

Nonresponse in Slovene Public Opinion Survey

Janez Štebe¹

Abstract

A descriptive study of nonresponse in the Slovene Public Opinion Survey is given. An overview of a period of longer than ten years confirms the growth in nonresponse, due to "non-contacts" as well as the "refusals" category. A closer look at some of the factors influencing nonresponse shows that the phenomena could be explained as being influenced by the social developmental process of modern societies. The problem of a potential nonresponse bias on survey estimates is mentioned in the conclusion in order to increase awareness about possible false conclusions following from the uncritical use of data. From assumptions and proposed explanations about the process of nonresponse as societal fact, it follows how accurately the potential nonresponse bias could be treated.

1 Introduction

The Slovene Public Opinion Survey (SJM)² is characterised by its multipurpose nature, where the central feature is its function of a general social survey purporting to serve the needs not only of original authors of projects but also deriving secondary analytical benefits from collected data. With more than 25 years tradition it forms a part of the informational infrastructure of social science in Slovenia, as over extended time, a series of exactly replicated questions provides new possibilities of detection and analysis of social trends. Secondary

¹ Public Opinion and Mass Communication Research Center, Faculty of Social Sciences, P.O. Box 47, 61109 Ljubljana, Slovenia.

This research was done for the Slovene Public Opinion Survey project supported by the Ministry of Science. The author wishes to thank the reviewers for their helpful comments.

² The SJM (Slovensko Javno Mnenje) is an amalgam of general social survey and public opinion poll of a representative sample of adult Slovene population, which is held continually every one or two years since 1968. It is carried on under the auspices of the Public Opinion and Mass Communication Research Centre (CJMMK), Ljubljana (see Toš, 1987).

data users are therefore especially concerned about how much confidence they can put into already collected data from SJM surveys (Hyman, 1972).

When dealing with data from sample surveys we typically want to know how much can we infer from survey estimates about true population parameters such as means or proportions in descriptive survey and measures of correlation or dependency between variables in analytical counterpart. If we rely too much on results, we can draw false conclusions when our estimates are distorted (see for an overview Martin, 1983). Therefore we should be able to check our assumptions about survey results. Data from social surveys should be evaluated according to some criteria, whether empirical or theoretical. Ideally as an ultimate criterion the true value of an estimated parameter will emerge, whether it is population true value in the more general case or individual 'true score' in a narrower context of individual treat measurement (Lessler and Kalsbeek, 1992; Alwin, 1977, 1991). The total amount of error of survey estimates could be further divided into a random component of variation around the expected value, so called error variance, and a component of systematic deviation between expected and true values, which is usually called bias.

In analysis of measurement errors the fundamental dilemma is what constitutes the individual 'true score' anyway when we talk about subjective phenomena which are in principle non-observable from outside respondents (Kruskal, 1991). On the other hand for population parameters we can imagine true values of parameters, be their 'objectivity' status more or less confirmed, but here the problem is that we are most often deprived of some superior criterion value against which evaluation could be made. That is especially true for estimation of nonresponse error. It is hard to estimate precisely because there are no values at all obtainable for the part of population which failed to participate in the survey (Smith, 1983; Goyder, 1987). That's why there exists no simple way of estimating nonresponse bias in surveys. While there are satisfactory theoretical grounds for inference about the amount of sampling error, which is dependent of sample size and sample design (e.g., Kalton, 1983), the same is not true for the inference about the amount of error due to nonresponse. Respondents and nonrespondents in surveys could differ systematically exactly on those characteristics about which we are collecting evidence. Co-operation in surveys has a lot to do with mutual confidence between the respondents and the researcher, which could be conceived as part of a general confidence which we try to measure through standard survey questions about confidence in the institutions. If general confidence in society is low, we obtain low co-operation of potential respondents, and our conclusions about the overall confidence based on respondents only will be false. Therefore we are mainly talking about nonresponse bias, which grows as does the difference between respondent and nonrespondent in measured characteristics, and as does the proportion of nonrespondent compared to respondent. In principle what we have in surveys are only respondents, from whom we could not reach any conclusions

about nonrespondents without, in most cases, oversimplified assumptions. What we are lacking is some deeper understanding of what is going on in a survey production, particularly what the reasons and causes of nonresponse in specific societal circumstances at the moment of survey execution are (Groves, Cialdini, and Couper, 1992; Brehm, 1993).

Most literature about surveys is the result of technically oriented experimentation with different forms and elements of survey production. When dealing with surveys it is equally important to reach a deeper view of the complex interconnection between practices and actors in the survey in a social context (e.g., Dillman, 1983; Groves, 1990; Martin, 1981; Goyder, 1987). Such orientation would lead to a synthesis of now particularised knowledge in a kind of general theory of survey. This would serve as a guide to better understanding and practice of survey research (Lansing and Morgan, 1971: 142). If those phenomena we collecting evidence about are of social nature, and if the factors influencing the characteristic of method are of that same nature, than we are in endemic danger of confusing real findings with method artefact. It is there where co-operation in a survey becomes not only a technical problem of the survey methodologist, how to persuade people to agree with participation, or how to compute weights to adjust for nonresponse of sample statistician. Instead it becomes a problem with its own merit and substantial ground. What the reasons and causes are of a lack of confidence in societal institutions, among which the survey industry is only one relatively marginal component? That knowledge could in advance increase our understanding of what is going on in surveys. The result of better understanding could be a more informed approach to the compensation of nonresponse bias (see Brehm, 1993).

We are dealing here with but one aspect of the total survey production, namely with a problem of nonresponse in our case study of the SJM survey. We will present some facts about nonresponse in SJM survey which are the results of a recently established form of collecting evidence about nonresponse. Generally nonresponse is comprised of all situations where some of the people who were assigned in a sample failed to participate in an interview. This could be either because they were absent from their address, unwilling to participate or were hard-to-reach people due to other reasons. It was agreed from similar research that reasons and trends of nonresponse are specific for particular categories of nonresponse (Smith, 1983; Goyder, 1987). So we are going to estimate what influences the amount of nonresponse for particular categories of nonresponse such as non-contacts, refusals and others instead of rough total nonresponse analysis. That knowledge is a precondition for a future decisions about strategies, for dealing with the problem of nonresponse and for a rough estimate of the seriousness of the problem. The seriousness of a problem diminishes as the amount of nonresponse decreases and if there are fewer specific differences between nonrespondents and those who co-operate. Those differences could be checked in a

so-called identification study (Lessler and Kalsbeek 170). An example of that kind of study is given below. An analysis of some demographic factors (selected among those available from our sample frame information for both respondents and nonrespondents) on nonresponse is done. Together with an evidence of trend in nonresponse this will form a base for the formulation of some more general hypothesis about reasons and causes of nonresponse in contemporary Slovene society.

Slovenia is in a period of transition, from the modern industrial socialist to the post-industrial democratic society. This brings with it such phenomena as change in social structure with growing middle class occupations, multiplicity of class demarcations and living patterns, and greater awareness of the individual privacy right, and of the threat of manipulation through information on an individual. There is a paradox associated with the conditions of the existence and possibility of surveys in a given society. The survey is meaningful only in a relatively developed democratic society where everyone can express his opinions and people feel safe to do so. On the other hand, its existence depends ultimately on the free decision of respondents to co-operate, which is reached only if conditions for mutual gain and a sense of profit for both sides that act in the survey, the respondent and the researcher, are fulfilled. Otherwise the survey is perceived as mere act of intrusion by the respondent (Hyman, 1972). This situation calls for careful ethical consideration of every decision and step in the survey production if we want to continually provide good quality of results.

2 Data

There were two data sets available for the analysis. One is comprised of a per survey aggregate data on nonresponse for a period from 1980 onwards, on which an estimate of trend and seasonal variation is based. It consists of all SJM surveys done in that period. Although SJM surveys go back to 1968, no comparable information on nonresponse is given for that period. The second data set is micro-data of sampling units of SJM91_2 survey on which an identification study of the impact of some available demographic factor on nonresponse is made. Surveys from 1980 resemble each other in most characteristics. The content area are general social problems with some specific emphasis from year to year, where about 50% of questions are exact replicates from previous SJM surveys; an average interview takes more than one hour; field procedures and stuff are stable from year to year (interviewer training, low interviewer turnover, constant sample design, survey period, etc.).

The SJM survey fieldwork method is a personal interview with trained interviewers. An advanced information letter is mailed to all potential respondent, who are chosen by sample. At the end of the survey a check letter is again mailed

to all interviewed persons, in order to insure control over possible falsified interviews and low quality interviewer performance. An additional check is performed over the phone in case of the indications that anything has gone wrong.

The systematic multistage sample with random start of adult noninstitutionalized population aged 18 years or older, living at official steady addresses in the territory of Slovenia, is based on the Central Register of Population. There are 140 Primary Sampling Units and 420 Secondary Sampling Units formed, with names and addresses of persons in final clusters. A replacement procedure is used for nonresponses on final cluster level based on a same selection mechanism as used for original sample units. Nonresponse information is collected together for original and replacement units.

Nonresponse status is confirmed by interviewer and is noted on an additional grid where complete classification of nonresponse reasons is given for any visit. This form has been established since 1993, where for previous SJM surveys interviewer notes from a sample list were later coded into the nonresponse scheme (Švara, 1986; 1992). In Appendix precise classification of reasons for nonresponse in SJM survey is presented.

As do most classification and decisions connected with them, classification of nonresponse reasons also depends partially on specific purposes for which is used, and while retain some broad universality, it could be reclassified according to different specific purposes. The relative measures of nonresponse also show the operation supervisor the quality of the work done by interviewers and the overall performance of data collection, but to the statistician they serve as an indicator of the magnitude of the estimates' bias the nonresponse contributes (Lessler and Kalsbeek, 1992: 108-109). The first category of nonresponse or broadly speaking of non-participation in SJM survey is "out-of-scope" status or "ineligibility" of sample unit. Usually those reasons of non-participation are discussed under the title of frame errors. The over-coverage of elements that are not the part of target population is easily detected during the data collection period, and when excluded from sample list, do not contribute to the total survey error. On the other hand, omissions because of out-of-date or inaccurate frames, which are common to list frames, as are for example "wrong addresses, unknown persons", show the extent of potential under-coverage because of missing population elements. While it is agreed for practical reasons of efficient survey execution that persons "moved out", "temporary out of home" and other³ would not be traced on and are considered frame error, in another context they could be considered nonresponse error, as an eligible element where no contact could be established (see Lessler and Kalsbeek, 1992: 52). For this reason we have included those categories under the title of nonresponse analysis.

³ "In some instances, *death* could also be included in this general category of reasons of nonresponse. For example, survey eligibility may be based on a past event, at which time the decedent might have been eligible" (Lessler and Kalsbeek, 1992: 124).

Other categories of nonresponse as are "refusals", "non-contacts (not-at-home)", "inability to co-operate" and similar are easily recognised. The magnitude of all those nonresponse reasons could be traced down to 1980. A summary of proportions of total sample is given in Table 1. From χ^2 we see the model of independence between nonresponse reasons and SJM surveys could be rejected, which shows there exists some variation in extent of particular reasons through time. The first column "total completed" also has a straightforward meaning as a usual Completion rate. Additionally we show in the last column overall Response rate (number of interviewed divided by number of eligible in sample).

Table 1: Nonresponse reasons and Response rate in the SJM 1980 - 1992 survey (aggregate data)

SJM Survey	Nonresponse reasons ^a						Total	R response rate ^b
	D total compl.	B out-of scope	F refusal	G not-at home	H other	C		
80 (Summer)	88.1%	4.2%	2.6%	3.3%	1.9%	2306	91.9%	
81 (Winter)	84.2%	6.2%	2.4%	3.4%	3.8%	2388	89.8%	
83 (Spring)	86.2%	7.0%	2.1%	3.5%	1.3%	2398	92.6%	
84 (Autumn)	85.1%	5.1%	4.8%	3.0%	2.0%	2856	89.7%	
86 (Spring)	82.4%	7.3%	4.5%	3.8%	2.0%	2490	88.9%	
88 (Spring)	79.0%	8.3%	5.2%	4.8%	2.6%	2613	86.2%	
89 (Spring)	78.8%	8.0%	4.1%	6.5%	2.6%	2585	85.6%	
89 (Autumn)	80.5%	10.1%	3.2%	3.9%	2.3%	2589	89.5%	
89 (Winter)	79.7%	9.5%	4.2%	3.3%	3.3%	2558	88.1%	
90 (Autumn)	79.5%	8.6%	4.8%	5.1%	1.9%	2588	87.1%	
90 (Winter)	80.5%	8.4%	4.6%	4.7%	1.8%	2573	87.9%	
91 (Spring)	80.3%	10.4%	3.4%	4.9%	0.9%	854	89.7%	
91 (Autumn)	79.6%	9.7%	3.6%	5.2%	1.9%	2603	88.2%	
91 (Winter)	79.9%	10.9%	3.0%	4.1%	2.1%	2602	89.7%	
92 (Summer)	76.8%	10.4%	3.8%	7.3%	1.7%	2710	85.7%	

Model of independence $\chi^2 = 494.2$ (d.f. =56) $p < 0.05$

a) See Appendix 1

b) Response rate is defined as: $R = D / (D+F+G+H) * 100$

A more scrutinised check of influencing factors was made with an identification study approach where micro-data for comparison between respondents and nonrespondents from the sample frame is used. Our sample is derived from the Population Register of Slovenia, from where some information about background factors of nonrespondents was taken. We limit ourselves to the nonresponse overview of 1991 autumn survey, where we study the impact of three demographic factors: sex, age and type of community (Table 2). Those variables were among few available from the sample frame, and they were inserted afterwards in a data matrix together with nonresponse information.⁴

⁴In other kinds of approach to the study of nonresponse, research workers take an interviewer's estimates about nonrespondents, or try to reinforce interviewing efforts on a subsample of nonrespondents, take substitutions for nonrespondents, or make extrapolation from 'hard to reach'

Table 2: Nonresponse reasons and Response rate in the SJM91_2 survey by sex, age and urban - rural type of community

Demographic factors	Nonresponse reasons ^a						Total response rate ^b
	D total compl.	B out-of scope	F refusal	G not-at home	H other	C	
Male	76.0%	11.2%	3.7%	7.1%	1.9%	1289	85.6%
Female	82.2%	7.8%	4.1%	3.9%	2.0%	1327	89.2%
Model of independence $\chi^2 = 23.3$ (d.f. = 4) $P < .05$							
- 26	78.3%	10.2%	3.0%	7.3%	1.2%	508	87.3%
27 - 35	77.3%	11.6%	3.3%	6.0%	1.8%	550	87.4%
36 - 55	79.7%	8.8%	4.2%	5.5%	1.8%	994	87.3%
56 +	80.9%	8.0%	4.8%	3.4%	3.0%	564	87.9%
Model of independence $\chi^2 = 21.4$ (d.f. = 12) $P < .05$							
Urban	76.7%	11.4%	4.1%	6.2%	1.6%	1032	86.7%
Suburb	77.9%	9.7%	7.4%	4.0%	1.0%	403	86.2%
Rural	81.7%	7.7%	2.5%	5.4%	2.6%	1181	88.5%
Model of independence $\chi^2 = 37.7$ (d.f. = 8) $P < 0.05$							
Sum	79.4%	9.4%	3.8%	5.4%	1.9%	2610	87.7%

a) See Appendix 1

b) Response rate is defined as: $R = D / (D+F+G+H) * 100$

For an estimate of the influence of different factors we used a logit model with dependent variables separately representing probabilities of accessibility, contactability, difficulty in obtaining an interview and refutability. The total process of (non)response is thus described through consecutive phases of passing different membranes. Success in the previous step is a condition for being in a situation to decide on the next step (see Goyder, 1987: 93-94).

3 Model

First, a substantially adequate model describing the process of nonresponse was built. An estimate of the effect of each factor was made based on this model. It is common first to separate the units from a sample list according to "in scope" or "out of scope" status. The most frequent reasons of out of scope units in the SJM91_2 survey are "address unknown" and "moved out". They show the degree of non-accuracy of frame, which is not able to follow recent moves. It is for that part larger in periods or territory where migrations are common. Similar is the "not at home" reason. This, in contrast to the previous one, is represented by short vacations, as well as daily migrations. Next, there remains a group of "refusals" and that of "other" reasons, the last encompassing those unable to co-operate because of language or health, unusable interviews and similar reasons.

respondents to nonrespondents. Each of them has its own merits and obstacles connected with the sheer nature of the nonresponse problem (Stinchcombe et al., 1981; Smith, 1983).

Instead of the usual response rates calculation (Lessler and Kalsbeek, 1992: 366-369) nonresponse partition could be described as a process of passing through consecutive membranes. First there is a barrier of accessibility of the person selected for the interview. This is caused by greater mobility in the physical space of some groups, which are therefore harder to locate. After we succeed in establishing physical contact with the respondent, which means that we passed a membrane of physical accessibility embodied first in "out of scope" and then in "not at home" reasons, there remains another barrier. This is of the "refusals" category, which represents socially or psychically augmented readiness and accessibility of person to collaborate in the interview.

If B denotes "out of scope" units and D "completed" interviews, F, G and H consecutively "refusals", "not at homes" and "other" which refers to all non-overlapping lower level categories of nonresponse as described in Appendix 1, then we have to deal with following four ratios:

- $PD+F+G+H/PB$ probability of "in scope" vs. "out of scope" units (accessibility);
- $PD+F+H/PG$ given "in scope" unit, probability of being "contacted" vs. "not at home" (contactability);
- $PD+F/PH$ given "contacted" unit, probability of non-existent vs. existent "other" reasons of nonresponse (difficulty in obtaining an interview);
- PD/PF probability of co-operation vs. "refusal" (refutability).

Now we can put down formally our time trend logit model as

$$\ln(P_{is}/(1-P_{is})) = b_0 + b(X1)_i + b(T)*t_s, \quad (1)$$

where b_0 is mean ratio, $b(X1)_i$ is term for nominal seasonal factor and $b(T)*t_s$ with t_s a co-variate in units of time a linear time trend term. Four probabilities P described earlier ($pD+F+G+H$, $pD+F+H$, $pD+F$, pD) enter the equation one by one.

The corresponding model of nonresponse explained by demographic factors appears as follows:

$$\ln(P_{jkl}/(1-P_{jkl})) = b_0 + b(X1)_j + b(X2)_k + b(X3)_l \dots \quad (2)$$

with $b(X)$ terms referring to sex, age and community type factor, all taken formally in a nominal scale.

The usual restrictions on redundant coefficients apply. A constant of 0.001 was added to a few empty cells to avoid sampling zeros. Theoretically empty cells of

non-occurring combinations of year and season indexes were treated as structural zeros.

In the logit model those ratios referred to are explained one after another. Now the coefficients in a model have clear and straightforward meaning in the sense of greater or smaller probability of particular groups being able to pass through in a particular phase. Independent variables are all taken as nominal, except time, which is taken as a numeric parameter describing a linear trend.

4 Analysis

Comparison shows an increase though time of "out of scope" vs. "in scope" group and "not at home" vs. contact made. Visual inspection of refusal incidence compared to completed questionnaires shows a decline through time, which obviously is not linear and is mainly the consequence of a high plateau in earlier years up to 1983 (Figure 1). Various ratios are shown in a graph, as they combine naturally into a total amount of nonresponse, as will be described below, instead of the more usual nonresponse and refusal rates, which don't have immediate interpretation through our model. The parameter showing increase of refusals vs. completed interviews is significant for the whole period, but not for the period from 1984 to 1992 alone, where other parameters appear to be more stable (Table 3). We can not totally exclude the possibility of methodological artefact, as precise documentation of field procedures used is not available for the whole period and we can not control for those factors. In any case we can observe great stability of procedures used which is shown in the fact that the same persons are responsible for data collection. Taken as they are the findings presented show that similar tendencies to those in developed Western societies are also occurring in Slovenia. There has been an increase and multiplication of different surveys and public opinion polls in the last five years in Slovenia, which has grown together with the establishment of a democratic regime. This has meant that experience with surveys has become common to everyone, and there is a corresponding increase in difficulties in making contact with and of establishing co-operation with potential respondents.

The impact of season on contact vs. non-contact shows that it is easier to realise contacts in winter than in summer. This is self-explanatory as we know that during the summer period there is greater intensity of temporary vacations, and during winter travelling is less intensive. On the contrary, during winter "other" reasons of noncooperation are more common, which is only the other aspect of weather difficulties causing troubles to interviewers in reaching some of the respondents.

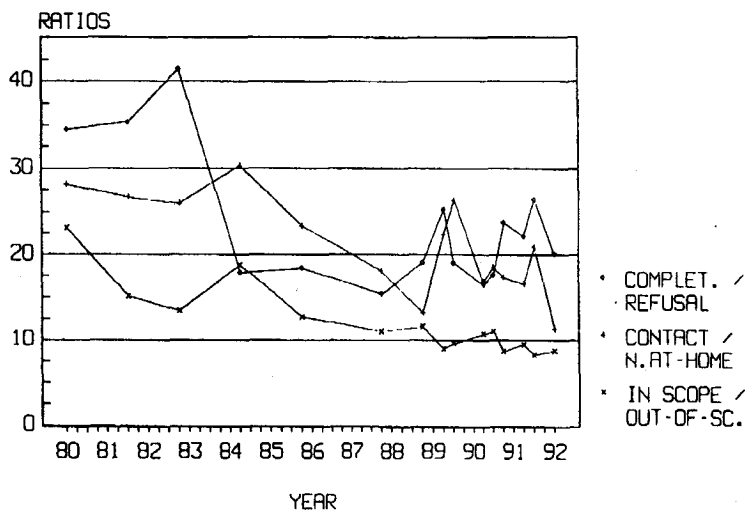


Figure 1: Ratios of nonresponse categories for the SJM survey, 1980-1992

All coefficients for linear time trend in Table 3 (except for "other" category, which is itself non-significant) show a decrease over time. If we would like to interpret those coefficients in terms of original odds to which they refer, we have to take an exponent, which means to rewrite them in a multiplicative form. For example the trend factor of "in scope" ratio $\exp(-0.069) = 0.93$ is interpretable as 7% decrease a year in odds between "in scope" and "out of scope" units. In ten years this would bring about half of the original value ($\exp(-0.069 \cdot 10) = 0.50$).

Now let us look at demographic factors. Most of our findings are in accordance with the evidence from other studies, which increase its generalisability (DeMaio, 1980; Fitzgerald and Fuller, 1982; Goyder, 1987; Vehovar, 1991). Being "in scope" and accessibility at home depends on sex. Males are more inclined to move, as seen in a form of permanent migration, and are daily more from home than women. This shows that women are actually still suppressed in their public activity compared to men. There are no significant effects of sex on other reasons of noncooperation, refusals included. With age here referring to life stages, physical accessibility of a person increases, with an especially clear pattern in growing contactability with age. Counteracting that trend is an increase in the number of refusals versus productive responses. Older people are more settled in their homes, but also somehow more reluctant to respond. With growing urbanisation the accessibility of people is harder, for both "in scope" and "being at home" reasons. This is in accordance with a more intensive social life in

urban areas with greater territorial functional division. The surprise is the primacy of suburbs in refusal rate. This is partly explainable by a syndrome of petty-bourgeois splendid isolation in their own little house with garden. Suburb residency in Slovenia mainly consists of individual homeowners with social status position somewhat above the average. They are therefore even more selective in contact with strangers than are urban people.

Table 3: An analysis of nonresponse in the SJM survey by time and season. Coefficients of the logit model with standard errors in parentheses (SJM 1980-1990 aggregate data).

	in scope/ out-of-sc.	contact/ n.at-home	comp.+ref. vs. other	completed/ refusal
Average	3.049* (0.059)	3.558* (0.075)	3.576* (0.089)	3.437* (0.079)
Trend	-0.069* (0.006)	-0.067* (0.008)	0.014 (0.010)	-0.040* (0.008)
Season				
Spring	-0.049 (0.033)	-0.104* (0.043)	0.043 (0.062)	-0.103* (0.047)
Summer	0.048 (0.043)	-0.232* (0.051)	0.199* (0.087)	0.102 (0.064)
Autumn	0.037 (0.032)	0.122* (0.043)	0.029 (0.064)	-0.068 (0.046)
χ^2 (d.f.=10)	31.6*	27.9*	47.6*	63.6*

* $p < 0.05$

Again the coefficients have an obvious meaning in the multiplicative form. Let's take for example a man, over 56 years old and living in an urban area. Probability of finding him at home would be 0.72 points lower for sex ($\exp(-.326) = 0.72$), but 1.60 points higher for age and 0.79 points lower than average for urban living compared to probability of not being at home. This would give multiplied with $\exp(2.878) = 17.77$ for average the odds of ($17.77 * .79 * 1.60 * .72 = 16.17$), which means an estimated probability of 0.94 of being at home.

We can extend our example to show the connection between different probabilities. The same man would have an expected probability of 0.88 of not being out of scope, which multiplied by 0.94 probability of being at home, would give a joint probability of the passing membrane of physical accessibility, on which, multiplied with the probability of existence of "other" reasons (.97), and finally about decision to co-operate vs. refuse (.93), depends the total amount of interviews completed ($0.88 * 0.94 * 0.97 * 0.93 = 0.75$) for that particular category, which is somewhat below the average.

Table 4: Analysis of nonresponse by sex, age and type of community; Coefficients of the logit model with standard error in parentheses (micro-data SJM91_2)

	in scope/ out-of-sc.	contact/ n.at-home	comp.+ref. vs. other	completed/ refusal
Average	2.252* (0.077)	2.878* (0.113)	4.019* (0.209)	2.951* (0.111)
Sex				
Male	-0.194* (0.068)	-0.326* (0.090)	-0.024 (0.144)	-0.007 (0.102)
Age				
- 26	-0.061 (0.124)	-0.310* (0.153)	0.411 (0.331)	0.249 (0.217)
27 - 35	-0.215 (0.117)	-0.149 (0.158)	-0.024 (0.275)	0.103 (0.203)
36 - 55	0.122 (0.106)	-0.016 (0.136)	-0.020 (0.231)	-0.069 (0.158)
Type of community				
Urban	-0.206* (0.094)	-0.231* (0.129)	0.032 (0.249)	0.013 (0.138)
Suburb	-0.028 (0.123)	0.276 (0.182)	0.459 (0.352)	-0.579* (0.152)
χ^2 (d.f.=17)	= 26.2	16.1	18.5	14.2
* p<0.05				

5 Conclusion

In short, the above represents the facts about nonresponse in the SJM survey. In literature there have been many explanations offered for these phenomena. Here we can distinguish between two aspects. One is technical, concerned with an influence of the survey design factor, and other is more theoretically oriented, seeking out the influence of social context interacting with survey practice and content of survey on result.

The decrease of co-operation through time could be explained by the erosion of the survey production standards (Steeh, 1981), as are the number of call-backs, use of an advance information letter, interviewers' experience and training, quality of sample frame, time limits, sponsor and research topics, length and appearance of questionnaire, etc. (see also Hidiroglou et al., 1993). No substantial variation in the survey design practice and field work of CJMMK has been documented over the years, in fact there are even elements showing rigidity of standards. The reversal of the trend in "not at home" could be achieved by repeated and systematically followed call-backs at different times of the day, with previous announcement by the interviewer. The most serious threat for public opinion surveys is an increase in the refusal category (Stinchcombe et al., 1981). Refusals

could also be reduced with greater persistence and changing strategies.⁵ From the methodological standpoint in this connection we would like to have some guidance as to how to initialise the interview, how to explain the reasons of conduct (with or without informed consent),⁶ and how to conduct more or less pleasant persuasion about the importance of co-operation of exactly that person which was chosen in a sample (repeated call-backs, change in mode, different kind of incentives offered, trying to overcome the effect of unpleasant previous experiences and so on). To cut the rates of ineligible units we can try to use different sampling frames and methodology such as area sample of housing units instead of present systematic sampling.

The problem of nonresponse could also be considered from the other, non-technical perspective as a phenomenon of modern society and as an indicator of social development. Such phenomena include the intensity of migrations, modes and habits in communication, and the availability of time, or changes in values of the privacy right and awareness about the threat of misuse of personal data (Goyder and McKenzie Leiper, 1985), and finally political changes and with them a totally different context from which the meaning of surveying is formed. These imply a completely different formation of confidence in circumstances of the totalitarian regime and free democracy such as the difference between a feeling of coercion and intimidation and that of free personal decision. There is also a trend in the growth of educational level and urbanisation, which is itself connected with previously counted factors (Steeh, 1981), and which as we see tend to decrease response rates in surveys. In this regard our data is also consistent with observations from other developed countries. Total response rates decrease both because of availability and contactibility of person in the physical sense, as well as in the sociopsychological sense in the form of refusals, which are all signs of modern individualisation and selectivity in contacts.

The nature of nonresponse is still more comprehensible when we analyse particular influencing factors. Here we note the difference between the urban, suburb (re refusals) and rural areas. The same goes for sex roles, of man, typically absent from home, and women, at home but with a sense of social incompetence about public affairs. This is only another paradox of the social survey, where its aim of making society more transparent is opposed by difficulties in execution, which is itself consequences of that same non-transparency. We were not able to estimate the influence of social status and employment, which we could expect are among factors explaining some of the differences in response rates (Goyder, 1987). The fact of greatest refusal rate among suburban citizens could also be

⁵ An evidence about "converted refusals" could serve as a measure of success in those aims, so it would be useful to introduce that category in our scheme. The same goes for "hard-to-reach" respondents.

⁶ Few experiments were carried out with the aim to discern an influence of that factor from cognitive psychology point of view (Singer et al., 1992).

related to the social status of those people who are mainly individual house owners high in the status hierarchy. That could bring greater wariness of strangers and make them more sensitive about a threat to their privacy. That people become more settled with age is also comprehensible, and that the refusal rate grows as people get older (which is also a common finding), may be related to the frequently expressed of the incompetence of the respondent to address the content of surveys, which is also shown to be related to age.

Among our conclusions we could also mention the search for possible bias in survey estimates because of the nonresponse problem. Simple weighting does not necessarily bring about a positive effect, as some studies shown. That is because respondents and nonrespondents are probably different specifically just in whether they are or are not available for survey (Stinchcombe et al., 1981; Fitzgerald and Fuller, 1982). Therefore straight evidence about the kind of influence of nonresponse on survey results is ambiguous (Goudy, 1976). What we can say at this moment is that those systematic differences we notice in nonresponse levels by demographic factors and time trend show the possibility of some bias, especially among variables that are strongly correlated with those same factors which influence nonresponse.

The best we can do for the moment is to keep response rates high. With the multipurpose nature of the current SJM surveys one can not say what an overall nonresponse bias would be. For specific variables one can build models of nonresponse correction (Brehm, 1993: 127-160). If the levels of nonresponse remain as they are now their influence on survey estimates will be acceptable, as they are still quite low compared to those we encounter for the same type of surveys in other countries. The main topics covered by the SJM surveys are general opinions, where one could imagine many other sources of errors made in the process of data collection which are probably more damaging than that of nonresponse. What is more troublesome is the evidence of steady growth in time. The comparison of data in trend analysis might be distorted because of changing nonresponse levels and structure (Brehm, 1993: 185). The facts about nonresponse are one of the basic criteria of survey quality, therefore it is common practice to obtain rigorous evidence about them and to publish it together with the results. In any case, the mere reporting of the nonresponse rate does not show the whole magnitude of the problem (Lessler and Kalsbeek, 1992: 164-165). The findings presented here would benefit the users of the results from the SJM survey, as the facts about nonresponse are for the first time published in such systematic fashion. They would also form the basis for improving the quality of ongoing surveys, as we add to our knowledge of that problem from the perspective of specific study such as the SJM survey.

Appendix

Sample realisation and nonresponse reasons in Slovene Public Opinion Survey; The SJM91_2 - RELIGION AND CHURCH SURVEY*

	N	t
A. TOTAL ISSUED (TOTAL SAMPLE) A=B + C)	2617	100
B. INELIGIBLE (OUT-OF-SCOPE)	247	9.4
C. TOTAL ELIGIBLE (IN-SCOPE SAMPLE) (C=D + E)	2370	100
D. TOTAL QUESTIONNAIRES RECEIVED	2078	87.7
E. TOTAL NONRESPONSE (E = F + G + H)	292	12.3
F. REFUSALS	100	4.2
G. NON-CONTACTS (NOT-AT-HOME)	141	5.9
H. OTHER NONRESPONSE	51	2.2
Nonresponse reasons:		
A. TOTAL ISSUED	2617	100
1. Target sample	2100	80.2
2. Reserve units (area substitutions)	517	19.8
B. INELIGIBLE (OUT-OF-SCOPE)	247	100
1. Moved out (other place, abroad)	179	72.5
2. Wrong address, unknown person	35	14.2
3. Temporarily out of home for more than a month (in institution, army, prison, etc.)	26	10.5
4. Person died	7	2.8
5. Wrong ages		
6. Other ineligible		
C. TOTAL ELIGIBLE (IN-SCOPE SAMPLE)		
D. TOTAL QUESTIONNAIRES RECEIVED	2078	
E. TOTAL NONRESPONSE		
F. REFUSALS	100	100
1. Doesn't tell the reason of	31	31.0
2. Not enough time, too busy	22	22.0
3. Bad experiences and opinion about survey	19	19.0
4. Not interested in those things, don't know	13	13.0
5. Afraid of possible consequences	7	7.0
6. Other refusals	8	8.0
G. NON-CONTACTS (NOT-AT-HOME)	141	100
1. Nobody at home	69	48.9
2. Temporary out-of-home (travelling)	51	36.2
3. Never at home when scheduled	21	14.9
H. OTHER NONRESPONSE	51	100
1. Inability to co-operate (illness, language)	35	68.6
2. Hard-to-reach unit (terrain, weather)	5	9.8
3. Lost interviews		
4. Unusable incomplete interviews		
5. Falsified interviews		
6. Other or reason unknown, unnoticed	11	21.6

* Inconsistencies among different lists that consists of 35 units, are due to identification error, or lost or unnoticed nonresponse status.

References

- [1] Alwin, D. (1977): Making Errors in Surveys. *Sociological Methods and Research*, 6, 131-149.
- [2] Alwin, D.F. (1991): Research On Survey Quality. *Sociological Methods and Research*, 20, 3-29
- [3] Brehm, J. (1993): *The Phantom Respondents: Opinion Surveys and Political Representation*. Ann Arbor: The University of Michigan Press.
- [4] DeMaio, T.J. (1980): Refusals: Who, Where and Why. *Public Opinion Quarterly*, 44, 22-30.
- [5] Dillman, D.A. (1983): Mail and Other Self-Administered Questionnaires. In Rossi, P.H., J.D. Wright, and A.B. Anderson (Eds.): *Handbook Of Survey Research*. San Diego: Academic Press, 359-378.
- [6] Fitzgerald, R. and L. Fuller (1982): I Hear You Knocking But You Can't Come In. *Sociological Methods & Research*, 11, 3-32.
- [7] Goyder, J. (1987): *The Silent Minority*. Oxford: Polity Press.
- [8] Goyder, J. and J. McKenzie Leiper (1985): The Decline in Survey Response: A Social Values Interpretation. *Sociology*, 19, 55-71.
- [9] Goudy, W.J. (1976): Nonresponse Effects on Relationships Between Variables. *Public Opinion Quarterly*, 40, 360-369.
- [10] Groves, R.M. (1990): Theories and Methods of Telephone surveys. *Annual Review Sociological*, 16, 221-40.
- [11] Groves, R.M., R.B. Cialdini, and M.P. Couper (1992): Understanding the decision to participate in a survey. *Public Opinion Quarterly*, 56, 475-495.
- [12] Hidiroglou, M.A., J.D. Drew, and G.B. Gray (1993): A Framework for Measuring and Reducing Nonresponse in Surveys. *Survey Methodology*, 19, 81-94.
- [13] Hyman, H.H. (1972): *Secondary Analysis of Sample Surveys: Principles, Procedures and Potentialities*. New York: Wiley.
- [14] Kalton, G. (1983): *Introduction to Survey Sampling*. Sage University Paper series on Quantitative Applications in Social Sciences, 07-035. Newbury Park: SAGE.
- [15] Kruskal, W. (1991): Introduction. In P.P. Biemer, R.M. Groves, L.E. Lyberg, N.A. Mathiowetz, and S. Sudman (Eds.): *Measurement Errors in Surveys*. New York: Wiley.
- [16] Lansing, J.B. and J.N. Morgan (1971): *Economic Survey Methods*. Ann Arbor: The University of Michigan.
- [17] Lessler, J.T. and W.D. Kalsbeek (1992): *Nonsampling Error in Surveys*. New York: Wiley.

- [18] Martin, E. (1983): Surveys as social indicators: Problems in monitoring trends. In P.H. Rossi, J.D. Wright, and A.B. Anderson (Eds.): *Handbook of Survey Research*. San Diego: Academic Press, 677-743.
- [19] Singer, E., H.J. Hippler, and N. Schwarz (1992): Confidentiality assurance in surveys: Reassurance or threat?. *International Journal of Public Opinion Research*, 4, 256-268.
- [20] Smith, T.W. (1983): The hidden 25 percent: An analysis of nonresponse on the 1980 General Social Survey". *Public Opinion Quarterly*, 47, 386-404.
- [21] Steeh, C.G. (1981): Trends in nonresponse rates, 1952-1979. *Public Opinion Quarterly*, 45, 40-57.
- [22] Stinchcombe, A.L., C. Jones, and P. Sheatsley (1981): Nonresponse bias for attitude questions. *Public Opinion Quarterly*, 45, 359-375.
- [23] Švara, S. (1986): *Analiza razlogov izpadov iz vzorca, vrnjenih pisem-vprašalnikov in odgovorov anketiranih anketarjev pri raziskavi SJM84*. Ljubljana: Center za raziskovanje javnega mnenja in množičnih komunikacij, RI FSPN (Research report).
- [24] Švara, S. (1992): *Izpadi iz anketnih intervjujev zaradi "nonresponsov" ter zaradi neustreznih enot v vzorcih pri raziskavi SJM80 do SJM92/3*. Ljubljana: Center za raziskovanje javnega mnenja in množičnih komunikacij, FDV (Internal report).
- [25] Toš, N. (1987): *Pregled in primerjava rezultatov raziskav SJM 68 - SJM 87*. Ljubljana: Delavska enotnost. (Aktualna tema; 46).
- [26] Vehovar, V. (1991): *Nepopolnost podatkov v anketah*. Ljubljana: Ekonomska fakulteta (Master degree thesis).