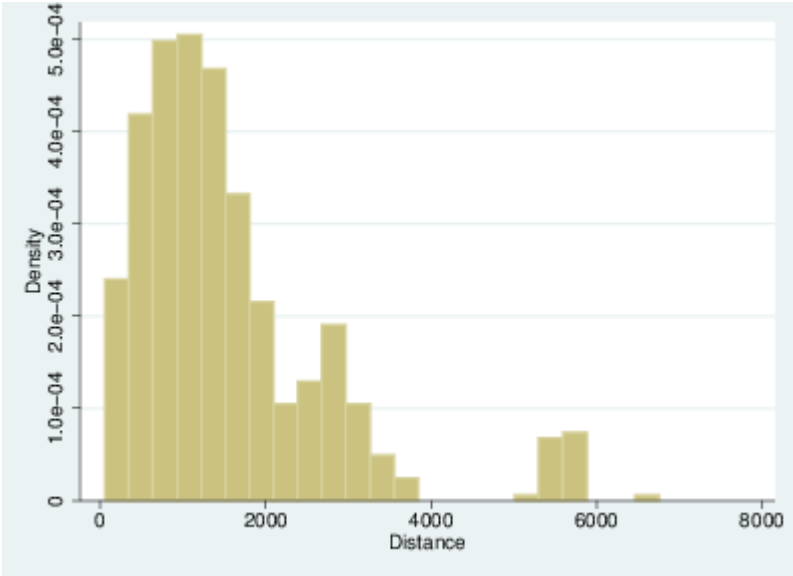
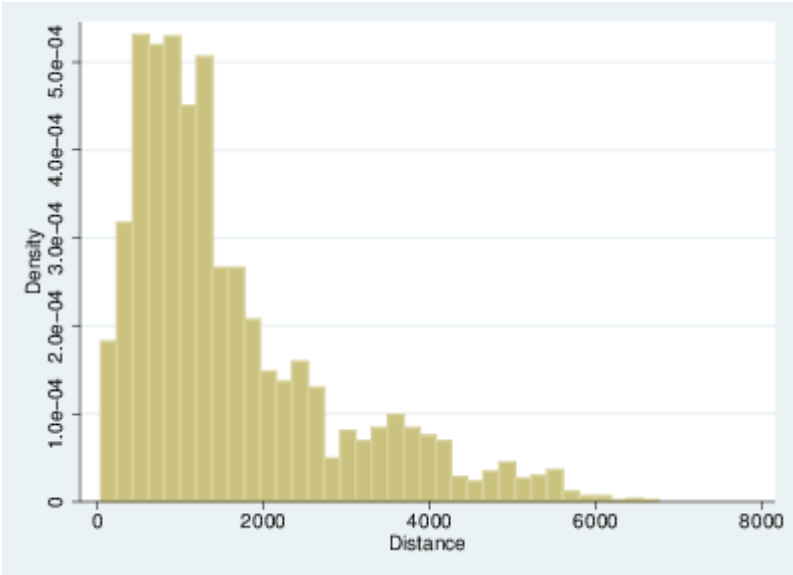


**Online Appendix to Bauernschuster/Falck/Woessmann,
“Surfing Alone? The Internet and Social Capital:
Evidence from an Unforeseeable Technological Mistake”**

Figure A1: Distance to closest node: OPAL and non-OPAL



a) Distance if closest node is (formerly) OPAL (mean=1,566; N=558)



b) Distance if closest node is non-OPAL (mean=1,625; N=2,613)

Notes: Histograms of distance (in meters) to node to which East German households were connected in 2001. Sample: all individuals in SOEP 2008 having lived in East Germany in 2001. Data: SOEP 2001, 2008.

Table A1: Pairwise correlation of social capital variables in 2008

	Social capital index	Theater, opera, and exhibitions	Cinema and concert	Restaurant and bar	Visit friends	Visit relatives	Volunteer work	Political engagement	Interest in politics
Social capital index	1.000								
Theater, opera, and exhibitions	0.595	1.000							
Cinema and concert	0.553	0.331	1.000						
Restaurant and bar	0.599	0.303	0.411	1.000					
Visit friends	0.512	0.123	0.275	0.296	1.000				
Visit relatives	0.315	-0.007	-0.006	0.019	0.266	1.000			
Volunteer work	0.498	0.191	0.104	0.128	0.077	0.036	1.000		
Political engagement	0.471	0.159	0.048	0.092	0.020	0.003	0.299	1.000	
Interest in politics	0.465	0.285	0.054	0.155	-0.008	-0.051	0.165	0.264	1.000

Data source: SOEP 2008.

Table A2: Broadband vs. low-speed Internet access and Internet usage in 2008

	Internet usage
Never	-0.044 ^{***} (0.007)
Less often than once a month	-0.032 ^{***} (0.004)
At least once a month	-0.019 ^{***} (0.002)
At least once a week	-0.078 ^{***} (0.009)
Every day	0.172 ^{***} (0.012)
<i>N</i>	12,296
Wald χ^2	2,347.86
Prob> χ^2	0.000

Marginal effects of broadband Internet access (DSL) at home from ordered logit regressions, holding other variables constant at their mean. All variables are measured in 2008. Sample: all individuals in SOEP 2008 with available information on the respective social capital variable also in SOEP 2001. Additional controls included in each model: the individual's gender, age (and its square), marital status, number of children living in the household, secondary and university education, occupational status, migration background, a dummy indicating house/flat ownership, log net household income, and sixteen federal state dummies. Robust standard errors clustered at the household level in parentheses. ^{***} 1%, ^{**} 5%, and ^{*} 10% level of significance. Data source: SOEP 2008.

Table A3: The association between broadband Internet access and social capital in 2008: Marginal effects from ordered logit models

	Theater, opera, and exhibitions	Cinema and concert	Restaurant and bar	Visit friends	Visit relatives	Volunteer work	Political engagement		Interest in politics
Never	-0.053*** (0.014)	-0.053*** (0.010)	-0.006*** (0.002)	-0.001 (0.001)	0.001 (0.001)	-0.004 (0.006)	-0.002 (0.004)	Not at all	-0.014*** (0.004)
Less often than once a month	0.038*** (0.010)	0.014*** (0.004)	-0.029*** (0.009)	-0.008 (0.005)	0.004 (0.008)	0.002 (0.002)	0.001 (0.003)	Not strong	-0.019*** (0.005)
At least once a month	0.015*** (0.004)	0.034*** (0.006)	0.005** (0.002)	-0.006 (0.004)	0.000 (0.001)	0.001 (0.002)	0.000 (0.001)	Strong	0.026*** (0.007)
At least once a week	0.001*** (0.000)	0.005*** (0.001)	0.028*** (0.008)	0.013 (0.009)	-0.004 (0.009)	0.001 (0.002)	0.000 (0.000)	Very strong	0.007*** (0.002)
Every day	0.000 (0.000)	0.005*** (0.000)	0.002*** (0.001)	0.002 (0.001)	-0.001 (0.002)	0.000 (0.000)	0.000 (0.000)		
<i>N</i>	17,357	17,337	17,353	17,320	17,317	17,327	17,304		17,343
Wald χ^2	3,371.15	4,547.55	3,256.60	1,861.92	1,074.00	1,603.62	679.95		5,365.12
Prob> χ^2	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

Marginal effects of broadband Internet access (DSL) at home from ordered logit regressions, holding other variables constant at their mean. Dependent variable (measured in 2008) reported on top of each column. Sample: all individuals in SOEP 2008. Additional controls (measured in 2008) included in each model: the individual's gender, age (and its square), marital status, number of children living in the household, secondary and university education, occupational status, migration background, a dummy indicating house/flat ownership, log net household income, and sixteen federal state dummies. Robust standard errors clustered at the household level in parentheses. *** 1%, ** 5%, and * 10% level of significance. Data source: SOEP 2008.

Table A4: The association between broadband Internet access and social capital in 2008 controlling for computer at home

	Social capital index	Theatre, opera and exhibitions	Cinema and concert	Socializing with friends and relatives	Volunteer work	Political engagement	Interest in politics
Broadband Internet Access (DSL) at home	0.049 ^{**} (0.020)	0.028 (0.019)	0.065 ^{***} (0.017)	0.042 ^{***} (0.015)	0.008 (0.021)	-0.001 (0.020)	0.027 (0.018)
Computer at home	0.129 ^{***} (0.024)	0.151 ^{***} (0.023)	0.081 ^{***} (0.020)	-0.001 (0.019)	0.087 ^{***} (0.024)	0.066 ^{***} (0.022)	0.073 ^{***} (0.023)
Individual level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	17,075	17,323	17,303	17,218	17,293	17,270	17,267
<i>R</i> ²	0.299	0.311	0.458	0.201	0.119	0.094	0.251

OLS regressions. Dependent variable (*z*-standardized, average 2007-2009) reported on top of each column. Individual level controls included in each model: the individual's gender, age (and its square), marital status, number of children living in the household, secondary and university education, occupational status, migration background, a dummy indicating house/flat ownership, and the log net household income. Municipality controls included in each model: the share of females, the share of working-age population, the share of individuals aged 65 and older, the share of unemployed persons, and the net migration rate. Sample: all individuals in SOEP 2008. Robust standard errors clustered at the household level in parentheses. ^{***} 1%, ^{**} 5%, and ^{*} 10% level of significance. Data source: SOEP 2007, 2008, 2009.

Table A5: OPAL technology and availability of DSL and of cable in 2008

	DSL availability as percentage of households	Cable availability as percentage of households
OPAL municipality in 1998	-19.473 ^{***} (1.826)	1.126 (0.714)
Municipality controls	Yes	Yes
County fixed effects	Yes	Yes
<i>N</i>	3,675	3,675
<i>R</i> ²	0.041	0.012

OLS regressions. Dependent variable reported on top of each column. Sample: 3,674 East German municipalities. Municipality controls included in each model: the share of females, the share of working-age population, the share of individuals aged 65 and older, the share of unemployed persons, and the net migration rate. Standard errors in parentheses. ^{***} 1%, ^{**} 5%, and ^{*} 10% level of significance.

Table A6: Broadband Internet access and social capital: Cross-sectional and first-difference models for sample of the IV model

	Social capital index	Theater, opera, and exhibitions	Cinema and concert	Socializing with friends and relatives	Volunteer work	Political engagement	Interest in politics
<i>Cross-sectional regressions</i>							
Broadband Internet Access (DSL) at home	0.040 (0.041)	0.080* (0.044)	0.058 (0.039)	0.030 (0.033)	-0.007 (0.051)	-0.048 (0.034)	0.084*** (0.032)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	3,069	3,112	3,111	3,091	3,106	3,103	3,109
Overall R^2	0.228	0.193	0.367	0.109	0.063	0.051	0.237
<i>First-difference regressions</i>							
Broadband Internet access (DSL) at home	0.016 (0.031)	-0.004 (0.034)	0.024 (0.029)	-0.046 (0.033)	0.047 (0.033)	-0.000 (0.036)	0.046* (0.027)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	3,029	3,104	3,102	3,084	3,087	3,076	3,107
Overall R^2	0.033	0.034	0.045	0.037	0.011	0.005	0.023

OLS regressions. Dependent variable (z -standardized) reported on top of each column. Variables in the cross-sectional regressions (upper panel) refer to 2008. Variables in the first-difference regressions (lower panel) refer to first-differenced variables (2008 minus 2001). Outcome variables refer to the average 2007-2009 in the upper panel and to average 2007-2009 minus average 1999/2001 in the lower panel. Sample: all individuals in SOEP 2008 having lived in East Germany in 2001 with available information on the respective social capital variable also in SOEP 2001. Individual controls included in each model: the individual's gender, age (and its square), marital status, number of children living in the household, secondary and university education, occupational status, migration background, a dummy indicating house/flat ownership, log net household income. Municipality controls included in each model: the share of females, the share of working-age population, the share of individuals aged 65 and older, the share of unemployed persons, and the net migration rate. Robust standard errors clustered at the household level in parentheses. *** 1%, ** 5%, and * 10% level of significance. Data source: SOEP 1999, 2001, 2007, 2008, and 2009.

Table A7: First stage of instrumental-variable first-difference models for separate social capital measures

	Dependent variable of second stage:						
	Social capital index	Theater, opera, and exhibitions	Cinema and concert	Socializing with friends and relatives	Volunteer work	Political engagement	Interest in politics
OPAL access area in 1998	-0.085*** (0.033)	-0.081** (0.033)	-0.080** (0.033)	-0.080** (0.033)	-0.080** (0.033)	-0.083** (0.033)	-0.083** (0.033)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1 st -stage <i>F</i> -statistic of excluded instrument	6.315	5.773	5.580	5.519	5.731	6.230	5.944
<i>N</i>	3,029	3,104	3,102	3,084	3,087	3,076	3,107

First stage of 2SLS regressions. Dependent variable is an indicator for having gained broadband Internet access at home by 2008. The number of observations slightly differs across the columns due to missing values in the social capital variables reported on the top of each column. Variables refer to first differences (2008 minus 2001) unless noted otherwise. Sample: all individuals in SOEP 2008 having lived in East Germany in 2001 with available information on the respective social capital variable also in SOEP 2001. Individual controls included in each model: differences in marital status, in the number of children living in the household, in secondary and university education, in occupational status, in house/flat ownership, and in log net household income. Municipality controls included in each model: differences in the share of females, in the share of working-age population, in the share of individuals aged 65 and older, in the share of unemployed persons, and in the net migration rate. Robust standard errors clustered at the level of the telephone access area in parentheses. *** 1%, ** 5%, and * 10% level of significance. Data source: SOEP 1999, 2001, 2007, 2008 and 2009.

Table A8: Instrumental-variable first-difference results for subsamples

	Coef.	Std. err.	<i>N</i>
All	1.329*	(0.760)	3,029
Males	0.734	(0.649)	1,424
Females	2.107	(1.363)	1,605
Married	1.336**	(0.650)	1,938
Not married	1.268	(2.607)	1,091
Aged 45 and younger	1.036	(1.034)	1,473
Aged 46 and older	1.217	(0.773)	1,556
No kids at home	1.725	(1.473)	2,032
Kids at home	0.744	(0.631)	997
Monthly net household income < 2300€	3.496	(4.137)	1,745
Monthly net household income > 2300€	0.728	(0.524)	1,284
12 years of schooling and less	1.419	(1.049)	2,111
More than 12 years of schooling	3.653	(5.323)	914
Owner of a house/flat	1.127	(0.718)	1,185
Tenant	1.432	(1.013)	1,844
Not working, apprentice, unemployed or retired	0.826	(1.611)	1,387
Employed or self-employed	1.203**	(0.591)	1,642

Each row reports the 2nd-stage coefficient on broadband Internet access (DSL) at home for a separate 2SLS regression on the subsample indicated in the first column. Dependent variable: social capital index (*z*-standardized, average 2007-2009 minus average 1999/2001). Sample: all individuals in SOEP 2008 having lived in East Germany in 2001 with available information on the respective social capital variable also in SOEP 2001. Individual controls included in each model: differences in marital status, in the number of children living in the household, in secondary and university education, in occupational status, in house/flat ownership, and in log net household income. Municipality controls included in each model: differences in the share of females, in the share of working-age population, in the share of individuals aged 65 and older, in the share of unemployed persons, and in the net migration rate as well as county fixed effects. Robust standard errors clustered at the level of the telephone access area in parentheses. *** 1%, ** 5%, and * 10% level of significance. Data source: SOEP 1999, 2001, 2007, 2008 and 2009.

Table A9: Instrumental-variable first-difference results without individual and municipality-level controls

	1 st stage	2 nd stage						
	Broadband Internet access	Social capital index	Theater, opera, and exhibitions	Cinema and concert	Socializing with friends and relatives	Volunteer work	Political engagement	Interest in politics
OPAL access area in 1998	-0.076** (0.033)							
Broadband Internet access (DSL) at home		1.180 (0.792)	1.137 (0.798)	0.615 (0.676)	0.452 (0.649)	0.838 (0.772)	0.474 (0.730)	0.859 (0.564)
Individual controls	No	No	No	No	No	No	No	No
Municipality controls	No	No	No	No	No	No	No	No
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1 st -stage <i>F</i> -statistic of excluded instrument	4.926	4.926	4.764	4.619	4.473	4.644	5.051	4.825
Robust exogeneity test: <i>F</i> -statistic		5.519	4.460	1.195	0.719	1.733	0.448	3.178
<i>p</i> -value		0.019	0.035	0.275	0.397	0.189	0.504	0.075
<i>N</i>	3,159	3,084	3,159	3,157	3,139	3,142	3,131	3,162
Wald chi ²		12,233.80	69,107.18	25,160.78	464.50	3,301.43	86,479.28	269.83
Prob > chi ²		0.000	0.000	0.000	0.000	0.000	0.000	0.000

2SLS regressions. The first column reports first-stage results (for the specification with the social capital index); the other columns report second-stage results of separate 2SLS regressions. Dependent variable of the second-stage models (*z*-standardized, average 2007-2009 minus average 1999/2001) reported on top of each column. Variables refer to first differences (2008 minus 2001) unless noted otherwise. Sample: all individuals in SOEP 2008 having lived in East Germany in 2001 with available information on the respective social capital variable also in SOEP 2001. Robust standard errors clustered at the level of the telephone access area in parentheses. *** 1%, ** 5%, and * 10% level of significance. Data source: SOEP 1999, 2001, 2007, 2008 and 2009.

Table A10: Instrumental-variable first-difference results for subsample of individuals living within 4.2 km from the closest node in 2001

	1 st stage	2 nd stage						
	Broadband Internet access	Social capital index	Theater, opera, and exhibitions	Cinema and concert	Socializing with friends and relatives	Volunteer work	Political engagement	Interest in politics
OPAL access area in 1998	-0.082** (0.034)							
Broadband Internet access (DSL) at home		1.426* (0.833)	1.205 (0.834)	0.937 (0.738)	0.719 (0.702)	0.982 (0.822)	0.739 (0.811)	0.866 (0.565)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipality controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1 st -stage <i>F</i> -statistic of excluded instrument	5.455	5.455	4.665	4.506	4.466	4.672	5.121	4.977
Robust exogeneity test: <i>F</i> -statistic		8.375	4.506	2.490	1.399	2.270	1.041	3.318
<i>p</i> -value		0.004	0.034	0.115	0.237	0.133	0.308	0.069
<i>N</i>	2,869	2,869	2,938	2,936	2,919	2,921	2,914	2,942
<i>R</i> ²	0.152							
Wald chi ²		42,918.62	5,079.01	2,117.82	2,698.29	15,398.02	75,779.98	6,450.54
Prob > chi ²		0.000	0.000	0.000	0.000	0.000	0.000	0.000

2SLS regressions. The first column reports first-stage results (for the specification with the social capital index); the other columns report second-stage results of separate 2SLS regressions. Dependent variable of the second-stage models (*z*-standardized, average 2007-2009 minus average 1999/2001) reported on top of each column. Variables refer to first differences (2008 minus 2001) unless noted otherwise. Sample: all individuals in SOEP 2008 having lived in East Germany in 2001 with available information on the respective social capital variable also in SOEP 2001 and living in households located not more than 4.2 km from the closest node in 2001. Individual controls included in each model: differences in marital status, in the number of children living in the household, in secondary and university education, in occupational status, in house/flat ownership, and in log net household income. Municipality controls included in each model: differences in the share of females, in the share of working-age population, in the share of individuals aged 65 and older, in the share of unemployed persons, and in the net migration rate. Robust standard errors clustered at the level of the telephone access area in parentheses. *** 1%, ** 5%, and * 10% level of significance. Data source: SOEP 1999, 2001, 2007, 2008 and 2009.