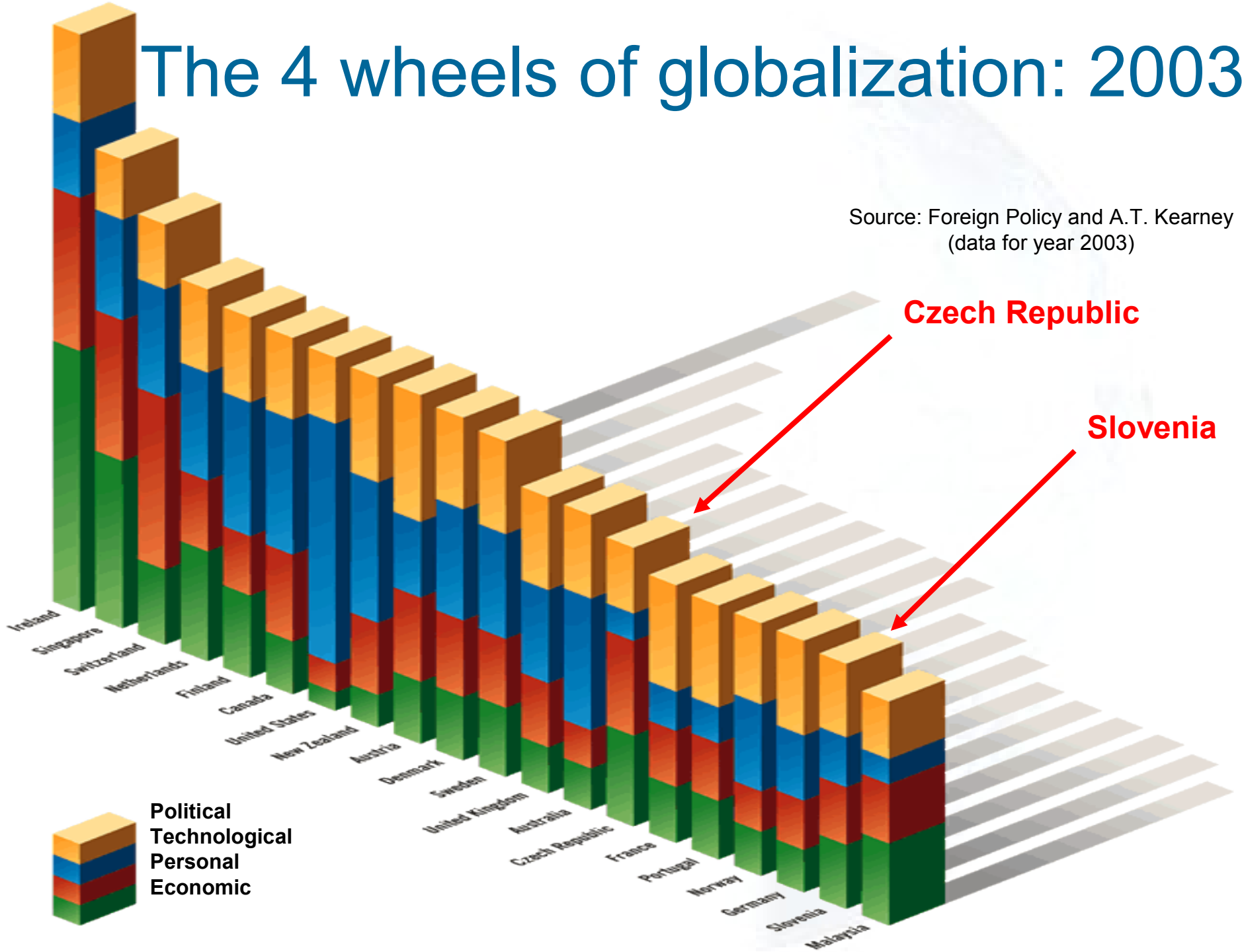
Source: Foreign Policy and A.T. Kearney

Globalization advanced briskly until 1997, when the financial crises that hit various developing regions weakened trade flows and undercut gains in global integration. So why did overall integration still increase during this period? Simple: Technology has become the engine of globalization.

- Technology factors:** Percentage of population online, number of internet hosts per capita, and number of secure servers per capita
- Non-technology factors:** Trade in goods and services, capital flows, and personal contact.

The 4 wheels of globalization: 2003

Source: Foreign Policy and A.T. Kearney
(data for year 2003)



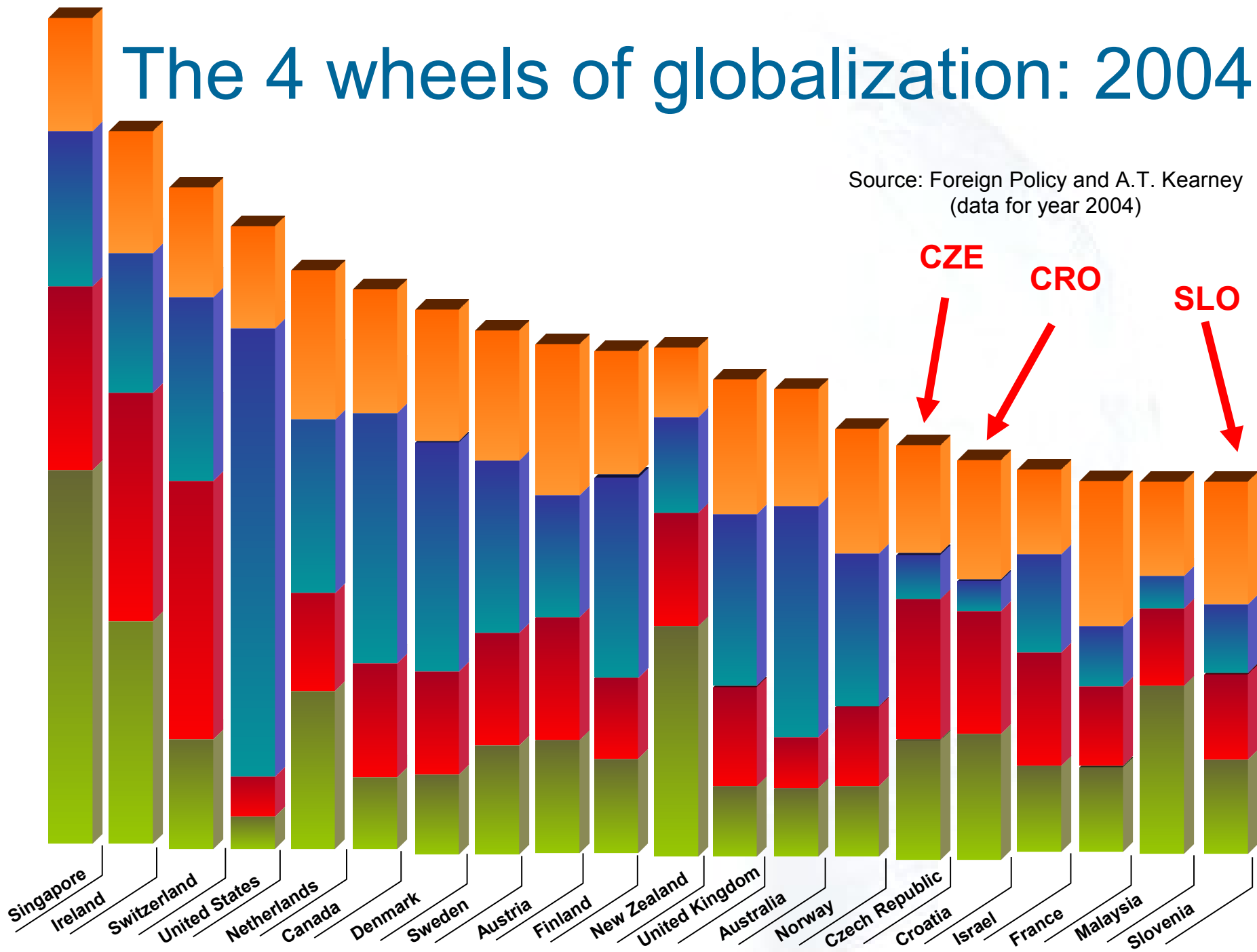
Czech Republic

Slovenia

Political
Technological
Personal
Economic

The 4 wheels of globalization: 2004

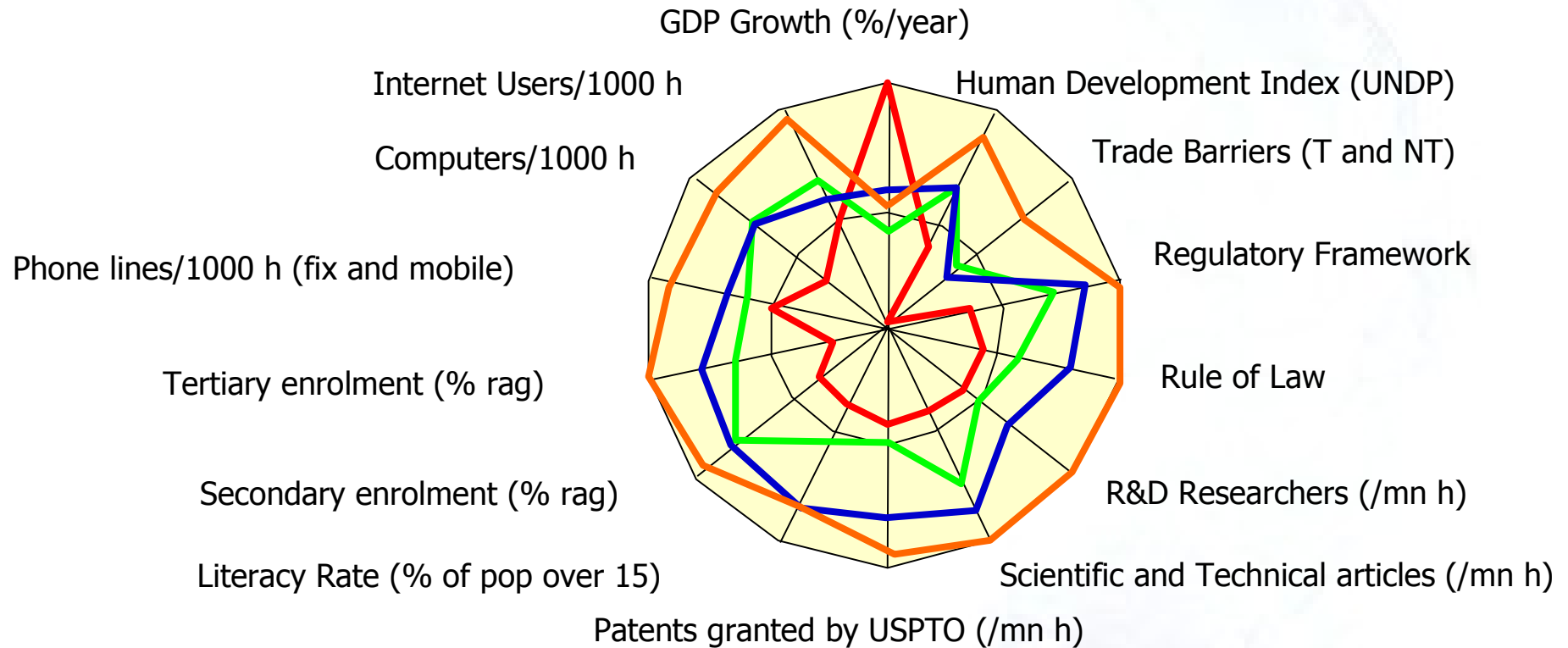
Source: Foreign Policy and A.T. Kearney
(data for year 2004)



Slovakia ranks 25 in the ATK index (2004)

2005 GI Rankings		Change from 2004	Dimension				Item												2004 GI Rankings
			Economic	Personal	Technological	Political	Economic Integration		Personal Contact			Technological Connectivity			Political Engagement				
							Trade	FDI	Telephone	Travel	Remittances and Personal Transfers	Internet Users	Internet Hosts	Secure Servers	International Organizations	U.N. Peacekeeping	Treaties	Government Transfers	
1	Singapore	1	1	3	11	12	1	1	1	5	47	10	9	11	29	3	41	47	2
2	Ireland	-1	2	2	13	19	4	2	3	3	4	24	19	7	12	11	28	22	1
3	Switzerland	0	9	1	7	29	18	5	2	4	1	11	14	5	29	13	41	10	3
4	United States	3	10	40	1	43	61	42	19	14	58	4	1	1	1	28	57	38	7
5	Netherlands	-1	5	11	9	4	8	4	4	13	45	9	4	13	5	17	6	6	4
6	Canada	0	27	8	2	10	26	23	4	22	60	5	11	2	2	22	6	28	6
7	Denmark	3	29	7	5	13	19	39	7	17	17	3	3	8	12	14	28	7	10
8	Sweden	3	12	10	9	16	21	6	9	6	43	1	10	9	17	12	6	40	11
9	Austria	0	10	5	14	2	14	12	11	2	31	16	15	14	12	2	6	8	9
10	Finland	-5	15	20	6	15	33	7	17	12	42	8	2	10	12	7	28	13	5
11	New Zealand	-3	16	16	3	21	39	27	5	23	53	7	9	3	29	23	6	20	8
12	United Kingdom	0	12	12	10	5	45	20	10	16	37	12	17	6	5	10	6	18	12
13	Australia	0	17	34	4	25	55	18	14	30	50	6	5	4	29	5	28	36	13
14	Norway	3	15	15	12	17	29	34	12	24	30	22	6	12	17	20	6	24	17
15	Czech Republic	-1	11	4	24	15	5	24	25	1	25	25	22	26	17	42	28	15	14
16	Croatia	7	7	6	29	26	12	9	20	7	9	31	34	25	29	49	1	16	23
17	Israel	5	19	9	18	46	24	14	8	27	11	18	16	17	48	15	61	4	12
18	France	-3	24	17	21	3	46	10	15	14	39	20	19	20	2	6	6	9	15
19	Malaysia	1	4	19	27	49	2	21	27	10	14	21	37	35	29	43	41	45	20
20	Slovenia	-1	17	13	20	23	11	39	22	8	23	15	25	18	29	21	6	25	19
21	Germany	-3	43	29	17	8	30	54	14	21	49	14	21	16	2	9	28	11	18
22	Portugal	-4	44	18	22	1	34	53	23	15	22	17	23	22	5	1	6	5	16
23	Hungary	3	6	32	26	22	6	15	34	9	36	28	20	29	17	35	1	30	26
24	Panama	3	3	47	34	14	9	3	31	17	40	46	41	23	48	56	1	26	17
25	Slovakia	-4	8	38	30	7	3	37	30	13	21	26	28	34	29	4	1	53	21
26	Spain	-2	22	28	23	11	42	11	24	18	29	29	24	19	5	25	6	14	24
27	Italy	-1	47	27	25	6	50	40	18	20	44	23	23	24	5	19	6	12	15

Knowledge and competitiveness



Source : Knowledge Assessment Methodology
(World Bank) - 2005

GITR 04-05

(17 EiT ranked)

Network Readiness Index

- 6 in top 52 (SLK #48)
- 9 in bottom 52

Num. of scientists/engineers

- 12 in top 52 (SLK #11)
- 5 in bottom 52

Technological sophistication

- 5 in top 52 (EST, CZE, SLK, HUN, SLO)
- 10 in bottom 52

Sophistication of fin. markets

- 3 in top 52 (EST, HUN, LIT)
- 14 in bottom 52

NRI RANK	COUNTRY	SCORE
1	Singapore	1.73
2	Iceland	1.66
3	Finland	1.62
4	Denmark	1.60
5	United States	1.58
6	Sweden	1.53
7	Hong Kong	1.39
8	Japan	1.35
9	Switzerland	1.30
10	Canada	1.27
11	Australia	1.23
12	United Kingdom	1.21
13	Norway	1.19
14	Germany	1.16
15	Taiwan	1.12
16	Netherlands	1.08
17	Luxembourg	1.04
18	Israel	1.02
19	Austria	1.01
20	France	0.96
21	New Zealand	0.95
22	Ireland	0.89
23	United Arab Emirates	0.84
24	Korea	0.81
25	Estonia	0.80
26	Belgium	0.74
27	Malaysia	0.69
28	Malta	0.50
29	Spain	0.43
30	Portugal	0.39
31	Tunisia	0.39
32	Slovenia	0.37
33	Bahrain	0.37
34	South Africa	0.33
35	Chile	0.29
36	Thailand	0.27
37	Cyprus	0.25
38	Hungary	0.24
39	India	0.23
40	Czech Republic	0.21
41	China	0.17
42	Greece	0.17
43	Lithuania	0.13
44	Jordan	0.10
45	Italy	0.10
46	Brazil	0.08
47	Mauritius	0.08
48	Slovak Republic	0.03
49	Jamaica	-0.03
50	Botswana	-0.10
51	Indonesia	-0.13
52	Turkey	-0.14

NRI RANK	COUNTRY	SCORE
53	Romania	-0.15
54	Morocco	-0.17
55	Namibia	-0.21
56	Latvia	-0.23
57	Egypt	-0.24
58	Croatia	-0.25
59	Trinidad and Tobago	-0.28
60	Mexico	-0.28
61	Costa Rica	-0.29
62	Russian Federation	-0.36
63	Pakistan	-0.38
64	Uruguay	-0.39
65	Ghana	-0.41
66	Colombia	-0.42
67	Philippines	-0.43
68	Vietnam	-0.46
69	Panama	-0.47
70	El Salvador	-0.49
71	Sri Lanka	-0.49
72	Poland	-0.50
73	Bulgaria	-0.51
74	Gambia	-0.52
75	Kenya	-0.62
76	Argentina	-0.62
77	Uganda	-0.63
78	Dominican Republic	-0.65
79	Serbia and Montenegro	-0.65
80	Algeria	-0.66
81	Zambia	-0.68
82	Ukraine	-0.68
83	Tanzania	-0.71
84	Venezuela	-0.72
85	Macedonia	-0.73
86	Nigeria	-0.73
87	Madagascar	-0.77
88	Guatemala	-0.78
89	Bosnia and Herzegovina	-0.86
90	Peru	-0.91
91	Georgia	-0.94
92	Mali	-0.96
93	Malawi	-0.99
94	Zimbabwe	-1.02
95	Ecuador	-1.08
96	Mozambique	-1.11
97	Honduras	-1.19
98	Paraguay	-1.20
99	Bolivia	-1.25
100	Bangladesh	-1.30
101	Angola	-1.36
102	Ethiopia	-1.52
103	Nicaragua	-1.61
104	Chad	-1.69

Point 2

- Benchmarking Slovakia as a Information and Knowledge Society
- Slovakia's strengths and weaknesses in an innovation-intensive global economy
- The way ahead

SK's strong points

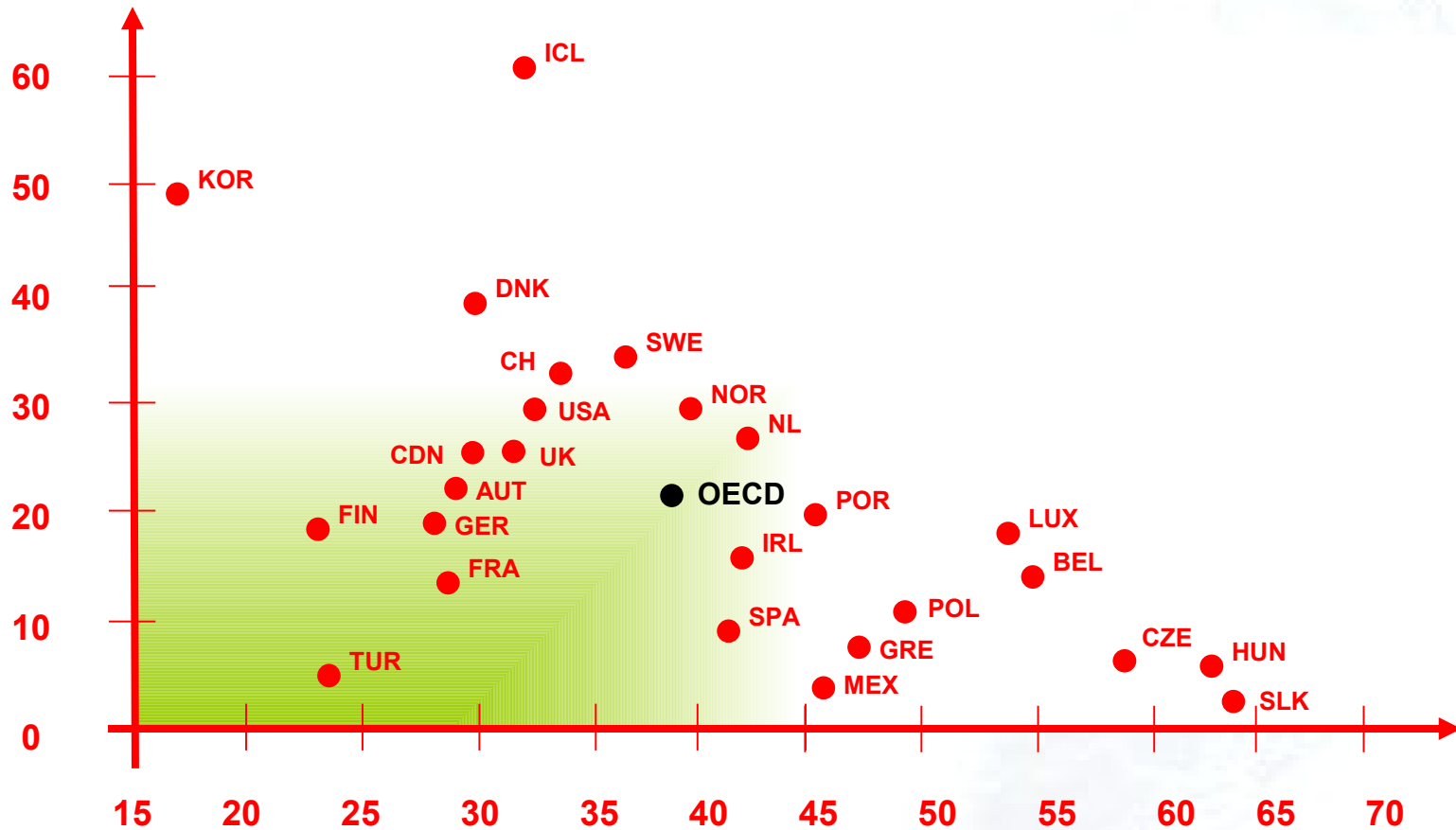
- Education (tech, tradition of innovation)
- Success of structural reforms
- Economic dynamism
- Experience in outsourcing

Areas needing attention

- Outsourcing is changing (off-shoring vs near-shoring, less cost-based): how ready is SK ?
- IT infrastructure : where are the priorities ?
- National innovation system : what is needed ?
- SK branding and competitive edge : what is the vision ?

Internet Access Costs and Diffusion (OECD countries, 2002)

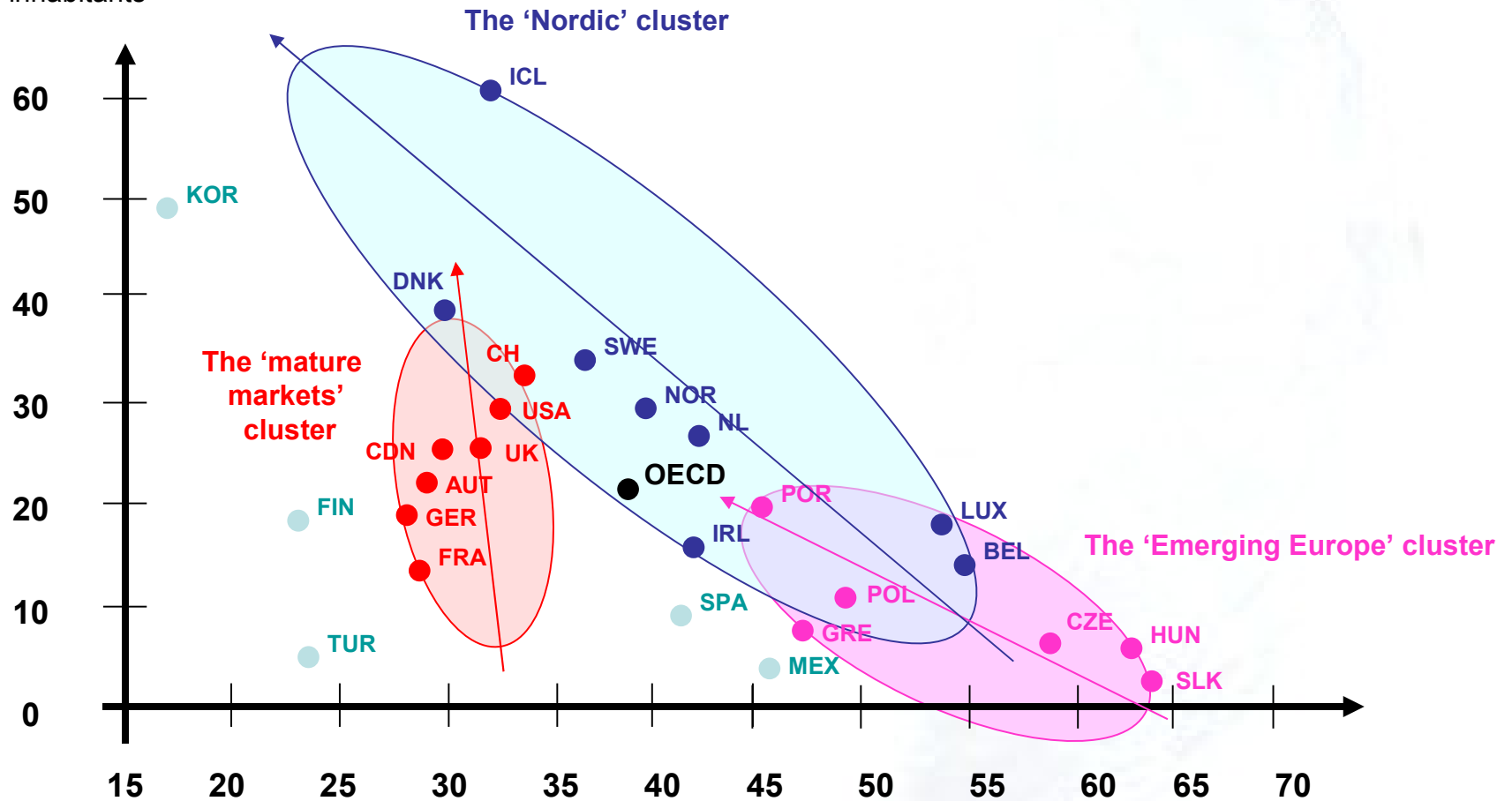
Internet subscribers
per 100 inhabitants



Average cost for 20 hours
(day + evening) in \$ PPP

Internet Access Costs and Diffusion (OECD countries, 2002)

Internet subscribers
per 100 inhabitants

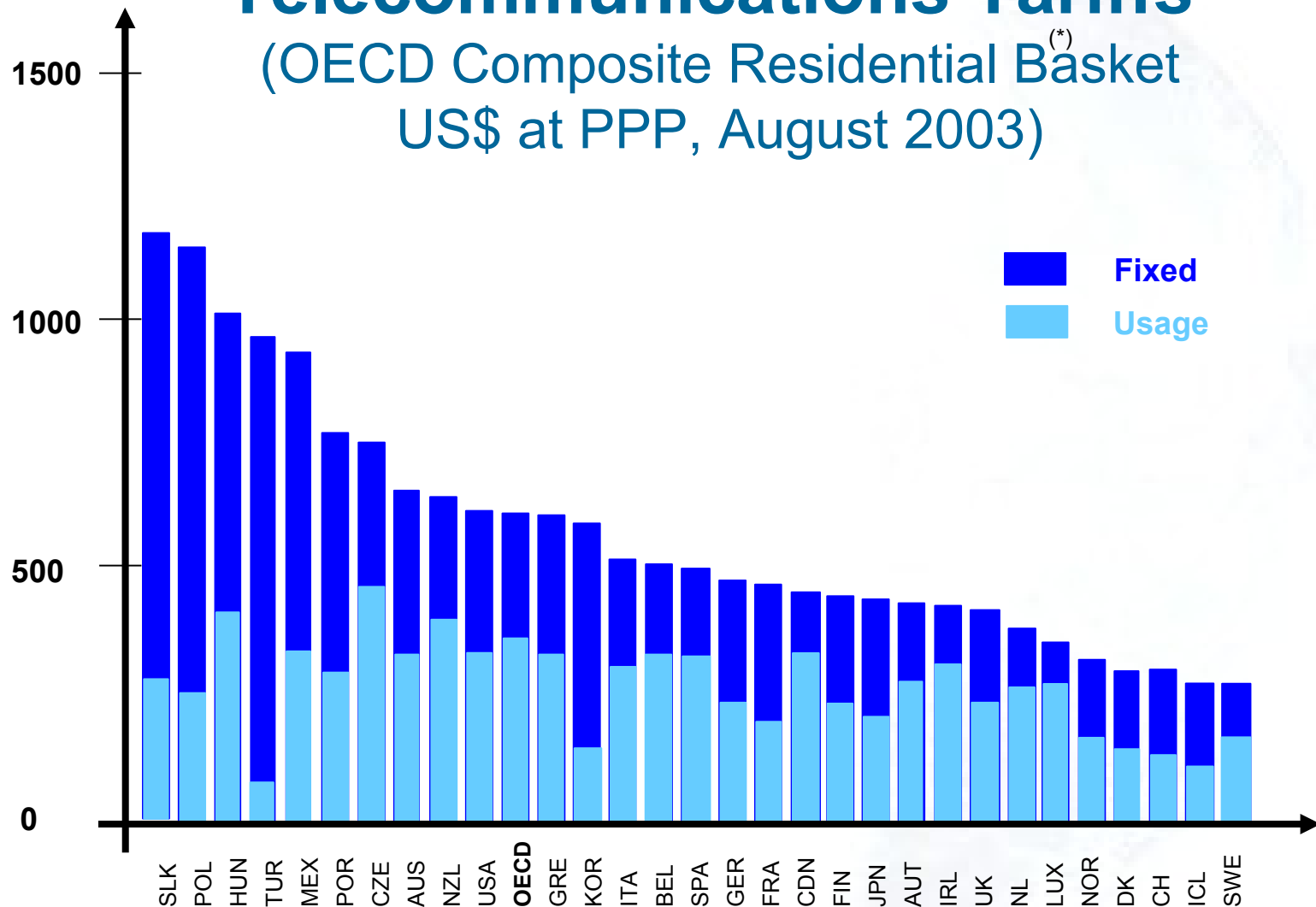


Average cost for 20 hours
(day + evening) in \$ PPP

Source : World Bank, based on OECD data

Telecommunications Tariffs

(OECD Composite Residential Basket^(*)
US\$ at PPP, August 2003)



(*) Includes calls to mobile networks and international calls

Source : OECD (Economic Survey – Slovak Republic (2004))

Point 3

- Benchmarking Slovakia as a Information and Knowledge Society
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- **The way ahead**

The way ahead

- SK, ahead of the EU process (Lisbon)
- Anticipating the next wave of off-shoring
 - Innovation (processes)
 - E-government

NEW (increasing role)

New roles for governments

G5

Leader
Facilitator
Producer

G4

Provide and promote vision (KISS)

- Address 'Digital Divides'
 - domestically
 - internationally
- Give signals to markets
 - ICT as a national priority
 - large projects or objectives
- Promote and defend national interests in international and global forums

E-government

- services on line
- procurement
- trade facilitation
- civil society participation
- good governance

G2

Provide proper environment

- Macro-economic environment
- Fiscal policies (cost, innovation, investment, VC, PPP)
- Legal/regulatory environment for ICT (competition, independent regulator, rule of law)

Education policy

- curricula/life-long learning
- ICT training facilities
- Wiring/networking of schools

G3

G1

Provide access (univ serv)

- Lay out ICT infrastructure
- Produce ICT equipment
- Finance Public R&D

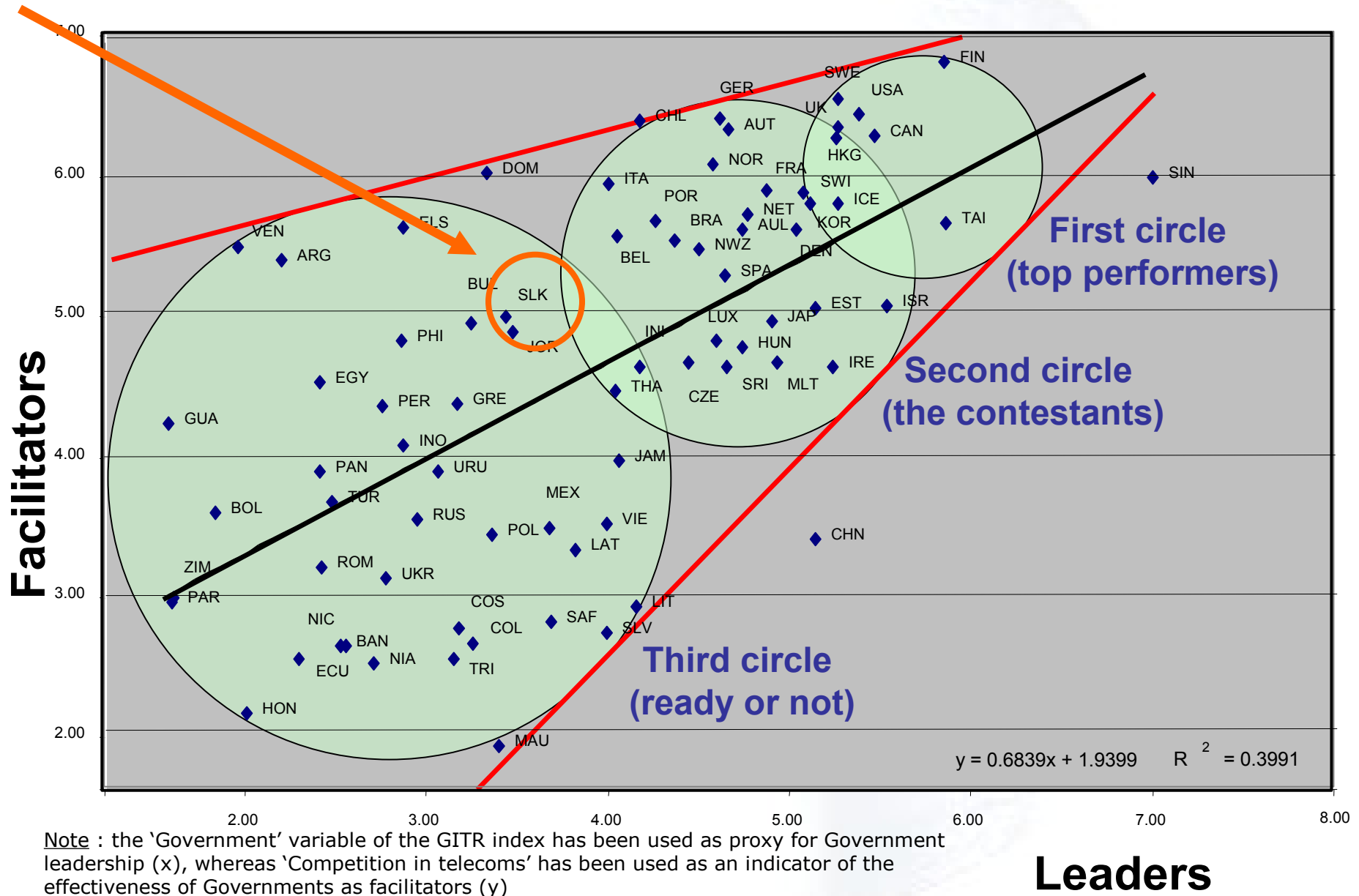
Environment

Readiness

Usage

OLD (diminishing role)

Competing through better government



Note : the 'Government' variable of the GTR index has been used as proxy for Government leadership (x), whereas 'Competition in telecoms' has been used as an indicator of the effectiveness of Governments as facilitators (y)

Conclusions

- SK was a major beneficiary of outsourcing (near-shoring as opposed to off-shoring)
- Labor cost equalization (especially through UE integration) will diminish attractiveness of SK as outsourcing territory (Eastward migration in two waves, continental and extra-continental)
- High level of education, tradition in high-tech (engineering, technical universities) indicate that knowledge-intensive activities could be a resilient source of comparative advantage for the country

The knowledge economy is an opportunity not to be missed by SK, as a basis to take advantage of the next outsourcing wave, which will be more quality-based and less cost-based.

Priorities for action

SK must take advantage of its strong human capacities (education, knowledge, skills, culture, entrepreneurship) by developing its information infrastructure, its network readiness and the IT-intensity of its economy.

To help achieve those goals, the following areas are top targets for improvements:

- Culture of innovation and risk (VC/right to fail)
- Rule of law/governance (perceptions vs reality)
- Overall e-strategy and e-government efforts
- New roles for government and private sector
- The A,B,C,D,E of e-based competition

The A,B,C,D,E of e-competition

Access

- Infrastructure, costs, competition/regulation

Basic skills

- Basic education, vocational

Content

- training, entrepreneurship
- Local value, languages

Desire

- Local will to reform, adapt and change

Excellence

- In-source knowledge, outsource high costs, retain excellence



Thank you

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