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Statistiska centralbyrån Statistics Sweden

Measuring ICT skills in Sweden

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ICT usage in households and by individuals

Background and method


- Surveys carried out in 1984, 1989, 1995, 2000, 2001, 2002-
- Since 2002 EU-harmonized and yearly
- Target population, People living in Sweden age 16-74
 - ~ 7 000 000 individuals (total of 9 600 000)
 - ~ 3 900 000 households
- Frame, The Swedish total population register (TPR)
- Stratified Simple Random Sampling
- 6 age groups and gender, total 12 strata
- ~2 500 individuals are sampled
- 55 % response rate 2013
- Survey Vehicle: Stand-alone
- Data collection method: Telephone interviews



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Eurostat model Questionnaire


- A. Access to Information and Communication Technologies
- B. Use of computers
- C. Use of the Internet
- D. Use of e-Government
- E. Use of e-Commerce
- F. e-skills
- Socio-demographic background characteristics
- Special topic every year
 - 2011 e-skills
 - 2012 mobile use of internet
 - 2013 e-government
 - 2014 use of Cloud Services

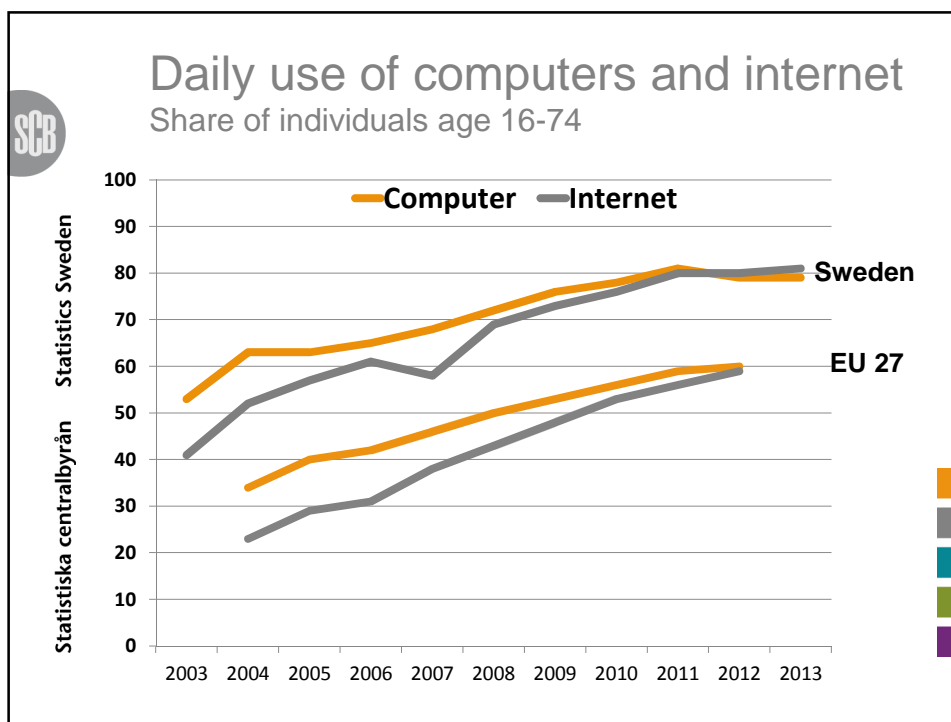


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ICT skills indicators

- Aim: Every individual should be able to participate in the "Information society"
 - Private (Social aspects, government interaction)
 - Professional (work and education)
- Access to computer/internet, frequency of use
 - Survey definition of computer: *desktop, laptop, netbook, tablet, excluding smart phone.*
- Main dimensions of skills
 - **Computer skills**
 - **Internet skills**
- Different types of measurement
 - **Activities carried out**
 - Self judged skills
 - Communicate, changing job, protect personal data/ computer from virus
 - Education
 - Formal education, courses, self study, informal assistance

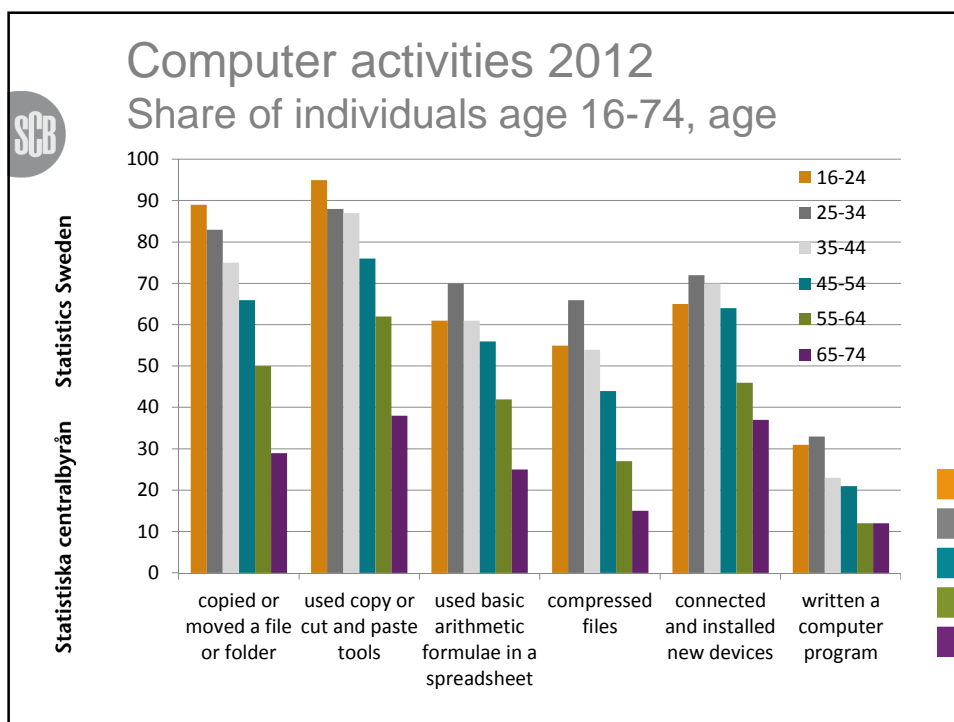
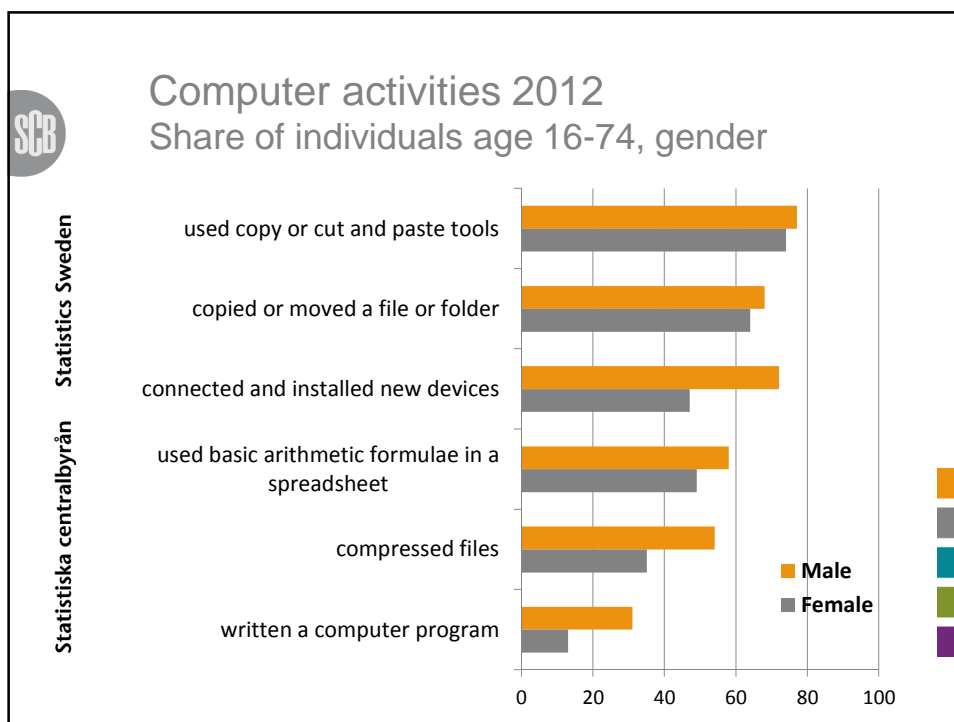




Benchmarking indicators – Computer activities

Share of individuals age 16-74, EU 27:Sweden

Activity	2003	2005	2006	2007	2009	2011	2012	2014
Individuals who have (ever)...								
written a computer program	:14	9:14	9:13	9:11	9:10	10:24	9:22	EU:S
copied or moved a file or folder	:69	53:72	53:73	56:70	59:64	63:73	62:66	EU:S
used copy or cut and paste tools	:69	49:69	51:73	54:70	56:63	61:80	60:75	EU:S
used basic arithmetic formulae in a spreadsheet	:55	35:53	37:55	39:49	40:44	43:61	41:53	EU:S
compressed files	:	26:36	28:36	30:36	33:31	37:51	35:45	EU:S
connected and installed new devices	:	:	37:56	40:50	43:44	43:58	43:60	EU:S
modified configuration parameters in applications	:	:	:	:	:	26:	27:	EU:S
created electronic presentations	:	:	:	:	:	31:51	31:50	EU:S
installed a new or replaced an old operating system	:	:	:	:	:	21:43	20:44	EU:S
transferred files between computer and other devices	:	:	:	:	:	51:75	52:75	EU:S
connected computers to a local area network	:	:	:	19:30	:	:	:	:
detected and solved computer problems	:	:	:	24:37	:	:	:	:
used a mouse to launch programs	:87	64:88	:	:	:	:	:	:



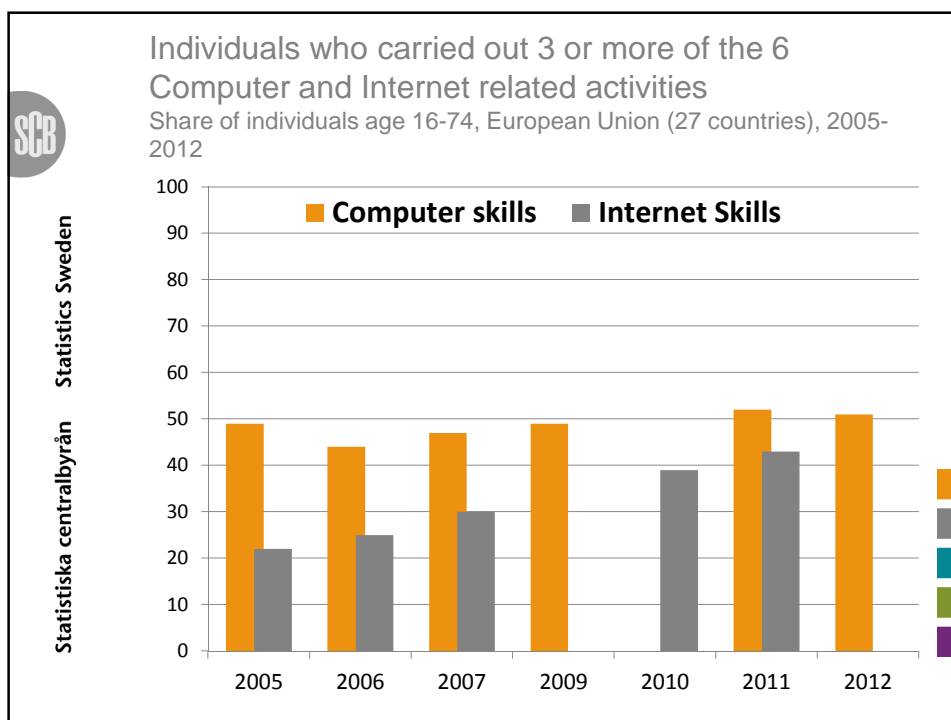
Benchmarking indicators – Internet activities

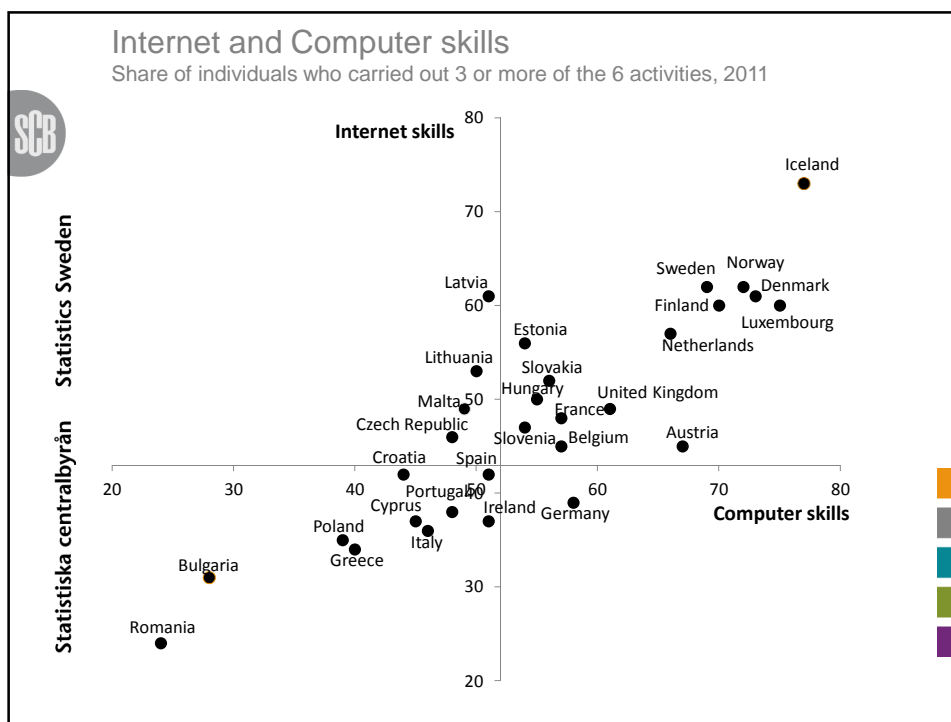
Share of individuals age 16-74, EU 27:Sweden

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	2003	2005	2006	2007	2010	2011	2013
Individuals who have (ever)...							
used a search engine to find information	:	51:76	52:79	57:76	69:88	71:90	EU:S
sent an email with attached files	:	43:65	43:69	50:64	60:77	63:84	EU:S
posted messages to chat rooms, newsgroups	:	18:17	18:20	24:19	32:38	33:48	EU:S
used the Internet to make phone calls	:	7:7	9:11	15:12	23:26	26:40	EU:S
used peer-to-peer file sharing for exchanging movies, music, etc.	:	9:18	11:20	12:19	14:20	15:25	EU:S
created a web page	:18	9:14	9:15	10:13	10:16	11:19	EU:S
uploaded text, games, images, films or music to websites	:	:	:	:	:	27:46	EU:S
have modified the security settings of Internet browsers	:	:	:	:	:	23:42	EU:S
found, downloaded and installed software	:	:	:	26:38	:	:	:
kept viruses, spyware and adware off their computer	:	:	:	30:48	:	:	:

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Recommendations and summing up

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- What should be included in the definition of computer? Smart phone or not?
- Measuring the performed activities is preferable to self judged skills
- Computer skills indicators are good for measuring skills for employability
- For measuring other parts of participating in society, internet activities might be more useful
- Indicators for consistent benchmarking with EU countries are available from 2005
- Indicators are under development for EU survey 2015 and forward

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Thank you for your attention!

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Data can be found under:
 Sweden: www.scb.se/le0801
 Europe: <http://epp.eurostat.ec.europa.eu>




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Benchmarking indicators – Self judgment of ICT-skills

Share of individuals age 16-74, 2011

Individuals who judge their current computer or Internet skills to be sufficient	EU 27	Sweden
to communicate with relatives, friends, colleagues over the Internet	66	89
if they were to look for a job or change job within a year	43	78
to protect their personal data	46	61
to protect their private computer from virus or other computer infection	46	71



Benchmarking indicators – ICT education

Share of individuals age 16-74, EU 27:Sweden

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	2005	2006	2007	2011	
Statistics Sweden	Individuals who have obtained IT skills through ... formalised educational institution (school, college, university, etc.)	20:23	21:22	22:32	28:40
	training courses and adult education centres, on own initiative	10:15	11:13	11:17	14:18
	training courses and adult education centres, on demand of employer	15:34	16:28	17:42	14:44
Statistiska centralbyrån	through self-study using books, cd-roms, etc.	20:21	24:40	25:48	21:35
	through self-study (learning by doing)	41:49	40:40	49:80	57:88
	through informal assistance from colleagues, relatives in friends and some other ways	41:37	38:34	46:74	51:89

Access to computer/internet and frequency of use

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Statistics Sweden	<ul style="list-style-type: none"> Do you or anyone in your household have access to a computer at home? <ul style="list-style-type: none"> Any type: <i>desktop, laptop, netbook, tablet, excluding smart phone.</i>
	<ul style="list-style-type: none"> Do you or anyone in your household have access to the internet at home <ul style="list-style-type: none"> By any device
Statistiska centralbyrån	<ul style="list-style-type: none"> When did you last use a computer/internet (at home, at work, or any other place)? <ul style="list-style-type: none"> Within last 3 months, 3-12 months, >1 year, never
	<ul style="list-style-type: none"> How often on average have you used a computer/internet in the last 3 months? <ul style="list-style-type: none"> Every day/almost every day, once a week, < once a week