

The COVID-19 consumption game-changer:  
Evidence from a large-scale multi-country survey

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## Online Appendix

1. Descriptive statistics
2. Representativeness of the data
3. Additional results

### 1 Descriptive Statistics

<b>Sample Size</b>		
France	1,500	20 %
Germany	1,500	20 %
Italy	1,500	20 %
The Netherlands	1,500	20 %
Spain	1,501	20 %
Total	7,501	100 %

Table A1: Number of observations by country

Country		household size					education		
		age (1)	male (2)	children (3)	adults (4)	total (5)	low (6)	middle (7)	high (8)
France	mean	50.85	0.48	1.43	1.06	2.4	0.25	0.44	0.31
	st. dev	17.90	0.50	0.78	0.88	1.16	0.43	0.5	0.46
	N	1500	1500	1176	1500	1500	1500	1500	1500
Germany	mean	50.97	0.49	1.37	0.94	2.21	0.2	0.55	0.25
	st. dev	17.04	0.50	0.76	0.86	1.13	0.40	0.50	0.43
	N	1500	1496	1106	1500	1500	1500	1500	1500
Italy	mean	50.44	0.49	1.44	1.56	2.96	0.41	0.43	0.17
	st. dev	16.91	0.50	0.75	0.99	1.14	0.49	0.49	0.37
	N	1500	1499	1380	1500	1500	1500	1500	1500
The Netherlands	mean	50.24	0.50	1.41	1.02	2.33	0.26	0.41	0.32
	st. dev	17.23	0.50	0.85	0.99	1.25	0.44	0.49	0.47
	N	1500	1500	1109	1500	1500	1500	1500	1500
Spain	mean	48.49	0.49	1.46	1.53	2.96	0.41	0.26	0.34
	st. dev	15.39	0.50	0.76	0.98	1.15	0.49	0.44	0.47
	N	1501	1500	1377	1501	1501	1501	1501	1501
Total	mean	50.2	0.49	1.42	1.22	2.57	0.31	0.42	0.28
	st. dev	16.93	0.50	0.78	0.98	1.21	0.46	0.49	0.45
	N	7501	7495	6148	7501	7501	7501	7501	7501

Notes: Column (1) reports the average age of the household, Column (2) the fraction of male households. Column (3)-(5) report the households' average number of children younger than 14 years, the average number of adults, and the average number of people within a household. Columns (6)-(8) report the fraction of households having attained low, middle, and high education levels, respectively.

Table A2: Descriptive socio-economic statistics by country I

Country	employment statistics					financial statistics	
		employment	not in labor force	unemployment rate	past spell of unemployment	savings	income satisfaction
		(1)	(2)	(3)	(4)	(5)	(6)
France	mean	0.5	0.45	0.06	0.19	0.65	3.16
	st. dev	0.5	0.5	0.23	0.39	0.48	1.23
	N	1443	1443	1443	1481	1351	1469
Germany	mean	0.54	0.43	0.03	0.13	0.69	3.3
	st. dev	0.5	0.49	0.17	0.34	0.46	1.19
	N	1460	1460	1460	1470	1354	1454
Italy	mean	0.4	0.48	0.12	0.3	0.64	2.59
	st. dev	0.49	0.5	0.32	0.46	0.48	1.04
	N	1426	1426	1426	1468	1270	1451
The Netherlands	mean	0.47	0.47	0.05	0.19	0.67	3.51
	st. dev	0.5	0.5	0.22	0.4	0.47	1.19
	N	1454	1454	1454	1473	1268	1456
Spain	mean	0.55	0.32	0.13	0.39	0.64	3.03
	st. dev	0.5	0.47	0.34	0.49	0.48	1.16
	N	1464	1464	1464	1471	1295	1455
Total	mean	0.49	0.43	0.08	0.24	0.66	3.12
	st. dev	0.5	0.5	0.27	0.43	0.47	1.2
	N	7247	7247	7247	7363	6538	7285

Notes: Column (1) reports the fraction of households in paid work, Column (2) the fraction not being part of the labor force, and Column (3) the fraction being unemployed. Column (4) reports the fraction of households having experienced an unemployment spell over the past 5 years. The survey question is “Have you been unemployed and seeking work for more than 3 months in the last 5 years?”. Column (5) reports the fraction of households that have the ability to make an unexpected payment of one-month of income. The survey question is “Does your household have savings (excluding the value of your home) worth at least one month of the total net income of your household?” (1=yes, 0=no). Column (6) reports households’ perception of how they cope financially with their income. The survey question is “Which of these descriptions comes closest to how you feel about your household’s income nowadays?” The variable is numeric, 5 categories: 1= Very difficult on present income and insufficient to cover all the expenses; 2= Difficult on present income; 3= Coping on present income; 4= Living comfortably on present income, but unable to save; 5= Living comfortably on present income and able to save.

Table A3: Descriptive employment and financial statistics by country II

Country	mean	st. dev	p10	p25	p50	p75	p90	N
France	5.44	2.79	1	3	6	8	9	1384
Germany	5.60	2.81	1	3	6	8	9	1329
Italy	5.83	2.62	2	4	6	8	9	1369
The Netherlands	6.08	2.70	2	4	6	8	10	1283
Spain	6.03	2.78	2	4	6	9	10	1323
Total	5.79	2.75	2	4	6	8	10	6688

Notes: The survey question is “Can you tell us which value describes your household’s yearly total income, after tax and compulsory deductions, from all sources?” The reported income is then equivalized using the OECD formula on the grounds of family composition and compared with the empirical equivalized household income distribution in the given country to attribute the respondent to one of the 10 income deciles. The variable is then numeric, 10 categories. The non-adjusted income brackets are:

In France: 1= Less than 13,300 euros; 2= Between 13,301 and 19,800 euros; 3= Between 19,801 and 23,000 euros; 4= Between 23,001 and 26,700 euros; 5= Between 26,701 and 30,600 euros; 6= Between 30,601 and 34,900 euros; 7= Between 34,901 and 39,200 euros; 8= Between 39,201 and 44,800 euros; 9= Between 44,801 and 54,100 euros; 10= More than 54,100 euros.

In Germany: 1= Less than 13,670 euros; 2= Between 13,671 and 18,740 euros; 3= Between 18,741 and 23,360 euros; 4= Between 23,361 and 27,910 euros; 5= Between 27,911 and 32,900 euros; 6= Between 32,901 and 38,420 euros; 7= Between 38,421 and 45,040 euros; 8= Between 45,041 and 53,680 euros; 9= Between 53,681 and 68,030 euros; 10= More than 68,030 euros.

In Italy: 1= Less than 9,000 euros; 2= Between 9,001 and 14,000 euros; 3= Between 14,001 and 17,500 euros; 4= Between 17,501 and 21,000 euros; 5= Between 21,001 and 25,000 euros; 6= Between 25,001 and 29,500 euros; 7= Between 29,501 and 36,000 euros; 8= Between 36,001 and 43,500 euros; 9= Between 43,501 and 56,000 euros; 10= More than 56,000 euros.

In The Netherlands: 1= Less than 13,000 euros; 2= Between 13,001 and 17,000 euros; 3= Between 17,001 and 20,000 euros; 4= Between 20,001 and 24,000 euros; 5= Between 24,001 and 28,000 euros; 6= Between 28,001 and 33,000 euros; 7= Between 33,001 and 39,000 euros; 8= Between 39,001 and 46,000 euros; 9= Between 46,001 and 58,000 euros; 10= More than 58,000 euros.

In Spain: 1= Less than 9,350 euros; 2= Between 9,350 and 12,000 euros; 3= Between 12,001 and 15,000 euros; 4= Between 15,001 and 18,000 euros; 5= Between 18,001 and 21,600 euros; 6= Between 21,601 and 26,400 euros; 7= Between 26,401 and 30,000 euros; 8= Between 30,001 and 34,200 euros; 9= Between 34,201 and 44,400 euros; 10= More than 44,400 euros.

Table A4: Descriptive household income statistics by country III

	worry finance	worry job	past unemployment experience	unemployment prediction
worry finance	1.0000			
worry job	0.5538	1.0000		
past unemployment	0.2159	0.3127	1.0000	
unemployment prediction	0.2409	0.2548	0.1714	1.0000

Notes: Worry finance is measured by the survey question is “How concerned are you about the effects that the coronavirus might have for the financial situation your household?” Answer options: 0-10. 0 (= not at all concerned) to 10 (= extremely concerned). Worry job is measured by the survey question is “How worried are you about losing your job in the near future?” Answer options: 1-3. 1= not worried; 2 = somewhat worried; 3 = very worried. Past unemployment experience measured by the survey question is “Have you been unemployed and seeking work for more than 3 months in the last 5 years?” Answer options: yes/no. Unemployment prediction is measured using the two survey questions “Please indicate what you think the unemployment rate was before the crisis in your country” (point prediction) and “Please indicate what you think the unemployment rate will be in your country in one year from now” (point prediction). We use the difference of the two unemployment point predictions (one year from now – before the crisis).

Table A5: Correlations of explanatory variables

## 2 Representativeness of the data

This section investigates the representativeness of our sample. We have set ‘hard quotas’ for the dimensions of gender, age, education, and region of residence. Appendix Table A6, A7 and A8 compare the key socio-economic characteristics of the samples to nationally representative statistics from Eurostat and the OECD. Appendix Table A6 and A7 show that our sample matches the nationally representative statistics in all five countries when comparing the gender distribution between men and women, the age distribution, the distribution on educational attainment, as well as the region of residence.

In addition, occupation and income were set as ‘soft quotas’, which means that there could be some flexibility, up to 10 p.p., in achieving the required distributions. Appendix Table A8 shows that the sample distribution is hence roughly comparable to the employment distribution across occupational groups in the EU (Q3 2020), although some categories (e.g., "Clerical support workers" and "Service and sales workers" occupations) are over-represented. However, it is important to note that our response rate for the occupational employment question was low (missing values: 3,931/7,501), hence the discrepancy. Figure A12 reports on the representativeness of our sample along the income dimension. In most countries, the high-income category is underrepresented—the under-coverage of top incomes (the missing rich) is a known issue in the literature of household finance and often the case in household surveys.

Furthermore, we have also looked into the representativeness of our sample beyond these five dimensions. When it comes to household size, our sample includes slightly larger households compared to the national statistics from Eurostat. This observation holds in all countries. The unemployment rate from Eurostat for June 2020 differs slightly to the July 2020 unemployment rate prevailing in our sample. One explanation for this could be the different measurement of the unemployment rate between the sample and the nationally representative statistics and the difference age spans considered. For the sample, the unemployment rate measures the fraction of unemployed respondents (aged 18-74). It includes individuals that are actively looking for a job and those who want a job but who are not actively looking for one. However, Eurostat defines unemployed persons as persons aged 15 to 74 who are without work, are available to start work within the next two weeks, and have actively sought employment at some time during the previous four weeks. The unemployment rate is the number of people unemployed as a percentage of the labor force. In June 2020, the unemployment rate in the Euro area was 8.0 percent compared to 8.2 percent for our whole sample in July 2020. (Source: Eurostat; [unertm]).

	FRA		DEU		NLD		ITA		ESP	
	Sample	OECD	Sample	OECD	Sample	OECD	Sample	OECD	Sample	OECD
<b>Male (%)</b>	48	48	49	49	50	50	49	49	49	49
<b>Household size (avg.)</b>	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat
	2.4	2.1	2.2	2.0	2.3	2.1	2.9	2.3	2.9	2.5
<b>Age (%)</b>	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat
18-34	24.33	25.55	24.20	24.50	25.93	27.23	21.13	21.22	23.58	22.39
35-54	34.20	33.29	33.47	32.29	34.20	32.73	36.80	35.03	34.84	38.47
55+	41.47	41.16	42.33	43.20	39.87	40.03	42.07	43.75	41.57	39.14
<b>Education (%)</b>	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat
low	25	22.3	20	20.1	26	24.0	41	39.0	41	38.2
middle	44	42.8	55	54.5	41	39.7	43	42.8	26	25.3
high	31	33.8	25	26.0	32	34.8	17	17.4	34	35.1
<b>Unemployment rate (%)</b>	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat	Sample	Eurostat
	6.1	7.4	3.4	3.9	5.5	4.3	12.2	9.5	13.5	15.9

Notes: The table shows the mean demographics of the July 2020 sample, which only includes individuals at least 18 years old. The nationally representative samples are collected from the following sources. The fraction of men as the % of the total population for 2020 (Source: OECD statistics, data extracted on September 7th 2021 10:21 UTC (GMT) from OECD.Stat). The average household size for 2019 (Source: Eurostat; EU-SILC survey [*ilc\_vph01*]). We computed the age distribution using the raw data on the total number of the population by age for 2020 (Source: Eurostat; Population on January 1st, 2020 by age [*demo\_p\_jan*]). For education, we use the ISCED classification for 2019. Low education measures the fraction having attained less than primary, primary, and lower secondary education (levels 0-2). Middle education measures the fraction having attained upper secondary and post-secondary non-tertiary education (levels 3 and 4). High education measures the fraction having attained tertiary education (levels 5-8). Source: Eurostat; population by educational attainment level (%); main indicators [*edat\_ife03*]. Unemployment statistics: The measurement of the unemployment rate differs between the sample and the nationally representative statistics. For the sample, the unemployment rate measures the fraction of unemployed respondents (aged 18-74). It includes individuals that are actively looking for a job and those that are wanting a job but who are not actively looking for a job. However, Eurostat defines unemployed persons as persons aged 15 to 74 who are without work, are available to start work within the next two weeks, and have actively sought employment at some time during the previous four weeks. The unemployment rate is the number of people unemployed as a percentage of the labor force. In June 2020, the unemployment rate in the Euro area was 8.0 percent compared to 8.2 percent for our sample in July 2020. (Source: Eurostat; [*une\_r\_tm*]).

Table A6: Representativeness of the sample by country (I)

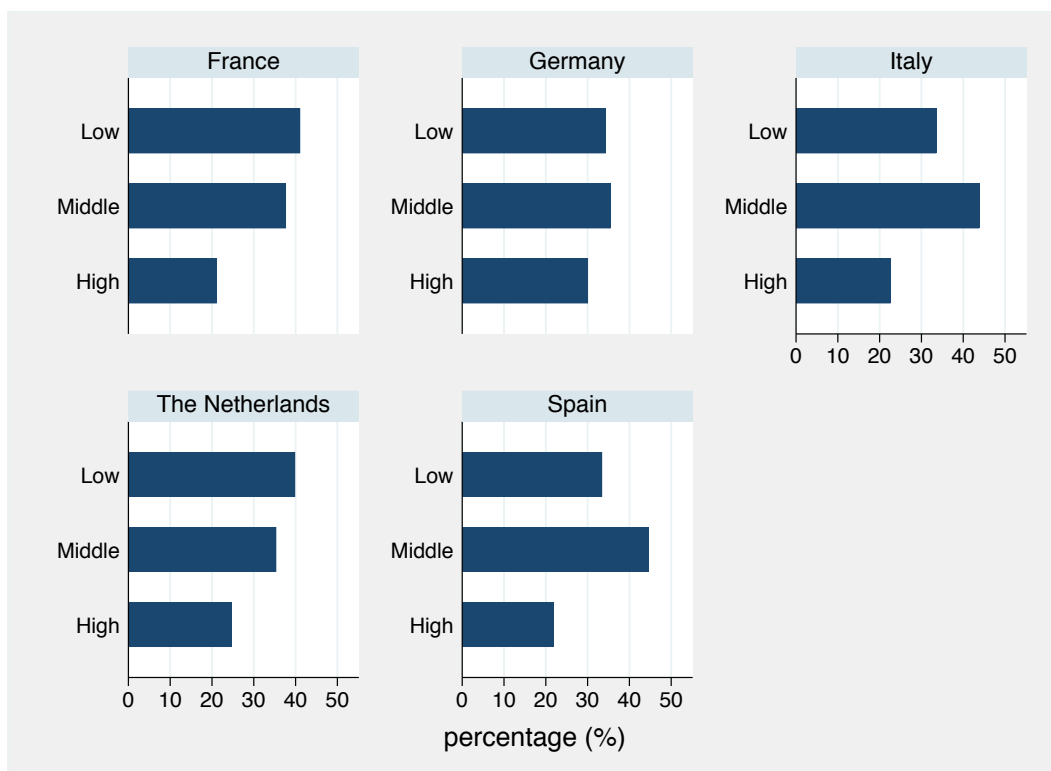




	Sample	Eurostat
Managers	6.9	5.0
Professionals	14.8	20.3
Technicians and associate professionals	13.8	16.1
Clerical support workers	25.4	9.7
Service and sales workers	17.3	15.8
Skilled agricultural, forestry and fishery workers	1.1	3.6
Craft and related trades workers	8.6	11.5
Plant and machine operators, and assemblers	3.8	7.5
Elementary occupations	6.8	8.4
Armed forces	1.5	0.6

Notes: The table shows the employment distribution by occupational group (in % of the total employment). The first column reports the distribution for our July 2020 sample, which only includes individuals at least 18 years old. The second column reports the representative sample for the European Union (Source: Eurostat; Q3 2020; [*lfsq\_eisn2*]).

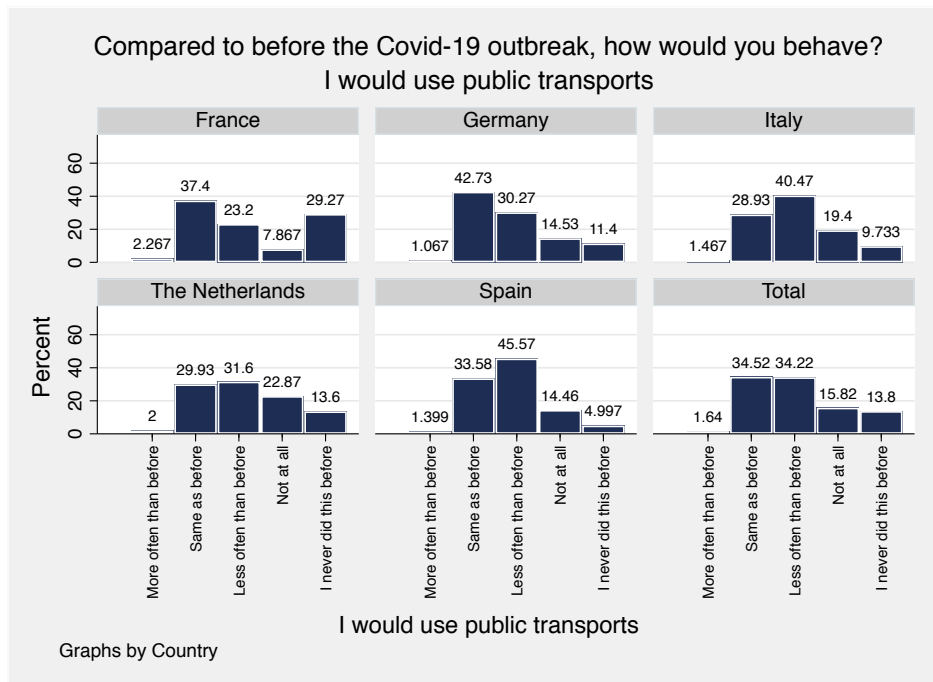
Table A8: Employment distribution by occupational group



Notes: The low income category represents the first three deciles, the middle income category gathers the next four deciles and the high income category the last three deciles. See Table A4 for the deciles per country. Hence, the empirical distribution of each category in the general population of each country is, respectively, 30, 40 and 30% (Source: OECD equivalized household income distribution on the grounds of family composition; Q3 2020).

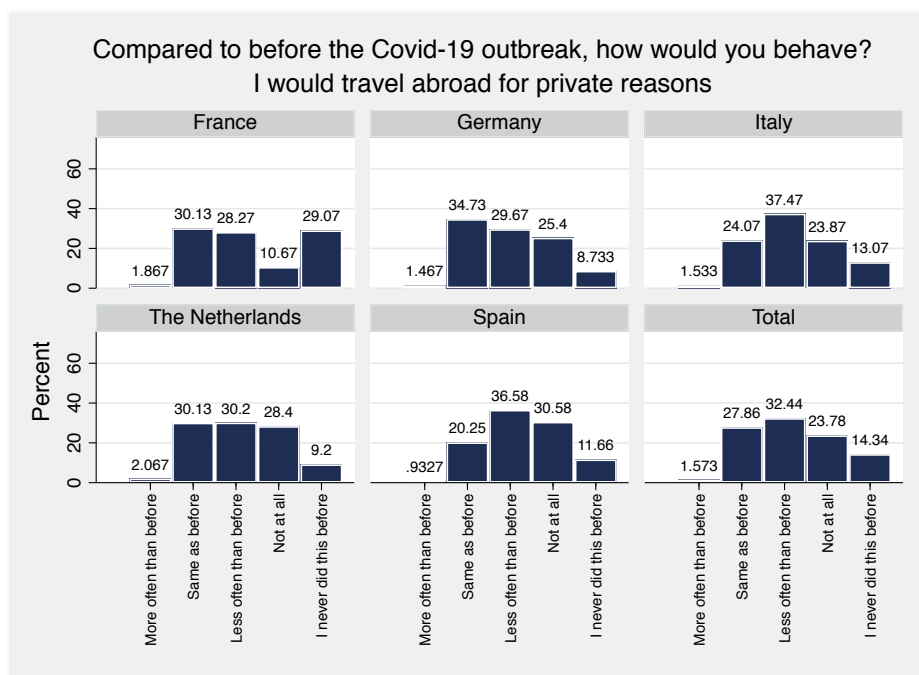
Figure A12: Distribution of household income by country

### 3 Additional Results



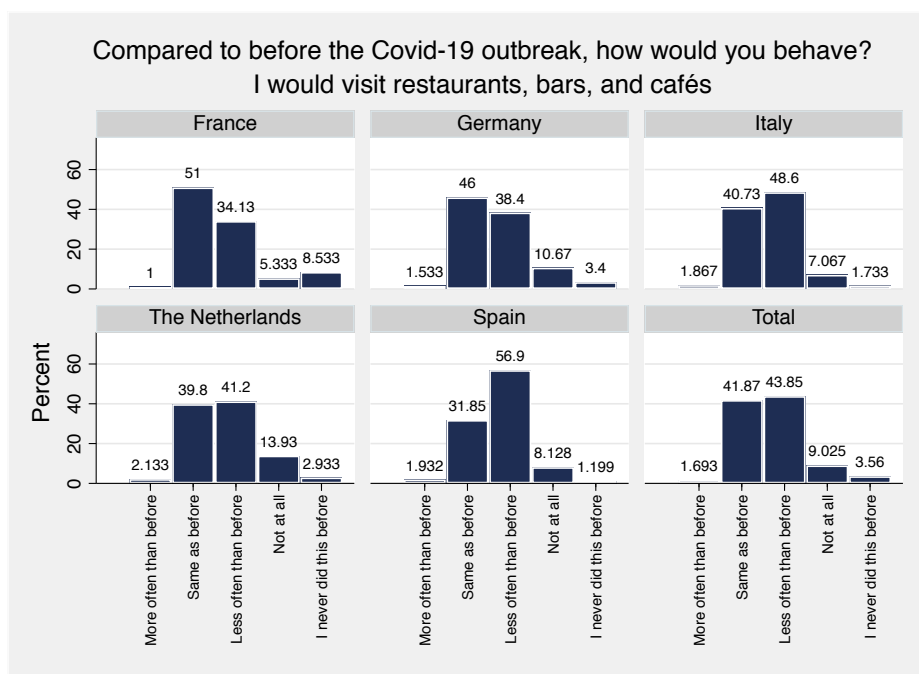
The survey question is: Compared to before the COVID-19 outbreak, how would you behave? I would use public transports: 1= more often than before; 2= same as before; 3= less often than before; 4= not at all; 5= I never did this before.

Figure A13: Usage of public transports



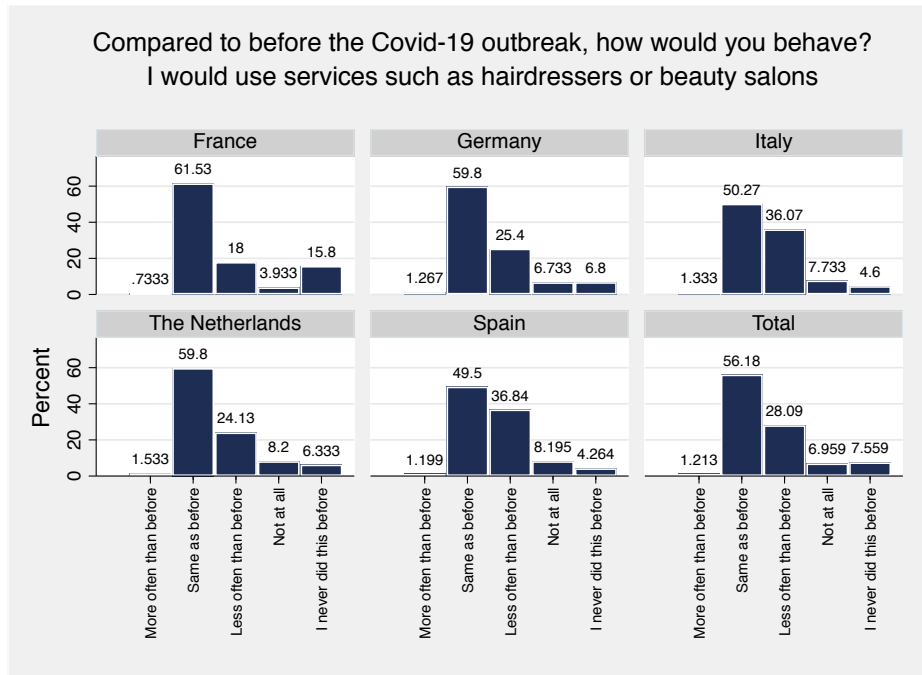
The survey question is: Compared to before the COVID-19 outbreak, how would you behave? I would travel abroad for private reasons: 1= more often than before; 2= same as before; 3= less often than before; 4= not at all; 5= I never did this before. .

Figure A14: Traveling abroad for private reasons



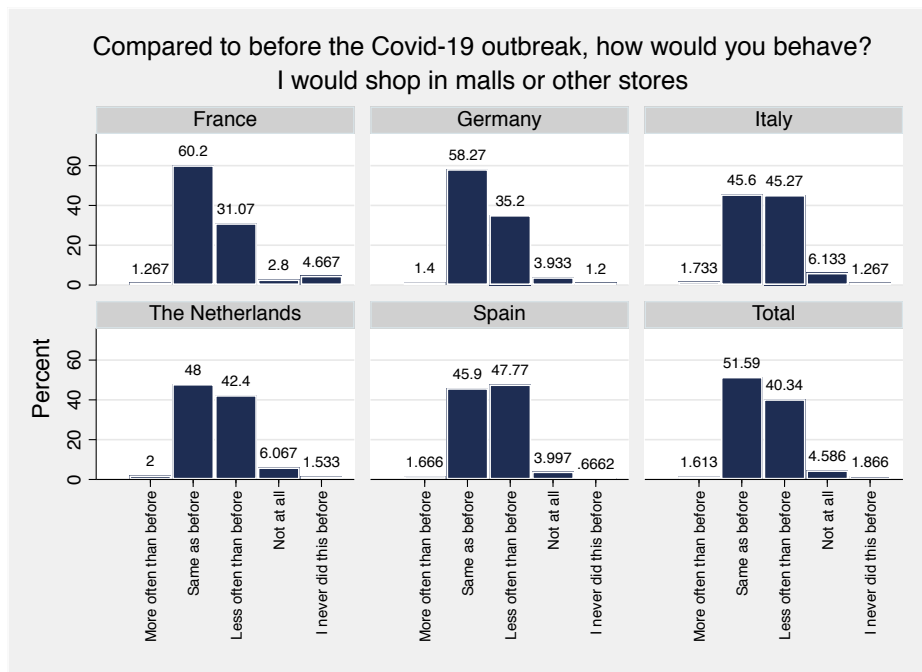
The survey question is: Compared to before the COVID-19 outbreak, how would you behave? I would visit restaurants, bars, and cafes: 1= more often than before; 2= same as before; 3= less often than before; 4= not at all; 5= I never did this before.

Figure A15: Visiting restaurants, bars, and cafes



The survey question is: Compared to before the COVID-19 outbreak, how would you behave? I would use services such as hairdressers or beauty salons: 1= more often than before; 2= same as before; 3= less often than before; 4= not at all; 5= I never did this before. Responses =5 are dropped and dummy created.

Figure A16: Usage of services such as hairdressers or beauty salons



The survey question is: Compared to before the COVID-19 outbreak, how would you behave? I would shop in malls or other stores: 1= more often than before; 2= same as before; 3= less often than before; 4= not at all; 5= I never did this before.

Figure A17: Shopping in malls or other stores

	standard statistics			education			employment statistics			financial statistics			
	age	male	hh size	low	middle	high	emp.	not in LF	un-emp.	spell of unemp.	savings	income satisfaction	income
<b>Public transports</b>													
not missing it	50.26	0.53	2.58	0.29	0.45	0.26	0.48	0.43	0.08	0.21	0.67	3.12	5.84
wanting to save	40.95	0.53	2.94	0.32	0.39	0.28	0.58	0.29	0.13	0.39	0.52	2.65	5.45
not affordable	45.34	0.48	2.96	0.46	0.32	0.22	0.4	0.4	0.2	0.43	0.3	2.12	3.84
infection risk	51.56	0.46	2.64	0.28	0.4	0.31	0.49	0.44	0.07	0.24	0.72	3.22	6.28
	<b>standard statistics</b>			<b>education</b>			<b>employment statistics</b>				<b>financial statistics</b>		
	age	male	hh size	low	middle	high	emp.	not in LF	un-emp.	spell of unemp.	savings	income satisfaction	income
<b>Tourism</b>													
not missing it	53.31	0.58	2.52	0.27	0.47	0.25	0.47	0.48	0.05	0.18	0.72	3.28	5.93
wanting to save	43.34	0.52	2.85	0.29	0.4	0.3	0.62	0.29	0.09	0.32	0.66	2.85	5.78
not affordable	48.71	0.45	2.63	0.38	0.42	0.2	0.41	0.45	0.14	0.39	0.39	2.16	4.51
infection risk	52.25	0.45	2.6	0.26	0.41	0.33	0.49	0.45	0.06	0.21	0.76	3.39	6.53
	<b>standard statistics</b>			<b>education</b>			<b>employment statistics</b>				<b>financial statistics</b>		
	age	male	hh size	low	middle	high	emp.	not in LF	un-emp.	spell of unemp.	savings	income satisfaction	income
<b>Services</b>													
not missing it	48.32	0.49	2.68	0.31	0.45	0.24	0.49	0.44	0.07	0.23	0.68	3.08	5.59
wanting to save	43.54	0.46	3.01	0.37	0.36	0.28	0.56	0.32	0.11	0.36	0.58	2.64	5.42
not affordable	46.82	0.33	2.6	0.4	0.38	0.22	0.38	0.45	0.17	0.41	0.32	2.02	4.2
infection risk	51.07	0.44	2.71	0.31	0.39	0.3	0.49	0.43	0.08	0.25	0.7	3.12	6.14
	<b>standard statistics</b>			<b>education</b>			<b>employment statistics</b>				<b>financial statistics</b>		
	age	male	hh size	low	middle	high	emp.	not in LF	un-emp.	spell of unemp.	savings	income satisfaction	income
<b>Hospitality</b>													
not missing it	51.97	0.53	2.57	0.29	0.46	0.25	0.46	0.48	0.06	0.19	0.7	3.23	5.82
wanting to save	44.2	0.46	2.81	0.34	0.39	0.26	0.56	0.34	0.1	0.35	0.59	2.71	5.38
not affordable	49.11	0.41	2.63	0.4	0.41	0.19	0.38	0.45	0.17	0.38	0.36	2.09	4.3
infection risk	52.36	0.45	2.6	0.29	0.38	0.33	0.48	0.46	0.06	0.22	0.74	3.32	6.29
online alternatives	40.22	0.48	2.77	0.25	0.42	0.33	0.58	0.32	0.11	0.28	0.56	2.69	5.65
	<b>standard statistics</b>			<b>education</b>			<b>employment statistics</b>				<b>financial statistics</b>		
	age	male	hh size	low	middle	high	emp.	not in LF	un-emp.	spell of unemp.	savings	income satisfaction	income
<b>Retail</b>													
not missing it	51.97	0.46	2.58	0.26	0.44	0.3	0.49	0.46	0.05	0.19	0.7	3.19	5.96
wanting to save	43.07	0.49	2.89	0.33	0.39	0.28	0.56	0.3	0.13	0.35	0.55	2.68	5.52
not affordable	46.1	0.36	2.77	0.42	0.37	0.21	0.35	0.46	0.19	0.45	0.32	1.92	4.12
infection risk	52.28	0.42	2.57	0.3	0.39	0.31	0.47	0.47	0.06	0.22	0.71	3.27	6.19
buy more online	45.37	0.42	2.84	0.26	0.42	0.32	0.6	0.34	0.06	0.24	0.71	3.12	6.09

Table A9: Descriptive socio-economic household statistics by sector and by reason for consumption reduction

	experiences		macro expectations		feelings about government		Psychological factors	
	deaths/1M pop	infection rate	unempl	crisis duration	trust	satisfaction	concern	job loss
<b>Public transports</b>								
not missing it	413.36	0.07	8.42	3.41	2.98	2.93	1.65	5.63
wanting to save	450.09	0.12	8.56	3.53	3.27	3.2	1.98	6.82
not affordable	440.34	0.18	10.97	3.49	3.37	3.41	2.23	6.95
infection risk	453.5	0.09	8.82	3.79	3.07	2.97	1.79	6.26
<b>Tourism</b>								
not missing it	387.66	0.08	7.59	3.45	2.91	2.95	1.58	5.42
wanting to save	453.28	0.1	7.78	3.49	3.25	3.11	1.89	6.58
not affordable	441.87	0.1	10.45	3.53	3.31	3.25	2.18	7.23
infection risk	437.76	0.1	8.44	3.81	2.97	2.87	1.72	5.98
<b>Services</b>								
not missing it	424.14	0.09	3.49	3	2.95	1.67	1.67	5.91
wanting to save	476.12	0.14	9.09	3.62	3.33	3.16	1.98	6.93
not affordable	440.69	0.12	11.65	3.62	3.28	3.32	2.31	7.36
infection risk	456.02	0.11	9.46	3.88	3.18	3.09	1.89	6.59
<b>Hospitality</b>								
not missing it	401.91	0.09	7.99	3.56	2.85	2.75	1.59	5.53
wanting to save	461.48	0.11	8.48	3.55	3.22	3.11	1.98	6.85
not affordable	445.87	0.13	11.09	3.61	3.33	3.26	2.24	7.25
infection risk	445.09	0.1	8.35	3.86	3.03	2.95	1.78	6.16
online alternatives	431.35	0.12	10.57	3.58	3.07	3.35	1.68	6.07
<b>Retail</b>								
not missing it	407.98	0.09	7.35	3.58	2.93	2.86	1.65	5.72
wanting to save	466.63	0.12	8.67	3.5	3.23	3.09	1.93	6.87
not affordable	468.78	0.11	12.36	3.56	3.4	3.38	2.37	7.78
infection risk	437.26	0.11	8.5	3.86	2.99	2.91	1.79	6.14
online alternatives	450.91	0.13	9.88	3.69	3.11	3.04	1.71	6.17

Table A10: Descriptive behavioral household statistics by sector and by reason for consumption reduction