



**Central and Eastern Europe
Information Society Benchmarks**

Survey Results

Objective 3

Stimulate the use of the Internet

September 2004

OBJECTIVE 3 STIMULATE THE USE OF THE INTERNET

3.A Accelerating e-commerce

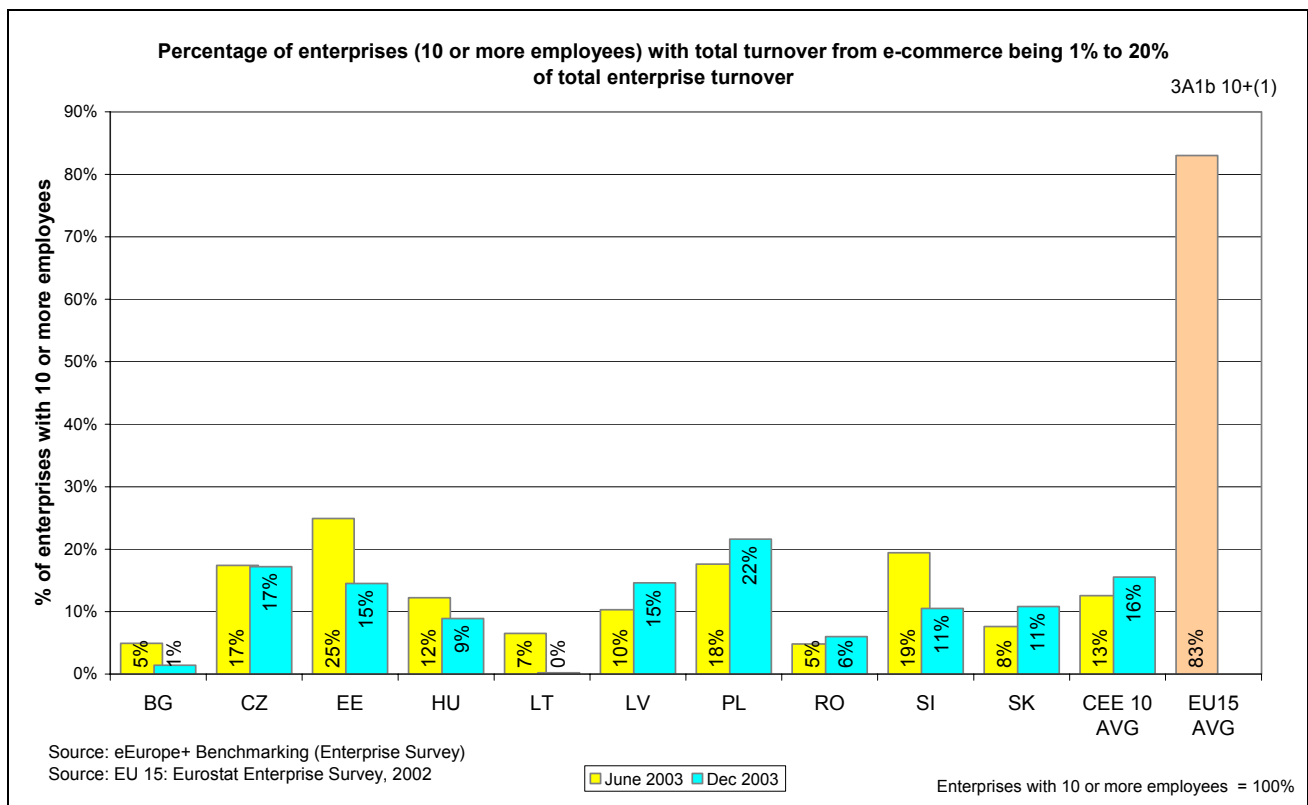
With bouncy data due to the limited ability of employees to produce correct answers within the short time frame of the interview and the challenge of finding the most appropriate employee able to answer all the questions, then the accuracy of the responses is questionable. However, some broad pictures of the e-commerce/e-business landscape within the CEE 10 have emerged. Moreover, the seasonality of commerce would be expected to show in any surveys taking place in December. Further analysis is required to find out exactly what is happening with respect to these indicators.

Eurostat 2003 data includes NACE sectors DFGHIKO and data for enterprises with more than 10 employees compared to eEurope+ using NACE DFGHIK for all enterprises unless stated otherwise.

3.A.1 Percentage of enterprises' total turnover from e-commerce.

Definition: Turnover: Gross turnover attributable to sales. Sales made over the Internet are only to be included if these are greater than 1% of gross turnover.

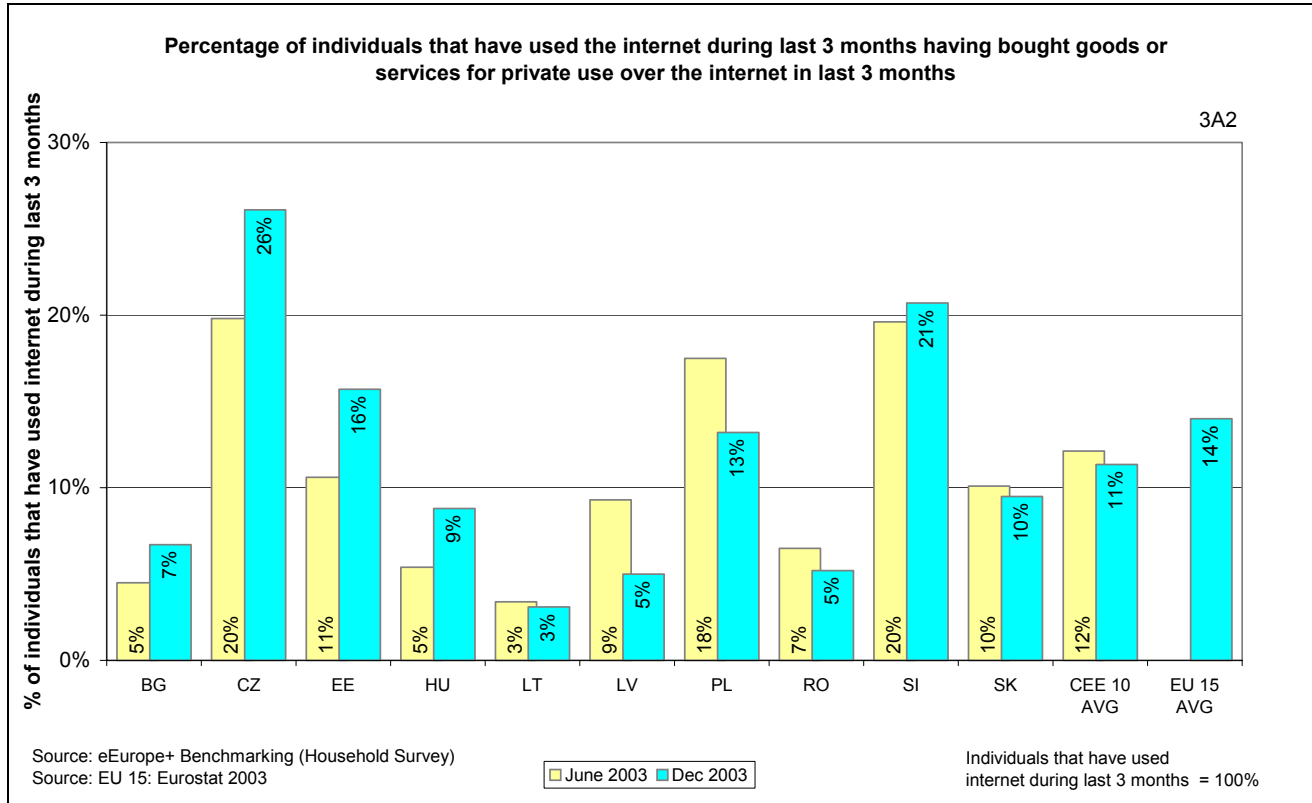
16% of CEE 10 enterprises (more than 10 employees) are gaining 1-20% of their turnover from e-commerce.



Poland (22%) is the leader, followed by the Czech Republic (17%), Estonia, and Latvia (15%). All other countries have values at 11% or less with Bulgaria (1%) and Lithuania (0%) trailing. The CEE 10 average is for 16% of enterprises (more than ten employees) gaining more than 1-20% of their turnover from e-commerce. It is possible that only a financial director/manager would be able to provide accurate data on turnover.

3.A.2 Percentage of individuals having ordered/bought goods or services for private use over the Internet in the last 3 months

The purchasing of goods/services is not an important e-commerce activity for individuals at the time of the Survey in the CEE 10.



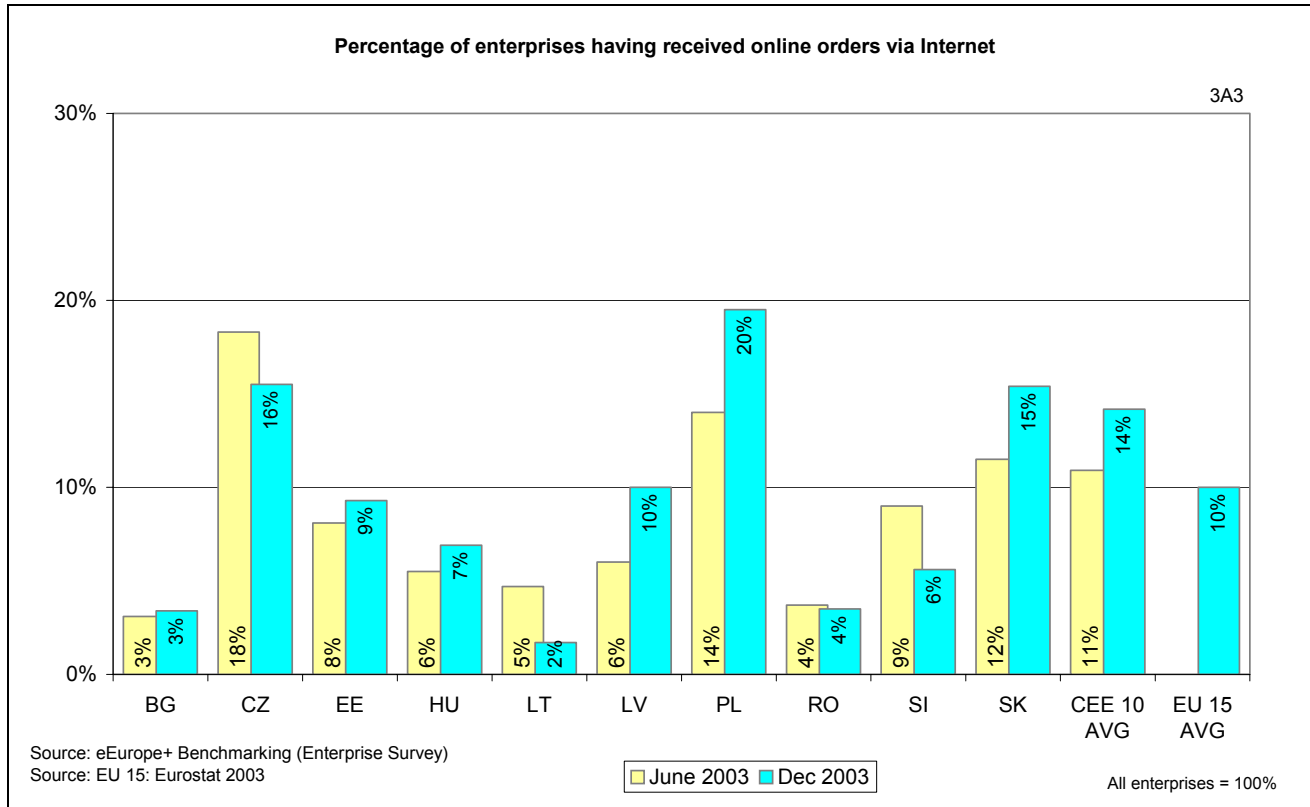
The Czech Republic is the leader at 26% i.e. a quarter of all their Internet users (but one eighth of their population as a whole), followed by Slovenia at 21%, Estonia at 16% and Poland at 13%. All other countries have percentages of 11% or less, which as proportions of their populations, represents very low levels of activity.

The value and nature of goods bought is not known from this Survey, with books and CDs being typical B2C purchases. The propensity for individual e-commerce also relates to the quality of logistical networks for delivery of physical goods, secure mail systems, customs clearance, and the quality of consumer protection law. Deficiencies in these areas will be deterrents for development of B2C e-commerce. With reference to 1.A.4.b, more searching about goods and services is taking place than actual purchasing, suggesting that some web influenced offline buying may be taking place i.e. individuals search for information about availability and price, but buy using traditional means 'over the counter'. In Estonia, 72% of users are searching but only 16% are buying. It has been suggested that in small countries like Estonia, markets are geographically convenient, hence the lack of need for e-commerce by individuals but countered by experiences in the United Kingdom (24%), which leads amongst EU 15 (average 14%) for personal e-commerce (Eurostat 2003), and where there is a dense network of traditional retail outlets.

See "Survey Results, Objective 1, Section 1A4" for EU 15 comparisons

3.A.3 Percentage of enterprises having received orders online (via the internet, EDI or any other computer mediated network) where these are >1% of total turnover

Only four CEE 10 have 10% or more of their enterprises receiving online orders.

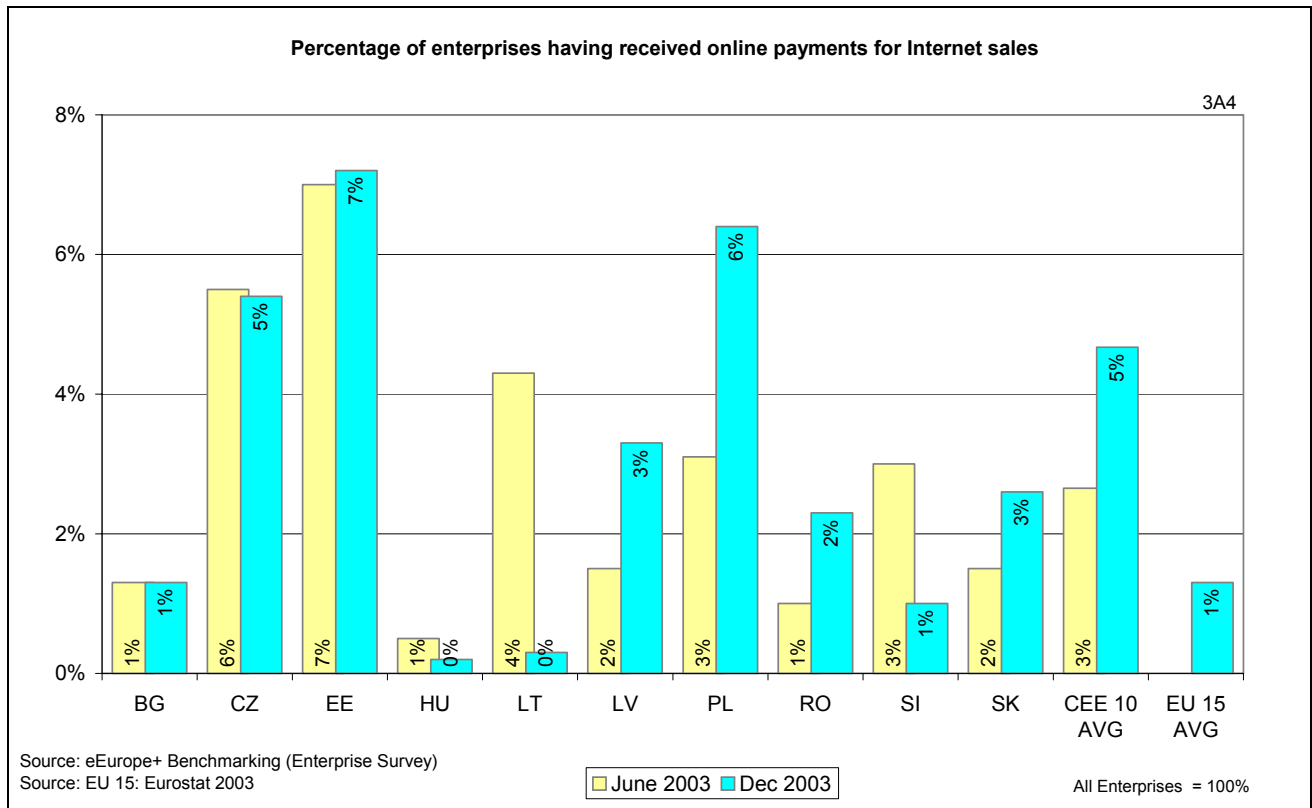


Only four countries have 10% or more enterprises receiving online orders. Poland (20%) is clearly the leader, followed by the Czech Republic (16%), the Slovak Republic (15%), and Latvia (10%). All other CEE 10 are at levels of 9% or less.

There is the suggestion that the role of multinationals and inward investment regarding enterprises lying in NACE sector D should be investigated further for these countries, as multinationals are powerful drivers for the take up of e-commerce amongst their smaller suppliers and customers. Percentages for online orders are lower than for online purchases, which reflects overall global trends in e-commerce; it is much easier to purchase from websites than to set up and maintain a website for sales, which can be very costly in terms of time, effort and skills. Hence, there are fewer enterprises that have established successful websites for website sales, which are typically office stationery suppliers, catering, transport, hospitality, electronic equipment manufacturing, and financial services.

3.A.4 Percentage of enterprises having received online payments for Internet sales

Online payments make up small percentages of payment methods for enterprises in the CEE 10

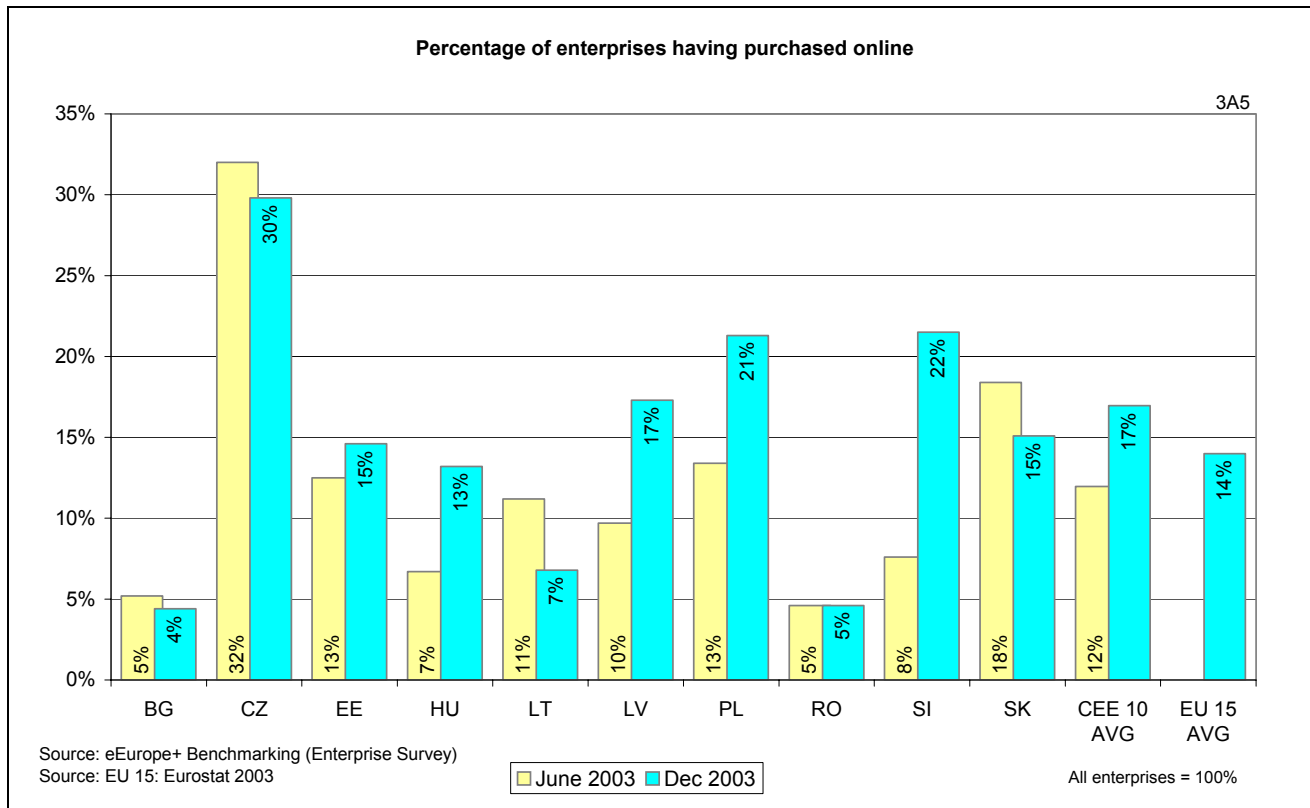


Estonia (7%) is the leader, followed by Poland (6%) and the Czech Republic (5%). All other CEE 10 lie at values of less than 4%, with Hungary and Lithuania trailing with negligible levels of online payment. Online payments make up very small percentages of payment methods. Estonia and Latvia have benefited from exposure to Scandinavian banking practices with their proactive policies towards use of the Internet and well established online banking systems. Poland, being the leader for online sales, may be being currently directed along the online banking route by its multinational customers. These trends do not mirror the previous indicator (3A3) but rather suggest a national variation in the availability of online banking facilities and confidence in the use of credit cards online, as well as confidence in online security. Neither do they do they mirror trends in individual use of Internet banking (1A4).

The CEE 10 average of 5% compares very favourably with the EU 15 average of 1% (Eurostat 2003), due to the higher levels of activity in Estonia and Poland.

3.A.5 Percentage of enterprises having purchased online

One third of online enterprises in the Czech Republic are purchasing online.



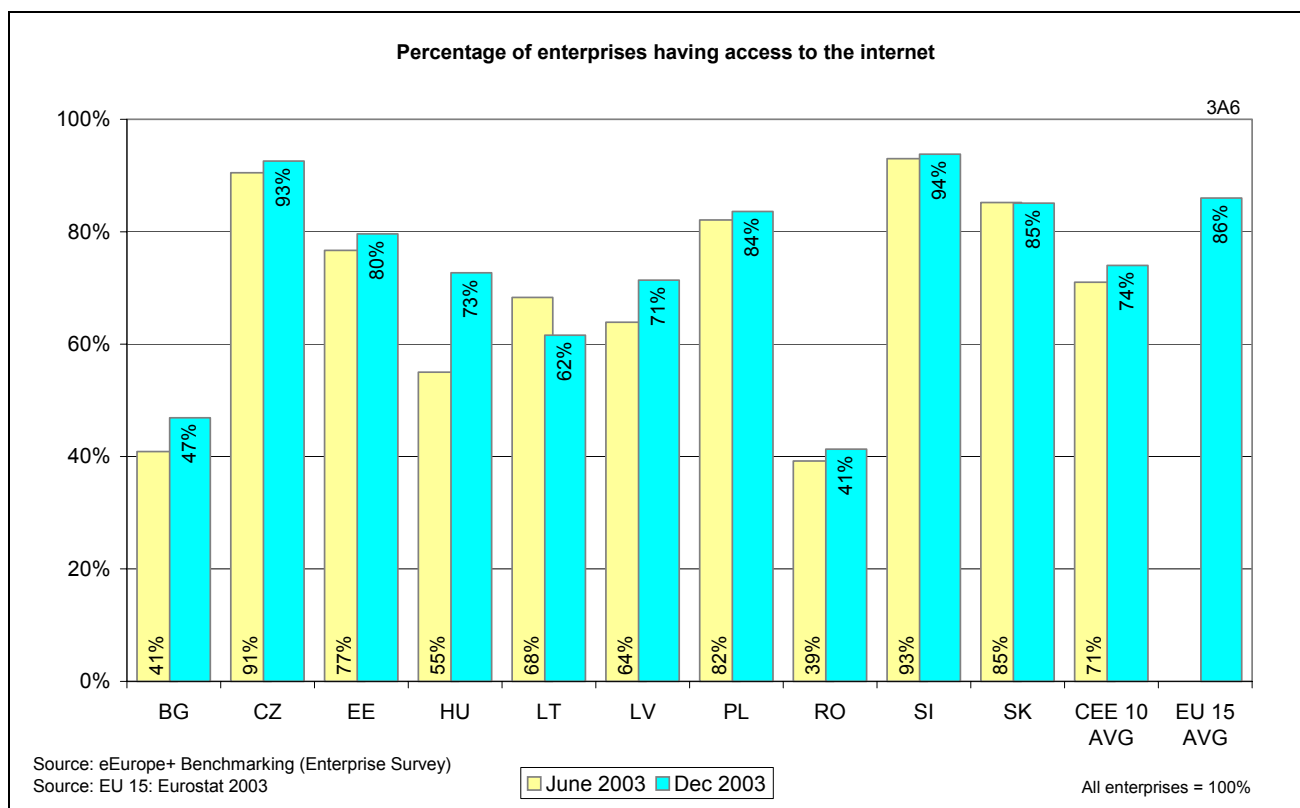
The clear leader is the Czech Republic (30%), followed by Slovenia (22%) and Poland (21%) who are followed by a cluster of countries including Latvia (17%), Estonia and the Slovak Republic (15%), Hungary (13%). Lithuania (7%), Romania (5%), and Bulgaria (4%) are trailing. With Slovenia and Romania¹ having established public procurement initiatives, impact has not yet been confirmed despite the increase in e-purchasing seen in Slovenia during the second half of the year.

With the Czech Republic, Poland, and Slovenia well above the EU 15 average, these activity levels are encouraging.

¹ Electronic System for Public Acquisitions e-Procurement

3.A.6 Percentage of enterprises having access to the Internet

Five CEE 10 have 80% or more of their enterprises with access to the Internet; the Czech Republic, Estonia, Poland, Slovenia and the Slovak Republic



It is encouraging to see so many enterprises with at least one point of Internet access. Five countries with 80% or more of enterprises with Internet access: the Czech Republic (93%), Estonia (80%), Poland (84%), Slovenia (94%), and the Slovak Republic (85%). With three CEE 10 with Internet access levels between 60% and 80%: Hungary 73%, Lithuania 62%, Latvia (71%). Bulgaria (47%), and Romania (41%) are trailing.

Comparison with EU 15: EU 15 average 86% (Eurostat 2003 Stats in Focus); CEE 10 average 74 % (2003). In EU 15 (2003), Internet penetration levels were above 77% for all sizes of enterprises with more than 10 employees (excluding Greece and France).

The large increase in Hungary has been explained by TNS Hungary as due to cheaper Internet access, especially for small enterprises. XDSL has also increased in popularity and ISPs are targeting small companies in their marketing strategies. The telecommunications market is also evolving due to increased competition, all of which can be seen as encouraging more enterprises to go online.

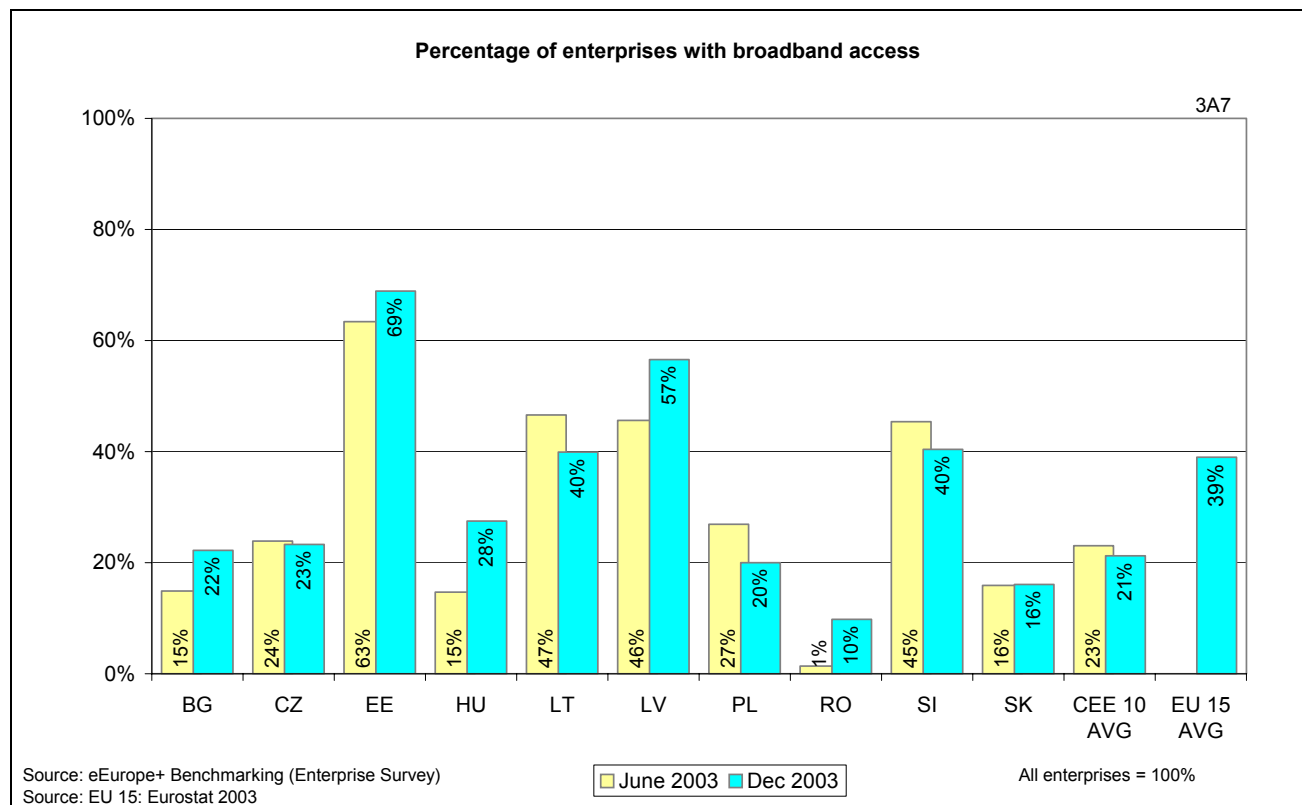
It is now accepted that for some enterprises, being online does not give them any particular competitive advantage and would only incur additional costs, so it would be unlikely that all enterprises would ever be online. However, the ability to e-mail or search online could be perceived as being beneficial for all enterprises, no matter how small, but for the smallest in some CEE 10, the costs could simply be too great and perceived benefits not enough. It would seem that saturation levels for this indicator have been reached in at least two CEE 10, i.e. the Czech Republic and Slovenia.

This is a very simplistic indicator, which does not inform on, for example, numbers of users at a

particular point of access, numbers of points of access, frequency of use, purpose, etc. However, it records the frequency of those enterprises at the first stage of the Internet adoption ladder. Levels of effective Internet use lie far below these levels of access, but it should also be remembered, that the workplace is the second most frequently used place of Internet access for individuals in the CEE 10 and the most important place for individual access in Lithuania, Latvia and the Slovak Republic (see 1A3).

3.A.7 Percentage of enterprises with broadband access

Four CEE 10 are outperforming the others: Estonia, Lithuania, Latvia and Slovenia



The leader is Estonia (69%), followed by Latvia (57%), Lithuania (40%), and Slovenia (40%). All other countries have levels of less than 30%, with Romania (10%) trailing. Broadband enables enterprises to upload and download documents relating to selling and buying as well as e-Government forms. E-Government applications are more widely available for enterprises than for individuals.²

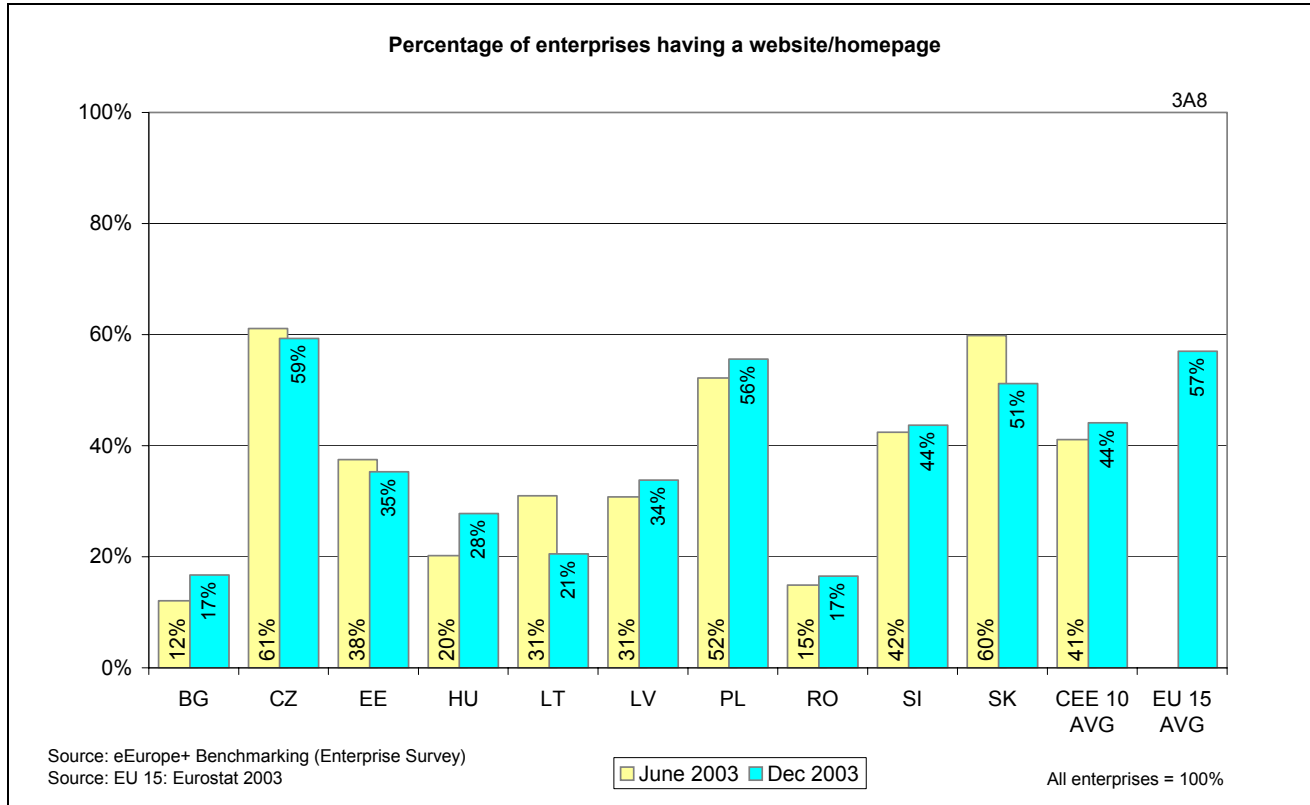
Comparison with EU 15: With an EU 15 average of 39% (Eurostat 2003) compared to the CEE 10 average of 21%, *four CEE 10 (Estonia, Lithuania, Latvia, Slovenia) are outperforming five EU 15 countries* (Ireland: 20%), (Italy: 33%), (Portugal: 27%), (United Kingdom: 30%) with respect to broadband enterprise Internet access

It has already been noted that xDSL has increased in popularity in Hungary, which explains the increase seen (See 3.A.6). It is also noted that cable broadband is becoming increasingly popular in Estonia and is cheaper than xDSL, see (0.A.3.1).

² CapGemini Ernst and Young eGovernment Services Survey 2004

3.A.8 Percentage of enterprises having a website/homepage

Three CEE 10 have more than 50% of their enterprises with a website/homepage; the Czech Republic, Poland and the Slovak Republic. All other countries are at 44% or less with Bulgaria and Romania trailing (17%).

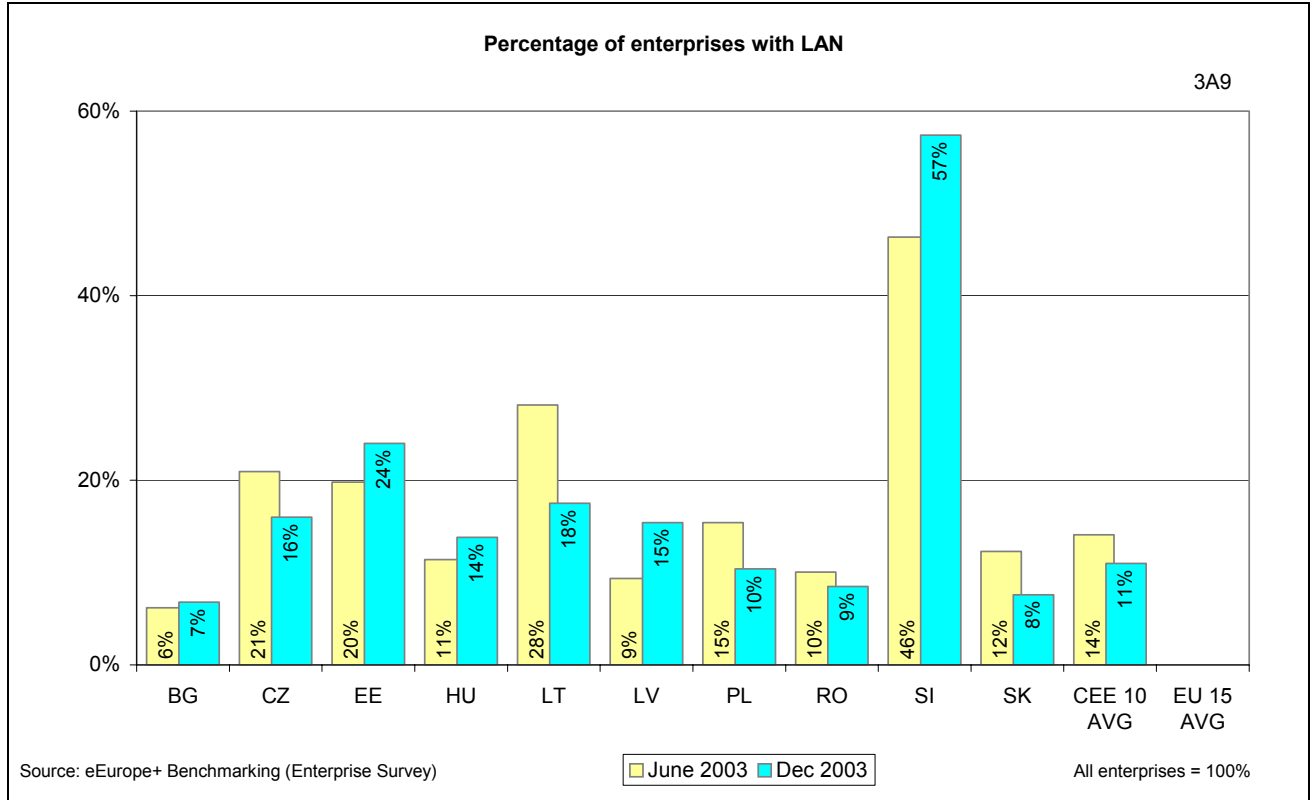


Comparison with EU 15 (57%), (Eurostat 2003), The CEE 10 are trailing in this respect with an average of 44% enterprises with a website but with larger numbers of micro enterprises, this would be expected.

For small companies, the setting up and maintenance of a website requires money and skills which they may not be prepared to continue to supply, especially if minimal benefits achieved have not justified the initial investment. Having a website/homepage is considered the next stage in the e-adoption ladder but even the benefits of a simple, brochure type web page are not necessarily advantageous for every company. Again, this is a very simplistic indicator and more searching questions are needed to define the functionality of enterprise websites and their effectiveness in promoting e-commerce/e-business.

3.A.9 Percentage of enterprises with a LAN

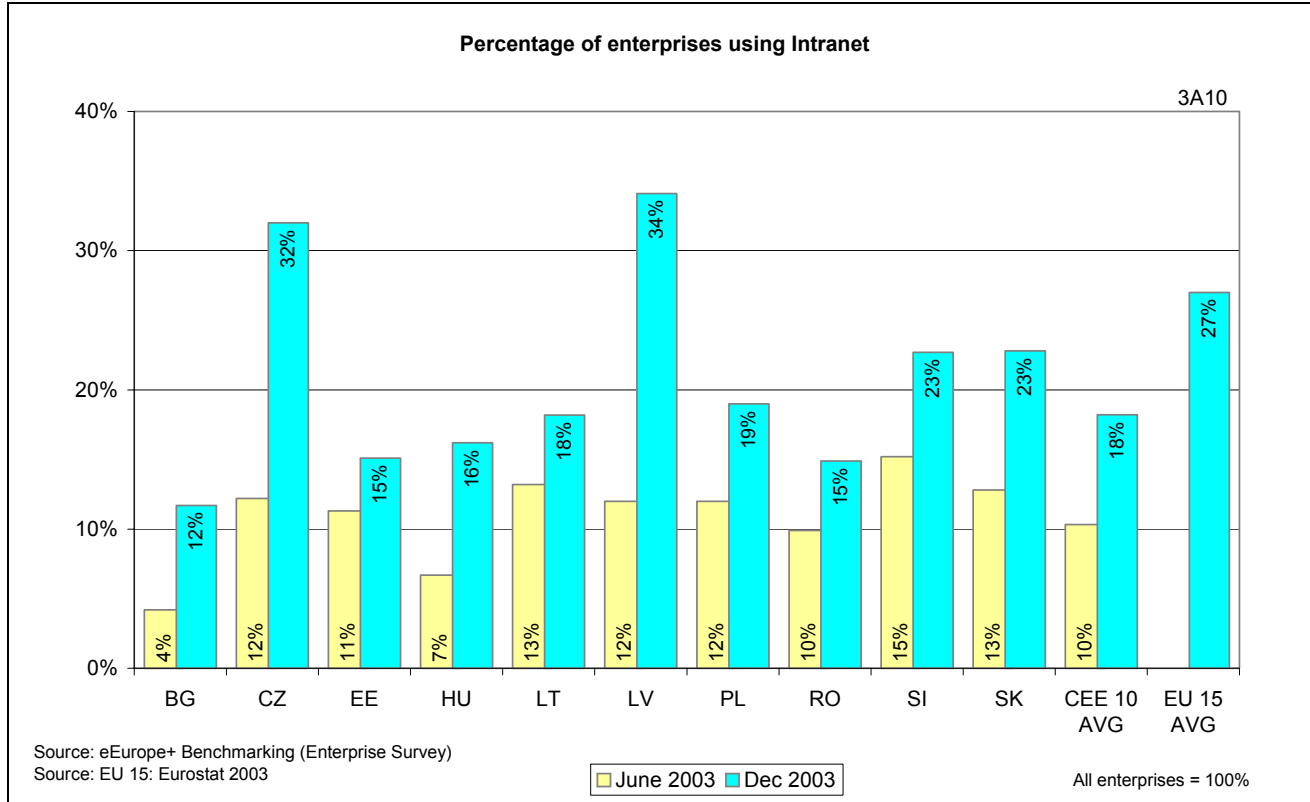
Slovenia is the outstanding leader with nearly 60% of enterprises with a LAN.



The use of a LAN reflects the ICT sophistication and technical ability of a company, tending to be found in larger companies who can afford to employ ICT specialists or smaller and new micro companies in the services sector, which have a modern rather than a traditional approach to business. The presence of a LAN is one means by which a large number of employees can have access to the Internet, but these percentages do not mirror the previous graphs relating to e-commerce. Rather, the penetration of LANs here reflects the levels of internal informatisation of companies, leading to increases in efficiency. This is reflected in other indicators relating to e-business for which Slovenia does well.

3.A.10 Percentage of enterprises using Intranet

The Czech Republic and Latvia are the leaders for enterprises using Intranet

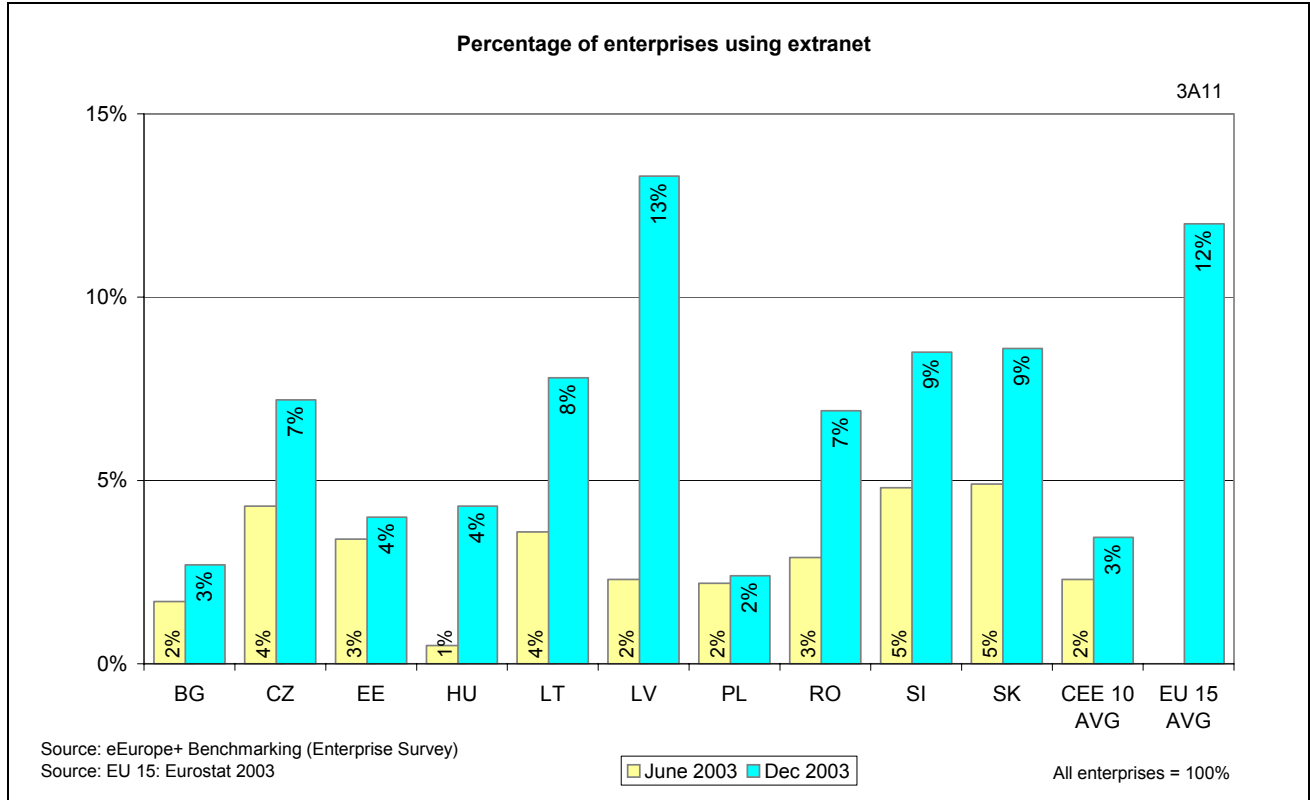


Latvia (34%) and the Czech Republic (32%) are the leaders, followed by Slovenia and the Slovak Republic (23%), Poland (19%) and Lithuania (18%). All other countries lie at levels of 16% or less. With all countries reporting increases, then this strongly suggests that enterprises are increasing their levels of informatisation.

TNS Latvia report that the increase is probably due to increased awareness and use of more sophisticated web based solutions in their public relations and marketing management areas, so showing real increase in ICT usage. Again, the use of an Intranet is informing about the technical skills of a company, the complexity of their business activities, the size of a company and their need for security and 'structured internal communication tools as the number of employees increase' (Eurostat Feb 2004). There may be some misunderstanding about the meaning of the term by respondents.

3.A.11 Percentage of enterprises using Extranet

Latvia is the leading CEE 10 for use of Extranet

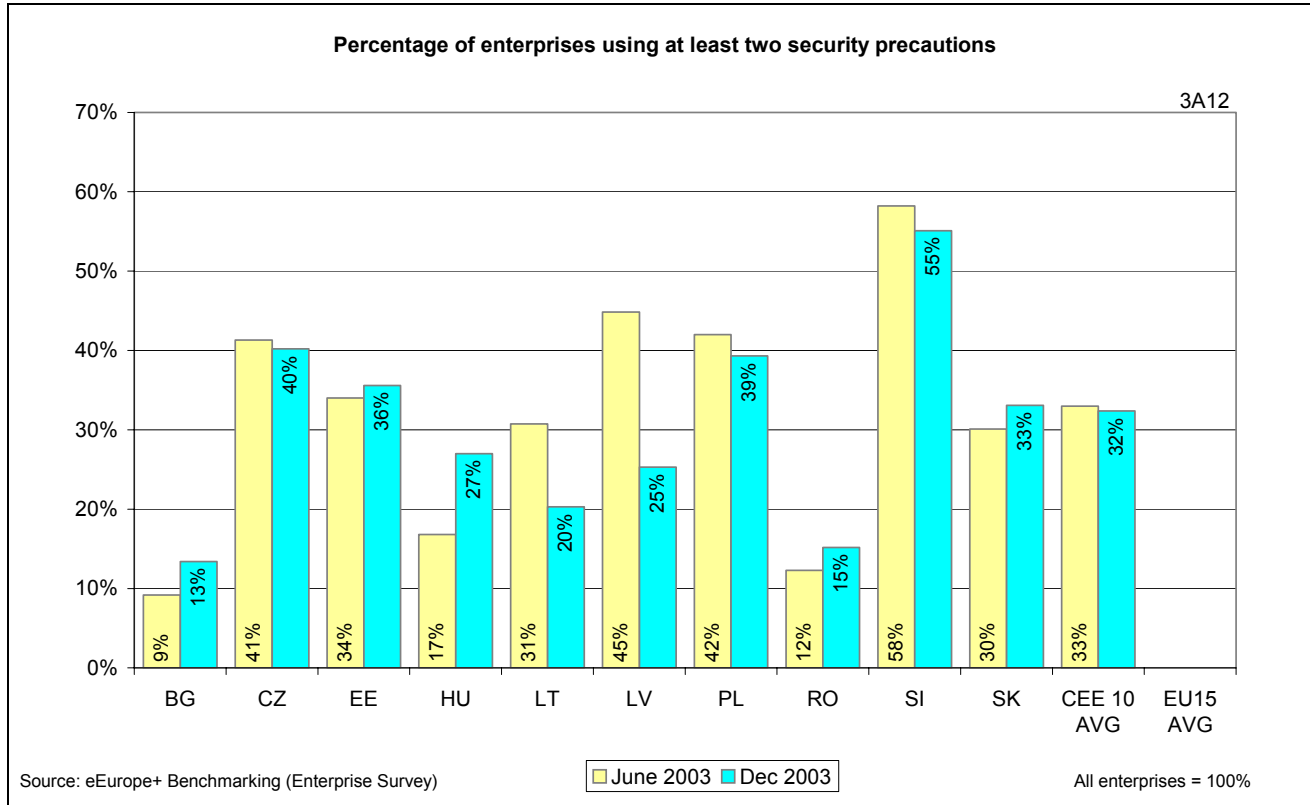


Latvia is the leader at 13% with all other CEE 10 at levels of less than 10%. Again, as for use of Intranets, there are increases across the range.

Extranets tend to be used by companies with complex close relationships with their suppliers and customers, especially manufacturing and retailing giants who need to communicate securely. Again, there may be some confusion understanding the term on the part of the respondents. Since the Latvia result indicated that 31 micro companies (less than 10 employees), 10 companies (10-49 employees), and 24 companies (50-249 employees) were using Extranets, the results are possibly unreliable. There may be some misunderstanding of the term by respondents.

3.A.12 Percentage of enterprises that use at least two security precautions.

Security precautions are secure servers, firewalls, encryption for confidentiality, off-site data backup, authentication mechanism (digital signature, pin codes), virus protection software, public key infrastructures, subscription to a security service (virus alert).

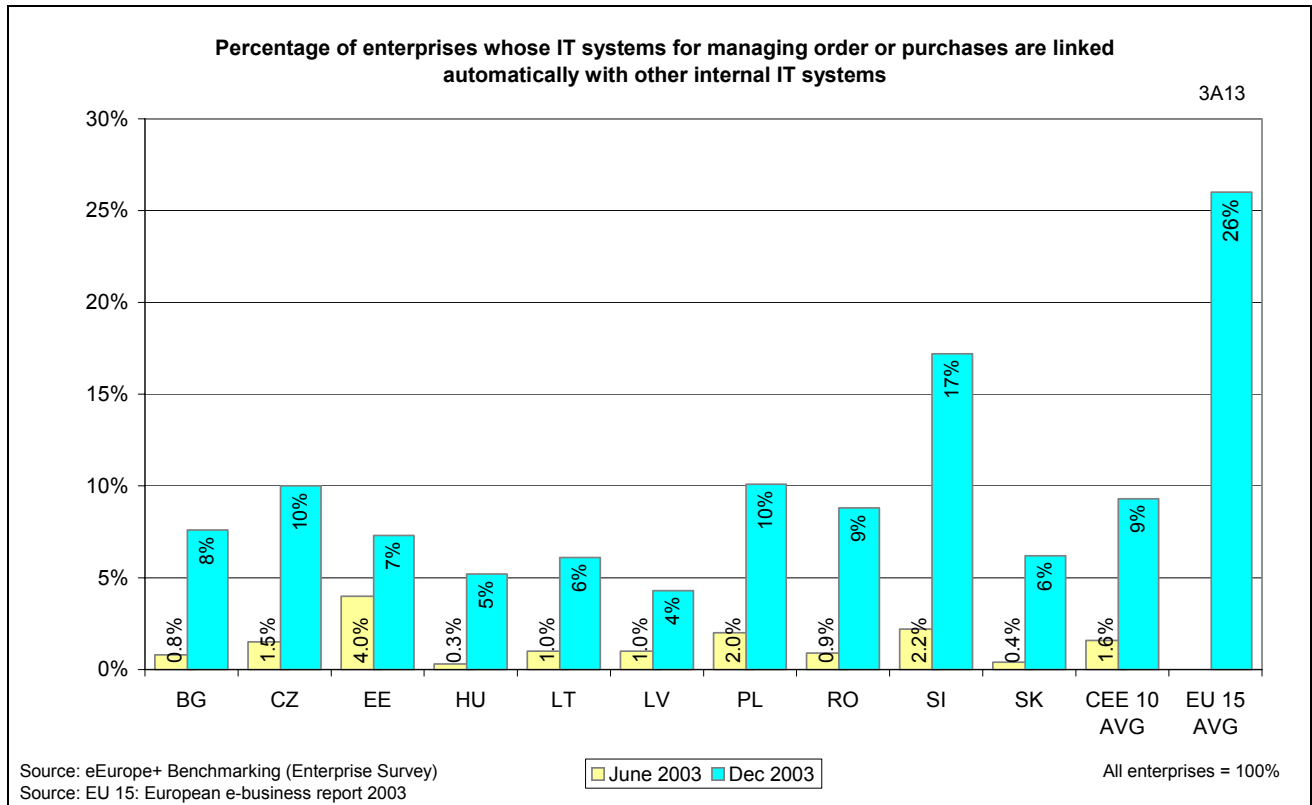


Slovenia is the leading CEE 10 country for use of security precautions by enterprises. All other countries are at levels of 40% or less. Romania (15%) and Bulgaria (13%) are trailing.

These percentages are lower than those recording levels of Internet access although following a similar trend, which implies that there are many enterprise Internet users who are not taking any security precautions, typical of new users. This indicator is obviously the reverse of 1.C.6.

3.A.13 Percentage of enterprises whose IT systems for managing order or purchases are linked automatically with other internal IT systems

Slovenia is the leader for enterprises with IT systems for managing orders or purchases linked automatically with other internal IT systems.

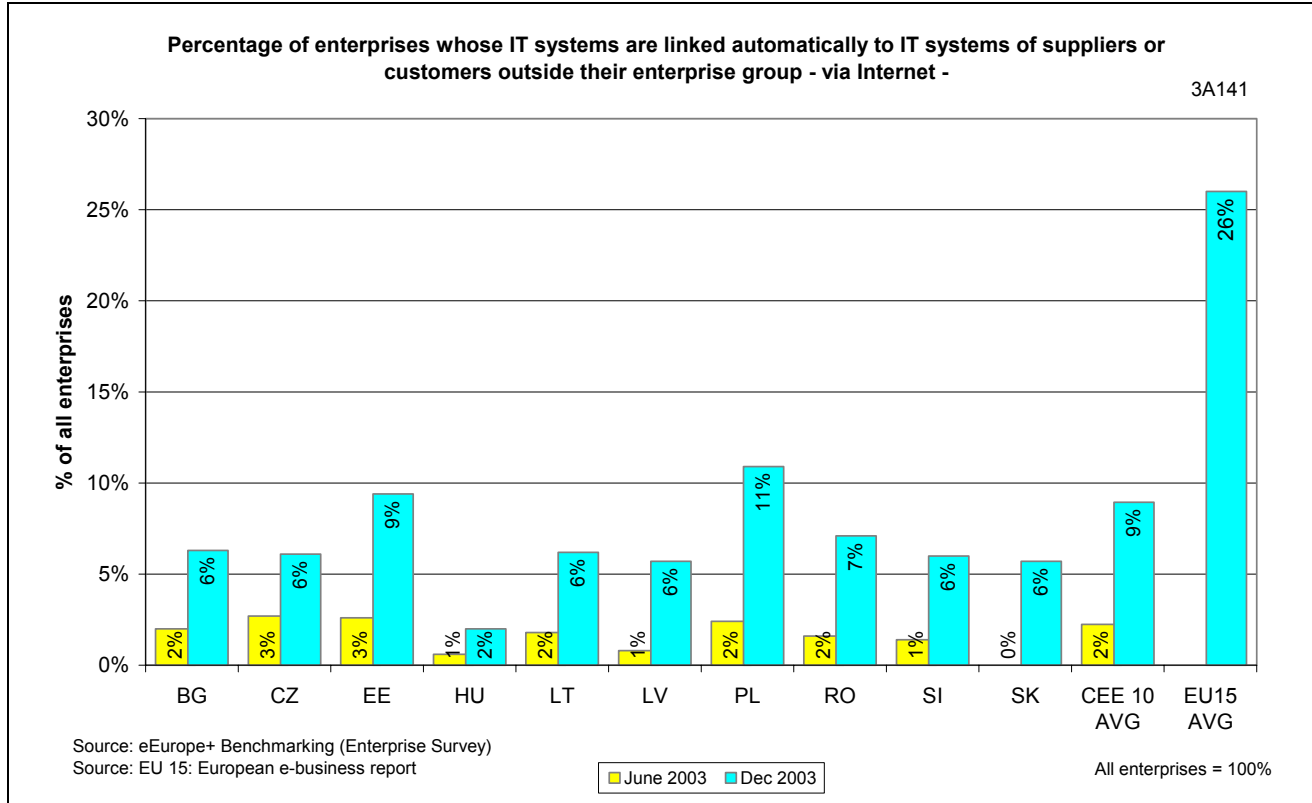


Slovenia is clearly the leader at 17% with all other countries at 10% (the Czech Republic) and (Poland), or below.

The results indicate that companies in all countries have invested in Enterprises IT technology in order to improve their systems and processes and thus their efficiency. This is another aspect of informatisation and e-business and has to be aligned alongside changes relating to those instigated by using the Internet for business processes. It also suggests the presence of high level IT skills within the enterprises to maintain these systems. TNS Slovenia could not suggest any particular reason for the dramatic increase but is another aspect of the increasing informatisation of enterprise processes in Slovenia.

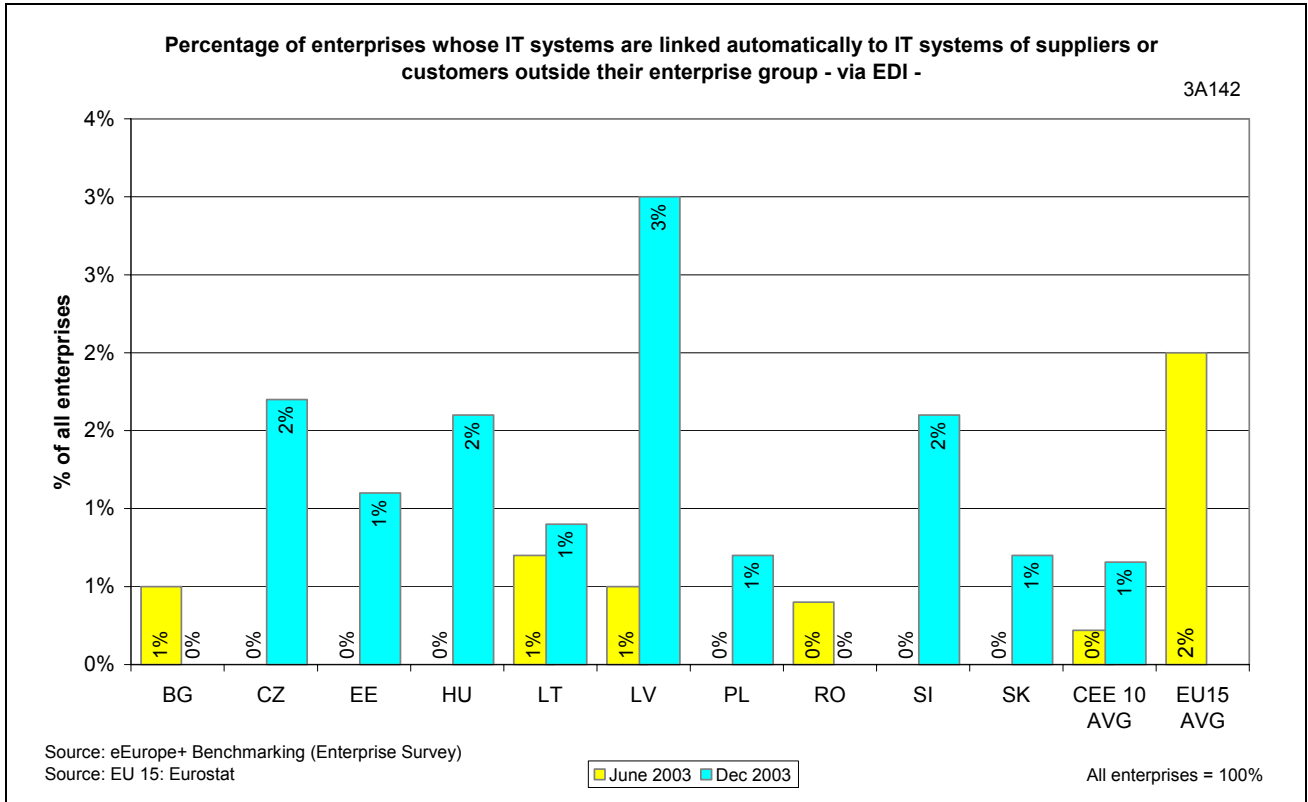
3.A.14 Percentage enterprises whose IT systems are linked automatically to IT systems of suppliers or customers outside their enterprise group

Poland is the leading CEE 10 country for enterprises with automatic links to IT systems of suppliers or customers outside their enterprise group – via Internet



Poland is the leader at 11%, followed by Estonia (9%) with all other countries at 7% and 6%. Hungary is trailing at 2%.

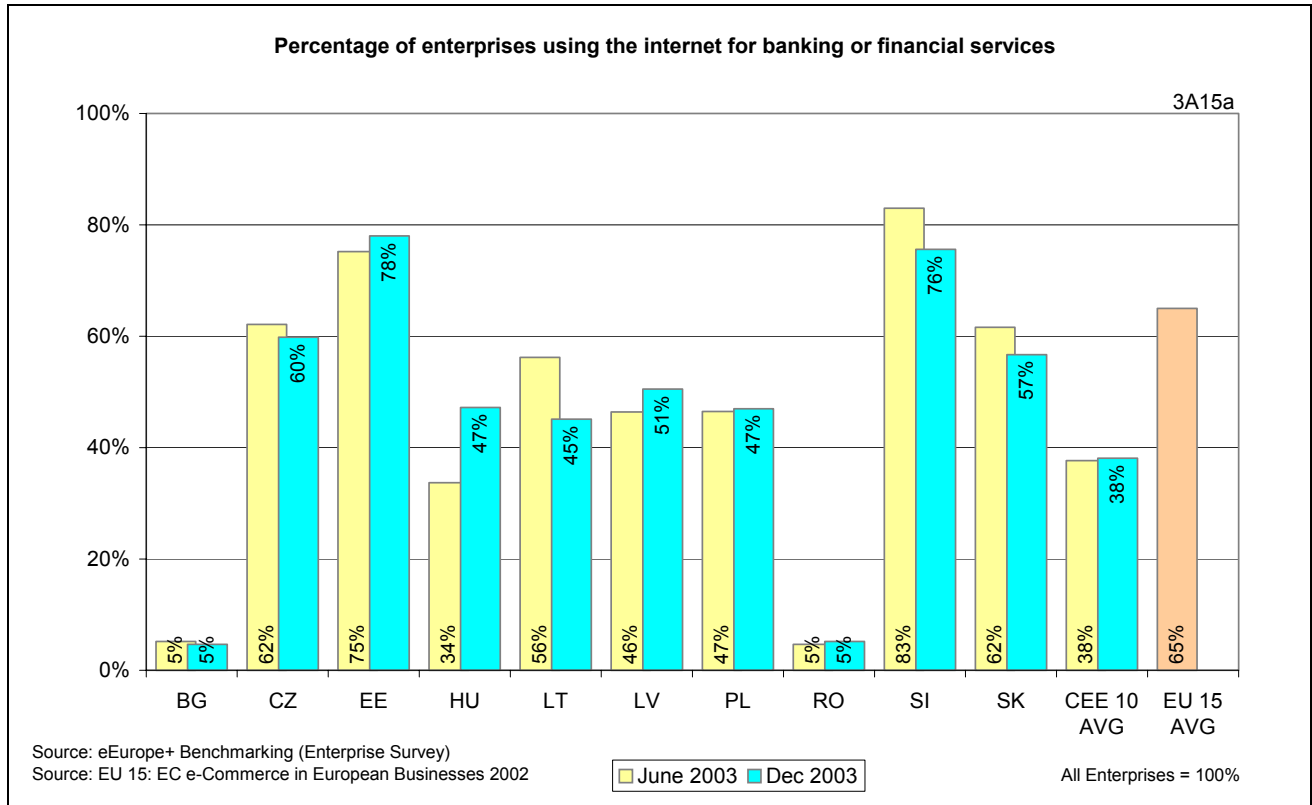
With almost all countries showing increase, some notably large, this is another example of recording the increasing informatisation and e-business development of enterprises, as seen in 3.A.13. This could be interpreted as meaning that more online transactions are taking place but there could be some ambiguity in the wording of the questionnaire.



Responses to this indicator are incomplete and for the Second Wave Survey, very low. EU 15 (2001) (Eurostat Feb 2004) report 2% enterprises using EDI and other non-Internet networks for purchasing and 4% for selling, so the CEE 10 figures are in line with this.

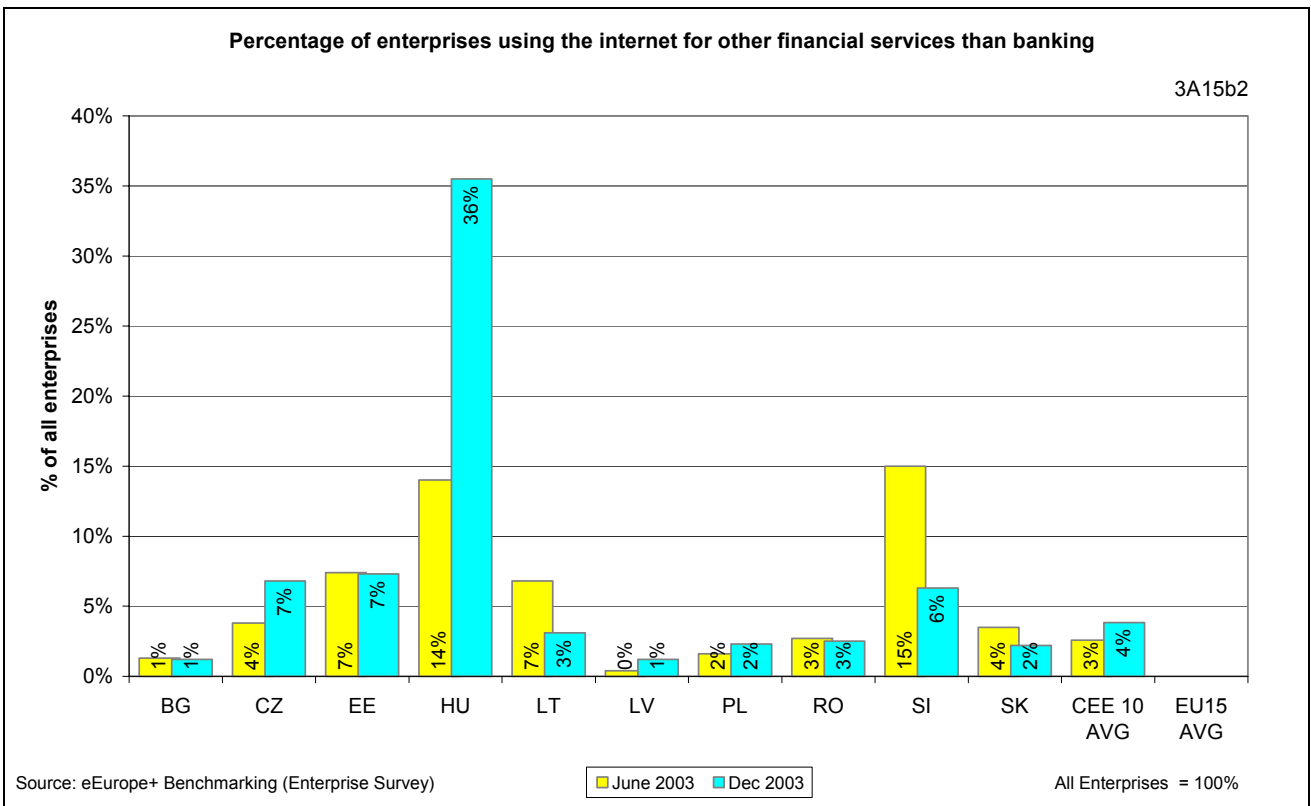
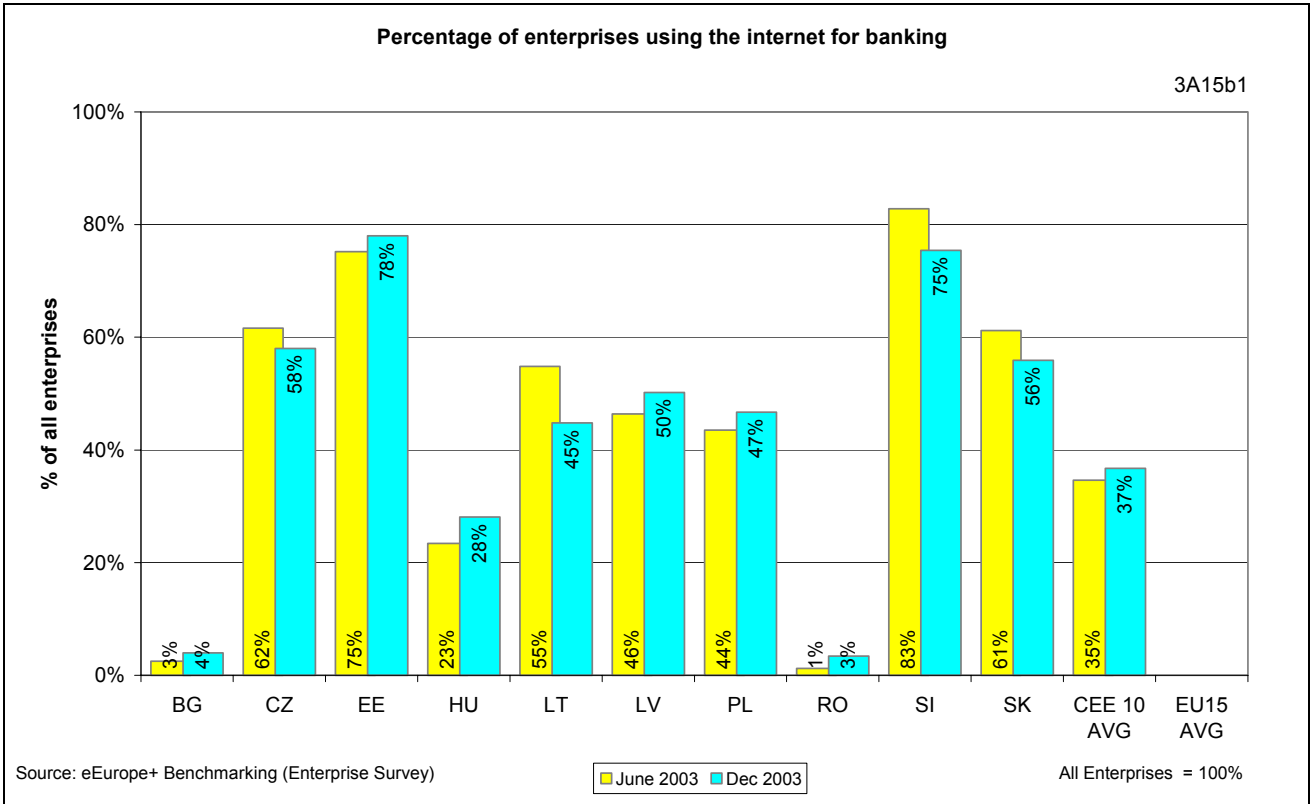
3.A.15 Percentage of enterprises with Internet access using the internet for banking and financial services

3.A.15 (a) Percentage of enterprises using the Internet for banking or financial services



The leaders for the use of online banking/financial services are Estonia (78%) and Slovenia (76%) followed by the Czech Republic (60%) and the Slovak Republic (57%). All other countries lie at levels of 51% or less with Bulgaria (5%) and Romania (5%) trailing.

It is encouraging that more than 40% of enterprises in CEE 10, apart from Bulgaria and Romania, are using Internet banking. The nature and frequency of online banking transactions are not known from this survey, but an accumulation of experience and confidence is building. Internet banking must not be confused with electronic banking. The use of other financial services is below 10% across the board and mostly used additionally to banking services, apart from in Hungary (36%).

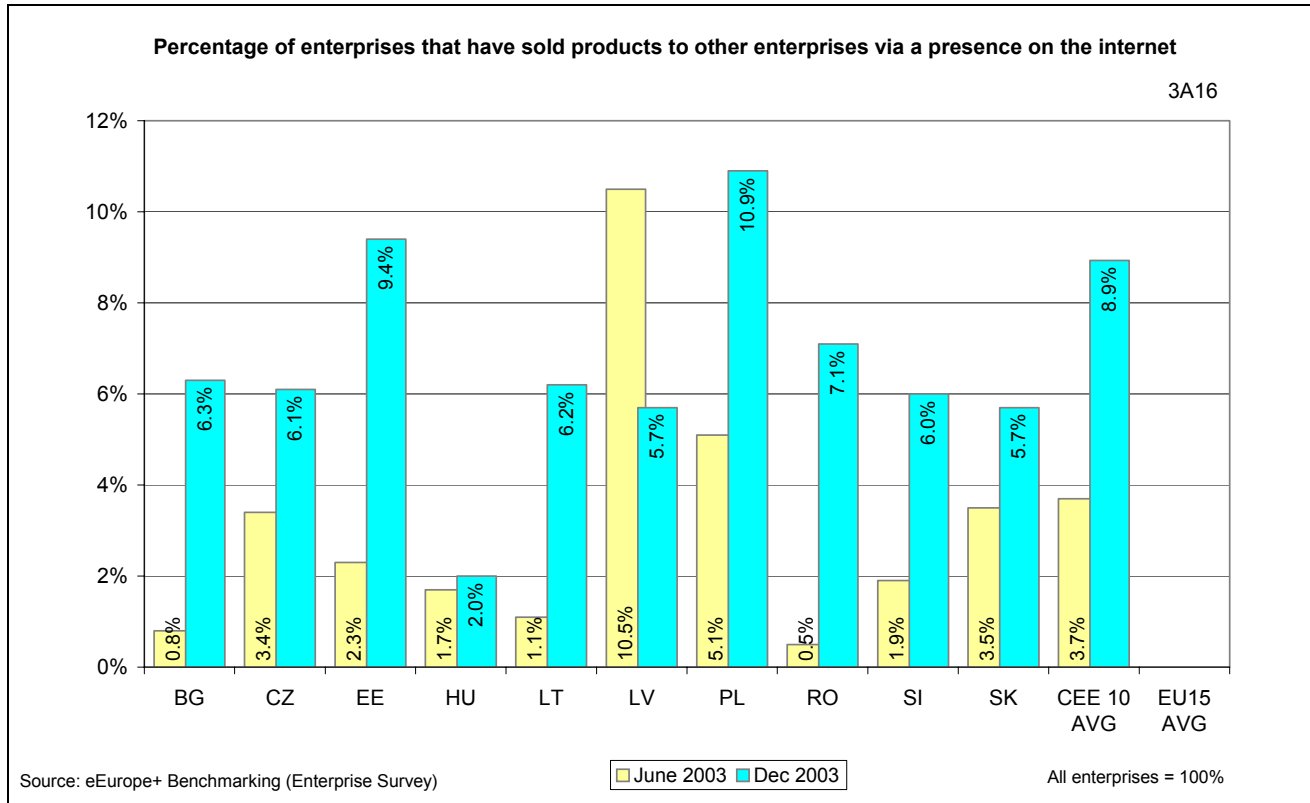


There is no explanation as to why the results in Hungary have increased in such a spectacular manner.

3.A.16 Percentage of enterprises that have sold products to other enterprises via a presence on specialised Internet market places

A specialised Internet market place is a web site where several enterprises are represented which market a specific type of goods/services or aim at a limited group of customers.

Enterprises in Estonia and Poland are the most frequent users of eMarketplaces.



Poland is the leader at 11%, followed by Estonia at 9%. Seven other countries show usage levels at 6% or 7% with Hungary trailing at 2%.

Most CEE 10 enterprises report having used eMarketplaces at a low level, but at least have dipped their toes into the water. Usage tends to be carried out by very large manufacturing companies who use private eMarketplaces or who can buy/sell large quantities of physical goods in order to make substantial savings. Sophisticated security and financial arrangements are required, which would seem to be beyond the capabilities of most CEE 10 enterprises now, unless they are linked to multinationals, lying within NACE Sector D and requiring large volumes of physical products. EMarketplaces are currently in a state of shakedown and have not grown in use as predicted globally. In the UK, there have been several attempts to establish local eMarketplaces for SMEs but these have not taken off. (IST-1999-20483). the Czech Republic has an eMarketplace for IT purchases.

Conclusions

Countries: Bulgaria, Hungary, Latvia, Poland, Romania, and Slovenia are increasing their intensity of e-commerce activity. Lithuania is decreasing its level of e-commerce activity and the Czech Republic, Estonia, and the Slovak Republic are maintaining their level of intensity although at some of the highest levels in the CEE 10.

'Informatisation is gaining in pace' During the six month period, June to December 2003, most positive change has taken place in those areas relating to the development and informatisation of enterprises, whilst there was stagnation in the use of e-commerce, attention to security issues and online banking. This mirrors events elsewhere in Europe, and indeed globally, where a slow down in e-commerce has been recorded but accompanied by an increase in e-business activity. (European E-Business watch 2003). There has been an overall decrease in turnover from e-commerce and in the use of LANs.

Clearly for those countries lagging in e-commerce/e-business issues, it is easier to make positive changes and small improvements, but whilst Bulgaria and Romania are still lagging far behind although showing some progress, most change is seen in Hungary, Latvia, Poland and Slovenia, with some dramatic increases. Countries in leading positions i.e. Estonia and the Czech Republic are currently stagnating, whilst Slovenia has caught up.

3.B Government online

3.B.1 Availability of basic public service available online.

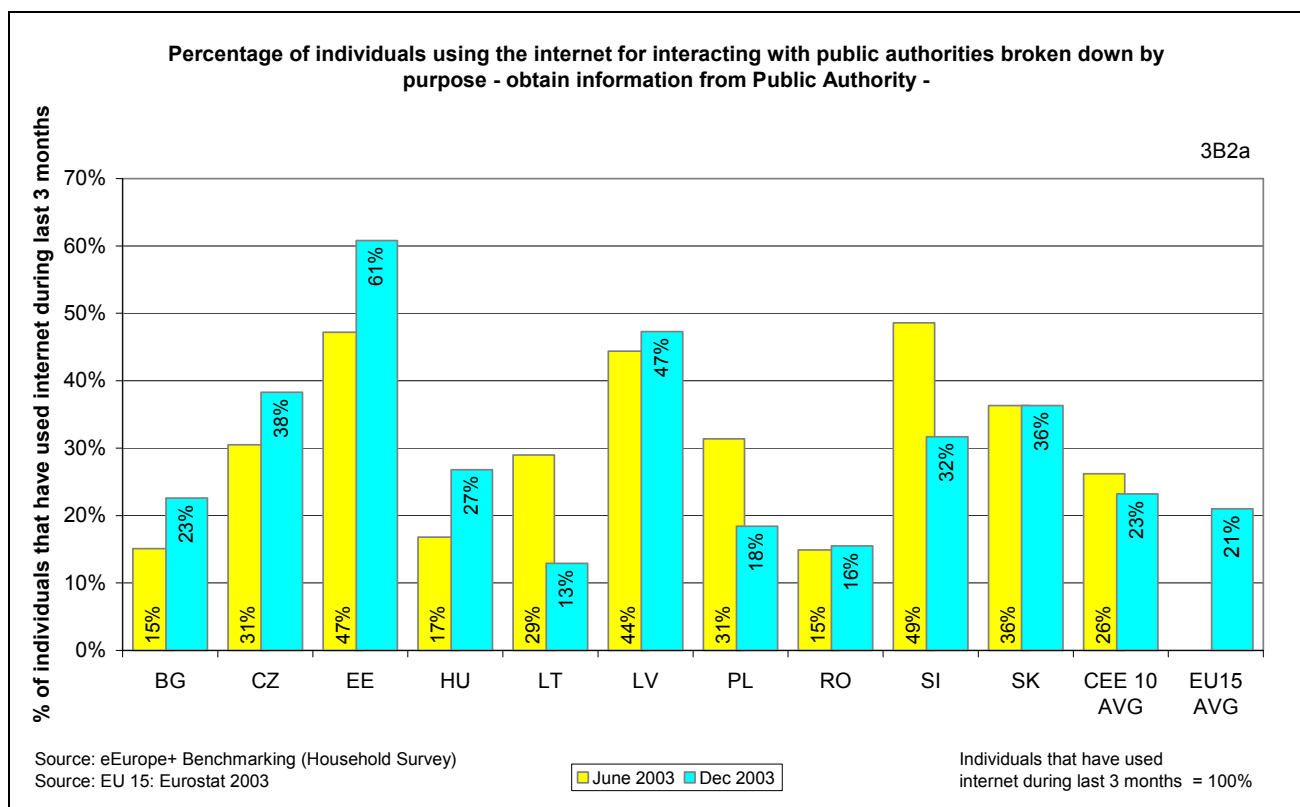
With Cap Gemini Ernst and Young having recently published the 2004 Survey of availability of eGovernment Services, this has superseded the data collected for eEurope+.

With some considerable seasonality, existing relating to the submission of forms to local, regional, and national authorities, then submission during a previous twelve-month period would be more appropriate. There is also some ambiguity regarding use of the term 'Public Authority'.

3.B.2 Percentage of individuals using the Internet for interacting with public authorities

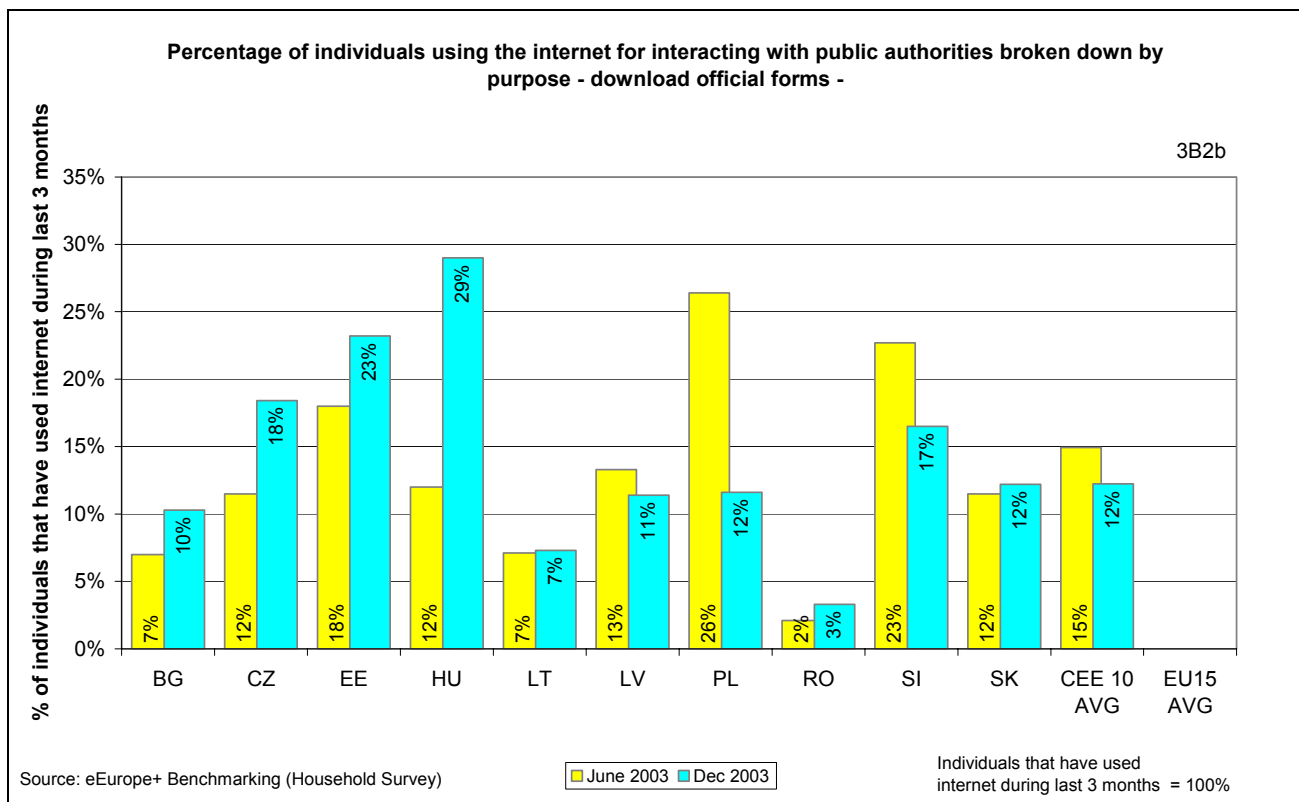
This is broken down by purpose (purposes: obtaining information, obtaining forms, returning filled in forms) and frequency.

Estonia is the leader for individuals obtaining information from Public Authorities

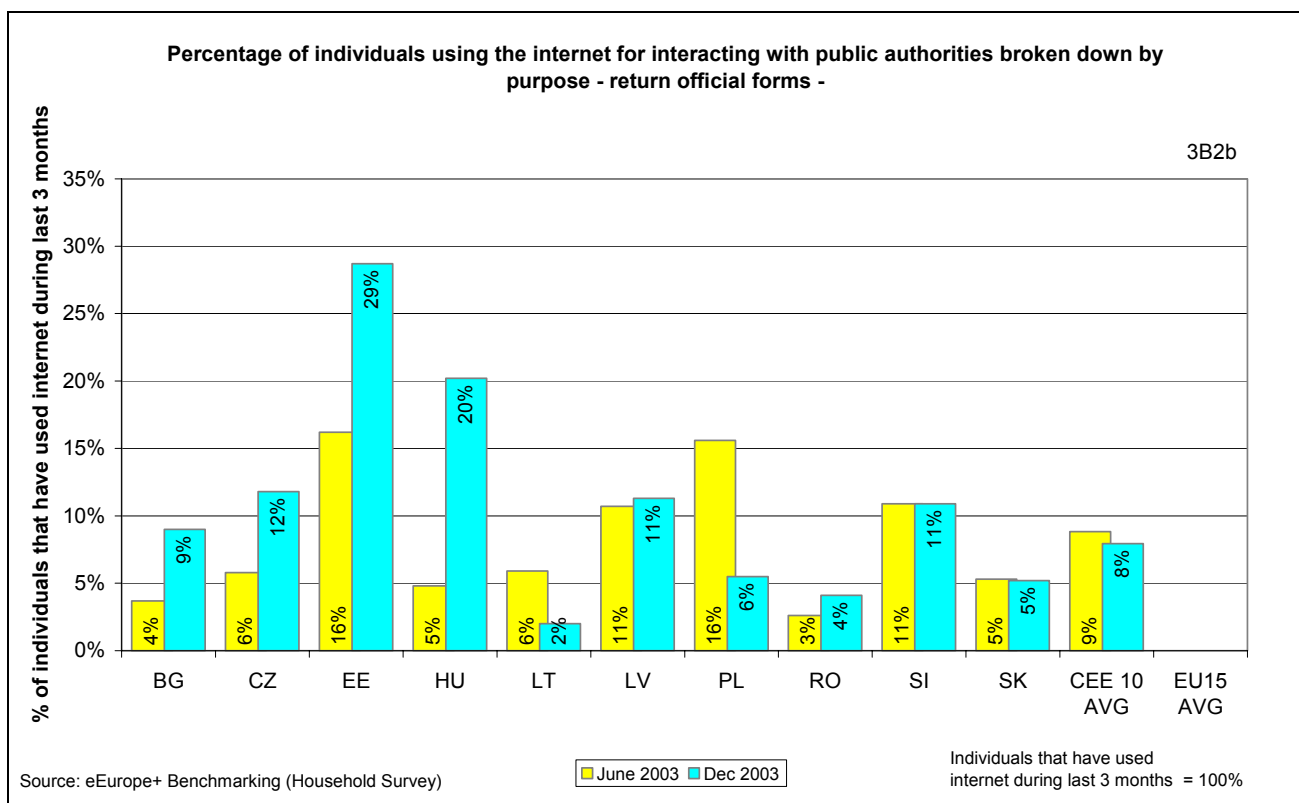


Information seeking from public authority websites is increasing in four countries at a strong pace, with others maintaining their position but large declines seen in Lithuania, Poland and Slovenia. Increases must be due to increasing online content and not increased Internet access. Lithuania, Poland, and Romania are trailing.

Hungary is the leader for individuals who are downloading official forms.



With Hungary (29%) leading, Estonia (23%), the Czech Republic (18%) and Slovenia (17%) follow. Estonia, the Czech Republic and Hungary all show increases in levels of activity with Poland and Slovenia showing a decrease. Downloading forms includes the printing and mailing offline.



Estonia (29%) is the leader followed by Hungary (20%) with the Czech Republic, Latvia, and Slovenia all with (11-12%). Clustering at particular levels suggests that certain levels of connectivity are reached in stages. The sending of official forms could include the completion online without downloading, hence the higher levels for Estonia for this indicator. Some countries are lagging, with centres of excellence being created in others.

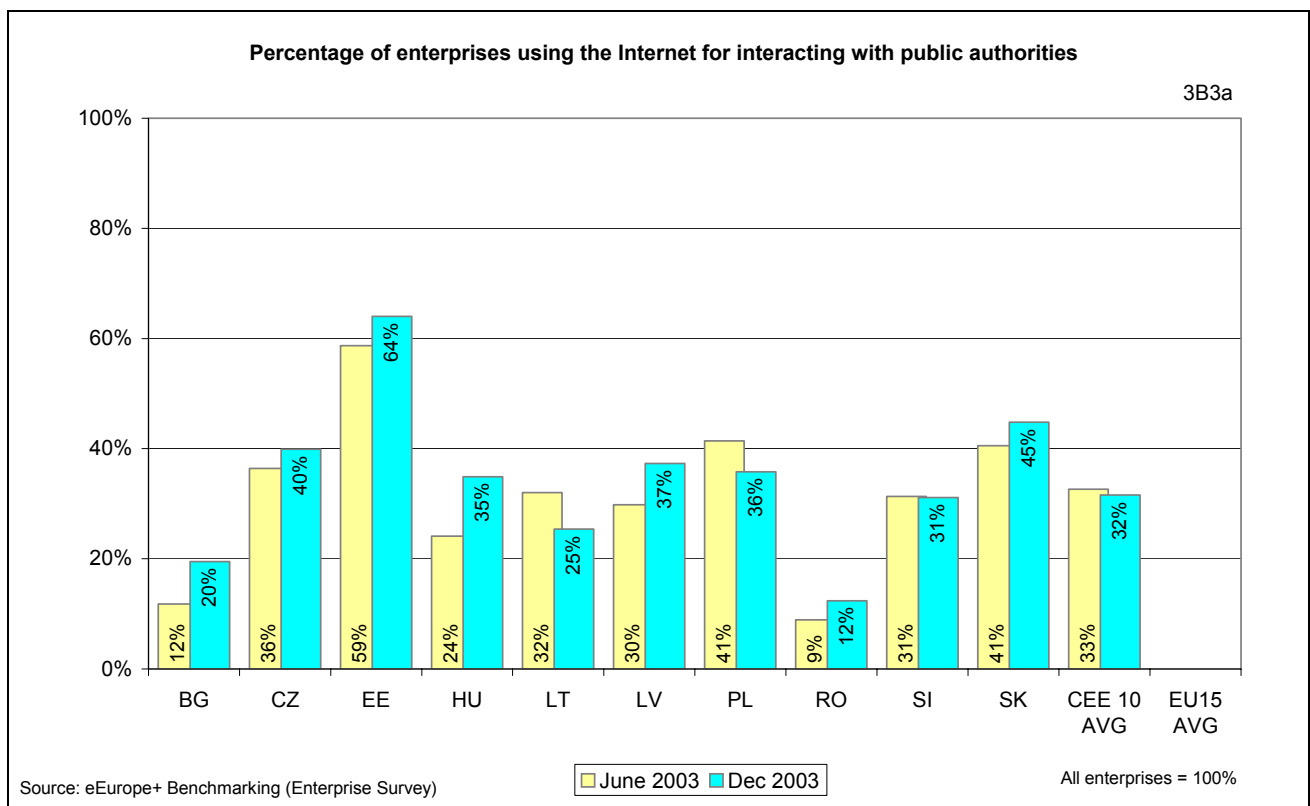
3.B.3 Percentage of enterprises using the Internet for interacting with public authorities.

This is broken down by purpose (purposes: obtaining information, obtaining forms, returning filled in forms) and frequency.

Levels of interaction with public authorities is higher for enterprises than for individuals.

3.B.3 (a) Percentage of enterprises using the Internet for interacting with public authorities

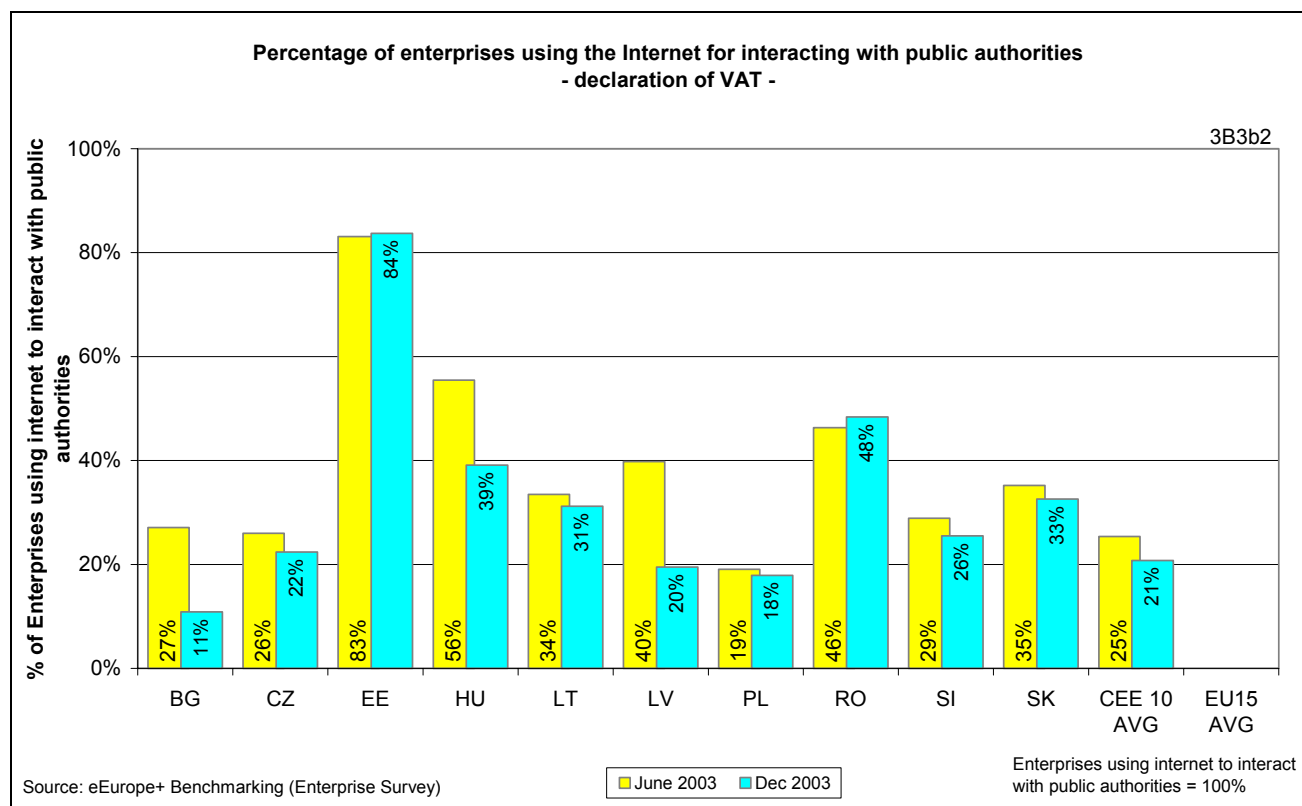
Estonia is the leader for enterprises interacting online with public authorities.



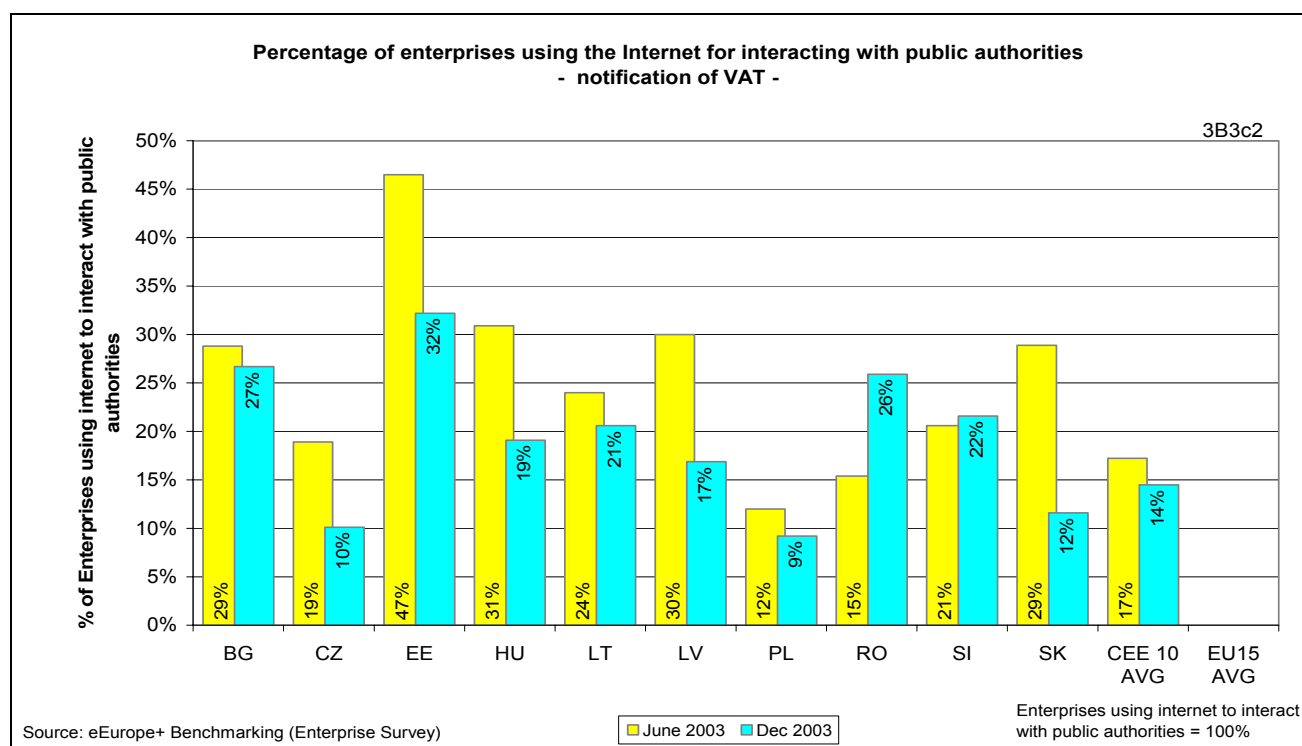
The clear leader is Estonia (64%) with all other countries with percentages at 45% or below. Romania trails at 12%. Six countries have made progress during the last six months, presumably as the possibility of online public authority interaction has improved for them.

3.B.3 (b) Percentage of enterprises using the Internet for interacting with public authorities broken down by service

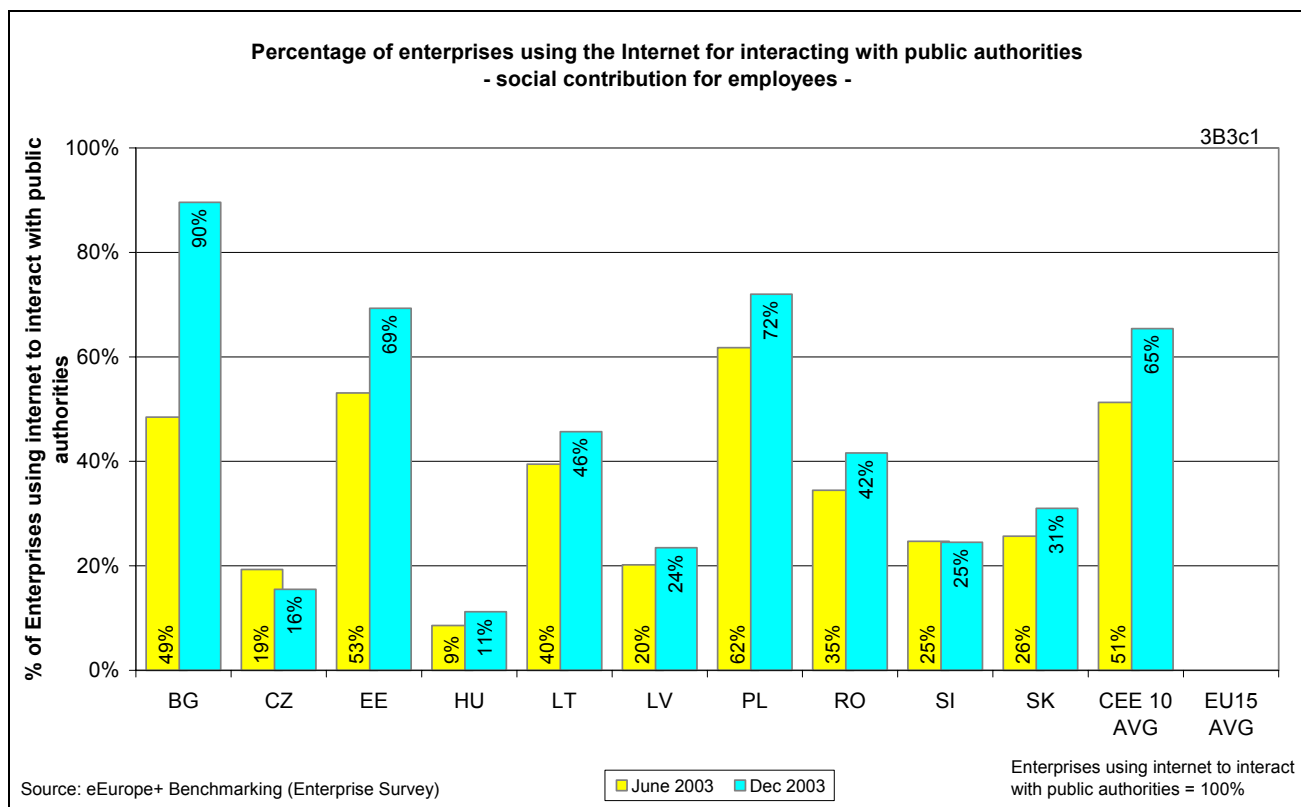
Declaration of VAT



Notification of VAT

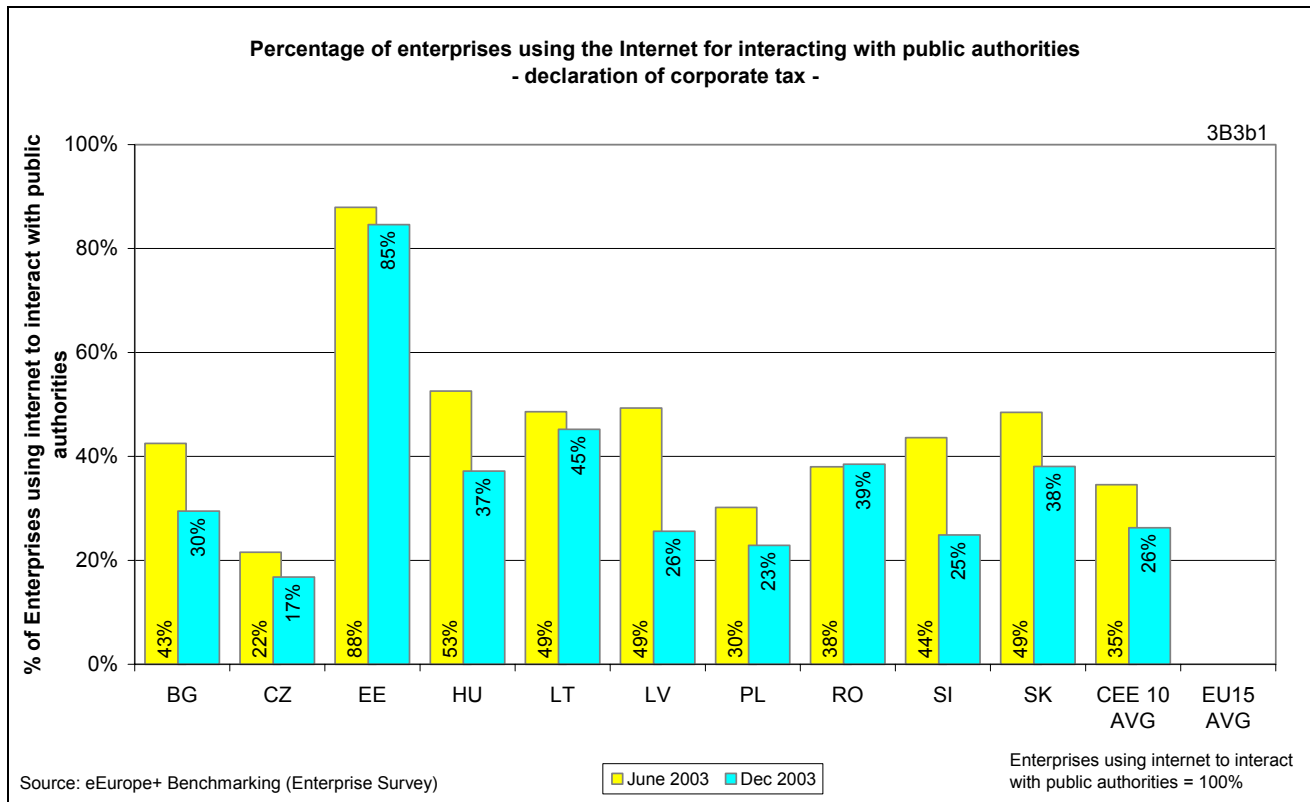


Social contribution for employees:



For all countries except Slovenia, these are among the three most used services but intensity of use varies with each indicator so individual countries have focussed on the development of particular services. For example, Estonia is the leader for online declaration of VAT, and just the leader for online notification of VAT but social contribution for employees online is very important in Bulgaria and also in Estonia and notably Poland, where it could play a special role. Individuals in Bulgaria and Romania are actively using eGovernment services.

Declaration of corporate tax



This is the most popular activity in Estonia (85%), Lithuania (45%), Romania (39%), Slovak Republic (38%), Hungary (37%), and Latvia (26%).

In all countries, it is among the most frequently used activity.

Other Activities

Numbers are below 10% for all other e-Government activities with some exceptions that stand out:

- Declaration of VAT is strongly used in Estonia (84%), Romania (48%), Hungary (39%), and the Slovak Republic (33%).
- Notification of corporate tax (33%) and notification of VAT (32%) is strongly used by enterprises in e-Government leader Estonia.
- Submission of data to statistical offices shows comparably high numbers for Estonia, Latvia, and Slovenia.
- Public procurement is the mostly used e-Government service in Slovenia at 35%. The comparably high usage of e-procurement in Slovenia could be the result of a major promotional project by the Slovenian government.

Many companies state that they use e-Government services that are not mentioned in the questionnaire (the Czech Republic 42%, Estonia: 17%, Hungary 34%, Latvia: 59%, Slovenia: 39%, the Slovak Republic: 39%). This may be a hint of country-specific e-government services that are not very common or standardised.

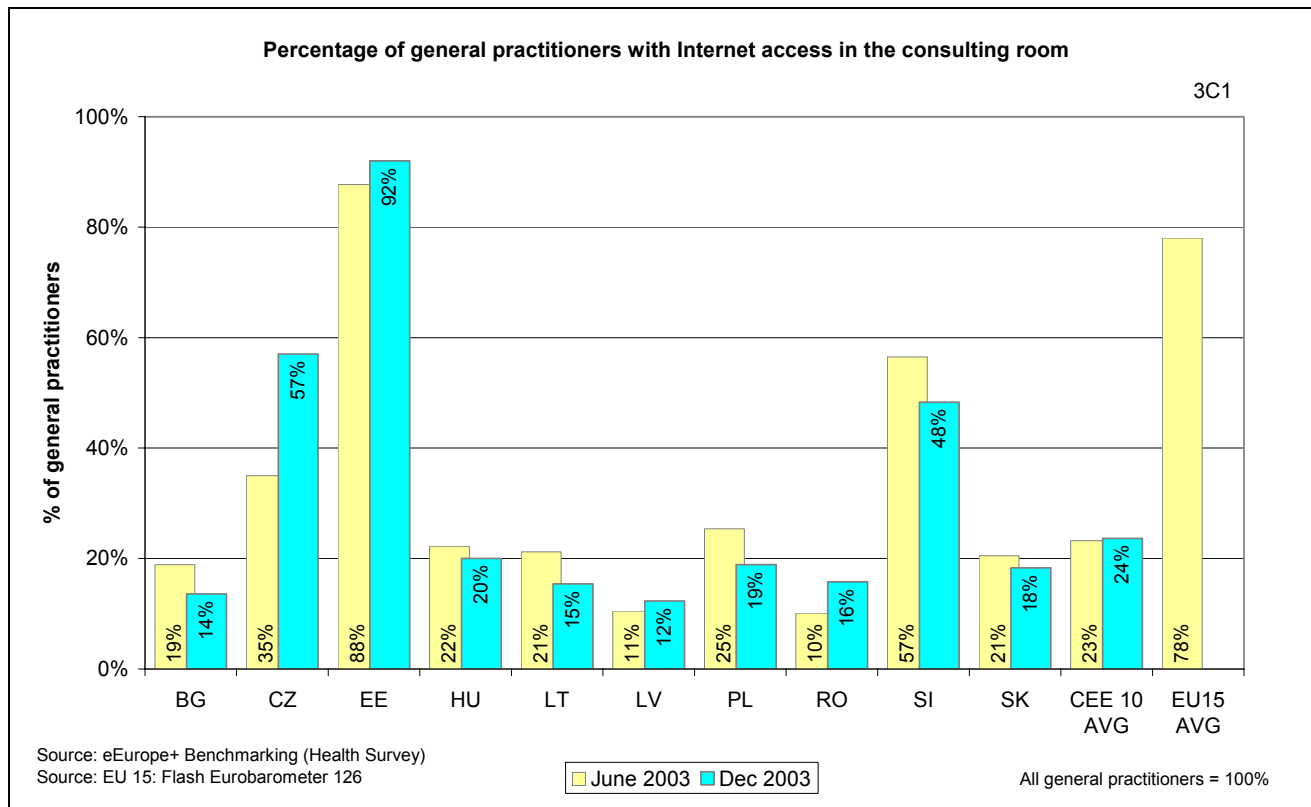
3.B.4 Public procurement processes that are fully carried out online (electronically integrated) in % (by value) of overall public procurement

There is very little information available concerning online public procurement. Although some countries have reported that calls for tender are announced online and that it is possible in a few cases to respond online there are no official statistics concerning, per annum, the total number of calls for tender, the total value, the number and value announced online, the number and value tendered online, or the number and value where the contract is also concluded online. The Electronic System for Public Acquisitions e-Procurement in Romania, which has already been mentioned is not yet influencing the data collected.

3.C Health online

3.C.1 Percentage of health professionals (general practitioners) with Internet access in the consulting room.

Estonia leads for percentage of general practitioners with Internet access in the consulting room.



Estonia is the leader at 92%, followed by the Czech Republic (57%) and then Slovenia (48%). All other countries lie at levels of 20% or lower, with Bulgaria (14%) and Latvia (12%) trailing. The very low response levels in Lithuania, Latvia, and Poland are due to the question filter, as these countries have low levels of PC penetration in GP consulting rooms.

Comparison with EU 15 countries: with an EU 15 average of 78% (2002, Flash Eurobarometer 126), compared to the CEE 10 average of 24%, Estonia has surpassed 11 EU 15 countries with only Germany, Finland, Sweden and the United Kingdom having recorded higher levels of GP Internet/dedicated network penetration in 2002 with the lowest scoring EU 15 country, Germany (45%).

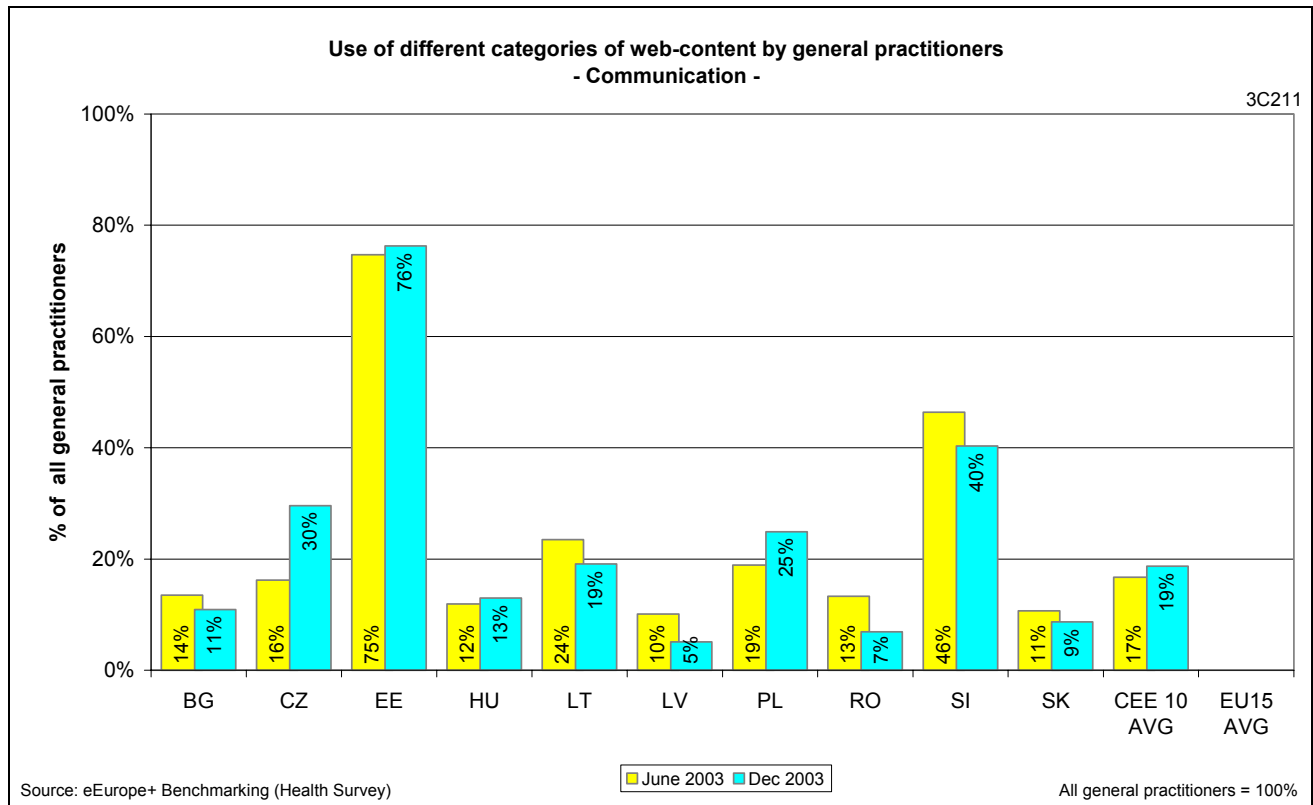
Some countries with high PC penetration do not always have similar levels of Internet access e.g. Bulgaria, Hungary and the Slovak Republic. Estonia and Slovenia both have almost 100% of their GPs' PCs with Internet access although levels of PC penetration are lower in Slovenia (56%).

3.C.2 Use of different categories of web-content by general practitioners.

Definition: Web-content covers information on injury, disease, and nutrition. Frequency: daily, weekly, monthly, rarely, never.

Communication with others:

Estonia leads for online communication by general practitioners.

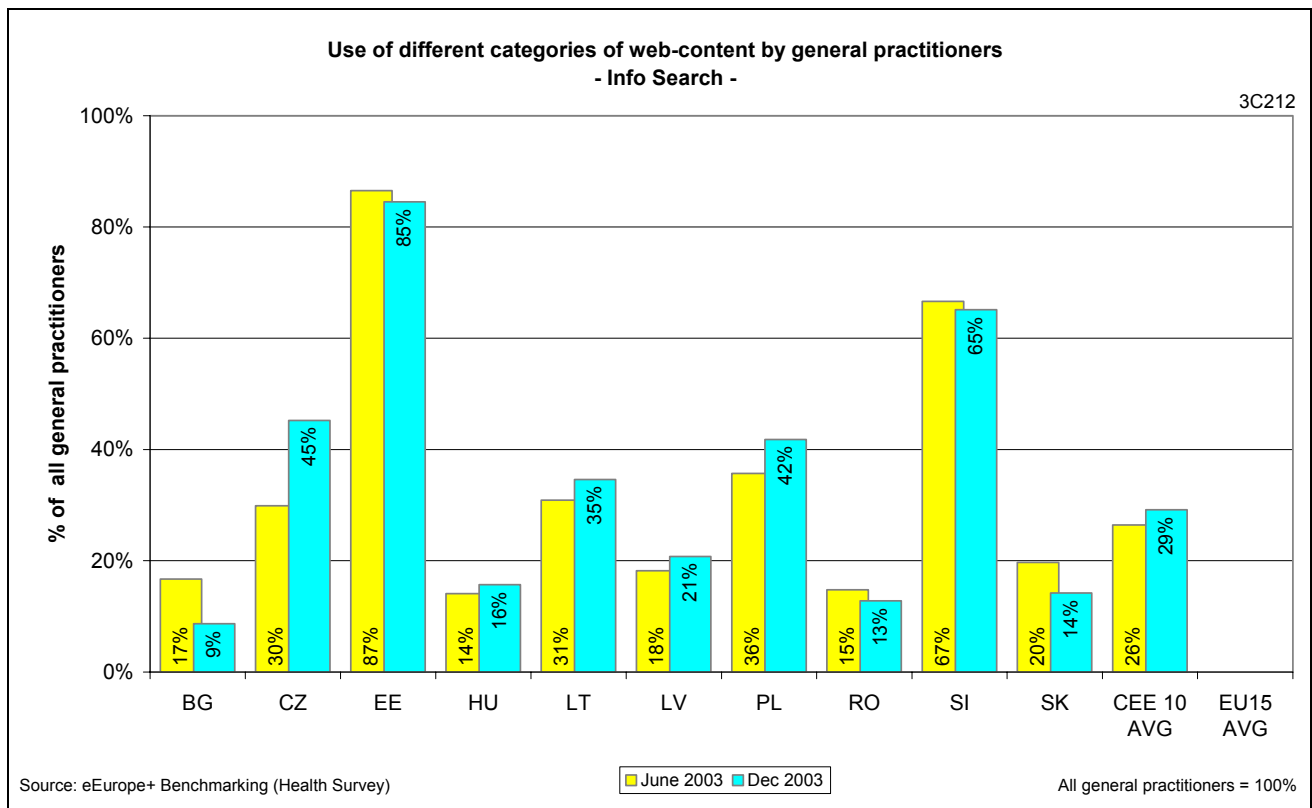


Estonia (76%) is the outstanding leader for GPs using Internet for communication, i.e. e-mails. Slovenia (40%), the Czech Republic (30%), and Poland (25%) are the followers, with all other countries at levels lower than 20%. The CEE 10 average is 19%

With low levels of Internet penetration in GP surgeries in many countries, there will be lack a critical mass of e-mail recipients/senders.

Information Search:

Estonia and the Czech Republic are the leaders for online information searching



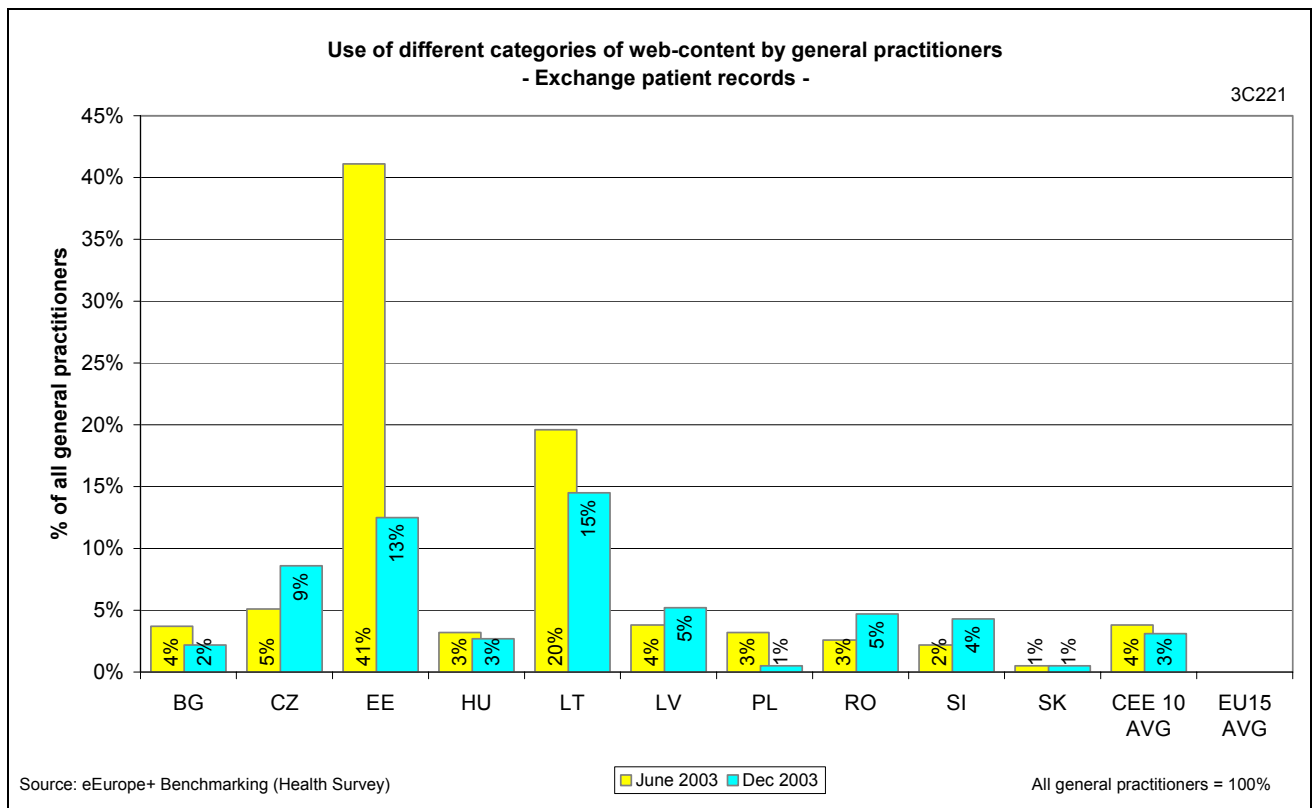
Estonia (85%) is the leader followed by Slovenia (65%), the Czech Republic (45%), and Poland (42%). All other countries lie at levels of 35% or lower. The CEE 10 average is 29%.

In December 2003, this was the most popular use of the Internet by GPs, presumably because it is a 'solitary' activity, not dependent on the existence of other users but dependent on appropriate content available in a suitable language.

Comparison with levels of Internet penetration in GPs surgeries shows that apart from in Bulgaria, levels of this type of usage are over 80%, i.e. those GPs with access to the Internet are mainly using it for information searching, an early adopter activity. However, the wide range of values expressed as a percentage of all GPs reflect the varying levels of Internet access in each country.

Exchanging patient records:

Estonia and Lithuania are the leaders for exchange of patient records by general practitioners.



Estonia (13%) is the leader followed by Lithuania (15%, 28 out of 30 GPs exchanging patient records) and the Czech Republic (9%) All other countries have levels of 5% or lower with a CEE 10 average of 3%.

Decreases: Estonia (-28% +/-4%), recording a decrease of 30% to 13%; TNS Global note that a new version of the Personal Data Protection Act was launched in Estonia in October 2003, based on which, it is no longer possible to exchange personal data in the same manner as before, which possibly explains the dramatic decrease in the use of the Internet for this function in Estonia. Since this new legislation is EU legislation, it will have an influence in all EU countries.

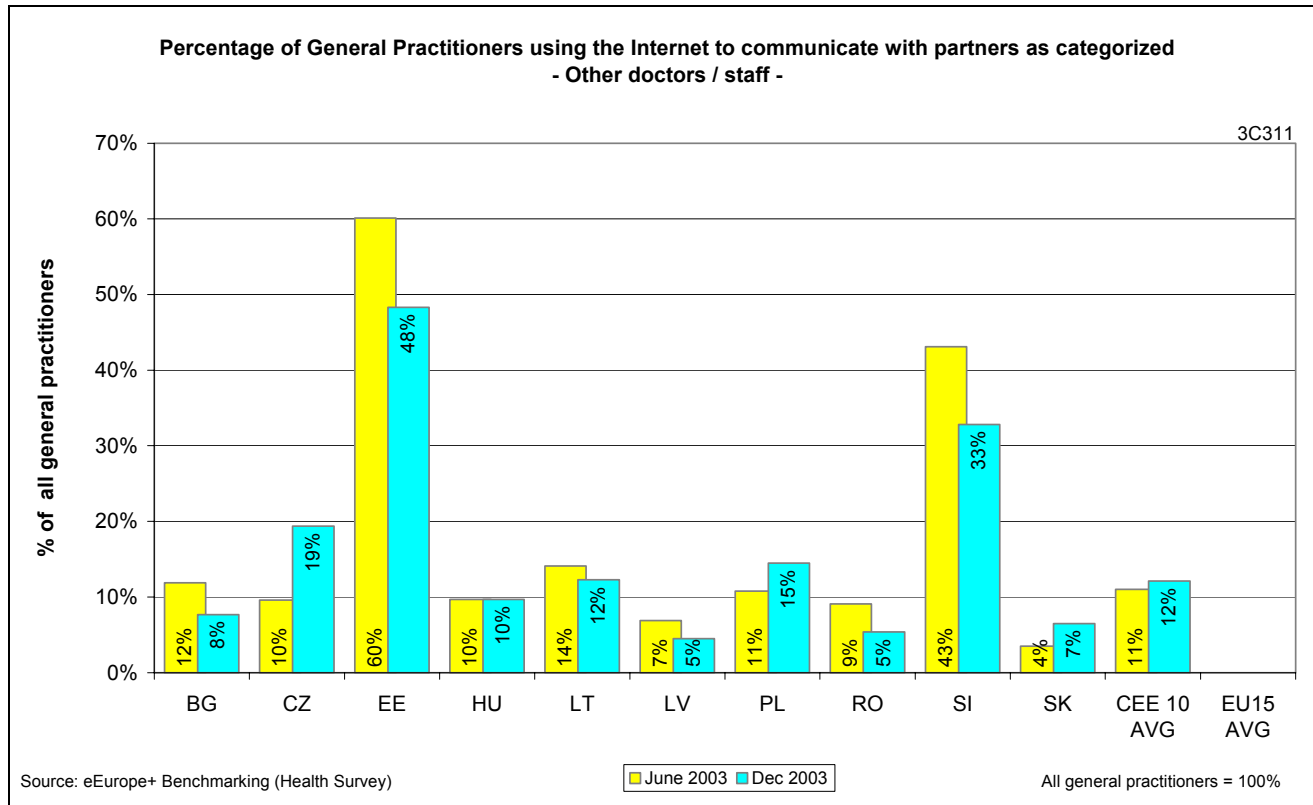
Low levels may relate to security issues required for exchanging confidential information and patient consent. Security precautions require higher skill levels and costs to maintain. In addition, with low levels of Internet penetration in health sectors, there may not yet be critical mass to allow effective exchange of records.

Use of the Internet for 'other' reasons lies at an average value of 3% and 11% in Slovenia.

3.C.3 Percentage of general practitioners using the Internet to communicate with: (a) Pharmacies (b) Secondary care (administration) (c) Secondary care (clinical) (d) Patients.

Other doctors/staff:

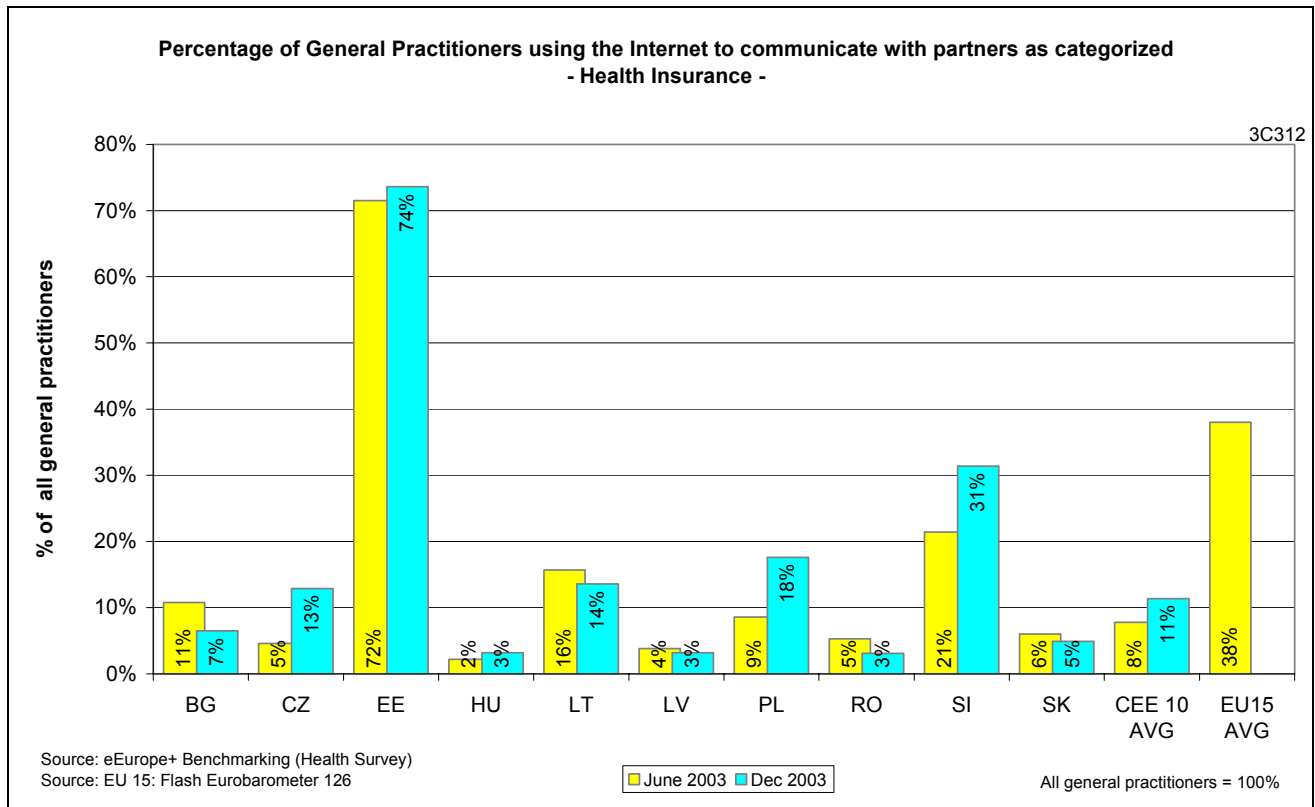
Estonia and Slovenia are the leaders for general practitioners communicating online with other doctors/staff



Estonia (48%) is the leader followed by Slovenia (33%); they are the countries with the highest levels of GP Internet penetration. All other countries lie at levels below 20% with a CEE 10 average of 12%.

Health insurance:

Estonia is the outstanding leader for use of Internet by general practitioners to communicate with Health Insurers.

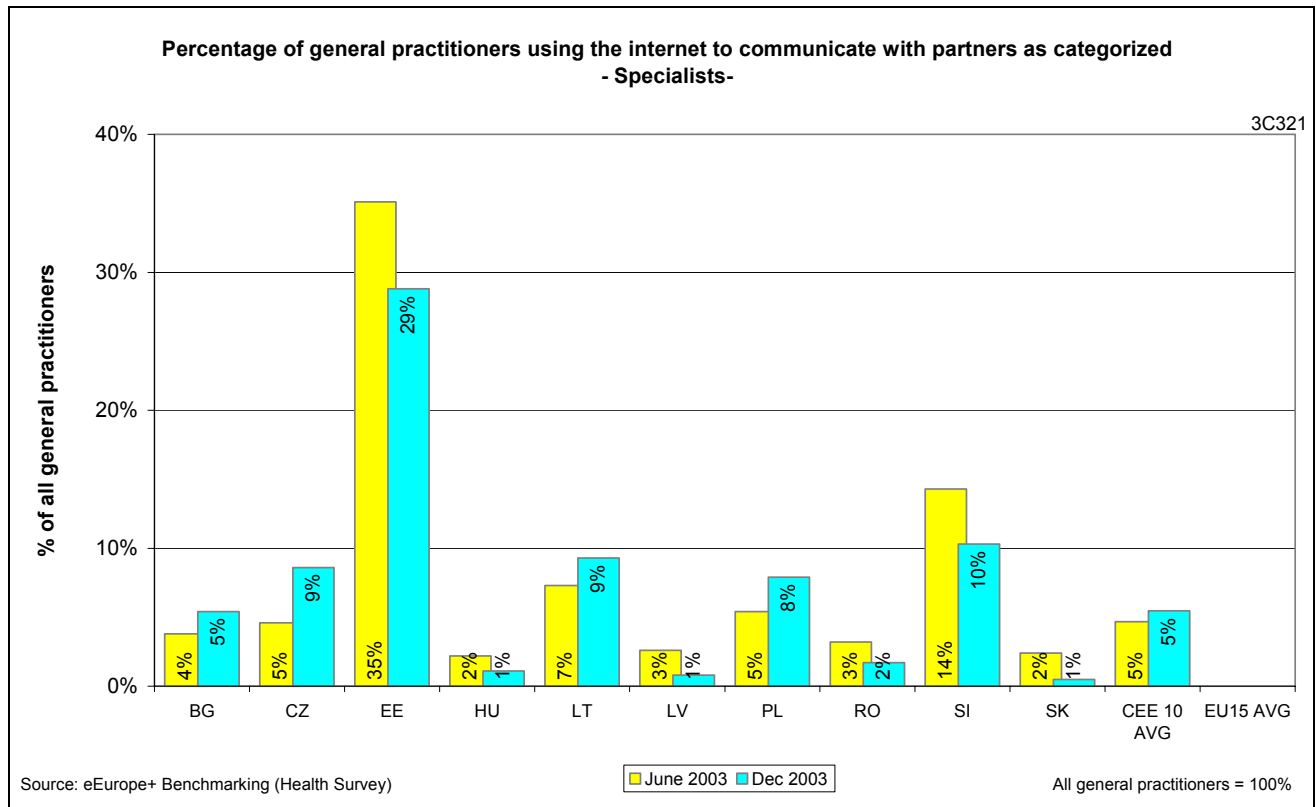


Estonia (74%) is the outstanding leader for online contact with health care insurers, followed by Slovenia (31%) with all other countries at levels below 18%.

EU 15 comparison: with an EU 15 average of 38% (2002) (Flash Eurobarometer 126), this compares with a CEE 10 average of 11%.

Specialists:

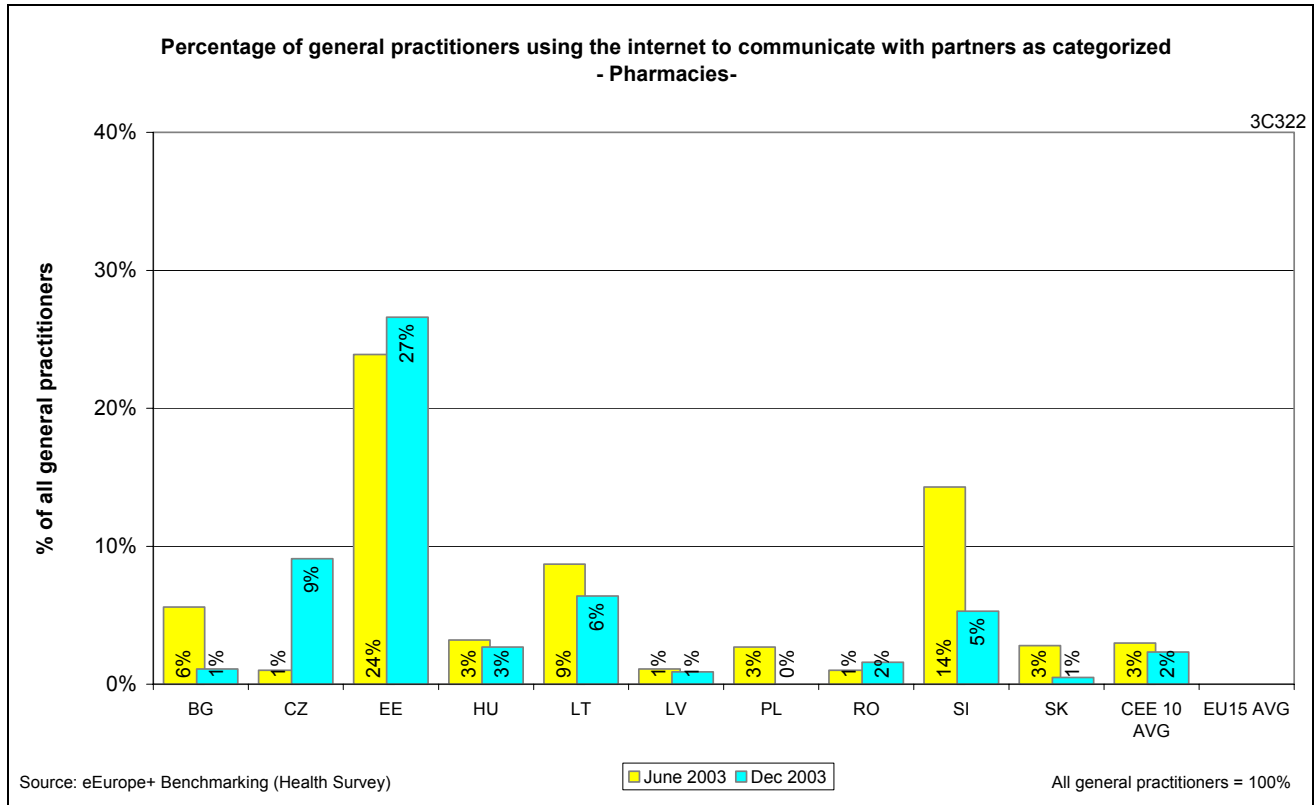
Estonia is the outstanding leader for general practitioners using the Internet to communicate with medical specialists



Estonia (29%) is the leader followed by cluster of countries including Slovenia (10%), the Czech Republic (9%), Lithuania (9%), and Poland (8%). The CEE 10 average is 5%.

Pharmacies:

Estonia is the outstanding leader for general practitioners using the Internet to communicate with pharmacies.



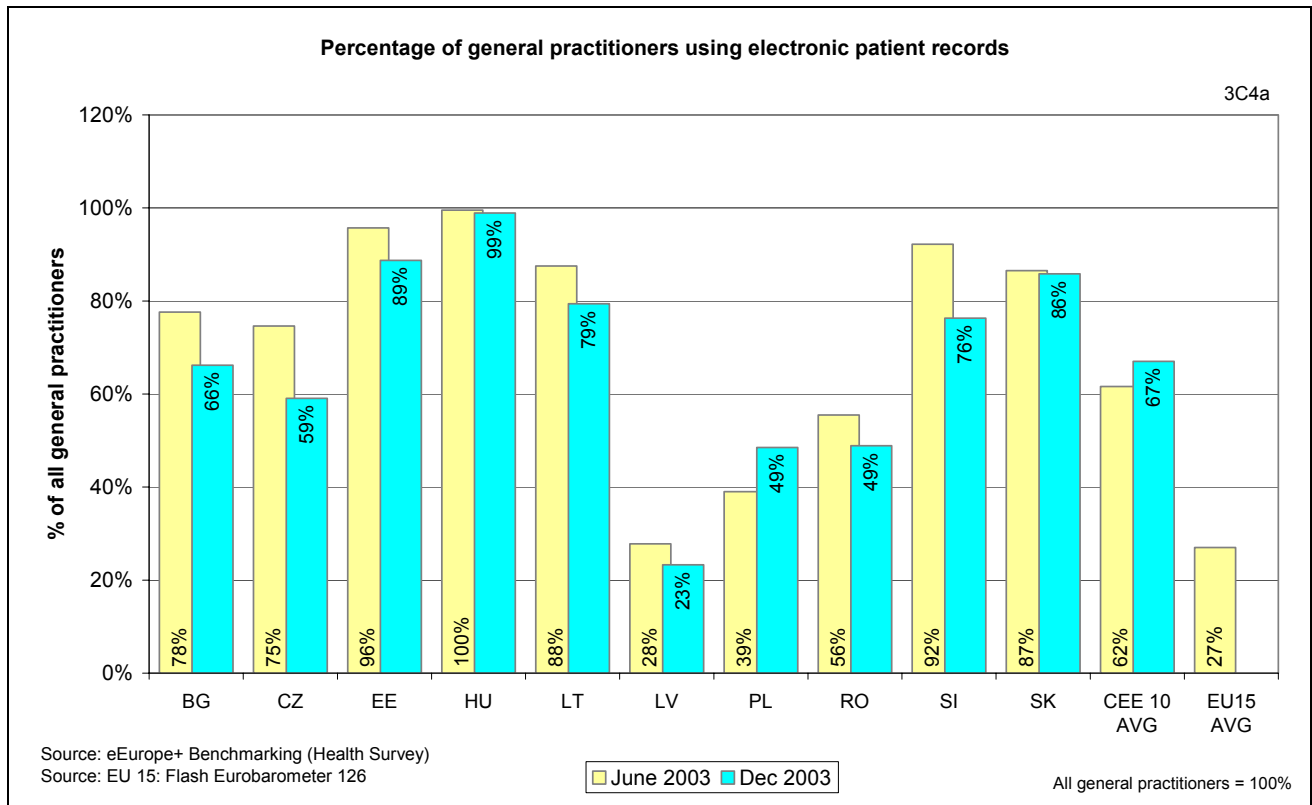
Estonia (27%) is the leader with all other countries lying at levels below 10%, probably because pharmacies are not online. Again, Data Protection issues will be significant here. The CEE 10 average is (2%).

Communication with Patients and others:

The reported levels of communication with patients and others are too low to be analysed.

3.C.4 Percentage of general practitioners using electronic patient records

Five CEE 10 countries have more than 75% of their general practitioners using electronic patient records.



Hungary (99%) leads followed by Estonia (89%), the Slovak Republic (86%), Lithuania (79%) and Slovenia (76%), with all countries lying at levels of 66% or below and Lithuania trailing at 23%. There is a CEE 10 average of 67%.

A comparison with the percentages for use of computers in consulting rooms (shows some discrepancies with Lithuania, Poland, and Slovenia indicating greater use of electronic patient records than they have computers in their consulting rooms, probably indicating use of electronic records elsewhere in the clinic/surgery.

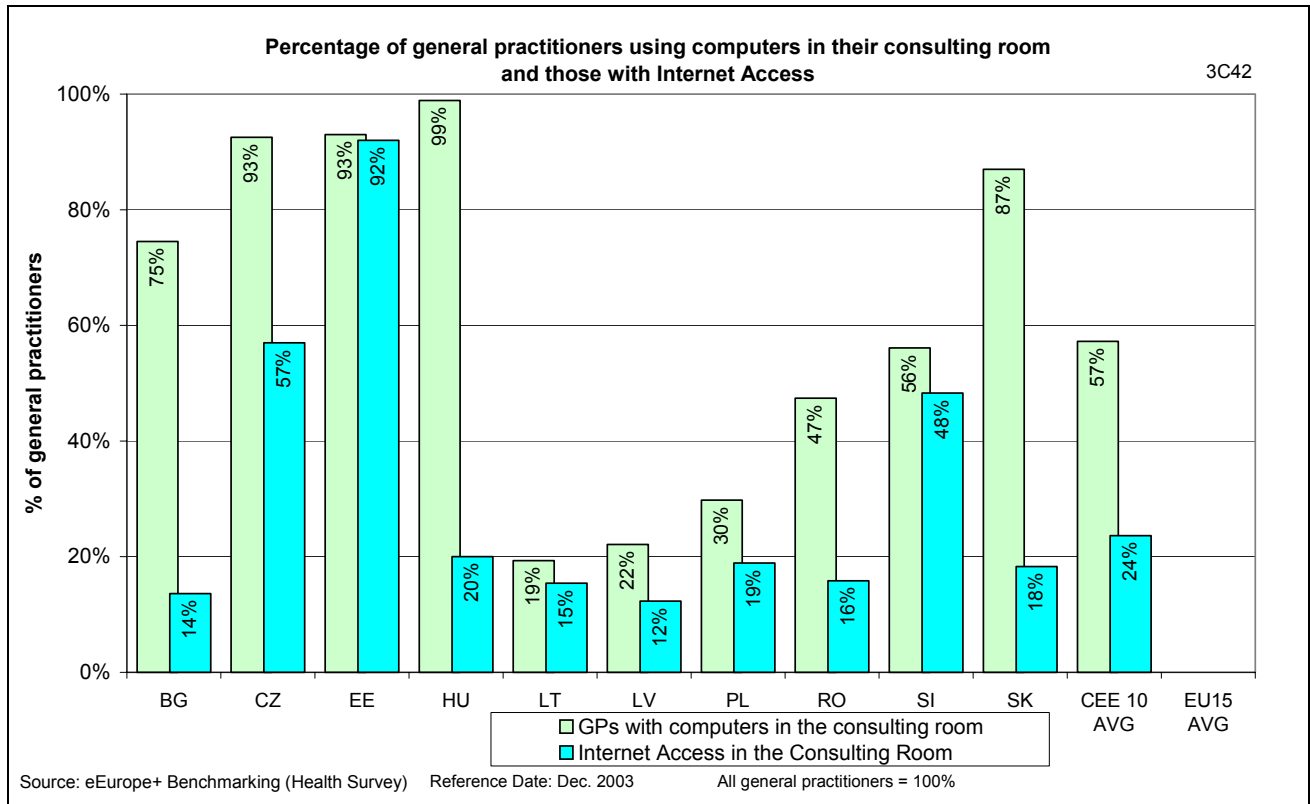
TNS Global/Bulgaria notes that the National Frame Contract with the National Health Insurance Fund obliges Bulgarian GPs to maintain full information about their patients and their work in general. GPs need to be able to take forms and use software from the NHIF for data transfer and return, for which a computer is advisable if not obligatory. In this way, Bulgarian GPs are likely to keep information about their patients electronically, explaining the high penetration levels of computers and high levels of use of electronic patient records.

The exchanging of patient records electronically has been a well-established practice in many CEE 10 for some time, hence the high percentages, but decreases are due to changes in practice in a health care environment of increasing confidentiality.

Comparison with EU 15: The EU 15 average for GPs exchanging patient records was 27% (2002) (Flash Eurobarometer 126), supporting the statement above, where fewer countries had centralised health care patient records.

3.C.4.(2) Percentage of GPs using computers in the consulting room

Four CEE 10 countries have more than 75% of their general practitioners using computers in the consulting room.

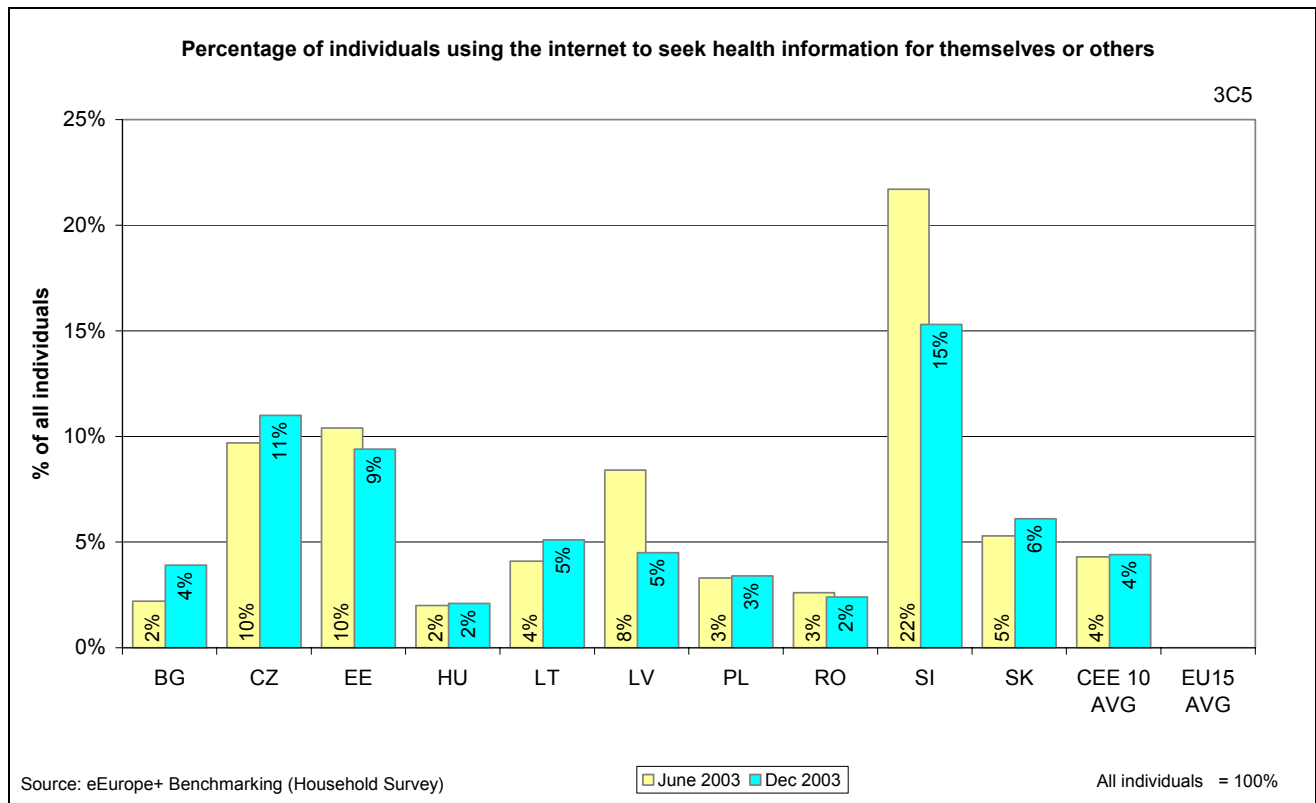


Five countries (Bulgaria, the Czech Republic, Estonia, Hungary and the Slovak Republic) clearly have much higher PC penetration than the others and this must relate to pre Information Society policies. Czech Republic, Estonia, and Hungary are saturated with respect to PC penetration. Lithuania and Latvia are noticeably trailing.

3.C.5 Percentage of population (aged 16 and over) using Internet to seek health information whether for themselves or others.

Definition: health information about injury, disease, nutrition, and products/drugs/treatments

Slovenia is the leader regarding individual use of the Internet to seek health information about themselves



Slovenia (15%) is the leader regarding the percentage of individuals seeking online health information, followed by the Czech Republic (11%) and Estonia (9%) and all other countries trailing at 6% or less.

In Slovenia, there was a health portal that received wide media coverage in the first half of 2003 and it is likely that the decrease noted in the 2nd half of 2003 is because the media coverage stopped and this depressed public interest in the portal.

3.C Conclusions:

Hungary has maximum PC penetration in GP consulting rooms along with two other countries (Estonia and the Czech Republic), that are very close, and two other countries moving in the same direction (the Slovak Republic, Bulgaria). High PC penetration levels in GP consulting rooms probably related to pre-accession administrative practices but may present an opportunity for increasing Internet penetration. The Czech Republic consistently shows increases in frequency of use of online health ICT activities along side its overall increase of GP Internet penetration. Estonia is the overall leader and performing better than many EU 15 countries. Levels of Internet access in GP consulting rooms are overall low in most other CEE 10 with only the Czech Republic and Slovenia above the lowest scoring EU 15 country (Germany at 45% in 2002).

The use of smart cards in Slovenia (Best Practices Report December 12, 2003, eEurope+ 2003) and Estonia (Health Insurance Card System), introduced in 2000 establishes data interconnections between all health insurance and health service providers), and may mitigate against use of the Internet. Interestingly, Estonia (1,356,045) and Slovenia (1,964,036), are the two countries with the smallest populations where it could be perceived as easier to implement new health administration systems. In addition, use of the Internet as a means of communication within the Health Sector may be more restricted due to new EU Personal Data Protection Legislation.

With health sectors regarded as the ,most information-dependent businesses of all (EC High Level Committee on Health, Delphi, 8/9 April 2003), ICT, including the Internet, offer some opportunities to meet the needs of the sector and introduce efficiencies. With so many organisations involved in personal health care, secure access to patient health records underpins any development of ,seamless care'. Little of this is yet possible within Europe mainly due to interoperability of healthcare systems and issues of security and confidentiality. However, it is possible to establish smaller scale regional/national initiatives between local practitioners/pharmacies/health insurers etc to improve efficiency and patient care, and has already been demonstrated to work effectively in two CEE 10 countries.



This report was prepared by a consortium led by Danish Management A/S (DK) that included the University of Sunderland (UK) and Fraunhofer Institute for Systems and Innovation Research ISI (D) with financial assistance from the Commission of the European Communities. The views expressed herein are those of the consortium and do not represent any official view of the European Commission.

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