A Comparison of Non-Response Patterns over Time in Countries that Switched to Self-Completion at Round 10

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1. Introduction

This paper addresses a concern regarding the impact of changing data collection methods, specifically from face-to-face to self-completion, on non-response patterns and, hence, comparability. To investigate this, we examine nine countries that adopted self-completion in Round 10 and analyse response trends in comparison to Rounds 8 and 9 (either or both). The variables used to illustrate these patterns vary across countries. To enable these comparisons, we use auxiliary variables present in the Round 10 sample design data file and in at least one of the Round 8 or 9 files.

The analysis presented in this paper is purely descriptive, designed to provide a context for discussion about possible effects of the change in data collection mode on sample composition and whether it may be necessary to take measures to address this. We primarily compare response rate patterns across different rounds. Additionally, we present comparisons of sample composition. However, this latter comparison serves as a less direct indicator of the effect of changes in non-response patterns, as sample composition disparities can result not only from non-response but also from genuine temporal changes in the population being studied and from sampling variation.

As a rough indicator of patterns, we highlight subgroup response rates that deviate from the national rate by over three standard errors. Cells are shaded green if the subgroup response rate is above the national average and brown if it is below the national average. This indicator is provided purely for visual assistance in identifying patterns. It does not account for subgroup sample size or clustering; thus, it is not an indicator of statistical significance.

We present comparisons for five types of auxiliary variables, as follows:

(1) Region: Austria, Cyprus, Germany, Israel[1], Latvia, Poland, Serbia, Spain, Sweden.

(2) Sex: Germany and Spain.

(3) Age: Germany, Spain, Sweden.

(4) Rurality and/or municipality size: Cyprus, Germany, Latvia, Serbia, Spain.

(5) Other variables: citizenship in Germany and marital status in Sweden.

2. Comparisons by Region

It appears that overall the switch to self-completion may have increased the variation between regions in response rate in some countries (Austria, and arguably Germany and Poland) but reduced it in others (Serbia, Sweden, and arguably, Spain), while having little effect in yet others. The patterns of non-response remain broadly similar before and after the switch, in the sense that regions with relatively high/low response rates at R8/R9 continued to have relatively high/low response rates at R10. This appears to be the case even for the countries where the variation in response rates was affected. There are, however, exceptions. For example, The Salzburg region had the highest response rate in Austria at R8 and one of the lowest at R10; in Israel, "Jewish USSR", "Jewish orthodox" and "Jewish traditional" regions had amongst the highest reponse rates at R9 but some of the lowest at R10, while the reverse was true for "non-Jewish other" regions; the Centralny region of Poland had one of the lowest response rates at R8 and R9 but the highest at R10.

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[1] Israel used an address-based sample at R10 but have switched to an individual named sample for R11, which may improve the performance of a self-completion approach.

Despite the significant decline in response rates in Cyprus (table 2.2), dropping from 54.9% in Round 9 to 14.7% in Round 10, response rate differences between districts remained remarkably stable, with Nicosia and Limasol exhibiting the highest response rates both before and after the mode switch.

Among the countries included in this report, Germany is the only one where national response rates in round 10 surpass those of the preceding two ESS waves (Table 2.3). Differences in the regional distribution of response rates are, however, minor.

2.1 Austria – Region (NUTS2)

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
AT34 Vorarlberg	4.7	4.6	4.2	53.4	53.5	30.5
AT33 Tirol	7.9	8.0	7.7	50.3	49.5	29.2
AT32 Salzburg	7.0	6.5	5.8	58.6	50.2	29.3
AT31 Oberösterreich	17.3	16.4	18.4	53.7	50.3	35.1
AT21 Kärnten	6.6	6.6	6.7	51.0	53.6	34.8
AT22 Steiermark	14.0	15.5	14.3	52.3	54.5	33.3
AT11 Burgenland	3.5	3.4	3.0	54.6	54.5	29.2
AT12 Niederösterreich	19.2	18.3	20.7	52.9	49.5	35.1
AT13 Wien	19.8	20.6	19.1	50.4	49.0	28.9
AT Total				**52.5**	**50.9**	**32.2**

2.2 Cyprus – Region (districts)

	Distribution		Response Rate	
	R9	R10	R9	R10
1 Nicosia	43.4	47.5	57.8	17.8
2 Limasol	32.4	26.9	59.8	14.1
3 Larnaka	12.8	14.0	49.5	12.1
4 Pafos	7.4	6.5	44.6	9.1
5 Ammochostos	4.0	5.1	38.7	13.9
CY Total			**54.9**	**14.7**

2.3 Germany – Region (NUTS1)

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
1 Holstein	3.2	3.6	3.9	32.2	28.2	41.0
2 Hamburg	1.1	2.3	2.1	22.2	31.8	38.9
3 Niedersachsen	8.0	11.7	10.2	32.3	33.5	40.0
4 Bremen	0.8	0.3	0.5	26.4	18.6	39.2
5 Nordrhein-Westfalen	17.5	20.7	20.2	30.9	26.2	34.2
6 Hessen	6.4	6.6	7.2	32.2	23.9	35.7
7 Sachsen	4.1	4.6	5.2	30.6	26.5	38.5
8 Baden-Württemberg	10.5	11.8	13.9	31.5	24.5	38.3
9 Bayern	13.0	17.1	16.4	31.4	29.8	38.1
10 Saarland	0.8	1.2	1.5	24.0	31.4	36.6
11 Berlin	4.4	3.9	4.4	29.1	23.2	36.3
12 Brandenburg	5.9	2.8	3.0	29.5	25.7	36.6
13 Mecklenburg-Vorp'n	4.4	2.3	1.7	32.6	31.4	41.1
14 Rheinland-Pfalz	9.7	5.9	5.1	30.7	31.8	42.0
15 Sachsen-Anhalt	5.2	2.8	2.4	28.4	26.3	29.2
16 Thüringen	5.2	2.6	2.4	28.3	28.2	35.3
DE Total				**30.6**	**27.6**	**37.3**

2.4 Israel – Region (Areas: combination of religion, settlement size and education level)

	Distribution		Response Rate	
	R8	R10	R8	R10
1 Jewish Native Secular Big cities Basic Ed.	5.2	3.1	79.0	19.9
2 Jewish Native Secular Big cities High Ed.	4.2	3.3	65.6	16.7
3 Jewish Native Secular Central cities Basic Ed.	2.1	1.2	77.1	18.0
4 Jewish Native Secular Central cities High Ed.	6.1	5.0	69.5	22.1
5 Jewish Native Secular Small cities Basic Ed.	9.0	5.1	76.3	14.5
6 Jewish Native Secular Small cities High Ed.	16.7	15	73.7	24.7
7 Jewish USSR	3.0	2.4	80.2	22.6
8 Jewish orthodox	6.2	5.0	76.8	25.4
9 Jewish traditional	7.0	4.2	81.7	24.5
10 Missing	20.1	26.7	76.6	38.8
11 Mixed	6.2	6.11	72.1	31.1
12 Non-Jewish Druse	1.7	1.2	62.9	31.2
13 Non-Jewish Other	12.6	21.8	70.8	78.6
IL Total			**74.4**	**30.5**

2.5 Latvia – Region (NUTS3)

	Distribution		Response Rate	
	R9	R10	R9	R10
1 Kurzeme	12.8	11.4	41.7	21.9
2 Latgale	13.5	10.9	38.2	19.5
3 Riga	21.1	35.1	24.2	25.5
4 Pieriga	18.4	21.4	38.1	26.3
5 Vidzeme	17.7	9.2	70.0	23.0
6 Zemgale	16.5	12.0	55.3	24.8
LV Total			**38.9**	**24.1**

2.6 Poland – Region (NUTS1)

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
1 Centralny	19.7	19.5	12	64.4	55.7	46.5
2 Poludniowy	20.8	24.9	19.9	69.4	73.4	36.5
3 Wschodni	20.1	18.8	14.8	80.2	65.1	40.3
4 Polnocno-zachodni	15.4	13.1	14.6	67.1	49.9	34.2
5 Poludniowo-zachodni	9.4	9.3	9.5	68.0	58.6	35.6
6 Polnocny	14.5	14.5	14.2	68.8	58.9	35.1
7 Wojewodztwo Mazowieckie	-	-	15.1	-	-	40.1
PL Total				**69.6**	**60.8**	**38**

NUTS1 2015 version has been used for R8 and R9. In R10, the 2018 version was used.

2.7 Serbia – Region (NUTS2)

	Distribution		Response Rate	
	R9	R10	R9	R10
1 Belgrade	21.5	24.9	51.1	33.6
2 Vojvodina	24.3	30.1	52.0	36.4
3 Sumadija	30.0	26.3	66.3	34.6
4 Southern	24.4	18.8	69.7	32.5
RS Total			**59.2**	**34.4**

2.8 Spain – Region (NUTS2)

	Distribution				Response Rate		
	R8	R9	R10		R8	R9	R10
1 Andalucía	19.6	18.8	16.7		72.9	57.3	35.5
2 Aragón	3.3	3.6	2.8		83.1	68.2	39.2
3 Asturias	2.8	2.3	2.1		80.9	52.0	35.3
4 Baleares	2.5	1.8	2.1		64.9	50.9	42.9
5 Canarias	4.2	4.0	3.0		63.4	52.3	28.1
6 Cantabria	1.2	1.4	1.4		72.7	61.5	44.1
7 Castilla – La Mancha	4.4	5.7	4.3		64.9	69.9	39.3
8 Castilla y León	6.0	5.7	6.5		75.0	56.2	47.7
9 Cataluña	13.9	13.0	16.2		58.8	42.7	37.8
10 Comun. Valenciana	10.4	9.8	9.5		67.2	49.7	33.7
11 Extremadura	2.6	2.9	2.2		75.0	64.0	33.9
12 Galicia	6.8	8.0	6.3		77.0	70.5	39.5
13 Madrid	12.5	13.2	14.7		62.6	49.2	39.1
14 Murcia	2.7	2.5	3.4		61.6	44.6	38.8
15 Navarra	1.4	1.3	1.5		70.0	51.2	46.4
16 País Vasco	4.8	4.9	5.9		66.2	54.3	47.0
17 La Rioja	0.5	0.7	0.9		(-)	(-)	54.8
18 Ceuta v Melilla	0.4	0.4	0.4		(-)	(-)	35.7
ES Total					**67.7**	**53.7**	**38.2**

(-) indicates fewer than 25 issued cases

2.9 Sweden – Region (NUTS2)

	Distribution				Response Rate		
	R8	R9	R10		R8	R9	R10
1 Stockholm	18.1	21.9	22.9		33.9	40.1	38.7
2 Östra Mellansverige	17.2	14.7	17.8		43.5	35.1	40.1
3 Småland med öarna	9.0	8.6	8.0		43.9	39.2	38.5
4 Sydsverige	15.2	14.2	14.1		43.2	40.1	37.8
5 Västsverige	18.4	19.7	19.8		38.3	39.0	39.0
6 Norra mellansverige	9.3	9.2	8.0		44.6	41.5	38.0
7 Mellersta Norrland	5.8	4.3	4.2		63.0	45.0	44.5
8 Övre Norrland	6.8	7.5	5.3		53.3	55.0	42.0
SE Total					**41.7**	**40.1**	**39.3**

3. Comparisons by Sex

In both Germany and Spain, response rates had been slightly higher for men than women in the face-to-face rounds, with this reversing in the self-completion R10. However, in all cases the response rate differences between men and women were small so any effects of mode are minor. H

3.1 Germany - Sex

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
Female	47.1	48.5	51.1	28.9	26.9	38.1
Male	52.9	51.5	48.9	33.0	28.2	36.6
DE Total				**31.0**	**27.6**	**37.3**

3.2 Spain - Sex

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
Female	50.1	49.1	52.6	67.1	52.9	39.1
Male	49.9	50.9	47.4	68.3	54.5	37.2
ES Total				**67.7**	**53.7**	**38.2**

4. Comparisons by Age

The relative representation of different age groups appears remarkably stable and unaffected by the switch in data collection modes, at least for the three countries for which this comparison could be made – Germany, Spain and Sweden.

In Germany (table 4.1), the highest response rates are for 55-74 year-olds, followed by 15-24 year-olds, with the lowest response rates being amongst those aged 75 or older. The pattern is similar in Spain (table 4.2), although there the 15-24 year-olds exhibit the highest overall response rates. In Sweden (table 4.3) the pattern is quite different with those aged 75 or older exhibiting amongst the highest response rates and those aged 15-24 amongst the lowest. However, in all cases these patterns hold true both before and after the mode switch.

4.1 Germany – Age Bands

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
15-24 years	13.8	13.5	12.8	37.0	32.5	39.3
25-34 years	13.0	13.5	14.0	27.9	25.1	34.7
35-44 years	13.9	12.9	13.4	31.7	24.2	34.4
45-54 years	19.9	17.3	15.5	32.3	26.7	36.0
55-64 years	18.1	18.8	19.8	32.6	30.7	42.0
65-74 years	12.4	14.2	14.5	33.5	33.4	42.6
75 years and above	9.0	10.0	10.1	22.2	22.1	31.6
DE Total				**31.0**	**27.6**	**37.3**

4.2 Spain – Age Bands

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
15-24 years	12.5	13.0	13.7	78.3	62.1	44.6
25-34 years	11.0	12.7	11.8	58.3	52.0	33.0
35-44 years	18.3	17.4	15.8	64.2	51.2	36.7
45-54 years	20.8	19.2	20.3	72.3	55.7	41.0
55-64 years	16.8	16.4	17.7	72.6	57.5	42.8
65-74 years	12.3	11.8	12.7	69.4	52.6	40.2
75 years and above	8.3	9.6	8.0	56.4	44.3	26.7
ES Total				**67.7**	**53.7**	**38.2**

4.3 Sweden – Age Bands

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
15-24 years	10.1	9.7	11.3	31.1	28.0	34.3
25-34 years	12.4	13.3	12.8	31.4	34.0	30.1
35-44 years	15.7	13.6	12.4	40.7	38.8	31.9
45-54 years	15.1	15.0	14.2	40.1	37.4	35.3
55-64 years	17.0	15.8	15.3	51.3	43.3	42.9
65-74 years	17.9	19.3	19.5	54.7	55.2	58.2
75 years and above	11.7	13.3	14.4	45.5	45.5	48.0
SE Total				**41.7**	**40.1**	**39.4**

5. Comparisons by Rurality / Municipality Size

This section presents comparisons for five countries for which we have some indicator of urbanisation (Cyprus, Latvia, and Serbia), or population (Spain), or a combination of both (Germany). The general trend is that the move to self-completion seems to have boosted response in urban/larger areas. This is observed, to different degrees, in all five countries. Four of the countries exhibited lower response rates in urban/larger areas at R8/R9, so this represents a reduction in response disparities – a positive development. The exception is Serbia, where response rates did not differ between rural and urban areas at R9, but urban areas had a higher response rate than rural areas at R10.

5.1 Cyprus - Urbanicity

	Distribution		Response Rate	
	R9	R10	R9	R10
Urban	66.1	69.7	52.7	15.1
Rural	33.9	30.3	60.0	13.8
CY Total			**54.9**	**14.7**

5.2 Germany – Combined population & urbanisation

	Distribution			Response Rate		
Inhabitants	R8	R9	R10	R8	R9	R10
< 2,000	2.3	1.9	2.2	34.0	28.6	41.1
2,000 – 4,999	3.6	2.6	2.5	36.8	28.4	36.5
5,000 – 19,999	10.7	7.4	8.9	36.0	23.9	36.8
20,000 – 49,999	11.9	12.4	10.3	28.6	30.6	36.6
50,000 – 99,999 periphery	8.6	7.9	7.3	30.1	28.7	34.1
50,000 – 99,999 core	2.4	2.5	2.1	28.7	28.2	38.8
100,000 – 499,999 periphery	14.1	17.3	14.8	31.4	32.5	38.0
100,000 – 499,999 core	13.9	13.1	14.9	29.9	24.4	37.0
> 500,000 periphery	10.2	9.6	9.8	32.5	27.7	38.3
> 500,000 core	22.4	25.2	27.1	28.1	25.9	37.3
DE Total				**30.6**	**27.6**	**37.2**

5.3 Latvia – Urbanicity

	Distribution		Response Rate	
	R9	R10	R9	R10
City	35.2	52.5	25.7	23.7
Town	19.5	17.7	44.8	28.3
Rural	45.3	29.8	59.0	22.7
LV Total			**38.9**	**24.1**

5.4 Serbia – Urbanicity

	Distribution		Response Rate	
	R9	R10	R9	R10
Rural	45.5	33.8	58.6	31.4
Urban	54.5	66.2	59.7	36.2
RS Total			**59.2**	**34.4**

5.5 Spain – Municipality size band

	Distribution			Response Rate		
Inhabitants	R8	R9	R10	R8	R9	R10
1. <10,001	26.4	26.1	22.2	76.1	60.5	37.8
2. > 10,000 & <50,000	26.8	25.0	26.0	69.3	53.2	38.2
3. >50,000 & <100,000	11.8	12.0	12.2	63.8	52.1	38.7
4. >100,000	35.1	36.7	39.5	62.7	50.5	38.1
ES Total				**67.7**	**53.7**	**38.2**

6. Other Comparisons

For Germany (table 6.1), we can compare response rate differences by citizenship. Non-German citizens exhibit substantially lower response rates at all rounds, though there is a suggestion that this difference is a little greater at R10. While this differential may therefore have been exacerbated by the move to self-completion, the size of the effect is not dramatic.

For Sweden (table 6.2) we can compare response rates by marital status. The move to self-completion does not seem to have had any effect here. Those who are married had the highest response rates in all rounds while those who have never married have the lowest response rates.

6.1 Germany - Citizenship

	Distribution			Response Rate		
	R8	R9	R10	R8	R9	R10
1 German	88.9	87.3	91.4	32.2	29.4	40.5
2 Non-German	6.8	7.6	6.1	21.2	16.0	17.2
3 Missing	4.4	5.2	2.6	31.9	28.3	31.3
DE Total				**31.1**	**27.6**	**37.2**

6.2 Sweden – Marital Status

	Distribution				Response Rate		
	R8	R9	R10		R8	R9	R10
1 Married/Civil union	48.7	47.4	45.5		49.2	45.9	46.4
2 Divorced/Civil union dissolved	11.4	11.5	12.0		40.8	41.7	36.6
3 Widowed	5.8	5.6	4.5		44.8	43.0	39.1
4 Never married	34.1	35.6	38.0		34.1	33.6	33.9
SE Total					**41.7**	**40.1**	**39.3**

7. Conclusion

The overall picture presented by these response tables is one of stability. The response patterns exhibited in the earlier, face-to-face, rounds of ESS are broadly replicated when those same countries employed the self-completion mode at R10. The only clear and consistent shift is that self-completion seems to be relatively more effective in urban areas. But even in that case, the magnitude of the response rate shift is rather modest. We also observe that self-completion seems to be more sucessful amongst women, but as we only have evidence on this point from two countries, it is hard to know how generally this might apply.

Some shifts in the relative performance of different regions within a country have also been observed, but that may be related to the urbanicity effect. Other shifts are small in magnitude and inconsistent across countries.

Overall, we can perhaps be reassured that the shift to self-completion has not had any major negative impacts on response propensity differentials between subgroups. However, we must bear in mind the limitations of this analysis. The evidence comes from only the nine countries that chose to implement self-completion data collection at R10. That choice may itself have been influenced by the expected performance of self-completion in those countries. Thus, extrapolation to the other 20+ ESS countries is not straightforward. Furthermore, the analysis has been limited to the set of auxiliary variables available from the sampling frames used in these countries. These are socio-demographic variables which are, in most cases, not strongly correlated with key ESS measures of attitudes and values. So we cannot be sure from this evidence alone that the shift in data collection modes is not affecting the social composition of the samples (libertarians, politically-active people, etc)