

eEurope

2005

A STUDY OF THE DEGREE
OF ALIGNMENT OF
THE NEW MEMBER STATES AND
THE CANDIDATE COUNTRIES



eEurope 2005

**A study of the degree of alignment
of the
New Member States
and the
Candidate Countries**

Prepared for SAP

By

INSEAD

Foreword

The enlargement of the European Union by ten countries in May 2004 is a unique opportunity for each of the new member countries as well as a historic challenge for Europe

Central and Eastern Europe are undergoing dynamic change due to EU enlargement and continued economic transition. The new member countries have, during the last decade, undergone a set of three radical transformations: the shift to a market economy, integration into the European Union – the so-called Enlargement Process – and finally, a move towards a true Information Society, today enshrined in the guidelines of the eEurope Action Plans.

The last challenge is the focus of this study. And at SAP we believe that this challenge is of particular importance, as investment in information and communications technology is an important catalyst, not only for social transformation and progress, but also for economic growth. The eEurope 2005 Action Plan recognizes this link, seeking to stimulate the development of services, applications, and content in the new member countries, with the goal of translating increasing levels of connectivity into greater productivity.

SAP has long been engaged with customers in those markets, helping them prepare for the growth potential that will come with EU enlargement. Today about 10% of SAP's total revenue in Europe is generated in the CEE countries. SAP operates offices throughout Eastern Europe and has founded subsidiaries in most of the accession countries: Cyprus 1997, Czech Republic 1993, Hungary 1997, Poland 1995, Slovakia 1998, and Slovenia 2002. Additionally, SAP established SAP Labs Bulgaria in 2002 as part of its global development network.

This is the first study which addresses the challenge of alignment of the new member countries with the eEurope 2005 Action Plan. It captures a broad range of factors related to Information and Communication Technology infrastructure and provides a differentiated picture of the development across the current 15 member states and the 10 new member states. And it demonstrates persuasively that successful development requires going beyond national spending on ICT to providing an optimal environment for ICT development, promoting readiness and usage among all stakeholders.

We hope that readers will find the results and insights of this study as useful as we have.



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Alignment of the New Member States and Candidate Countries: Analysis using the e-Europe 2005 Framework

Executive Summary

2004 is witness to the accession of 10 countries out of the 13 candidate countries to the group of 15 current European Union members. This enlargement of the European Union increases its scope, and also diversity. The new member states come with varying histories- from ex-USSR states such as Lithuania, to ex-Czechoslovakian and Yugoslavian states.

In the light of the importance of the development of the Information Society, the European Union has elaborated eEurope action plans that provide a framework in order to benchmark member states. The eEurope Action Plans aim to facilitate the ubiquitous access to the benefits of the Information Society by European citizens. The eEurope 2005 benchmarking indicators serves as the foundation upon which this research report strives to compute the competitiveness of member nations in the ICT domain, and their level of alignment to the incumbent EU nations.

The eEurope 2005 Index computed assesses 28 European Countries¹ on the basis of their ICT development and Internet usage. The Index is a composite of 5 key indicators:

1. Internet Indicators
2. Modern Online Public Services
3. Dynamic eBusiness environment
4. Secure Information Infrastructure
5. Broadband

Based on the performance of the countries on the above 5 dimensions and their resulting eEurope 2005 Index, the nations are divided into 4 categories:

1. Global Leaders
2. Totally Aligned
3. Somewhat aligned
4. Development required.

¹ Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Turkey, and the United Kingdom.

Results

It was found that Malta and Estonia are the leading new member states (NMS) and are totally aligned with respect to the eEurope 2005 framework. They are the only NMS belonging to group II.

Six NMS were identified as belonging to group III: Somewhat Aligned. These countries were: Slovenia, the Czech Republic, Poland, Cyprus, the Slovak Republic, and Latvia. Two EU-15 countries belong to group III as well: Portugal and Greece.

Finally, two NMS (Lithuania, Hungary) and three candidate countries: Turkey, Romania, and Bulgaria belong to the Group IV- of countries needing to make some progress in order to align with the current 15 European member nations.

The NMS are in unique situations given that several are still making transitions from communist to market economies, and others need to come to terms with their new sovereign status after dismemberment of their parent countries. In addition, another challenge is the need to develop their national economies- this report finds that the new member state with the highest GDP per capita: Cyprus, has a GDP per capita less than the lowest EU-15 country on this dimension: Portugal. Needless to say, national wealth determines investment decisions, and is hence significantly related to the pervasiveness and diffusion of the information economy.

While challenges for NMS are significant and varied, one advantage they have over other developing countries such as Brazil, Turkey or India is the level of education of their citizens. Illiteracy rates are low, and comparable to levels in West Europe. Thus, one key barrier to the adoption and usage of PCs and the Internet is absent.

This report is structured in three main sections: the introductory chapter which presents the results of the research effort, and computes the eEurope 2005 Index. The relation of the index with key indicators such as GDP per capita and Internet penetration is explored. The second section of the report, "Country Tables", presents statistics for the 28 countries studied: the ten new member states and three candidate countries have in addition a page devoted to an analysis of their degree of alignment to the EU-15 countries on the basis of the eEurope 2005 index. The third section, "Data Tables", presents the 39 variables used in order to conduct the study and compute the index.

Alignment of the New Member States and Candidate Countries: Analysis using the e-Europe 2005 Framework

Overview

INSEAD has long been studying the role of Information and Communications Technology (ICT) as a catalyst for organizational transformation and change. As a consequence, gaining a better understanding of the economic and business impact of ICT has been identified as a key research priority, giving rise to a multitude of research streams. In this spirit, the eEurope 2005 Index discussed in this report aims to shed light on the ICT situation in Europe, given the context of accession of ten new countries to the European Union.

ICT forms the “back-bone” of several industries such as banking, airlines and publishing, and is an important value-adding component of consumer products such as television sets, cameras, cars and mobile phone sets. ICT is today a dominant force in enabling companies to exploit new distribution channels, create new products and deliver differentiated value-added services to customers. ICT is also an important catalyst for social transformation and national progress. For these reasons among others, it is important to assure an alignment of the new member states to the levels of ICT development of the countries of the European Union, and to identify both areas of strength, and areas in need of development.

The European Union outlines its aims and objectives for the ICT development of the member countries in its eEurope action plans. The eEurope 2005 action plan succeeds the eEurope 2002 action plan, and aims to help member nations tap the vast potential of an Information Society, to improve productivity and quality of life. According to the Commission of the European Communities²:

“The objective of this Action Plan is to provide a favourable environment for private investment and for the creation of new jobs, to boost productivity, to modernise public services, and to give everyone the opportunity to participate in the global information society. eEurope 2005 therefore aims to stimulate services, applications and content based on a widely available broadband infrastructure.”

This chapter presents results of the eEurope 2005 Index based on the eEurope 2005 framework³ elaborated by the European Commission. This has been used to assess the comparative progress of the 15 incumbent European Union member countries, the 10 New Member States (NMS), and the 3 candidate countries. The discussion in this chapter is divided into four main sections. First, there is a brief presentation of the eEurope Action Plans and their aims and objectives. Second, the results of the research and analysis are presented - the relative ranking of nations based on their degree of alignment to the EU-15 countries. Third, we take a closer look at the five component indexes (and their constituent sub indexes) composing the eEurope 2005 index, and how various countries have fared on each of these dimensions. Finally, the fourth section investigates the relationship of the eEurope 2005 Index with two key variables: GDP per capita and Internet Usage, in addition to presenting some of the key challenges faced while conducting the study.

² eEurope 2005: An information society for all.28/5/2002. Commission of European Communities

³ The eEurope 2005 Action Plan has been recommended for implementation in the Council Resolution of 18 February 2003 as seen in the Official Journal of the European Union pages C48/2 to C46/8.

The eEurope 2005 Action Plan

eEurope 2002

The eEurope 2005 Action Plan succeeds the eEurope 2002 Action Plan that was endorsed by the Feira European Council in June 2000. It is a part of the Lisbon strategy to make the European Union “the most competitive and knowledge-based, in order to create a knowledge economy with improved employment and social cohesion by 2010.

eEurope 2002 focused on developing the level of Internet penetration. Growth was seen to be created by the translation of connectivity into economic activity. Significant progress was achieved during the eEurope 2002 Action Plan as outlined in Box 1.

Box 1: Progress during eEurope 2002

- Internet penetration in homes has doubled
- Telecom framework in place
- Internet access prices has fallen
- Almost all companies and schools are connected
- Europe now has the world's fastest research backbone network
- E-Commerce legal framework is largely in place
- More government services are available online
- A smart card infrastructure is emerging
- Web accessibility guidelines adopted and recommended in Member States

Source: European Commission

eEurope 2005

eEurope 2005 is focused on building on the achievements of eEurope 2002: stimulating services, applications, and content that create new markets and reduce costs and eventually increasing productivity throughout the economy. The plan recognizes the important role of market mechanisms for developing content, services and applications, and for the rolling out of the underlying infrastructure. In this light, the Action Plan concentrates on those areas where public policy can provide added value and contribute to creating a positive environment for private investment.

While eEurope 2002 focused on creating a knowledge economy by extending Internet connectivity in Europe, eEurope 2005 aims to translate increasing levels of connectivity into economic activity and thus generate growth. Services such as e-Government, e-Health, and e-Education are prioritised in addition to efforts to promote e-Commerce. Broadband is given strong emphasis, as broadband increases the speed of connectivity, and hence the effective use of networks. Since the diffusion of the benefits of the Internet is increasingly dependent upon the availability of high-speed Internet access amongst citizens and businesses, increasing the usage of broadband is a significant goal of the eEurope 2005 plan, in concordance with the aim of the previous plan to “create an information society for all”.

Effective usage of e-Commerce and e-Transactions depends upon the security of networks. The more ubiquitous the usage of networks, the more security becomes important and a necessity. Keeping this in mind, the eEurope 2005 plan lays a strong emphasis on online security. Box 2 summarizes the key goals of eEurope 2005 action plan.

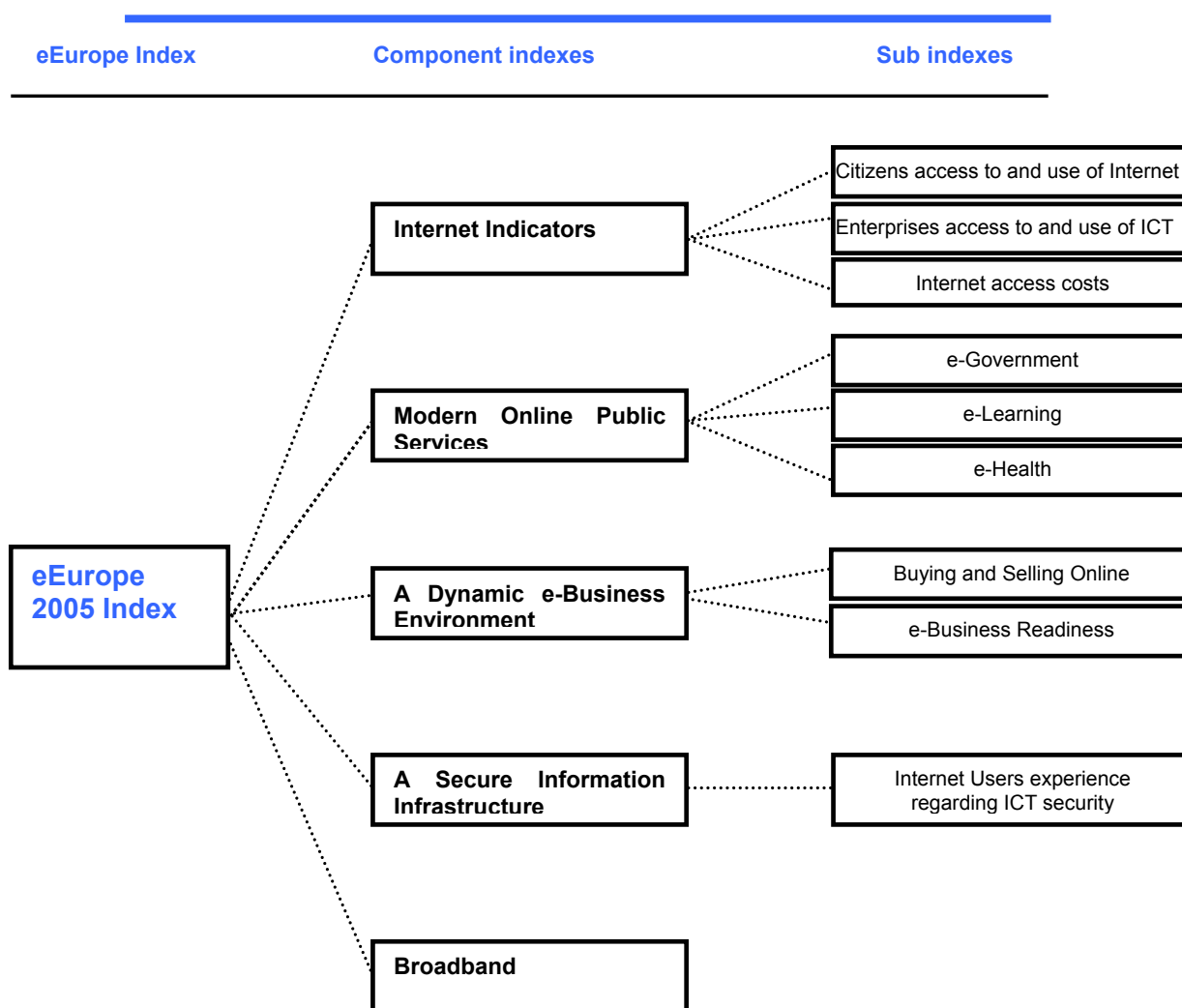
A benchmarking framework has been developed by the Commission and presented in the Official Journal of the European Union (28/2/2003). The benchmarking indicators developed encapsulate the aims and objectives of the e-Europe 2005 Action Plan, and a schematic representation of the benchmarking indicators can be seen in Figure 1.

Box 2: eEurope 2005 Action Plan Goals

By 2005 European member states should have:

- * Modern online public services
 - e-Government
 - e-Learning services
 - e-Health services
- * A Dynamic e-business environment
- * And, as an enabler for these
 - Widespread availability of broadband at competitive prices
 - A secure information infrastructure

Figure 1: The eEurope 2005 Framework



..... Constituent Relations Source: Based on the eEurope 2005 framework of the European Union

Five broad categories of indicators have been identified: Internet indicators, modern online public services, a dynamic e-Business environment, a secure information infrastructure, and broadband. In all, 14 policy indicators and 22 supplementary indicators have been provided which when used indicate the degree of alignment of a country or community with the objectives of eEurope.

1. *Internet Indicators*: The Internet indicators capture the degree of access to the Internet by individuals. It is comprised of 3 main categories (see figure 1), namely citizen's access to and use of the Internet, enterprises access to and use of the Internet, and Internet access costs.
2. *Modern online public services*: Modern online public services aims to benchmark the different European countries based on the degree of availability of online public services, and the level of their usage by Europeans. Three broad categories of public services have been identified: e-Government, e-Learning, and e-Health.
3. *A dynamic e-business environment*: "A dynamic e-business environment" aims to capture the level of e-Commerce in different European nations. It consists of two main categories: buying and selling online, and e-business readiness.
4. *A secure information infrastructure*: "A secure information infrastructure" aims to evaluate the level of security of Internet access and of online commerce across different European countries.
5. *Broadband*: Broadband aims to measure the level of availability and usage of broadband services across European nations.

Based on this benchmarking framework, an eEurope 2005 index has been computed for this research project in order to obtain an understanding of the degree of alignment of the 10 New Member States (NMS) with respect to the 15 current member countries of the European Union.

Previous Work in the Domain

Taking one step backwards, one could ask why new effort needs to be made in order to compute the ICT competitiveness of nations. Several research efforts have focussed on evaluating the e-Readiness of countries. (See table 1). For instance, the Cap-Gemini study on "Online Availability of Public Services" focuses on benchmarking the progress of online public services of 18 countries in Europe. The Economist 2003 e-Readiness Ranking, on the other hand provides a benchmark to compare and assess the e-business environments of countries. Similarly, the Networked Readiness Index, a joint study by INSEAD, the World Economic Forum and Infodev of the World Bank benchmarks the level of ICT development of nations worldwide.

The country coverage of these research streams varies. The Cap-Gemini study focuses on 18 European nations, whilst the Economist study targets 60 countries worldwide, and the Networked Readiness study of INSEAD evaluates 102 nations. What one observes from these research efforts and others in the domain is that no single study addresses the subset of EU-15 countries, the ten New Member States and the 3 candidate countries. In addition, no research stream addresses the problem of alignment of NMS on the basis of the eEurope action plans, and in accordance with the guidelines of the European Union.

This lack of relevant research in the context of the enlarged European Union has served as a driving force behind the current research effort by INSEAD. The current research uses the eEurope 2005 benchmarking framework infrastructure in order to determine the degree of similarity between the incumbent European Union nations, the NMS and the candidate nations.

Table 1: Previous research efforts in ICT

	E-Europe 2005 Index (Current study) (2004)	Cap-Gemini Online availability of public services (October 2003)	Economist 2003 e-Readiness Rankings (February 2004)
Aims and Objectives	<p><i>New Member State benchmarking</i> To evaluate the degree of development of the 25 EU countries with respect to ICT.</p> <p>To study the degree of alignment of the ten newly member states with respect to the European Union 15 incumbent member states, taking into consideration the eEurope 2005 action plan and benchmarking framework.</p>	<p>e-Government To benchmark the progress of online public services in Europe. To measure the percentage of online sophistication of basic public services available on the Internet, and to measure the percentage of public services fully available online.</p> <p>This work pertains in particular to the benchmarking of the e-Government part of the e-Europe action plans.</p>	<p>e-Business environment Provide an established benchmark to compare and assess the e-business environments of countries.</p>
Country Coverage	<p>28 countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Turkey, and the United Kingdom.</p>	<p>18 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Switzerland, Sweden, and United Kingdom</p>	<p>60 countries are considered in the study – from all the continents of the globe.</p>
Model/ Output	<p>The e-Europe 2005 framework is used to benchmark countries. This framework has 5 key components:</p> <ol style="list-style-type: none"> Internet Indicators Modern Online Public Services Dynamic e-Business Environment Secure Information Infrastructure Broadband <p>Based on a cumulative e-Europe index calculated using the above framework, countries were classified into different categories depending on their level of ICT development and alignment with the incumbent EU nations.</p> <ol style="list-style-type: none"> Global leaders Totally aligned Somewhat aligned Development required 	<p>Classifies the countries into 4 framework pertaining to their “availability of public services online”:</p> <ol style="list-style-type: none"> Information: The information necessary to start the procedure to obtain this public service are available online. One-way Interaction: The publicly accessible website offers the possibility to obtain in a non-electronic way (by downloading forms) the paper form to start the procedure to obtain a given service. Two-way Interaction: The publicly accessible website offers the possibility of an electronic intake with an official electronic form of authentication of the person (physical or juridical) requesting the services in order to reach stage 3. Full electronic case handling: The publicly accessible website offers the possibility to completely treat the public service via the website, including decision and delivery. 	<p>The framework is based on six key indicator areas:</p> <ol style="list-style-type: none"> Connectivity and technology infrastructure (25%) Business environment (20%) Consumer and business adoption (20%) Legal and policy environment (15%) Social and cultural infrastructure (15%) Supporting e-Services (5%) <p>Each indicator category is composed of several variables.</p>
Data Used	<p>Data was sourced from leading international sources such as the World Bank, Pyramid Research, ITU and the World Economic Forum.</p>	<p>Survey conducted by Cap Gemini Ernest and Young in the 18 countries in question.</p>	<p>Majority of the data has been sourced from the Economist Intelligence Unit and Pyramid Research Data.</p>
Strengths	<p>-Focus on the assessment of New Member States with respect to incumbent EU nations. -Adherence to the eEurope 2005 benchmarking framework.</p>	<p>-Clear analysis of online availability of public services. -Conducts time series analysis of countries taking into consideration previous studies by the company in the domain.</p>	<p>Possibility to conduct time series due to availability of the benchmarking results over four years, the last two of which use the same framework.</p>

eEurope 2005 Index Results

The overall results for the eEurope 2005 Index are presented in Table 2. Denmark comes out with the top rank, followed by Sweden and the Netherlands. The United Kingdom, Finland and Germany occupy the fourth, fifth and sixth places respectively. Austria, Belgium, Ireland and Luxembourg follow and are present in the top ten places.

New Member States and Candidate Countries

The top ranked New Member States are Malta and Estonia, which are respectively ranked 13th and 14th with scores of 3,77 and 3,74 on the eEurope index⁴. These two countries show a higher level of ICT development based on the indicators used in this study, with respect to several current European Union members such as Portugal, Spain and Greece.

Slovenia and the Czech Republic are respectively third and fourth placed among the NMS at the 18th and 19th places respectively, and Poland follows with a rank of 20. Cyprus, the Slovak Republic and Latvia follow. The last five NMS/ candidate countries are Turkey, Lithuania, Hungary, Romania, and Bulgaria.

Alignment of the New Member States

The degree of alignment of the NMS with the current member states of the European Union is presented in Figure 2. The countries are classified into four distinct groups according to their performance on the computed index: Global leaders, Totally Aligned, Somewhat Aligned, and Development Required.

Group 1: Global Leaders

Group 1 consists of countries that are global leaders-outstanding performers in the ICT domain at the international level. This group of countries has an eEurope index score greater than 4,75 on a seven-point scale. This group is comprised of six countries: Denmark, Sweden, Netherlands, the United Kingdom, Finland and Germany. As can be seen in Box 3, these

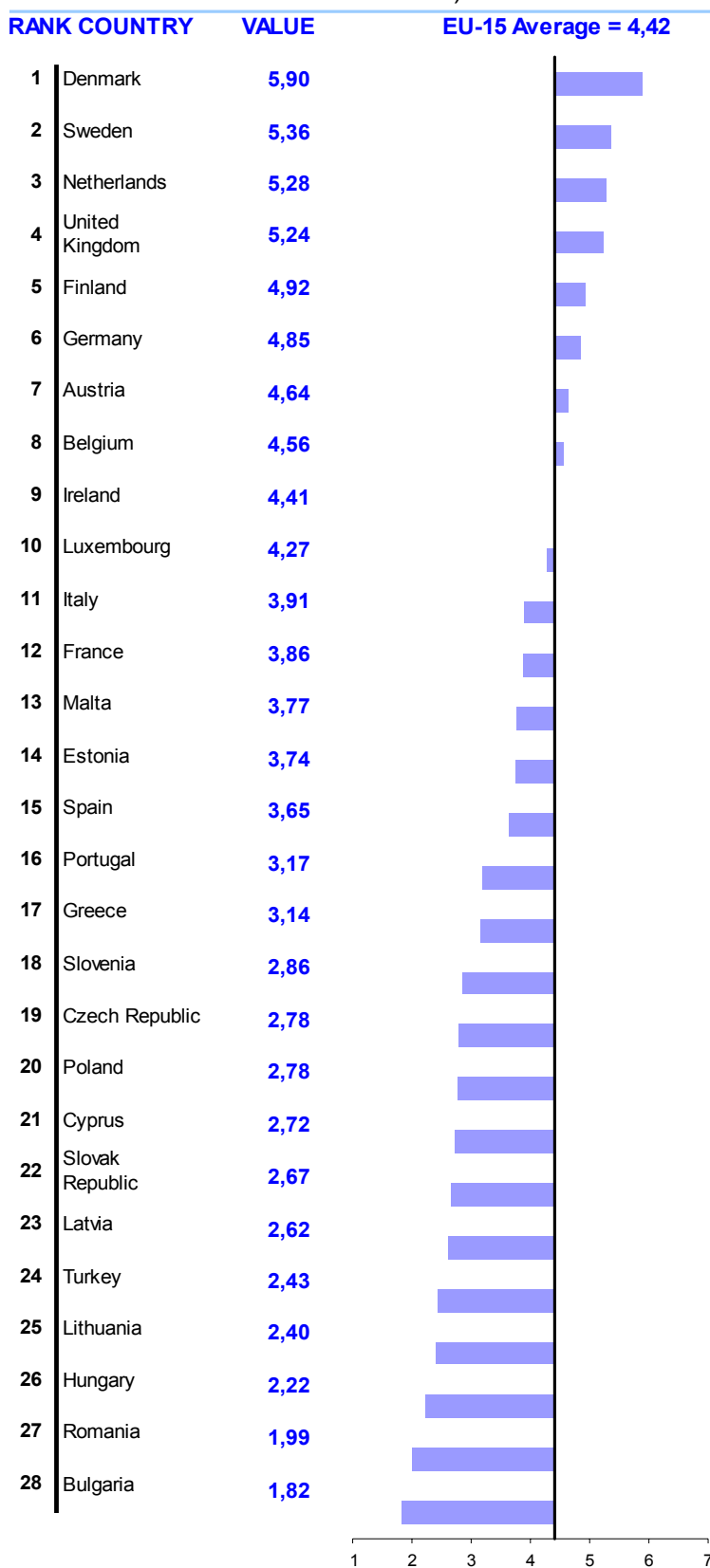
Box 3: Ranking	eEurope 2005	NRI 2003
Denmark	1	5
Sweden	2	4
Netherlands	3	13
United Kingdom	4	15
Finland	5	3
Germany	6	11

countries are very highly ranked on the Networked Readiness Index- with three of the countries in the top five ranks (out of a group of 102 countries). Due to their high level of ICT development, this group of countries provides a rich set of best practices and case studies that can be used by other nations seeking to improve their ICT development.

⁴ The results of three countries: Cyprus, Malta, and Turkey needs to be treated with relative caution. Substantially less data was available in order to determine their eEurope 2005 scores.

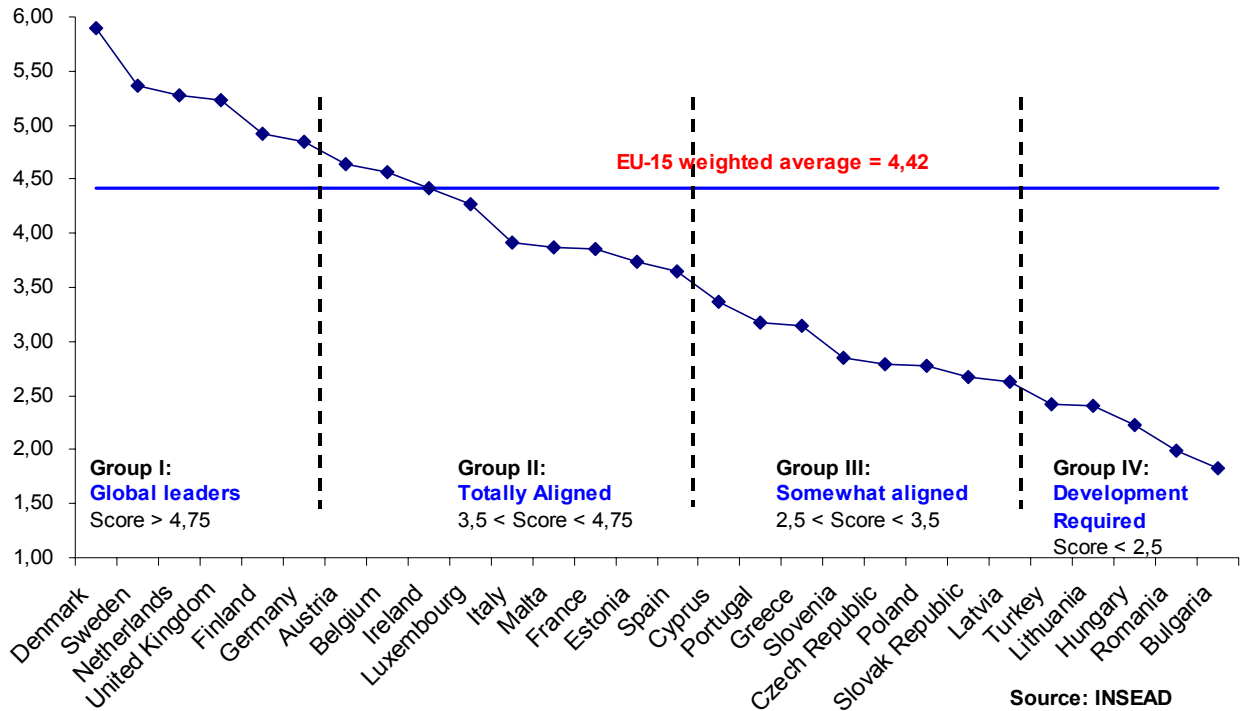
Table 2: eEurope 2005 Index

eEurope 2005 Index = (Internet Indicators + Modern Online Public Services + Dynamic E-business environment + Secure information infrastructure + Broadband)/5



Source: INSEAD 2004

Figure 2: New Member State and Candidate Country Alignment Analysis



Group II: Totally Aligned (EU-15 Average)

Group II countries are countries that have the average European Union level of development with respect to Information and Communications Technologies. These countries have an eEurope 2005 index score between 3,5 and 4,75. They have very good ICT infrastructures and a high degree of usage of ICT amongst the three stakeholders: individuals, businesses and the government. This group is comprised of nine countries: Austria, Belgium, Ireland, Luxembourg, Italy, France, Malta, Estonia, and Spain. As can be seen in Box 4, these countries are relatively high ranked on the Networked Readiness Index- all the countries are within the top thirty ranks (out of a group of 102 countries). While this group represents the EU-15 average, on a global basis their level of development is relatively high.

Box 4: Ranking	eEurope 2005	NRI 2003
Austria	7	21
Belgium	8	24
Ireland	9	22
Luxembourg	10	14
Italy	11	28
France	12	19
Malta	13	27
Estonia	14	25
Spain	15	29

Of note in this group is Malta and Estonia, which are ranked 13th and 14th on the eEurope 2005 index out of 25 countries, and 25th on the NRI out of 102 countries. Malta and Estonia are the top ranked NMS, and are completely aligned with the EU-15 countries with respect to the eEurope 2005 benchmarking indicators and the level of ICT development.

Group III: Somewhat Aligned

Group III countries have a level of ICT development below the European Union average level. They have eEurope 2005 scores between 2,5 and 3,5 as compared to the EU-15 average of 4,42. Thus, Group III represents a group of countries that are somewhat aligned with respect to the eEurope benchmarking indicators as compared to the EU-15 set of countries. This group is comprised of eight countries: Portugal, Greece, Slovenia, the Czech Republic, Poland, Cyprus, the Slovak Republic and Latvia. These countries all have a rank within the top fifty countries on the Networked Readiness Index 2003. Of note in this group is:

Box 5: Ranking	eEurope 2005	NRI 2003
Portugal	16	31
Greece	17	34
Slovenia	18	30
Czech Republic	29	33
Poland	20	47
Cyprus	21	-
Slovak Republic	22	41
Latvia	23	35

1. There are two EU-15 countries- Portugal and Greece that have the lowest level of ICT development in the European Union.
2. There are six New Member States, and this group represents the average level of development amongst the NMS.

Thus one sees that on the average, the NMS still have some distance to go before they are fully aligned with the European countries with respect to their level of ICT development.

Group IV: Development required

Group IV countries are countries those that require significant development before they are aligned to the EU-15 set of countries with respect to the eEurope benchmarking indicators. This group of countries has an eEurope index score less than 2,5 on a seven-point scale as compared to the EU-15 average of 4,42.

Box 6: Ranking	eEurope 2005	NRI 2003
Turkey	24	56
Lithuania	25	42
Hungary	26	36
Romania	27	61
Bulgaria	28	67

Group IV is comprised of two NMS: Lithuania and Hungary; and three candidate countries: Turkey, Romania, and Bulgaria. One confirms this analysis of the level of ICT development by observing that these five countries have relatively lower ranks on the Networked Readiness Index 2003 as well. Group IV countries have significantly lower Gross Domestic Product per Capita as compared to the other NMS (Lithuania = € 4315; Romania = € 2144 and Bulgaria = € 2154).

Interpreting the results

The eEurope 2005 index permits business leaders and public policymakers to investigate the reasons leading to a nations ranking and its degree of alignment with the EU-15 countries with respect to ICT development. It captures key factors relating to the Internet, Online Public Services, eBusiness/eCommerce, Online security concerns, and Broadband penetration; and can be used to understand the performance of a nation or even a region with regards to ICT development. The component index and sub index rankings serve to identify key areas where a nation is under or over-performing. One would, for instance be able to identify relative imbalances in development across the five component indexes or even go one level deeper.⁵

We would like to emphasize that while rankings are useful as relative indicators of a nation's ICT excellence, there are several limitations to the analytic process. For one, caution should

⁵ For example, Estonia with an overall ranking of (13) has a rank of (10) on all component indexes except Secure Online Infrastructure on which it is ranked (21). One could explore the reasons for this imbalance by exploring the sub-indexes and variables comprising the "Secure Online Infrastructure" dimension and studying Estonia's performance on each of these.

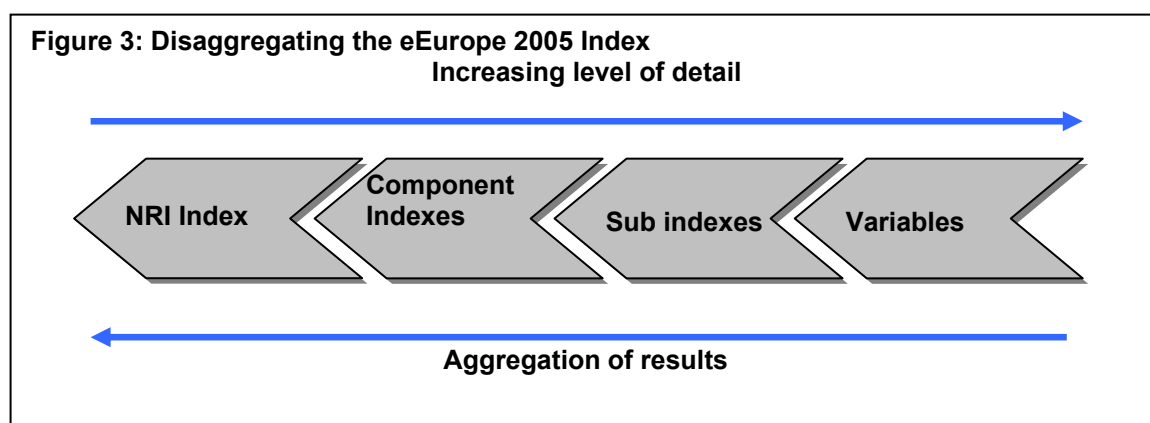
be exercised while comparing countries that are closely ranked. For instance, countries ranked close together can show very small variation in the index scores. The Czech Republic (Index = 2,78, rank = 19) and Poland (Index = 2,78, rank = 20) even have the same overall score. In this case, the Czech Republic had an overall index score marginally higher than that of Poland, but it was at the third decimal place. Additionally, small differences in the index may be outside the limits of statistical significance due to the fact that a number of missing observations were estimated using analytic techniques such as regression and clustering.

Also, best efforts have been made to estimate the eEurope 2005 benchmarking indicators. Data was not available, however, for a significant number of indicators, and similar variables had to be used where available. Chronic shortage of data was faced in particular for three countries: Cyprus, Malta and Turkey. Nevertheless, our opinion is that the eEurope 2005 index provides a reasonable indication of the relative level of ICT development across the 25 countries in question.

Finally, the complexity of ICT issues in a nation can get obscured behind the numerical figure of the eEurope 2005 index. Countries have vastly different problems and performance, ranging from low levels of economic development with low GDP per capita (Romania, Bulgaria), to legacy effects from transition from communism to market economies (Lithuania, Romania), to effects of country fragmentation (ex-Czechoslovakia and ex-Yugoslavian countries) to high performance (Estonia). Any composite index provides an average picture of the level of development, but forcibly cannot take into consideration effects such as those just mentioned specific to national contexts.

Exploring the eEurope 2005 Index

The eEurope 2005 Index provides a quick and relative benchmark of the level of development of the “Information Society” present in 28 European countries, in addition to giving an indication on the level of alignment of the NMS to the current European Union member states. While this is useful, one may need to gain further insights into areas of over and under performance of a nation, and to understand the key drivers determining the results. One can do so by looking at the five component indexes: Internet Indicators, Modern Online Public services, Dynamic eBusiness environment, Secure information infrastructure and Broadband. Table 2 to table 6 provide the results of each component index. Further insight may be obtained by looking at the sub indexes composing each Component Index. The final level of detail can be obtained by having a close look at the 39 variables comprising the sub indexes, which are presented in the Technical Appendix at the end of the chapter. Figure 3 gives a schematic diagram of the relationships between the various indexes, and how they add up to form the eEurope 2005 Index. The technical appendix to the chapter provides more details on the computation of the Index.



I. Internet Indicators

The Internet indicators capture the degree of access to the Internet by individuals. It is comprised of 3 main categories (see figure 1), namely citizen's access to and use of the Internet, enterprises access to and use of the Internet, and Internet access costs. The results of the performance of the 28 countries on the dimension of Internet Indicators can be found in Table 3. One sees that the Netherlands, Denmark and Sweden occupy the top three places.

New Member States:

Estonia is the top ranked NMS and is in the tenth place with a score of 4,5 on a seven-point scale (compared to EU-15 average of 4,67). Slovenia (14), Cyprus (15), Malta (16), and the Czech Republic (19) follow as the next best performing NMS. Estonia, Slovenia, Cyprus and Malta are relatively well aligned with the EU-15 group of countries on the Internet Indicators dimension. The Czech Republic, Hungary, Poland, and the Slovak Republic have scores close to that of countries in South Europe such as Spain, Portugal and Greece and are somewhat aligned on the Internet Indicators dimension. The remaining NMS need some development before they qualify to the level of development of the current European Union members.

The results of the computation of the three sub-indexes of the Internet Indicators composite index can be found appendices 1 to 3.

Box 7 presents efforts made by the Slovak Republic in order to promote ICT related skills among their citizens, and hence develop the usage of ICT among individuals and businesses. Box 8 presents the efforts of Estonia to set up Public Internet Access Points in order to promote the use of the Internet by their citizens.

Box 7: Infovek – Slovak Republic⁶

The Infovek (InfoAge) program aims to prepare the young citizens of the Slovak Republic for the challenges of the Information Society, especially given the country's accession to the European Union.

The program has ambitious objects to provide Internet access to about 2500 primary schools and 800 secondary schools by the year 2005. It is forecasted that as a result of this effort, the penetration of the Internet in schools shall increase from 20% at the end of 2001 to 35% by the end of 2002.

Box 8: Public Internet Access Point - Estonia⁷

According to the Estonian Information Act, each Estonian citizen should have access to free public information. In order to comply with this target, Public Internet Access Points (PIAPs) are being set up in all public libraries. So far, about 550 PIAPs have been installed under this program, and at least 100000 people have been trained to use the Internet.

II. Modern Online Public Services

Modern online public services: Modern online public services aim to benchmark the different European countries on the degree of availability of online public services, and the level of their usage by Europeans. Three broad categories of public services have been identified: e-government, e-learning, and e-health. Table 4 displays the results of the 28 countries studied

⁶ Source: Prisma

⁷ Source: eEurope+ 2003 Progress Report, February 2004

on the Online Public Services Dimension. Overall, Denmark, Netherlands and the United Kingdom occupy the top three places.

New Member States:

Turkey (9) and Malta (11) lead in the group of NMS and candidate countries. The next ranked NMS is Estonia with a score of 4,13 and rank of 12 as compared to the EU-15 average of 4,09. Slovenia follows at 17th place with a score of 2,91 and the Czech Republic at 18th place with a score of 2,85. These countries can be considered closely aligned on the basis of their online public services.

Of note is that if alignment is considered to lie within the lower limit of the range of the EU-15 scores, then the lowest EU-15 country is 23rd ranked Greece with a score of 2,35. In this case, several other NMS would have scores within this range such as the Slovak Republic (20), Lithuania (21), and Latvia (22). The results of the computation of the three sub-indexes of the Modern Online Public Services composite index can be found in appendices 4 to 6.

Box 9 presents some of the efforts of Malta in order to promote e-government. Box 10 presents the ID-card used in Estonia.

Box 9: Passport e-government Service – Malta⁸

Emission of passports in Malta has been enabled online in Malta as a part of a program to further e-Government in the country. The applicant enters his/her information online. This information is processed by the relevant authorities. Once the passport is ready, the individual receives a notification and can pick up his passport from the passport service.

Box 10: ID-card – Estonia⁷

Electronic identification can be done now in Estonia using digital signatures. A national identification card has been introduced, and a universal system named DigiDoc has been developed and does the necessary authentication. As of early January 2004, over 360000 ID-cards had been issued.

III. A Dynamic e-Business Environment

“A dynamic e-business environment” aims to capture the level of e-Commerce in different European nations. It consists of two main categories: buying and selling online, and e-business readiness. Table 5 displays the results of the “Dynamic e-Business Environment” component index. The top three countries on this component index are Denmark, Sweden and the United Kingdom. The EU-15 average score is 4,36 on a seven-point scale.

New Member States:

Malta and Estonia are the top ranked NMS and are 8th and 11th placed respectively with scores of 4,33 and 4,15 on a seven-point scale (compared to EU-15 average of 4,36). Slovenia (16), Latvia (17) and the Czech Republic (19) follow as the next best performing NMS. Malta and Estonia are relatively well aligned with the EU-15 group of countries on the Dynamic e-Business Environment dimension. Slovenia, Latvia, the Czech Republic, and Lithuania have scores close to that of countries in South Europe such as Spain, Portugal and Greece and are somewhat aligned on the Internet Indicators dimension.

The results of the computation of the two sub-indexes of the Internet Indicators composite index can be found in appendices 7 and 8. Box 11 presents the usage of e-banking in Estonia.

⁸ Source: eEurope+ 2003 Progress Report, February 2004

Box 11: Internet Banking – Estonia⁹

95% of all Estonian banking transactions are done through electronic channels and only the remaining 5% are done in spot offices. The top four banks have over 740000 Internet banking clients (country population = 1.37 million).

IV. A Secure information infrastructure

“A secure information infrastructure” aims to evaluate the level of security of Internet access and of online commerce across different European countries. Table 6 displays the results of the 28 countries studied on the Online Public Services Dimension. Overall, the United Kingdom, Ireland and Italy occupy the top three places. The EU-15 average score is 5,81 on a seven-point scale. Interestingly, some of the better-ranked EU-15 countries are relatively poorly ranked on the dimension of “secure information infrastructure” such as Sweden at 15th place and the Netherlands at 16th place.

New Member States:

The top ranked NMS is Poland with a score of 5,06 and rank of 11 as compared to the EU-15 average of 5,81. Latvia and the Slovak Republic are the next best-ranked NMS and are relatively well aligned with the EU-15 group of countries on this dimension. The remaining NMS need to work towards the goal of developing a secure information infrastructure- and educating citizens towards not only the opportunities presented by the Internet, but also the associated problems of security and privacy.

V. Broadband

Broadband captures the degree diffusion of high-speed access to the Internet in a given country. The results of the performance of the 28 countries on the dimension of Internet Indicators can be found in Table 7. One sees that the Belgium, Sweden and Denmark occupy the top three places. The EU-15 average score on the Broadband composite index is 3,14.

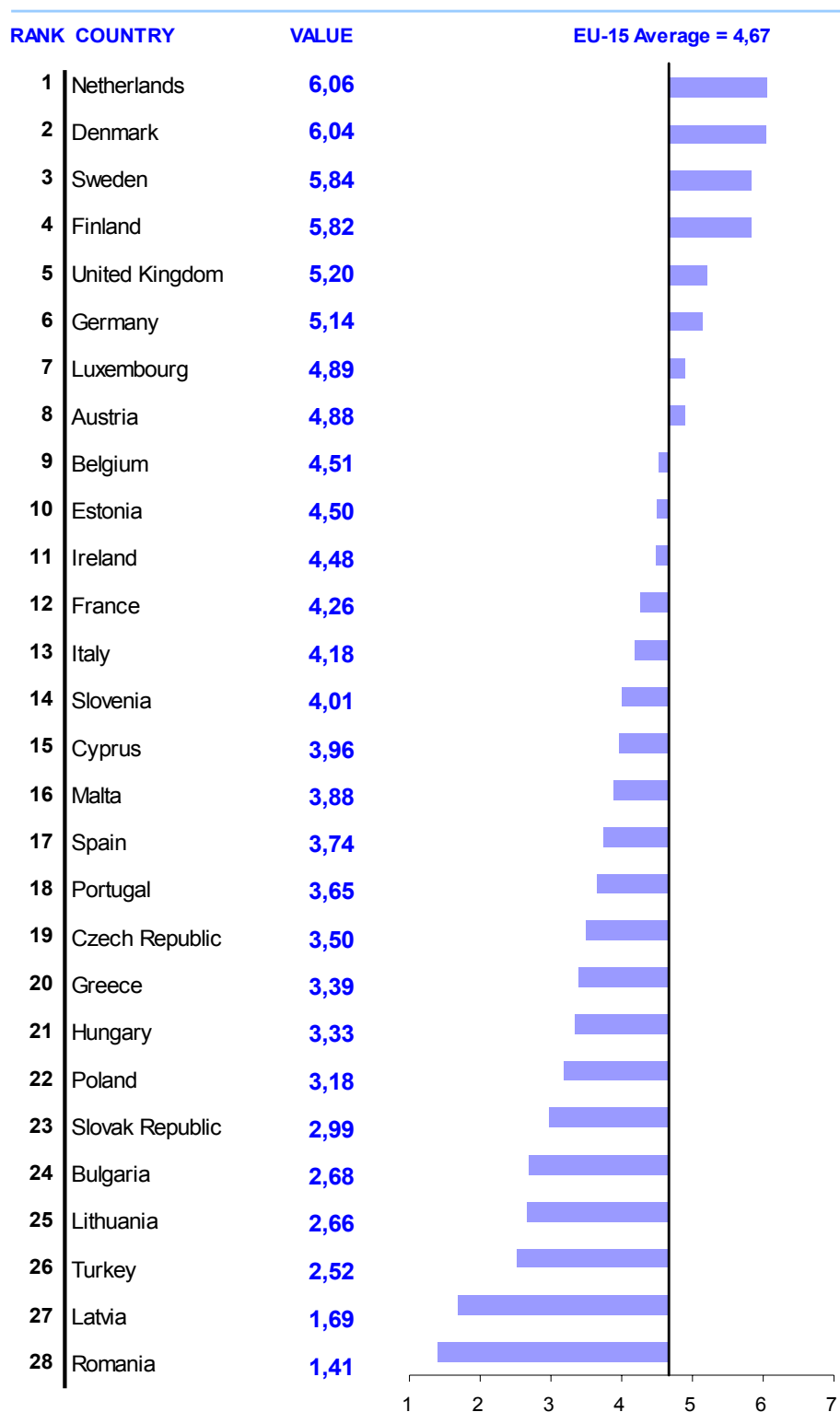
New Member States:

Estonia is the top ranked NMS and is tenth place with a score of 2,87 on a seven-point scale (compared to EU-15 average of 3,14). Thus Estonia’s score is below the EU-15 average. However, if one has a closer look, it shall become apparent that EU-15 countries such as Italy (1,66), Portugal (1,52) and Greece (1,43) have significantly lower scores. If one considers this to be the lower limit for alignment to the EU-15, then six other NMS: Malta, Hungary, Latvia, Lithuania, and the Czech Republic and Cyprus lie within the range of the EU-15 group of countries.

⁹ Source: eEurope+ 2003 Progress Report, February 2004

Table 3: Internet Indicators

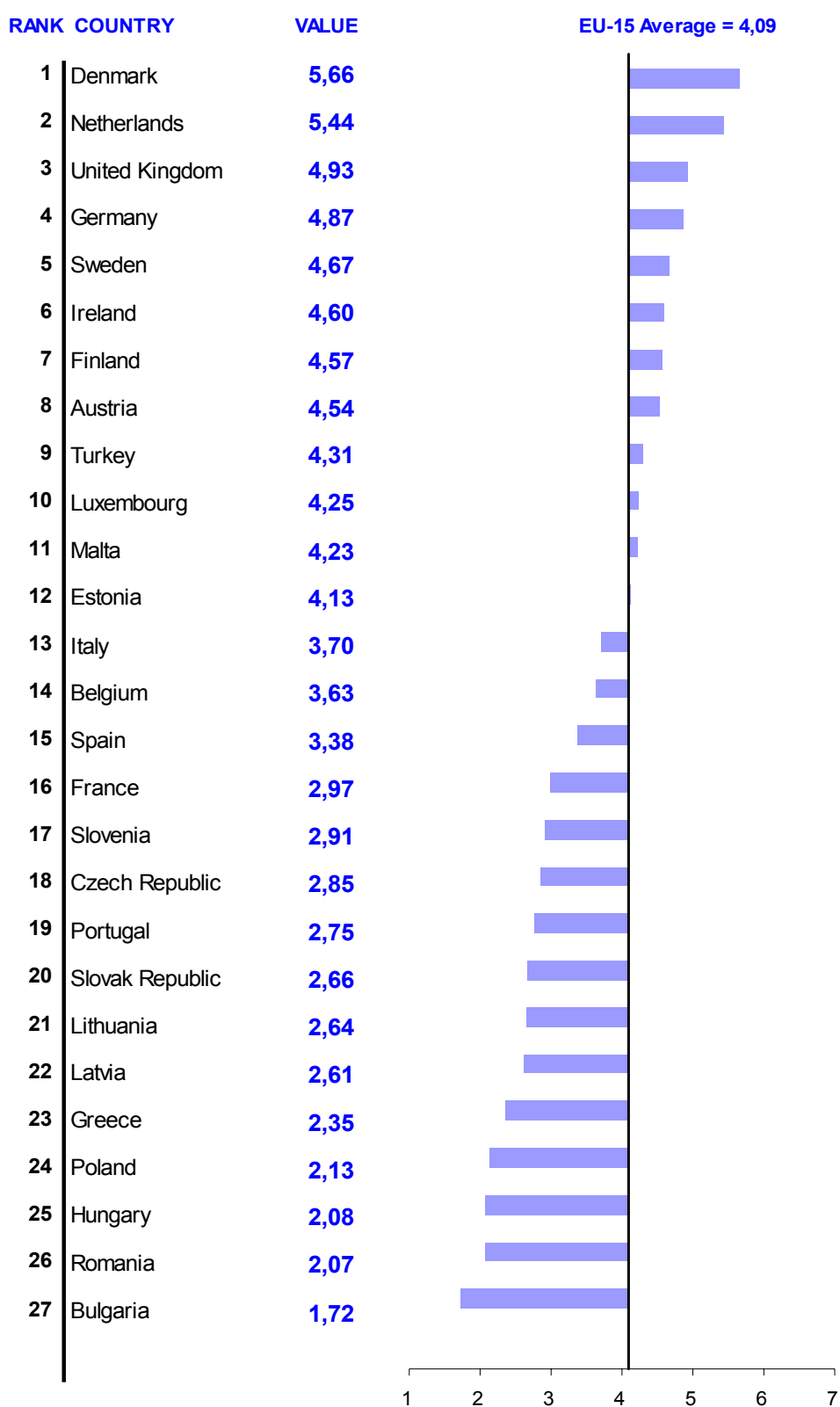
Internet Indicators = (Citizen's access to and use of the Internet + Enterprises access to and use of ICT + Internet Access Costs)/3



Source: INSEAD 2004

Table 4: Modern Online Public Services

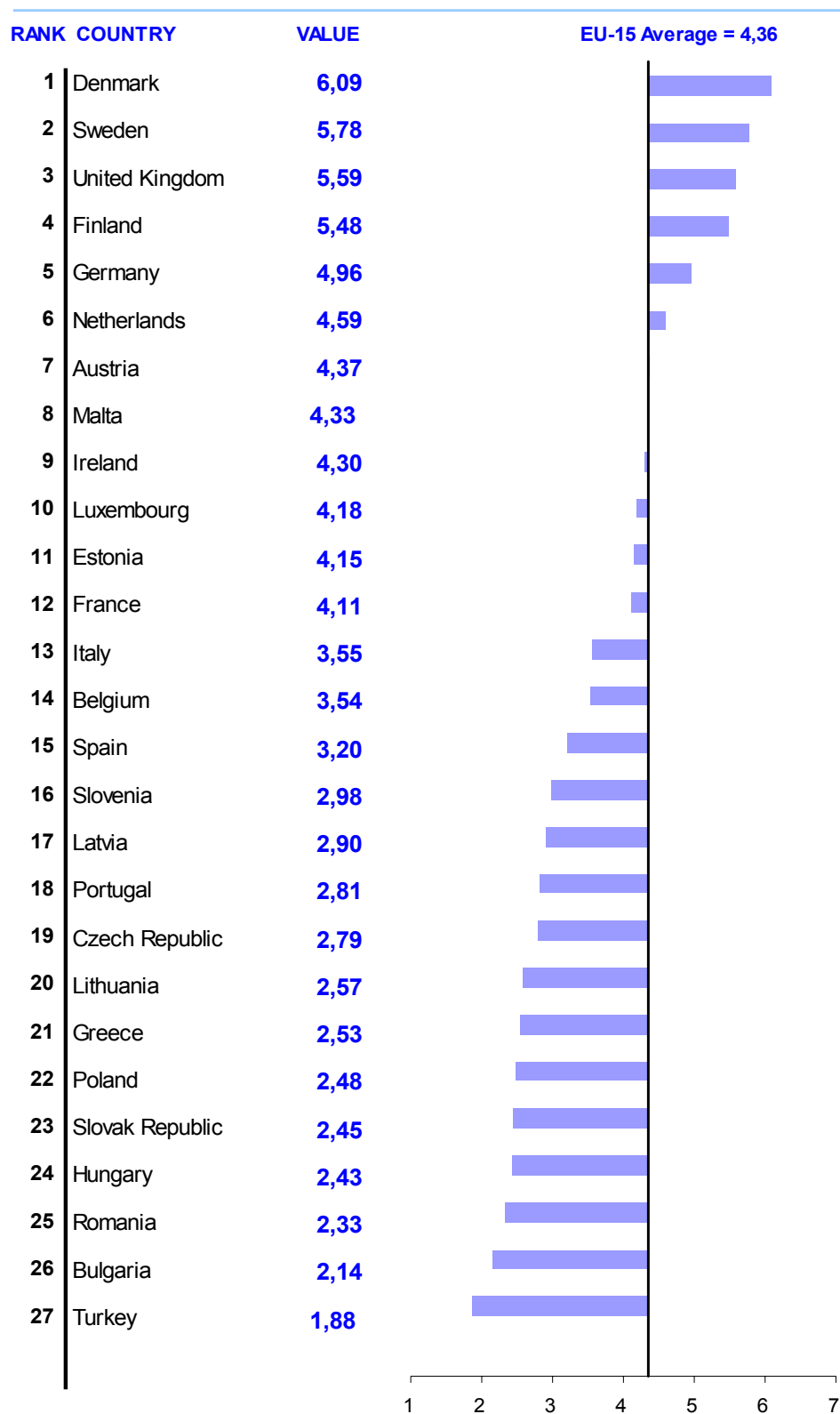
Modern Online Public Services = (E-government + E-learning + E-health)/3



Source: INSEAD 2004

Table 5: A Dynamic E-business Environment

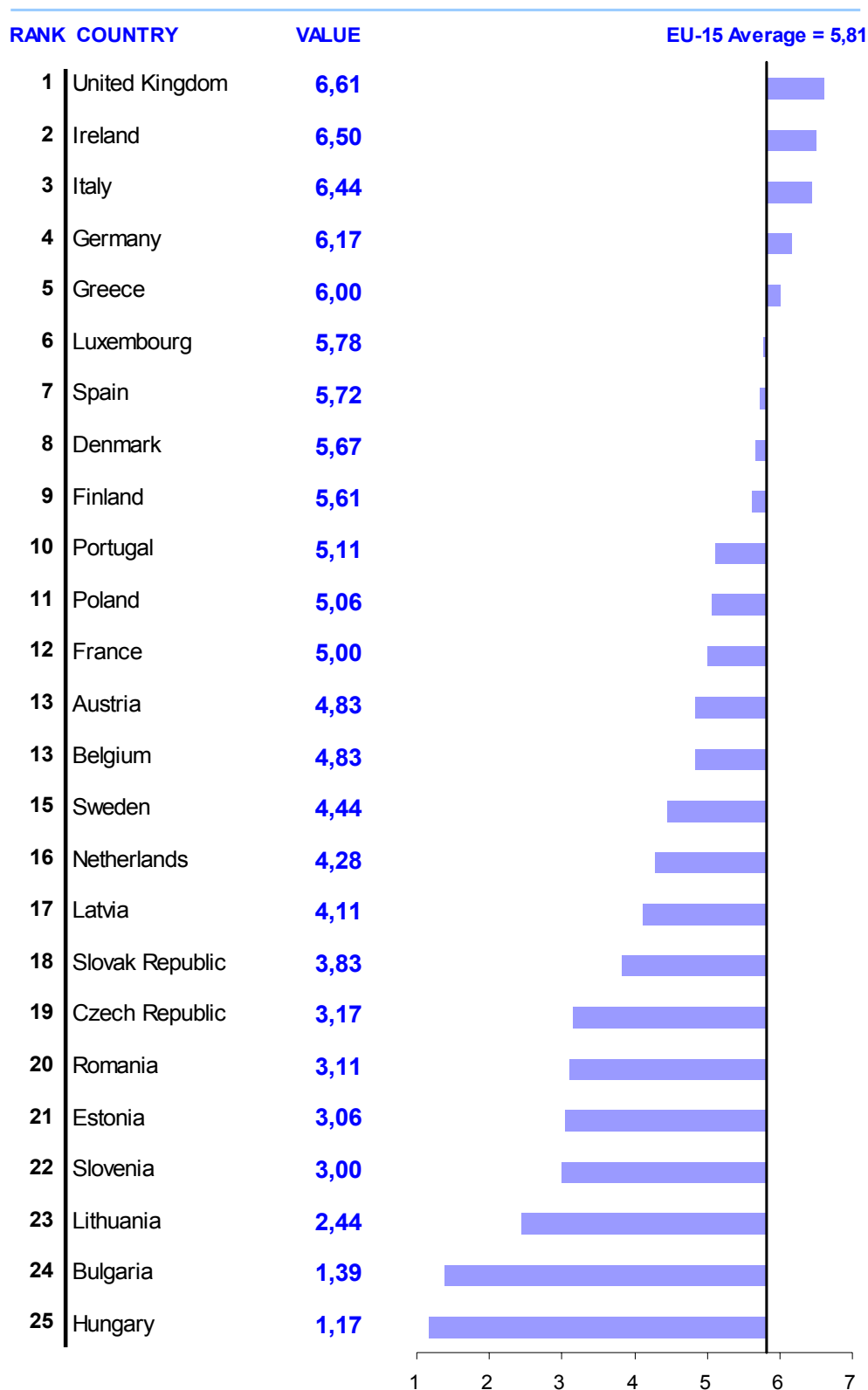
A Dynamic E-business Environment = (Buying and selling online + E-business readiness)/2



Source: INSEAD 2004

Table 6: A Secure Information Infrastructure

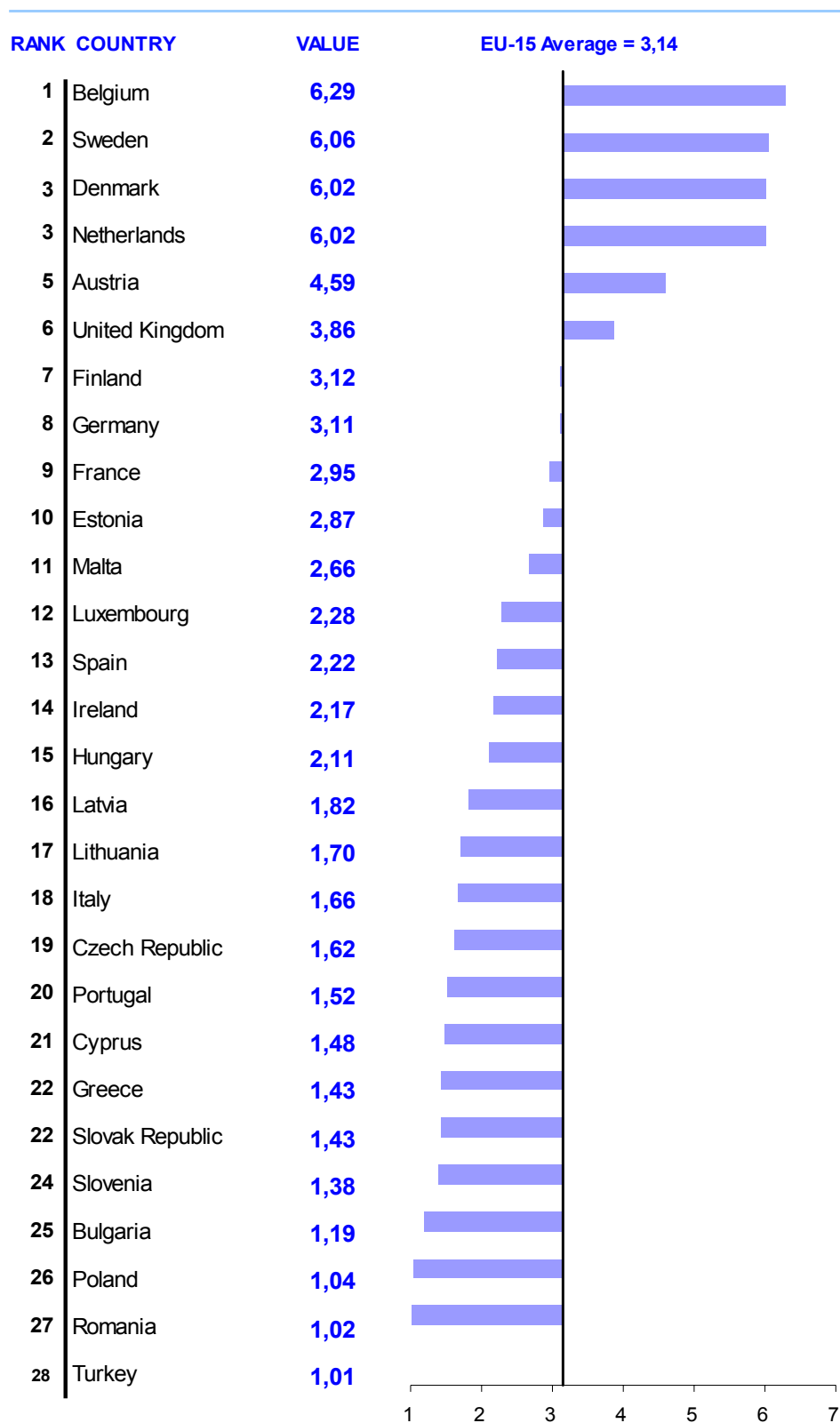
Internet users experience and usage regarding ICT security



Source: INSEAD 2004

Table 7: Broadband

Broadband Penetration



Source: INSEAD 2004

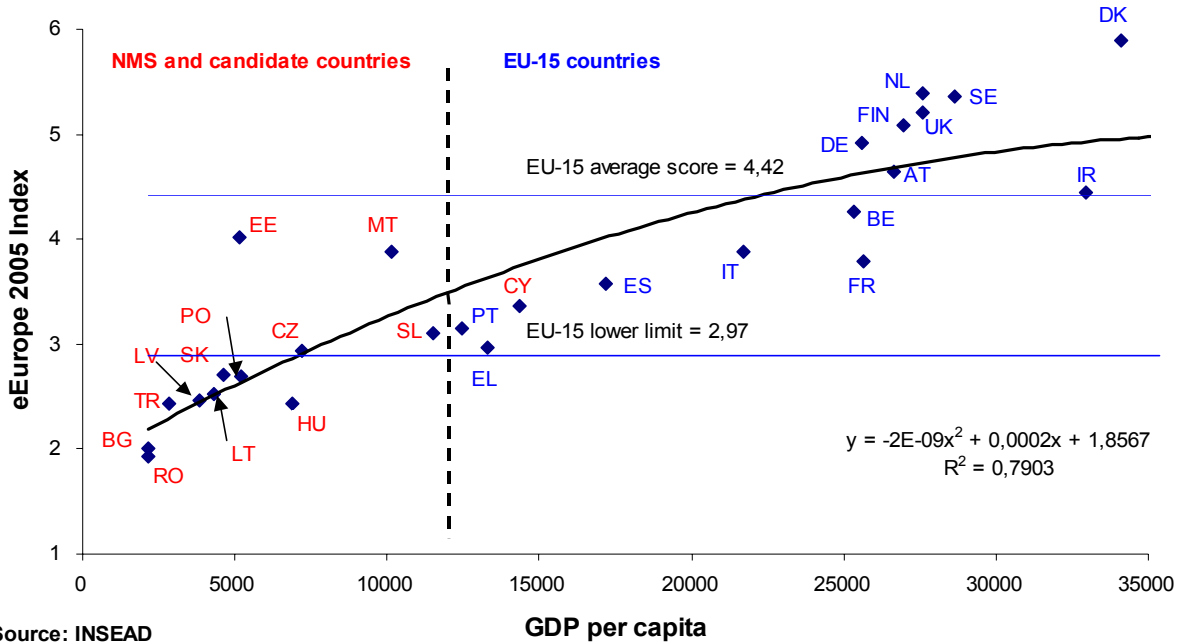
Understanding eEurope 2005 alignment

The degree of alignment with respect to the eEurope 2005 framework is the result of a multitude of effects. Our research started with a set of over 130 different variables or indicators for evaluating networked readiness, which were narrowed down by statistical analysis to a set of 39 variables. These 39 variables were grouped amongst the 5 component indexes and their respective sub-indices of the eEurope 2005 benchmarking framework. This provides us with an opportunity to study some of the inter-relationships across the variables and the components/sub-indices of the eEurope 2005 framework.

GDP and eEurope 2005 alignment

Any attempt to use a single measure to approximate the eEurope index would remain a simplification. One of the most intuitive and appealing measures that one may be tempted to use as a proxy is the Gross Domestic Product per Capita of a country. If one has a closer look at the eEurope results, one would find that Estonia with a GDP per capita of € 5143 has an eEurope score of 3,74 and is ranked 14 overall. Poland with a very close GDP per capita of € 5176 on the other hand has a score of 2,78 and overall ranking of 20. One thus sees a wide spread in the eEurope score for a given GDP per capita.

Figure 4: eEurope 2005 Index and GDP per Capita



Source: INSEAD

Nevertheless, one could look at the relation between the eEurope and GDP in order to obtain a better understanding of trends, and also to identify over and under performers with respect to the trend. Per capita income of a country or the relative wealth of a nation influences the investment decisions made by policy makers, the budget they have for ICT and the relative importance of ICT in their budget allocation. It would be expected that nations with high levels of GDP per capita would invest more in ICT in order to enhance their economic competitiveness. Figure 4 gives a plot between GDP per capita and the eEurope 2005 Index. One sees a strong second order relationship between GDP per capita and the eEurope 2005 index with a regression R^2 value of 0,7903. One notes in addition:

- The 28 countries divide clearly into NMS and EU-15 countries based on GDP per capita. Apart from Cyprus (GDP/capita= € 14360), the country with the highest GDP per capita amongst the NMS and candidate countries (Slovenia) has a GDP per capita inferior to that of the EU-15 country with the lowest GDP per capita (Portugal).

- For a given GDP per capita, there is a spread in the eEurope scores around the regression plot as presented in Figure 4.
- The impact of GDP seems to be to linear for low to intermediate values of GDP per capita and then tapers off- which represents little increase in eEurope scores with increase in GDP per capita at very high GDP per capita.

Countries widely distanced from the regression plot could be examples of under performing or over performing countries. Thus one sees that Denmark leads the eEurope ranking and is a clear over-performer, whereas France under performs on the overall eEurope 2005 score. Similarly Estonia would be over performing on its eEurope score with respect to its GDP per capita.

Internet Users per 100 and Readiness Component Index:

One could be tempted to use the number of Internet Users in a country as a proxy estimate of the eEurope Index of a country. Figure 5 shows a plot between the Number of Internet Users/100 persons and the eEurope 2005 Index. The existence of a significant relationship between these becomes apparent on observing that the linear regression plot has a high regression R² value of 0,792. The eEurope Index is much richer than the Internet Users measure since it takes into account diverse factors such as online public services, e-commerce, online security and broadband. For instance, two countries with the same level of Internet Users per 100 inhabitants may have a different index score if they are relatively different across other parameters of the index.

Figure 5: eEurope 2005 Index and Internet Users per 100 inhabitants

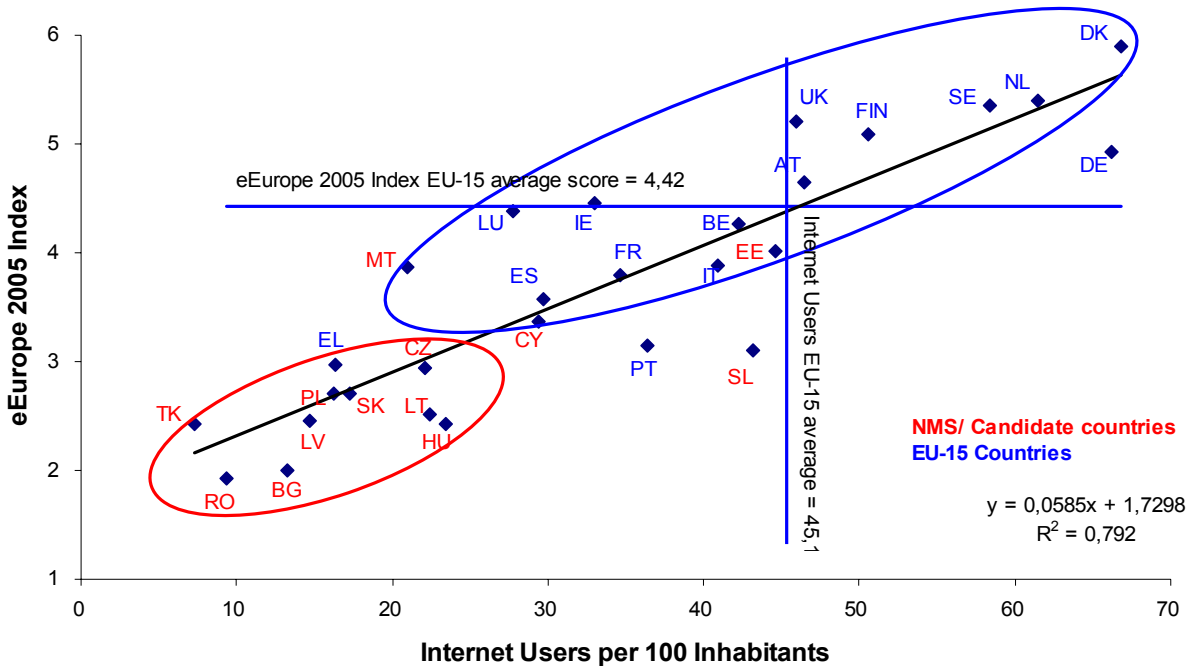


Figure 5 shows the distribution of NMS and EU-15 member countries on the axes of the eEurope 2005 index and Internet Users per 100 inhabitants. One can see the formation of the two distinct sets of countries, and the presence of Malta, Estonia and Cyprus amongst the EU-15 member countries. Likewise, Greece is seen to be more similar to the NMS than the EU-15 on these two dimensions. Portugal and Slovenia are two intermediate countries with characteristics of each of the groups.

Research Challenges

Finding the Facts: The best laid out frameworks can face seemingly insurmountable roadblocks in their implementation due to the lack of accurate and reliable data. The overriding aim in our research and analysis has been to provide a scientific and credible interpretation of reality. Thus, the first step in our research has been to collect the most complete and highest quality set of data relating to ICT- and pertinent to the eEurope 2005 Action Plan Benchmarking indicators. We used two types of data in our research: soft data, which is subjective data gathered as a result of questionnaires (such as the Global Competitiveness Survey, Sibis), and hard data, which is driven by statistics collected by reputed independent agencies (such as the World Bank and ITU). Both these sets of data play a crucial role in the overall analysis. The soft data is critical in determining the opinion of the decision makers and influencers who are intimately familiar with a nation's economy. On the other hand, the hard data captures fundamental elements related to the development of infrastructure, human capital and ICT.

Absence of Key Usage Metrics: Key ICT metrics required for the eEurope 2005 framework such as data pertaining to eCommerce and businesses are difficult to obtain, and future research projects need to aim to improve in this domain. In addition, accurate usage metrics are difficult if not impossible to obtain and/or are not up to date. In the absence of such usage metrics, one has to devise ways to best estimate the development of a country's ICT. For example metrics on cost savings realized, on high-speed Internet access costs and usage, on key measures of Policy and Regulation, and on the use of ICT by governments remain elusive.

Ensuring Statistical Significance: Once solid and reliable facts had been accumulated, a comprehensive statistical analysis was conducted. Following the classic steps of any such analysis, correlation was conducted to drop closely correlated or interrelated variables. Following this, missing data in the dataset was estimated using regression and clustering techniques. The variables were then classified along the lines of the eEurope 2005 Index Framework.

Data Estimation: Despite our best efforts to collect data from all major international sources, it has been necessary at times to cope with incomplete sets of data for the countries under consideration. In order to compensate for this, statistical procedures have been used to estimate missing data: mainly regression and clustering techniques. Control procedures and checks have been devised to ensure that estimations were reasonable and not overly favourable or disadvantageous in their representation of the concerned country.

Calculating the Index: In order to calculate the index, the data was first transformed on a scale of 1 to 7, in order that each piece of information has an equal weight. Next, each of the sub indices was computed as mathematical averages of the variables composing it. The same approach was used to calculate the component indexes, averaging the sub indexes. Finally, the eEurope 2005 Index was computed as an average of the five component indexes. Details are provided in the technical appendix.

Summary

This chapter presents the eEurope 2005 index, based on the eEurope 2005 Action Plan defined by the European Union. 28 countries: 15 current European Union member states, and 10 New Member States (NMS), and 3 candidate countries were studied for their level of ICT development based on the eEurope 2005 benchmarking framework. The eEurope Index attempts to interpret the underlying complexity of the development and use of ICT and the Internet in an intuitive and easy-to-comprehend model. The Overall index is a summary measure of a nation's ability to participate in and benefit from the networked economy. In addition, the eEurope 2005 index provides guidance to business leaders and public policy makers in order to enhance the impact of ICT – by providing summary as well detailed analysis of a country's strengths and weaknesses.

Based on the calculated index, the level of alignment of the NMS was determined. Countries were divided into four distinct groups: Global Leaders, EU-15 average or Aligned Countries, Somewhat Aligned countries and countries needing to undergo some development. It was found that Malta and Estonia belonged to Group II countries that were totally aligned to the EU-15 countries. Partially aligned NMS (Group III) consisted of Slovenia, the Czech Republic, Poland, Cyprus, the Slovak Republic and Latvia. The remaining NMS/candidate countries fell in Group IV and need to work towards their ICT development. This group consists of Turkey, Lithuania, Hungary, Romania, and Bulgaria, and is characterised by countries with lower GDP per capita.

The essence of eEurope 2005 index extends beyond any single metric, and that all said, there are under- and over-performing countries - countries that have put ICT on the national agenda, and have strived to make it an area of excellence, and others that have not done so. The former countries have succeeded in going beyond individual measures of national income, or National ICT spending, in an effort to provide an optimal Environment for ICT development, thus promoting high levels of Readiness and Usage within all three key stakeholders. Estonia amongst the NMS provides one such example, and Denmark, Sweden and the United Kingdom amongst the EU-15 countries also are some such leaders, and could serve as role models for other nations in their quest for ICT excellence. The eEurope 2005 index allows a nation to benchmark its ICT performance, and determine the effectiveness of policy. It also permits a country to learn from the policy and performance of other countries with similar profiles, and to identify best practice.

ICT hold the keys to evolution of our practices in many domains - education, work, personal relations, work effectiveness, and national productivity. An interesting characteristic of ICT such as the Internet is that overall value increases non-linearly with the number of connected individuals and organizations. Increasing the levels of participation of developing countries in ICT creates benefits not only for these countries; it enlarges the overall potential of all connected stakeholders to realize value.

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Technical Appendix: Constructing the Networked Readiness Index

The eEurope 2005 Index is composed of 5 component indexes: Internet indicators, modern online public services, a dynamic e-Business environment, a secure information infrastructure, and broadband. Starting from a set of over 130 ICT related variables, we have divided these variables amongst the five indexes and their respective sub-indexes. We then eliminated variables on the basis of number of countries for which data was available and using analytical procedures such as correlation analysis. Our final index computation is based on a set of 39 variables¹⁰.

Definitions of the eEurope 2005 Index, component indexes and sub indexes

The eEurope 2005 Index is defined as follows:

eEurope 2005 Index = 1/5 Internet Indicators + 1/5 Modern Online Public Services + 1/5 Dynamic e-Business environment + 1/5 Secure Information Infrastructure + 1/5 Broadband

A. **Internet Indicators** Component Index is defined as follows:

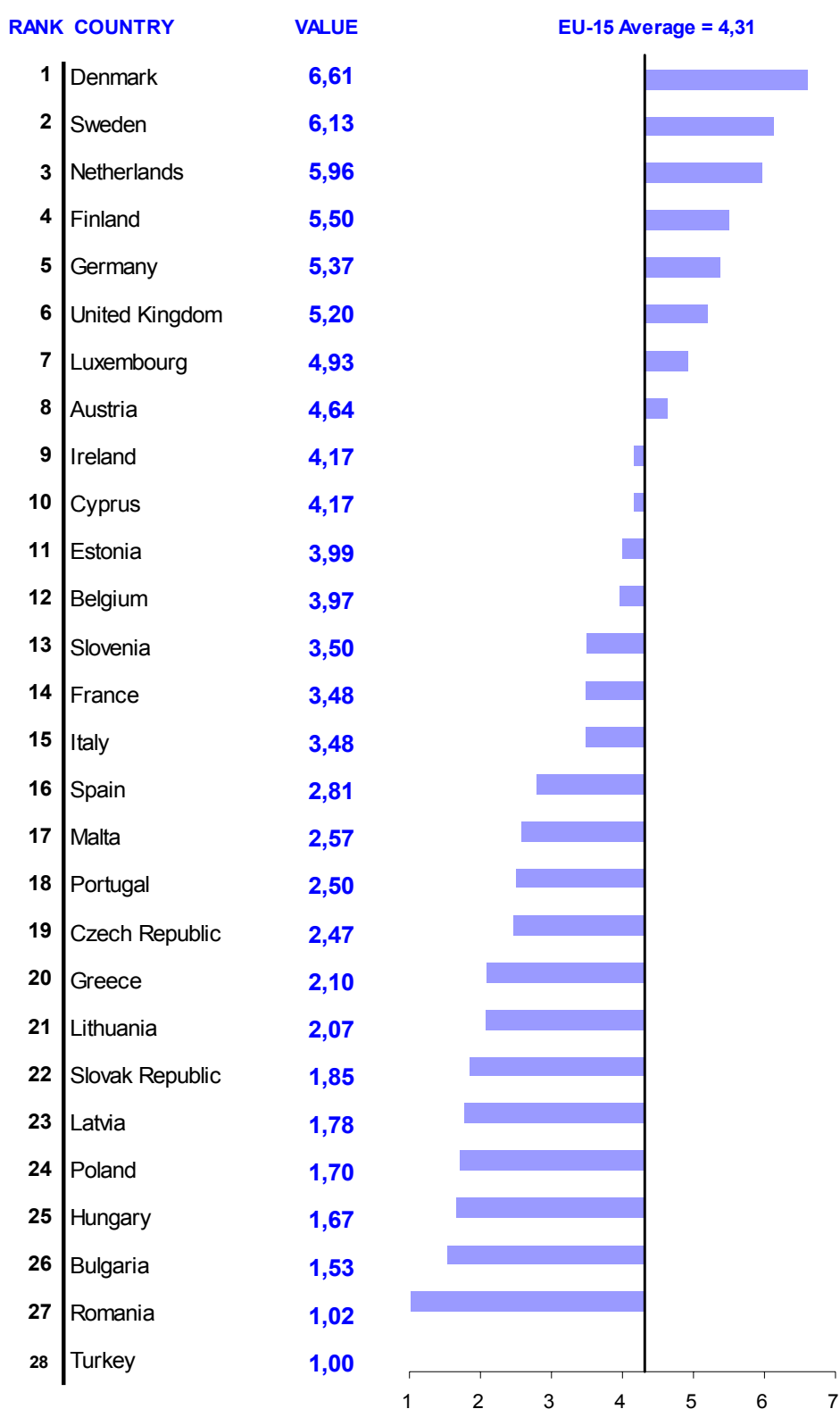
Internet Indicators = 1/3 Citizens access and use of Internet + 1/3 Enterprise access to and use of ICT + 1/3 Internet access costs

1. "Citizens access and use of Internet" sub index is defined by the following data variables:
 - 1.01 Internet access from home, 2002/3
 - 1.02 Regular and occasional Internet Usage, 2002/3
 - 1.03 Intensity of Internet Usage, 2002/3
 - 1.04 E-mail usage, 2002/3
 - 1.05 Internet Users per 100 inhabitants, 2003
 - 1.06 ISDN subscribers per 100 inhabitants, 2003
 - 1.07 Internet usage at home, 2002/3
 - 1.08 Internet usage at work, 2002/3
 - 1.09 Percentage of households online, 2003
 - 1.10 Personal computers per 100 people, 2002
2. "Enterprises access to and use of ICT" sub index is defined by the following data variables:
 - 2.01 Employees with Internet access, 2002/3
 - 2.02 Business PCs installed per 100 inhabitants, 2002
 - 2.03 Internet hosts per 10000 inhabitants, 2003
 - 2.04 Teleworking usage, 2002/3
 - 2.05 Teleworking intensity, 2002/3
 - 2.06 Competition in the ICT sector, 2003
 - 2.07 ICT market value relative to GDP, 2002
3. "Internet access costs" is defined by the following variable:
 - 1.01 Cost of 20 hours of Internet use, 2003

¹⁰ Our research used the most recent data available from the concerned sources (like the Global Competitiveness Survey 2003-2004 questionnaire from the World Economic Forum and data from World Bank and ITU).

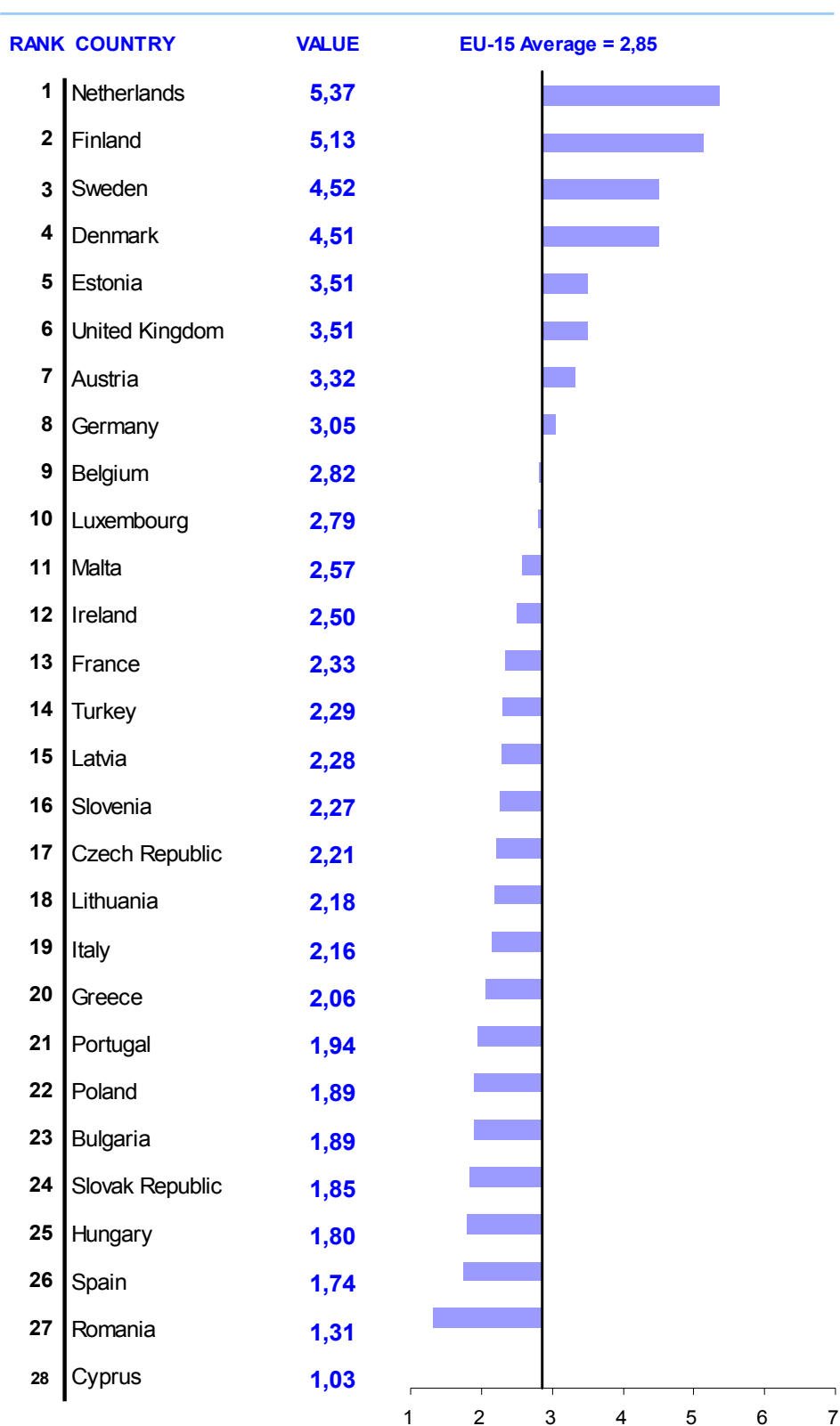
- B. **Modern Online Public Services** Component Index is defined as follows:
Modern Online Public Services = $1/3$ e-Government + $1/3$ e-Learning + $1/3$ e-Health
1. "e-Government" is defined by the following variables:
 - 4.01 Government online presence, 2003
 - 4.02 Online income tax returns, 2002/3
 - 4.03 Online job search, 2002/3
 - 4.04 Online requests for personal documents, 2002/3
 - 4.05 Online book search in public libraries, 2002/3
 - 4.06 Government online services, 2003
 - 4.07 ICT prioritisation by government, 2003
 - 4.08 Government ICT promotion success, 2003
 2. "e-Learning" is defined by the following variables:
 - 5.01 Use of online electronic learning materials, 2002/3
 - 5.02 Use of offline electronic learning materials, 2002/3
 3. "e-Health" is defined by the following variables:
 - 6.01 Health related online searches, 2002/3
 - 6.02 Internet use by the disabled, 2002/3
- C. **The Dynamic e-Business Environment** Component Index is defined as follows:
Dynamic e-Business Environment = $1/2$ Buying and Selling Online + $1/2$ e-Business Readiness
1. "Buying and Selling Online" is defined by the following variables:
 - 7.01 Individuals making online purchases, 2002/3
 - 7.02 B to B e-Commerce, 2002
 - 7.03 B to C e-Commerce
 2. "e-Business Readiness" is defined by the following variables:
 - 8.01 Laws relating to Information Technology, 2003
- D. **A Secure Information Infrastructure** Component Index consists of the experience Internet users have with respect to ICT security. It is comprised of the following variables:
 - 9.01 Online Privacy, 2002/3
 - 9.02 Secure Online Commerce, 2002/3
- E. **Broadband** Component Index consists of the following variables:
 - 10.01 DSL Broadband Access, 2002/3
 - 10.02 Broadband Users, 2002
 - 10.03 Bandwidth per capita, 2002

Appendix 1: Internet Indicators-Citizens access to and use of the Internet



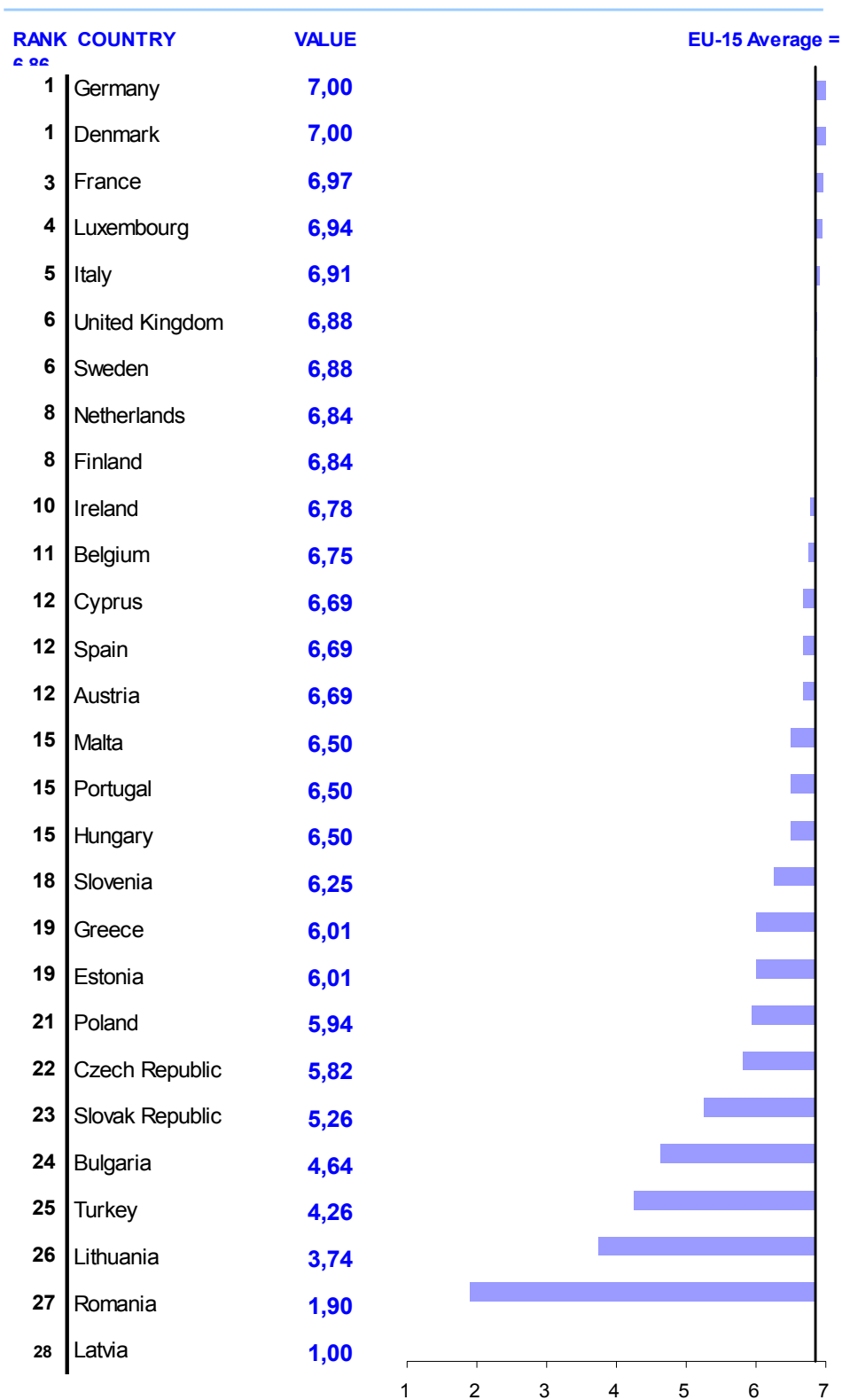
Source: INSEAD 2004

Appendix 2: Internet Indicators- Enterprises access to and use of the Internet



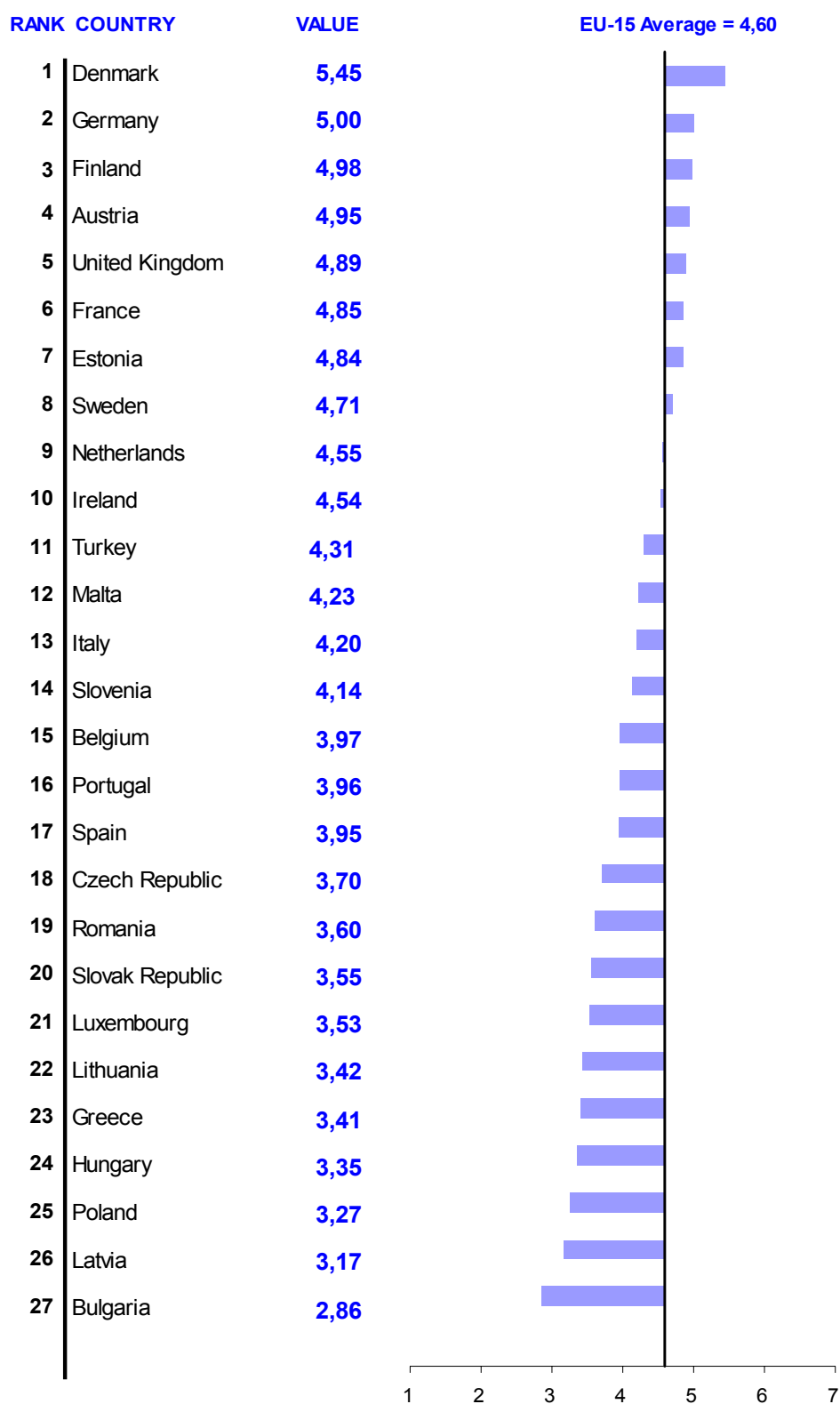
Source: INSEAD 2004

Appendix 3: Internet Indicators- Internet Access Costs



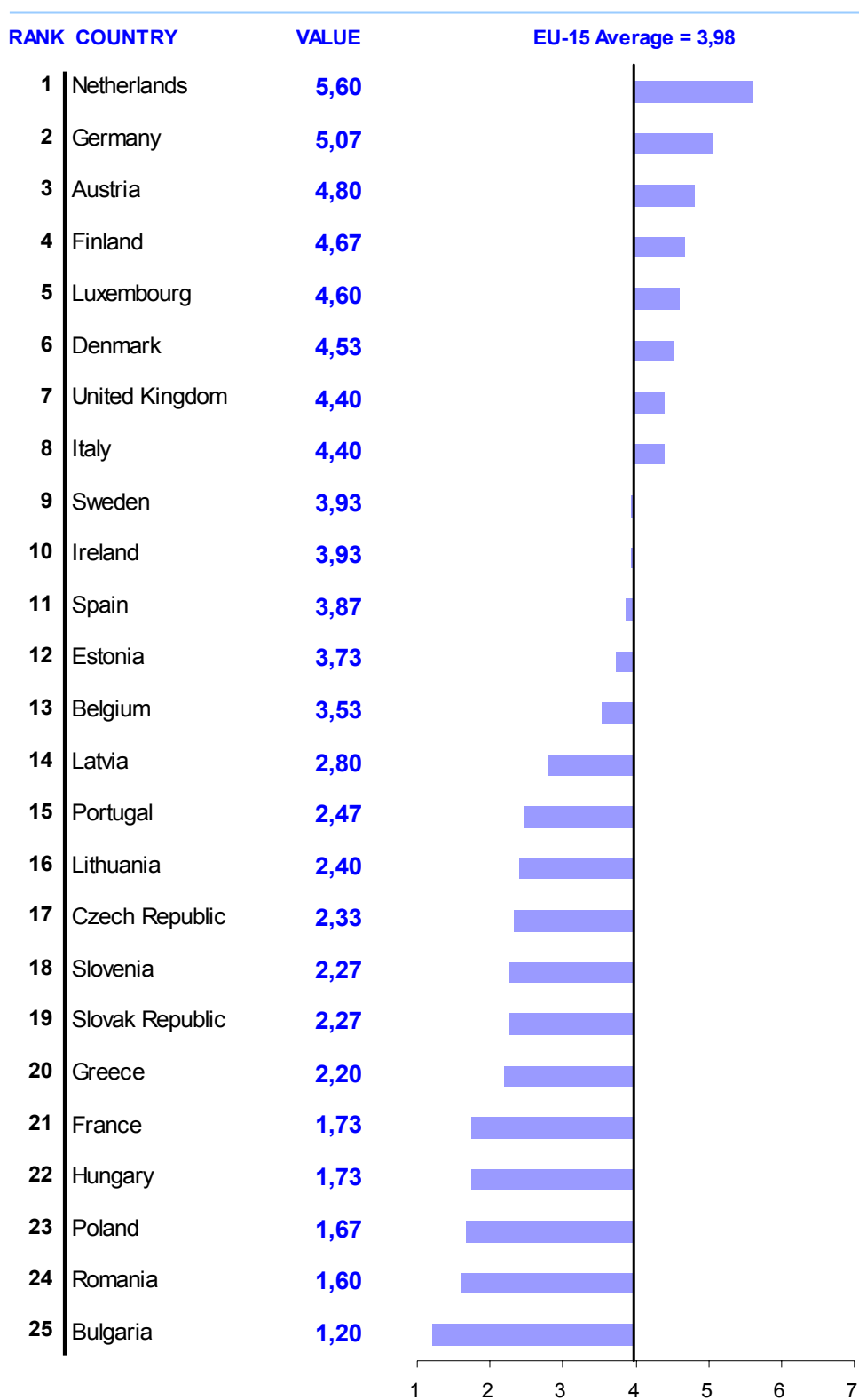
Source: INSEAD 2004

Appendix 4: Modern online public services- E-Government



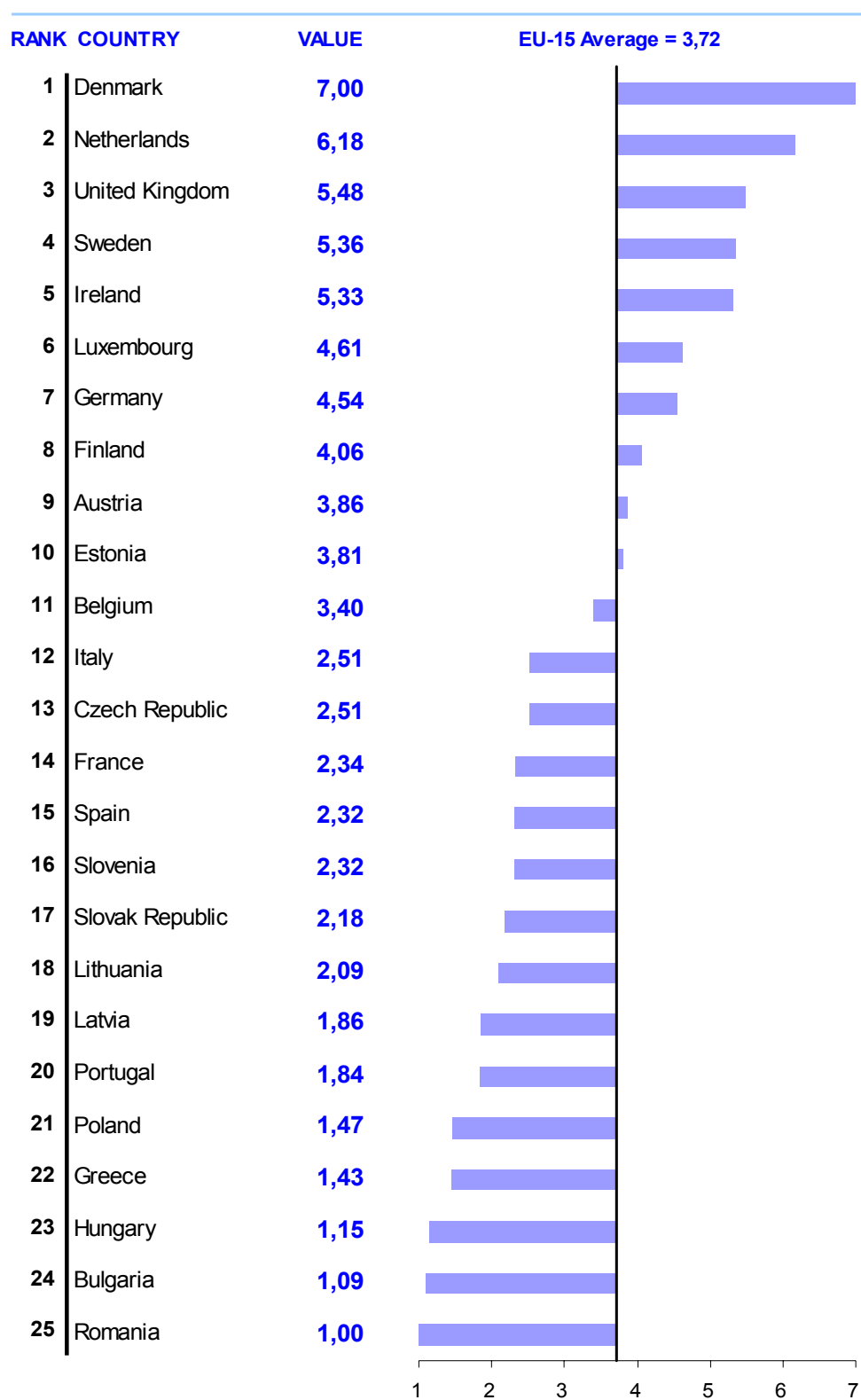
Source: INSEAD 2004

Appendix 5: Modern online public services- E-Learning



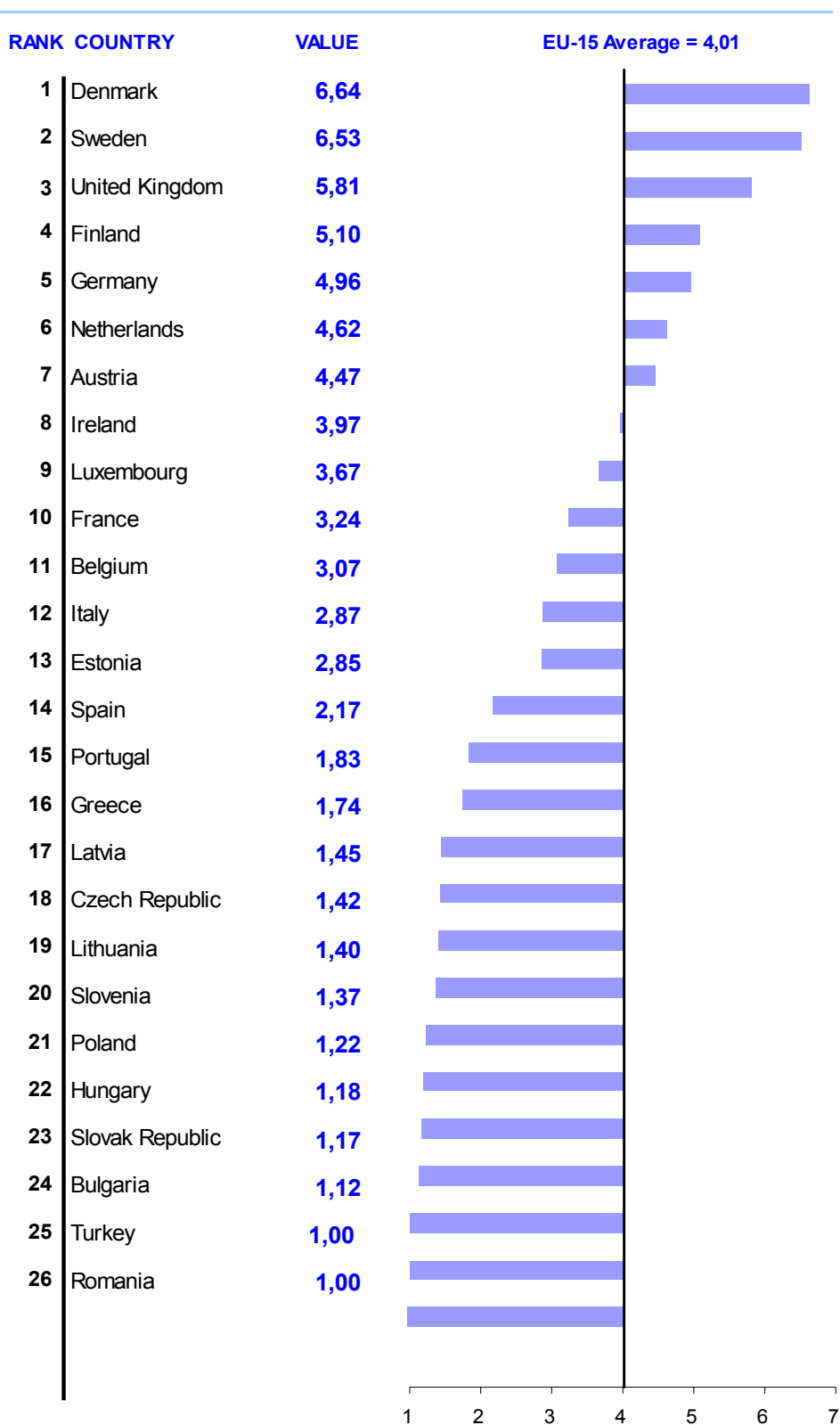
Source: INSEAD 2004

Appendix 6: Modern online public services- E-Health



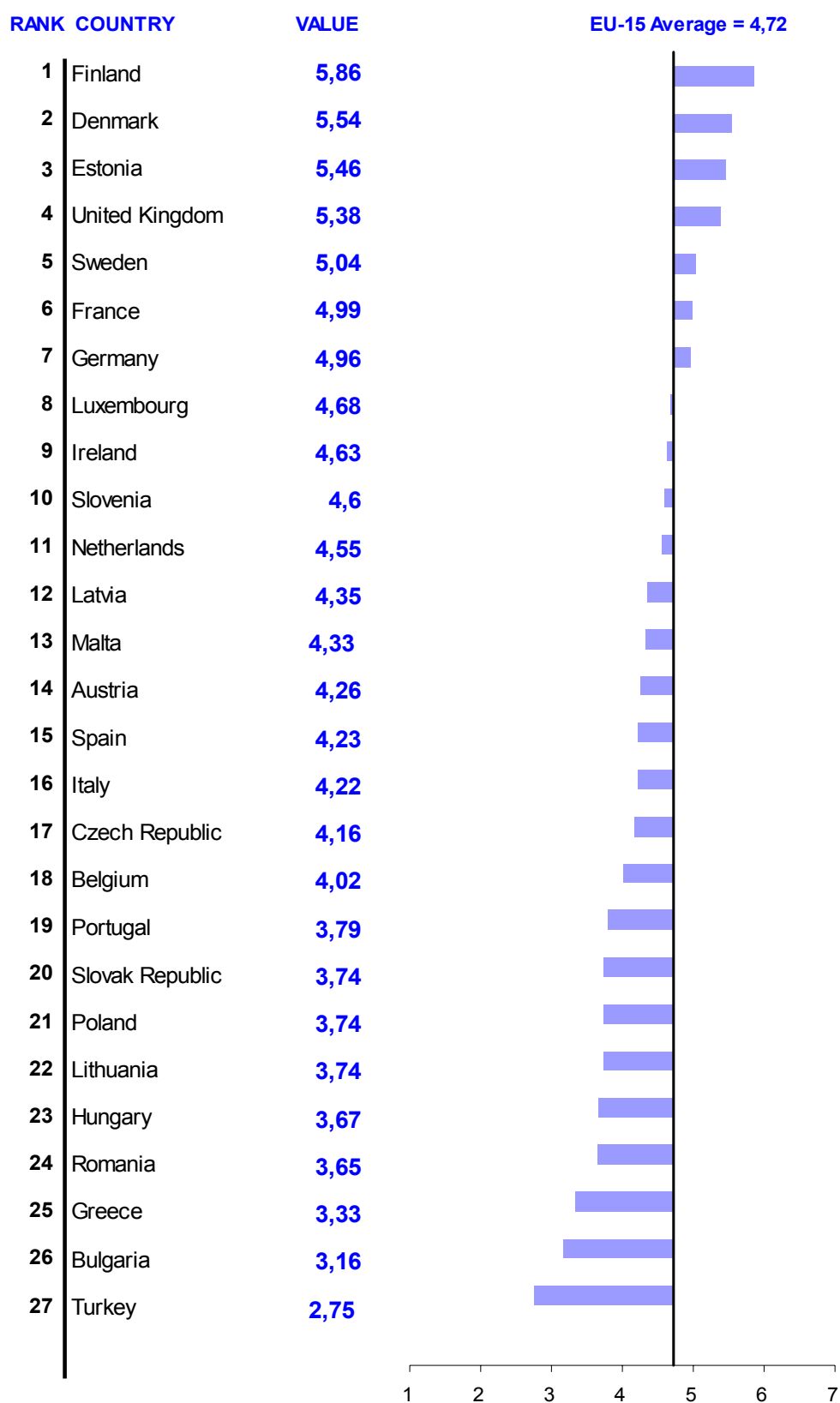
Source: INSEAD 2004

Appendix 7: Dynamic eBusiness Environment- Buying and Selling Online



Source: INSEAD 2004

Appendix 8: Dynamic eBusiness Environment- E-Business Readiness



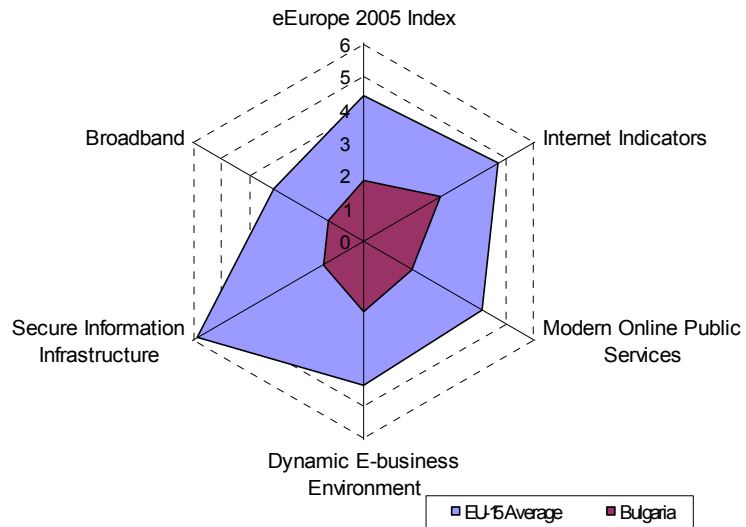
Source: INSEAD 2004

eEurope 2005

**New Member
and
Candidate
Country Tables**

Bulgaria

Bulgaria: Alignment with EU-15



Bulgaria is ranked 28th on the eEurope 2005 Index, and 67th out of 102 countries on the Networked Readiness Index, 2003. Bulgaria finds itself in the middle of the Group IV countries- countries which still have some way to go before they are aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Bulgaria's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Amongst the NMS and candidate countries, Bulgaria has one of the lowest GDP per capita (€ 2154/ inhabitant). Internet Usage still has to take off, and as per 2003 data from the International Telecommunications Union, 13% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Usage is constrained by an underdeveloped and outdated infrastructure, and many people still share telephone lines.

In order to meet requirements of accession to the European Union, and in order to further the economic development of the country, the government is making efforts to develop communications and high-technology industries. According to Sibis (2003), some of the key objectives identified by the government are:

1. To promote investment in the ICT sector
2. To create a competitive, export-oriented software industry
3. To encourage small and medium sized businesses to compete in the ICT sector
4. To encourage young graduates to start their own businesses in Bulgaria

ICT is one of the most sought after areas of study by technical students, and currently the country benefits from a good supply of trained personnel. Nevertheless, the country suffers from a brain drain, and according to the National Statistical Institute, over 300,000 professionals have left the ICT sector in the last 10 years.

Bulgaria

Key Indicators

Population	7 891 000
Gross Domestic Product (€ bn)	17
GDP per capita (€)	2154

E-Europe 2005 Index

28

Networked Readiness Index, 2003 **67**

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1.03 Intensity of Internet usage, 2002/3	18
1.04 E-mail usage, 2002/3	21
1.05 Internet Users per 100 inhabitants, 2003	26
1.06 ISDN subscribers per 100 inhabitants, 2003	27
1.07 Internet usage at home, 2002/3	22
1.08 Internet usage at work, 2002/3	22
1.09 Percentage of households online, 2003	23
1.10 Personal computers per 100 people, 2002	27
2.01 Employees with Internet Access, 2002/3	22
2.02 Business PC installed per 100 inhabitants, 2002	25
2.03 Internet Hosts per 10000 inhabitants, 2003	25
2.04 Teleworking usage, 2002/3	19
2.05 Teleworking Intensity, 2002/3	14
2.06 Competition in the ISP sector, 2003	23
2.07 ICT market value relative to GDP, 2002	2
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Modern Online Public Services (continued)

4.03 Online job search, 2002/3	25
4.04 Online requests for personal documents, 2002/3	23
4.05 Online book search in public libraries, 2002/3	21
4.06 Government online services, 2003	22
4.07 ICT prioritization by government, 2003	25
4.08 Government ICT promotion success, 2003	25
5.01 Use of online electronic learning materials, 2002/3	23
5.02 Use of offline electronic learning materials, 2002/3	23
6.01 Health related online searches, 2002/3	24
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7.03 B to C E-commerce, 2002	26
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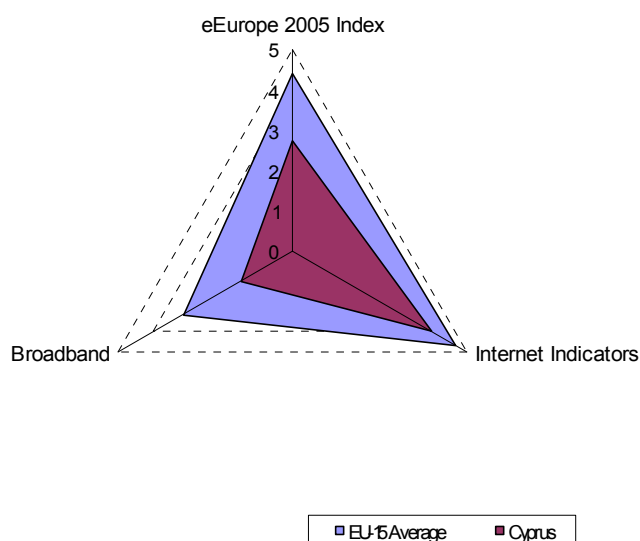
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Cyprus

Cyprus: Alignment with EU-15



Cyprus is ranked 21st on the E-Europe 2005 Index. Cyprus finds itself in the middle of the Group III countries- countries that are somewhat aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Cyprus's alignment with respect to the weighted average EU-15 value across the 2 of the 5 indicators of the E-Europe 2005 framework¹¹.

Cyprus has a GDP per capita of € 14360 per inhabitant. Internet Usage is moderate, and according to 2003 data from the International Telecommunications Union, 29,4% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Access is comparable in cost at US \$ 2,3 per 20 hours of access to the EU-15 average of US \$ 1,15/20 hours, and it is relatively cheaper than that present in most other NMS countries.

In addition, one would observe that Internet Bandwidth per capita is relatively low compared to the incumbent European Union companies at 236 bits per inhabitant (rank 21, EU-15 average = 3160 bits/inhabitant). Broadband users represent 7,4% of all Internet users, and thus broadband usage has yet to take off.

¹¹ Data availability concerning Information and Communications Technology in Cyprus was very scarce. Data availability has been one of the major limitations while analyzing the alignment of the New Member States and candidate countries. In the particular case of Cyprus, this has implied that we were unable to compute the performance of Cyprus across three of the eEurope categories: Modern Online Public Services, Dynamic e-Business Environment, and Secure Information Infrastructure. Thus particular caution need exerted while interpreting the results of Cyprus on the eEurope 2005 framework.

Cyprus

Key Indicators

Population	766 000
Gross Domestic Product (€ bn)	11
GDP per capita (€)	14 360

E-Europe 2005 Index

21

Networked Readiness Index, 2003 -

Internet Indicators 15

Citizens Access	10
Enterprises Access	28
Internet Access Costs	12
1.01 Internet access from home, 2002/3	-
1.02 Regular and occasional Internet usage, 2002/3	-
1.03 Intensity of Internet usage, 2002/3	-
1.04 E-mail usage, 2002/3	-
1.05 Internet Users per 1000 inhabitants, 2003	16
1.06 ISDN subscribers per 1000 inhabitants, 2003	1
1.07 Internet usage at home, 2002/3	-
1.08 Internet usage at work, 2002/3	-
1.09 Percentage of households online, 2003	-
1.10 Personal computers per 100 people, 2002	12
2.01 Employees with Internet Access, 2002/3	-
2.02 Business PC installed per 1000 inhabitants, 2002	-
2.03 Internet Hosts per 10000 inhabitants, 2003	26
2.04 Teleworking usage, 2002/3	-
2.05 Teleworking Intensity, 2002/3	-
2.06 Competition in the ISP sector, 2003	-
2.07 ICT market value relative to GDP, 2002	-
3.01 Cost of 20 hours of Internet Use, 2003	14

Modern Online Public Services -

E-Government	-
E-Learning	-
E-Health	-
4.01 Government online presence, 2003	-
4.02 Online income tax returns, 2002/3	-

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	-
4.04 Online requests for personal documents, 2002/3	-
4.05 Online book search in public libraries, 2002/3	-
4.06 Government online services, 2003	-
4.07 ICT prioritization by government, 2003	-
4.08 Government ICT promotion success, 2003	-
5.01 Use of online electronic learning materials, 2002/3	-
5.02 Use of offline electronic learning materials, 2002/3	-
6.01 Health related online searches, 2002/3	-
6.02 Internet use by the disabled, 2002/3	-

A Dynamic e-business environment -

Buying and selling online	-
E-business readiness	-
7.01 Individuals making online purchases, 2002/3	-
7.02 B to B E-commerce, 2002	-
7.03 B to C E-commerce, 2002	-
8.01 Laws relating to Information Technology, 2003	-

A secure information infrastructure -

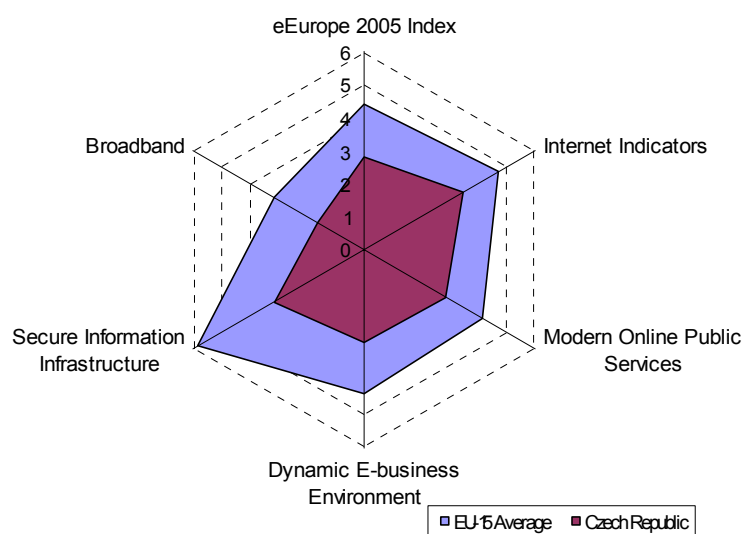
Internet users experience and usage	-
9.01 Online privacy and confidentiality concern, 2002/3	-
9.02 Online shopping security concerns, 2002/3	-

Broadband 21

Broadband penetration	21
10.01 DSL broadband access, 2002/3	-
10.02 Broadband as % of total subscribers, 2002	16
10.03 Internet bandwidth per inhabitant, 2002	21

Czech Republic

Czech Republic: Alignment with EU-15



The Czech Republic is ranked 19th on the E-Europe 2005 Index, and 33rd out of 102 countries on the Networked Readiness Index, 2003. The Czech Republic finds itself in the middle of the Group III countries- countries that are somewhat aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Czech Republic's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework. The Czech Republic proves to be one of the leading nations in Central and Eastern Europe with respect to ICT development.

The Czech Republic has a GDP per capita of € 7205 per inhabitant. Internet Usage is moderate, and according to 2003 data from the International Telecommunications Union, 22% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. While infrastructure is good and demand for telecommunications services satisfied, Internet Access remains quite expensive at US \$ 4,5 per 20 hours of access. Compared to this, in mobile telephony where there are three competing operators, a high level of development has been witnessed over the past few years.

In addition, one would observe that while Internet Bandwidth per capita is relatively high at 2189 bits per inhabitant (rank 12), broadband usage has yet to take off, and the Czech Republic is ranked 21 with respect to usage of DSL broadband access.

The Ministry of Information defines its mission and objective to create conditions such that the Czech Republic becomes the leader in Central and Eastern Europe in the Information and Communications Technologies sector. The ranking of the Czech Republic reflects the fact that programs are now underway in several different domains: such as e-Government (rank 18), e-Health (rank 13) and e-Education (rank 17). For instance, more than 6200 schools are now online. As a result, the Czech Republic finds itself well aligned with the EU-15 countries.

Czech Republic

Key Indicators

Population	10 270 000
Gross Domestic Product (€ bn)	74
GDP per capita (€)	7205

E-Europe 2005 Index

	19
Networked Readiness Index, 2003	33

Internet Indicators **19**

Citizens Access	19
Enterprises Access	17
Internet Access Costs	22
1.01 Internet access from home, 2002/3	16
1.02 Regular and occasional Internet usage, 2002/3	16
1.03 Intensity of Internet usage, 2002/3	16
1.04 E-mail usage, 2002/3	16
1.05 Internet Users per 100 inhabitants, 2003	20
1.06 ISDN subscribers per 100 inhabitants, 2003	19
1.07 Internet usage at home, 2002/3	17
1.08 Internet usage at work, 2002/3	14
1.09 Percentage of households online, 2003	19
1.10 Personal computers per 100 people, 2002	19
2.01 Employees with Internet Access, 2002/3	14
2.02 Business PC installed per 100 inhabitants, 2002	15
2.03 Internet Hosts per 10000 inhabitants, 2003	14
2.04 Teleworking usage, 2002/3	21
2.05 Teleworking Intensity, 2002/3	25
2.06 Competition in the ISP sector, 2003	17
2.07 ICT market value relative to GDP, 2002	4
3.01 Cost of 20 hours of Internet Use, 2003	22

Modern Online Public Services **18**

E-Government	18
E-Learning	17
E-Health	13
4.01 Government online presence, 2003	12
4.02 Online income tax returns, 2002/3	24

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	10
4.04 Online requests for personal documents, 2002/3	18
4.05 Online book search in public libraries, 2002/3	12
4.06 Government online services, 2003	20
4.07 ICT prioritization by government, 2003	18
4.08 Government ICT promotion success, 2003	22
5.01 Use of online electronic learning materials, 2002/3	15
5.02 Use of offline electronic learning materials, 2002/3	19
6.01 Health related online searches, 2002/3	12
6.02 Internet use by the disabled, 2002/3	13

A Dynamic e-business environment **19**

Buying and selling online	18
E-business readiness	17
7.01 Individuals making online purchases, 2002/3	16
7.02 B to B E-commerce, 2002	19
7.03 B to C E-commerce, 2002	19
8.01 Laws relating to Information Technology, 2003	17

A secure information infrastructure **19**

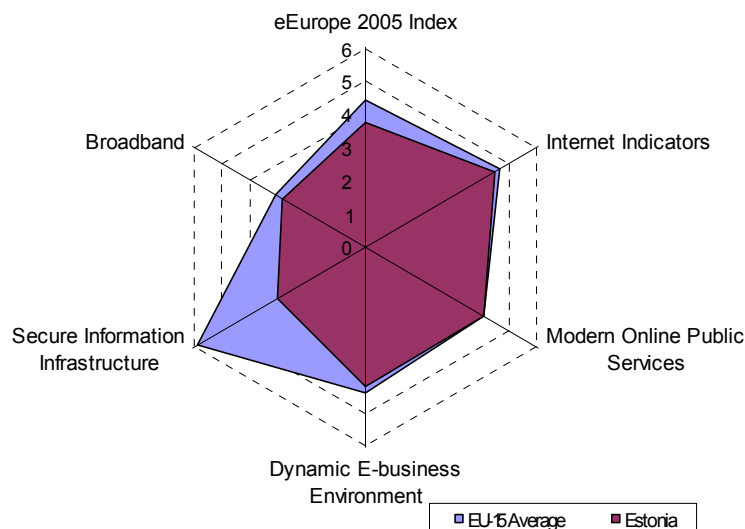
Internet users experience and usage	19
9.01 Online privacy and confidentiality concern, 2002/3	20
9.02 Online shopping security concerns, 2002/3	19

Broadband **19**

Broadband penetration	19
10.01 DSL broadband access, 2002/3	21
10.02 Broadband as % of total subscribers, 2002	23
10.03 Internet bandwidth per inhabitant, 2002	12

Estonia

Estonia: Alignment with EU-15



Estonia is ranked 14th on the E-Europe 2005 Index, and 25th out of 102 countries on the Networked Readiness Index, 2003. Estonia, the lead performer among the NMS with respect to the e-Europe 2005 index, is the only NMS in group II- representing the EU-15 average. Estonia is completely aligned with the e-Europe 2005 objectives with respect to its Information and Technology Industries. This can be seen from the plot of the degree of Estonia's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Estonia has a GDP per capita (€ 5143/ inhabitant). Given its level of GDP per capita, its performance on the e-Europe 2005 index and the Networked Readiness Index 2003 is outstanding. The GDP per capita of other countries in group three ranges from € 12480 (Portugal) to € 25630 (France). According to 2003 data from the International Telecommunications Union, 44,6% of the inhabitants use the Internet, as compared to an EU-15 average of 46%- another indication of complete alignment. Infrastructure is good and has been completely upgraded. Internet Access however, remains expensive at US \$ 3,9 per 20 hours of access (EU-15 average = € 1,15).

In addition, one would observe that while Internet Bandwidth per capita is relatively modest at 410 bits per inhabitant (rank 18, EU-15 average = 3761 bits per inhabitant), broadband usage in the form of DSL broadband access and the number of broadband subscribers is at par with the EU-15 levels.

Government focus in ICT is currently mainly directed towards IT education, e-Government and public services. Several programmes are in place, such as the The Tiger Leap Plus Programme for ICT in schools. This programme aims to improve the level of ICT in educational institutions, and has several goals such as: 1. Development of ICT competence 2. Development of virtual learning practices and 3. Development of infrastructure, notably access infrastructure in schools.

Estonia

Key Indicators

Population	1 361 000
Gross Domestic Product (€ bn)	7
GDP per capita (€)	5143

E-Europe 2005 Index

14

Networked Readiness Index, 2003 25

Internet Indicators 10

Citizens Access	11
Enterprises Access	5
Internet Access Costs	19
1.01 Internet access from home, 2002/3	14
1.02 Regular and occasional Internet usage, 2002/3	9
1.03 Intensity of Internet usage, 2002/3	4
1.04 E-mail usage, 2002/3	10
1.05 Internet Users per 100 inhabitants, 2003	8
1.06 ISDN subscribers per 100 inhabitants, 2003	20
1.07 Internet usage at home, 2002/3	14
1.08 Internet usage at work, 2002/3	5
1.09 Percentage of households online, 2003	4
1.10 Personal computers per 100 people, 2002	16
2.01 Employees with Internet Access, 2002/3	5
2.02 Business PC installed per 100 inhabitants, 2002	13
2.03 Internet Hosts per 10000 inhabitants, 2003	6
2.04 Teleworking usage, 2002/3	8
2.05 Teleworking Intensity, 2002/3	4
2.06 Competition in the ISP sector, 2003	1
2.07 ICT market value relative to GDP, 2002	1
3.01 Cost of 20 hours of Internet Use, 2003	19

Modern Online Public Services 12

E-Government	7
E-Learning	12
E-Health	10
4.01 Government online presence, 2003	11
4.02 Online income tax returns, 2002/3	3

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	5
4.04 Online requests for personal documents, 2002/3	21
4.05 Online book search in public libraries, 2002/3	10
4.06 Government online services, 2003	7
4.07 ICT prioritization by government, 2003	4
4.08 Government ICT promotion success, 2003	3
5.01 Use of online electronic learning materials, 2002/3	10
5.02 Use of offline electronic learning materials, 2002/3	7
6.01 Health related online searches, 2002/3	9
6.02 Internet use by the disabled, 2002/3	10

A Dynamic e-business environment 11

Buying and selling online	13
E-business readiness	3
7.01 Individuals making online purchases, 2002/3	10
7.02 B to B E-commerce, 2002	13
7.03 B to C E-commerce, 2002	13
8.01 Laws relating to Information Technology, 2003	3

A secure information infrastructure 21

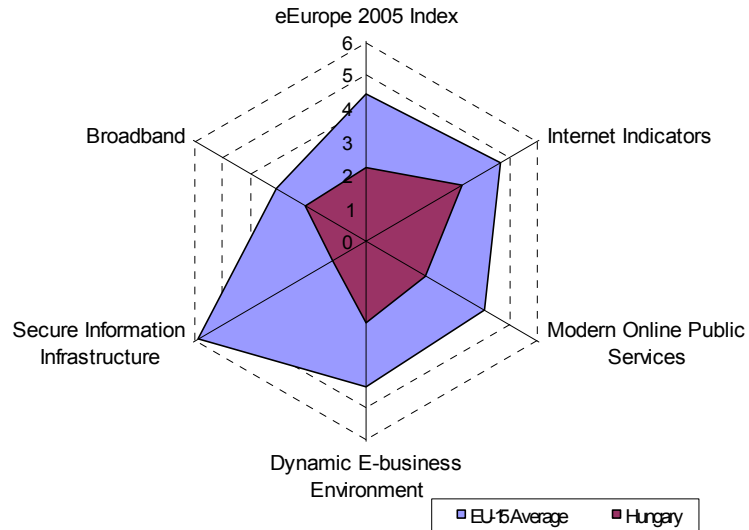
Internet users experience and usage	21
9.01 Online privacy and confidentiality concern, 2002/3	22
9.02 Online shopping security concerns, 2002/3	18

Broadband 10

Broadband penetration	10
10.01 DSL broadband access, 2002/3	8
10.02 Broadband as % of total subscribers, 2002	3
10.03 Internet bandwidth per inhabitant, 2002	18

Hungary

Hungary: Alignment with EU-15



Hungary is ranked 26th on the E-Europe 2005 Index, and 36th out of 102 countries on the Networked Readiness Index, 2003. Hungary finds itself in the middle of the Group IV countries- countries that still have some efforts to make in order to become aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Hungary's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Hungary has a GDP per capita of € 6880 per inhabitant. Internet Usage is moderate, and according to 2003 data from the International Telecommunications Union, 23,4% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. While Internet Access remains quite expensive at US \$ 2,3 per 20 hours of access (EU-15 average = US \$ 1,15/20 hours), it is relatively cheaper than that present in most other NMS.

In addition, one would observe that Internet Bandwidth per capita is relatively high compared to most NMS at 1048 bits per inhabitant (rank 16, EU-15 average = 3160 bits/inhabitant). Broadband users represent 25% of all Internet users, but all in all broadband usage has yet to take off, and the Hungary is ranked 18 with respect to usage of DSL broadband access.

The Hungarian government has put in place several programs in order to promote the development of Information and Communications Technologies, and of alignment to the EU-15 countries. Of note is the *Szechenyi Plan*-launched in December 2000, a medium-term economic development plan including as objectives the modernization of the ICT infrastructure and the promotion of ICT usage within the country. Other more recent plans such as the *National Development Plan, 2002 (NFT)* include as objectives the establishment of electronic public administration and e-government services.

Hungary

Key Indicators

Population	10 175 000
Gross Domestic Product (€ bn)	70
GDP per capita (€)	6880

E-Europe 2005 Index

26

Networked Readiness Index, 2003 36

Internet Indicators 21

Citizens Access 25

Enterprises Access 25

Internet Access Costs 15

1.01 Internet access from home, 2002/3 20

1.02 Regular and occasional Internet usage, 2002/3 24

1.03 Intensity of Internet usage, 2002/3 23

1.04 E-mail usage, 2002/3 23

1.05 Internet Users per 100 inhabitants, 2003 18

1.06 ISDN subscribers per 100 inhabitants, 2003 16

1.07 Internet usage at home, 2002/3 20

1.08 Internet usage at work, 2002/3 24

1.09 Percentage of households online, 2003 24

1.10 Personal computers per 100 people, 2002 23

2.01 Employees with Internet Access, 2002/3 24

2.02 Business PC installed per 100 inhabitants, 2002 20

2.03 Internet Hosts per 10000 inhabitants, 2003 15

2.04 Teleworking usage, 2002/3 23

2.05 Teleworking Intensity, 2002/3 19

2.06 Competition in the ISP sector, 2003 26

2.07 ICT market value relative to GDP, 2002 6

3.01 Cost of 20 hours of Internet Use, 2003 15

Modern Online Public Services 25

E-Government 24

E-Learning 22

E-Health 23

4.01 Government online presence, 2003 26

4.02 Online income tax returns, 2002/3 17

Modern Online Public Services (continued)

4.03 Online job search, 2002/3 21

4.04 Online requests for personal documents, 2002/3 8

4.05 Online book search in public libraries, 2002/3 20

4.06 Government online services, 2003 18

4.07 ICT prioritization by government, 2003 11

4.08 Government ICT promotion success, 2003 20

5.01 Use of online electronic learning materials, 2002/3 21

5.02 Use of offline electronic learning materials, 2002/3 19

6.01 Health related online searches, 2002/3 22

6.02 Internet use by the disabled, 2002/3 24

A Dynamic e-business environment 24

Buying and selling online 22

E-business readiness 23

7.01 Individuals making online purchases, 2002/3 23

7.02 B to B E-commerce, 2002 20

7.03 B to C E-commerce, 2002 20

8.01 Laws relating to Information Technology, 2003 23

A secure information infrastructure 25

Internet users experience and usage 25

9.01 Online privacy and confidentiality concern, 2002/3 25

9.02 Online shopping security concerns, 2002/3 23

Broadband 15

Broadband penetration 15

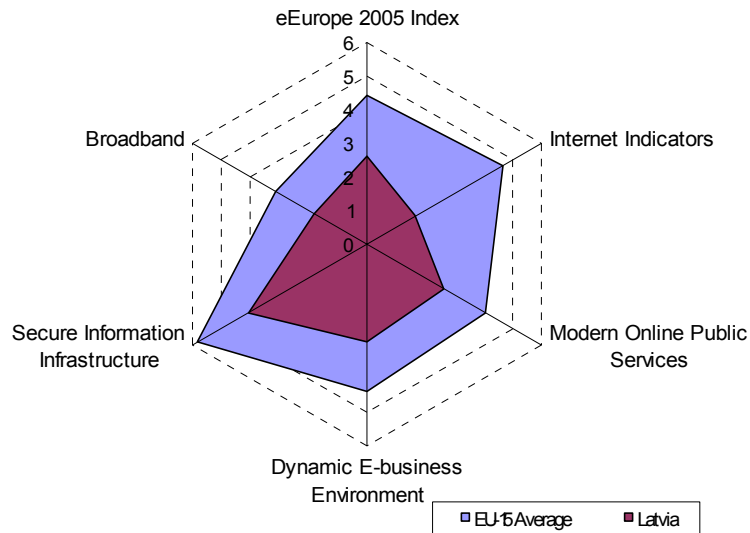
10.01 DSL broadband access, 2002/3 18

10.02 Broadband as % of total subscribers, 2002 6

10.03 Internet bandwidth per inhabitant, 2002 16

Latvia

Latvia: Alignment with EU-15



Latvia is ranked 23rd on the E-Europe 2005 Index, and 35th out of 102 countries on the Networked Readiness Index, 2003. Latvia finds itself in the middle of the Group III countries- - countries that are somewhat aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Latvia's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Latvia has a GDP per capita of € 3836/ inhabitant. Internet Usage is moderate , and according to 2003 data from the International Telecommunications Union, 14,7% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. While Latvia was among the most advanced countries in former Soviet Union in terms of Telecommunications development, Internet Access remains extremely expensive at US \$ 20 per 20 hours of access. In addition, one would observe that Internet Bandwidth per capita is very low at 182 bits per inhabitant (rank 21, EU-15 average = 3160 bits/inhabitant). Broadband users represent 26,5% of all Internet users, but all in all broadband usage has yet to take off, and the Latvia is ranked 21 with respect to usage of DSL broadband access.

ICT is among the fastest growing sectors in the country, and is among the top three national economic priorities- alongside timber and light industry. In parallel to the e-Europe initiative of December 2000, guidelines were set in a document: "Conceptual guidelines of socio-economic programme eLatvia". The program has three principal objectives: 1. To enable cheaper access to a faster Internet 2. To invest in and develop the skills of citizens and 3. To stimulate the use of the Internet.

Latvia

Key Indicators

Population	2 346 000
Gross Domestic Product (€ bn)	9
GDP per capita (€)	3836

E-Europe 2005 Index

23

Networked Readiness Index, 2003 35

Internet Indicators 27

Citizens Access	23
Enterprises Access	15
Internet Access Costs	28
1.01 Internet access from home, 2002/3	24
1.02 Regular and occasional Internet usage, 2002/3	18
1.03 Intensity of Internet usage, 2002/3	21
1.04 E-mail usage, 2002/3	18
1.05 Internet Users per 100 inhabitants, 2003	25
1.06 ISDN subscribers per 100 inhabitants, 2003	25
1.07 Internet usage at home, 2002/3	24
1.08 Internet usage at work, 2002/3	15
1.09 Percentage of households online, 2003	22
1.10 Personal computers per 100 people, 2002	20
2.01 Employees with Internet Access, 2002/3	15
2.02 Business PC installed per 100 inhabitants, 2002	18
2.03 Internet Hosts per 10000 inhabitants, 2003	24
2.04 Teleworking usage, 2002/3	16
2.05 Teleworking Intensity, 2002/3	15
2.06 Competition in the ISP sector, 2003	16
2.07 ICT market value relative to GDP, 2002	2
3.01 Cost of 20 hours of Internet Use, 2003	28

Modern Online Public Services 22

E-Government	26
E-Learning	14
E-Health	19
4.01 Government online presence, 2003	25
4.02 Online income tax returns, 2002/3	14

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	14
4.04 Online requests for personal documents, 2002/3	25
4.05 Online book search in public libraries, 2002/3	12
4.06 Government online services, 2003	25
4.07 ICT prioritization by government, 2003	12
4.08 Government ICT promotion success, 2003	10
5.01 Use of online electronic learning materials, 2002/3	16
5.02 Use of offline electronic learning materials, 2002/3	11
6.01 Health related online searches, 2002/3	20
6.02 Internet use by the disabled, 2002/3	17

A Dynamic e-business environment 17

Buying and selling online	17
E-business readiness	12
7.01 Individuals making online purchases, 2002/3	20
7.02 B to B E-commerce, 2002	17
7.03 B to C E-commerce, 2002	17
8.01 Laws relating to Information Technology, 2003	12

A secure information infrastructure 17

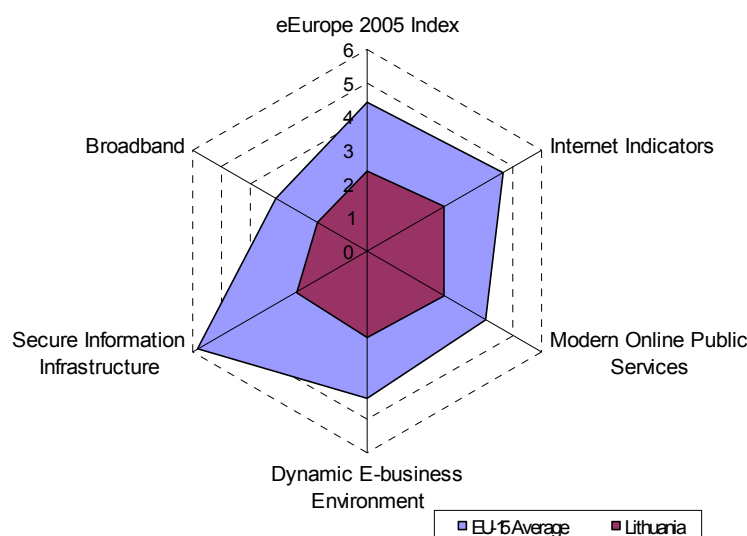
Internet users experience and usage	17
9.01 Online privacy and confidentiality concern, 2002/3	8
9.02 Online shopping security concerns, 2002/3	19

Broadband 16

Broadband penetration	16
10.01 DSL broadband access, 2002/3	21
10.02 Broadband as % of total subscribers, 2002	5
10.03 Internet bandwidth per inhabitant, 2002	23

Lithuania

Lithuania: Alignment with EU-15



Lithuania gained independence for the former U.S.S.R in 1991, and has been concentrating on integration into the European Union and the development of a market economy. The Long-term Economic Development strategy of Lithuania of 2001 established the goal of making Information and Communications Technology a dominant part of the economy by the year 2015.

Lithuania is ranked 25th on the E-Europe 2005 Index, and 42nd out of 102 countries on the Networked Readiness Index, 2003. Lithuania finds itself in the middle of the Group IV countries- countries that still have some efforts to make in order to become aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Lithuania's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Lithuania has a GDP per capita of € 4315/ inhabitant. Internet Usage is moderate , and according to 2003 data from the International Telecommunications Union, 22,4% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Access remains very expensive at US \$ 11,2 per 20 hours of access, as compared to the EU-15 average of € 1,15 per 20 hours.

In addition, one would observe that while Internet Bandwidth per capita is relatively very low at 94,7 bits per inhabitant (rank 23), broadband usage has yet to take off (rank 18) with respect to usage of DSL broadband access where about 1% of individuals access the Internet via Broadband.

Significant efforts are being made to increase computer literacy as witnessed by the increase in computer penetration in schools. According to Sibis, the penetration of computers in schools grew from one computer per 100 secondary students in 1996 to 2,5 in 2001. More efforts still need to be made in order to promote Online Public Services (rank 19) and e-Business (rank 19).

Lithuania

Key Indicators

Population	3 476 000
Gross Domestic Product (€ bn)	15
GDP per capita (€)	4315

E-Europe 2005 Index

25

Networked Readiness Index, 2003 42

Internet Indicators **25**

Citizens Access	21
Enterprises Access	18
Internet Access Costs	26
1.01 Internet access from home, 2002/3	21
1.02 Regular and occasional Internet usage, 2002/3	17
1.03 Intensity of Internet usage, 2002/3	21
1.04 E-mail usage, 2002/3	17
1.05 Internet Users per 100 inhabitants, 2003	19
1.06 ISDN subscribers per 100 inhabitants, 2003	23
1.07 Internet usage at home, 2002/3	21
1.08 Internet usage at work, 2002/3	17
1.09 Percentage of households online, 2003	13
1.10 Personal computers per 100 people, 2002	22
2.01 Employees with Internet Access, 2002/3	17
2.02 Business PC installed per 100 inhabitants, 2002	22
2.03 Internet Hosts per 10000 inhabitants, 2003	20
2.04 Teleworking usage, 2002/3	13
2.05 Teleworking Intensity, 2002/3	7
2.06 Competition in the ISP sector, 2003	20
2.07 ICT market value relative to GDP, 2002	8
3.01 Cost of 20 hours of Internet Use, 2003	26

Modern Online Public Services **21**

E-Government	22
E-Learning	16
E-Health	18
4.01 Government online presence, 2003	19
4.02 Online income tax returns, 2002/3	25

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	13
4.04 Online requests for personal documents, 2002/3	21
4.05 Online book search in public libraries, 2002/3	16
4.06 Government online services, 2003	26
4.07 ICT prioritization by government, 2003	14
4.08 Government ICT promotion success, 2003	15
5.01 Use of online electronic learning materials, 2002/3	10
5.02 Use of offline electronic learning materials, 2002/3	23
6.01 Health related online searches, 2002/3	17
6.02 Internet use by the disabled, 2002/3	18

A Dynamic e-business environment **20**

Buying and selling online	19
E-business readiness	20
7.01 Individuals making online purchases, 2002/3	23
7.02 B to B E-commerce, 2002	18
7.03 B to C E-commerce, 2002	18
8.01 Laws relating to Information Technology, 2003	20

A secure information infrastructure **23**

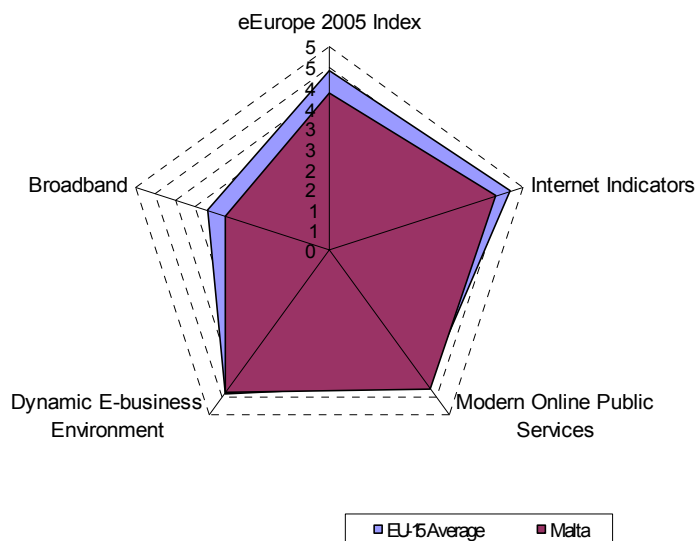
Internet users experience and usage	23
9.01 Online privacy and confidentiality concern, 2002/3	23
9.02 Online shopping security concerns, 2002/3	21

Broadband **17**

Broadband penetration	17
10.01 DSL broadband access, 2002/3	18
10.02 Broadband as % of total subscribers, 2002	10
10.03 Internet bandwidth per inhabitant, 2002	25

Malta

Malta: Alignment with EU-15



Malta is ranked 13th on the E-Europe 2005 Index, and 27th out of 102 countries on the Networked Readiness Index, 2003. Malta finds itself in the middle of the Group II countries- countries that are completely aligned to the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Malta's alignment plot with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Malta has a GDP per capita of € 10127/ inhabitant. Internet Usage is moderate, and according to 2003 data from the International Telecommunications Union, 20,9% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Access is affordable at US \$ 2,3 per 20 hours of access, though it is twice as high as the EU-15 average of US \$ 1,15. In addition, one would observe that Internet Bandwidth per capita is relatively low at 391 bits per inhabitant (rank 19, EU-15 average = 3160 bits/inhabitant). Broadband users represent 26,7% of all Internet users: Malta is ranked 22 with respect to the number of broadband subscribers as a percentage of total Internet subscribers.

The eEurope action plans and accession to the European Union have significantly influenced the direction of Information Policy adopted by the government of Malta. According to Claudio Grech, Minister Of Information Technology and Investments, Malta strives to be among the leaders in the eEurope process, and a "relavent dot in the dot com map". It is stiving to improve ICT access for individuals and promote ICT education and in particular among the youth, promote industry-growth, and government services online.

Malta

Key Indicators

Population	395 000
Gross Domestic Product (€ bn)	4
GDP per capita (€)	10 127

E-Europe 2005 Index

13

Networked Readiness Index, 2003 27

Internet Indicators 16

Citizens Access	17
Enterprises Access	11
Internet Access Costs	17
1.01 Internet access from home, 2002/3	-
1.02 Regular and occasional Internet usage, 2002/3	-
1.03 Intensity of Internet usage, 2002/3	-
1.04 E-mail usage, 2002/3	-
1.05 Internet Users per 1000 inhabitants, 2003	21
1.06 ISDN subscribers per 1000 inhabitants, 2003	-
1.07 Internet usage at home, 2002/3	-
1.08 Internet usage at work, 2002/3	-
1.09 Percentage of households online, 2003	-
1.10 Personal computers per 100 people, 2002	13
2.01 Employees with Internet Access, 2002/3	-
2.02 Business PC installed per 1000 inhabitants, 2002	-
2.03 Internet Hosts per 10000 inhabitants, 2003	13
2.04 Teleworking usage, 2002/3	-
2.05 Teleworking Intensity, 2002/3	-
2.06 Competition in the ISP sector, 2003	13
2.07 ICT market value relative to GDP, 2002	25
3.01 Cost of 20 hours of Internet Use, 2003	17

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E-Government	12
E-Learning	-
E-Health	-
4.01 Government online presence, 2003	20
4.02 Online income tax returns, 2002/3	-

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	-
4.04 Online requests for personal documents, 2002/3	-
4.05 Online book search in public libraries, 2002/3	-
4.06 Government online services, 2003	12
4.07 ICT prioritization by government, 2003	-
4.08 Government ICT promotion success, 2003	-
5.01 Use of online electronic learning materials, 2002/3	-
5.02 Use of offline electronic learning materials, 2002/3	-
6.01 Health related online searches, 2002/3	-
6.02 Internet use by the disabled, 2002/3	-

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Buying and selling online	-
E-business readiness	13
7.01 Individuals making online purchases, 2002/3	-
7.02 B to B E-commerce, 2002	-
7.03 B to C E-commerce, 2002	-
8.01 Laws relating to Information Technology, 2003	13

A secure information infrastructure 13

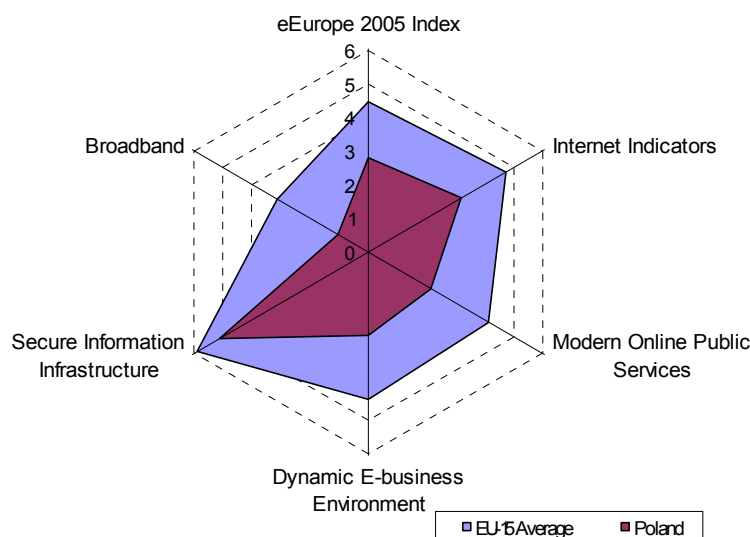
Internet users experience and usage	-
9.01 Online privacy and confidentiality concern, 2002/3	-
9.02 Online shopping security concerns, 2002/3	-

Broadband 11

Broadband penetration	11
10.01 DSL broadband access, 2002/3	-
10.02 Broadband as % of total subscribers, 2002	4
10.03 Internet bandwidth per inhabitant, 2002	19

Poland

Poland: Alignment with EU-15



Poland is ranked 20th on the E-Europe 2005 Index, and 47th out of 102 countries on the Networked Readiness Index, 2003. Poland finds itself in the middle of the Group III countries- - countries that are somewhat aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Poland's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Poland has a GDP per capita of € 5177 per inhabitant. Internet Usage still has to take off, and as per 2003 data from the International Telecommunications Union, 16,3% of the inhabitants use the Internet (rank = 24) as compared to an EU-15 average of 46%. Internet Access remains expensive at US \$ 4,1 per 20 hours of access, as compared to the EU-15 average of € 1,15 per 20 hours.

In addition, one would observe that while Internet Bandwidth per capita is relatively very low at 163,6 bits per inhabitant (rank 24), broadband usage has yet to take off.

The document "ePolska – Strategy of Information Society Development in Poland in 2001-2006" outlines the plan of action which determines the future of the information society in Poland. Some objectives are the creation of an electronic economy, creation of legal regulations comparable to those of the European Union, assurance of online security, support for the Polish ICT industry, and facilitation of e-Procurement by the government.

Programs such as Pionier (Polish Optical Internet—Advanced Applications, Services and Technologies for the Information Society) aim for the construction of a Polish Optical Network. The 1999 "Internet at School: Project of the Polish President" initiative aims to increase penetration of computers in schools.

While ambitious goals and targets have been set by the Polish government, their achievement remains constrained by available finance and also by need for infrastructure improvements.

Poland

Key Indicators

Population	38 633 000
Gross Domestic Product (€ bn)	200
GDP per capita (€)	5177

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Citizens Access	24
Enterprises Access	22
Internet Access Costs	21
1.01 Internet access from home, 2002/3	19
1.02 Regular and occasional Internet usage, 2002/3	23
1.03 Intensity of Internet usage, 2002/3	18
1.04 E-mail usage, 2002/3	23
1.05 Internet Users per 100 inhabitants, 2003	24
1.06 ISDN subscribers per 100 inhabitants, 2003	22
1.07 Internet usage at home, 2002/3	19
1.08 Internet usage at work, 2002/3	22
1.09 Percentage of households online, 2003	21
1.10 Personal computers per 100 people, 2002	24
2.01 Employees with Internet Access, 2002/3	22
2.02 Business PC installed per 100 inhabitants, 2002	19
2.03 Internet Hosts per 10000 inhabitants, 2003	22
2.04 Teleworking usage, 2002/3	15
2.05 Teleworking Intensity, 2002/3	16
2.06 Competition in the ISP sector, 2003	24
2.07 ICT market value relative to GDP, 2002	9
3.01 Cost of 20 hours of Internet Use, 2003	21

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E-Government	25
E-Learning	23
E-Health	21
4.01 Government online presence, 2003	12
4.02 Online income tax returns, 2002/3	18

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	23
4.04 Online requests for personal documents, 2002/3	19
4.05 Online book search in public libraries, 2002/3	22
4.06 Government online services, 2003	26
4.07 ICT prioritization by government, 2003	24
4.08 Government ICT promotion success, 2003	24
5.01 Use of online electronic learning materials, 2002/3	25
5.02 Use of offline electronic learning materials, 2002/3	14
6.01 Health related online searches, 2002/3	22
6.02 Internet use by the disabled, 2002/3	20

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Buying and selling online	21
E-business readiness	20
7.01 Individuals making online purchases, 2002/3	20
7.02 B to B E-commerce, 2002	21
7.03 B to C E-commerce, 2002	21
8.01 Laws relating to Information Technology, 2003	20

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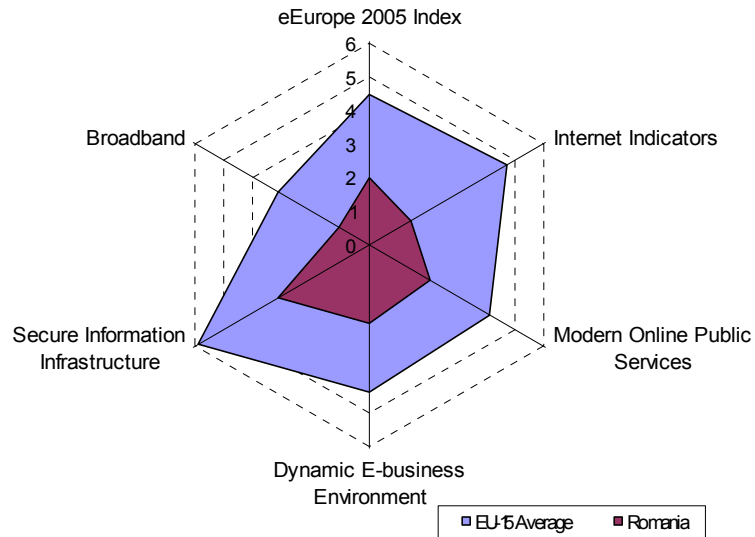
Internet users experience and usage	11
9.01 Online privacy and confidentiality concern, 2002/3	1
9.02 Online shopping security concerns, 2002/3	17

Broadband 26

Broadband penetration	26
10.01 DSL broadband access, 2002/3	21
10.02 Broadband as % of total subscribers, 2002	-
10.03 Internet bandwidth per inhabitant, 2002	24

Romania

Romania: Alignment with EU-15



Romania has historically shown leadership amongst the East European countries in the ICT domain, and was a significant exporter of both hardware and software in Eastern Europe during the 1990s. Nevertheless, Romania is ranked 27th on the E-Europe 2005 Index, and 61st out of 102 countries on the Networked Readiness Index, 2003. Romania finds itself in the middle of the Group IV countries- countries that still have some efforts to make in order to become aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Romania's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Romania has a GDP per capita (€ 2144/ inhabitant). Internet Usage is low, and according to 2003 data from the International Telecommunications Union, 9,4% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Access is extremely expensive at US \$ 17,1 per 20 hours of access as compared to the EU-15 average of US \$ 1,15.

In addition, one would observe that while Internet Bandwidth per capita is 89,8 bits per inhabitant (rank 26), broadband usage has yet to take off, and the Romania is ranked 21 with respect to usage of DSL broadband access.

Several programs are in place in order to develop the e-Society in Romania in areas of e-Government, e-Health, ICT skill, and PC penetration and Internet access in schools.

Till 2003, RomTel was the only company providing terrestrial communications infrastructure. The liberalization of the telecommunications infrastructure in 2003 is expected to give a great boost to the telecommunications sector. Increased competition shall perhaps decrease connection costs and hence stimulate an increase in the number of individuals connecting to and benefiting from the Internet.

Romania

Key Indicators

Population	22 386 000
Gross Domestic Product (€ bn)	48
GDP per capita (€)	2144

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Enterprises Access	27
Internet Access Costs	27
1.01 Internet access from home, 2002/3	25
1.02 Regular and occasional Internet usage, 2002/3	25
1.03 Intensity of Internet usage, 2002/3	25
1.04 E-mail usage, 2002/3	25
1.05 Internet Users per 100 inhabitants, 2003	27
1.06 ISDN subscribers per 100 inhabitants, 2003	24
1.07 Internet usage at home, 2002/3	25
1.08 Internet usage at work, 2002/3	25
1.09 Percentage of households online, 2003	25
1.10 Personal computers per 100 people, 2002	26
2.01 Employees with Internet Access, 2002/3	25
2.02 Business PC installed per 100 inhabitants, 2002	26
2.03 Internet Hosts per 10000 inhabitants, 2003	27
2.04 Teleworking usage, 2002/3	25
2.05 Teleworking Intensity, 2002/3	23
2.06 Competition in the ISP sector, 2003	25
2.07 ICT market value relative to GDP, 2002	13
3.01 Cost of 20 hours of Internet Use, 2003	27

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E-Government	19
E-Learning	24
E-Health	25
4.01 Government online presence, 2003	22
4.02 Online income tax returns, 2002/3	19

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	23
4.04 Online requests for personal documents, 2002/3	1
4.05 Online book search in public libraries, 2002/3	24
4.06 Government online services, 2003	14
4.07 ICT prioritization by government, 2003	22
4.08 Government ICT promotion success, 2003	14
5.01 Use of online electronic learning materials, 2002/3	18
5.02 Use of offline electronic learning materials, 2002/3	23
6.01 Health related online searches, 2002/3	24
6.02 Internet use by the disabled, 2002/3	25

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Buying and selling online	25
E-business readiness	24
7.01 Individuals making online purchases, 2002/3	25
7.02 B to B E-commerce, 2002	24
7.03 B to C E-commerce, 2002	24
8.01 Laws relating to Information Technology, 2003	24

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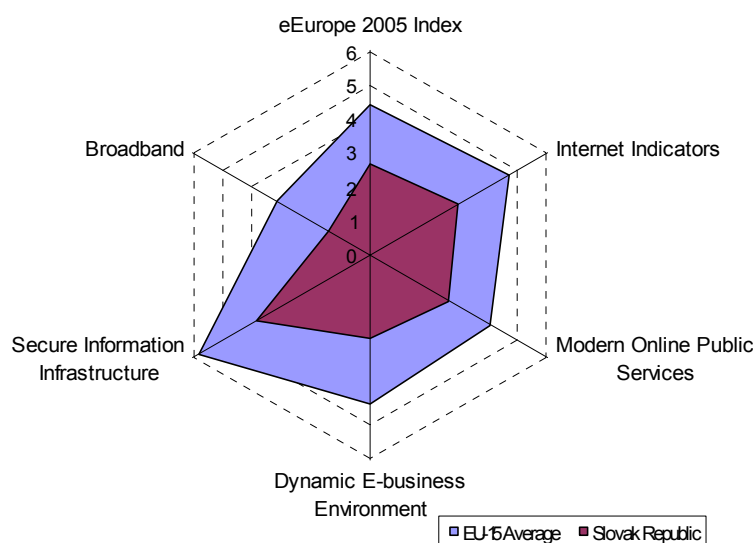
Internet users experience and usage	20
9.01 Online privacy and confidentiality concern, 2002/3	11
9.02 Online shopping security concerns, 2002/3	25

Broadband 27

Broadband penetration	27
10.01 DSL broadband access, 2002/3	21
10.02 Broadband as % of total subscribers, 2002	-
10.03 Internet bandwidth per inhabitant, 2002	26

Slovak Republic

Slovak Republic: Alignment with EU-15



The Slovak Republic has been handicapped in the past by a legacy of disproportionately less investment as compared to the Czech Republic when the two were part of the former Czechoslovakia. It is ranked 22nd on the E-Europe 2005 Index, and 41st out of 102 countries on the Networked Readiness Index, 2003. The Slovak Republic finds itself in the middle of the Group III countries- countries that are somewhat aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Slovak Republic's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

The Slovak Republic has a GDP per capita of € 4647 per inhabitant. Internet Usage is moderate, and according to 2003 data from the International Telecommunications Union, 17,3% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Access remains quite expensive at US \$ 6,3 (rank 23) per 20 hours of access.

In addition, one would observe that while Internet Bandwidth per capita is relatively high at 1516 bits per inhabitant (rank 13), broadband usage has yet to take off, and the Slovak Republic is ranked 21 with respect to usage of DSL broadband access. ADSL rollout has been hindered by limited access to local loops by interested companies. The telecommunications infrastructure is being liberalized from 2003, although Slovak Telecom, the fixed line operator still holds 100% market share of voice telephony.

The Infovek program, conceived in 1998 has served as the backbone of e-Education in the Slovak Republic. The objectives of this program are to prepare Slovak citizens for EU-intergration, and to link all schools to the Internet. As of 2002 according to Sibis, due to the lack of funding, only 855 schools out of around 2500 have been linked to the Internet. On the e-Government front, the Govnet program has been instrumental in linking the different parts of the government together through e-Mail, SMS and Internet access.

Slovak Republic

Key Indicators

Population	5 380 000
Gross Domestic Product (€ bn)	25
GDP per capita (€)	4647

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Internet Indicators **23**

Citizens Access	22
Enterprises Access	24
Internet Access Costs	23
1.01 Internet access from home, 2002/3	23
1.02 Regular and occasional Internet usage, 2002/3	20
1.03 Intensity of Internet usage, 2002/3	23
1.04 E-mail usage, 2002/3	18
1.05 Internet Users per 100 inhabitants, 2003	22
1.06 ISDN subscribers per 100 inhabitants, 2003	21
1.07 Internet usage at home, 2002/3	23
1.08 Internet usage at work, 2002/3	20
1.09 Percentage of households online, 2003	16
1.10 Personal computers per 100 people, 2002	18
2.01 Employees with Internet Access, 2002/3	20
2.02 Business PC installed per 100 inhabitants, 2002	23
2.03 Internet Hosts per 10000 inhabitants, 2003	19
2.04 Teleworking usage, 2002/3	22
2.05 Teleworking Intensity, 2002/3	20
2.06 Competition in the ISP sector, 2003	22
2.07 ICT market value relative to GDP, 2002	5
3.01 Cost of 20 hours of Internet Use, 2003	23

Modern Online Public Services **20**

E-Government	20
E-Learning	19
E-Health	17
4.01 Government online presence, 2003	14
4.02 Online income tax returns, 2002/3	22

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	14
4.04 Online requests for personal documents, 2002/3	15
4.05 Online book search in public libraries, 2002/3	24
4.06 Government online services, 2003	18
4.07 ICT prioritization by government, 2003	23
4.08 Government ICT promotion success, 2003	23
5.01 Use of online electronic learning materials, 2002/3	18
5.02 Use of offline electronic learning materials, 2002/3	14
6.01 Health related online searches, 2002/3	14
6.02 Internet use by the disabled, 2002/3	19

A Dynamic e-business environment **23**

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E-business readiness	20
7.01 Individuals making online purchases, 2002/3	18
7.02 B to B E-commerce, 2002	23
7.03 B to C E-commerce, 2002	23
8.01 Laws relating to Information Technology, 2003	20

A secure information infrastructure **18**

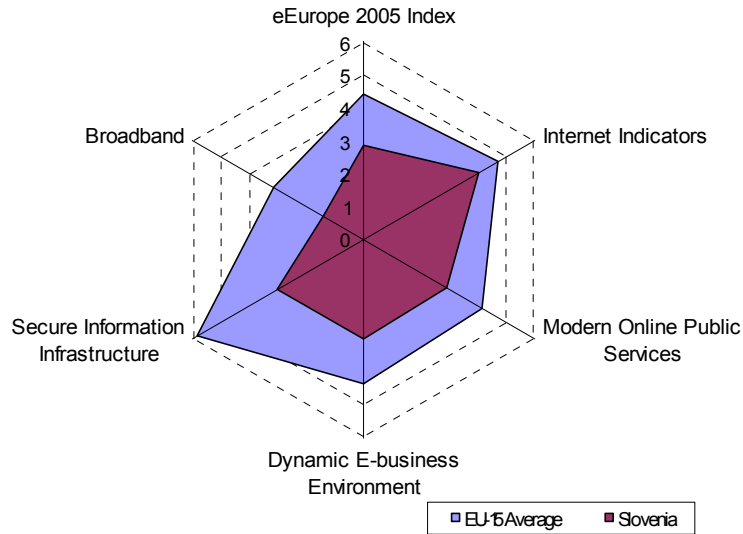
Internet users experience and usage	18
9.01 Online privacy and confidentiality concern, 2002/3	17
9.02 Online shopping security concerns, 2002/3	16

Broadband **23**

Broadband penetration	23
10.01 DSL broadband access, 2002/3	21
10.02 Broadband as % of total subscribers, 2002	-
10.03 Internet bandwidth per inhabitant, 2002	13

Slovenia

Slovenia: Alignment with EU-15



Slovenia is ranked 18th on the E-Europe 2005 Index, and 30th out of 102 countries on the Networked Readiness Index, 2003. Slovenia finds itself leading the Group III countries- countries that are partially aligned with the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Slovenia's alignment with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Slovenia has a GDP per capita of € 11535/ inhabitant, the highest amongst the NMS. Internet Usage is relatively high, and according to 2003 data from the International Telecommunications Union, 43,2% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. While infrastructure is good and demand for telecommunications services satisfied, Internet Access, while amongst the cheapest among the NMS, remains relatively expensive at US \$ 3,1 per 20 hours of access compared to the EU-15 average of US \$ 1,15.

In addition, one would observe that while Internet Bandwidth per capita is modest at 540 bits per inhabitant (rank 17), less than 2% of individuals use broadband and broadband usage has yet to take off.

Slovenia's national telephone networks are among the best of the former Yugoslavian states, and are comparable with those in the European Union, with analog networks being replaced by digital switches and fibre optic cables by the end of 2000. One of the top priorities of the Slovenian government is higher education, and the government is hence committed to investing in youth for the digital age. In spite of all schools having Internet access and Informatics being a required course in the curriculum, the country still lacks ICT professionals.

Slovenia

Key Indicators

Population	1 994 000
Gross Domestic Product (€ bn)	23
GDP per capita (€)	11535

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Networked Readiness Index, 2003	30

Internet Indicators 14

Citizens Access	13
Enterprises Access	16
Internet Access Costs	18
1.01 Internet access from home, 2002/3	13
1.02 Regular and occasional Internet usage, 2002/3	12
1.03 Intensity of Internet usage, 2002/3	12
1.04 E-mail usage, 2002/3	12
1.05 Internet Users per 100 inhabitants, 2003	9
1.06 ISDN subscribers per 100 inhabitants, 2003	10
1.07 Internet usage at home, 2002/3	13
1.08 Internet usage at work, 2002/3	12
1.09 Percentage of households online, 2003	15
1.10 Personal computers per 100 people, 2002	11
2.01 Employees with Internet Access, 2002/3	12
2.02 Business PC installed per 100 inhabitants, 2002	14
2.03 Internet Hosts per 10000 inhabitants, 2003	17
2.04 Teleworking usage, 2002/3	14
2.05 Teleworking Intensity, 2002/3	12
2.06 Competition in the ISP sector, 2003	21
2.07 ICT market value relative to GDP, 2002	11
3.01 Cost of 20 hours of Internet Use, 2003	18

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E-Learning	18
E-Health	16
4.01 Government online presence, 2003	15
4.02 Online income tax returns, 2002/3	23

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4.03 Online job search, 2002/3	10
4.04 Online requests for personal documents, 2002/3	2
4.05 Online book search in public libraries, 2002/3	1
4.06 Government online services, 2003	22
4.07 ICT prioritization by government, 2003	16
4.08 Government ICT promotion success, 2003	16
5.01 Use of online electronic learning materials, 2002/3	18
5.02 Use of offline electronic learning materials, 2002/3	14
6.01 Health related online searches, 2002/3	14
6.02 Internet use by the disabled, 2002/3	15

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Buying and selling online	20
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7.01 Individuals making online purchases, 2002/3	14
7.02 B to B E-commerce, 2002	22
7.03 B to C E-commerce, 2002	22
8.01 Laws relating to Information Technology, 2003	10

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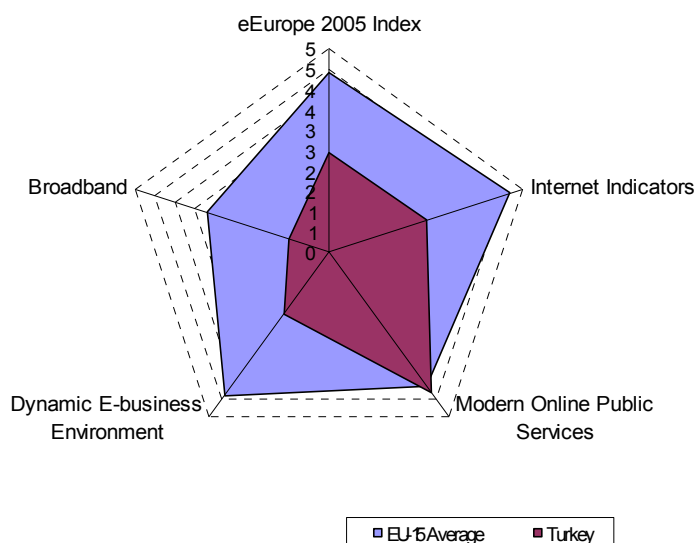
Internet users experience and usage	22
9.01 Online privacy and confidentiality concern, 2002/3	18
9.02 Online shopping security concerns, 2002/3	22

Broadband 24

Broadband penetration	24
10.01 DSL broadband access, 2002/3	15
10.02 Broadband as % of total subscribers, 2002	19
10.03 Internet bandwidth per inhabitant, 2002	17

Turkey

Turkey: Alignment with EU-15



Turkey is ranked 25th on the E-Europe 2005 Index, and 56th out of 102 countries on the Networked Readiness Index, 2003. Turkey finds itself in the middle of the Group IV countries- - countries that need some development in order to be aligned to the EU-15 countries with respect to their Information and Communications Technology Industries. This can be seen from the plot of the degree of Turkey's alignment plot with respect to the weighted average EU-15 value across the 5 key indicators of the E-Europe 2005 framework.

Turkey has a GDP per capita of € 2854/ inhabitant. Internet Usage is low, and according to 2003 data from the International Telecommunications Union, 7,3% of the inhabitants use the Internet, as compared to an EU-15 average of 46%. Internet Access remains expensive at US \$ 9,5 per 20 hours of access. In addition, one would observe that Internet Bandwidth per capita is very low at 17 bits per inhabitant (rank 27, EU-15 average = 3160 bits/inhabitant). Broadband users represent 0,5% of all Internet users, and all in all broadband usage has yet to take off: Turkey is ranked 22 with respect to usage of DSL broadband access.

In view of its candidate status with respect to accession to the European Union, the Turkish government has been investing aggressively in order to improve its ICT competitiveness. Steps have been taken to open up the market and promote competition in the telecommunications sector, notably by starting the process to privatise Turk Telecom (TT), the incumbent telecommunications operator.

Turkey

Key Indicators

Population	67 272 000
Gross Domestic Product (€ bn)	192
GDP per capita (€)	2 854

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Internet Indicators 26

Citizens Access	28
Enterprises Access	14
Internet Access Costs	25
1.01 Internet access from home, 2002/3	-
1.02 Regular and occasional Internet usage, 2002/3	-
1.03 Intensity of Internet usage, 2002/3	-
1.04 E-mail usage, 2002/3	-
1.05 Internet Users per 1000 inhabitants, 2003	28
1.06 ISDN subscribers per 1000 inhabitants, 2003	26
1.07 Internet usage at home, 2002/3	-
1.08 Internet usage at work, 2002/3	-
1.09 Percentage of households online, 2003	26
1.10 Personal computers per 100 people, 2002	28
2.01 Employees with Internet Access, 2002/3	-
2.02 Business PC installed per 1000 inhabitants, 2002	24
2.03 Internet Hosts per 10000 inhabitants, 2003	28
2.04 Teleworking usage, 2002/3	-
2.05 Teleworking Intensity, 2002/3	-
2.06 Competition in the ISP sector, 2003	19
2.07 ICT market value relative to GDP, 2002	-
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E-Health	-
4.01 Government online presence, 2003	21
4.02 Online income tax returns, 2002/3	-

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4.03 Online job search, 2002/3	-
4.04 Online requests for personal documents, 2002/3	-
4.05 Online book search in public libraries, 2002/3	-
4.06 Government online services, 2003	9
4.07 ICT prioritization by government, 2003	-
4.08 Government ICT promotion success, 2003	-
5.01 Use of online electronic learning materials, 2002/3	-
5.02 Use of offline electronic learning materials, 2002/3	-
6.01 Health related online searches, 2002/3	-
6.02 Internet use by the disabled, 2002/3	-

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7.02 B to B E-commerce, 2002	25
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Internet users experience and usage	-
9.01 Online privacy and confidentiality concern, 2002/3	-
9.02 Online shopping security concerns, 2002/3	-

Broadband 28

Broadband penetration	28
10.01 DSL broadband access, 2002/3	-
10.02 Broadband as % of total subscribers, 2002	22
10.03 Internet bandwidth per inhabitant, 2002	27

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TABLES

Austria

Key Indicators

Population	8 139 000
Gross Domestic Product (€ bn)	217
GDP per capita (€)	26662

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Citizens Access		8
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Internet Access Costs		12
1.01	Internet access from home, 2002/3	7
1.02	Regular and occasional Internet usage, 2002/3	6
1.03	Intensity of Internet usage, 2002/3	6
1.04	E-mail usage, 2002/3	6
1.05	Internet Users per 100 inhabitants, 2003	6
1.06	ISDN subscribers per 100 inhabitants, 2003	6
1.07	Internet usage at home, 2002/3	8
1.08	Internet usage at work, 2002/3	7
1.09	Percentage of households online, 2003	8
1.10	Personal computers per 100 people, 2002	9
2.01	Employees with Internet Access, 2002/3	7
2.02	Business PC installed per 100 inhabitants, 2002	8
2.03	Internet Hosts per 10000 inhabitants, 2003	5
2.04	Teleworking usage, 2002/3	7
2.05	Teleworking Intensity, 2002/3	11
2.06	Competition in the ISP sector, 2003	8
2.07	ICT market value relative to GDP, 2002	18
3.01	Cost of 20 hours of Internet Use, 2003	12

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E-Learning		3
E-Health		9
4.01	Government online presence, 2003	4
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4.03	Online job search, 2002/3	1
4.04	Online requests for personal documents, 2002/3	6
4.05	Online book search in public libraries, 2002/3	7
4.06	Government online services, 2003	3
4.07	ICT prioritization by government, 2003	15
4.08	Government ICT promotion success, 2003	9
5.01	Use of online electronic learning materials, 2002/3	6
5.02	Use of offline electronic learning materials, 2002/3	2
6.01	Health related online searches, 2002/3	9
6.02	Internet use by the disabled, 2002/3	8

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7.02	B to B E-commerce, 2002	6
7.03	B to C E-commerce, 2002	6
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9.02	Online shopping security concerns, 2002/3	12

Broadband		5
Broadband penetration		5
10.01	DSL broadband access, 2002/3	5
10.02	Broadband as % of total subscribers, 2002	2
10.03	Internet bandwidth per inhabitant, 2002	6

Belgium

Key Indicators

Population	10 310 000
Gross Domestic Product (€ bn)	261
GDP per capita (€)	25315

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Citizens Access	12
Enterprises Access	9
Internet Access Costs	11
1.01 Internet access from home, 2002/3	10
1.02 Regular and occasional Internet usage, 2002/3	11
1.03 Intensity of Internet usage, 2002/3	8
1.04 E-mail usage, 2002/3	11
1.05 Internet Users per 100 inhabitants, 2003	10
1.06 ISDN subscribers per 100 inhabitants, 2003	9
1.07 Internet usage at home, 2002/3	10
1.08 Internet usage at work, 2002/3	10
1.09 Percentage of households online, 2003	10
1.10 Personal computers per 100 people, 2002	14
2.01 Employees with Internet Access, 2002/3	10
2.02 Business PC installed per 100 inhabitants, 2002	11
2.03 Internet Hosts per 10000 inhabitants, 2003	8
2.04 Teleworking usage, 2002/3	11
2.05 Teleworking Intensity, 2002/3	8
2.06 Competition in the ISP sector, 2003	12
2.07 ICT market value relative to GDP, 2002	19
3.01 Cost of 20 hours of Internet Use, 2003	11

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E-Health	11
4.01 Government online presence, 2003	18
4.02 Online income tax returns, 2002/3	16

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4.03 Online job search, 2002/3	10
4.04 Online requests for personal documents, 2002/3	12
4.05 Online book search in public libraries, 2002/3	17
4.06 Government online services, 2003	11
4.07 ICT prioritization by government, 2003	17
4.08 Government ICT promotion success, 2003	19
5.01 Use of online electronic learning materials, 2002/3	13
5.02 Use of offline electronic learning materials, 2002/3	7
6.01 Health related online searches, 2002/3	9
6.02 Internet use by the disabled, 2002/3	11

A Dynamic e-business environment 14

Buying and selling online	11
E-business readiness	18
7.01 Individuals making online purchases, 2002/3	12
7.02 B to B E-commerce, 2002	8
7.03 B to C E-commerce, 2002	8
8.01 Laws relating to Information Technology, 2003	18

A secure information infrastructure 14

Internet users experience and usage	14
9.01 Online privacy and confidentiality concern, 2002/3	13
9.02 Online shopping security concerns, 2002/3	14

Broadband 1

Broadband penetration	1
10.01 DSL broadband access, 2002/3	1
10.02 Broadband as % of total subscribers, 2002	1
10.03 Internet bandwidth per inhabitant, 2002	4

Denmark

Key Indicators

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Population	#####
Gross Domestic Product (€ bn)	183
GDP per capita (€)	34091

Networked Readiness Index, 2003

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Internet Indicators **2**

Citizens Access	1
Enterprises Access	4
Internet Access Costs	1
1.01 Internet access from home, 2002/3	2
1.02 Regular and occasional Internet usage, 2002/3	1
1.03 Intensity of Internet usage, 2002/3	1
1.04 E-mail usage, 2002/3	1
1.05 Internet Users per 100 inhabitants, 2003	1
1.06 ISDN subscribers per 100 inhabitants, 2003	4
1.07 Internet usage at home, 2002/3	2
1.08 Internet usage at work, 2002/3	1
1.09 Percentage of households online, 2003	2
1.10 Personal computers per 100 people, 2002	3
2.01 Employees with Internet Access, 2002/3	1
2.02 Business PC installed per 100 inhabitants, 2002	3
2.03 Internet Hosts per 10000 inhabitants, 2003	3
2.04 Teleworking usage, 2002/3	3
2.05 Teleworking Intensity, 2002/3	5
2.06 Competition in the ISP sector, 2003	4
2.07 ICT market value relative to GDP, 2002	14
3.01 Cost of 20 hours of Internet Use, 2003	1

Modern Online Public Services **1**

E-Government	1
E-Learning	6
E-Health	1
4.01 Government online presence, 2003	9
4.02 Online income tax returns, 2002/3	1

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	20
4.04 Online requests for personal documents, 2002/3	4
4.05 Online book search in public libraries, 2002/3	2
4.06 Government online services, 2003	1
4.07 ICT prioritization by government, 2003	2
4.08 Government ICT promotion success, 2003	2
5.01 Use of online electronic learning materials, 2002/3	5
5.02 Use of offline electronic learning materials, 2002/3	7
6.01 Health related online searches, 2002/3	1
6.02 Internet use by the disabled, 2002/3	1

A Dynamic e-business environment **1**

Buying and selling online	1
E-business readiness	2
7.01 Individuals making online purchases, 2002/3	1
7.02 B to B E-commerce, 2002	1
7.03 B to C E-commerce, 2002	1
8.01 Laws relating to Information Technology, 2003	2

A secure information infrastructure **8**

Internet users experience and usage	8
9.01 Online privacy and confidentiality concern, 2002/3	8
9.02 Online shopping security concerns, 2002/3	8

Broadband **3**

Broadband penetration	3
10.01 DSL broadband access, 2002/3	1
10.02 Broadband as % of total subscribers, 2002	12
10.03 Internet bandwidth per inhabitant, 2002	1

Finland

Key Indicators

Population	5 195 000
Gross Domestic Product (€ bn)	140
GDP per capita (€)	26949

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Networked Readiness Index, 2003 3

Internet Indicators 4

Citizens Access	4
Enterprises Access	2
Internet Access Costs	8
1.01 Internet access from home, 2002/3	4
1.02 Regular and occasional Internet usage, 2002/3	3
1.03 Intensity of Internet usage, 2002/3	10
1.04 E-mail usage, 2002/3	4
1.05 Internet Users per 100 inhabitants, 2003	5
1.06 ISDN subscribers per 100 inhabitants, 2003	7
1.07 Internet usage at home, 2002/3	4
1.08 Internet usage at work, 2002/3	2
1.09 Percentage of households online, 2003	5
1.10 Personal computers per 100 people, 2002	5
2.01 Employees with Internet Access, 2002/3	2
2.02 Business PC installed per 100 inhabitants, 2002	5
2.03 Internet Hosts per 10000 inhabitants, 2003	1
2.04 Teleworking usage, 2002/3	2
2.05 Teleworking Intensity, 2002/3	3
2.06 Competition in the ISP sector, 2003	1
2.07 ICT market value relative to GDP, 2002	14
3.01 Cost of 20 hours of Internet Use, 2003	8

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E-Government	3
E-Learning	4
E-Health	8
4.01 Government online presence, 2003	7
4.02 Online income tax returns, 2002/3	15

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	3
4.04 Online requests for personal documents, 2002/3	13
4.05 Online book search in public libraries, 2002/3	4
4.06 Government online services, 2003	9
4.07 ICT prioritization by government, 2003	1
4.08 Government ICT promotion success, 2003	1
5.01 Use of online electronic learning materials, 2002/3	1
5.02 Use of offline electronic learning materials, 2002/3	14
6.01 Health related online searches, 2002/3	8
6.02 Internet use by the disabled, 2002/3	8

A Dynamic e-business environment 4

Buying and selling online	4
E-business readiness	1
7.01 Individuals making online purchases, 2002/3	5
7.02 B to B E-commerce, 2002	5
7.03 B to C E-commerce, 2002	5
8.01 Laws relating to Information Technology, 2003	1

A secure information infrastructure 9

Internet users experience and usage	9
9.01 Online privacy and confidentiality concern, 2002/3	10
9.02 Online shopping security concerns, 2002/3	7

Broadband 7

Broadband penetration	7
10.01 DSL broadband access, 2002/3	9
10.02 Broadband as % of total subscribers, 2002	8
10.03 Internet bandwidth per inhabitant, 2002	10

France

Key Indicators

Population	59 344 000
Gross Domestic Product (€ bn)	1521
GDP per capita (€)	25630

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Internet Indicators 12

Citizens Access	14
Enterprises Access	13
Internet Access Costs	3
1.01 Internet access from home, 2002/3	12
1.02 Regular and occasional Internet usage, 2002/3	14
1.03 Intensity of Internet usage, 2002/3	16
1.04 E-mail usage, 2002/3	12
1.05 Internet Users per 100 inhabitants, 2003	13
1.06 ISDN subscribers per 100 inhabitants, 2003	5
1.07 Internet usage at home, 2002/3	12
1.08 Internet usage at work, 2002/3	15
1.09 Percentage of households online, 2003	11
1.10 Personal computers per 100 people, 2002	10
2.01 Employees with Internet Access, 2002/3	15
2.02 Business PC installed per 100 inhabitants, 2002	10
2.03 Internet Hosts per 10000 inhabitants, 2003	16
2.04 Teleworking usage, 2002/3	17
2.05 Teleworking Intensity, 2002/3	8
2.06 Competition in the ISP sector, 2003	10
2.07 ICT market value relative to GDP, 2002	21
3.01 Cost of 20 hours of Internet Use, 2003	3

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E-Government	6
E-Learning	21
E-Health	14
4.01 Government online presence, 2003	2
4.02 Online income tax returns, 2002/3	6

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4.03 Online job search, 2002/3	7
4.04 Online requests for personal documents, 2002/3	15
4.05 Online book search in public libraries, 2002/3	12
4.06 Government online services, 2003	6
4.07 ICT prioritization by government, 2003	7
4.08 Government ICT promotion success, 2003	7
5.01 Use of online electronic learning materials, 2002/3	21
5.02 Use of offline electronic learning materials, 2002/3	19
6.01 Health related online searches, 2002/3	17
6.02 Internet use by the disabled, 2002/3	12

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Buying and selling online	10
E-business readiness	6
7.01 Individuals making online purchases, 2002/3	11
7.02 B to B E-commerce, 2002	10
7.03 B to C E-commerce, 2002	10
8.01 Laws relating to Information Technology, 2003	6

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Internet users experience and usage	12
9.01 Online privacy and confidentiality concern, 2002/3	15
9.02 Online shopping security concerns, 2002/3	9

Broadband 9

Broadband penetration	9
10.01 DSL broadband access, 2002/3	11
10.02 Broadband as % of total subscribers, 2002	11
10.03 Internet bandwidth per inhabitant, 2002	8

Germany

Key Indicators

Population	82 440 000
Gross Domestic Product (€ bn)	2108
GDP per capita (€)	25570

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Networked Readiness Index, 2003 11

Internet Indicators **6**

Citizens Access	5
Enterprises Access	8
Internet Access Costs	1
1.01 Internet access from home, 2002/3	6
1.02 Regular and occasional Internet usage, 2002/3	7
1.03 Intensity of Internet usage, 2002/3	7
1.04 E-mail usage, 2002/3	9
1.05 Internet Users per 100 inhabitants, 2003	2
1.06 ISDN subscribers per 100 inhabitants, 2003	3
1.07 Internet usage at home, 2002/3	6
1.08 Internet usage at work, 2002/3	9
1.09 Percentage of households online, 2003	6
1.10 Personal computers per 100 people, 2002	6
2.01 Employees with Internet Access, 2002/3	9
2.02 Business PC installed per 100 inhabitants, 2002	9
2.03 Internet Hosts per 10000 inhabitants, 2003	9
2.04 Teleworking usage, 2002/3	6
2.05 Teleworking Intensity, 2002/3	12
2.06 Competition in the ISP sector, 2003	5
2.07 ICT market value relative to GDP, 2002	17
3.01 Cost of 20 hours of Internet Use, 2003	1

Modern Online Public Services **4**

E-Government	2
E-Learning	2
E-Health	7
4.01 Government online presence, 2003	1
4.02 Online income tax returns, 2002/3	12

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	1
4.04 Online requests for personal documents, 2002/3	13
4.05 Online book search in public libraries, 2002/3	12
4.06 Government online services, 2003	2
4.07 ICT prioritization by government, 2003	10
4.08 Government ICT promotion success, 2003	8
5.01 Use of online electronic learning materials, 2002/3	3
5.02 Use of offline electronic learning materials, 2002/3	5
6.01 Health related online searches, 2002/3	6
6.02 Internet use by the disabled, 2002/3	5

A Dynamic e-business environment **5**

Buying and selling online	5
E-business readiness	7
7.01 Individuals making online purchases, 2002/3	5
7.02 B to B E-commerce, 2002	3
7.03 B to C E-commerce, 2002	3
8.01 Laws relating to Information Technology, 2003	7

A secure information infrastructure **4**

Internet users experience and usage	4
9.01 Online privacy and confidentiality concern, 2002/3	4
9.02 Online shopping security concerns, 2002/3	4

Broadband **8**

Broadband penetration	8
10.01 DSL broadband access, 2002/3	7
10.02 Broadband as % of total subscribers, 2002	14
10.03 Internet bandwidth per inhabitant, 2002	11

Greece

Key Indicators

Population	10 598 000
Gross Domestic Product (€ bn)	141
GDP per capita (€)	13304

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Internet Indicators 20

Citizens Access	20
Enterprises Access	20
Internet Access Costs	19
1.01 Internet access from home, 2002/3	18
1.02 Regular and occasional Internet usage, 2002/3	20
1.03 Intensity of Internet usage, 2002/3	18
1.04 E-mail usage, 2002/3	22
1.05 Internet Users per 100 inhabitants, 2003	23
1.06 ISDN subscribers per 100 inhabitants, 2003	12
1.07 Internet usage at home, 2002/3	18
1.08 Internet usage at work, 2002/3	18
1.09 Percentage of households online, 2003	17
1.10 Personal computers per 100 people, 2002	25
2.01 Employees with Internet Access, 2002/3	18
2.02 Business PC installed per 100 inhabitants, 2002	21
2.03 Internet Hosts per 10000 inhabitants, 2003	18
2.04 Teleworking usage, 2002/3	9
2.05 Teleworking Intensity, 2002/3	10
2.06 Competition in the ISP sector, 2003	15
2.07 ICT market value relative to GDP, 2002	22
3.01 Cost of 20 hours of Internet Use, 2003	19

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E-Learning	20
E-Health	22
4.01 Government online presence, 2003	27
4.02 Online income tax returns, 2002/3	4

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	18
4.04 Online requests for personal documents, 2002/3	9
4.05 Online book search in public libraries, 2002/3	7
4.06 Government online services, 2003	21
4.07 ICT prioritization by government, 2003	21
4.08 Government ICT promotion success, 2003	21
5.01 Use of online electronic learning materials, 2002/3	23
5.02 Use of offline electronic learning materials, 2002/3	11
6.01 Health related online searches, 2002/3	21
6.02 Internet use by the disabled, 2002/3	22

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Buying and selling online	16
E-business readiness	25
7.01 Individuals making online purchases, 2002/3	18
7.02 B to B E-commerce, 2002	15
7.03 B to C E-commerce, 2002	15
8.01 Laws relating to Information Technology, 2003	25

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Internet users experience and usage	5
9.01 Online privacy and confidentiality concern, 2002/3	6
9.02 Online shopping security concerns, 2002/3	6

Broadband 22

Broadband penetration	22
10.01 DSL broadband access, 2002/3	15
10.02 Broadband as % of total subscribers, 2002	-
10.03 Internet bandwidth per inhabitant, 2002	22

Ireland

Key Indicators

Population	3 883 000
Gross Domestic Product (€ bn)	128
GDP per capita (€)	32964

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Internet Indicators 11

Citizens Access	9
Enterprises Access	12
Internet Access Costs	10
1.01 Internet access from home, 2002/3	9
1.02 Regular and occasional Internet usage, 2002/3	10
1.03 Intensity of Internet usage, 2002/3	12
1.04 E-mail usage, 2002/3	8
1.05 Internet Users per 100 inhabitants, 2003	14
1.06 ISDN subscribers per 100 inhabitants, 2003	17
1.07 Internet usage at home, 2002/3	9
1.08 Internet usage at work, 2002/3	7
1.09 Percentage of households online, 2003	12
1.10 Personal computers per 100 people, 2002	7
2.01 Employees with Internet Access, 2002/3	7
2.02 Business PC installed per 100 inhabitants, 2002	6
2.03 Internet Hosts per 10000 inhabitants, 2003	11
2.04 Teleworking usage, 2002/3	10
2.05 Teleworking Intensity, 2002/3	20
2.06 Competition in the ISP sector, 2003	27
2.07 ICT market value relative to GDP, 2002	26
3.01 Cost of 20 hours of Internet Use, 2003	10

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E-Government	10
E-Learning	10
E-Health	5
4.01 Government online presence, 2003	6
4.02 Online income tax returns, 2002/3	21

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	4
4.04 Online requests for personal documents, 2002/3	19
4.05 Online book search in public libraries, 2002/3	17
4.06 Government online services, 2003	8
4.07 ICT prioritization by government, 2003	8
4.08 Government ICT promotion success, 2003	5
5.01 Use of online electronic learning materials, 2002/3	7
5.02 Use of offline electronic learning materials, 2002/3	7
6.01 Health related online searches, 2002/3	2
6.02 Internet use by the disabled, 2002/3	6

A Dynamic e-business environment 9

Buying and selling online	8
E-business readiness	9
7.01 Individuals making online purchases, 2002/3	7
7.02 B to B E-commerce, 2002	11
7.03 B to C E-commerce, 2002	11
8.01 Laws relating to Information Technology, 2003	9

A secure information infrastructure 2

Internet users experience and usage	2
9.01 Online privacy and confidentiality concern, 2002/3	2
9.02 Online shopping security concerns, 2002/3	4

Broadband 14

Broadband penetration	14
10.01 DSL broadband access, 2002/3	15
10.02 Broadband as % of total subscribers, 2002	21
10.03 Internet bandwidth per inhabitant, 2002	7

Italy

Key Indicators

Population	58 018 000
Gross Domestic Product (€ bn)	1258
GDP per capita (€)	21683

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Internet Indicators 13

Citizens Access	15
Enterprises Access	19
Internet Access Costs	5
1.01 Internet access from home, 2002/3	11
1.02 Regular and occasional Internet usage, 2002/3	12
1.03 Intensity of Internet usage, 2002/3	12
1.04 E-mail usage, 2002/3	14
1.05 Internet Users per 100 inhabitants, 2003	11
1.06 ISDN subscribers per 100 inhabitants, 2003	8
1.07 Internet usage at home, 2002/3	11
1.08 Internet usage at work, 2002/3	13
1.09 Percentage of households online, 2003	14
1.10 Personal computers per 100 people, 2002	15
2.01 Employees with Internet Access, 2002/3	13
2.02 Business PC installed per 100 inhabitants, 2002	12
2.03 Internet Hosts per 10000 inhabitants, 2003	23
2.04 Teleworking usage, 2002/3	12
2.05 Teleworking Intensity, 2002/3	18
2.06 Competition in the ISP sector, 2003	8
2.07 ICT market value relative to GDP, 2002	23
3.01 Cost of 20 hours of Internet Use, 2003	5

Modern Online Public Services 13

E-Government	13
E-Learning	8
E-Health	12
4.01 Government online presence, 2003	8
4.02 Online income tax returns, 2002/3	10

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	16
4.04 Online requests for personal documents, 2002/3	3
4.05 Online book search in public libraries, 2002/3	17
4.06 Government online services, 2003	12
4.07 ICT prioritization by government, 2003	20
4.08 Government ICT promotion success, 2003	18
5.01 Use of online electronic learning materials, 2002/3	10
5.02 Use of offline electronic learning materials, 2002/3	2
6.01 Health related online searches, 2002/3	12
6.02 Internet use by the disabled, 2002/3	13

A Dynamic e-business environment 13

Buying and selling online	12
E-business readiness	16
7.01 Individuals making online purchases, 2002/3	12
7.02 B to B E-commerce, 2002	12
7.03 B to C E-commerce, 2002	12
8.01 Laws relating to Information Technology, 2003	16

A secure information infrastructure 3

Internet users experience and usage	3
9.01 Online privacy and confidentiality concern, 2002/3	6
9.02 Online shopping security concerns, 2002/3	1

Broadband 18

Broadband penetration	18
10.01 DSL broadband access, 2002/3	12
10.02 Broadband as % of total subscribers, 2002	19
10.03 Internet bandwidth per inhabitant, 2002	14

Luxembourg

Key Indicators

Population	444 000
Gross Domestic Product (€ bn)	22
GDP per capita (€)	49550

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Networked Readiness Index, 2003 14

Internet Indicators 7

Citizens Access	7
Enterprises Access	10
Internet Access Costs	4
1.01 Internet access from home, 2002/3	7
1.02 Regular and occasional Internet usage, 2002/3	8
1.03 Intensity of Internet usage, 2002/3	9
1.04 E-mail usage, 2002/3	7
1.05 Internet Users per 100 inhabitants, 2003	17
1.06 ISDN subscribers per 100 inhabitants, 2003	2
1.07 Internet usage at home, 2002/3	7
1.08 Internet usage at work, 2002/3	11
1.09 Percentage of households online, 2003	9
1.10 Personal computers per 100 people, 2002	2
2.01 Employees with Internet Access, 2002/3	11
2.02 Business PC installed per 100 inhabitants, 2002	2
2.03 Internet Hosts per 10000 inhabitants, 2003	10
2.04 Teleworking usage, 2002/3	18
2.05 Teleworking Intensity, 2002/3	17
2.06 Competition in the ISP sector, 2003	11
2.07 ICT market value relative to GDP, 2002	19
3.01 Cost of 20 hours of Internet Use, 2003	4

Modern Online Public Services 10

E-Government	21
E-Learning	5
E-Health	6
4.01 Government online presence, 2003	24
4.02 Online income tax returns, 2002/3	7

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	16
4.04 Online requests for personal documents, 2002/3	6
4.05 Online book search in public libraries, 2002/3	22
4.06 Government online services, 2003	22
4.07 ICT prioritization by government, 2003	5
4.08 Government ICT promotion success, 2003	6
5.01 Use of online electronic learning materials, 2002/3	7
5.02 Use of offline electronic learning materials, 2002/3	2
6.01 Health related online searches, 2002/3	5
6.02 Internet use by the disabled, 2002/3	7

A Dynamic e-business environment 10

Buying and selling online	9
E-business readiness	8
7.01 Individuals making online purchases, 2002/3	9
7.02 B to B E-commerce, 2002	9
7.03 B to C E-commerce, 2002	9
8.01 Laws relating to Information Technology, 2003	8

A secure information infrastructure 6

Internet users experience and usage	6
9.01 Online privacy and confidentiality concern, 2002/3	13
9.02 Online shopping security concerns, 2002/3	3

Broadband 12

Broadband penetration	12
10.01 DSL broadband access, 2002/3	12
10.02 Broadband as % of total subscribers, 2002	18
10.03 Internet bandwidth per inhabitant, 2002	9

Netherlands

Key Indicators

Population	16 105 000
Gross Domestic Product (€ bn)	444
GDP per capita (€)	27569

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Networked Readiness Index, 2003 13

Internet Indicators 1

Citizens Access	3
Enterprises Access	1
Internet Access Costs	8
1.01 Internet access from home, 2002/3	1
1.02 Regular and occasional Internet usage, 2002/3	3
1.03 Intensity of Internet usage, 2002/3	5
1.04 E-mail usage, 2002/3	2
1.05 Internet Users per 100 inhabitants, 2003	3
1.06 ISDN subscribers per 100 inhabitants, 2003	11
1.07 Internet usage at home, 2002/3	1
1.08 Internet usage at work, 2002/3	6
1.09 Percentage of households online, 2003	1
1.10 Personal computers per 100 people, 2002	4
2.01 Employees with Internet Access, 2002/3	6
2.02 Business PC installed per 100 inhabitants, 2002	4
2.03 Internet Hosts per 10000 inhabitants, 2003	2
2.04 Teleworking usage, 2002/3	1
2.05 Teleworking Intensity, 2002/3	1
2.06 Competition in the ISP sector, 2003	7
2.07 ICT market value relative to GDP, 2002	11
3.01 Cost of 20 hours of Internet Use, 2003	8

Modern Online Public Services 2

E-Government	9
E-Learning	1
E-Health	2
4.01 Government online presence, 2003	5
4.02 Online income tax returns, 2002/3	2

Modern Online Public Services (continued)

4.03 Online job search, 2002/3	9
4.04 Online requests for personal documents, 2002/3	17
4.05 Online book search in public libraries, 2002/3	6
4.06 Government online services, 2003	14
4.07 ICT prioritization by government, 2003	19
4.08 Government ICT promotion success, 2003	16
5.01 Use of online electronic learning materials, 2002/3	7
5.02 Use of offline electronic learning materials, 2002/3	1
6.01 Health related online searches, 2002/3	3
6.02 Internet use by the disabled, 2002/3	2

A Dynamic e-business environment 6

Buying and selling online	6
E-business readiness	11
7.01 Individuals making online purchases, 2002/3	4
7.02 B to B E-commerce, 2002	7
7.03 B to C E-commerce, 2002	7
8.01 Laws relating to Information Technology, 2003	11

A secure information infrastructure 16

Internet users experience and usage	16
9.01 Online privacy and confidentiality concern, 2002/3	18
9.02 Online shopping security concerns, 2002/3	15

Broadband 4

Broadband penetration	4
10.01 DSL broadband access, 2002/3	3
10.02 Broadband as % of total subscribers, 2002	7
10.03 Internet bandwidth per inhabitant, 2002	3

Spain

Key Indicators

Population	40 409 000
Gross Domestic Product (€ bn)	694
GDP per capita (€)	17174

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Internet Indicators 17

Citizens Access	16
Enterprises Access	26
Internet Access Costs	12
1.01 Internet access from home, 2002/3	15
1.02 Regular and occasional Internet usage, 2002/3	15
1.03 Intensity of Internet usage, 2002/3	10
1.04 E-mail usage, 2002/3	15
1.05 Internet Users per 100 inhabitants, 2003	15
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1.09 Percentage of households online, 2003	20
1.10 Personal computers per 100 people, 2002	17
2.01 Employees with Internet Access, 2002/3	18
2.02 Business PC installed per 100 inhabitants, 2002	17
2.03 Internet Hosts per 10000 inhabitants, 2003	21
2.04 Teleworking usage, 2002/3	20
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3.01 Cost of 20 hours of Internet Use, 2003	12

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4.02 Online income tax returns, 2002/3	9

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4.04 Online requests for personal documents, 2002/3	9
4.05 Online book search in public libraries, 2002/3	5
4.06 Government online services, 2003	16
4.07 ICT prioritization by government, 2003	9
4.08 Government ICT promotion success, 2003	11
5.01 Use of online electronic learning materials, 2002/3	13
5.02 Use of offline electronic learning materials, 2002/3	5
6.01 Health related online searches, 2002/3	14
6.02 Internet use by the disabled, 2002/3	15

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Buying and selling online	14
E-business readiness	15
7.01 Individuals making online purchases, 2002/3	16
7.02 B to B E-commerce, 2002	14
7.03 B to C E-commerce, 2002	14
8.01 Laws relating to Information Technology, 2003	15

A secure information infrastructure 7

Internet users experience and usage	7
9.01 Online privacy and confidentiality concern, 2002/3	5
9.02 Online shopping security concerns, 2002/3	9

Broadband 13

Broadband penetration	13
10.01 DSL broadband access, 2002/3	9
10.02 Broadband as % of total subscribers, 2002	15
10.03 Internet bandwidth per inhabitant, 2002	15

Sweden

Key Indicators

Population	8 909 000
Gross Domestic Product (€ bn)	255
GDP per capita (€)	28623

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Networked Readiness Index, 2003 4

Internet Indicators 3

Citizens Access	2
Enterprises Access	3
Internet Access Costs	6
1.01 Internet access from home, 2002/3	3
1.02 Regular and occasional Internet usage, 2002/3	2
1.03 Intensity of Internet usage, 2002/3	3
1.04 E-mail usage, 2002/3	2
1.05 Internet Users per 100 inhabitants, 2003	4
1.06 ISDN subscribers per 100 inhabitants, 2003	13
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1.08 Internet usage at work, 2002/3	3
1.09 Percentage of households online, 2003	3
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5.02 Use of offline electronic learning materials, 2002/3	19
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10.01 DSL broadband access, 2002/3	3
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United Kingdom

Key Indicators

Population	60 114 000
Gross Domestic Product (€ bn)	1660
GDP per capita (€)	27614

E-Europe 2005 Index

4

Networked Readiness Index, 2003 15

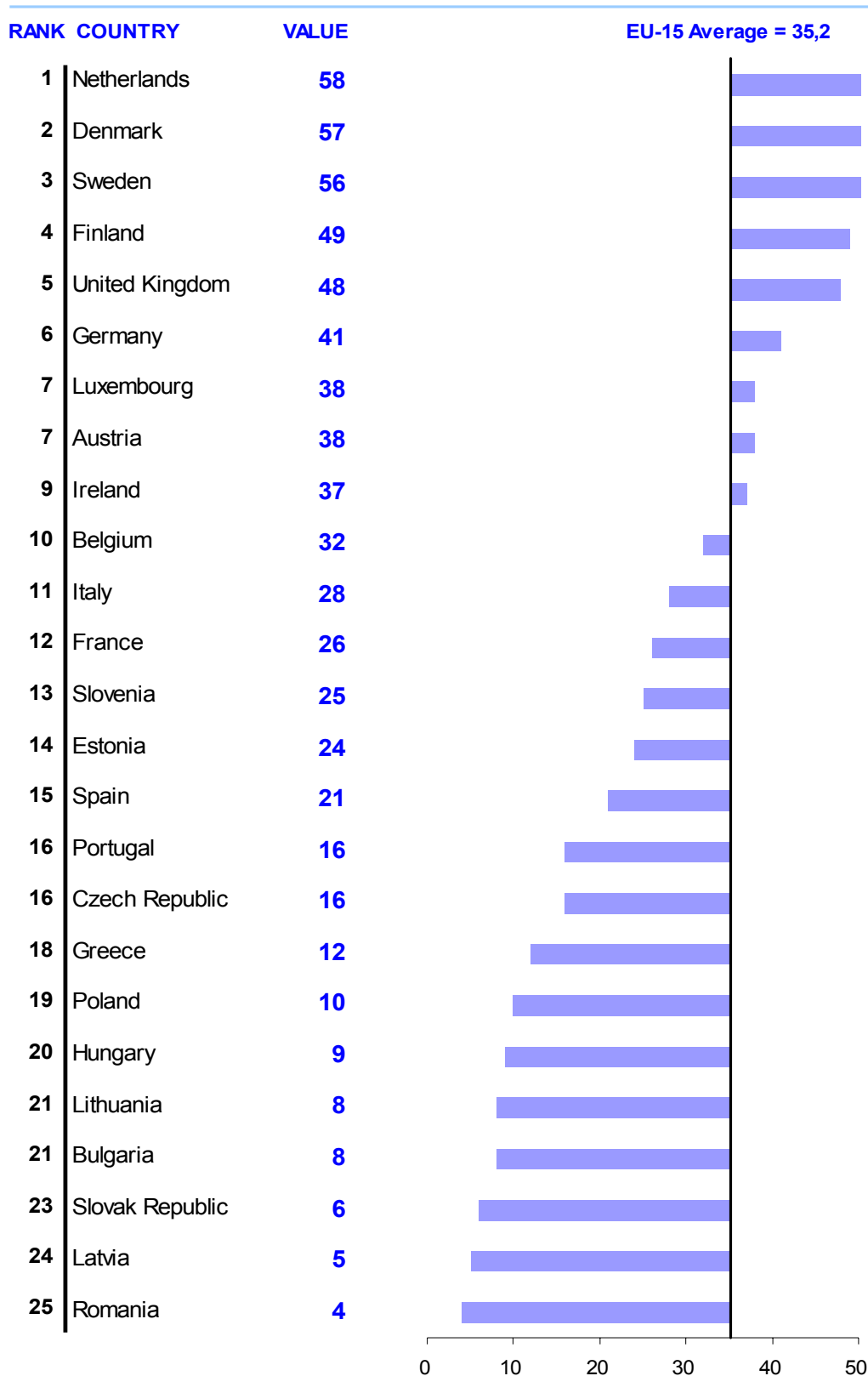
Internet Indicators		5	Modern Online Public Services (continued)		
Citizens Access		6	4.03	Online job search, 2002/3	6
Enterprises Access		6	4.04	Online requests for personal documents, 2002/3	5
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1.04	E-mail usage, 2002/3	4	5.01	Use of online electronic learning materials, 2002/3	3
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1.09	Percentage of households online, 2003	7			3
1.10	Personal computers per 100 people, 2002	8	Buying and selling online		3
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2.03	Internet Hosts per 10000 inhabitants, 2003	7	7.02	B to B E-commerce, 2002	4
2.04	Teleworking usage, 2002/3	5	7.03	B to C E-commerce, 2002	2
2.05	Teleworking Intensity, 2002/3	6	8.01	Laws relating to Information Technology, 2003	4
2.06	Competition in the ISP sector, 2003	3	A secure information infrastructure		
2.07	ICT market value relative to GDP, 2002	10	Internet users experience and usage		1
3.01	Cost of 20 hours of Internet Use, 2003	6	9.01	Online privacy and confidentiality concern, 2002/3	3
Modern Online Public Services		3	9.02	Online shopping security concerns, 2002/3	2
E-Government		5	Broadband		
E-Learning		7	Broadband penetration		6
E-Health		3	10.01	DSL broadband access, 2002/3	6
4.01	Government online presence, 2003	3	10.02	Broadband as % of total subscribers, 2002	13
4.02	Online income tax returns, 2002/3	11	10.03	Internet bandwidth per inhabitant, 2002	5

eEurope 2005

Data Tables

1.01 Home Internet Access, 2002/3

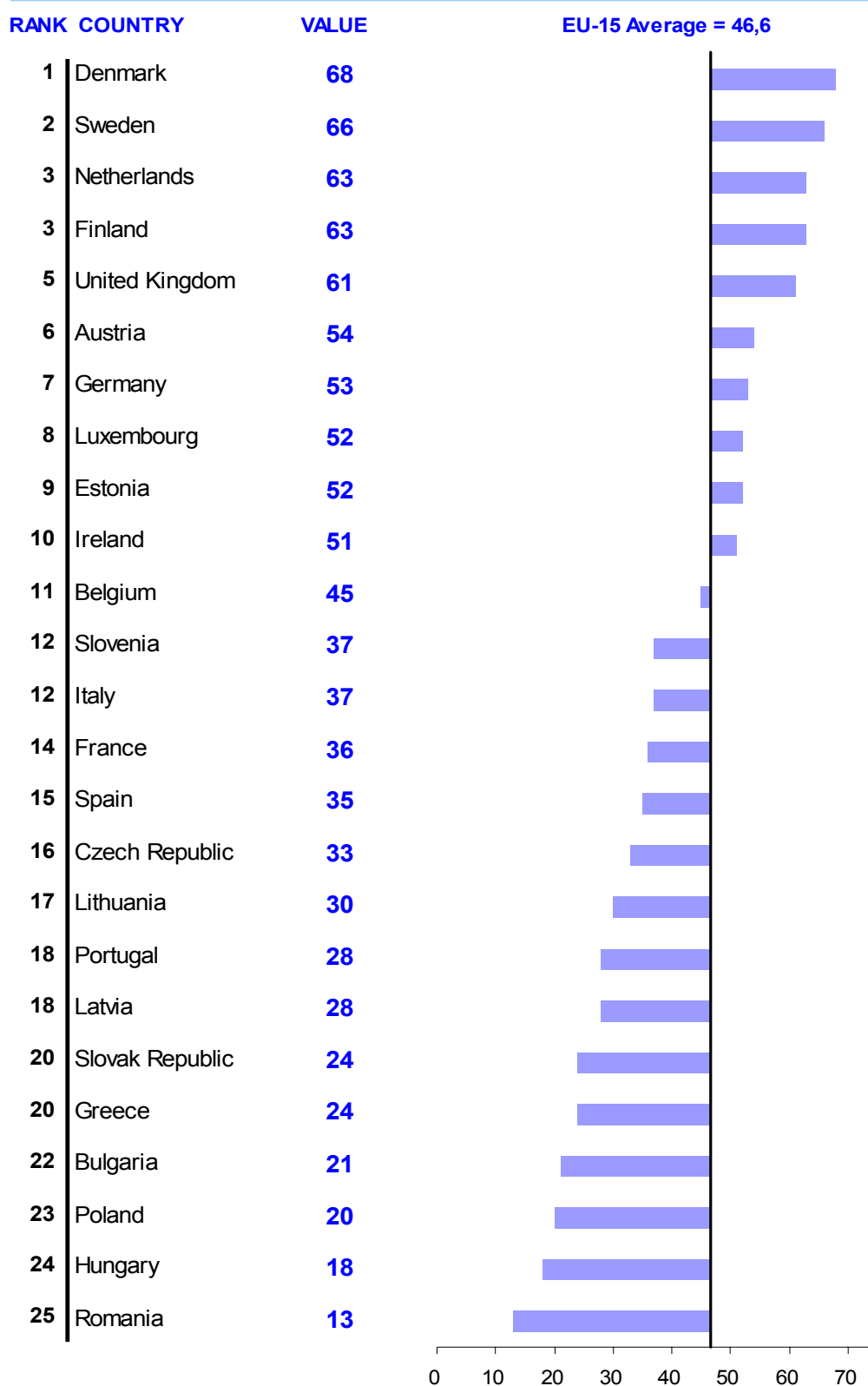
Percentage of individuals having access to the Internet at home



Source: Sibis 2002/3

1.02 Internet Usage, 2002/3

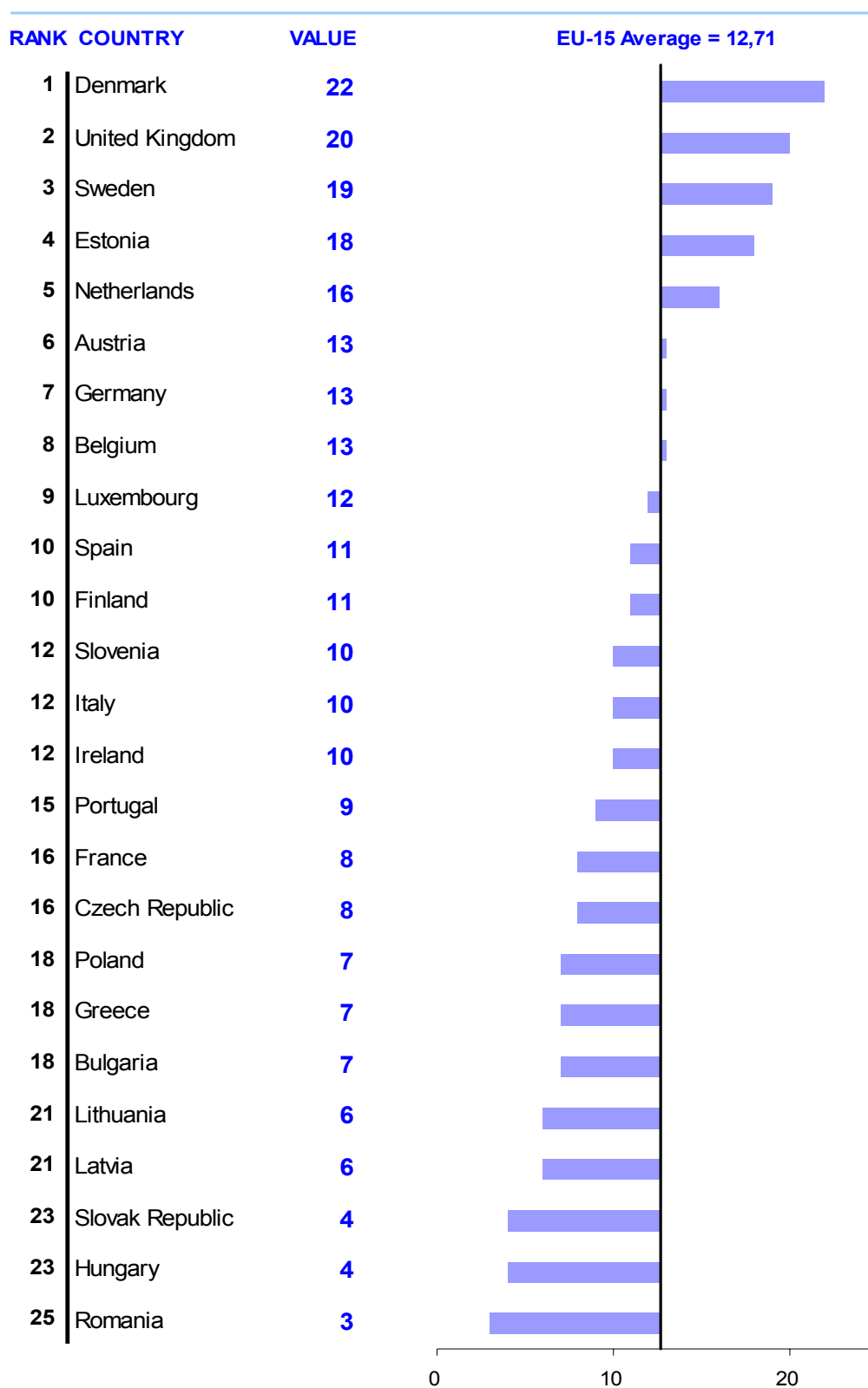
Regular and occasional Internet usage by Individuals



Source: Sibis 2002/3

1.03 Internet Usage Intensity

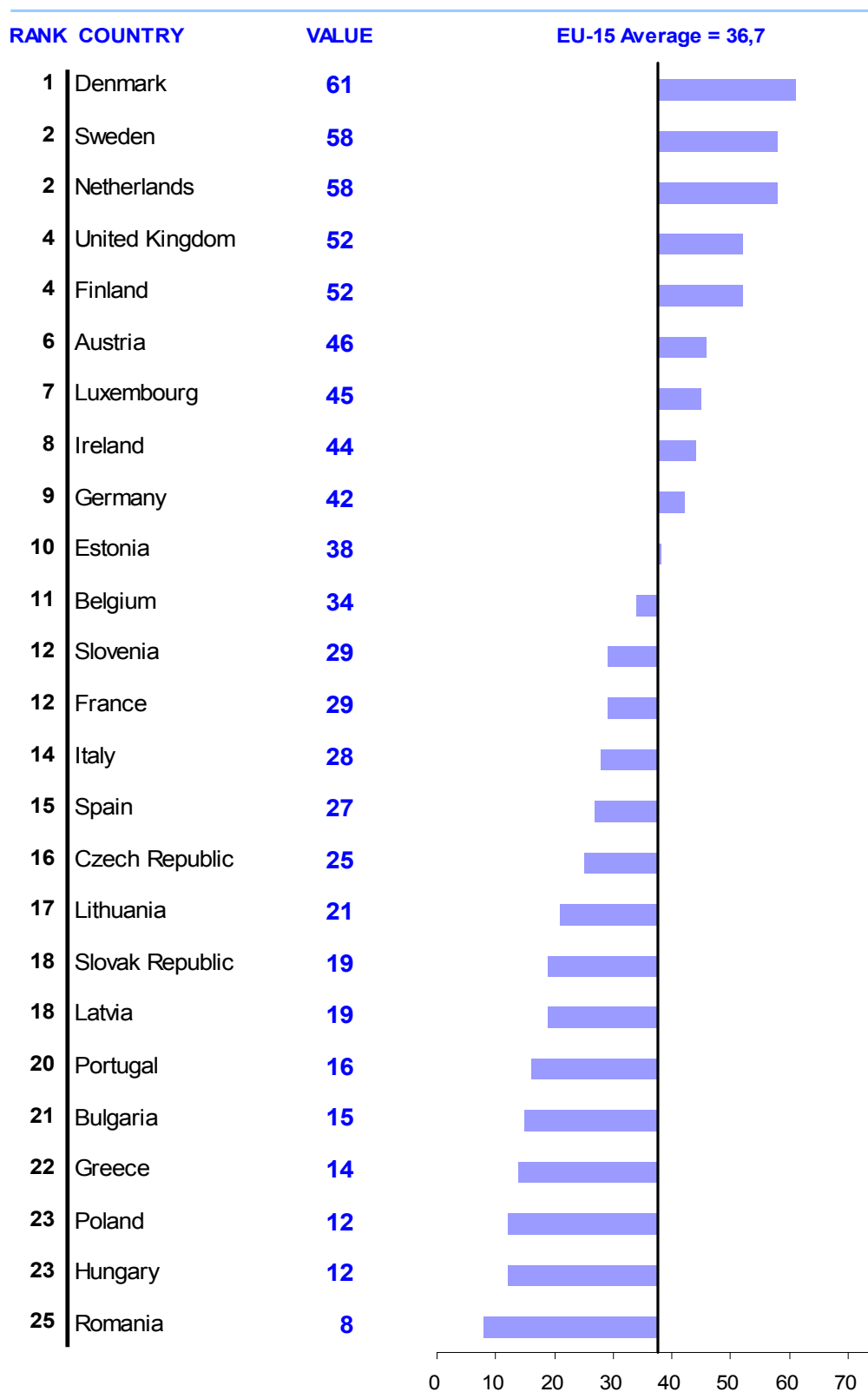
Percentage of people spending more than six hours per week on the Internet



Source: Sibis 2002/3

1.04 E-mail, 2002/3

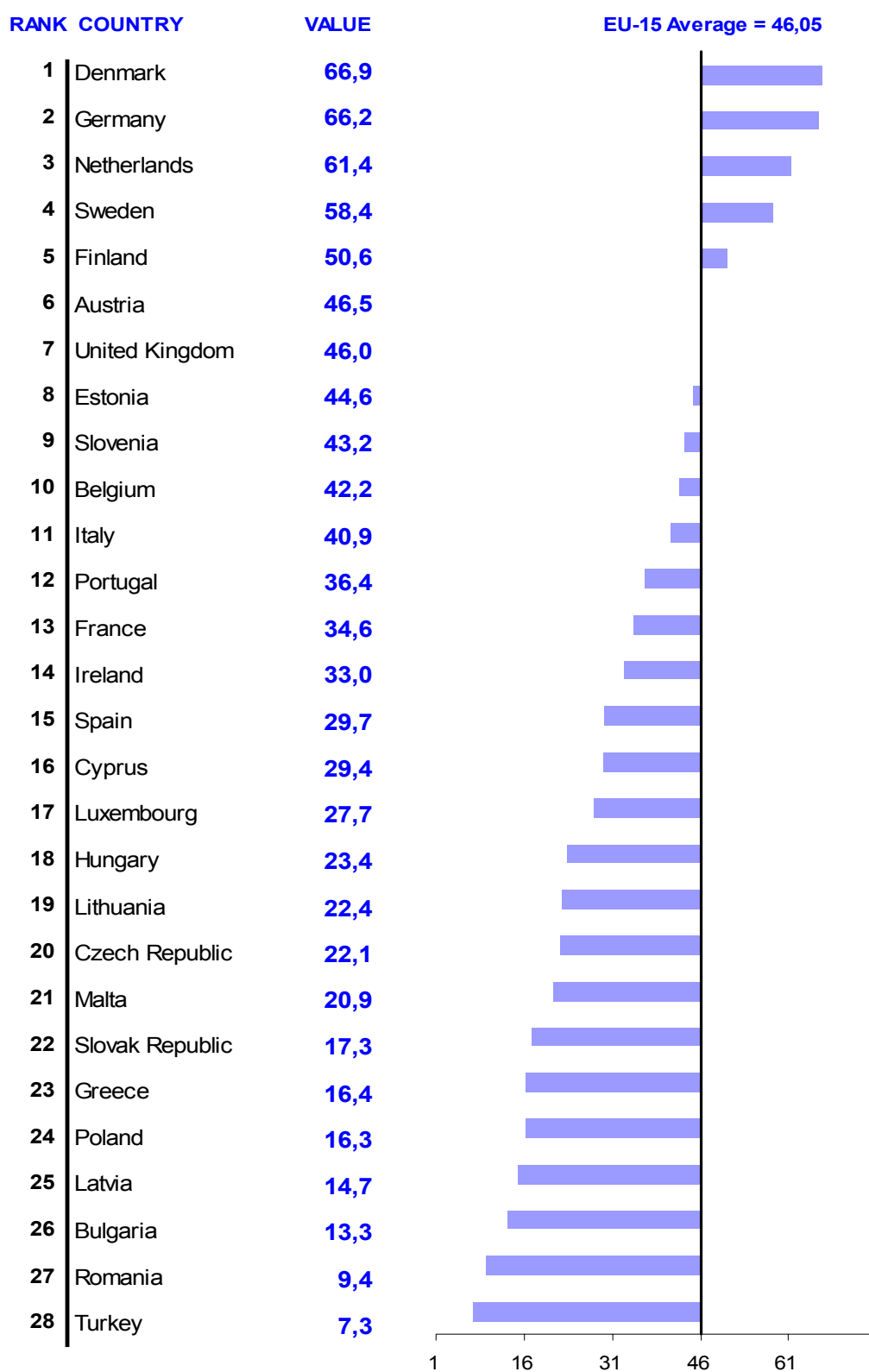
Percentage of individuals having sent an e-mail in the last four weeks



Source: Sibis 2002/3

1.05 Internet Users, 2003

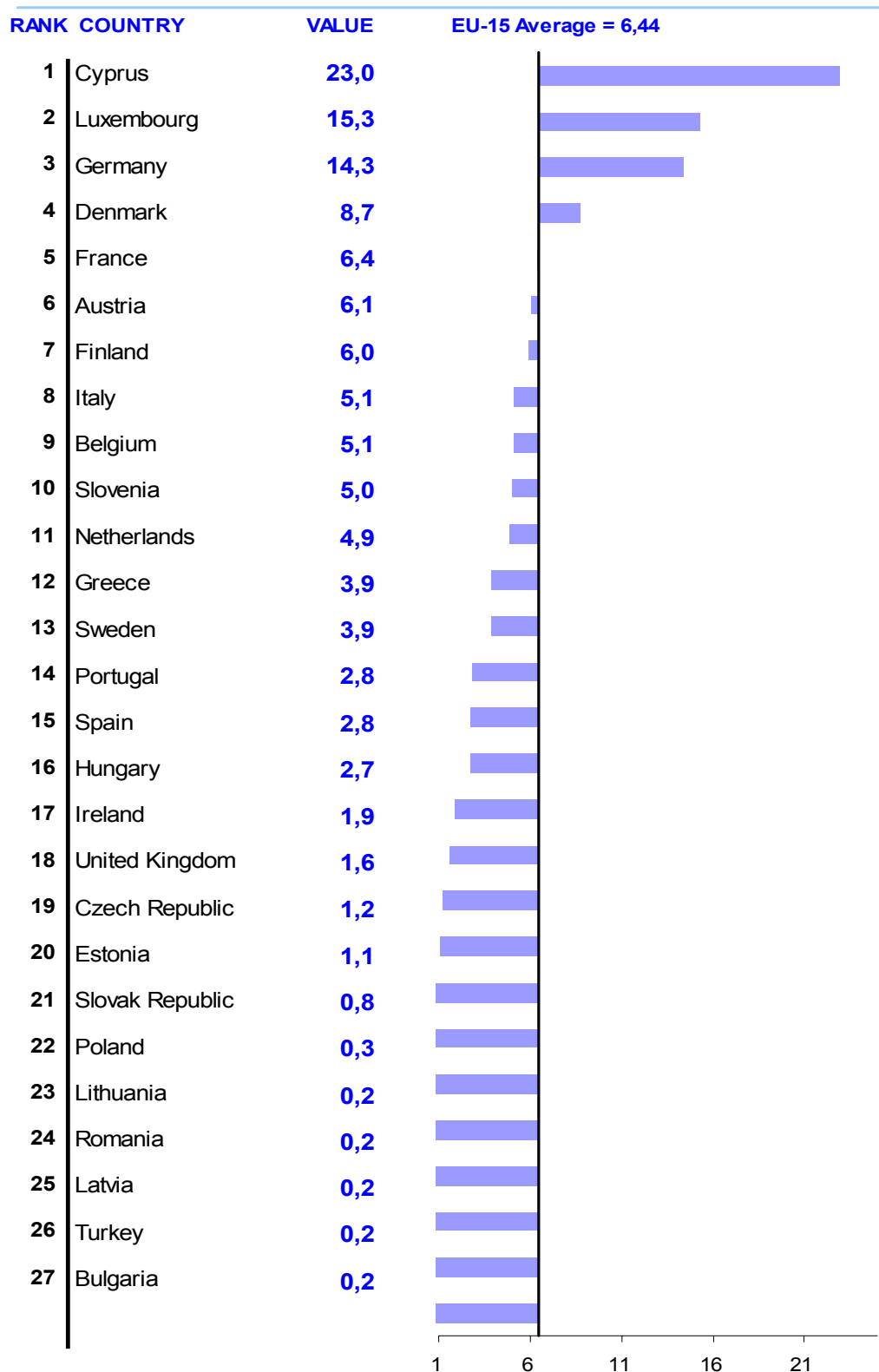
Internet users per 100 inhabitants



Source: Euromonitor/ International Telecommunications Union, 2003

1.06 ISDN subscribers, 2003

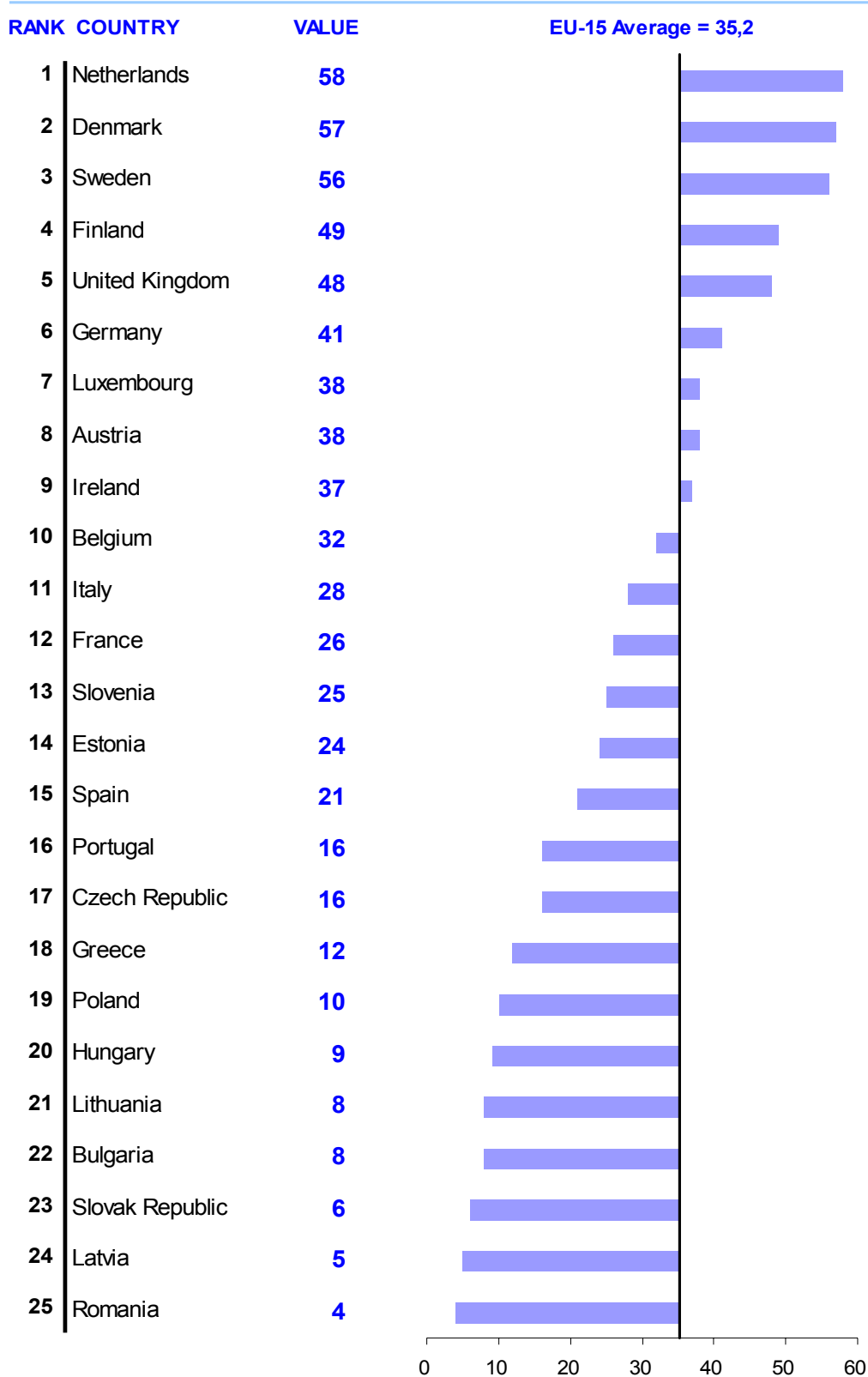
ISDN subscribers per 1000 inhabitants



Source: Euromonitor/ International Telecommunications Union, 2003

1.07 Home Internet Usage, 2002/3

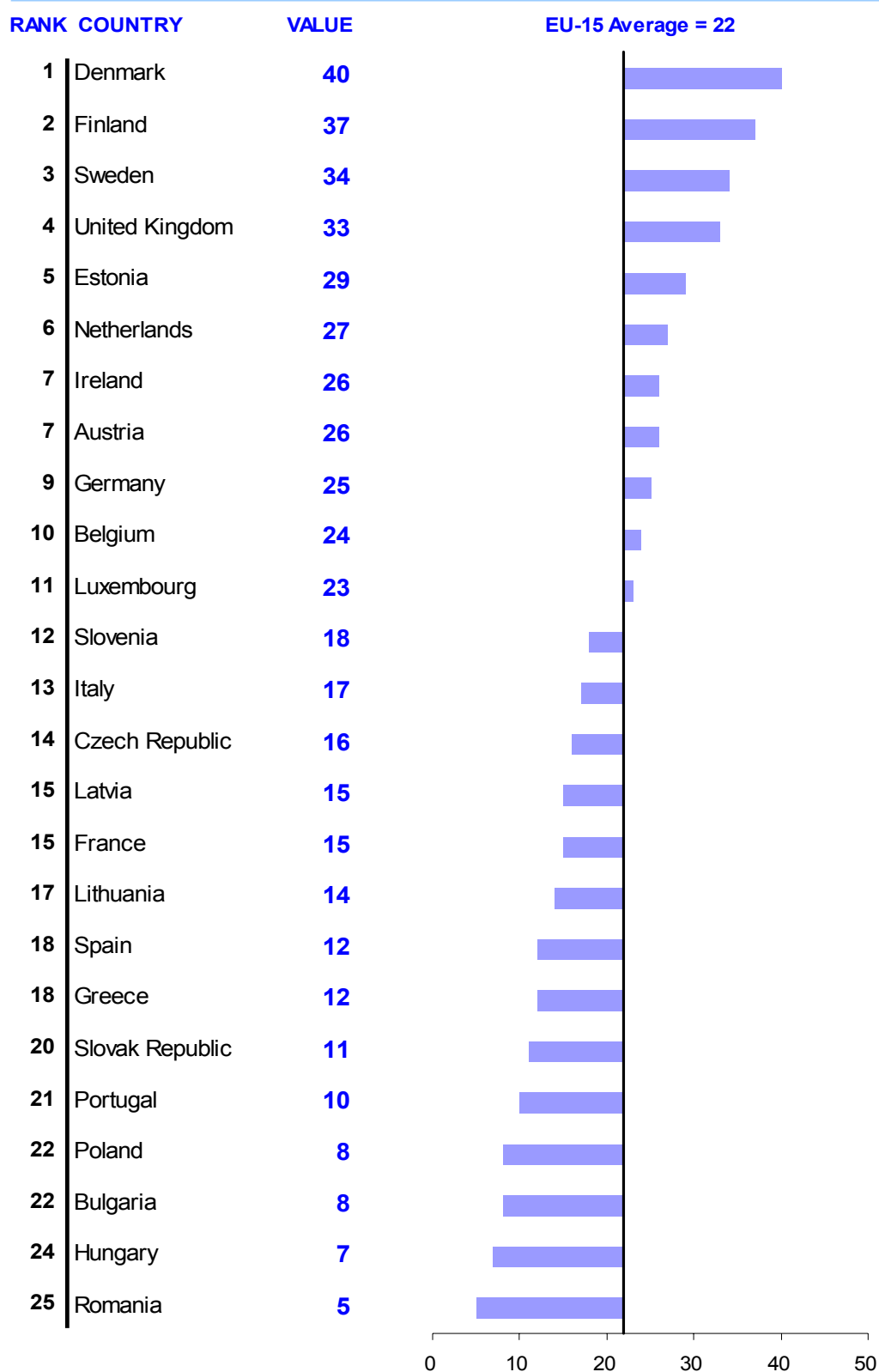
Percentage of individuals using the Internet at home



Source: Sibis 2002/3

1.08 Professional Internet Usage, 2002/3

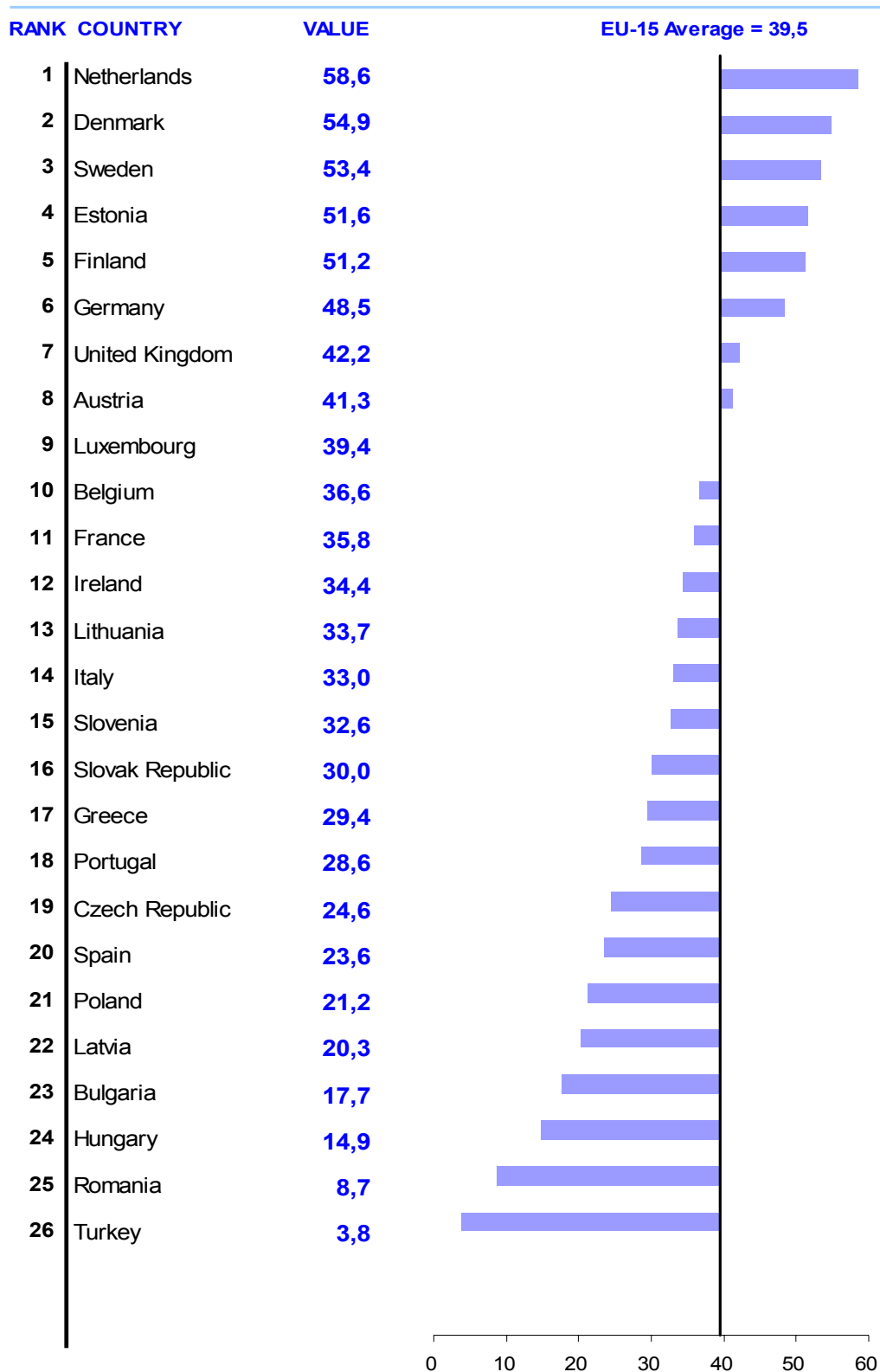
Percentage of individuals using the Internet at work



Source: Sibis 2002/3

1.09 Households Online, 2003

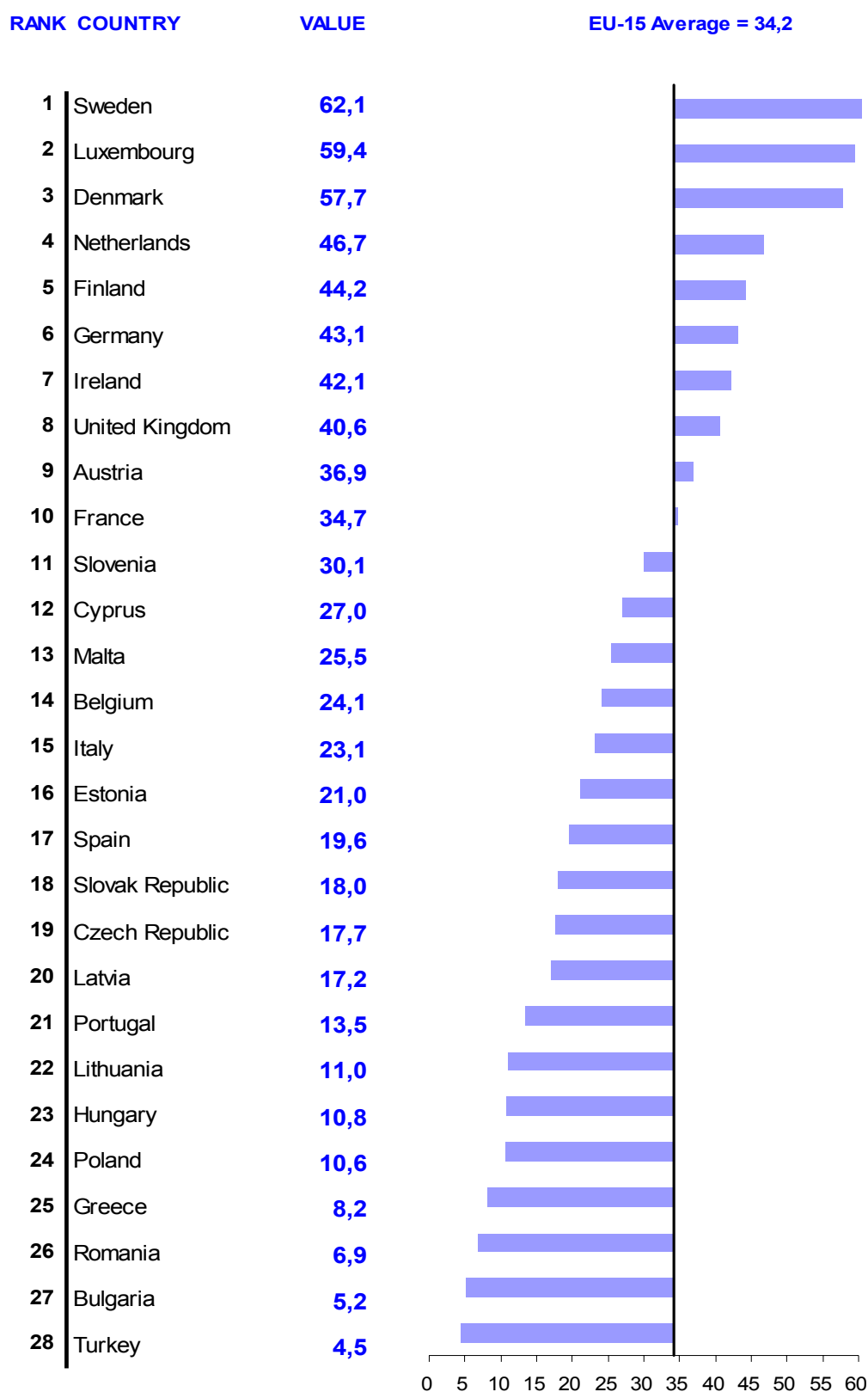
Percentage of all households online



Source: Euromonitor/ Jupiter, 2003

1.10 Personal Computers, 2002

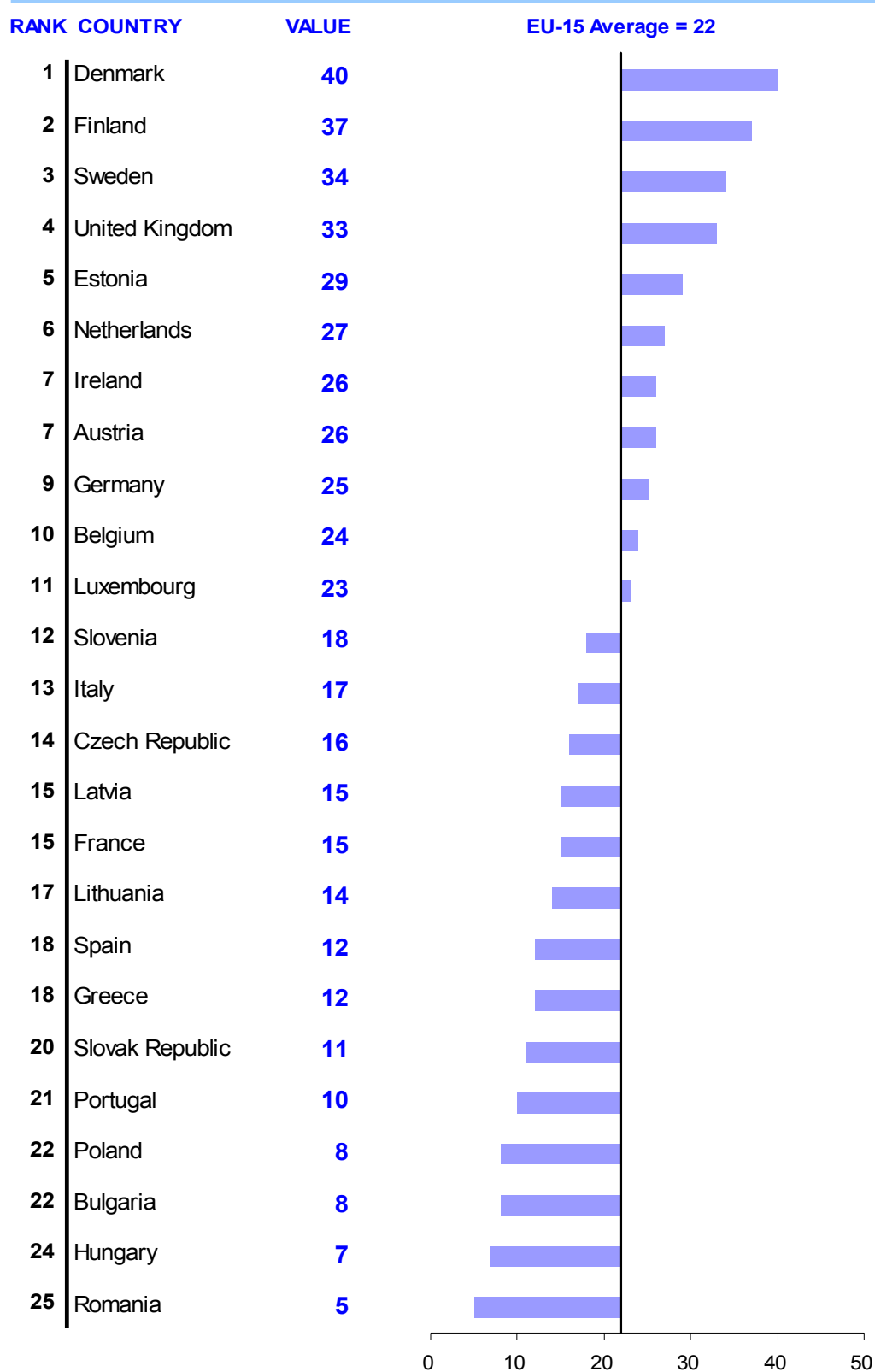
Personal computer penetration per 100 inhabitants



Source: International Telecommunications Union, 2002

2.01 Employees with Internet Access, 2002/3

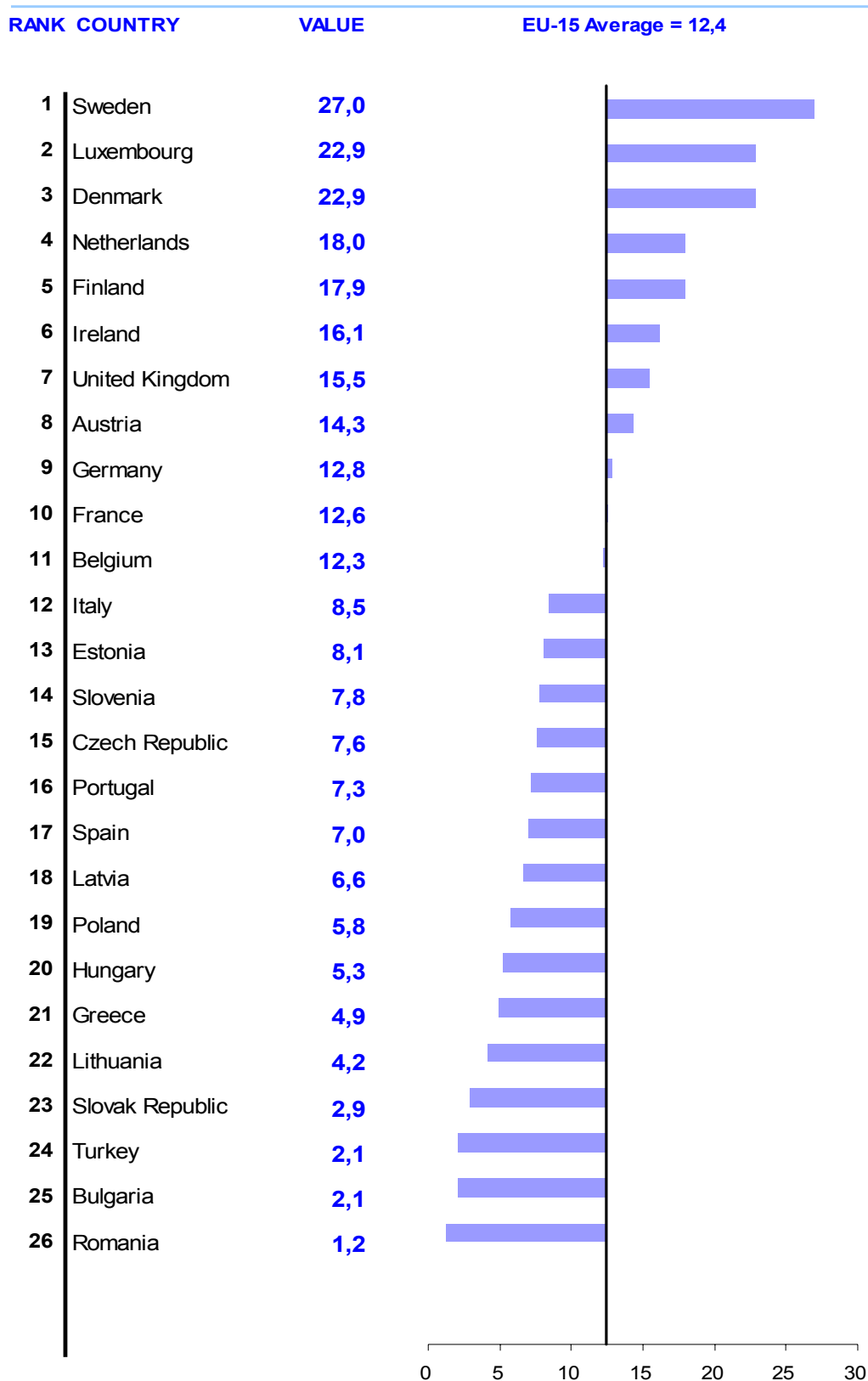
Employees with Internet Access at the workplace



Source: Sibis 2002/3

2.02 Business PC, 2002

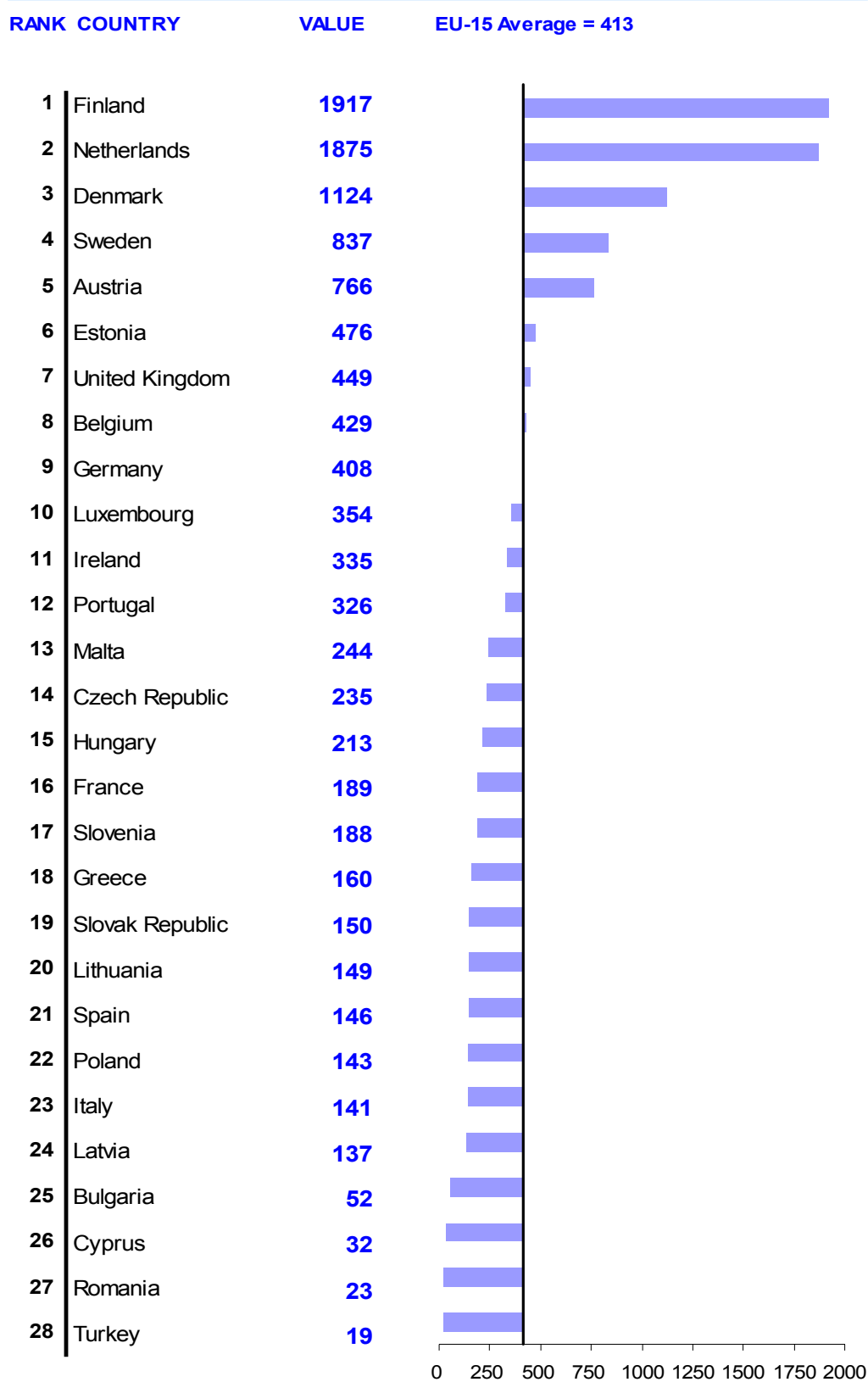
Business PC installed base per 100 inhabitants



Source: Witsa, 2002

2.03 Internet Hosts, 2003

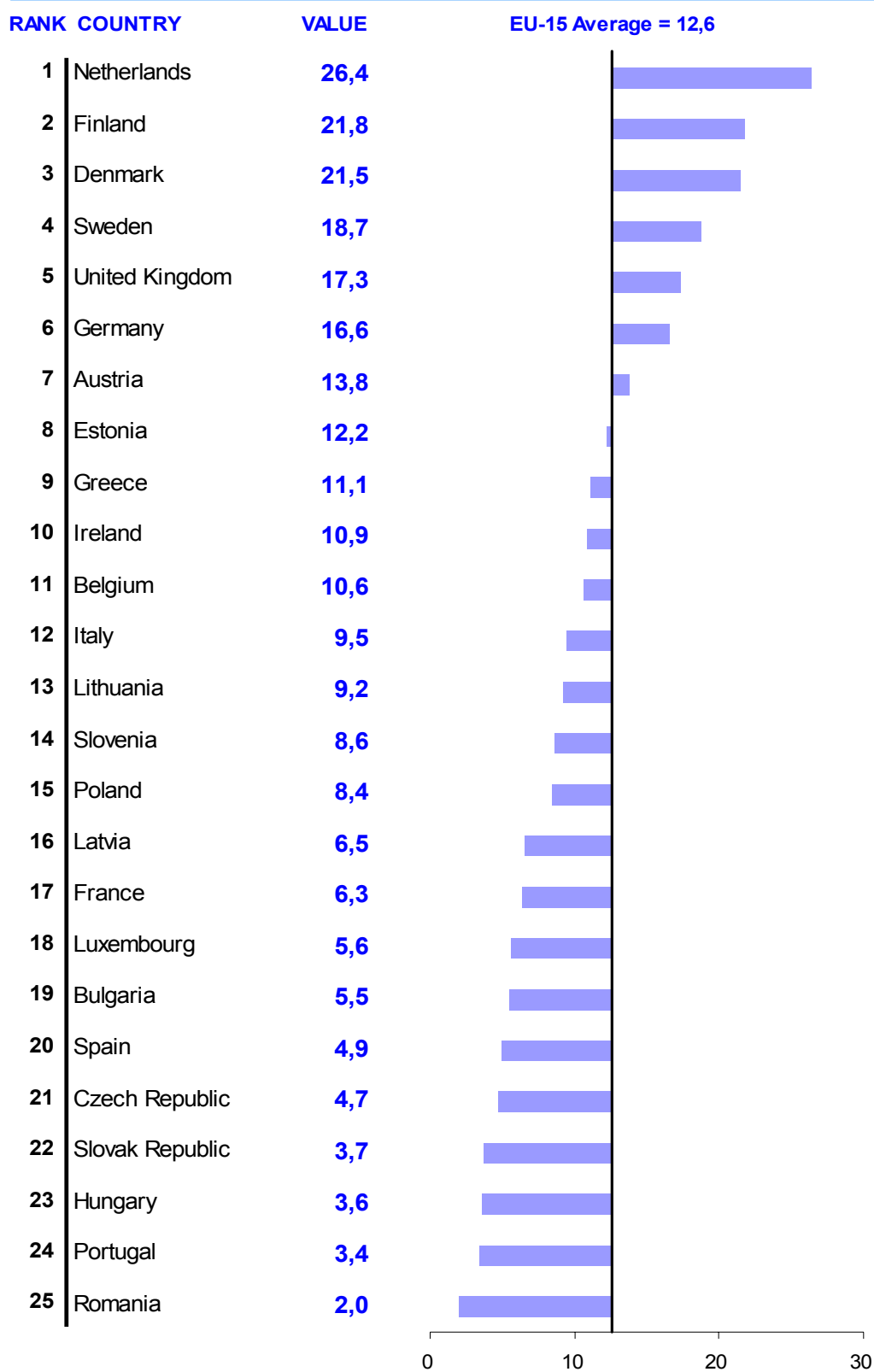
Internet hosts per 10000 inhabitants



Source: Euromonitor/ International Telecommunications Union, 2003

2.04 Teleworking, 2002/3

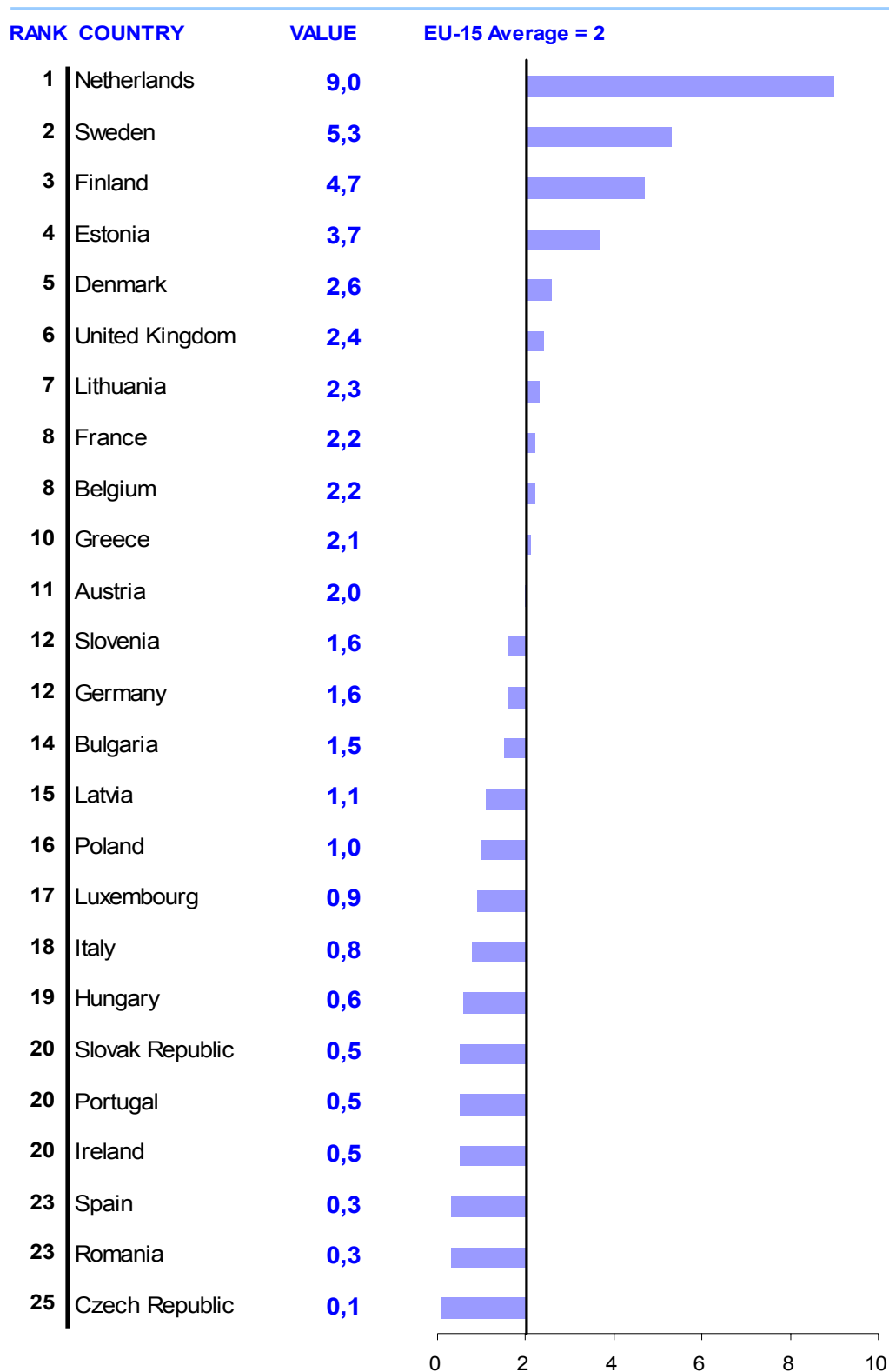
Share of employed population teleworking



Source: Sibis 2002/3

2.05 Teleworking Intensity, 2002/3

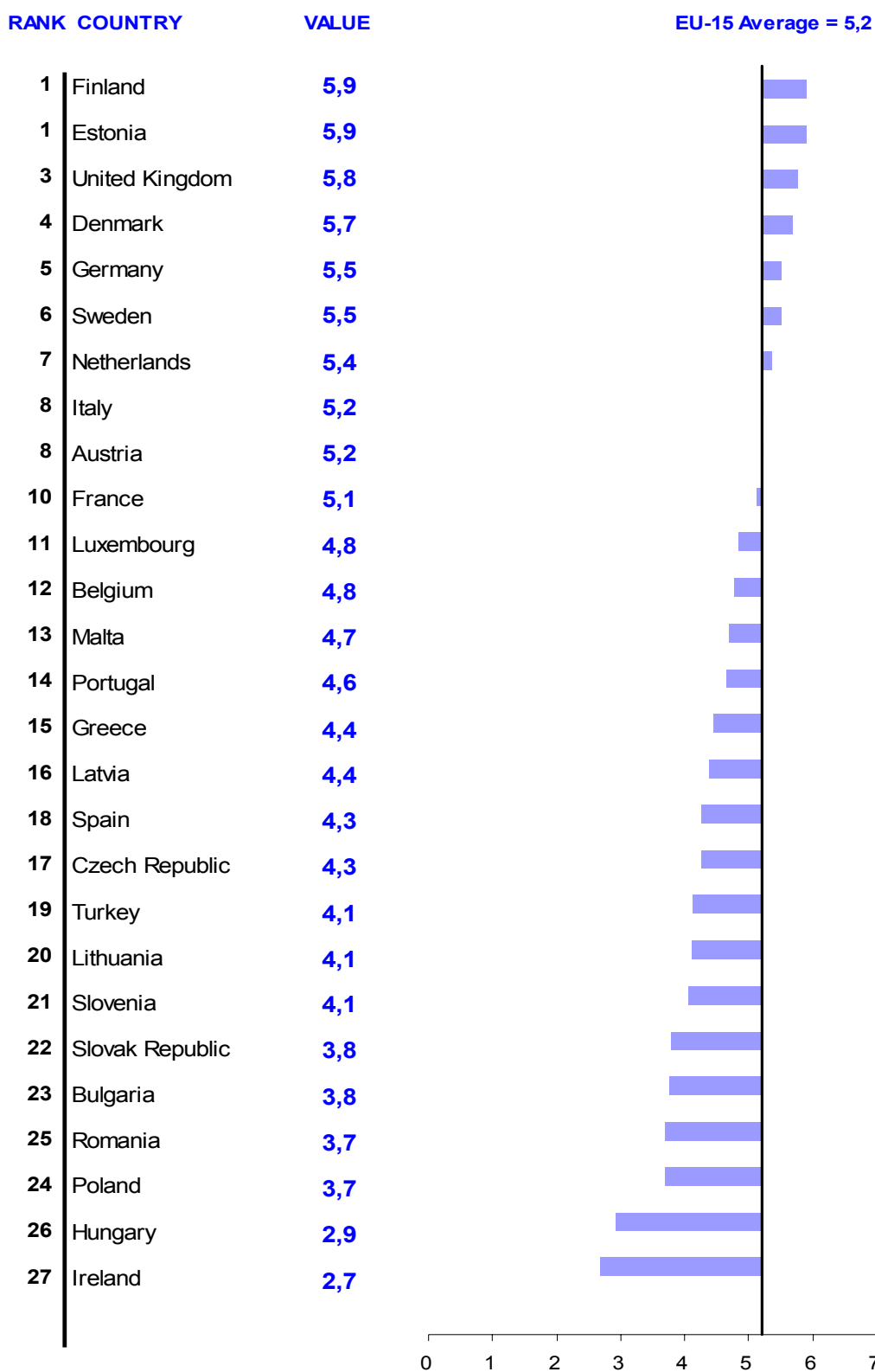
Percentage of people who spend more than one day per week teleworking



Source: Sibis 2002/3

2.06 Competition in the ICT sector, 2003

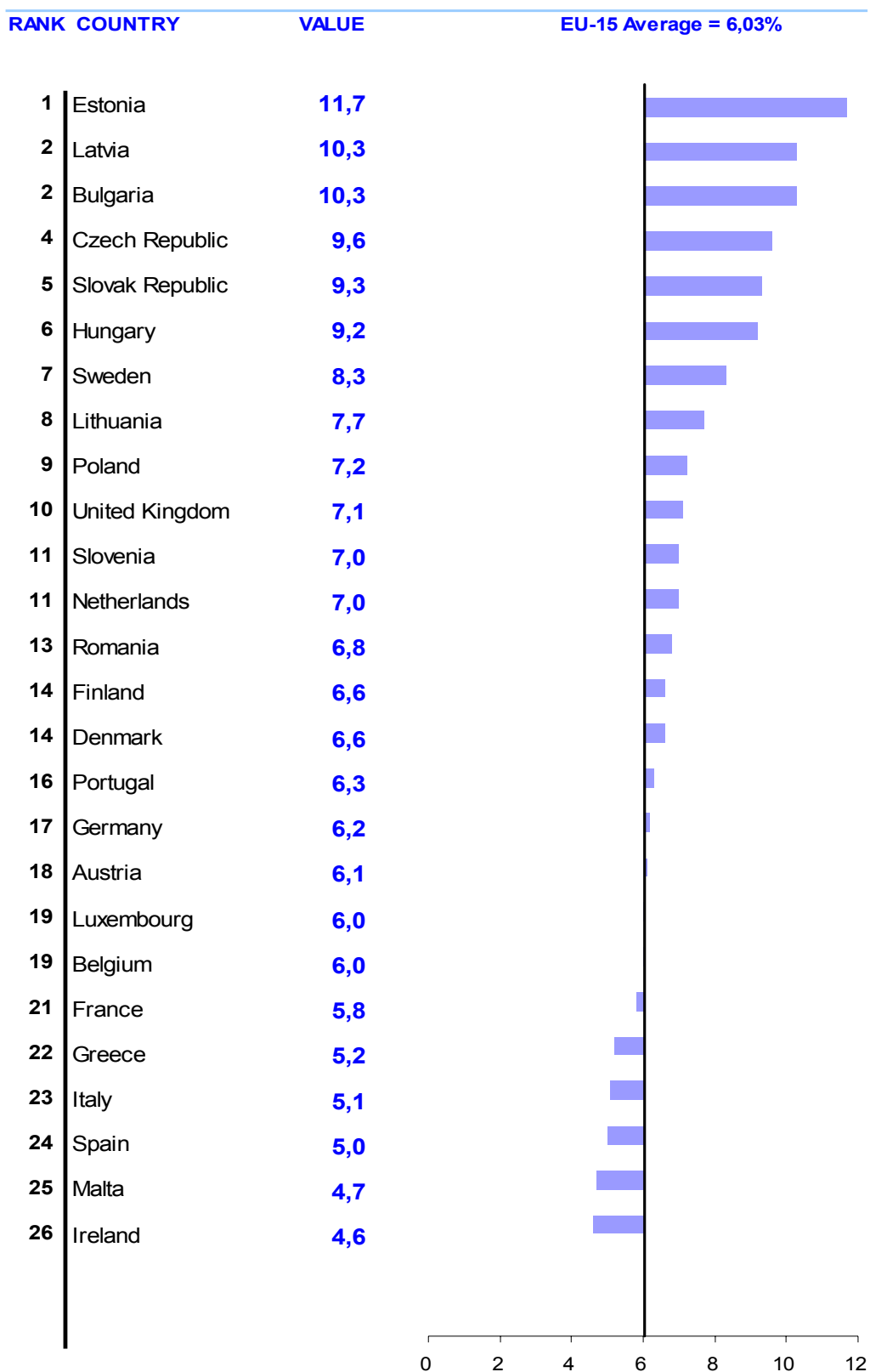
Is there sufficient competition in the ISP sector in your country to ensure high quality and low prices: 1- No, 7 - Yes, equal to the best in the world



Source: World Economic Forum Executive Opinion Survey, 2003

2.07 ICT Market, 2002

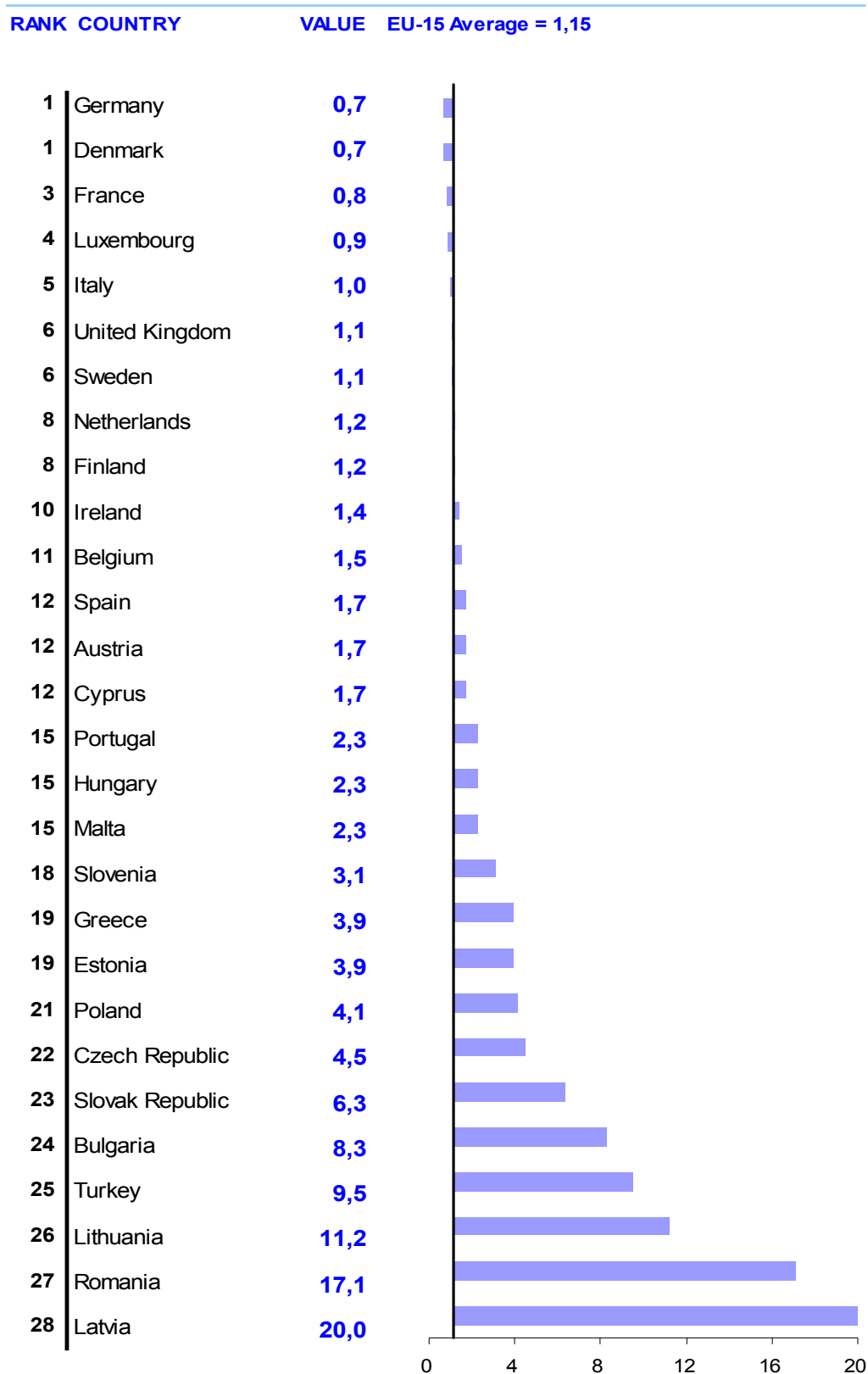
ICT market value relative to GDP



Source: Eurostat, 2002

3.01 Internet access cost, 2003

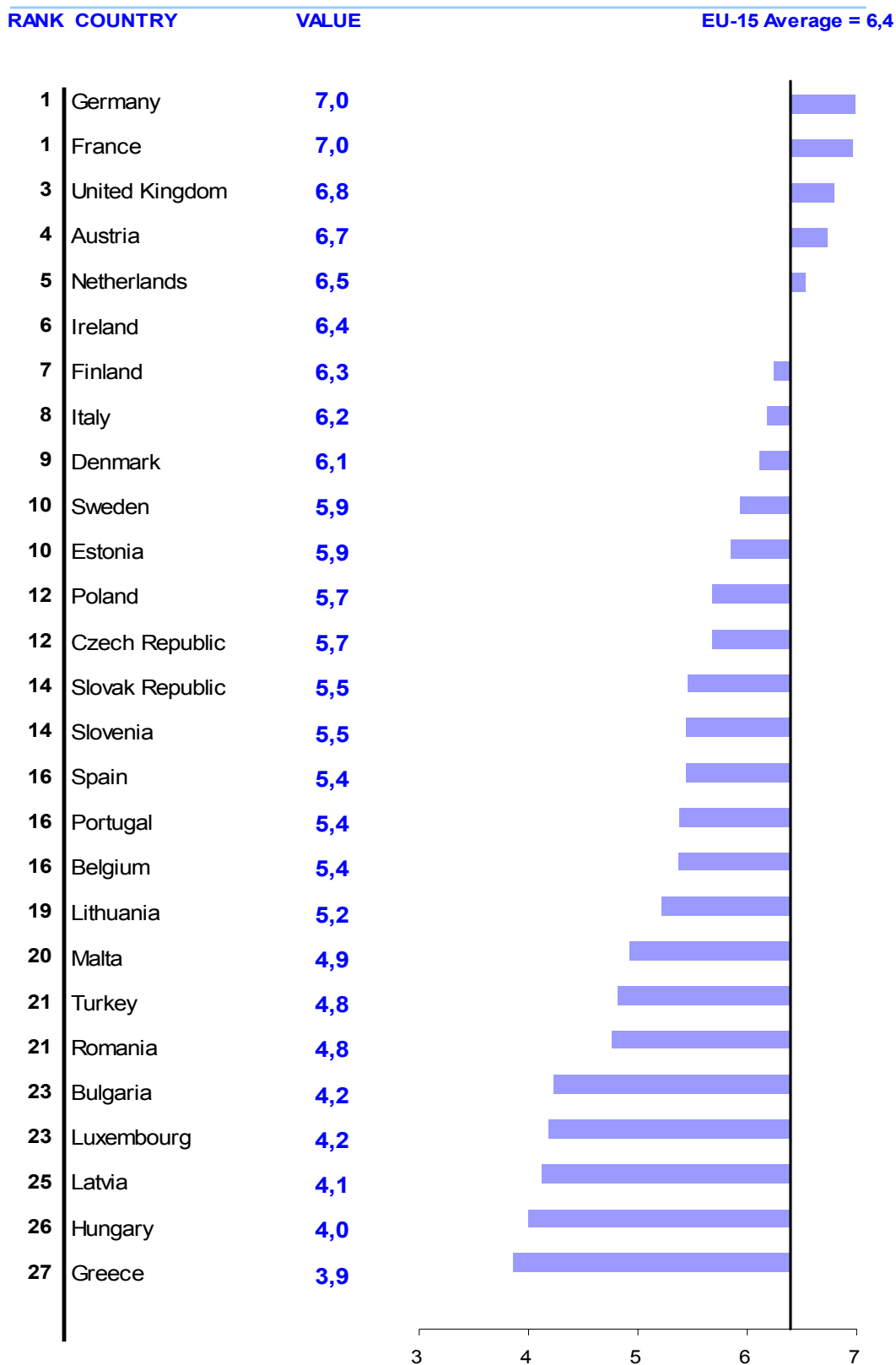
Cost of 20 hours of Internet Use



Source: International Telecommunications Union, 2003

4.01 Government Online Presence, 2003

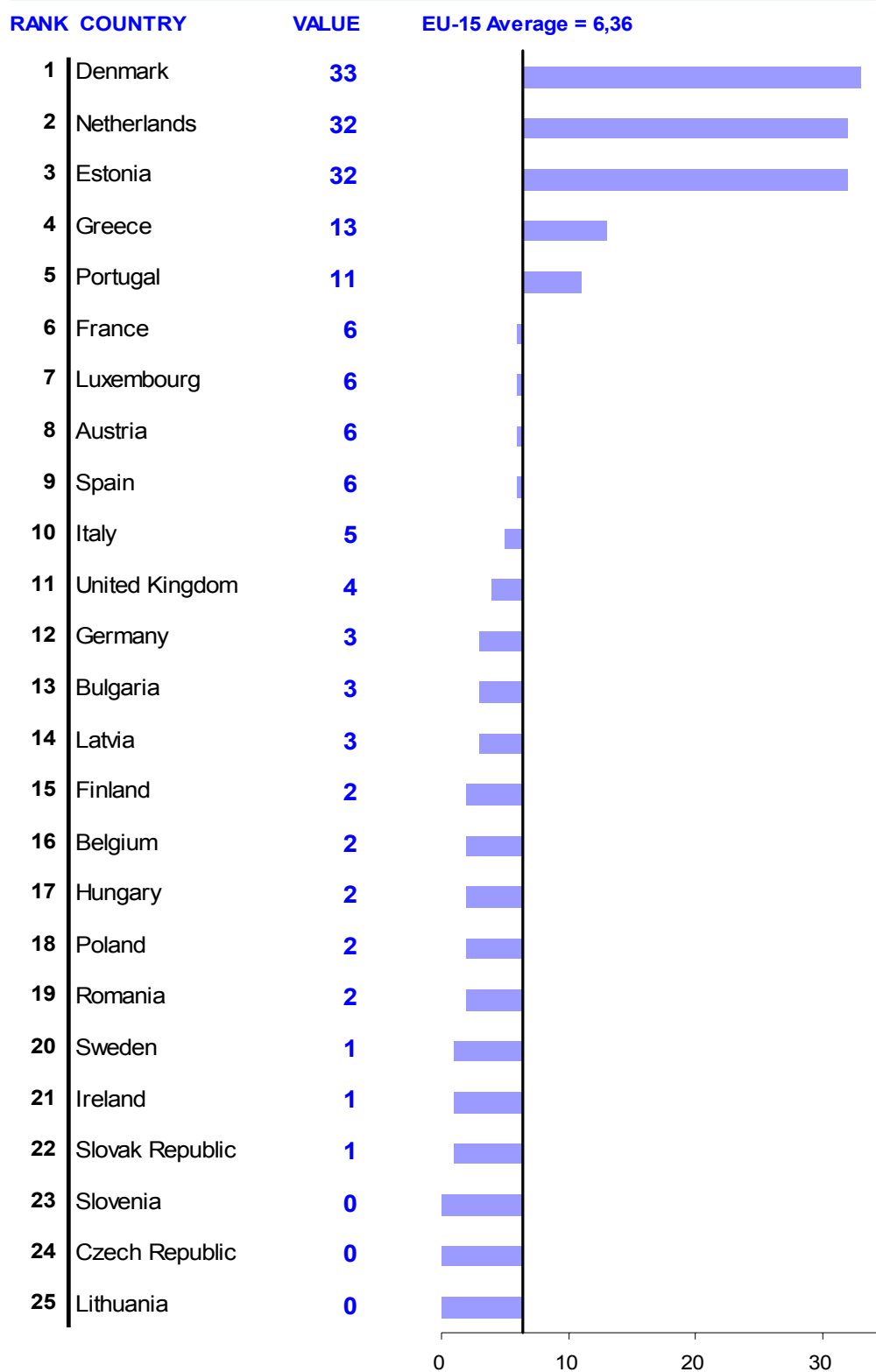
Government online presence segmented into the Chief Executive, Legislative, Judiciary, Ministries and Embassies branches



Source: World Economic Forum, 2003

4.02 Online tax returns

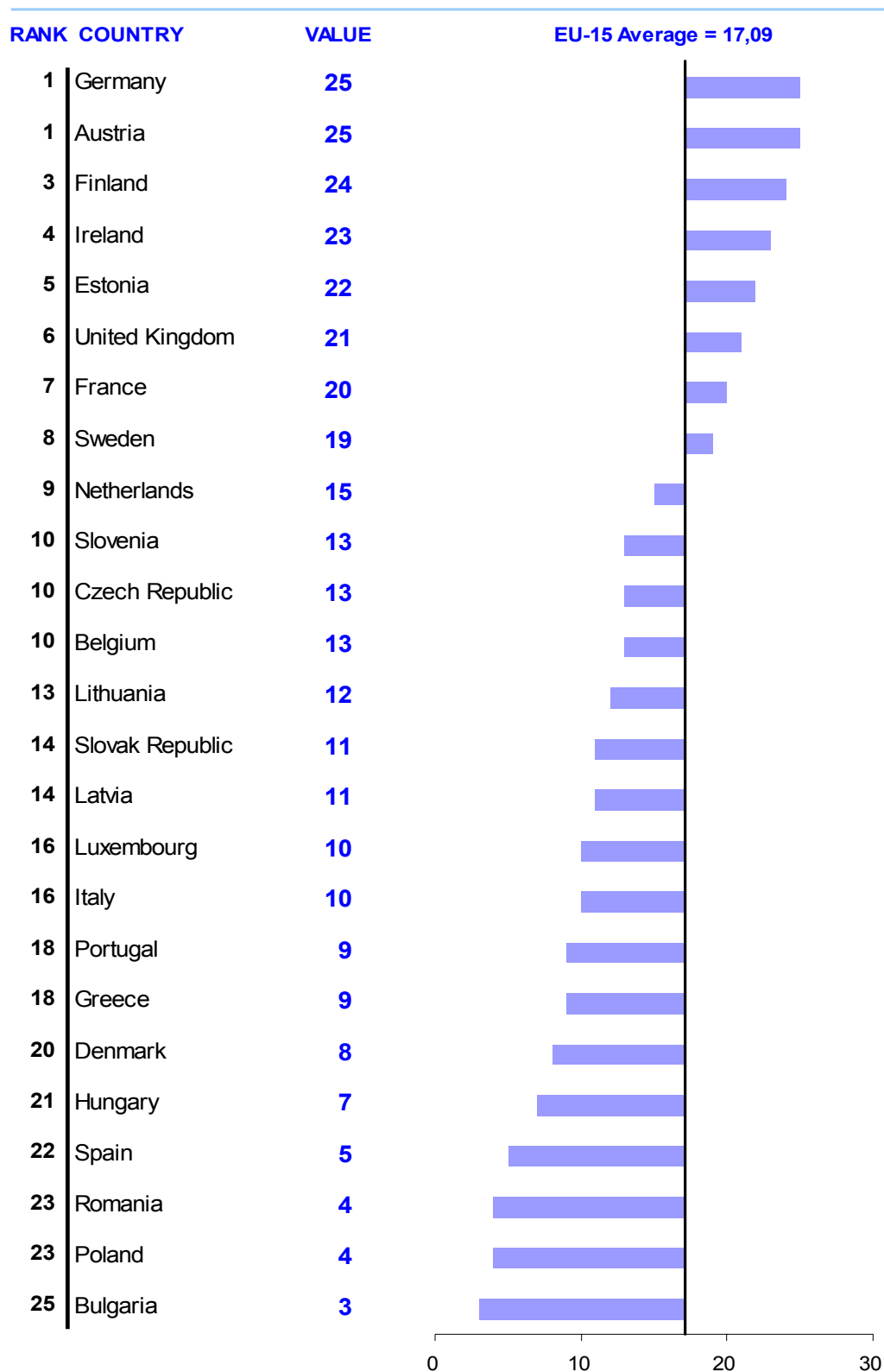
Percent people that have tried to use the Internet to fill the income tax return/ tax declaration



Source: Sibis 2002/3

4.03 Online Job Search, 2002/3

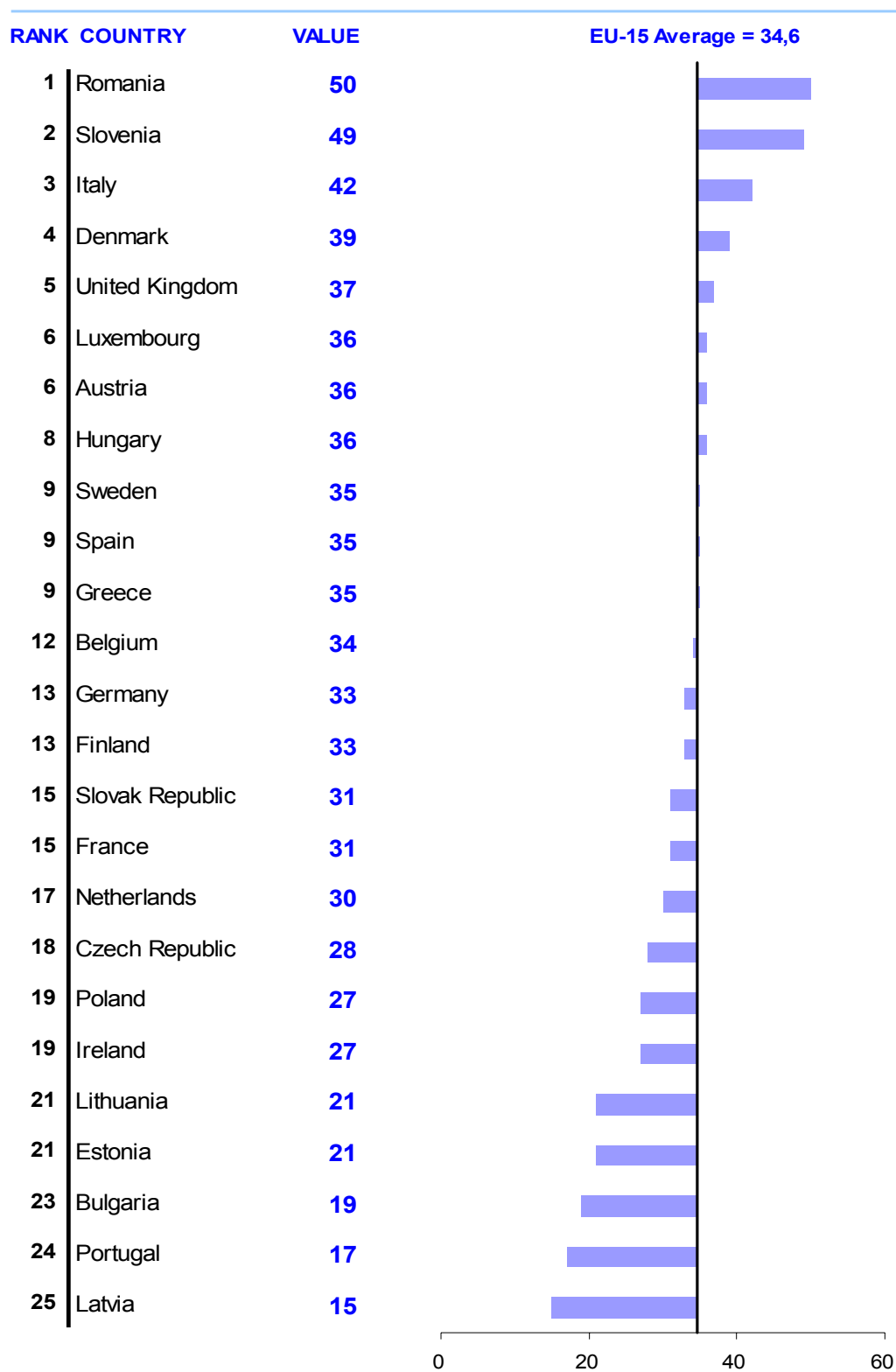
Percentage of individuals having tried to used the Internet for a job search



Source: Sibis 2002/3

4.04 Online Personal Documents, 2002/3

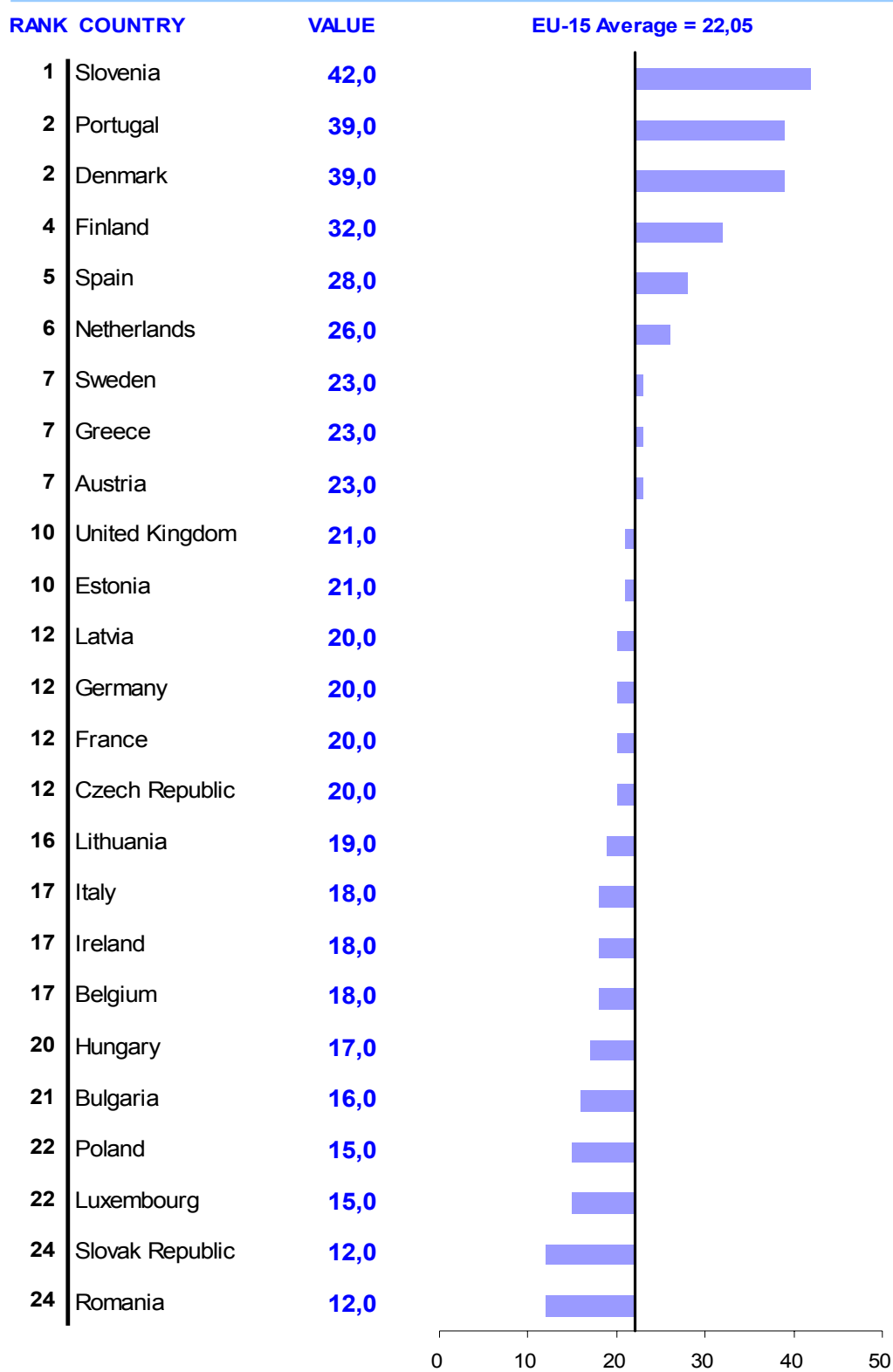
Percentage of inhabitants that would prefer to use the Internet for requests for passport, driving license, or other personal documents



Source: Sibis, 2002/3

4.05 Online Book Search, 2002/3

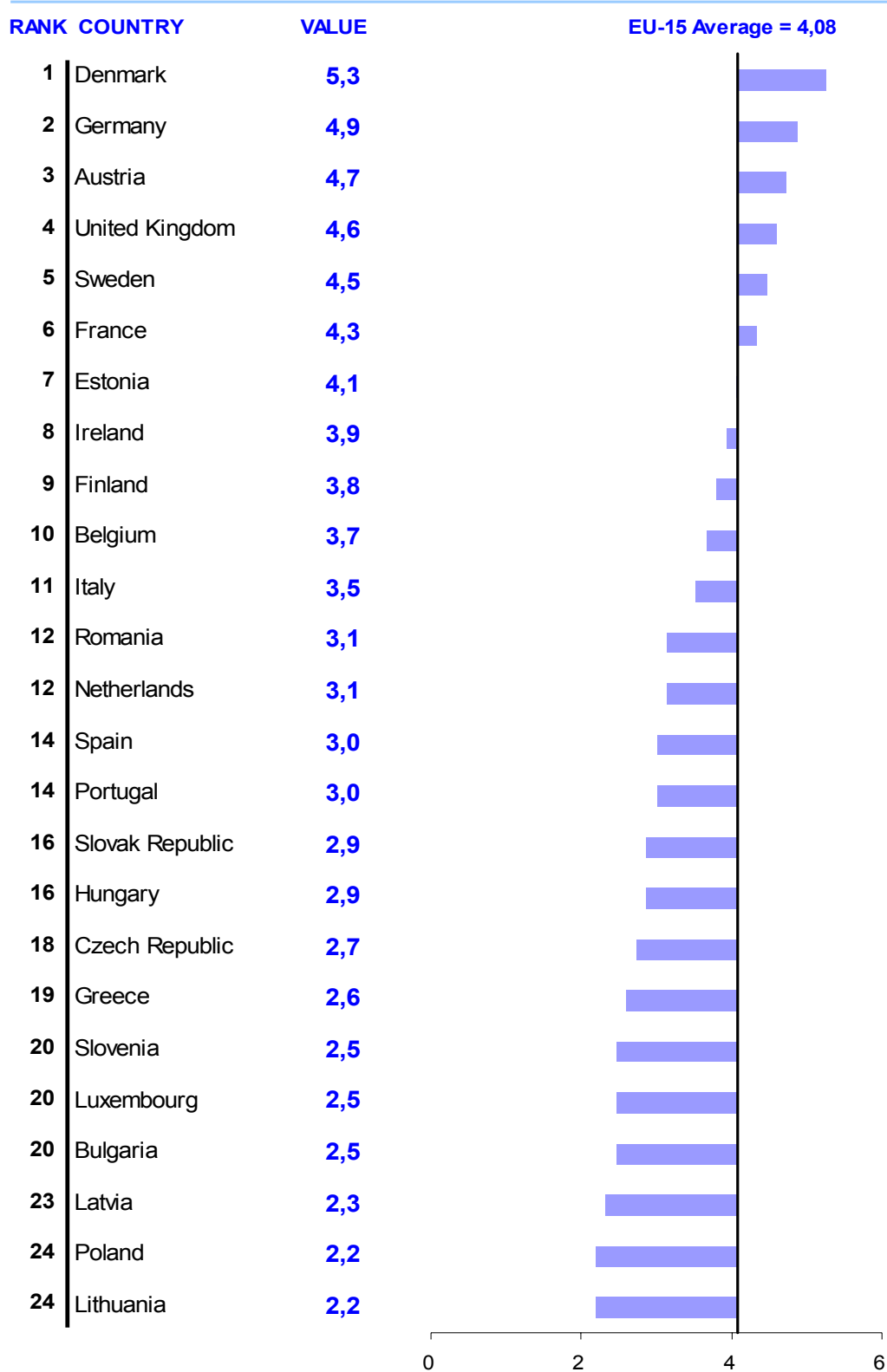
Percentage of people that have tried to use the Internet to search for books in public libraries



Source: Sibis, 2002/3

4.06 Government Online Services, 2003

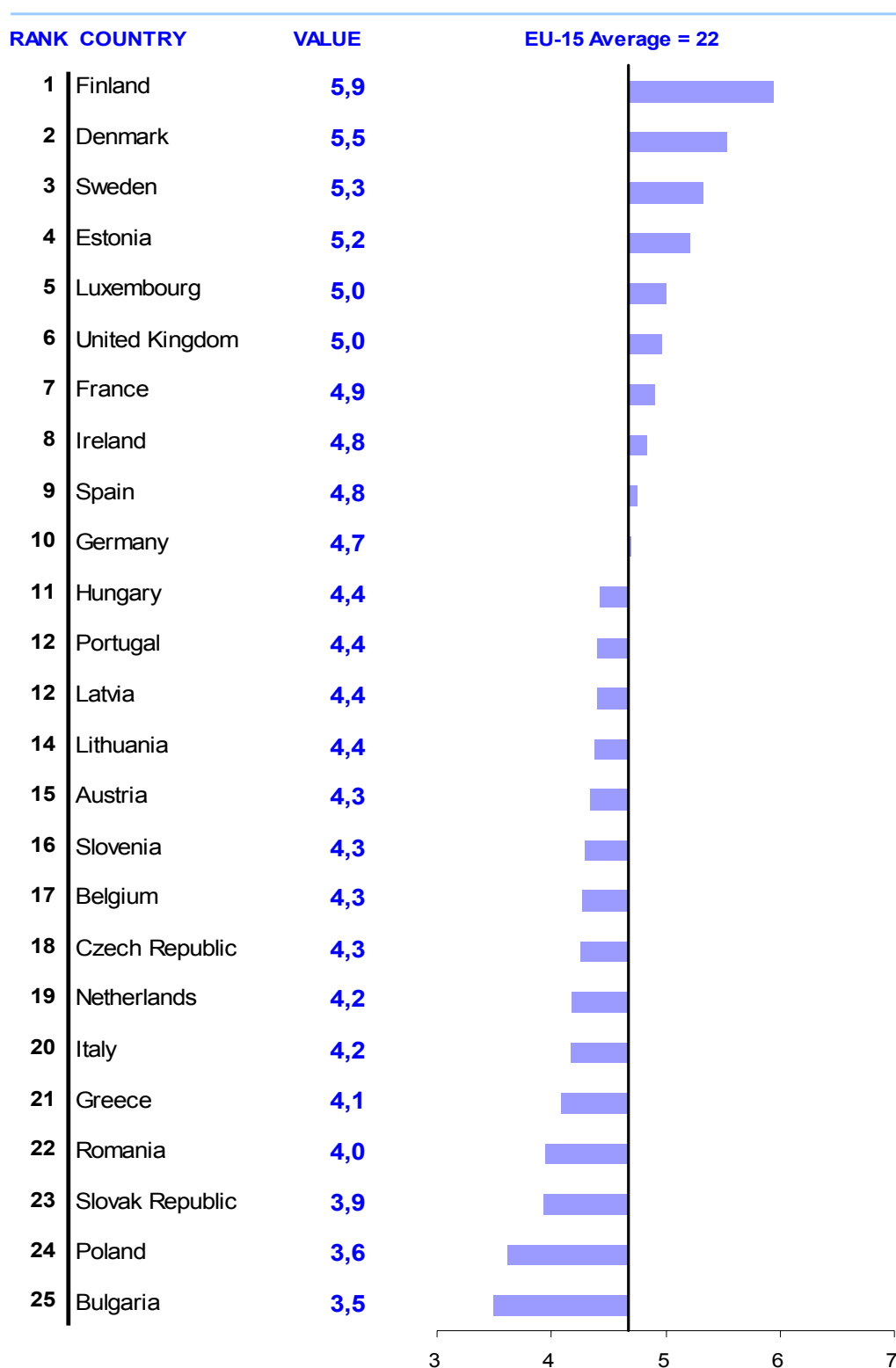
Government online services as measured by personal tax, car registration, passport, business permit and e-procurement



Source: World Economic Forum, 2003

4.07 Government Prioritization of ICT, 2003

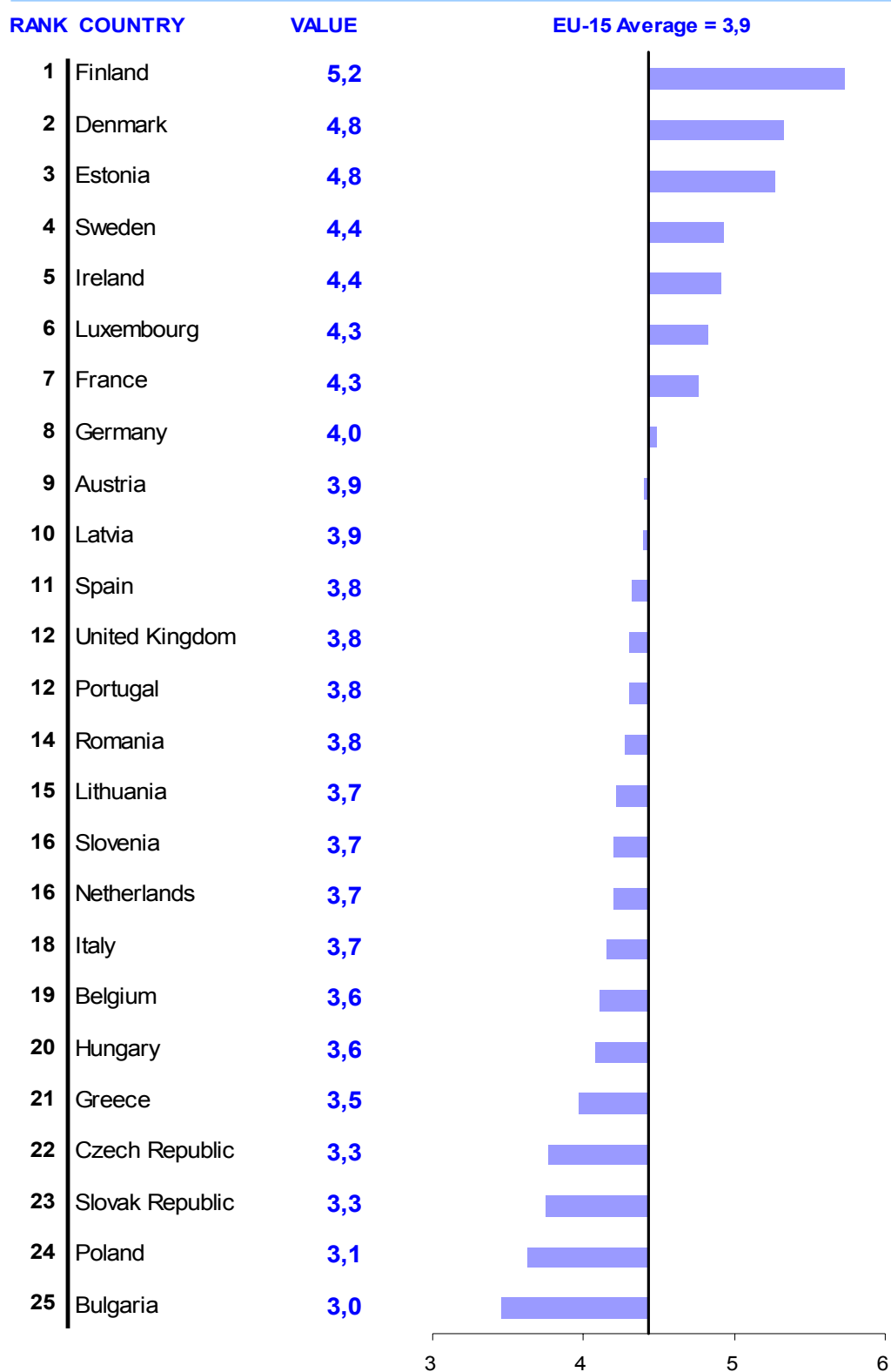
ICT are an overall priority for the government: 1 - strongly disagree, 7 - strongly agree



Source: World Economic Forum Executive Opinion Survey, 2003

4.08 Government ICT Promotion Success, 2003

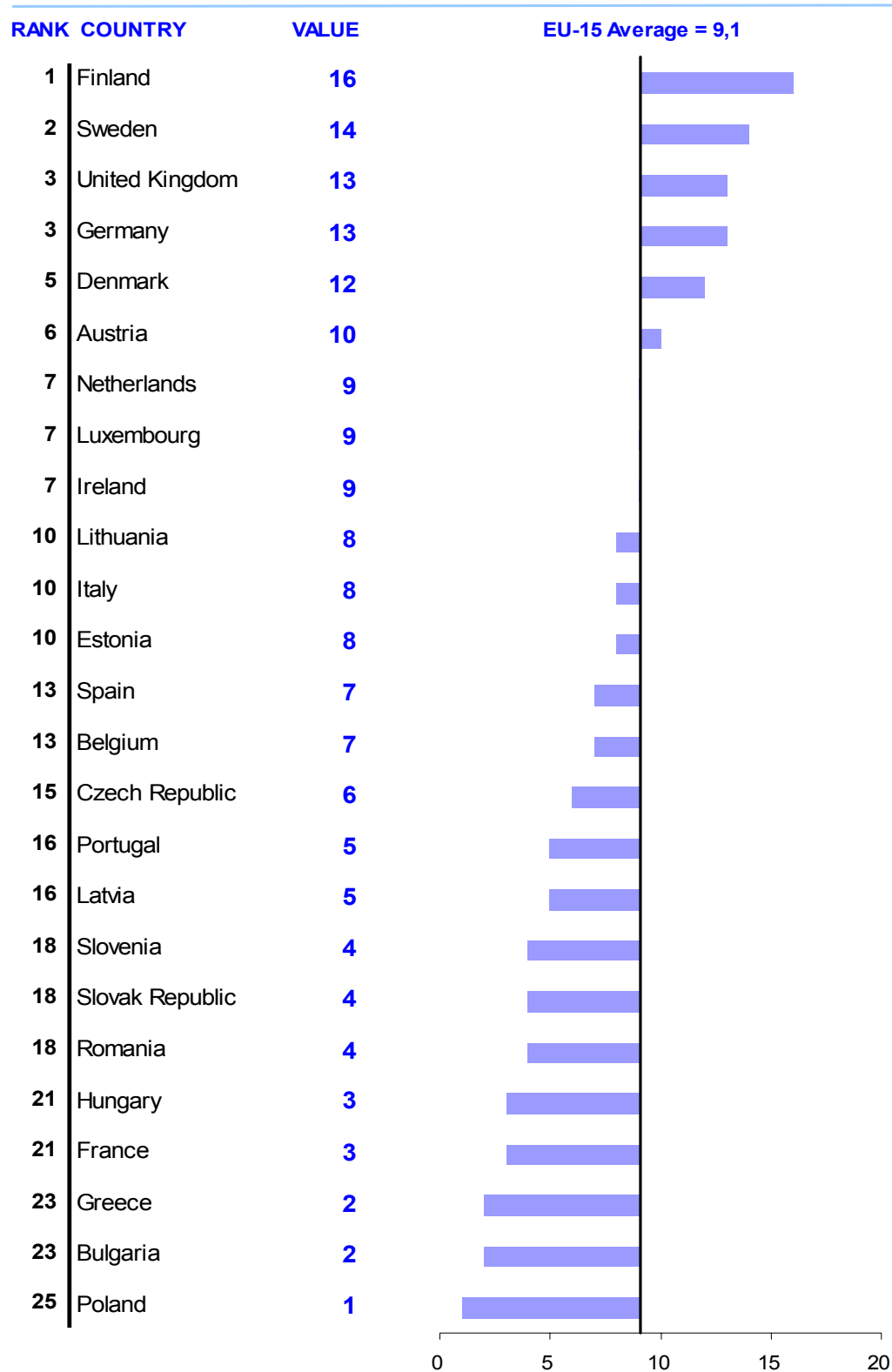
Government programmes promoting the use of ICT are: 1- not very successful, 7 - Highly successful



Source: World Economic Forum Executive Opinion Survey, 2003

5.01 Online learning, 2002

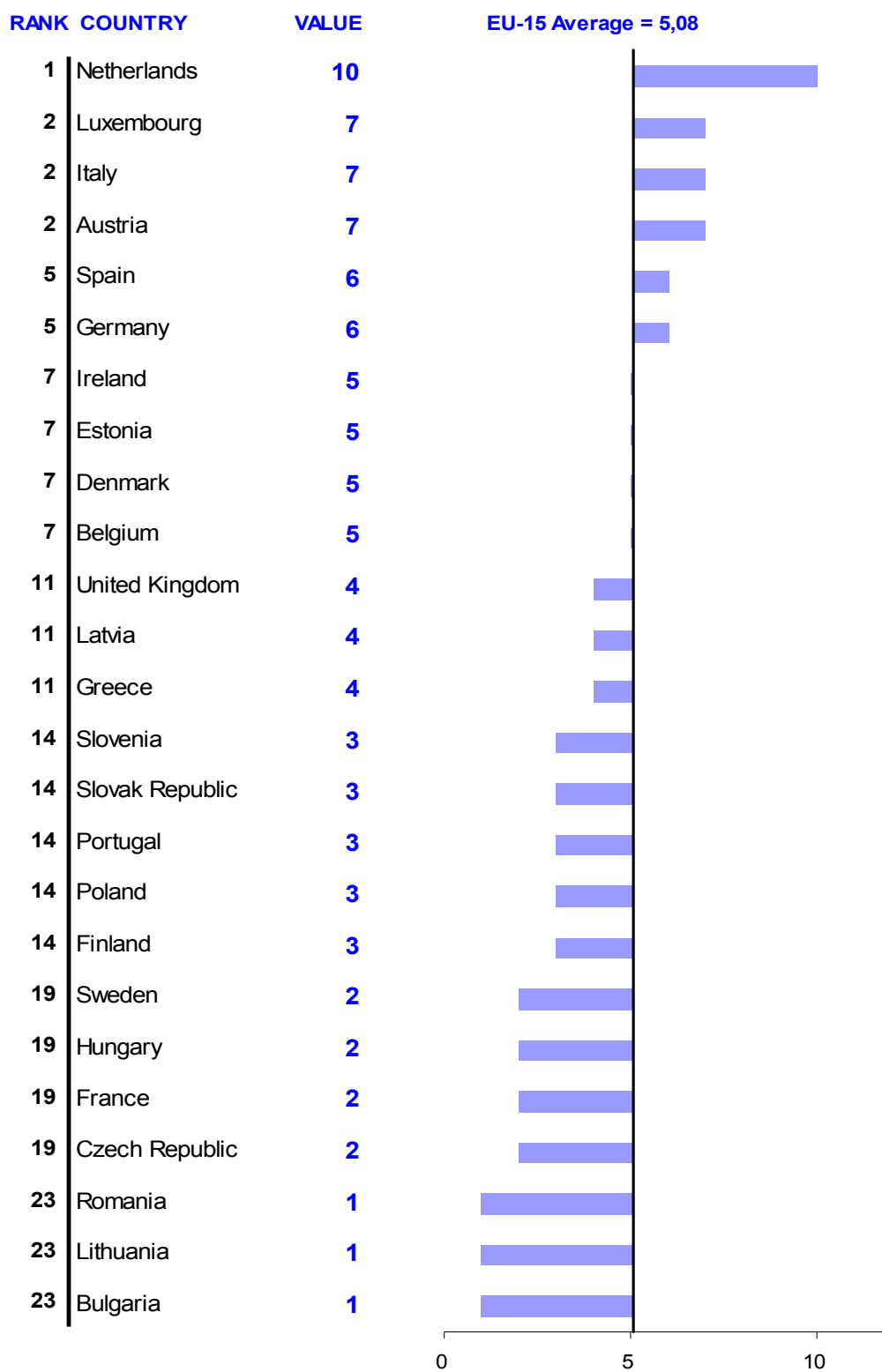
Share of employed population who used online electronic learning material for work-related learning



Source: Sibis, 2002/3

5.02 Offline Electronic Learning, 2002/3

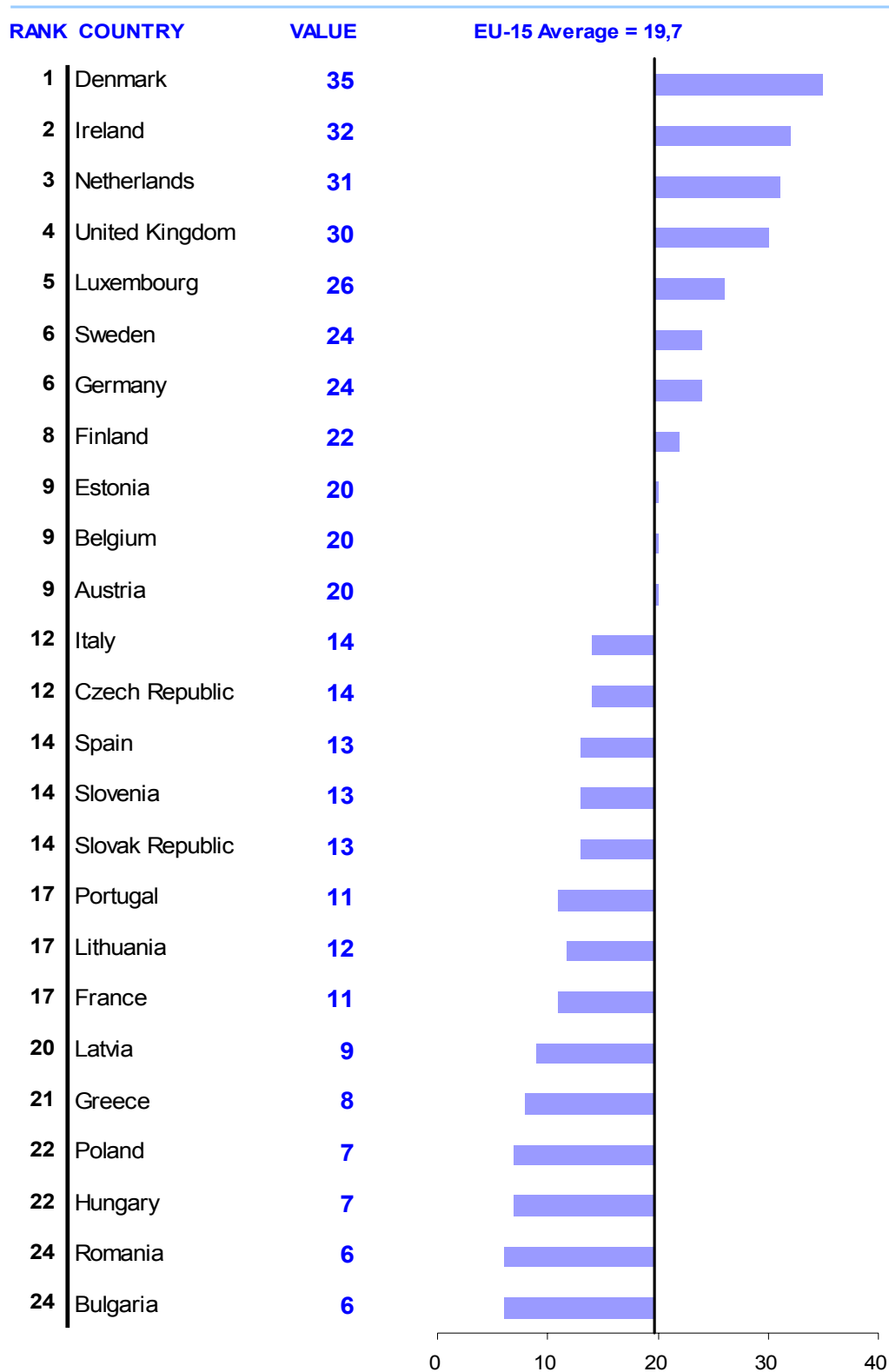
Share of employed population who used offline electronic learning material for work-related learning



Source: Sibis 2002/3

6.01 Online Health Searches, 2002/3

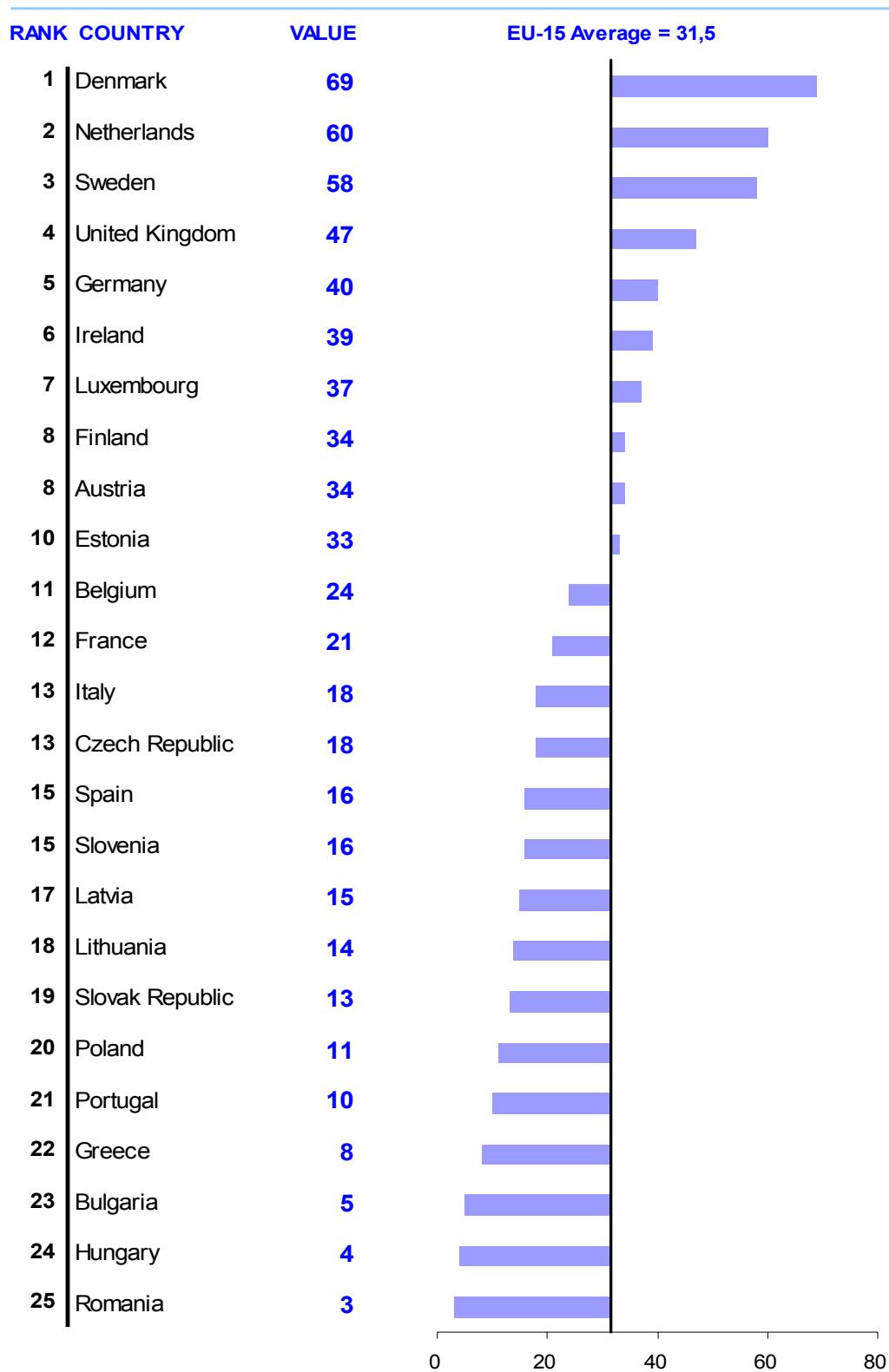
Percentage of individuals using Internet effecting online searches for health-related information in the last 12 months



Source: Sibis 2002/3

6.02 Internet use by the disabled, 2002/3

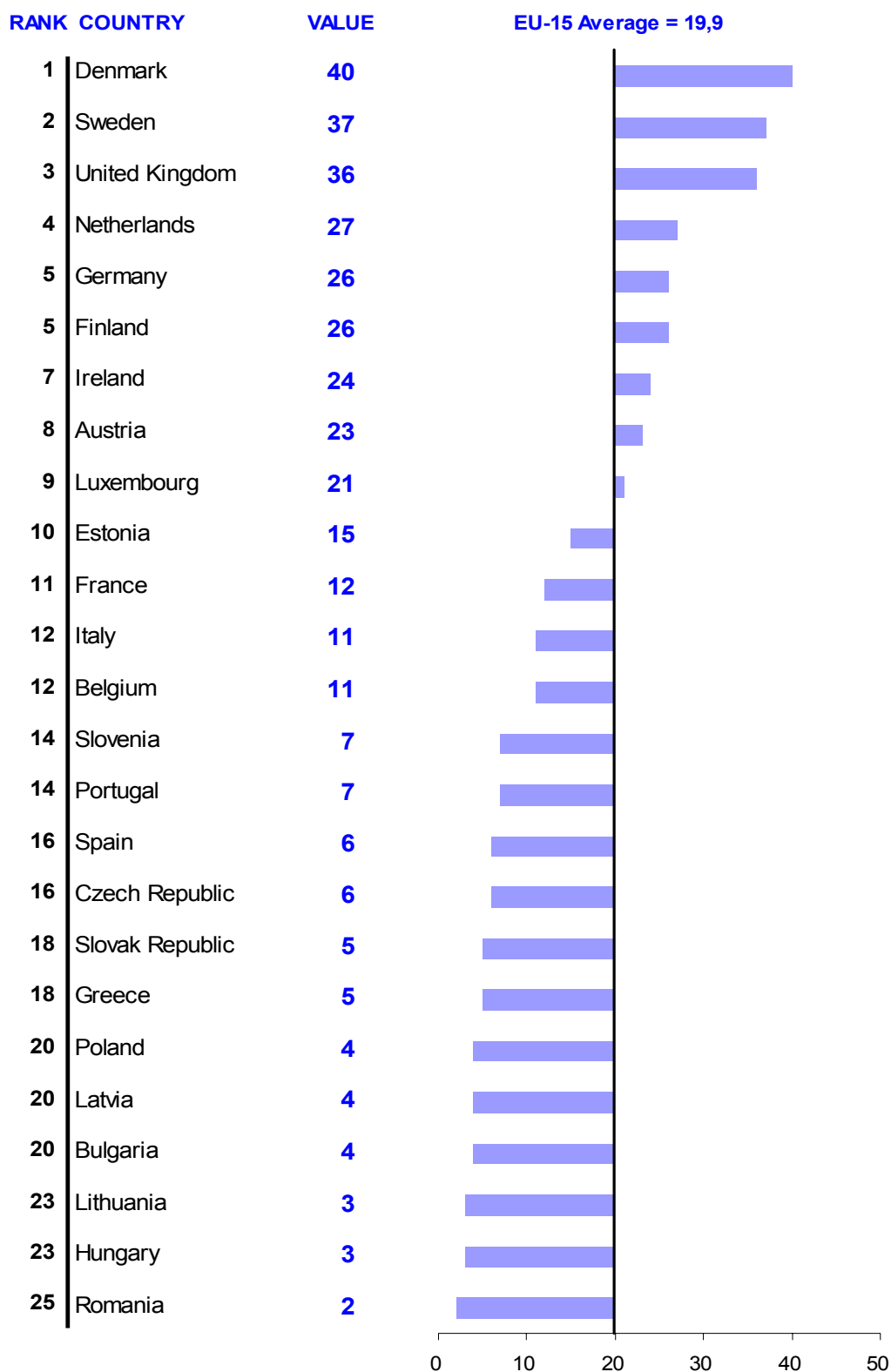
Percentage of disabled people using the Internet



Source: Sibis 2002/3

7.01 Online purchases, 2002/3

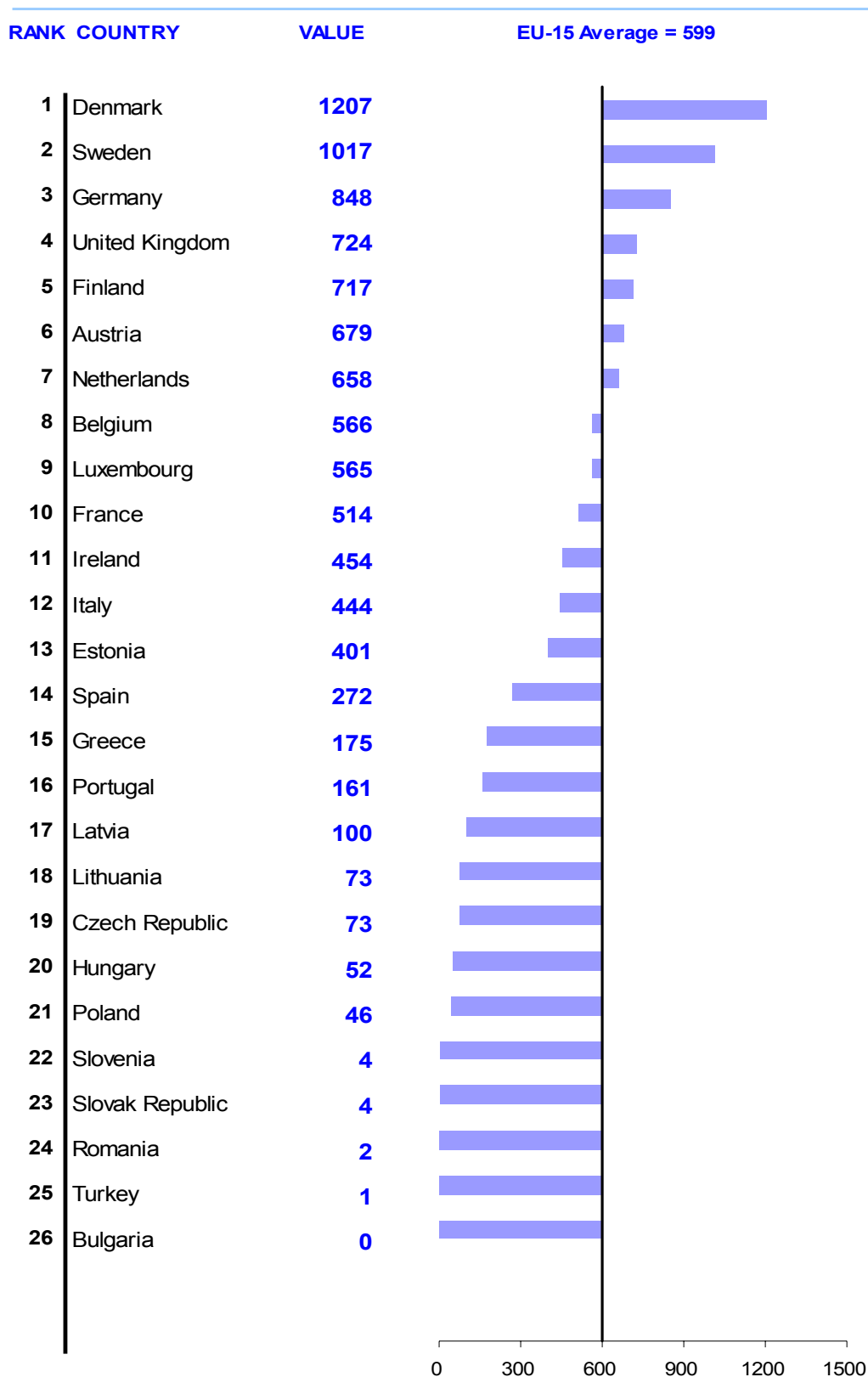
Percentage of individuals making purchases over the Internet



Source: Sibis 2002/3

7.02 B to B E-commerce, 2002

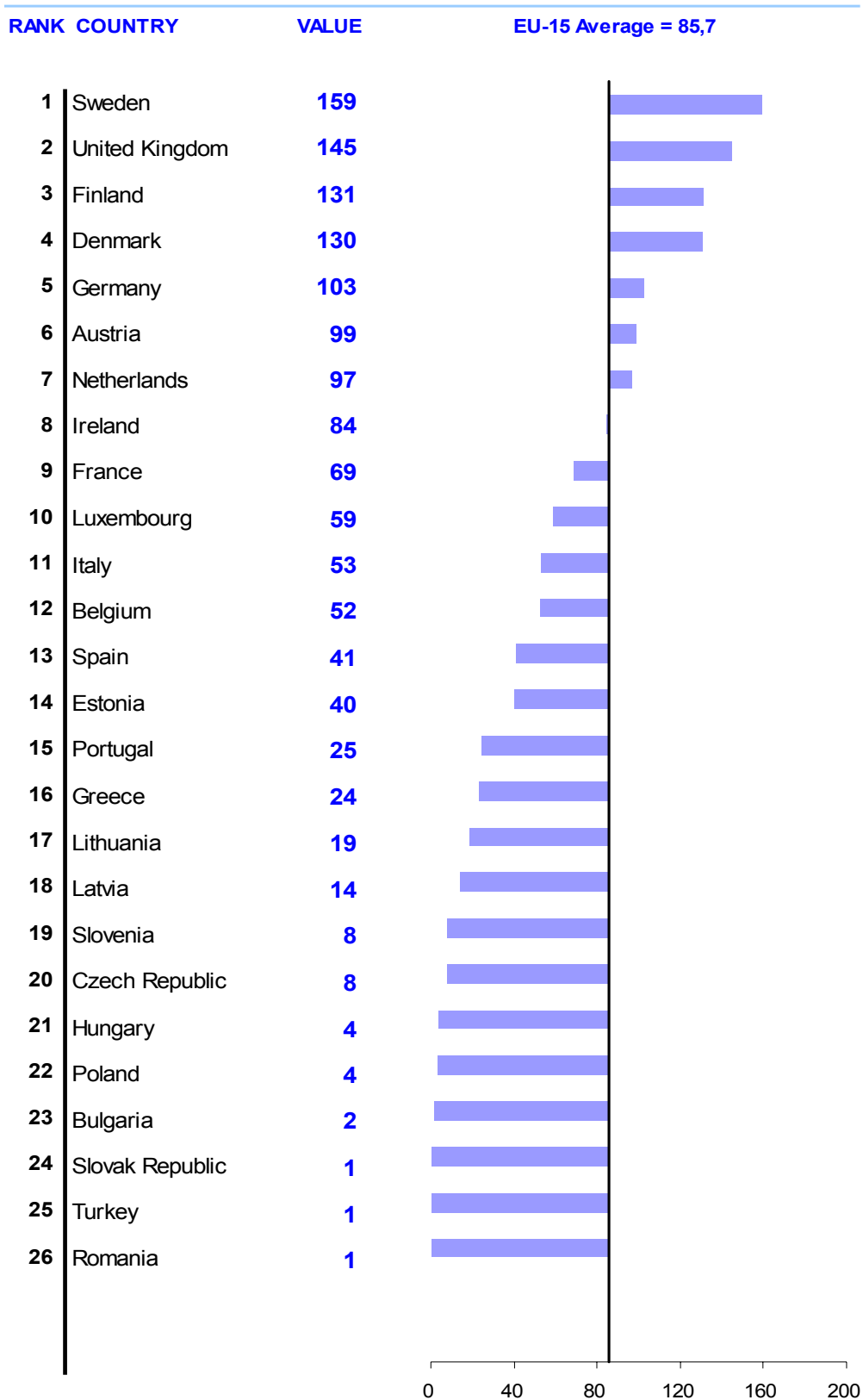
Volume of B to B E-commerce per inhabitant (US \$)



Source: Witsa, 2002

7.03 B to C E-commerce, 2002

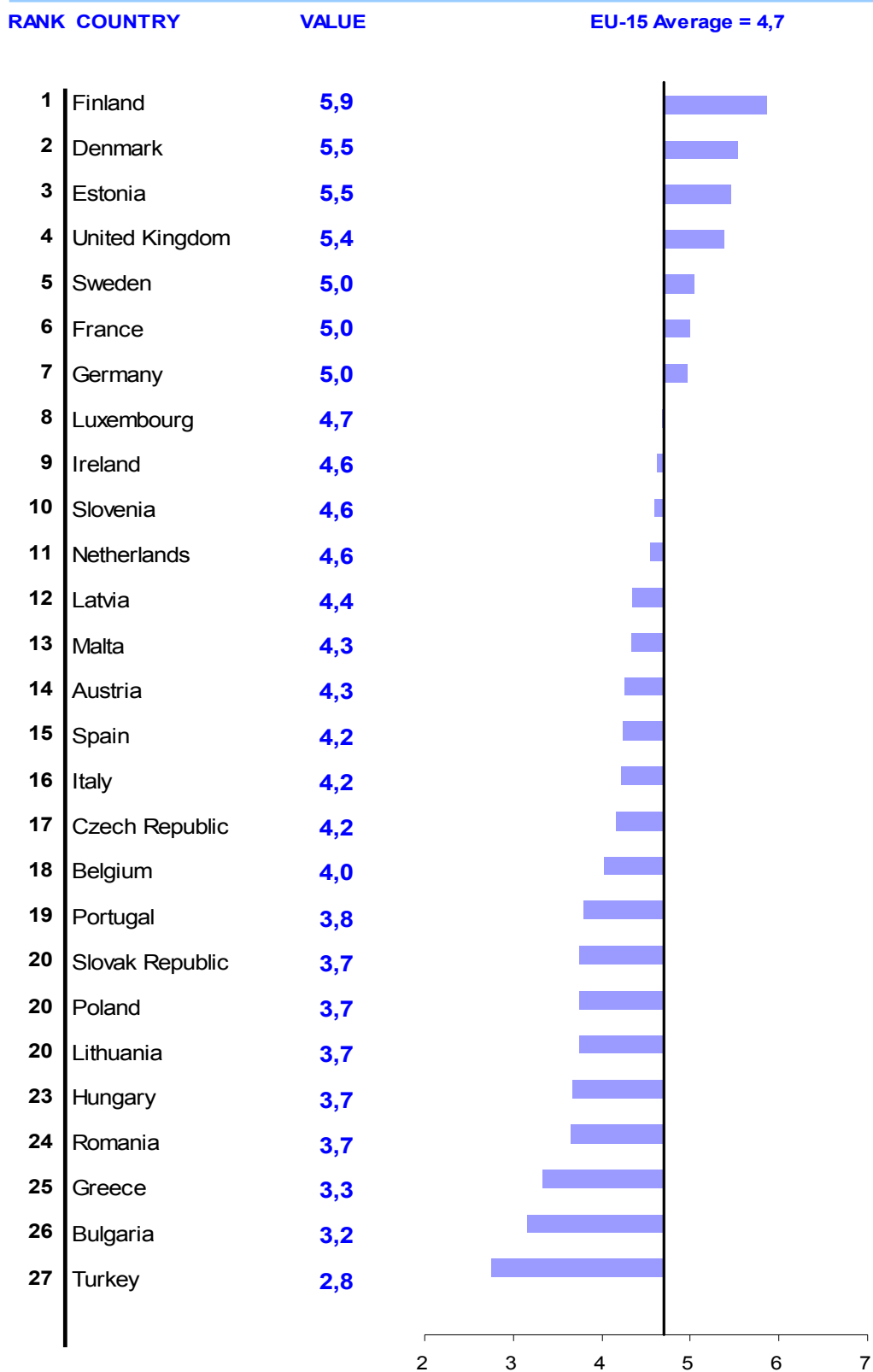
Volume of B to C E-commerce per inhabitant (US \$)



Source: Witsa, 2002

8.01 Laws relating to ICT, 2003

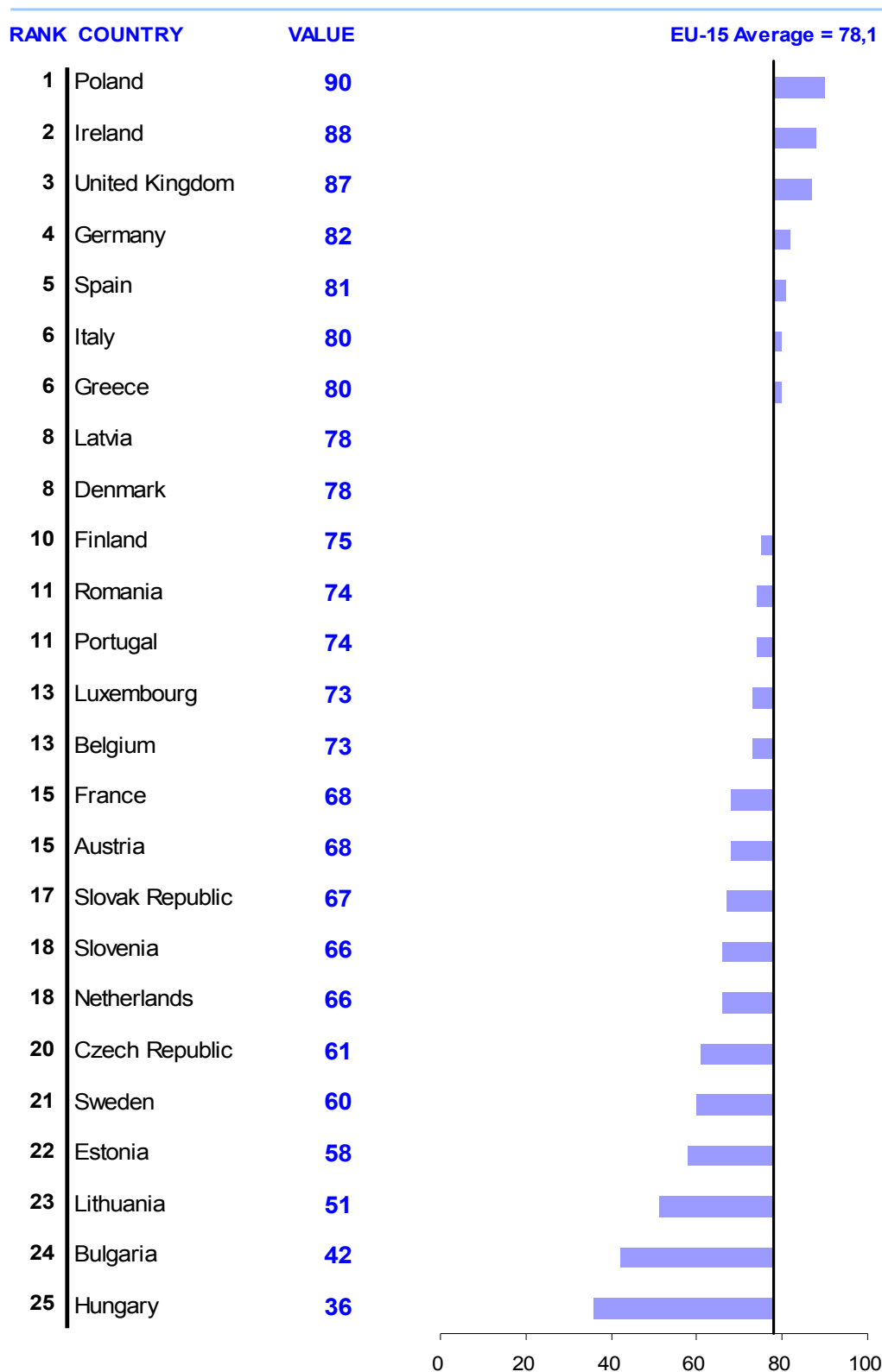
Laws relating to information technology (electronic commerce, digital signatures, consumer protection) are: 1-non-existent, well-developed and enforced



Source: Eurostat, 2002

9.01 Online Privacy, 2002/3

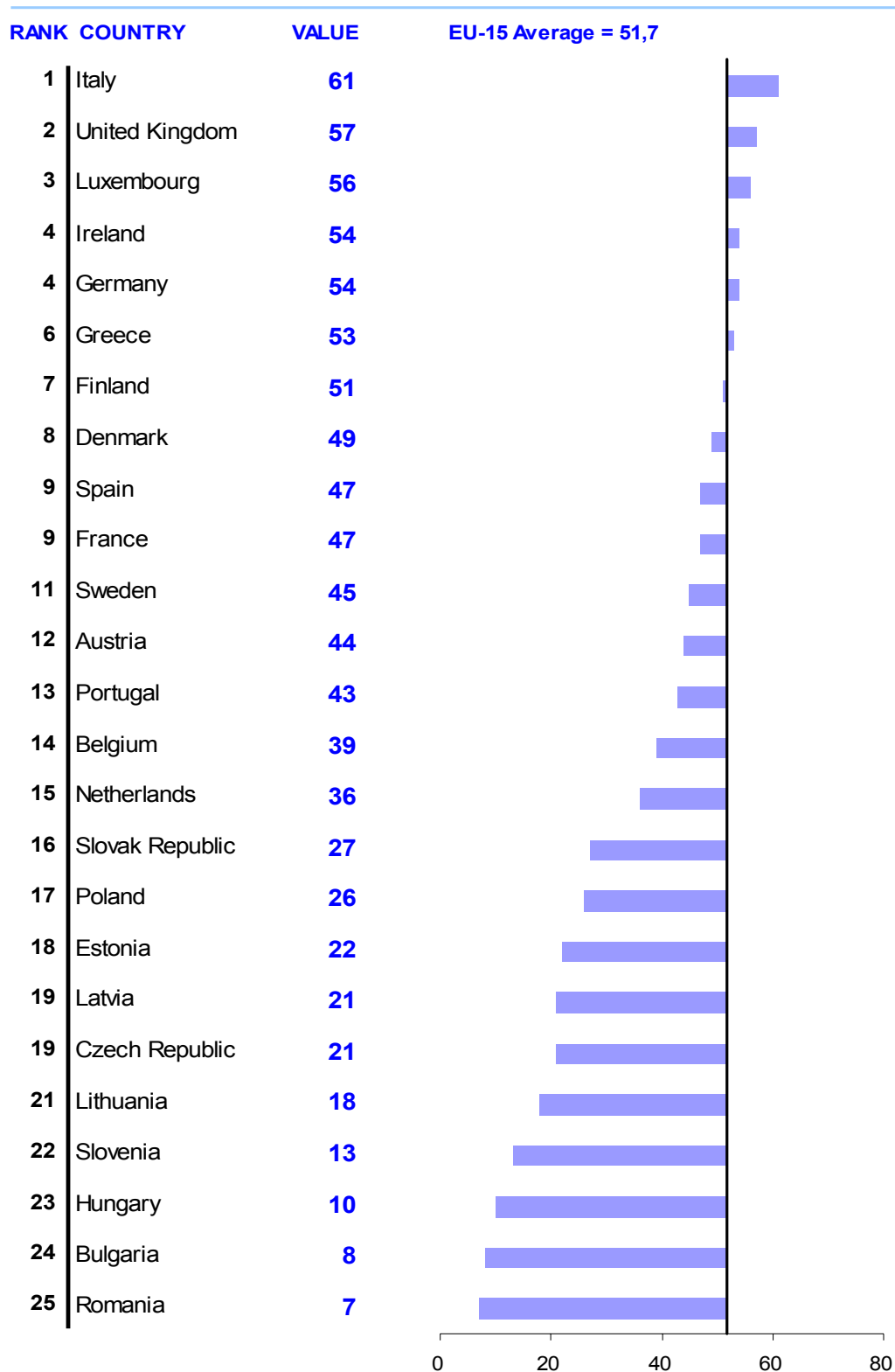
Percentage of individuals using Internet concerned with online privacy and security



Source: Sibis 2002/3

9.02 Secure online commerce , 2002/3

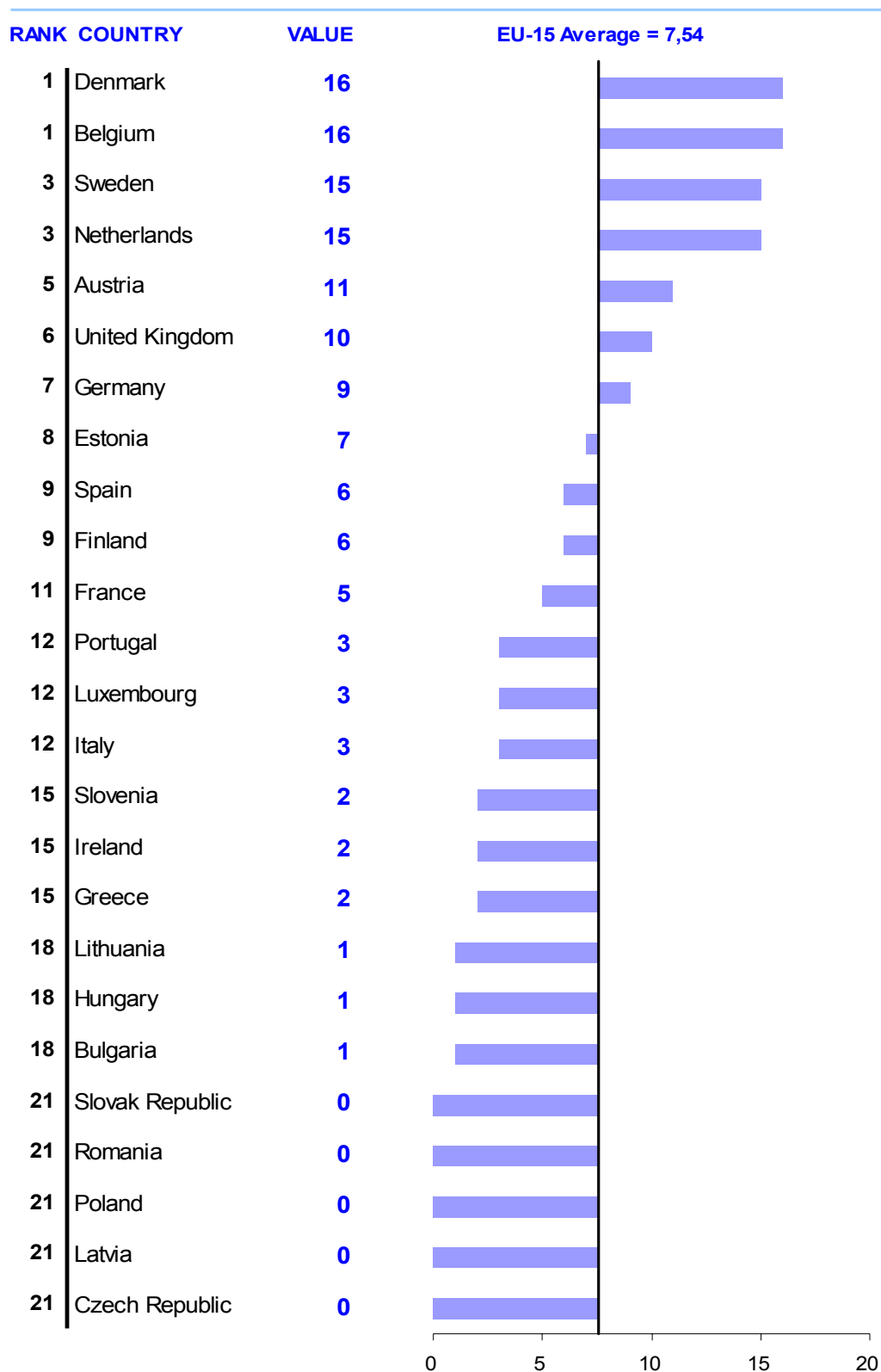
Percentage of individuals using Internet effecting online purchases that have refrained from making purchases due to concerns about security



Source: Sibis 2002/3

10.01 DSL Broadband Access, 2002/3

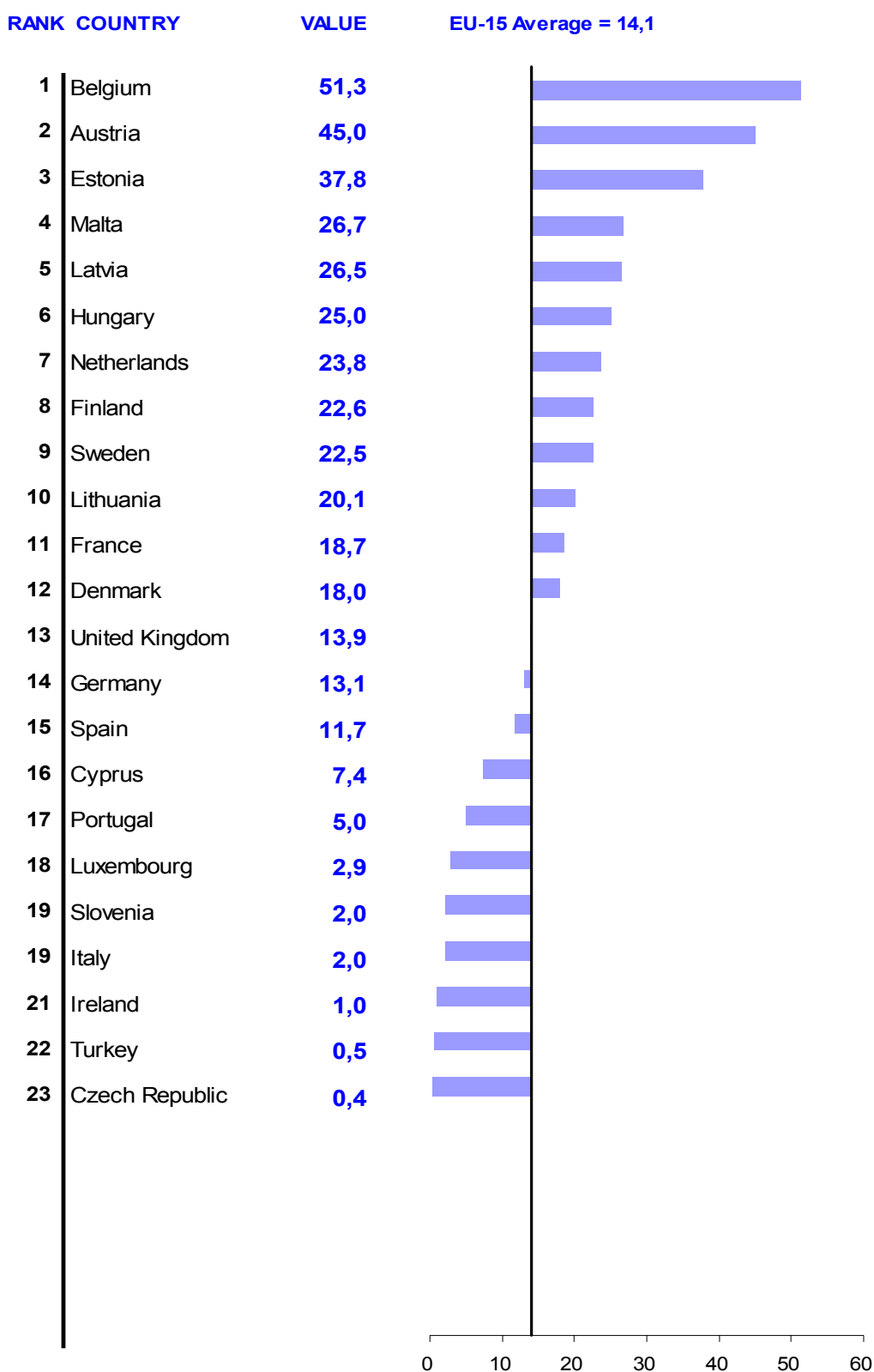
Percentage of individuals with DSL broadband access



Source: Sibis 2002/3

10.02 Broadband users, 2002

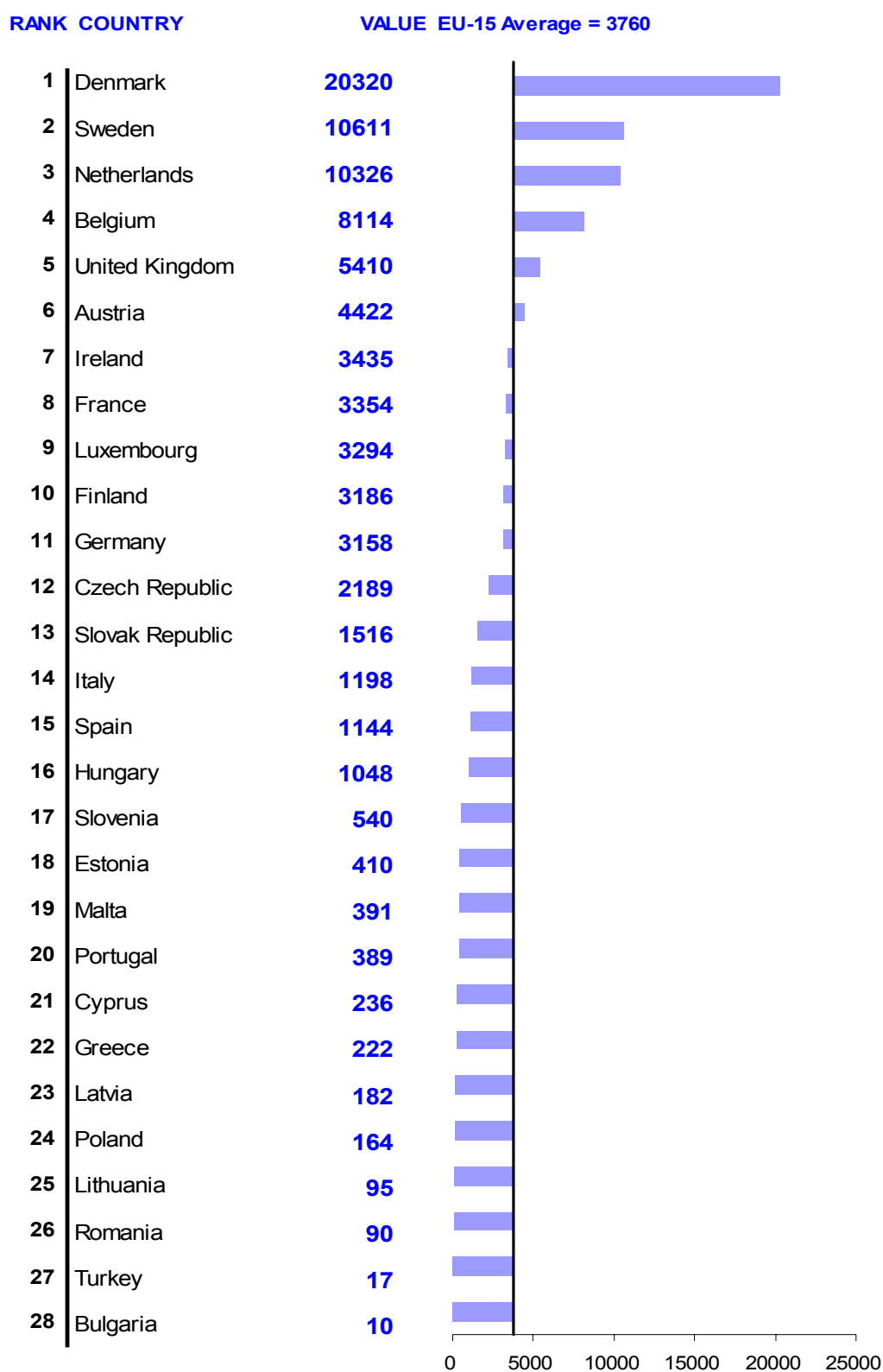
Broadband subscribers as a percentage of total Internet subscribers



Source: Isis/ International Telecommunications Union 2002

10.03 Bandwidth, 2002

Internet Bandwidth per inhabitant (bits per inhabitant)



Source: Isis/ International Telecommunications Union 2002