SIBIS

Poland

Country Report No.7

No.7

Information Society Technologies

European Commission

Preface

This report represents an important deliverable of the project 'Statistical Indicators for Benchmarking the Information Society' (SIBIS), running from January 2001 to September 2003 and funded by the European Commission under the 'Information Society Technologies' Programme. The overall goal of SIBIS is to develop and pilot monitoring progress indicators towards the Information Society, while taking into account the 'e-Europe action lines'. On this basis SIBIS focuses on nine topics of interest, i.e. Telecommunications and Access, Internet for R&D, Security and Trust, Education, Work-Employment and Skills, Social Inclusion, e-Commerce, e-Government and e- Health. This report is a part of the extension of the SIBIS project - 'SIBIS+: Statistical Indicators for Benchmarking the Information Society in the NAS: The eEurope+ Indicators'. The objective of SIBIS+ is to geographically expand the SIBIS activities from the EU Member States on the Newly Associated States.

Within this part of the SIBIS+ project a General Population Survey (GPS) was conducted in January 2003 on five of the nine topics: Telecommunications and Access, Social Inclusion, Education, Work-Employment and Skills and e-Government. Although limited in their scope, some questions have been asked for two other topics, Security and Trust and e-Commerce, as well. This report analyses the outcomes with regard to Poland comparing it to the other NAS but also to EU-15 countries, Switzerland and the USA, for which the same survey was already carried out in 2002. The document has two main objectives, namely to be a support tool for views shared by experts in the area and, at the same time, to define indicators for quantifying some of the most critical indicators related to the five topics.

The report consists of ten chapters. The first three chapters are designed to give the reader an idea of the main outcomes (Executive Summary) and the context (introduction to the country and the topics). The core of this report is the analysis of indicators, provided in chapters 4 to 9. Those chapters focus on an analysis of ICT infrastructure and security issues, e-society and social inclusion, the e-economy, e-education, e-work and e-government. The body of the document includes important findings and additional data is shown in the annex.

The intended audience composes of policy makers and statistical offices at all levels (national, and supranational), industry leaders and researchers in the domains and those involved and interested in benchmarking the domains throughout Europe and the world. Those institutions should consider the questions and the subsequent indicators developed by SIBIS as an input into their yearly surveys. The project includes a series of workshops with the institutions in the countries that are represented by the SIBIS consortium. The report should also be of interest to the European Commission (in particular DG INFSO) and to government officials who deal with information society programs.

Within SIBIS+, another report (WP2) has been developed during the period 2002-2003. This report was aimed at setting the scene for the topics, identifying existing indicators for the several topics that already exist in Poland and defining the gaps in the statistical coverage.

SIBIS is led by Empirica (Germany) and includes the following project partners: RAND Europe (The Netherlands), Technopolis Ltd. (United Kingdom), Databank Consulting (Italy), Danish Technological Institute (Denmark), Work Research Centre Ltd. (Ireland), Fachhochschule Solothurn Nordwestschweiz (Switzerland), University of Ljubljana (Slovenia), ASM Market Research and Analysis Centre (Poland), Budapest University of Economic Sciences and Public Administration (Hungary), Faculty of Management of the Comenius University Bratislava (Slovakia), "Dunarea de Jos" University (Romania), Institute of Economics at the Bulgarian Academy of Sciences (Bulgaria), Estonian Institute of Economics at Tallinn Technical University (Estonia), Social Policy Unit (Sozialinnen Politicus Group) (Lithuania), Computer Science Institute of the University of Latvia (Latvia), SC&C Ltd. Statistical Consultations and Computing (Czech Republic).

ASM – Market Research and Analysis Centre

ASM is a privately owned Polish consulting company founded in 1996 specialising in the wide range of market and social surveys. The main research areas cover: public sector agencies, community-based organisations, large and medium-sized manufacturing. The types of surveys include:

- **Socio-economic analysis** of individuals' and groups' needs, motivations, behavioural patterns, attitudes towards new technologies, social impacts of the new technologies, etc.;
- **Decision making processes** including: customers, public decision makers, managers, and other targeted public groups;
- **Market analysis**, segmentation, demand, shares, brand awareness (size, capacity, absorptive power, forecasts)
- **Customers satisfaction research** (CSI), including following groups : end users, key managers, citizens, etc.
- **Testing** new or existing products/packaging (Focus Groups Interview)

The company is in close co-operation with local and national bodies e.g. The Ministry of Regional Development and Construction, Polish Confederation of Private Employers, National Statistic Office. The company employs 34 full-time market research employees who have a degree either in sociology, management or marketing.

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1. Executive Summary

1.1 Introduction of Poland and the topics

This report presents the results of the following surveys: SIBIS 2002 GPS in 15 EU countries, Switzerland and the United States, and SIBIS 2003 GPS in 10 candidate states. The main reason for these investigations was to gather and compare the data about information societies in different countries in order to present the current situation, as well as to gain and submit to central statistical offices the experiences concerning researching the information societies. This research is even more important when we take into consideration the fact that after joining the EU, the process of transformation of candidate states societies will speed up dramatically due to the use of modern information and communication technologies. It concerns Poland as well, where the very idea of information society appeared practically at the end of 1994.

The work on IT implementation in the Polish society still continues and at present it seems that there is still a long and difficult way ahead to fulfil the appointed objectives. In order to support the establishment of modern information society in Poland, current information about the state of matters is essential. Even though there are several steps undertaken in this matter, especially by the Chief Statistical Office, the number of reliable data is limited. The great amount of information describing mainly the access to ICT comes from commercial researches, who are mostly either conducted not on a regular basis, or come from outside institutions. Currently, activities are being undertaken by CSO[1] in order to work out a system of statistical indicators which would describe the information society. This system should:[2]

- Secure the whole range of coherent and of appropriate quality statistical data, without marginal or incidental information,
- Entail data from maximally disaggregated to general,
- Enable an easy access to basic, complex and related data for the users,
- Secure the possibility of making any kind of operation,
- Entail the sufficient range of metadata and methodological explanations,
- Be adapted to the needs of various groups of users,
- Win full acceptance and satisfaction of its users.

In order to accomplish this task, an international co-operation in this matter is taking place. The employees of the CSO participated in 2002 in conferences on IS issues: **14–16.01 INSEE (France), 13-14.02 EUROSTAT (Luxembourg) 25–26.02 (Brussels).** As a result of various activities, not only those made by CSO, a lot of statistical indicators are in the phase of planning, but not many of them actually function. Among the indicators for the information market, the majority describe the area of telecommunication & access. The data for them is gathered by CSO, the Post and Telecommunication Regulation Office, Ministry of Interior, Ministry of Culture, Ministry of Infrastructure. This is the area of information society which is best described by the indicators. The data concerning other areas is much more difficult to obtain. It is true that there are adequate indicators, but their number is insufficient. Moreover, the majority of them does not function in cyclical surveys, and therefore it is difficult to follow the course of work aiming at the development of the information society. For example, to describe e-Government, there are only two indicators: Number of Internet Services of local government and the level of electronic public services in Poland and EU countries. In the case of e-Education there are more similar indicators, thanks to the researches conducted by the Ministry of Education and Sport. The areas of e-Inclusion and e-Health are not very well

[1] Central Statistical Office

[2] The information comes from Dorota Turek's presentation delivered at the Plenary Meeting of the Statistical Council on 25th April 2003.

investigated. Additionally, there is practically no data concerning e-Work, even though the problem of labour market is currently at the centre of interest of the Polish authorities.

Consequently, because of a relatively short experience of Polish statistics in describing the information society, such projects as SIBIS enable to learn a lot from both successes and failures. An additional advantage can be the encouragement to widen international co-operation so as to create a homogenous system of indicators for the whole Europe. Owing to this we can gain a homogeneous picture of the European Information Society, which would show the areas most and least developed. It would support a steady development and indicate the best solutions.

Results of the data According to SIBIS surveys, the level of IS development in Poland in comparison with other European countries does not look favourable.
In many fields, especially in cases of Internet accessibility and usage, there is still a gap between Poland and EU states. Quite frequently, also the differences between Poland and pre-accession countries are alarming.

The level of accessibility of telephones, fax machines and computers at home for Polish people is not very different from other pre-accession countries. Slightly below the average among those countries (43.68%) is the number of mobile phones in Poland (37.82%), but according to the data of mobile phones companies this indicator is rapidly increasing. This lesser equipment is caused by the highest mobile phone fees among NAS countries. Such observations are proved by researches conducted by outside organisations, such as IBM or PWC. What is more, the low index of occurrence of computers in Polish homes (26%) as well as computers accessibility in general (74% of the population) are the causes of the low Internet accessibility.

Up to every seventh respondent from Poland has never heard of the Internet, which places this country a little below the average among NAS. 75% of Polish society does not use the Internet, 7.5% uses the web quite regularly, 3.7% has access to it both at home and at the workplace, and 6.5% of the respondents, which is 26% of Internet users, do not have either of these possibilities.

A high conviction that the data in the web are safe, even the personal ones, is characteristic for the Polish society. It is even higher than among other European countries or the USA. In spite of this, on-line shopping is used regularly or occasionally by only a slight percentage of the society (5%), which is one of the lowest in Europe, especially when compared to 30% of Danes and 45% of Americans. Among those 5% of e-commerce users, the most numerous group consists of people from 25 to 49 and up to 24 years of age. The reason for this division is that the former usually have financial resources which enable them to use e-commerce, while the latter simply use the Internet more often.

Another cause for this state of matters can also be the insufficient skills in communication by means of the Internet (e-mail, chats and personal web sites) among Poles. Both, among the EU countries and the pre-accession countries, Poland is placed at the end, ahead only of Hungary and Romania. Only 18% of respondents are very or quite confident of their skills in this matter. Less than 15% is convinced of their ability to obtain and install digital tools in their computers, and only 20% of acquiring information by means of internet search engines. The average for the EU countries is about 40%, and for the USA about 60%. Such a situation indicates that there is a strong need for raising digital literacy in Poland in order to belittle the gap between this country and other Western states.
Therefore, it is extremely important to promote training in ICT use at schools and to ensure access to the Internet at educational institutions. According to a survey conducted by the Ministry of Education, 50% of the computers which are currently at schools are old and out of date. The number of students for one computer in primary and grammar schools is 44 and in

secondary schools 22. The European average in this aspect is 13 and 8 respectively. The indicator describing the number of students for one computer with access to the Internet is even higher: in Poland it is 79, and in the EU 32.

If the students do not have a chance to learn how to use ICT at schools, they will have limited possibilities later, as employees. Currently, only about 10% of employed people admit that they participate in training that raises their professional skills, which is a little above average for NAS countries, but a lot below average for the EU states (22.5%). The research suggests also that lately fewer and fewer people participate in such trainings, which is probably caused by a bad economic situation in Poland and a catastrophic situation on the labour market., Less than 5% of employees have participated in ICT use trainings, which is not even a half of all workers who take part in trainings.

What follows this state of matters is the fact that the use of ICT at the workplace is also small. Whereas in the European countries many forms of tele-work, tele-co-operation, mobile work, etc., are very popular, and their use in Scandinavian states exceeds 50% of employees, in Poland only 17% of workers admit to tele-working in business contacts, and 5% send part of their work to the employer via Internet and work at home. This is a result of a relatively low interest in such way of working among respondents (53%) and the possibility of its usage (12.5% sees such a possibility) comparing with other countries. Only 1% admit to have to do with mobile work, whereas the average for the EU countries exceeds 4%. About 23% of employees working in Poland have a possibility to adjust to some extend their working hours to individual preferences, which is only a slight percentage in comparison with almost 50% for the EU countries.

In spite of high social security payments for various groups, the weak economic situation is reflected in the inequality of access, skills and use of ICT not only in Poland, but also in other candidate states. Digital gap in pre-accession countries is averagely nearly 10 percentage points higher than in the member states. It includes mostly the low index of Internet accessibility and computer use by people who finished their education quite early. It is very probable that this gap will increase due to the fact that primary schools are insufficiently equipped with computers.

For example, social differences in Internet accessibility for people with long standing illnesses are disproportionately bigger in countries, where Internet accessibility is generally lower. On average, nearly 30% of people with long standing illnesses in the EU use the web, whereas in the candidate states this index reaches only 7%.

Considering the social aspects of ICT, apart from social differences we must not forget about people's attitude towards modern technologies. The reasons for not using the Internet at all or only occasionally cannot be limited only to the lack of equipment or possibility of access. Many people consciously abandon using the web because they find it hard to deal with. This was the answer given by one third of the respondents who have heard about the Internet but usually do not use it. However, a much more frequent cause for this state of matters is the lack of advanced computer skills. Yet, up to 28% of Internet users would feel socially excluded if they were deprived of the access for four weeks. What is interesting, is the fact that this indicator is by 8% higher than the EU average.

Polish Internet users still prefer using traditional ways of interacting with government. On average, only 24.7% of them would choose the Internet to use governmental services. This may be the reason why over 40% of respondents is not aware of on-line availability of governmental services. The exceptions, like in other NAS countries, include library books and jobs search. It is very important to notice that preferences to use the Internet for interacting with governmental services in Poland are below the NAS average in all cases. Additionally, while comparing preferences, availability and usage of the Internet for

interacting with governmental services, there is a big gap between the needs and the demands for Internet services in Poland.

1.2 Ideas for future research[3]

The result of the research conducted for SIBIS project is not only concrete data, but also, and maybe most of all, the diagnosis of the current state of descriptive statistics in terms of information society. To be able to describe the way of future researches on information society, it always requires an early revision of the hitherto existing activities conducted by researches in this filed. An attempt in presenting major tendencies in the analysed area will surely help to identify the potential difficulties in the development of IS research in Poland.

The context of research on information society in Poland – an attempt to diagnose the actual situation

- The researches on information society in Poland are conducted mainly within sociology, social psychology, anthropology and ethnology
- One of the most popular topics of investigation of commercial institutions is telecommunication, which is only a fragment of the very complicated phenomenon of information society
- There is a very restricted theoretical context for these researches – there is no one cohesive definition
- IST is still a priority in the development of the country, that is why this topic is evaluated
- The lack of credible gauges which would describe the transition to information society (the percentage in service sector and the contribution in percentages of the number of workers in services are not adequate)
- The reservation of researchers, which is caused by the lack of measures, the fear of low quality data, lack of recipients identification (except for the government).

There are many research problems which concern information society, ranging from the influence of new technologies on the development of economy, style of living, working, to the change in the forms of organisation, etc. What is characteristic of information society in its various dimensions is also an excellent point of departure for further research. The economy based on knowledge, new forms of work[4], science as a generator of innovations, cultural and administrative changes, education as well as interaction between these fields – all these contribute to this new form of society - information society.

The following stages in the development of information society will bring new chances and threats. The latter will require from science the readiness for prediction. Systematic research enables the undertaking of such activities which would help to avoid the ‘digital division’ of countries not only globally, but also and most of all at the level of communities in one country. Actually, there are premises which indicate that all those who do not keep up with the accelerated tempo of the development of information society will be socially excluded. That is why, the investigations of the development of information society are a huge chance on the way to maintain the appropriate direction of socio-economic development in general.

Owing to the activities undertaken within the SIBIS project, it is justified to claim that even though there has been done a lot for the development of information society statistics, there still exists a huge information gap in this respect. The indicators which were suggested in the

[3] The fragment comes from a lecture „The Role of Public Statistics in the Integrated Information System about Information Society”, delivered by the President of ASM, Ms Elżbieta Syrda, on 25th April 2003, at the Plenary Meeting of the Statistical Council.

[4] , eg.: via the web

project were viewed with interest on the part of those interested in the topic, and a discussion about future research has begun. The results were summed up by the director of Information Society Department in Chief Statistical Office, Ms Dorota Turek[5]. As future challenges for the statistics she indicated:

- The elaboration of methodological rules
- The definition of acquiring data needed to estimate the indicators specified in the system
- Modification of the existing classifications of products
- The expansion of information offered into the new statistical data.

One of the many observations from SIBIS project is that in Poland there is a need for conducting research on nearly every area included in SIBIS. There are of course some, which are explored relatively well, like the accessibility of new technologies, but there are also other, such as e-commerce, e-health, which are fairly new, and therefore not included in any of the researches. The priority topic in the nearest years should cover the problem of social inclusion, because its monitoring can play preventive role for the increasing problem of digital division.

1.3 Conclusions

'Those countries which will enter the era of information society will benefit a lot. They will mark the road for the others. However, those countries which will wait or will undertake half measures, can face the breakdown of investments and the crisis of labour in the period of less than 10 years'

(Fragment of Bangemann's Commission Report)

The participation of Poland in the SIBIS project was important and fruitful. Not only did SIBIS suggest a set of indexes to measure different aspects of information society, but it also gave concrete results. It turned out that the very fact of the practical use of the data by the recipients was highly approved by all those connected with researches on IS, because so far they have been confronted with only theoretical solutions. What also emerged from the project was the fact that Poland is far at the end in terms of the development of the IS among other countries which participated in it. Such a conclusion was possible after presenting the whole set of data in the SIBIS project. In our opinion, the greatest success of the project in Poland was the fact that it became the basis for a discussion about the necessity of introduction of the topics which were investigated in SIBIS to the researchers of public statistics in Poland.

According to the thesis of professor Kazimierz Krzysztofek: 'the world developmental empiricism is familiar with the so called *late arrivals syndrome*, who can benefit form the newest achievements and avoid expensive mistakes', we can and should make use of the previous experiences coming from the investigation and testing of the indexes constructed for the SIBIS project, and in that way speed up the development of researches on IS issues. However, it seems that it would be more important to engage in the activities aiming at informing the decision makers (the employees of appropriate national statistical offices departments) and developing these indicators in the nearest future.

[5] The information comes from Dorota Turek's presentation on the Plenary Meeting of the Statistical Council on 25th April 2003.

2. Introduction

2.1 Background

Statistical Indicators Benchmarking the Information Society (SIBIS) is a project funded under the 'Information Society Programme' of the European Commission (IST-2000-26276). SIBIS, which runs from January 2001 to September 2003, has taken up the challenge of developing innovative information society indicators to take account of the rapidly changing nature of modern societies and to enable the benchmarking of progress in European Union (EU) Member States. The indicators have been tested and piloted in a representative survey held in 2002 in all EU Member States, Switzerland and the United States. As a result, nine Topic Reports assessing the current state of the European information society and benchmarking individual countries have been published in 2003. The topics covered by SIBIS include: *telecommunications and access, Internet for research and development, security and trust, education, work- employment and skills, social inclusion, e-Commerce, e-Government and e-Health*.

In 2003 the SIBIS project has been extended with the SIBIS+ initiative. The objective of SIBIS+ is to geographically expand the SIBIS activities from the EU Member States on the following Newly Associated States (NAS): Slovenia, Poland, Slovakia, Hungary, Czech Republic, Bulgaria, Romania, Estonia, Lithuania, Latvia. This parallels the extension of e-Europe to e-Europe+, an Action Plan by and for the candidate countries.

This report analyses the results of the surveys conducted in the ten NAS countries in 2003. In order to produce comparable results, the survey questions have been extracted from the surveys conducted in the EU member states in 2002.

2.2 Country and Topic Areas

The SIBIS project was aimed at creating innovative statistical indicators which would describe the information society. These indexes enable the investigation and comparison of the rapidly changing nature of modern societies in European countries. They were tested in a piloting research on a group of representatives from all EU countries and the following pre-accession states: Slovenia, Poland, Slovakia, Hungary, Czech Republic, Bulgaria, Romania, Estonia, Lithuania, Latvia and the United States of America and Switzerland.

The main task of the indicators is to measure the areas and issues concerning information society, such as: education, telecommunication and access to the Internet, work, skills and employment, e-Government, Internet for education, web security, e-business, equalisation of social differences. The next stage of the investigations is the analysis of the results by means of benchmarking method (more detailed information: www.benchmarking.co.uk).

The above mentioned elements form a part of the Polish thematic report. As it is the first total study of IS issues in Poland, it is the more significant. There are other elaborations on this matter, but both, their quality and quantity, are insufficient. Because IS is a new social form, it is not a popular study question. Furthermore , there is a lack of holistic methodological approach to this issue. So far, the majority of publications on IS concentrated on the problem of accessibility of new technologies. This is of course one of the main conditions which determine the development of IS, but not the only one. We should look at the phenomenon of the creation of the IS in a holistic way: starting from the causes, through the processes of formation, to the results. This was the approach of the project which helped to receive well the research by the members of the Statistical Council in Chief Statistical Office. Most of them are convinced that in the current situation the problem of IS is gaining on importance. Therefore, the statistics has to face up a new task:

"The task of statistics should be to ensure conducting researches which would allow to identify the phenomena describing the creation and development of information society, as

well as to create basis for the analysis of the economic and social consequences of the following developmental phases of this society"[6].

The possibility to look at the problem of information society in Poland and compare it with other countries participating in the research, is a very valuable experience. Some of the areas of this research, such as e-work, e-commerce or social inclusion, have not yet been a subject of any greater scale investigation. It is known that the information from these areas is of great interest to the decision makers responsible for the realisation of the programme e-Poland and to the broadly understood market of new technologies, as well as the researchers. The realisation of this research, and then the presentation of its results triggered a discussion about the necessity of introduction of a statistical programme on some elements needed for the description of IS. The importance of the realisation of a project which would come up with the elaboration and evaluation of a set of indicators is proved by the fact that the next plenary meeting of the Statistical Council will be devoted to that topic.

The results of the SIBIS project turned out to be an appropriate activity in the situation of information gap in IS respect and the demand for information on that part of the market.

2.3 Overview of the Report

The arrangement of the topics is as follows:

General Information about Poland – consisting of basic data about Polish economy in last two years (GDP, inflation, unemployment) and some comments and ratings concerning Information Society in Poland.

ICT Infrastructure– there are some analysis of telecommunication and access to fixed telephone lines, faxes, mobiles, computers and Internet indicators for Poland. The chapter contains latest figures from SIBIS GPS for EU-15, NAS, CH and US. And some additional data from IBM survey for the sake of comparison.

Security – it contains the concerns of Polish society regarding data security issues and the related influence on on-line shopping.

e-Society and Social Inclusion – presenting an analysis of the relevant results of SIBIS survey like: barriers to the Internet usage, the Internet usage in the last 4 weeks by people with long standing illnesses, digital division indices, the Internet usage drop-outs and comparison of answers to the question: Would users from different countries feel socially excluded without Internet?

e-Education and life-long learning – this chapter concerns ICT education and ICT skills like: identifying the source of information on the Internet, searching the information thorough Internet search engines, creating personal web sites, communicating via e-mail, participating in life-long learning etc. It provides the data from SIBIS survey and some national sources as well.

e-Economy and e-Commerce – provides information about the percentage of e-Commerce users. They are described by age and experience.

[6] Walczak Tadeusz, „Information Society and the tasks of statistics" , *Statistical Newsletter*, nr 6, June 2001

3. General Information about Poland

Table 1. General Information about Poland

Area	312 685 square km	
Population	38,6 million (2002)	
Exchange rate	1 € = 4,3840 PLN (02.06.2003) - National Bank of Poland	
Economy	**2001**	**2002**
- GDP growth	1% **(GUS – Polish Central Statistical Office)**	**1,3%** (GUS) **0,77%** (Eurostat) **1,2 %** (CIA)
- Inflation	**3,6 %** (GUS) **5,3%** (Eurostat)	**0,8 %** (GUS) **1,9%** (Eurostat) **2,5%** (CIA – consumer prices)
- Unemployment	**17,5%** (GUS) **18,6%** (Eurostat)	**18,1%** (GUS) **20%** (Eurostat)

The Polish economy is currently in crisis. After rapid economic growth in the first half of the 90s, the economic situation in Poland became less favourable. It resulted in harder conditions for domestic enterprises and households. Huge unemployment, which was increased by demographic growth entering the labour market, turned out to be especially painful. That is why, in spite of the already visible economic revival, a decline in unemployment rate is not very probable yet. What should be mentioned as a favourable fact is the activity of the Polish Monetary Policy Council, which is responsible for controlling the inflation. Since three years, the inflation rate has been maintained at the same low level, which should be treated as a success considering that at the beginning of the 90s there was a devaluation of zloty which resulted in inflation of tens or even hundreds percent throughout a year.

Ratings:

Table 2. IT, ICT ratings for Poland

Index	Rank	Source
Information Society Index 2000	31 of 55 countries (score 2,875 out of 10)	IDC
Technological Achievement Index 2001	29 of 72 countries	UNDP
Global IT IQ ranking 2002	27 of 100 countries	Brainbench
E-readiness ranking 2002	31 of 60 countries; (score: 5,52 out of 10)	Economist Intelligence Unit and Pyramid Research
Network Readiness Index 2002-2003	39 of 82 countries (score: 3,85 out of 10)	**World Economic Forum**

4. ICT Infrastructures and Security

4.1 Telecommunications and Access

The range of access to information in the era of information society depends to a great extent on the access to the World Wide Web. That is why, the level of computer equipment and the development of webs to transfer data, which determine the use of world data resources, indicate also the level of development of various societies.

Polish authorities are aware of the fact that without a high-quality, well-developed telecommunications infrastructure Poland is not able to achieve high dynamics of socio-economic development and to create information society. The last few years have brought a crucial development in the telecommunications in Poland. In 1996 this sector's share in the GDP amounted to 2,5%, and in 2000 this percentage increased to 4,4% of the GDP. Measures have also been taken to increase competitiveness on the Polish market of telecommunications services.

The Polish telecommunication market is still undergoing liberalisation. 22.6% of the fixed incumbent operator, TP S.A., is still owned by the state. 66% of PKT Centertel (one of the three mobile operators) is owned by TP S.A. Telekomunikacja Polska still owns 91% of the market and only in January 2003 it lost the monopoly on international connections. In the 30th of June 2002 there were 50 licenses for provision of fixed telecommunication services – local public voice telephony, 15 – public national voice telephony, 53 – local network services and 7 – national network services. Before the 1st January 2002, there was a duopoly on the market of local telecommunications services in the individual area code zones.

As the telecommunication services developed, by the end of 2001 the number of fixed phone lines per 100 inhabitants amounted to 28,2, whereas in the mid 2002 – 31[7]. On the 21st of December 2001 the number of ISDN lines totalled 493,0 and it was twice as big as a year earlier[8]. 55 is the percentage of households passed by CaTV networks in Poland in 30th of June 2002[9]. Internet services of CaTV networks are very competitive compared to similar telecommunications services in Poland and their popularity grows continuously.

The access to the Internet in Poland is also possible through alternative means to fixed telephone networks, such as: cable TV, GSM (WAP and GPRS protocols, which represent wireless access alternative), broadband radio, energetic network, infra-red rays, and with UMTS in the future. The Development of electronically provided services is limited because of the possibilities of access to Internet terminals. That is why public libraries and the Polish Post offices are to support the creation of the system of public access to information resources; similarly the realisation of the INFOBIBnet project and the Interkl@sa programme is supported by the Ministry of National Education and Sport.

The development of cellular phones networks is much more dynamic. At present there are three operators of mobile phones in Poland. The number of mobile phones per 100 inhabitants in 1995 amounted to 0,19, in 1999 – 10,24, in 2000 – 17,46[10], and by the end of 2001 – 27 (almost as many as fixed phones). In the middle of 2002 this rate was 31. However, the mobile phone fees are still very high. They are the highest among all EUCCs. About 25% of the mobile phones users use phones of the pre-paid type.

[7] 2nd Report on Monitoring of EU Candidate Countries (Telecommunication Services Sector), IBM

[8] Telecommunication Services Market in Poland – 2001, URTiP

[9] 2nd Report on Monitoring of EU Candidate Countries (Telecommunication Services Sector), IBM

[10] Telecommunication Services Market in Poland – 2001, URTiP

The deadline for the launching 3G services is set for the beginning of the year 2005. The operators are obliged to cover 20% of Poland's population by the end of 2004 and increase the coverage to 40% by the end of 2007.[11]

According to the SIBIS results the level of accessibility of telephones, fax machines and computers at home for Polish people is not very different from other pre-accession countries (figure 1). Slightly below the average among pre-accession countries (43.68%) is the number of mobile phones in Poland (37.82%), but according to the data of mobile phones companies, this index is rapidly increasing. The lesser equipment is caused by the highest mobile phone fees among NAS countries, which is visible in the two above diagrams.

According to a survey conducted by IBM in June 2002, 62% of Polish households were equipped with a fixed line, 91% of which were digital lines. This is important because in pre-accession countries the prevailing form of connecting to the Internet is still a modem in all age groups, which is shown in the diagrams presented below. In the countries of the EU-15 it is also the most popular form of contact with the www, but also DSL and ISDN links have major share in the market. What is very significant is the fact, that in the EU countries the percentage of people who could not answer the question about the way of connecting to the Internet at home was a lot higher regardless of the age of respondents. It is, however, the low index of computers in Polish homes (25.88%) that is the main reason for low accessibility to the Internet at home (13.7%). Still, the possibility of general access to a computer was declared by 74.12% of the respondents.

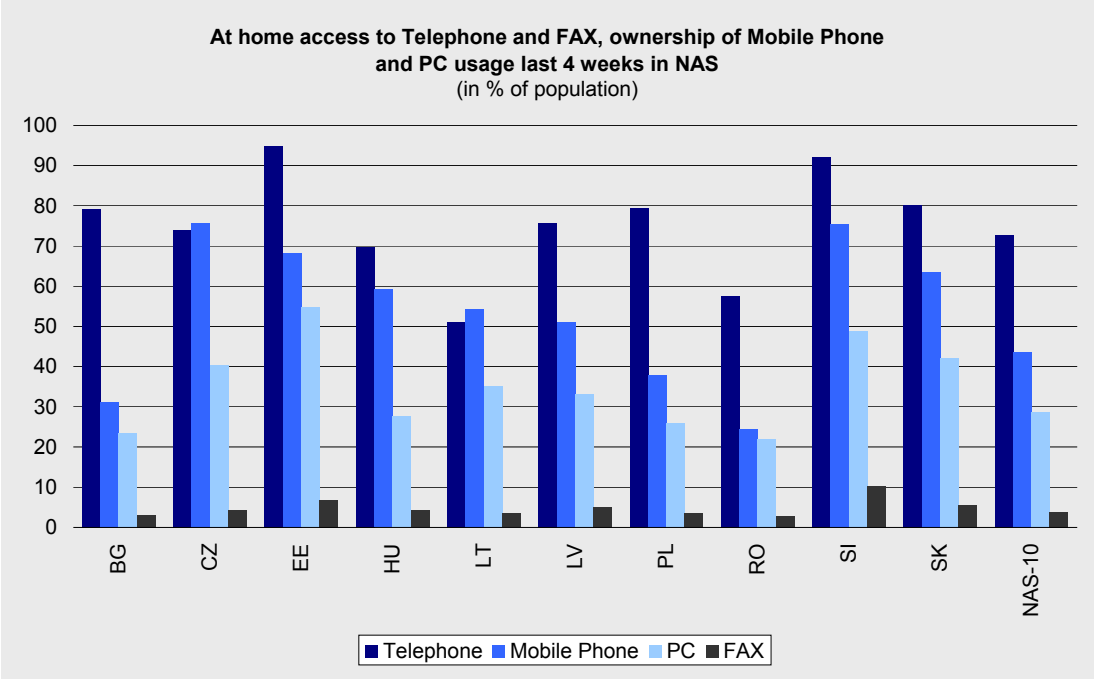

Figure 1. Access to telephone and fax at home, ownership of mobile phone and PC usage in the last 4 weeks in NAS
Bases: all respondents, weighted column percentages
Questions: A1a, A1b, A1c, A5
Source: SIBIS 2003, GPS-NAS

[11] 2nd Report on Monitoring of EU Candidate Countries (Telecommunication Services Sector), IBM

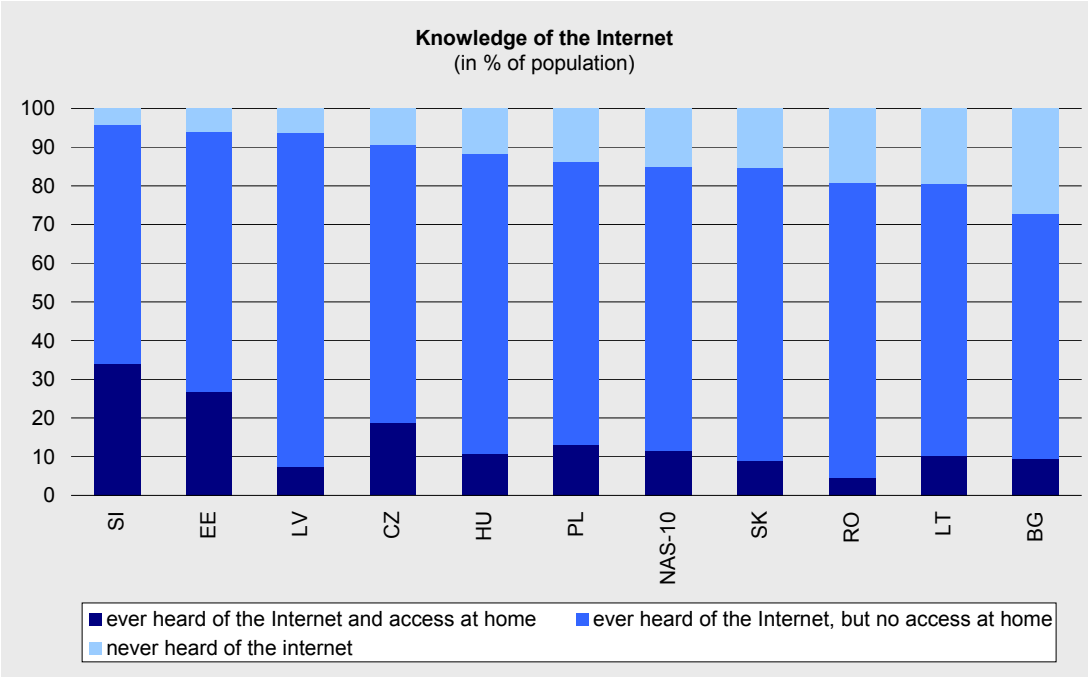

Figure 2. Knowledge of the Internet among NAS respondents
Base: all respondents, weighted column percentages
Questions: A6a, A6b
Source: SIBIS 2003, GPS-NAS

Up to every seventh respondent from Poland has never heard of the Internet, which is slightly better than an average result in pre-accession countries (figure 2). The lack of Internet knowledge is dominant among socially disadvantaged groups, such as elderly people, worse educated, the poor and women, which will be discussed in more detail in the chapter 'Social inclusion'.

The level of Internet knowledge and the access to it at home is closely connected with the level of wealth of the society (GDP per capita), the number of computers and telephones per person. Therefore, together with the increase of these indices, we can expect an improvement on the level of Internet knowledge.

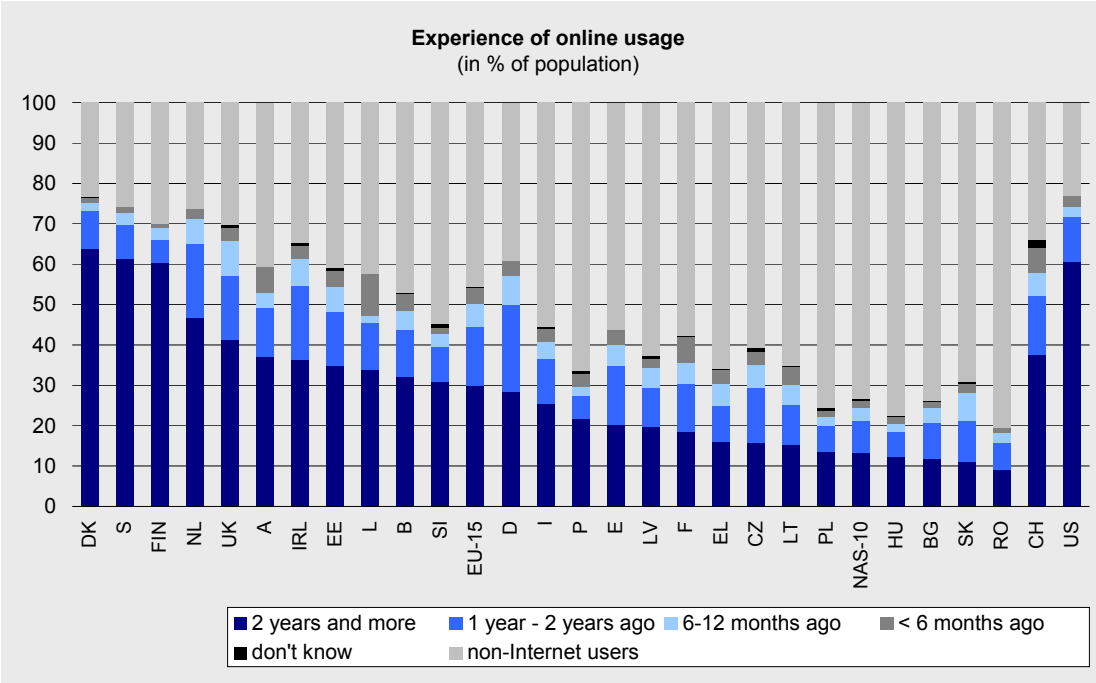

Figure 3. Experience of on-line usage of European and US citizens
Base: all respondents, weighted column percentages
Questions: A12
Source: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

75% of Polish society does not use the Internet but almost 85% has declared that has heard of it (figure 5). Only 13.7% had the first contact with www two or more years ago. These indexes are among the lowest in Europe. The reasons for this state of matters are various and complex, but surely they include: poverty, very high telecommunication fees in Poland, the lack of developed alternative ways of Internet access. In the last case it should be stated, that if they occur it is mostly in huge and medium cities, where the economic problems are smaller than in small towns and villages.

Since not long time ago there are governmental and non-governmental programmes introduced at schools, such as Interkl@sa or “Internet at school: Project of the Polish President” (1999), which aim at equipping educational institutions with modern ICT devices and assuring access to the Internet. Efforts to provide every commune with a place with public access to the Internet are also undertaken, but according to the data, they do not guarantee that Poles will use the Internet.

Out of the less than 25 % of Poles who use the Internet, nearly 30% use it quite regularly (more than 6 hours per week) and over 80% at least once a month preceding the survey. This is an index which does not differ too much from other European countries. However, only 15% of respondents who use the Internet had an access to it both at home and at a workplace. The biggest group of 26% who connect to the www does not have an access either at home or at work (figure 4).

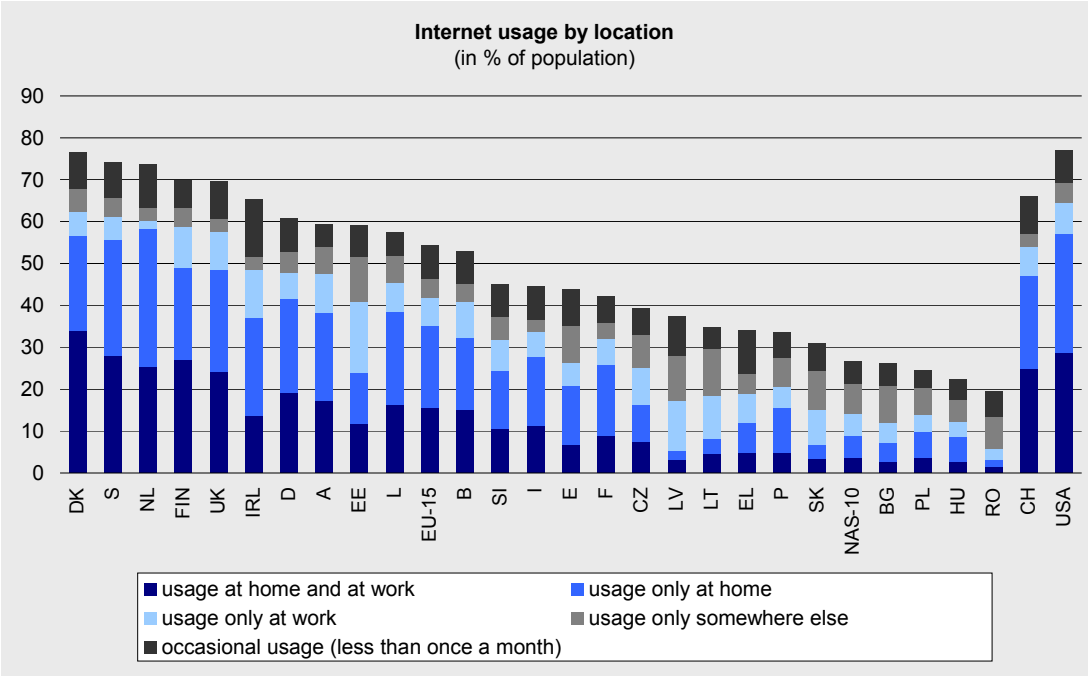

Figure 4. Internet usage by location (at home, at work, other places)
Bases: all respondents, weighted column percentages
Questions: A9
Source : SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

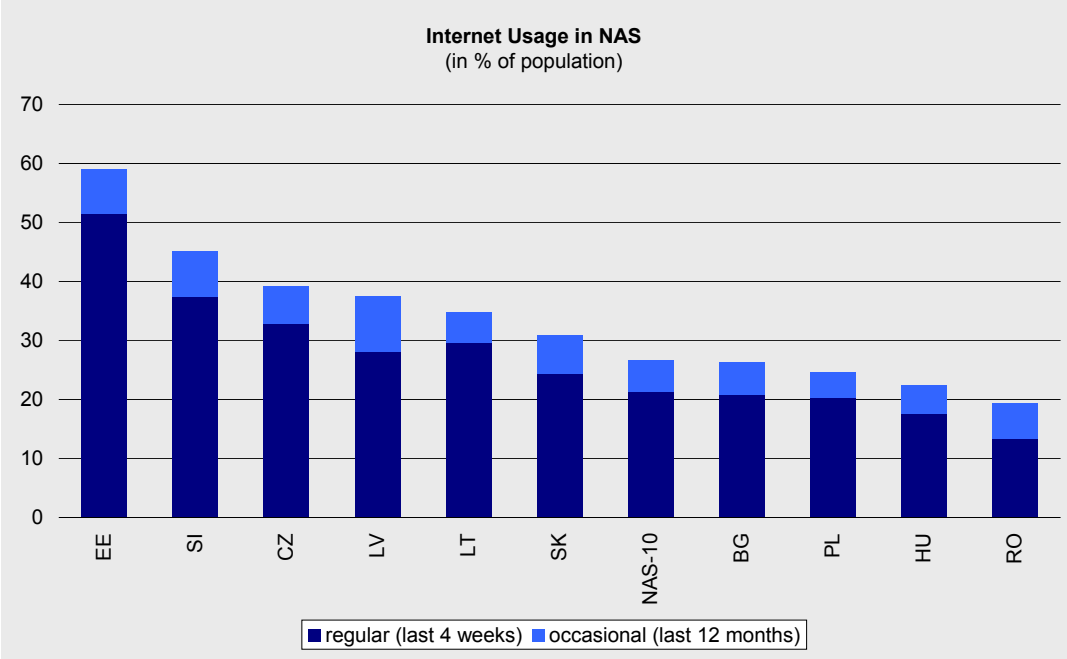

Figure 5. Internet usage in NAS
Base: all respondents, weighted column percentages
Questions: A9, A12
Source: SIBIS 2003, GPS-NAS

4.2 Security

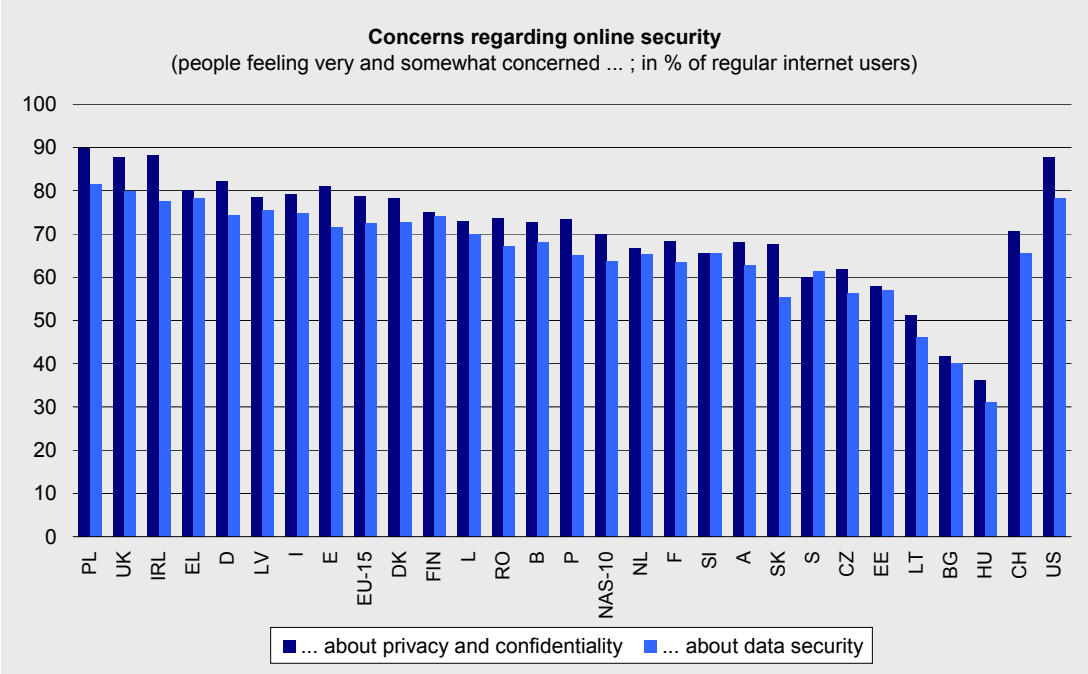

Figure 6. Concerns regarding privacy, confidentiality and data security online
Base: regular Internet users, weighted column percentages
Questions: J1a, J1b
Source: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

Citizens are strongly concerned about both privacy/confidentiality and data security, with a slightly higher concern about privacy. These concerns (particularly on privacy) seem to be lower in continental Europe than in the UK, Ireland or the US. Whether this is caused by a higher amount of negative experiences, more trust in the functioning of society-at-large or the level of awareness is not yet clear. The Polish appear extremely concerned about they safety on the web (figure 6). The index describing this phenomenon is the highest not only among the investigated European societies, but it also exceeds the American one. However, countries similar to Poland in other socio-economical terms, such as Hungary or Bulgaria, show considerably lower levels of concern regarding both privacy and confidentiality.

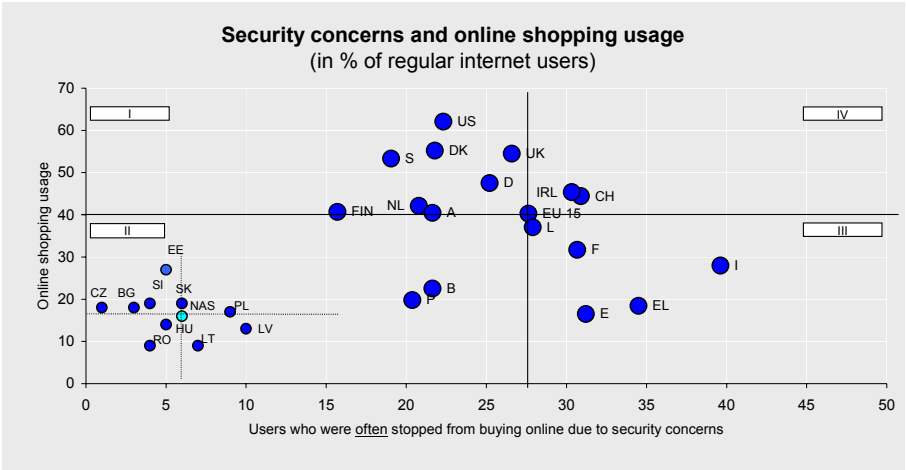

Figure 7. Security concerns and on-line shopping usage
Base: regular Internet users, weighted column percentages
Questions: J1a, B2
Source: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

SIBIS data show that security concerns have a strong impact on on-line shopping behaviour in Europe as well as the United States. (Figure7). In the EU, for instance, almost 30% of Internet users stated that they would often be stopped from buying on-line because of their concerns. However, it is apparent that divergences exist among countries. Whereas some countries, which could be defined as 'front-runners', are limitedly affected by their security concerns and have accepted e-commerce as a relatively common practice (Quadrant I), others, the 'laggards', show lower than average e-commerce usage and strong impact of security concerns (fig. Quadrant III).

Benchmarking all countries against the EU average, shows that northern Europe together with the United States are the front-runners, while Mediterranean countries are still lagging behind. If we benchmark individual NAS against the NAS rather than against the EU average, it appears that, in this case too, the split between front-runners and laggards is marked: some countries, such as Estonia, are clearly on their way towards the EU best performers; others still have a long way to go (Romania, Latvia, Lithuania). Poland, together with other pre-accession countries, is placed in the second quadrant, which is characterized by low level of on-line shopping. Moreover, a small percentage of Poles restrains from doing so because of their conviction of low security level of data, especially personal, in the web.

5. e-Society and Social Inclusion

To be able to show precisely the degree of usage of modern technologies by the society, it is not sufficient to take into account only general indexes. In order to describe the usage of computers and the Internet, also at homes, the differences usually occurring among socially weaker groups should be included, like it was in SIBIS survey with the so called Digital Divide Index – a measure of social inequalities in the adoption of ICT.

According to OECD definition, **Digital divide** marks describe the „gaps between individuals, households, businesses and geographic areas at different socio-economic levels with regards both to their opportunities to access the information and communication technologies (ICTs) and to their use of the internet for a wide variety of activities."

SIBIS results contrast the „digital gap" measured as the access difference between different groups in percentage points, and the "divide index" measured as the ratio between the percentages [Hannes Selhofer, Tobias Hüsing]. The lower the index, the higher digital gap. In order to create an index, four socio-economic factors were used as independent variables (but of course they are not mutually exclusive): gender, age, income and education. The definitions of disadvantaged groups are:

- *Gender*: women
- *Age:* people aged 50 years or older
- *Education:* low education group (=people who finished formal school education at the age of 15 or below)
- *Income:* low income group (=the lowest quartile of the survey respondents)

In the creation of the general index, three specific indicators were taken into account:

Table 3. Description of Digital Divide Index

Indicator	Definition/source	weight
Computer users	Data are based on the Eurobarometer survey question: 'Do you use a computer at [different locations given for selection]?' Computer users have been defined as those who use a computer at least at one of the given locations, e.g. 'at work', 'at home', 'at the university'	50%
Internet users	Data are based on the Eurobarometer survey question: „Do you use e-mail and/or the internet at [different locations given for selection]? "Internet users" are defined as those who use computer at least at one of the given locations, e.g. „at work", „at home".	30%
Internet home users	Data are based on Eurobarometer survey question: "Do you use e-mail and/or the internet at home?"	20%

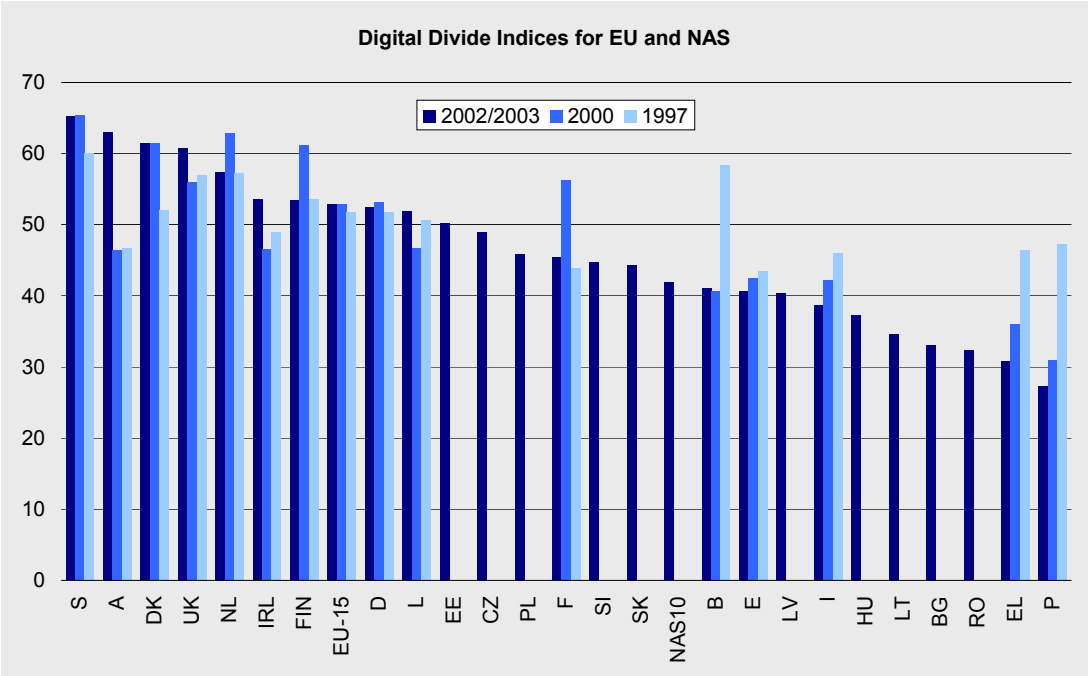

Figure 8. Digital Divide Index for EU and NAS.
Base: 1997, 2000: N=15,900, weighted by standard Eurobarometer country and EU-15 weights; 2002, 2003: all respondents, weighted percentages
Questions: 2002, 2003: IN1, IN3, Z19, Z21
Sources: 1997: Eurobarometer 47.0, Jan-Feb 1997; 2000: Eurobarometer 54, Oct-Nov 2000; 2002: SIBIS 2002, GPS; 2003: SIBIS 2003, GPS – NAS

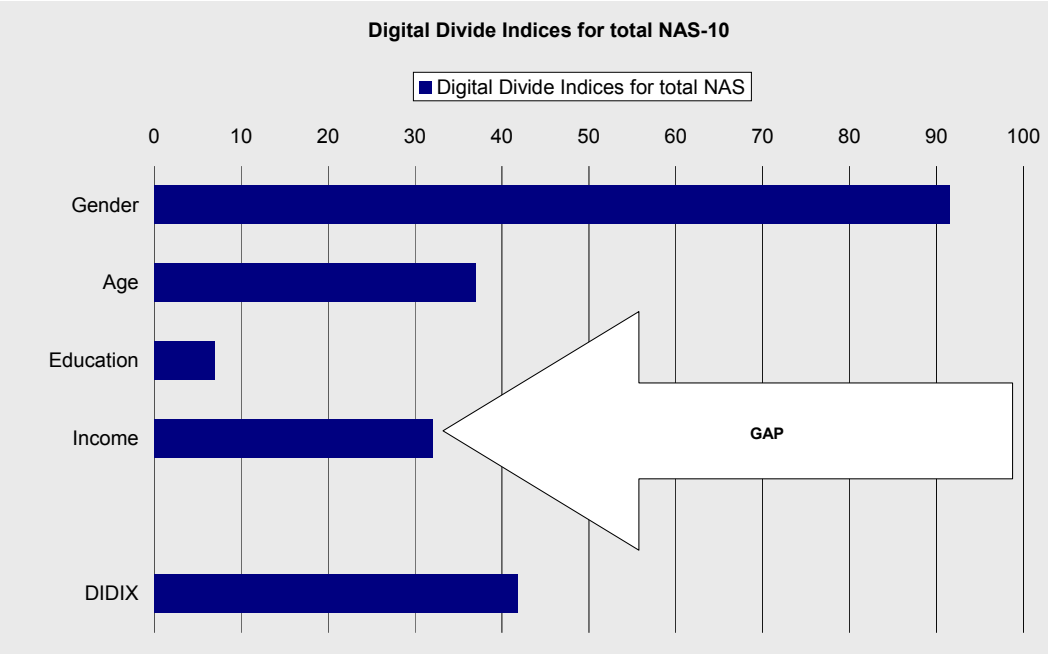

Figure 9. Digital Divide Indices for total NAS-10
Base: all respondents, weighted percentages
Questions: IN1, IN3, Z19, Z21
Sources: SIBIS 2003, GPS – NAS

The Digital gap in NAS countries is on average 10% bigger than in the EU countries (figure 9). What contributes to this is the low indices of access to the Internet and computer use by people who ended their education quite early. It is very possible that, because of insufficient number of computers at primary schools, the digital divide will increase in the NAS.

Only in terms of gender, the candidate countries are better than the EU-15, where digital literacy of women increased relatively in relation to 1997 and 2000. In cases of other indices, by looking at the values in 1997, 2000, 2001, it is difficult to come up with any conclusion of a possible trend.

Poland, against all other pre-accession countries, looks positively (figure 8). However, here also occur huge social differences in spite of the fact that there are many programmes aiming at increasing the Internet accessibility for socially weaker groups, not only those included in Digital divide index, but also for example: the disabled or the inhabitants of smaller towns and rural areas.

Discussing various aspects of ICT, apart from social differences, also people's attitudes towards modern technologies must not be forgotten. The reasons for not using or rare using of the Internet by Poles cannot be limited only to the lack of access to it. Many people consciously resign to use the www resources, because they do not feel at ease with this fact. This is the answer given by more than 1/3 of the respondents, who have heard of the Internet but do not use it. However, a more frequently provided reason for this state of matters (54%) was the lack of advanced computer skills (figure 10). This indicator presented against the unfavourable education divide index should be a clear signal for the authorities to put more effort to digital education, and what follows: to digital literacy in Poland.

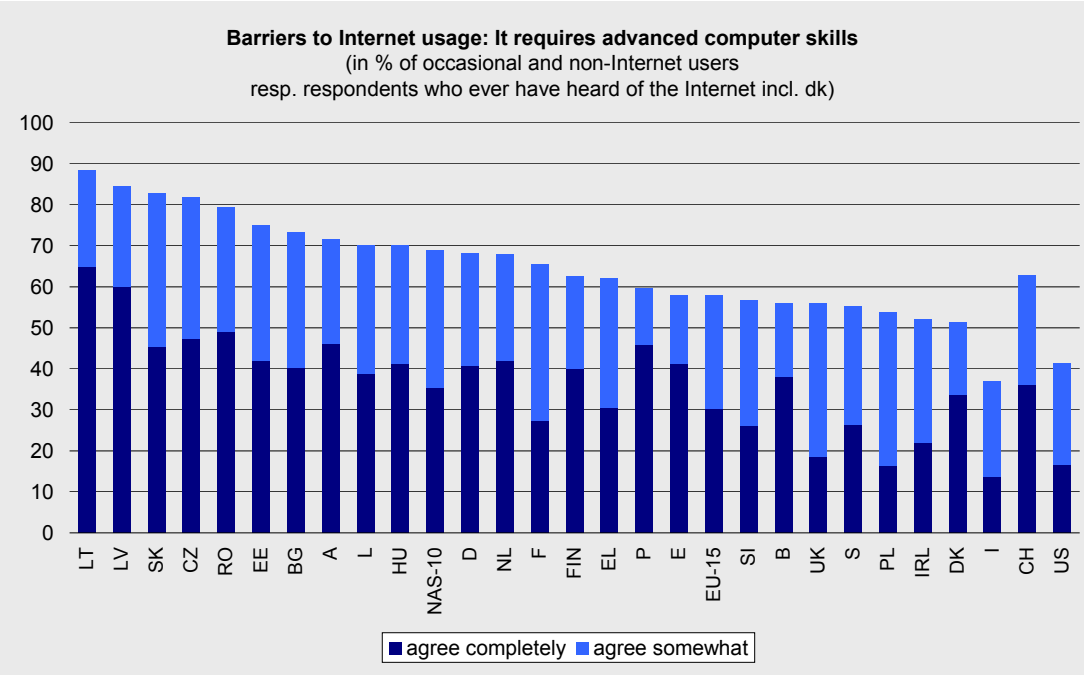

Figure 10. Barrier to Internet usage: It requires advanced computer skills
Base: EU-15 countries: occasional and non-Internet users; NAS-10 countries: respondents who ever have heard of the Internet (incl. don't know); weighted column percentages
Question: A18
Source: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

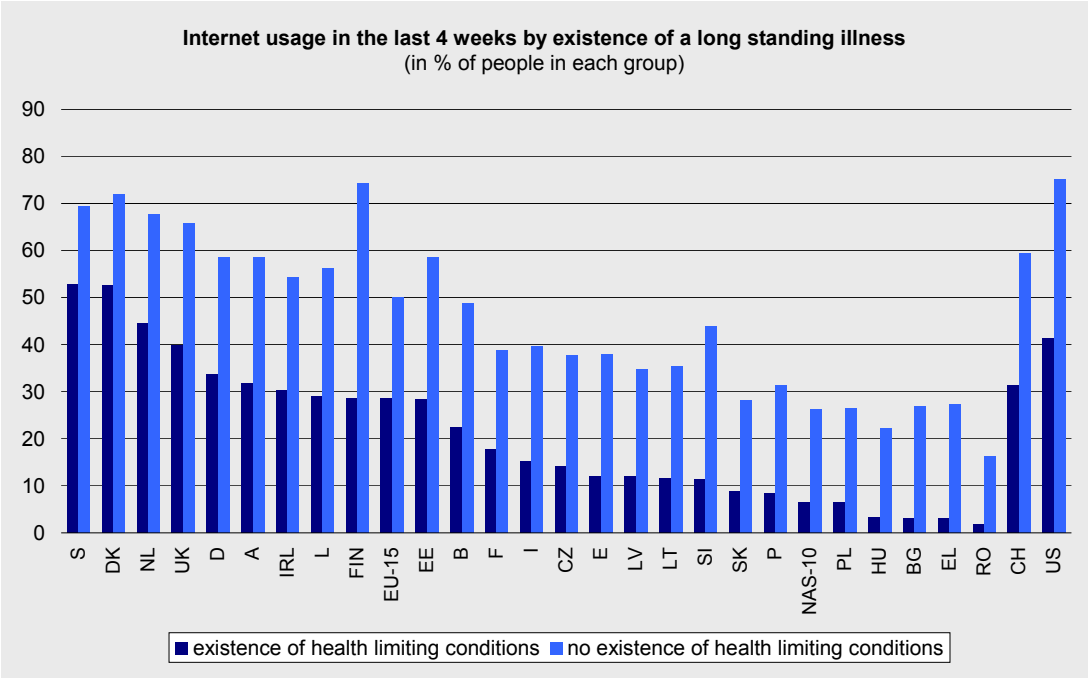

Figure 11. Internet usage in last 4 weeks by existence of a long-standing illness
Base: respondents with health-limiting conditions and without health-limiting conditions; weighted column percentages
Question: A7, Z14
Source: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

The differences in access to the Internet due to the different social conditions for people with long standing illnesses are disproportionately bigger in countries where Internet accessibility is generally lower. On average, almost 30% of people with long standing illnesses among EU inhabitants use the web, whereas for the candidate states it is only 7% (figure 11). A reason for this state of matters can be lower financial resources, which the ill can design for computers and fees for connecting to the web. This results from the fact that their income is generally relatively lower and they have to finance also their treatment. Moreover, many people use the Internet at work, and people with long standing illnesses usually remain jobless.

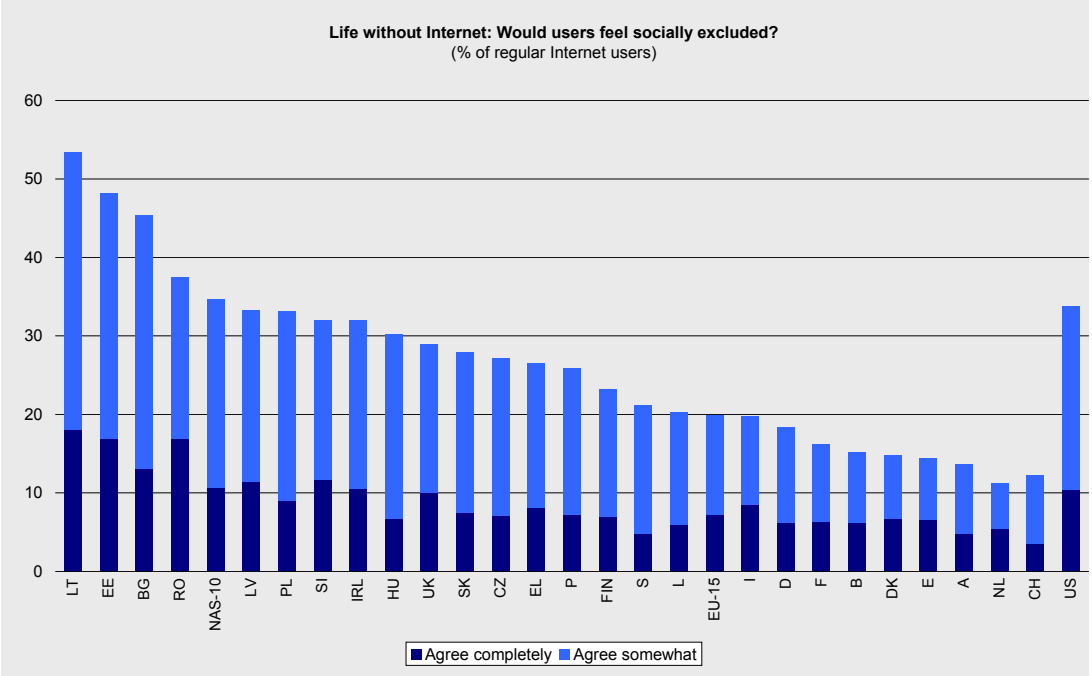

Figure 12. Would Internet users feel socially excluded if they lived without Internet for a month.
Base: regular Internet users
Questions: B5b
Source: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

The above diagram (figure 12) shows a very socially interesting phenomenon. In the EU countries, where access to the Internet is much wider, smaller percentage of current Internet users would feel socially excluded if they had no access to the web for a month. On the other hand, in countries like Lithuania, Estonia, Bulgaria and Romania, this index is relatively high. In this respect, the NAS countries are more similar to the USA than to the EU countries. In case of Poland, it is a little lower than the NAS-10 average: 28%.

There is also a group of people (Internet drop-outs) who either had access to the Internet at home but resigned from it or totally lost contact with the Internet owing to various reasons. In case of pre-accession countries, the percentage of Internet dropouts is lower than in the EU or the USA. Here, it must not be forgotten, however, that it concerns a really small group of people – those who had used the Internet at home before. If we add the value of this indicator to the percentage of the population which currently has the access at home, we will get information about people who have ever used the Internet at home. Then, the differences between the citizens of candidate and member states will be even more visible.

6. e-Education and Life-long-learning

In recent years there has been a rapid development of a new social form concerning the information society, where one of the most important developmental forces are computer studies. Now we can face the situation where the knowledge of elementary rules connected with computer usage is as important as the ability to read, write and count.

For the purpose of the research digital literacy is defined as the ability to communicate digitally, install software, identify information sources and find wanted information at the Internet. Digital Literacy indicates the readiness of the population to use the Internet for work and sees people as active participants in the information society. For the purpose of increasing the digital literacy among society e-Education activities are being undertaken.

One of the most elementary skills is currently the ability to communicate via the Internet in various forms: by e-mail, chats and personal web page. The results indicate that Poland is at a very weak position among both the EU and pre-accession countries in this respect, and we are ahead only of Hungary and Romania (figure 13). There is a small percentage of people (18%) who consider themselves very confident or fairly confident to use at least one of the media.

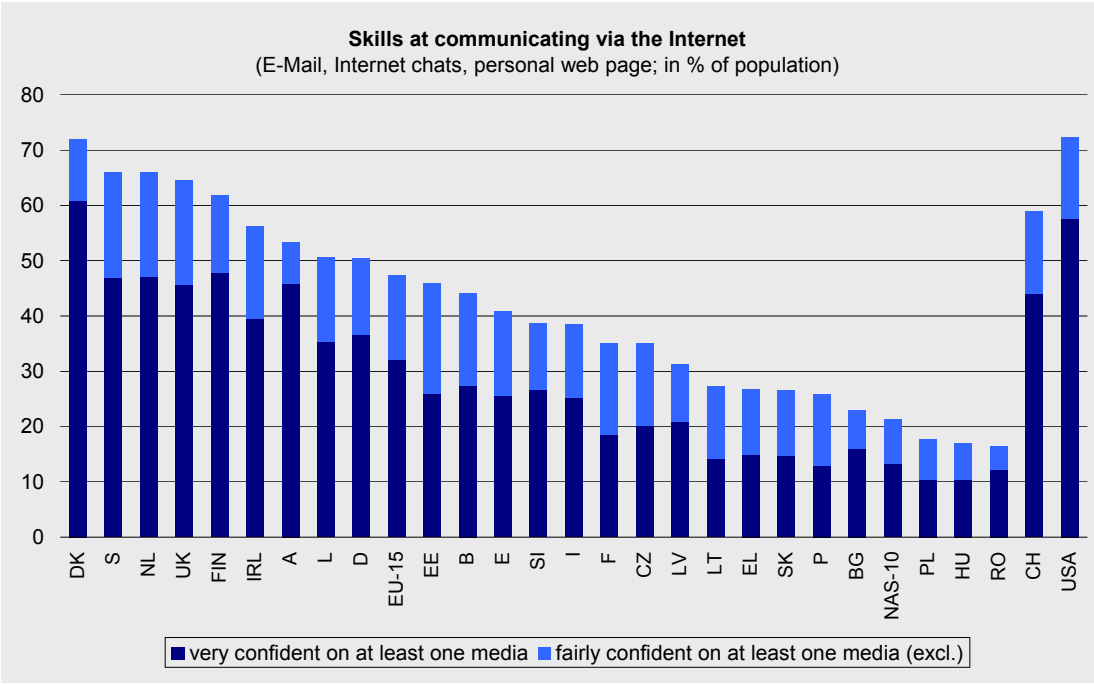

Figure 13. Skills at communicating via the Internet
Base: all respondents, weighted column percentages
Questions:D1c, D1d ,D1f
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS – NAS

The reason for this situation could be to a great extend the derivative of a low level of acculturation of the Internet in Polish society, which is caused by a relatively short period of time of its accessibility (in comparison to other countries), and, most of all, by still high costs of its usage.

Within the questions of their skills, the respondents were also asked to measure their confidence in obtaining and installing digital tools in their computers (figure 14).

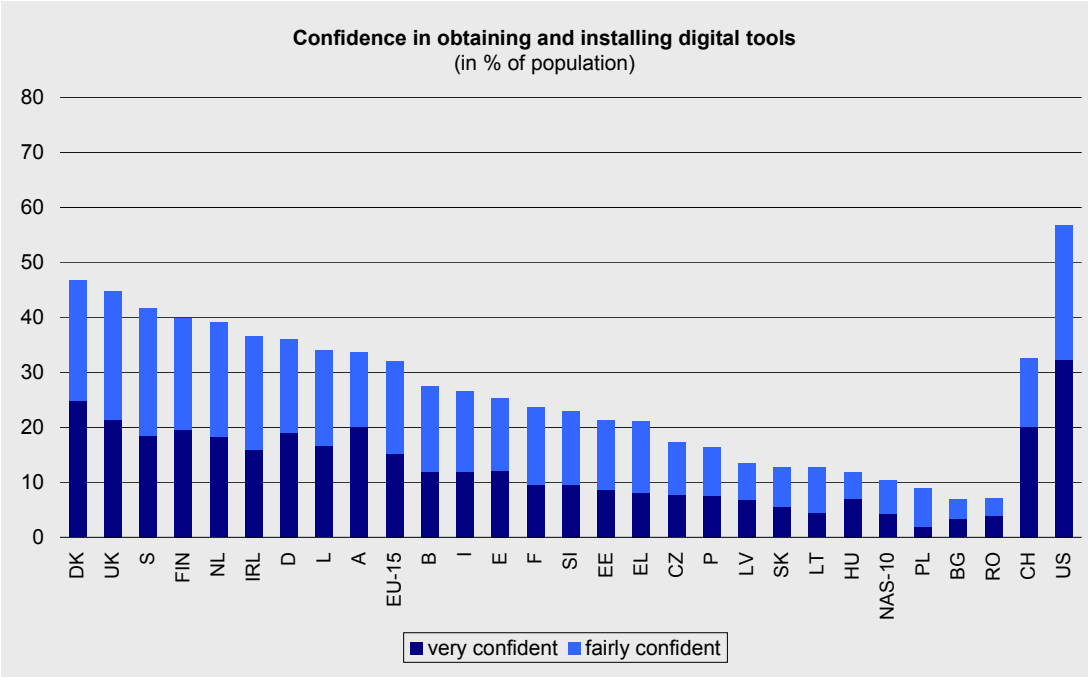

Figure 14. Confidence in obtaining and installing digital tools
Bases: all respondents, weighted column percentages
Question: D1g
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS – NAS

In this aspect, again, the self-assessment of the respondents show how much Poland strays from other countries. Less than 15% are convinced about their skills, which is low but better than in the cases of Bulgaria and Romania, although the differences are not very significant. It can be said that the ability to obtain and install digital tools in one's own computer remains still as a not very popular form of knowledge which can be used in practice. Apart form financial reasons (high costs of using the Internet without fixed connection), another obstacle to benefit from such possibilities are practical skills.

Poles assess themselves better when it comes to the ability to communicate through an e-mail (figure 15). Unfortunately, also in this respect the percentage is relatively low (about 18%), and Poland is again at the end of the ranking only before Bulgaria and Hungary.

Here, it should be mentioned that those three countries have similar positions and show low digital literacy among the society. It is true that they are linked by mutual cultural relations and the occurring up to date system transformation processes[12]. It seems also that a phenomenon called "homo sovieticus" is significant. This term describes a situation when people, who were brought up and who lived in totalitarian states and have common type of mentality, are generally more separated and distrustful of any forms of contact.

[12] e.g. the liberation of the telecommunication market

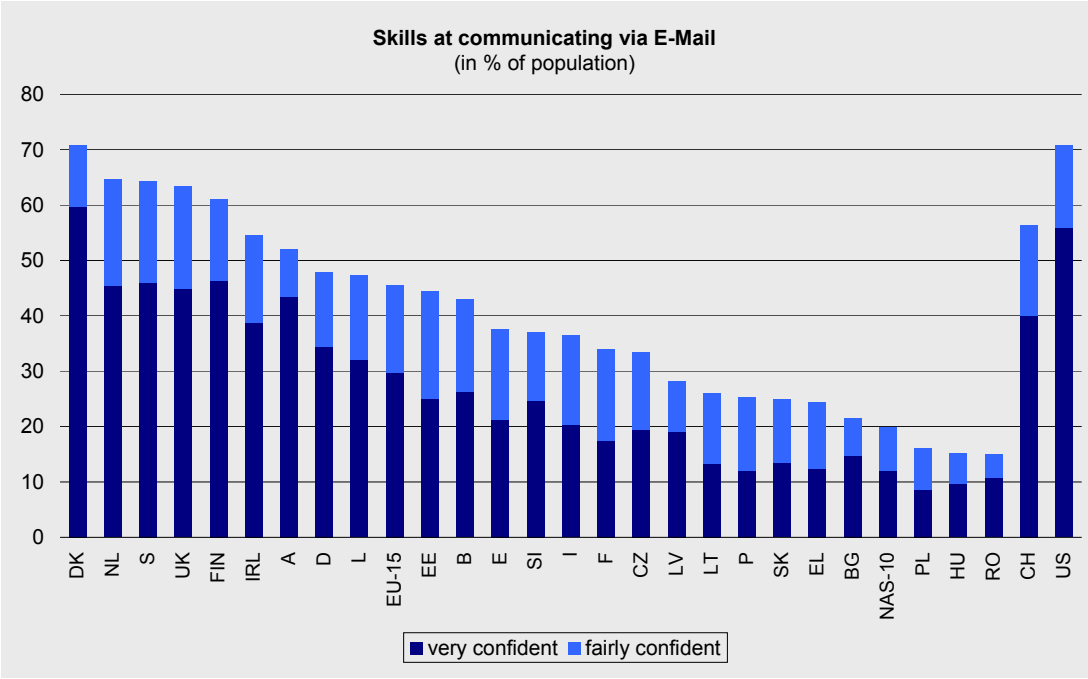

Figure 15. Skills at communicating via e-mail
Bases: all respondents, weighted column percentages
Question: D1c
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS – NAS

Chat rooms are another form of communicating via the Internet. Here the situation is similar. The smallest percentage of people who are convinced about their abilities to communicate by means of an Internet chat was noted in Poland and Hungary. However, the situation is not very different from other pre-accession countries in general. The reason for this state of matters can be the fact that the Internet chat is not a very widespread form of communication, and there are other which are much more preferred by the users (e.g. texts, etc.).

The basic value for the information society is the ability to quickly identify and verify the source of information. This ability can be applied to the Internet which is the source of the whole range of various pieces of information. According to the research, 20% of respondents have a very high level of ability to use the Internet in order to acquire information. This indicator in Poland and other pre-accession countries is very different from the EU, the USA and Switzerland. On one hand, it can mean the lack of necessary skills to use the Internet for that purpose. On the other hand, however, it can indicate a much more serious problem, namely the perception of the Internet as a reliable source of information. These two problems should be investigated together, as only both of them will give the full picture of the situation.

An inseparable element for obtaining the information from the Internet is the ability to use Internet search engines (figure 16). According to the research, also this ability was not highly evaluated by the respondents, because less than 20% of them admit that are very or fairly confident while using them. In comparison to the EU average (over 40%) or the USA (about 70%), the results show how big the educational gap is in this respect. In pre-accession states such an ability was pointed out by about 20% of respondents, which constitutes a slight percentage in comparison with other groups, and shows the level at which we should aim at.

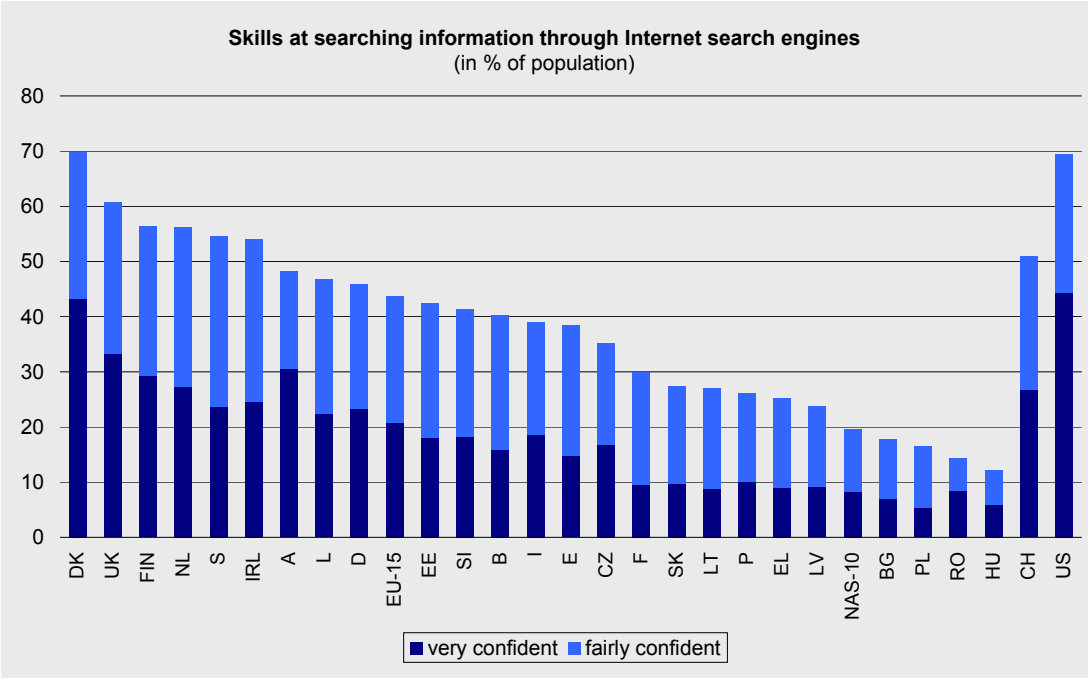

Figure 16. Skills at searching information through Internet search engines
Base: all respondents, weighted column percentages
Questions: D1a
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS – NAS

Taking into consideration the results, a conclusion that the basic elements of digital literacy in Poland are not satisfactory and require rapid improvement seems to be justified. It is very important because, as the results indicate, the position of our country is very weak, even against other pre-accession states.

One group of question concerns basic skills. In Polish conditions some of the skills are considered as quite advanced. They include the ability to create personal Internet pages. This ability is generally not very widespread. The gap in this respect is huge between the EU and the USA, and also between the EU and NAS countries. Unfortunately, the low percentage of respondents convicted about their very good and just good ability to create personal Internet pages places Poland at the last place among countries which participated in the research.

The results presented above support the thesis that information society is a new phenomenon in Poland, and that the occurrence of appropriate skills is not very frequent. By indicating how big the lack of digital literacy is, they also show how important the increasing of digital literacy for a smooth development of Information Society is.

A process is entering the IS era introducing the role of catalyst to the broadly understood education and including many forms of professional training. It is necessary to have basic skills connected with searching, transforming and using the information. Without them, we would become an “enclave of information science ignorance”. What emerges from the research is the fact that the development of ICT in Poland is much slower than in the EU countries, and even other pre-accession states. It seems as though the most important thing in Polish situation is the basic work. Currently, about 70% of schools in Poland have a room with access to the Internet[13], and a personal computer can be found in every fifth household[14]. According to a survey conducted by the Ministry of Education, 50% of the

[13] The Ministry of Education and Sport Report „Digital education 2002”

[14] Statistical Yearbook of the Republic of Poland – data from 2001

computers which are currently at schools are old and exploited. The number of students for one computer in primary and grammar schools is 44 and in secondary schools 22. The EU average in this aspect is 13 and 8 respectively. The index describing the number of students for one computer with access to the Internet is even higher: in Poland it is 79, and in the EU 32. This state of matters seems to be the greatest obstacle on the way to acquire and develop digital literacy. That is why there are some big national projects mostly aimed at increasing the number of computers connected to Internet in Poland: In 1998 the "Interkl@sa" was created, a country-wide initiative supported by the Parliamentary Commission of Education, Science and Youth and by the Ministry of National Education and Sport. One of the projects realised within the confines of this initiative is the "Intel Teach to the Future" project, whose objective was the training of teachers which concerned applying ICT in teaching. Also since 1998 the education department have started implementing projects of equipping schools with Internet laboratories: Internet laboratories in every community (which is already finished), Internet laboratories in every lower secondary school, and Internet laboratories in every school (the conclusion is expected in 2006).

In 1999 the "Internet at school: Project of the Polish President" initiative was created. This programme is realised with the help of Polish Foundation for Dissemination of Science and is financed by private resources. There is also the initiative "Cheap computer for the Teacher", which enables teachers to buy computers on hire purchase without interest. Since 2000 the "Free impulses for schools", a project of TP S.A. (the main telecommunications company in Poland), resulted in providing schools with 600 free rates units for connections of the schools' laboratories to the Internet.

7. e-Economy and e-Commerce

The development of e-commerce influences positively the entrepreneurship. It creates new employment possibilities, stimulates the economic growth and promotes innovative investments[15].

According to the common definition, e-commerce concerns making transactions in cases of commodity turnover and services by using means of electronic communication, such as the Internet[16].

Taking into account the investigations, it turns out that this form is not very widespread yet, especially in pre-accession countries. This situation can be to a great extent a result of the fact that e-commerce issue is very much entangled in legal disputes. Therefore, if e-commerce is a new phenomenon (like in pre-accession countries), then it requires sorting out of many legal matters, which is a process both difficult and time-consuming. In other words, the lack of appropriate legal environment is the main obstacle for the development of e-commerce.

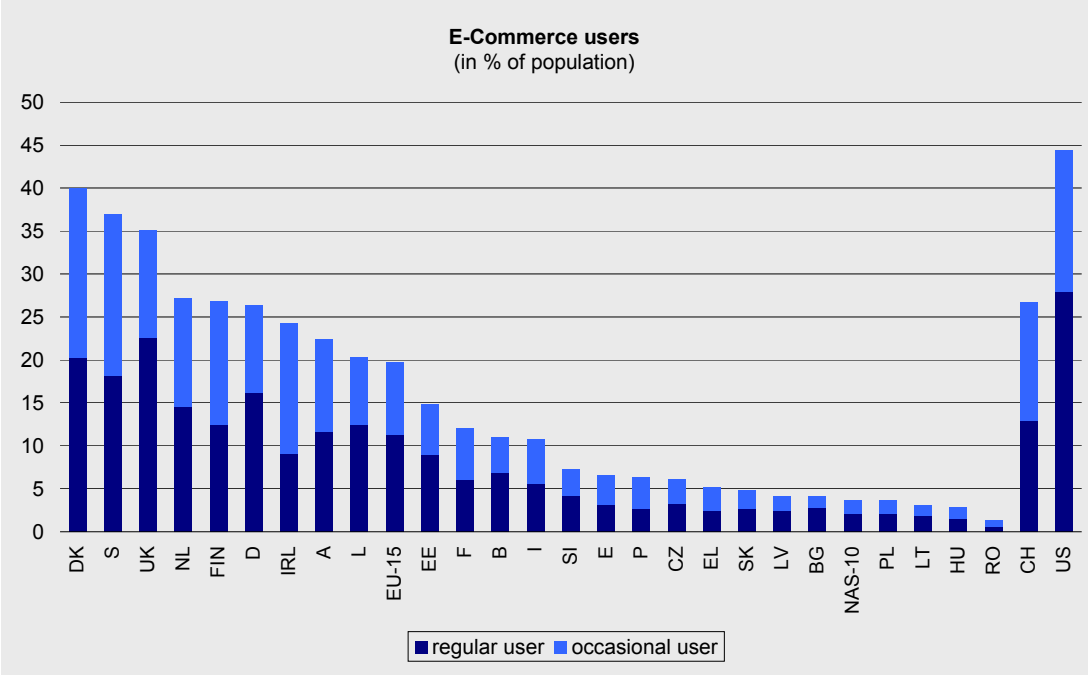

Figure 17. e-Commerce users in the last 12 months.
Bases: all respondents, weighted column percentages
Question: B1a, B1c
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS - NAS

The outcomes of the research show that the United States is a leader in e-commerce, but some European countries like Denmark, Sweden and Great Britain are not far from the USA. Even though Poland does not stray from other pre-accession countries in the level of doing shopping via the web, there is still a small percentage of people (less than 5% - SIBIS GPS survey; 7% - Polish government source[17]) who use this form of commerce regularly or occasionally (figure 17). It is mainly a result of the fact that there are still no clear rules of e-commerce and therefore it can be perceived as risky.

[15] : „Internet in the company, comp@ny in the Internet", PARP, 2001

[16] The definition of e-commerce comes from the book: „Internet in the company, comp@ny in the Internet", PARP, 2001

[17] www.kbn.gov.pl/infor/wrota.pdf

The resistance towards new things is clearly visible especially when we take into consideration the criterion of age. It turns out that the most numerous group of e-commerce users are people from 25 to 49 and under 24. This second group is less numerous which is probably a result of lower income, which influences the commerce. What seems to differentiate between the EU and pre-accession countries is the fact of participation of elderly people (65+) in e-commerce in the EU, which does not occur in the second category of countries. Once again, in Poland the most numerous group of e-commerce users are people from 25 to 49, so those who have access to the Internet and financial resources.

When it comes to experience in using e-commerce, Poland is also at a relatively low position among countries which participated in the survey. The largest percentage of e-commerce users is those who have been doing it for more than two years. Generally, the highest percentage of people with huge experience in this filed was noted in the USA. The gap between the US and also other countries (EU) and us is enormous. It seems, however, that it could be quickly levelled by means of a law which would create more appropriate conditions for an activity of this type.

The assumption that commercial services on-line are a form of commerce of little popularity seems to be reinforced by the next survey results. It turns out that, whereas in the EU countries on average more than 20% of the respondents confirmed their on-line purchase of a product, in Poland this percentage was lower than 10%. It did not differ, however, from other pre-accession countries.

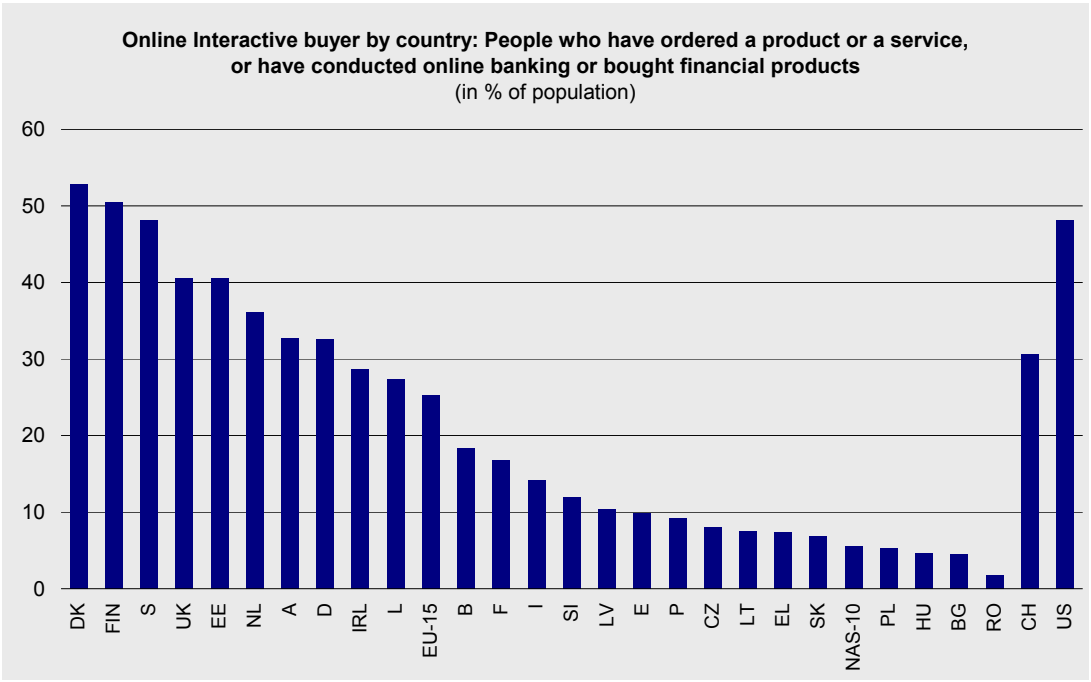

Figure 18. on-line interactive buyer by country: People who have ordered a product or a service, or have conducted on-line banking or bought financial products in the last four weeks
Bases: all respondents, weighted column percentages
Questions: B1b, B1c
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS - NAS

The results of investigations indicate that the e-commerce phenomenon is not only relatively new but also not very well widespread in Poland and other pre-accession countries. It is a signal that because it is a new filed, e-commerce requires undertakings which would improve the situation. In Poland, appropriate legal steps should be made. From the legal point of view, every project connected with electronic form of commerce requires the following matters to be taken into consideration: the way of making contracts online, consumer

protection, payments, personal data and tax regulations. That is why it will be essential to integrate the efforts of various institutions and to constantly monitor the situation by investigating the changes in time.

The main role of the Polish authorities with regard to the issue of supporting e-commerce was the creation of suitable legal environment. It involved: the act of September 25th, 2001, concerning the change of the act about legal protection of personal data; the act of July 27th, 2001, concerning the protection of data bases; the act of September 18th, 2001, concerning electronic signature; the act of September 6th, 2001 concerning the access to public information. Furthermore, the modification of the Public Procurement Act caused the announcements concerning public procurements to be made available on the www and FTP servers of the Office of Public Procurement since 1997.

The plan of e-Polska includes the following objectives for the support of e-commerce:

- Creation of mechanisms and structures of electronic economy development in Poland
- Introduction of indispensable, legal regulations consistent with European standards
- Assurance of security and high-level reliability in electronic turnover
- Increase of SME's shares in e-commerce
- Enhancement of the confidence for e-commerce and electronic services
- Support and promotion of Polish industry based on ICT
- Facilitation of the public procurement system through IT networks

The Polish government and parliament operate actively to achieve these goals. Apart from the laws and decrees mentioned above, other projects have been organised, e.g. training aimed at supporting SME in e-commerce.

8. e-Work

Together with the development of modern information-communication technologies, the character of labour is changing. The possibility of transferring the data by means of the Internet, contacting with the employees by means of a mobile phone, etc., open up new opportunities, which increase the effectiveness of work, enable to save time needed to get to the workplace, or quickly react to clients' needs.

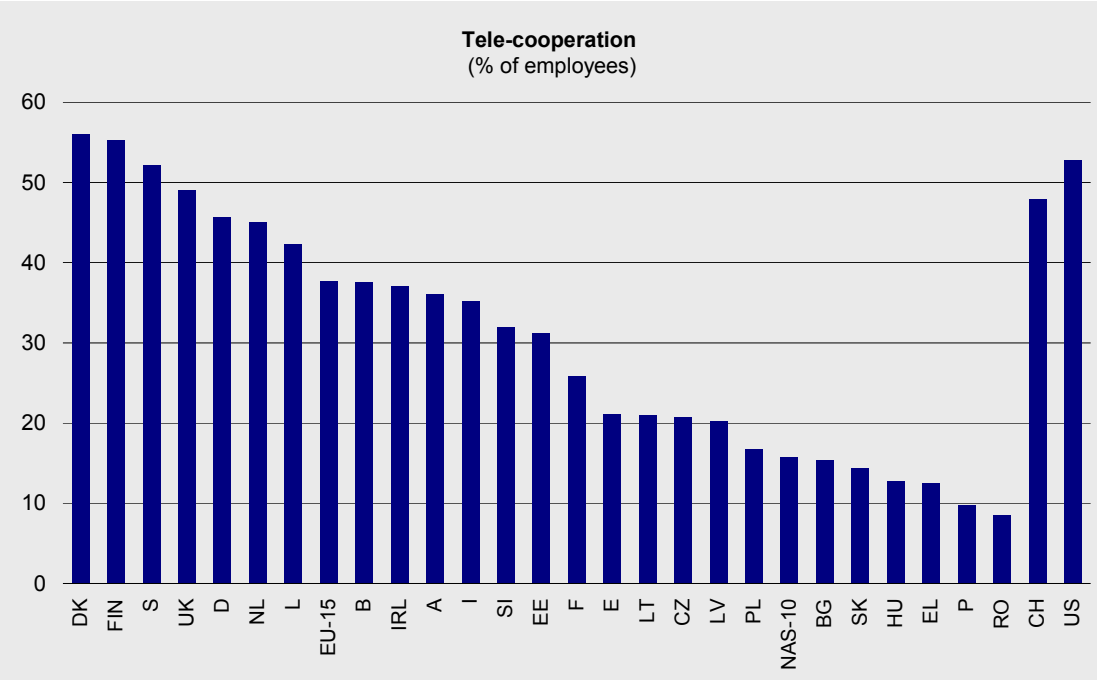

Figure 19. Tele-cooperation
Bases: all persons employed, weighted column percentages
Question: A1, G1
Sources : SIBIS 2002, GPS, SIBIS 2003, GPS - NAS

Tele co-operation is to communicate with external contacts using e-mail, videoconference or electronic data transfer. By external contacts are meant customers, clients, suppliers, other business contacts, but also colleagues working at other locations of the same company.

In Poland, less than 17% of workers use this form of tele-cooperation at work (figure 19). This index is determined to a high degree by Internet accessibility in various countries, as well as by geographical conditions which can favour this form of co-operation.

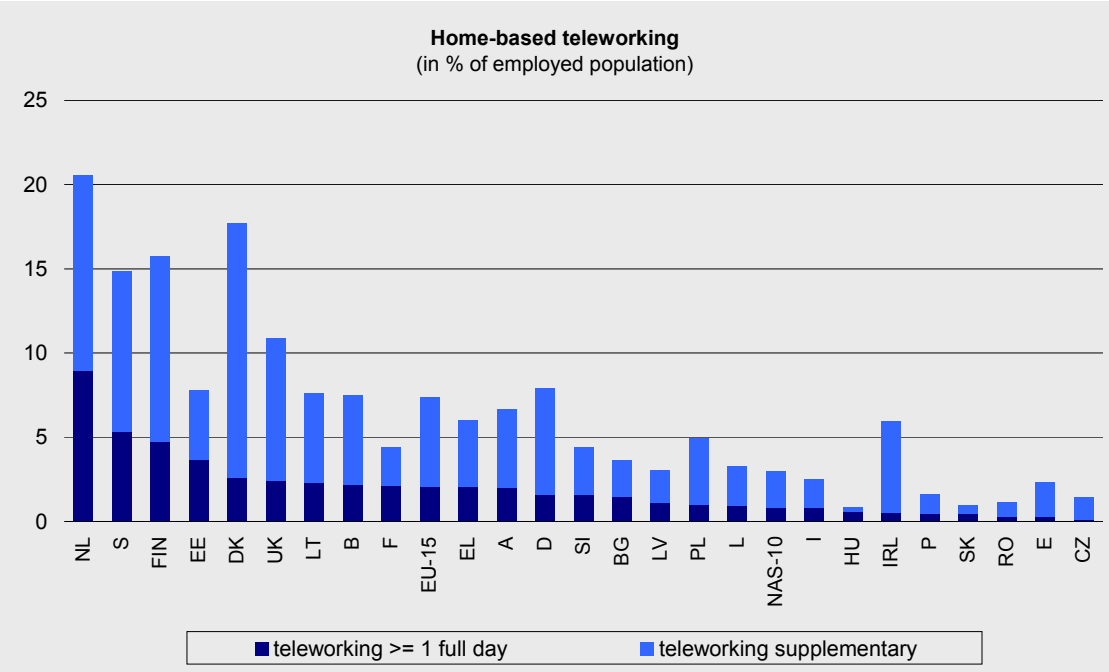

Figure 20. Home based-teleworking
Bases: all persons employed, weighted column percentages
Questions: E1, E3, E4
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS - NAS

Tele-work is a work done from home, whose results are transferred electronically with the help of a telephone, a fax and a computer. The interest in telework in all countries reaches more or less the same level. The difference between NAS and EU countries is only 3%. However, it should be taken into consideration that in the EU countries more than 7% of the population already works in that way (2.5%, at least one full working day a week), whereas in NAS a little more than 3% (5%, at least one full working day a week) (figure 20). It means that it is the ICT accessibility and the employers' will that restricts the use of telework. Another reason is the availability of a place for a teleworker to work at home. For example, it is known that in the US houses those opportunities are bigger than in Europe and it also concerns the % of teleworkers. This may be an influencing factor as well as the one which involves the economic conditions of the worker. In fact in many telework experiments, the economic situation of the employee proved to be a determining condition. What contributes to this state of matters are legal obstacles in a form of rigid code of labour. Such an opinion seems to be proved by answers to this question: „Would you say that your job is feasible to telework, under the assumption that you spend at least one full working day per week at home?" Here, the index for the NAS is much lower than for the EU-15 countries.

In Poland, the number of employees and employers who are interested in telework is relatively low, despite the high unemployment rate. Paradoxically, this situation can be a result of the fact that because of the high unemployment, a lot of people make use of it and offer non-standard forms of domestic work, and then do not meet their obligation. It causes a loss of social trust in modern solutions concerning work possibilities. Another reason can be the generally low, in comparison with other countries, level of Internet knowledge in Poland.

Mobile work concerns a situation when somebody spends some of his/her working time away from home and from main place of work, e.g. on business trips, in the field, travelling or on customer's premises. It includes sales workers, field staff, field service, managers who often travel, etc. It should be remembered that in this case SIBIS results concern the period of four weeks before the survey was being conducted.

In Poland, not even 1% of respondents admit that have to do with mobile work, whereas the average for the EU-15 exceeds 4%. In our country, the work outside the workplace is in many cases charged with many expenses, like travelling allowances and lumps. The regulations introduced in January 2003 lowered these expenses a little, which made mobile work more profitable for the employers but less for the employees.

Apart from the possibility of choosing the workplace, another criterion of flexible character of work is the possibility of choosing working hours. Also in this respect, we observe differences between NAS and EU-15 countries. In the EU, nearly a half of employees can adapt the number of weekly working hours to their personal preferences. In the candidate states such an opportunity has only 25% of all employees. What influences such a state of matters is not only the Code of Labour, but also mentality which was created by the tradition.

In Poland, the Code of Labour which entered into force in January 2003 opens the possibility to employ workers on a special mode of work. It is a solution for both the employers and the employees, which enables the introducing of home based telework, as well as individual management of working hours. It should give an employee more independence but still many people in charge do not allow for this to happen, as they prefer to control their subordinates more, or the type of work simply excludes such a possibility.

9. e-Government

In contemporary Poland the level of e–government activities is still very low. There are many reasons for such a situation, but the main is the low level of Internet accessibility in general. To prevent this, the Polish government is initiating activities aimed at changing this bad situation.

"Gateway of Poland"[18] is the main document (action plan) concerning e-Government. This project is a proposal to create an integrated information system, which can enable on – line public services. The main aim of "Gateway of Poland" is to increase efficiency of public administration services by about 40%. An initial cost assessment shows that the implementation of this integrated system will cost about 300 million euro within 3 years.

Of course, there are some attempts or nearly completed implementation, but according to the reports on the state of realisation of the tasks concerning Information Society development of Ministry of Science and IT implementation, the following statement is true.

In Poland e–government is still new and not a very popular phenomenon: even though the majority of administrative documents can be obtained in electronic version, still nearly every one of them must be submitted to the office in a traditional way (personally or by traditional mail). There is a huge demand on the part of the citizens for administrative services online, which is presented in the data below, but the process of their introduction is expensive and usually requires plenty of organisational and even personal changes. Currently, a piloting programme of the Public Information Bulletin is introduced. The results of SIBIS survey (below) confirm this opinion.
In the SIBIS GPS survey interviewees were asked the following questions:

1. For each activity, please answer whether you would prefer to use the Internet or prefer to use the traditional way, that is face-to-face, by post mail or phone?
2. Is it possible to use the Internet for this in the area you live?
3. Have you ever tried using the Internet for this?

Services included: tax declaration, job search services of public employment service, request for documents (passport, driver's licence, birth certificates or other personal documents), car registration, declaration to the police, searches for books in public libraries, announcement of change of address.

Polish Internet users still prefer using traditional ways of interacting with government. On average only 24,7% of them would choose the Internet to use government services. This may be the reason why over 40% of respondents is not aware of on-line availability of government services. The exceptions, like in other NAS countries, are library books and jobs search. This is very significant, because actually only those two services are really available by Internet. In Poland it is, in some cases (income tax, employment agency, social insurance, issuing ID documents, registration of vehicles, issuing permissions for constructions, reporting crimes etc. to the police, resources of public libraries, issuing birth or marriage certificates, candidates' applications for universities, change of residence, and health service; for business subjects: ZUS (public insurance), income tax, VAT, registration of business activity, resources of statistical data, customs declaration, licenses and certifications, public procurements) possible to download blank documents from the websites, but it is not possible to send them filled back to the office through the Internet. However, there were some respondents convinced that there were such possibilities and some who claimed they

[18] www.kbn.gov.pl/wrota.pdf

used Internet to interact with government services. What follows from this observation is the fact that there is disinformation concerning availability of those services in Poland.

The preference for on-line or traditional access to governmental services varies across the services. EU citizens show a significant preference for some e-government services over their traditional counterparts. Preference is not uniform: the on-line search for books available in public libraries, which requires minimal information about the user, rates a high preference. Least preferred is the declaration to the police, which requires that a great deal of private information be divulged. The amount of personal information required is just one of the elements explaining citizens' preferences. Others, such as familiarity with the on-line service and experience in using the Internet, can also play a role.

It is very important to notice that preferences to use the Internet for interacting with government services are below the NAS average in all cases in Poland. It may be connected with expensive and not very easy access to the Internet. Another reason may be people's fear of insecure connections. The results of SIBIS surveys seem to confirm that but not for all countries. In Poland we can notice a strong relationship between answers that the Internet is a safe way of communication and the preference to use Internet for interacting with government services. 54.5% of people who prefer using the Internet are very concerned about it's safety (37,5% are somewhat concerned and 12% are not concerned). Only 27,3% of those who prefer traditional ways of communication think similarly - 55,7% of them are somewhat concerned and 17% are not concerned about it at all. However in Nordic countries where preferences for e-Government services are the highest the concerns about Internet security are not so strong as in Poland.

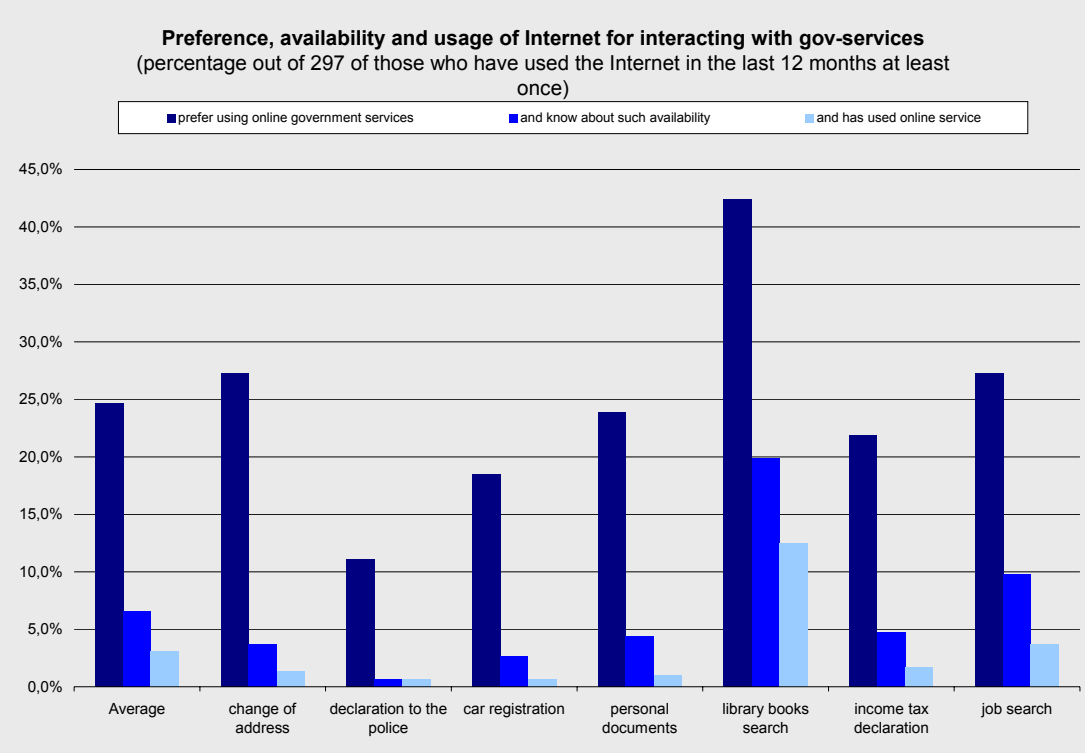

Figure 21. Preference, availability and usage of Internet for interacting with governmental services in Poland
Base: Respondents who used the Internet during the last 12 months
Questions: K1, K2, K3
Source: SIBIS 2003, GPS-NAS

The first impression while comparing preferences, availability and usage of the Internet for interacting with governmental services is that there is a big gap between needs and

demands for Internet services in Poland (figure 21, 22). In fact, this gap is even bigger than it is shown on the graph, because, with the exception of library books and job searches, those services are not available in Poland by any means.

Many externalities that vary from one EU Member State to the other may influence the preference of respondents for e-government so differences in the preferred way of interacting with government that are seen across the EU cannot be analysed immediately. Generally, respondents from the northern countries of Europe show a greater preference for interacting with government using the Internet than the EU as a whole. Finland shows the highest preference for on-line services. Overall, respondents from the EU countries prefer to use the Internet on an average of almost three of the seven services queried.

Poland is one of the most 'conservative' countries when it comes to the preferences of ways for interacting with government. On average only two of seven services are preferable to interact with by the Internet. This is almost the lowest rate among all surveyed countries.

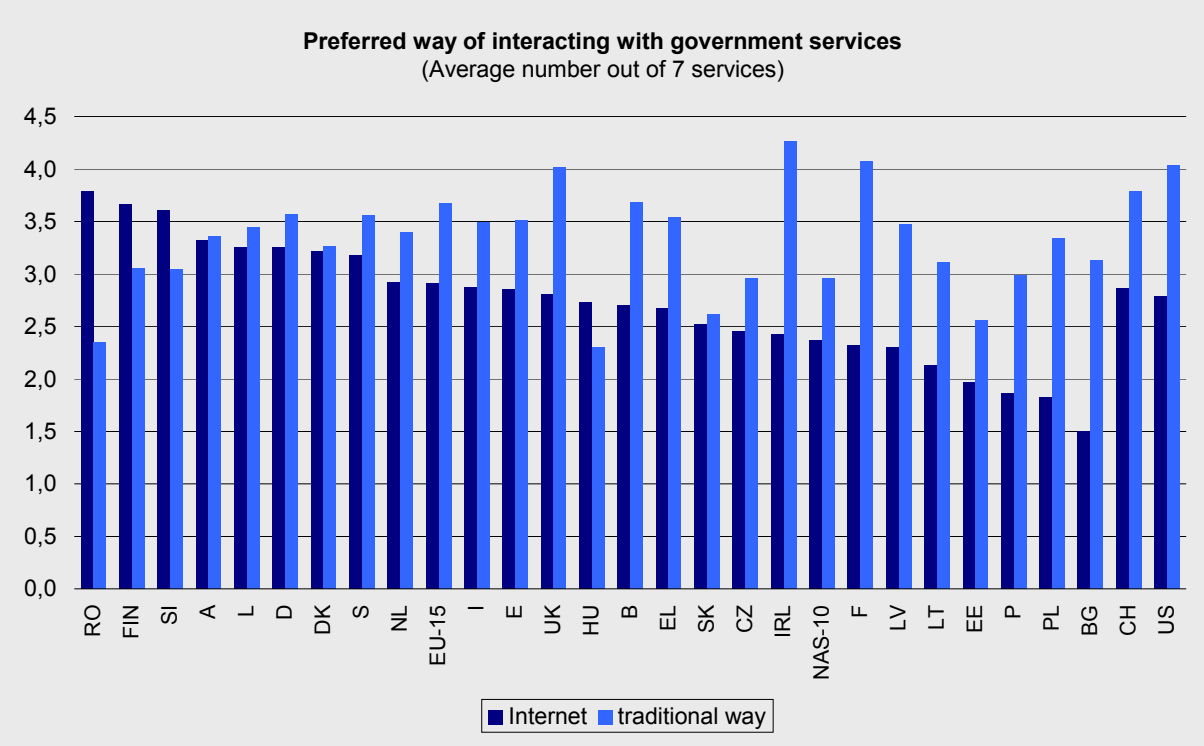

Figure 22. Preferred way of interacting with governmental services
Base: regular Internet users, weighted average number of services
Question: K1
Sources: SIBIS 2002, GPS, SIBIS 2003, GPS-NAS

10. Conclusions

The research realised for the SIBIS project results in several important conclusions. First of all, it shows that nothing is as good for creating and testing the indicators as their practical implementation. Theoretical discussions restricted only to closed circles of specialists have no chance to appear in practice. It is of course possible to deliberate endlessly on indicators' shape, definition, reliability etc., but there is always the final test of researches and their outcomes to be conducted.

There already exist prepared sets of indicators but they were not fully verified so far. Therefore, the core of the SIBIS project proposition received broad interest. The project realisation's side effects comprise many valuable information and gatherings, which otherwise would not be found out. On the stage of realisation and collection of indispensable data we managed to not only diagnose Polish statistic in the field of Information Society but also to propose concrete changes on hitherto situation.

Our conclusions proved to be useful for the project itself and, what is more, in many others areas. The attempts to identify existing indicators, researches, outcomes and institutions responsible for their realisation showed that the structure of knowledge of the Information Society in Poland is very diversified and fragmented. We have got many sources of information nevertheless they are very limited and not credible enough. Another problem is also the lack of one institution that would be competent in all terms and elements that are connected with Information Society.

Also another stage – the analysis of results – turned out to be very fruitful and reached in interesting conclusions. One of the many observations from SIBIS project is that in Poland there is a need for conducting studies on nearly every area included in the research. There are of course some, which are explored relatively well, like the accessibility of new technologies, but there are also other, such as e-commerce, e-health, which are fairly new, and therefore not included in any of the researches. The priority topic in the nearest years should be the problem of social inclusion, because its monitoring can be preventive for the increasing problem of digital divide.

The possibility to look at the problem of information society in Poland and against other countries participating in the research is a very valuable experience. Some of the areas of this research, like: e-work, e-commerce or social inclusion, have not yet been a subject of any investigation on a greater scale. It is known that the information from these areas are of great interest for the decision makers responsible for the realisation of the programme e-Poland and for the broadly understood market of new technologies, as well as the researchers. The realisation of this research, and then the presentation of its results triggered a discussion about the necessity of introduction of a statistical programme on some elements needed for the description of IS. The importance of the realisation of a project which would come up with the elaboration and evaluation of a set of indicators, is proved by the fact that the next plenary meeting of the Statistical Council will be devoted to that topic. The results of the SIBIS project turned out to be an appropriate activity in the situation of information gap in IS respect and the demand for information on the part of the market.

The SIBIS project gave a deeper insight into the current state and future development of the ICT field. A part of its assessments may raise some doubts. However, its value lies in providing a basis for discussing the development of IS in Poland. As it turned out, what the authors of this report thought to be a sign of rather bad situation in this respect, others consider to be the evidence of improvement that has taken place within the last years. According to Prof. Józef Olesiński, an expert in the field of IT and statistics, Poland is currently in the situation where the next stage will be an acceleration of the accumulated development in the ICT field. However, a prerequisite for this stage is the State's political

resolution to take definite steps to minimize the main barrier that hinders the society's access to new technologies: too high costs. The goal is to make the access to such solutions -a norm rather than a luxury- that would be the source of the budget incomes gained as a result of high taxes imposed on ICT services. If the IS development is truly considered a priority and the telecommunications market becomes de-monopolized and customer-focused, this may be the catalyst to release Poland's progress potential.

The rather pessimistic assessment of Poland's situation in comparison with other countries may also be due to the report's authors' lack of possibility to follow every stage of IS formation and to judge its state against the desired state. In the opinion of Prof. Olesiński, the dynamics of ICT development and popularisation indicate changes that occurred in this area. One of the facts he emphasizes is particularly noteworthy: "Despite a relative distance, ICT is nevertheless one of the few areas where Poland manages to recoup the delay against developed countries". This optimistic statement appears to be a much elevating final conclusion drawn from the analysis of ICT development in time.

10.1 Ideas for future research[19]

The result of the research conducted for SIBIS project are not only concrete data, but also, and maybe most of all, the diagnosis of the current state of descriptive statistics in terms of information society.

To be able to describe the way of future researches on information society it always requires an early revision of the hitherto existing activities conducted by researches in this filed. An attempt in presenting major tendencies in the analysed area will surely help to identify the potential difficulties in the development of IS research in Poland.

The context of research on information society in Poland – an attempt to diagnose the actual situation

- The researches on information society in Poland are conducted mainly within sociology, social psychology, anthropology and ethnology
- One of the most popular topics of investigation of commercial institutions is telecommunication, which is only a fragment of the very complicated phenomenon of information society
- There is a very restricted theoretical context for these researches – there is no one cohesive definition
- Being still a priority in the development of the country, this topic is political
- The lack of credible gauges which would describe the transition to information society (the percentage in service sector and the contribution in percentages of the number of workers in services are not adequate)
- The reservation of researchers, which is caused by the lack of measures, the fear of low quality data, lack of recipients' identification (except for the government).

There are many research problems which concern information society, ranging from the influence of new technologies on the development of economy, style of living, working, to the change in the forms of organization, etc. What is characteristic of information society in its various dimensions is also an excellent point of departure for further research. The economy based on knowledge, new forms of work, e.g.: via the web, science as a generator of

[19] The fragment comes from a lecture „The Role of Public Statistics in the Integrated Information System about Information Society", delivered by the President of ASM, Ms Elżbieta Syrda, on 25th April 2003, at the Plenary Meeting of the Statistical Council.

innovations, cultural and administrative changes, education as well as interaction between these fields – all these contribute to this new standard which reflect the information society.

The following stages in the development of information society will bring about new chances and threats. The latter will require from science the readiness for prediction. Systematic research enables the undertaking of such activities which would help avoid the 'digital division' of countries not only globally, but also and most of all at the level of communities in one country. Actually, there are premises which indicate that all those who do not keep up with the accelerated tempo of the development of information society will be socially excluded.

That is why the investigations of the development of information society are a huge chance on the way to maintain the appropriate direction of socio-economic development in general. Thanks to the activities undertaken within the SIBIS project, it is justified to claim that even though there has been done a lot for the development of information society statistics, there still exists a huge information gap in this respect. The indices which were suggested in the project were viewed with interest on the part of those interested in the topic, and a discussion about future research has begun. The results were summed up by the director of Information Society Department in Chief Statistical Office, Ms Dorota Turek[20]. As future challenges for the statistics she indicated:

- The elaboration of methodological rules
- The definition of acquiring data needed to estimate the indexes specified in the system
- Modification of the existing classifications of products
- The expansion of information offer by the new statistical data.

One of the many observations from SIBIS project is that in Poland there is a need for conducting studies on nearly every area included in the research. There are of course some, which are explored relatively well, like the accessibility of new technologies, but there are also other, such as e-commerce, e-health, which are fairly new, and therefore not included in any of the researches. The priority topic in the nearest years should be the problem of social inclusion, because its monitoring can be preventive for the increasing problem of digital divide.

[20] The information comes from Dorota Turek's presentation on the Plenary Meeting of the Statistical Council on 25th April 2003.

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ANNEX 1: METHODOLOGY

Methodology of the GPS 2002 survey

The survey was conducted in the period April-May 2002 (interviews were carried out between 4th April and 18th May) in all 15 EU Member States adding Switzerland and the US, using computer-aided telephone interviews. The survey was co-ordinated and executed by INRA Deutschland GmbH, Mölln. The population for this study consists of all persons aged 15 and over living in private households in the respective countries and speaking the respective national language(s). 11,832 interviews were successfully completed. The average interview length per country varied between 10 (Greece) and 20 minutes (Sweden).

Sampling: Target households were selected at random in all countries, either by random dialling techniques such as permutation of final digits or by drawing a random sample from official sources. Mostly a geographical stratification was implemented beforehand. For the selection of the target person common random keys were applied in all countries except for the UK where quota was used. In two cases (Spain, the US), screening had to be directed towards male respondents towards the very end of the field in order to gain gender representativeness.

There were three adjustments necessary in order to provide reliable data:

- Transformation from household sample to person sample. As only one person per household is interviewed, the described sample procedure provides a household sample, i.e. each household of the base population has the same likelihood of being in the sample but not each person. With the weighting stage of the transformation the equal likelihood of households is replaced mathematically by the equal likelihood of the individuals. To this end, each data set is multiplied by the amount of people in the household aged 15 or over. This number is subsequently divided by the average household size in order to obtain the actual case number.
- Adjustment of unweighted sample structure to the official statistic. Because random samples are not evenly distributed across all population strata, the distribution of unweighted samples regularly and systematically deviate from the population distribution from official statistics. Through the mathematical weighting the sample distribution was adjusted to the official statistics. The national weighting factor, which results from the iterative weighting, was included in the data material.
- Adjustment of weighted sample structure to the EU-15 Member States population. This weighting factor was necessary to calculate total figures according to the whole population of the European Union Member States. Furthermore it is useful to compare the EU with the US. Population sizes of each Member State are weighted to reduce the distortion based on the sample sizes in each country.

NOTE: The GPS 2002 questionnaire is available on-line and can be obtained on the SIBIS website: http://www.sibis-eu.org/sibis/statistics/questionnaires.htm.

Sample characteristics GPS 2002

	Total		**EU-15**	
	unweighted	weighted	unweighted	weighted
Total sample	**11832**	**11832**	**10306**	**10306**
Country				
B	585	585	-	-
DK	501	501	-	-
D	1001	1001	-	-
EL	505	505	-	-
E	1015	1015	-	-

F	1000	1000	-	-
IRL	500	500	-	-
I	1000	1000	-	-
L	500	500	-	-
NL	530	530	-	-
A	500	500	-	-
P	500	500	-	-
FIN	669	669	-	-
S	500	500	-	-
UK	1000	1000	-	-
EU-15	-	-	10306	10306
CH	522	522	-	-
US	1004	1004	-	-
Age groups				
Up to 24	1964	2019	1731	1651
25 to 49	5511	5309	4817	4593
50 to 64	2515	2495	2191	2209
65 and more	1833	2000	1558	1839
Don't know	9	9	9	14
Terminal education age				
Up to 13	695	717	693	728
14	715	742	701	881
15 to16	1794	1750	1641	1820
17 to 20	3587	3515	2997	2937
21 and more	3266	3275	2743	2495
Still studying	1687	1751	1463	1372
Don't know	88	81	77	73
Internet usage				
Total Internet use	6905	6908	5828	5610
Regular use (last 4 weeks)	5944	5948	4985	4781
Occasional use (last 12 months)	961	960	843	830
Non Internet use	5550	5643	4655	4548
Employment status				
Paid employment	4966	4853	4291	4133
Self-employed	935	941	809	799
Unemployed/ temporarily not working	701	683	621	631
In education	1687	1751	1463	1372
Retired or other not working	3441	3510	3034	3292
Don't know	102	94	88	80
Longstanding illness				
Existence of health limiting conditions	1898	1885	1645	1610
No existence of health limiting conditions	9868	9858	8607	8606
Don't know	66	90	54	90
Mobile phone usage				
Mobile phone owner	8202	8192	7301	7121
Tele-working				
Home based tele-workers	217	233	168	172
e-Health usage				
Searched for health-related info online	2712	2728	2149	2041
Searched and found health-related info online	2578	2592	2038	1916

Methodology of the GPS-NAS 2003 survey

The survey was conducted in January 2003 (interviews were carried out between 1st January and 31st January) in the 10 Newly Associated States Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia and Slovakia, using personal aided personal interviews (PAPI). The survey was co-ordinated and executed by NFO AISA Czech Republic, Prague. The population for this study consists of all persons aged 15 and over living in private households in the respective countries and speaking the respective national language(s). 10,379 interviews were successfully completed. The average interview length per country varied between 20 (Romania) and 40 minutes (Lithuania).

Sampling: Target households were selected at random in all countries, either by multistage stratified random-route sampling or by drawing a random sample from official sources. Mostly a geographical stratification was implemented beforehand. For the selection of the target person common random keys were applied in all countries, i.e. the next birthday method and the Kish method, except for Bulgaria where quota was used.

There were three adjustments necessary in order to provide reliable data:

- Transformation from household sample to person sample in Poland and Slovenia. As only one person per household is interviewed, the described sample procedure provides a household sample, i.e. each household of the base population has the same likelihood of being in the sample but not each person. During the weighting stage of the transformation the equal likelihood of households is replaced mathematically by the equal likelihood of the individuals. To this end, each data set is multiplied by the amount of people in the household aged 15 or over. This number is subsequently divided by the average household size in order to obtain the actual case number.
- Adjustment of unweighted sample structure to the official statistic. Because random samples are not evenly distributed across all population strata, the distribution of unweighted samples regularly and systematically deviate from the population distribution from official statistics. Through the mathematical weighting the sample distribution was adjusted to the official statistics. The national weighting factor, which results from the iterative weighting, was included in the data material.
- Adjustment of weighted sample structure to the NAS-10 countries population. This weighting factor was necessary to calculate total figures according to the whole population of the Newly Associated States. Furthermore it is useful to compare the NAS with the EU. Population sizes of each of the ten states are weighted to reduce the distortion based on the sample sizes in each country.

NOTE: The GPS-NAS 2003 questionnaire is available on-line and can be obtained on the SIBIS website: http://www.sibis-eu.org/sibis/statistics/questionnaires.htm.

Sample characteristics GPS-NAS 2003

	Total		**NAS-10**
	unweighted	weighted	weighted
Total sample	10379	10371	10379
Country			
BG	104	1008	-
CZ	1096	1096	-
EE	1001	1001	-
HU	1000	1000	-
LT	1017	1017	-
LV	1006	994	-
PL	1000	1000	-

RO	1054	1054	-
SI	102	1002	-
SK	1199	1199	-
NAS-10	-	-	10379-
Age groups			
Up to 24	2036	1825	1736
25 to 49	4473	4604	4593
50 to 64	2402	2202	2234
65 and more	1468	1740	1816
Long standing illness			
Existence of health limiting conditions	2272	2386	2555
No existence of health limiting conditions	7961	7836	7688
Don't know	146	149	137
Terminal education age			
Up to 13	374	433	575
14	658	682	855
15 to16	1099	1151	1099
17 to 20	4784	4816	4869
21 and more	1823	1833	1719
Still studying	1407	1213	1057
Never went to school	59	59	68
Don't know	175	184	138
Employment status			
Paid employment	4038	3999	3354
Self-employed	608	622	690
Unemployed/ temporarily not working	1272	1303	1506
In education	1407	1213	1057
Retired or other not working	3052	3231	3764
Don't know	2	3	9
Internet usage			
Never heard of the Internet (incl. don't know)	1349	1437	1506
Ever heard of the Internet	9030	8935	8773
Total Internet use	3700	3507	2773
Regular use (last 4 weeks)	3025	2852	2215
Occasional use (last 12 months)	675	655	559
Non Internet use	6679	6864	7606
Mobile phone usage			
Mobile phone owner	5763	5635	4534
Telework			
Home based teleworkers	162	162	120