

EUROPEAN COMMISSION

EUROSTAT

Directorate F: Social Statistics
and Information Society

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Working Party on Indicators for the Information Society

OECD, 3-4 May 2006, Paris

E-skills measurement

(item 5.3 of the agenda)

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Measurement of e-skills

Outline

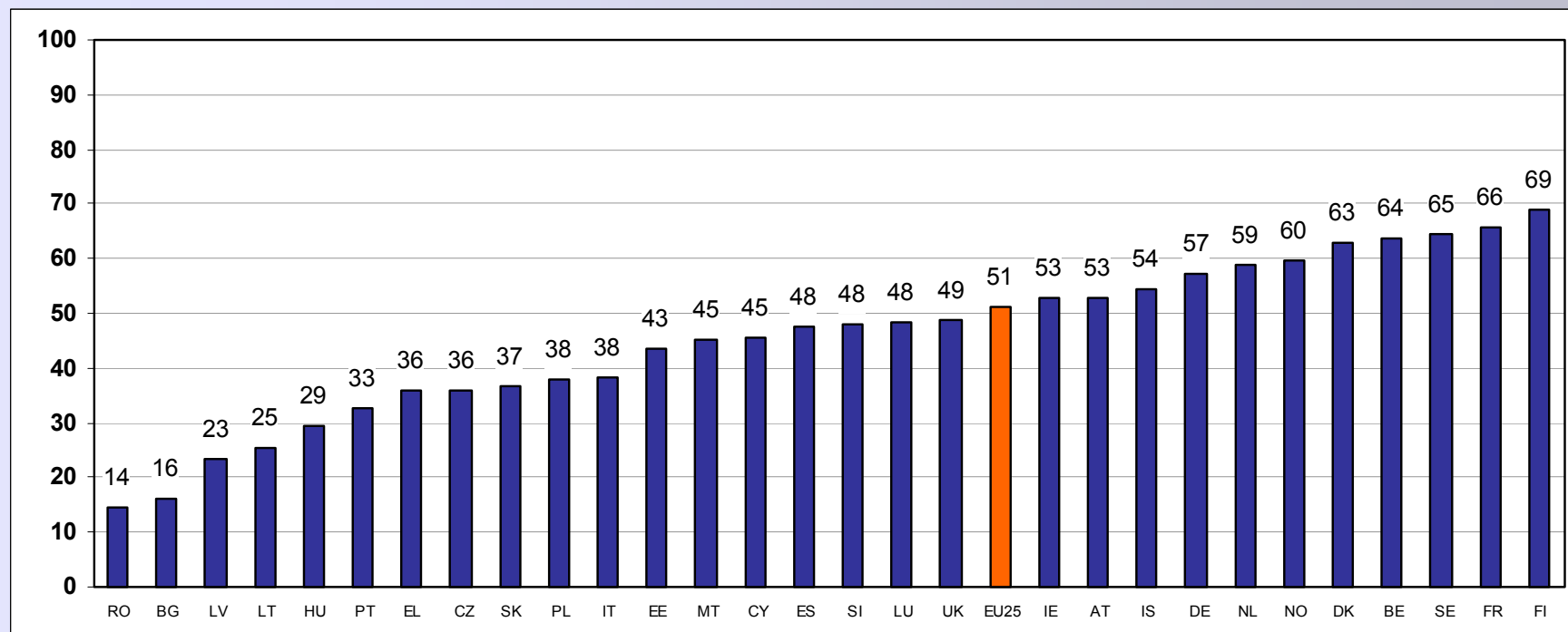
- Relevance
- Definition problems and scope of Eurostat's work
- Skills measurement in the household survey
- Future work: ad hoc module on *digital literacy* in the 2007 household survey and on *e-skills* in the 2007 enterprise survey

Measurement of e-skills

Relevance

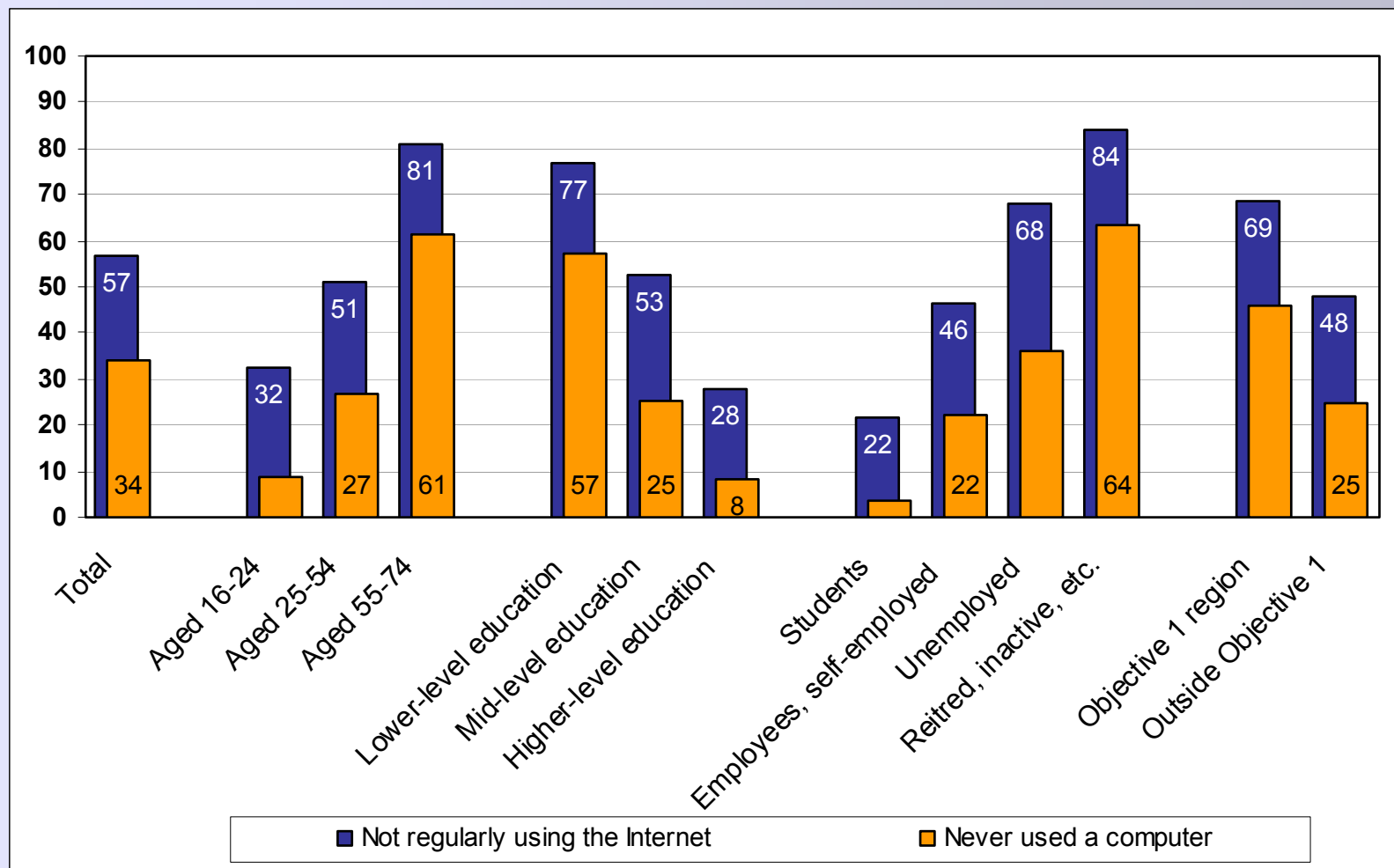
- **Labour market** needs: jobs more and more require **user skills** (for using applications) or **specialist skills** (for developing applications, solutions and networks)
- **e-Inclusion**: no « Information Society for all » without « e-skills for all » ...

Proportion of employed persons using computers in their normal work routine (2005)



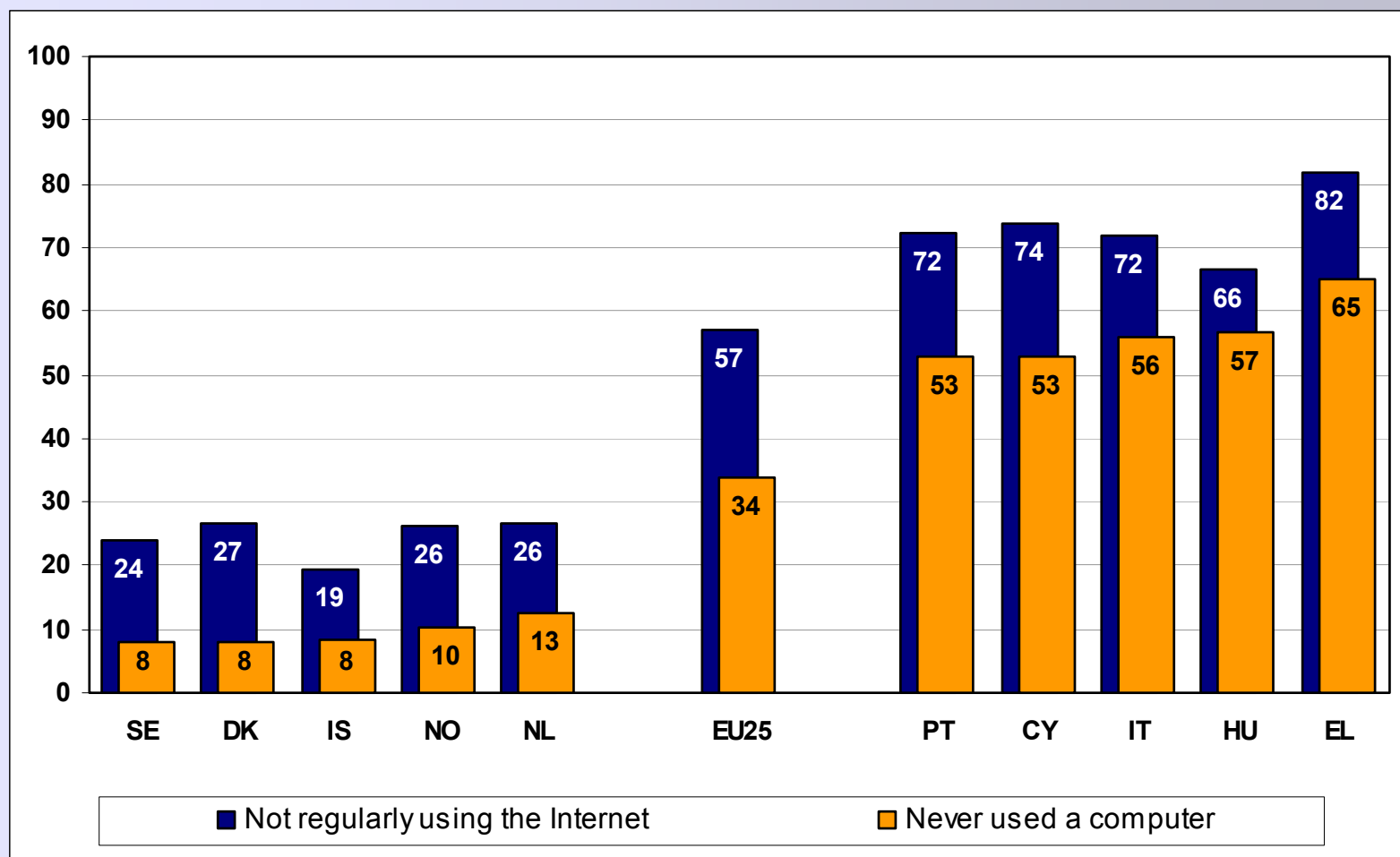
Source: Eurostat, Community survey on ICT usage and e-commerce in enterprises

Proportion of individuals not regularly using the Internet / never having used a computer (2005)



Source: Eurostat, Community survey on ICT usage in households and by individuals

Proportion of individuals never having used a computer / not regularly using the Internet (2005)



Source: Eurostat, Community survey on ICT usage in households and by individuals

Measurement of e-skills

Definition problem

- No commonly agreed definition of e-skills available
- No reference point for the question design
- ➔ Eurostat questions were a first attempt for measurement of e-skills, without using a commonly adopted conceptual framework

Scope of Eurostat's work on e-skills:

- Focuses on **basic** e-skills (or IT literacy) as the survey is addressed to the general public, not to IT professionals
- Other questions also touch topics as *participation in courses on computer use, use of internet for training purposes, use of internet for job searching and lack of skills as a barrier to internet use*

Household survey: e-skills module

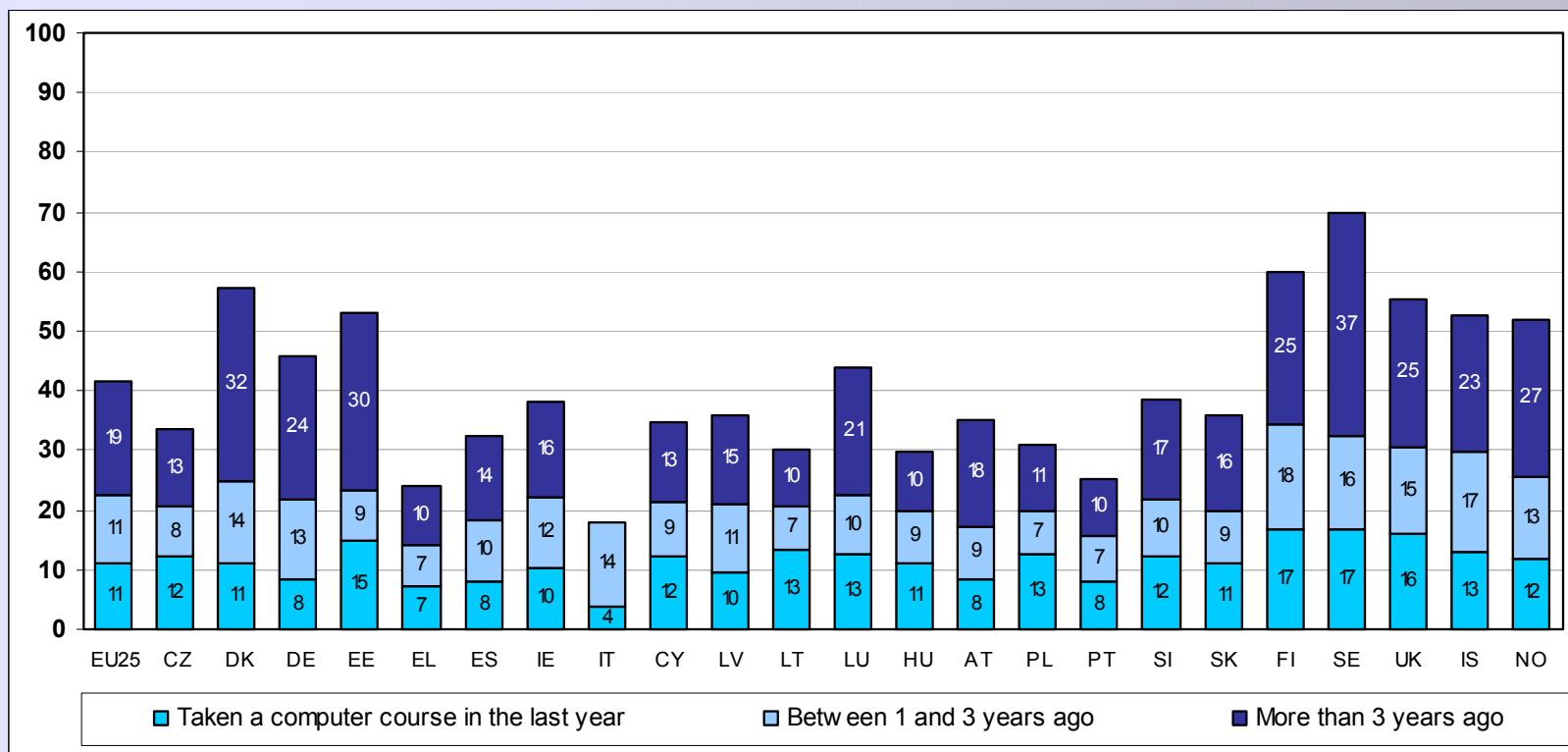
- 2005 and 2006 survey (more detailed module on digital literacy for *i2010* in the 2007 survey)
- Set of four questions
- Additional (more indirect) data on digital literacy from other modules (e.g. computer use, Internet use, barriers, etc.)

Last time the individual has participated in a training course (of at least 3 hours) on any aspect of computer use

Scope: all individuals who ever used a computer

Breakdown: 5 categories (last 3 months; between 3 and 12 months ago; between 1 and 3 years ago; more than 3 years ago; never taken one)

Most recent training course (of at least 3 hours) on computer use (2005)



Source: Eurostat, Community survey on ICT usage in households and by individuals

Household survey: e-skills module

Computer related activities the individual has already carried out

Scope: all individuals who ever used a computer

Checklist of 6 items (via self-assessment):

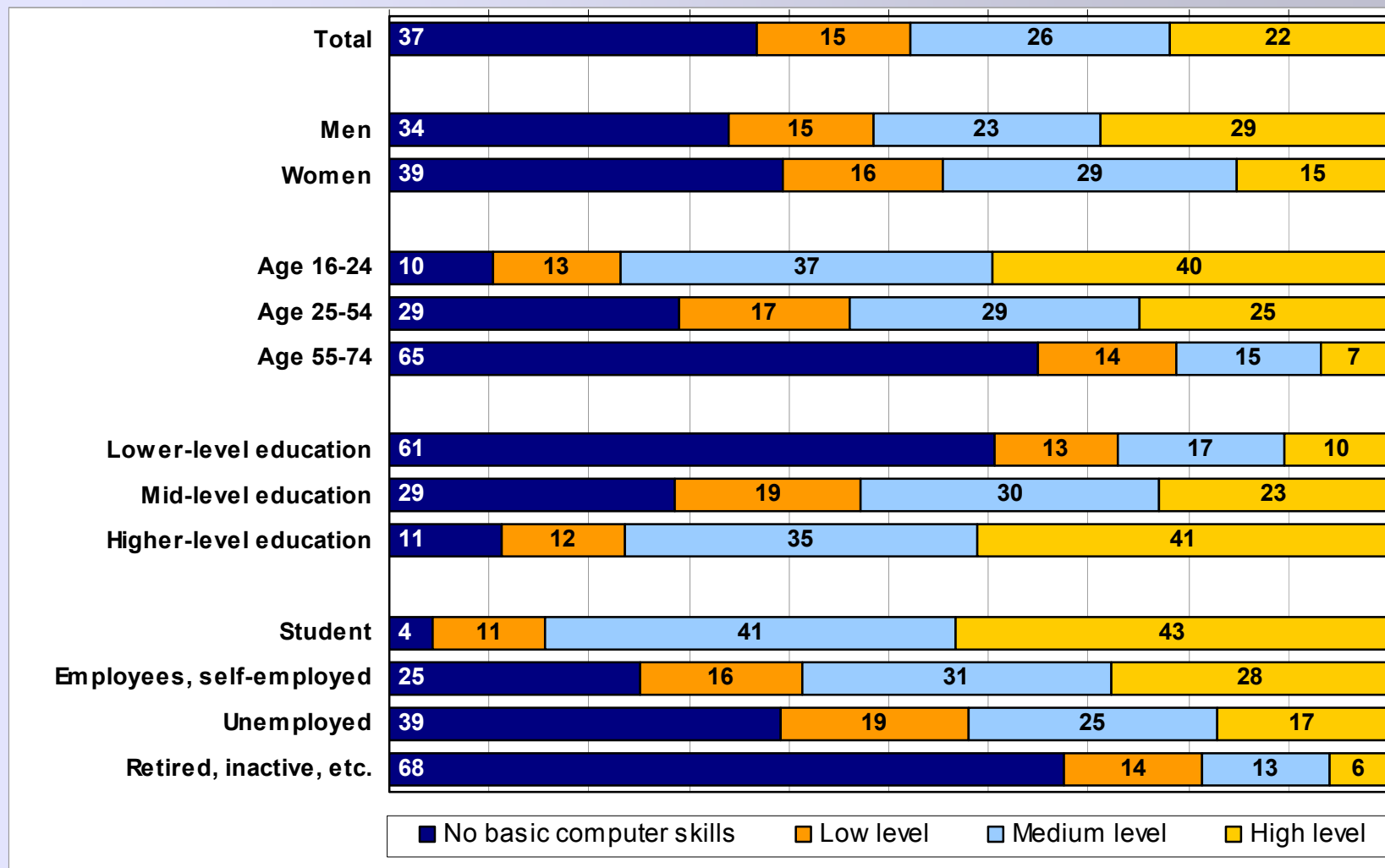
- Copying or moving a file or folder
- Using copy & paste tools to duplicate or move information within a doc.
- Using basic arithmetic formulas in a spreadsheet
- Compressing files
- Connecting and installing new devices, e.g. a printer or a modem
- Writing a computer program using a specialised programming language

Categorical data (although some ordinality in terms of level of complexity)

Output: results for the separate items + 3 levels of basic computer skills:

- i. **Low:** individuals having ticked 1 or 2 of the activities
- ii. **Medium:** individuals having ticked 3 or 4 of the activities
- iii. **High:** individuals having ticked 5 or 6 of the activities

Distribution of levels of basic computer skills (2005), aggregate data, by socio-demographic background



Source: Eurostat, Community survey on ICT usage in households and by individuals

WPIIS May 2006: « E-skills measurement »

Household survey: e-skills module

Internet related activities the individual has already carried out

Scope: all individuals who ever used the Internet

Checklist of 6 items (via self-assessment):

- Using a search engine to find information
- Sending e-mails with attached files (documents, pictures, etc.)
- Posting messages to chatrooms, newsgroups, online discussion forum
- Using the Internet to make telephone calls
- Using peer-to-peer file sharing for exchanging movies, music, etc.
- Creating a web page

Categorical data (although some ordinality in terms of level of complexity)

Output: results for the separate items + 3 levels of basic Internet skills:

- i. **Low:** individuals having ticked 1 or 2 of the activities
- ii. **Medium:** individuals having ticked 3 or 4 of the activities
- iii. **High:** individuals having ticked 5 or 6 of the activities

Household survey: e-skills module

How the individual obtained his/her computer or Internet skills

- **Formalised educational institution (school, college, university)**
- **Training courses in adult education center (but not on the initiative of your employer)**
- **Vocational training courses (on the demand of the employer)**
- **Self-study using books, cd-roms, etc.**
- **Self-study in the sense of learning-by-doing**
- **Informal assistance from colleagues, relatives, friends**
- **Some other way**

Output: results for the separate items, broken down by

- **The usual breakdown by gender, age group, educational level, employment situation, degree of urbanisation, etc.**
- **Additionally broken down by the low, medium, high level of basic computer skills**

Way of obtaining e-skills (2005)

	All computer users	Gender		Educational level			Level of basic computer skills		
		Men	Women	Lower	Middle	Higher	Low	Medium	High
Formalised educational institution (school, college, university, etc.)	31	29	33	34	28	35	16	30	47
Training courses in adult education centres, on own initiative	15	13	18	11	15	19	10	17	20
Training courses in adult education centres, on demand of employer	23	21	25	12	23	32	14	25	29
Self-study using books, cd-roms, etc.	28	35	21	22	27	37	10	26	48
Self-study (learning by doing)	58	64	52	52	57	65	38	61	76
Informal assistance from colleagues, relatives or friends	59	58	59	58	59	59	61	61	60
Some other way	4	4	3	5	3	3	4	3	4

Source: Eurostat, Community survey on ICT usage in households and by individuals

Future work: enterprise survey

2006 survey (⇒ results: autumn 2006)

New questions focusing on **shortages in e-skilled staff**:

- *Did your enterprise have difficulties in recruiting personnel with ICT skills (from basic to professional), during 2005? [filter question]*
- *Did your enterprise face the following problems when trying to recruit personnel, during 2005?*
 - *Personnel with required skills in the use of ICT applications not available or not entirely suitable*
 - *ICT specialists with the required skills not available or not entirely suitable*
 - *High remuneration costs of ICT specialists*

Future work: enterprise survey

2007 survey (⇒ results: autumn 2007)

- Additional questions on different aspects of ICT specialists and on user skills:
 - whether the enterprise employs ICT specialists
 - recruitment of personnel for jobs requiring ICT specialist skills and/or ICT user skills
 - difficulties for filling vacancies for jobs requiring ICT specialist skills and/or ICT user skills
 - whether the enterprise offers training to develop or upgrade ICT skills
 - outsourcing and offshore outsourcing of ICT functions

Future work: household survey

2006 survey (⇒ results: autumn 2006)

- Set of questions from 2005 has been maintained

2007 survey (⇒ results: autumn 2007)

- Expansion of the self-assessment items (6 -> 8)
- Respondent's judgement on how suitable their skills are for the labour market
- Reasons for not taking computer related courses
- Questions related to e-learning, e.g. use of Internet for learning/education purpose

ICT usage data for the EU

- **Statistics are available free of charge on Eurostat's website:**
 - <http://europa.eu.int/comm/eurostat>
 - **Click « Data »**
 - **Click « Population/social conditions »**
 - **Via the New Cronos database, user-defined tables can be requested**

- **Metadata including a first release of the Methodological Manual:**
http://europa.eu.int/estatref/info/sdds/en/infosoc/infosoc_base.htm