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Declining Digital Divide in Europe

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Digital technologies play an increasingly important role in the everyday life of Europeans. Communication between people, consumer actions but also contacts with officials, are increasingly carried through the internet. The new norm of everyday activities is closely tied to the internet. At the same time, however, simultaneously with the widening use of the internet, a new risk of social exclusion has emerged. For some Europeans the internet is not available due to technical, economic, social or personal reasons. Thus, a digital divide may be emerging in Europe.

Since the very beginning, the ESS has monitored the use of internet amongst European populations. This has occurred in Rounds 1 to 5, 8 and 9. Because the scales used between these rounds differed somewhat, we combined the answers to a new utilization scale from never (1) to everyday (5)[1]. Figure 1 depicts the utilisation of internet in each round in all 35 countries that have participated in the ESS in at least one round. As expected, the utilization has been growing steadily since 2002.
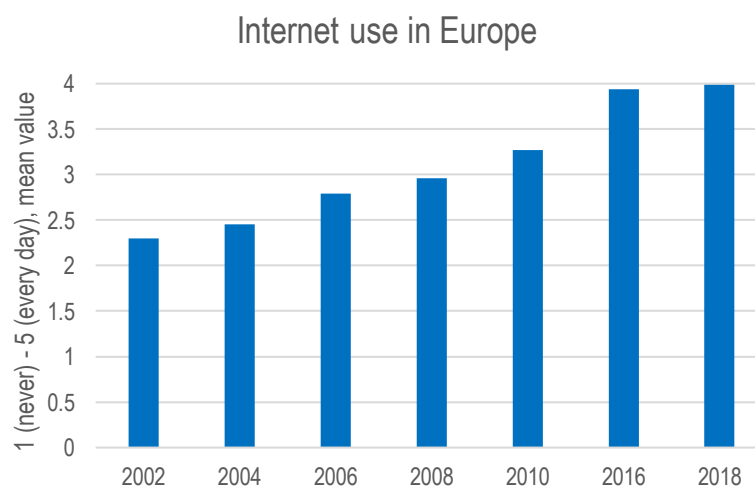

Figure 1. Use of Internet in Europe from 2002 to 2018. All countries, weighted, scale 1 (never) – 5 (every day). ESS 2002-2018.

[1] In rounds 1 to 5 the options were: No access at home or work, Never use, Less than once a month, Once a month, Several times a month, Once a week, Several times a week, Every day
In rounds 8 to 9 the options were: Never, Only occasionally, A few times a week, Most days, Every day
The new scale was: Never(1), Occasionally (2), Few times/week (3), Often (4), Everyday (5)

Figure 2 depicts the percentage of everyday internet users in 29 countries that participated in the latest ESS round in 2018 (Round 9). The Nordic countries and the Netherlands have the highest share of everyday users. In these countries, around 80 % or more of the respondents indicate that they use Internet every day. In comparison, Internet use is at its lowest in five ex-Eastern bloc countries, where less than half of the population are daily Internet users.
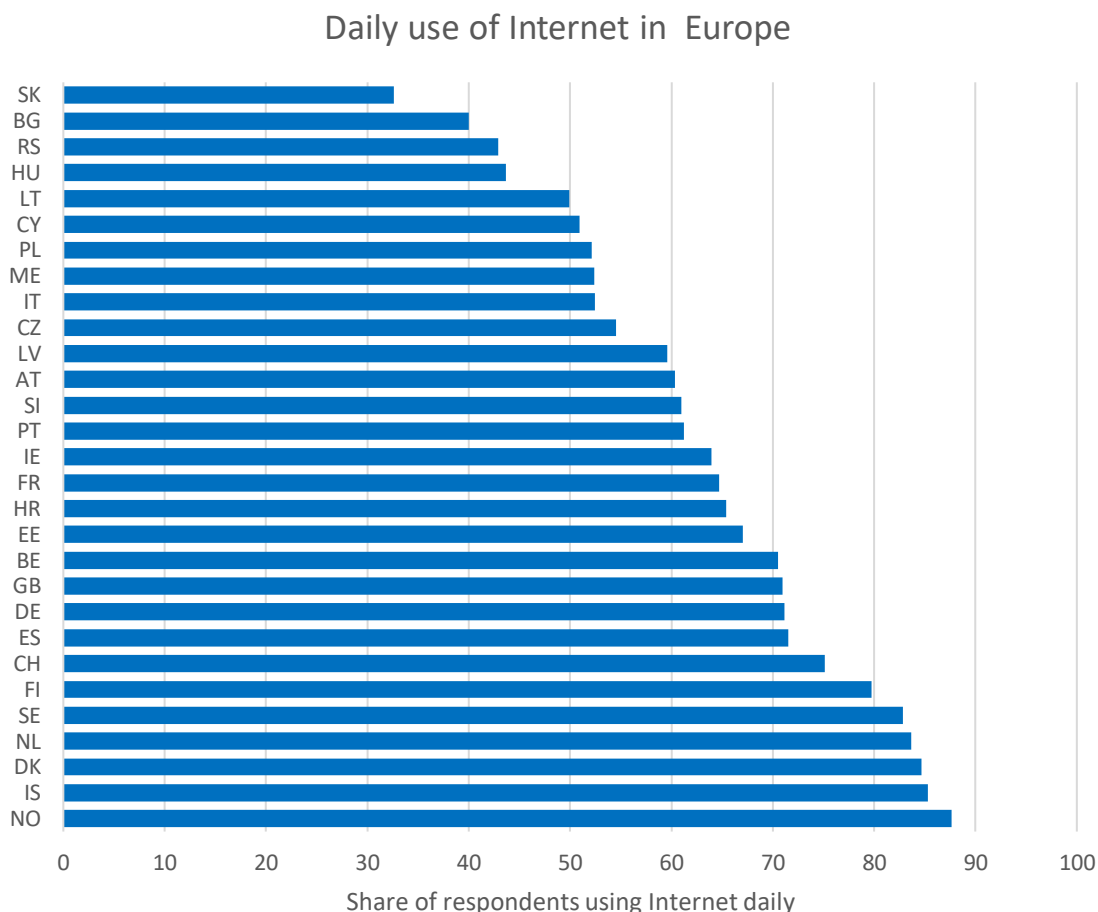
Daily use of Internet in Europe

Share of respondents using Internet daily

Figure 2. Daily use of Internet per country in Europe. ESS 2018.

In many accounts (e.g. van Dijk 2012) certain segments of European populations have been identified as having a high risk of falling to the group of "unconnected". These groups consist of the lowest social classes, the unemployed, particular elderly people, ethnic minorities and a large group of migrants.

To test how the internet utilization of these population subgroups have developed over time, we analysed data from 15 countries that participated in all of the aforementioned 7 ESS rounds[2]. We examine Internet use according to age, labour market status, health, subjective feelings of household income, years of education, gender, and whether the respondent is born in the country or not (Figures 3 to 10).

As in Figure 1, we see that internet use has been growing steadily irrespective of the sub-group examined. However, there are differences within each background factor. Younger respondents use the internet more than the

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[2] BE, CH, DE, ES, FI, FR, GB, HU, IE, NL, NO, PL, PT, SE, SI

older ones. Working or studying increases a person's internet utilization compared to the unemployed and those outside the labour market. The sick use the internet much less than those who are healthy. The same applies to those that have difficulties with their finances compared to those that cope well. In addition, internet use correlates positively with the number of years one has been studying. Male respondents seem to be more active internet users than their female counterparts, on average. However, there are no differences in internet use between those that have been born in the country and those born abroad. This suggests that people with migrant background are not particularly at risk of digital exclusion.
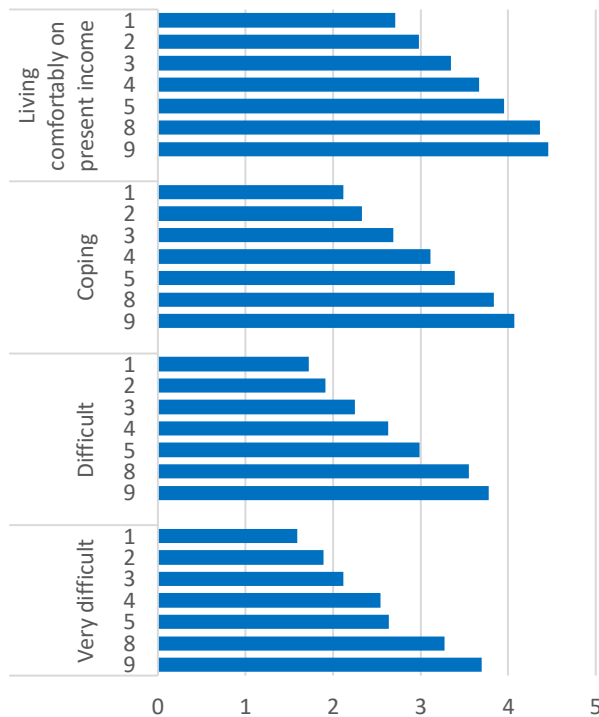
Net use by gender
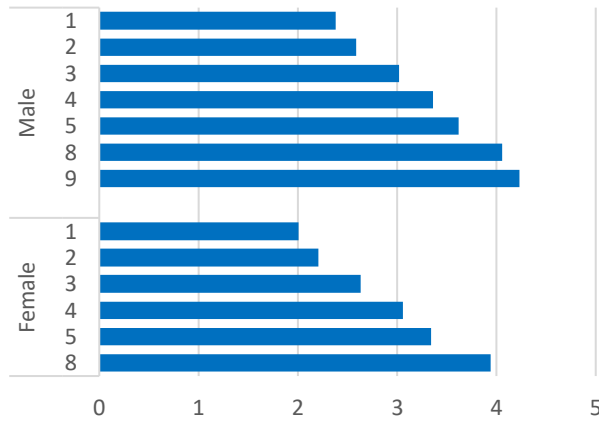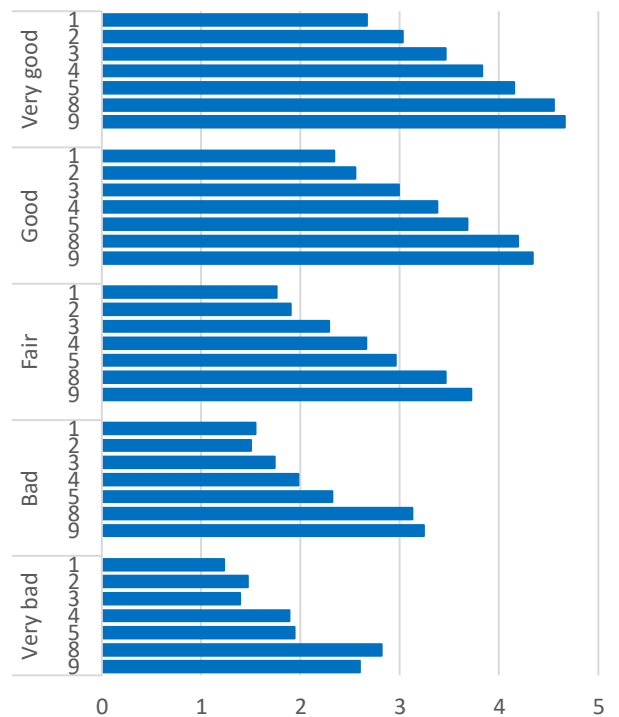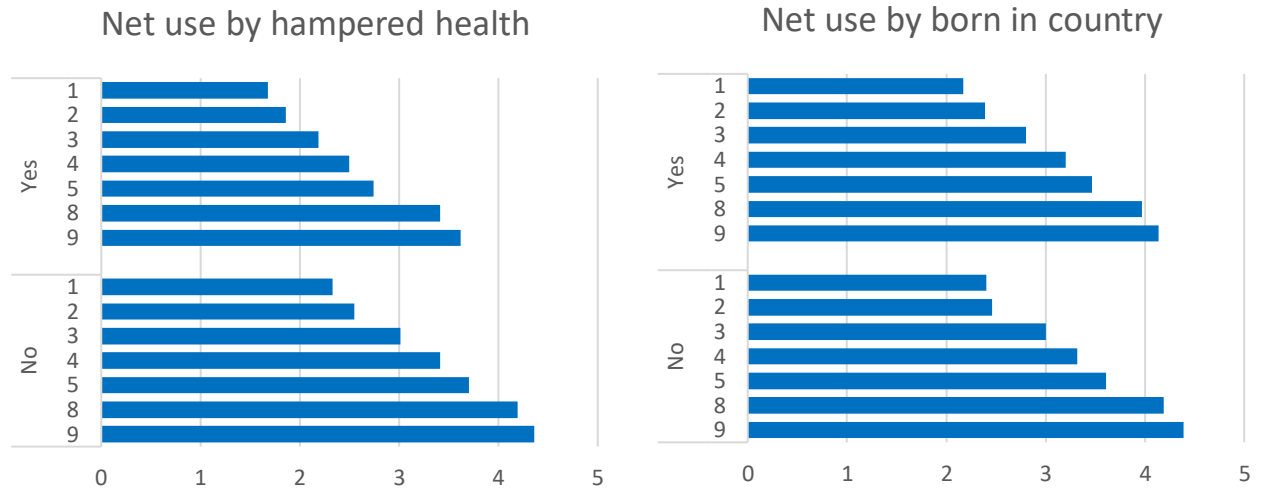
Net use by years of education
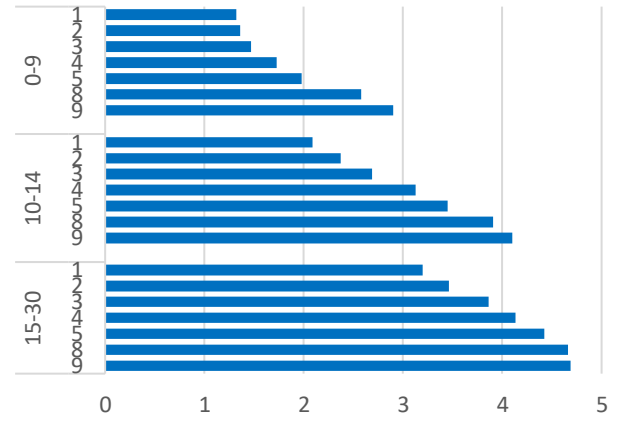
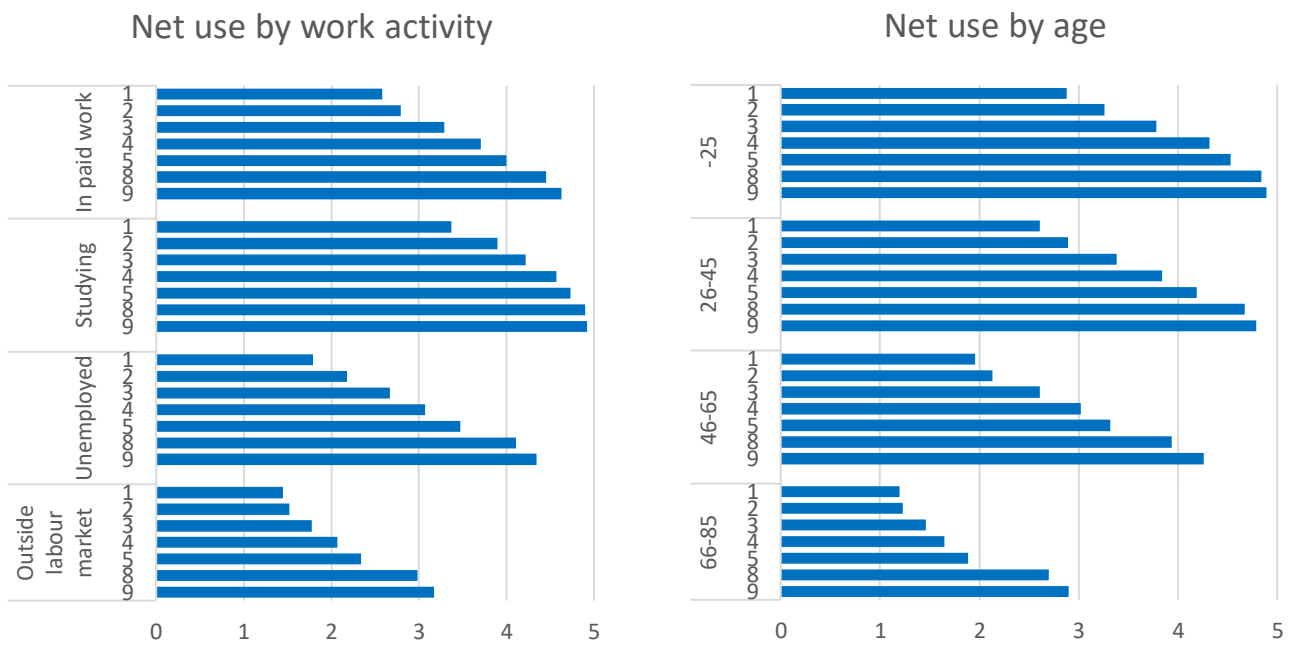**Figures 3 and 4.**

Net use by coping with finances

Net use by subjective health

Figures 5 and 6.

Net use by hampered health

Net use by born in country

Figures 7 and 8.

Net use by work activity

Net use by age

Figures 9 and 10.

Finally, to test how all the aforementioned factors are associated simultaneously with internet use, we run two separate regressions. The basic model is ordinal probit because the dependent variable is comprised of only five cohorts which are in ascending order. We also run an OLS model to check whether a different estimation method changes the statistical significance of the reported coefficients. That is, we can compare the two groups of coefficients based only on their statistical significance and sign, not on their values.

The two models are depicted in Table 1. The coefficients reported are all statistically significant across the two models, and are in line with the graphical differences we noted earlier. The only coefficient that comes statistically insignificant is that of the binary variable Born in country.

We also run models where each of the eight control variables included in the models, interacted in turn with the ESS round. We performed such analyses to check if the differences for each sub-cohort were evident between rounds. This interaction term was statistically significant each time, except in the case of Born in country. These results are not reported but are available upon request.

Overall, the results indicate that there are clear differences between European countries in the prevalence of Internet use. Clear divides exist also between different sub-groups of Europeans. At the same time, the results show that Internet use has become more and more frequent, and that such divides have not increased over time either.

Table 1. Regression analyses. Dependent variable: Internet utilization (scale 1-5). Ordinal probit and OLS models.

	Oprobit	OLS
Age		
-25	(base)	(base)
26-45	-0.183***	-0.194***
46-65	-0.606***	-0.637***
66-85	-1.304***	-1.282***
Gender		
Male	(base)	(base)
Female	-0.155***	-0.140***
Hampered by health		
Yes	(base)	(base)
No	0.051***	0.047***
Born in country		
Yes	(base)	(base)
No	-0.011	-0.004
Work Activity		
Paid work	(base)	(base)
Studying	0.429***	0.363***
Unemployed	-0.137***	-0.195***
Outside labor force	-0.363***	-0.449***
Subjective health		
Very good	(base)	(base)
Good	-0.069***	-0.077***
Fair	-0.203***	-0.228***
Bad	-0.273***	-0.224***
Very bad	-0.405***	-0.297***
Coping with Finances		
Living comfortably	(base)	(base)
Coping	-0.208***	-0.204***
Difficult	-0.367***	-0.367***
Very difficult	-0.445***	-0.456***
Years studying		
0-9	(base)	(base)
10-18	0.584***	0.607***
15-30	1.163***	1.244***

Table 1 (cont.)

Country		
BE	(base)	(base)
CH	0.467***	0.489***
DE	-0.057**	-0.059***
ES	-0.315***	-0.326***
FI	0.326***	0.308***
FR	-0.014	-0.034
GB	0.065***	0.054**
HU	-0.444***	-0.437***
IE	-0.202***	-0.210***
NL	0.484***	0.487***
NO	0.435***	0.422***
PL	-0.483***	-0.507***
PT	-0.179***	-0.241***
SE	0.517***	0.496***
SI	-0.191***	-0.216***
ESS round		
1.essround (2002)	(base)	(base)
2.essround (2004)	0.251***	0.273***
3.essround (2006)	0.532***	0.585***
4.essround (2008)	0.853***	0.929***
5.essround (2010)	1.151***	1.222***
8.essround (2016)	1.703***	1.667***
9.essround (2018)	1.915***	1.817***
Constant		2.601***
cut1	0.023	
cut2	0.214***	
cut3	0.545***	
cut4	1.016***	

Citations:

ESS Round 1 – 9: European Social Survey Round 1–9 Data (2002-2018). NSD - Norwegian Centre for Research Data, Norway – Data Archive and distributor of ESS data for ESS ERIC.

Van Dijk, J. A. G. M. (2012). The evolution of the digital divide: The digital divide turns to inequality of skills and usage. Digital Enlightenment

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ESS in Finland: www.utu.fi/europeansocialsurvey

**ESS ERIC homepage: http://www.europeanso-
cialsurvey.org/**