

Using monetary incentives in face-to-face surveys. Are prepaid incentives more effective than promised incentives?

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Abstract

It is well documented for mail surveys that prepaid incentives are more effective than promised incentives in increasing response rates. For face-to-face surveys, however, there is mixed evidence based on only a few experiments. Therefore we conducted an experiment in the German General Social Survey (ALLBUS) 2014 where we compared the effects of €10 promised to 10€ prepaid incentives. A random part of the sample acted as a control group, receiving no incentive.

Prepaid incentives increased the response rate to a considerable extent. We can find no systematic effect of incentives on the sample composition and on response quality. Prepaid incentives reduced the costs of contacting because overall less contact attempts must be performed in order to realize a certain number of interviews compared to postpaid incentives. Whether the cost of incentives can offset the cost of contacting cannot be finally clarified.

Keywords: incentives, prepaid, face-to-face, response rate

1. Introduction

1.1. Previous Research.

Declining response rates are a continuing problem for household surveys in many Western countries (Atrostic et al. 2001; de Leeuw and de Heer 2002; Dixon and Tucker 2010). The German General Social Survey (ALLBUS) – conducted since 1980 – also has been facing an increase in nonresponse in the past years. Between 1994 and 2012 the response rate of ALLBUS decreased from 54% to 37%. The main reason for this decline was a rise in the number of refusals. The ALLBUS is a biennial face-to-face survey of the adult population,

covering a wide range of topics and aiming at charting the long-term trends in attitudes and behaviour in Germany (<http://www.gesis.org/en/allbus>).

Survey organizations have made various attempts at increasing response rates or at least halting downward trends in response rates. These include, for instance, an increased number of call attempts, the use of advance letters or the provision of incentives to sample persons to encourage survey participation (Groves et al. 2004). The use of respondent incentives in order to increase response has a long tradition in mail surveys. More recently, however, the use of incentives has also become more common in face-to-face surveys (Kulka et al. 2005; Singer 2002).

Against this background, in ALLBUS surveys different experiments were set up to investigate whether or not the provision of a respondent incentive might help to counteract the trend of decreasing response rates. In the ALLBUS 2010, for example, the use of promised incentives was analyzed compared to no incentives (Blohm and Koch 2013). As a main result an increase of 3.6 percentage points in response rate for the 10€ promised incentive compared to no incentive was found. In a further experiment in ALLBUS 2010 the value of the monetary incentive was varied. In this experiment no significant differences in response rates were revealed (Pforr et al. 2015) for 10€ promised incentives compared to 20€ promised incentives. In both experiments no or almost no systematic effects on sample composition and response distributions were found.

For mail surveys there is ample evidence that prepaid incentives have a stronger effect on response rates than promised incentives (Singer et al 1999; Singer and Ye 2013). For F-2-F studies there are only few documented experiments (see e.g. Pforr et al. 2015; Blom et al. 2015; Mercer et al. 2015; Roberts et al. 2014; Börsch-Supan et al. 2013) that examine this effect. The results show that also in F-2-F studies on average the effect of prepaid incentives is higher than that of the promised incentives. It turns out, however, that the variance of the effects is much greater than in mail or telephone surveys. This is not surprising because many survey features might interact with each other, and differences in the effects of incentives will be a consequence. Therefore it was obvious to investigate the effect of prepaid incentives in ALLBUS 2014.

In the present paper we report the results of an experiment which was conducted in the ALLBUS 2014. The experimental treatment included both a 10 € prepaid and a 10 € promised incentive condition, in addition to a 'no incentive' control group.

1.2. Research Questions

Since the use of incentives has an impact on numerous factors such as the implementation, the quality, and the cost of the study (for details see Blohm and Koch 2013), we evaluate the use of prepaid incentives in a comprehensive way. In addition to looking at differential effects of a prepaid and promised incentive on cooperation and response rates (1), we investigate the effects on sample composition and response distributions (2), measurement and response quality (3), and fieldwork efforts and costs (4). The experiment in ALLBUS 2014 was designed to clarify four issues:

(1) Do prepaid incentives increase cooperation and response rates in a face-to-face survey such as ALLBUS to a larger extent than promised incentives?

(2) Do respondent incentives affect sample composition and response distributions? Differ these effects between different kinds of incentives?

Regarding the use of incentives the crucial question is whether incentives reinforce or counteract tendencies to underrepresent certain subgroups of the population. Respondent incentives can help to decrease nonresponse bias if they disproportionately attract target persons whose response propensity is below average otherwise.

(3) Do respondent incentives affect response quality?

Here we have two opposing hypotheses. In the framework of "satisficing" (Krosnick 1991) incentives can increase the motivation to give better answers. But it is also conceivable that incentives, on the one hand increase the probability of participation, but on the other hand, reduce the quality of the answers, as reluctant respondents were convinced to participate in the study.

(4) Do prepaid incentives affect fieldwork efforts and survey costs?

In the experiment within ALLBUS 2010 it was shown that in the promised incentive condition less contact attempts were necessary than in the control group to realize to a certain number of interviews. In the experiment in 2014 we investigated whether this holds also for prepaid incentives. This question is of importance especially in surveys with low response rates such as the ALLBUS, where the costs for prepaid incentives are relatively high. Here the increase in response rates must be much higher compared to promised incentives to be as cost-effective as the latter.

2. The ALLBUS 2014 incentive experiment

2.1. ALLBUS Survey.

We use data from the German ALLBUS 2014 survey.¹ The ALLBUS or German General Social Survey is a biennial face-to-face survey, fielded every second year since 1980. Its goal is the long-term monitoring of attitudes, behaviour and social structure. Sampling and fieldwork is done by a commercial survey organisation. In 2014, TNS Infratest Social Research (Munich) was responsible for data collection.

ALLBUS uses a national area probability sample of non-institutionalized adults in Western and Eastern Germany, with some oversampling of Eastern Germany. In 2014, the sample was drawn in two stages. In the first stage, 147 communities (including 162 Primary Sampling Units, PSUs) were selected. In the second stage, 48 addresses of individuals were randomly selected from the communities' lists of residents for every PSU. The gross sample of ALLBUS 2014 consisted of 7,776 addresses (162 x 48 addresses) in total.²

¹ GESIS - Leibniz-Institut für Sozialwissenschaften (2015): Allgemeine Bevölkerungsumfrage der Sozialwissenschaften ALLBUS 2014. GESIS Datenarchiv, Köln. ZA5240 Datenfile Version 2.1.0, doi:10.4232/1.12288.

² These figures refer to the main sample of ALLBUS 2014.

ALLBUS 2014 was fielded as a CAPI survey. The average length of the interview was about 70 minutes. The interviewers had to make at least four contacts to the target persons, spread over different days of the week and different times of the day. The response rate at the end of the main fielding period phase was 27.3%. At the end of the re-issue period a response rate of 35.0% could be achieved.

2.2. Design of the ALLBUS 2014 incentive experiment.

The incentive experiment was conducted in the *main fielding period*, which lasted from the end of March 2014 until the beginning of June 2014. To avoid confounding area effects, sample members were randomly assigned to treatments within PSUs. A random subsample of 1.458 target persons of the GGSS 2014 received a prepaid incentive of 10 € included in the advance letter. Another random subsample of 4.860 target persons was promised a monetary incentive (€10) in the advance letter. The promised incentive was to be handed over by the interviewer at the end of the interview. The rest of the respondents were to act as a control group receiving no incentive ($n = 1.458$). As a rule, all addresses from a PSU were allocated to a single interviewer. This means that each interviewer worked in each experimental condition. Thus, the design controls both for area and for interviewer effects (similar: Lynn et al. 1998; Lynn 2001; Nicolaas 2004). The incentive was sent/announced in the advance letter, which was sent to all target persons by the fieldwork department of the survey organisation. The letter was sent a few days before the main fielding period started. Care was taken that the time span between sending the letter and the first contact attempt by the interviewer was kept as short as possible.

2.3. Methods

All subsequent analyzes only refer to the main fielding period. Thus, disturbing factors such as interviewer change will be excluded. In all analyzes, also the geographical clustering of the sample has been taken into account.

3. Results

3.1. Cooperation and Response rates

Prepaid incentives increase cooperation and response rate to a larger extent than promised incentives. In the control group a response rate of 22.9% could be reached. Compared to the control group (no incentive) 10€ prepaid incentive increased response rates – in the main fielding period – by 14.2 percentage points. Compared to the 10€ promised condition the increase was about 11.4 percentage points. Regarding the cooperation rate (realized interviews/ realized interviews + refusals) the results are more impressive. In the prepaid condition cooperation was 18.9 percentage points higher than in the control group (cooperation rate: 32.4%) and 14.4 percentage points higher in the promised group compared to the control group. As expected there are no effects on contact rate. That means incentives increase survey participation by reducing refusals. The results for the experiment in ALLBUS 2010 could be replicated. The increase of promised incentives compared to no incentives was almost the same - around 3 percentage points.

3.2.1 Selective effects on sample composition

With data from the sampling frame on respondents and non-respondents we can test whether incentives are equally effective in attracting different subgroups of the population. We ran logistic regression models with the two survey outcome variables (cooperation and response rate) as dependent (dichotomous) variables. The explanatory variables included urbanicity (city size, 7 categories), region (Western vs. Eastern Germany), gender (male vs. female), age and nationality (German vs. non-German) plus the treatment conditions (10 € promised incentive vs. no incentive and 10€ prepaid vs no incentive). In a second step we included second order interactions between the frame variables and incentives in our regression models. Interaction effects between the treatment condition and the frame variables would indicate that incentives work differently in different demographic groups. None of the interaction effects we included turned out to be significant and led to a significant improvement of the model (according to the Likelihood ratio test statistic and graphical analysis according Ai and Norton 2004), except the interaction between “incentive” and “Region”. Prepaid incentives are more

attractive to people in East Germany than in West Germany. But this is only a weak effect and increase in Pseudo R^2 is only from .015 to .016.

3.2.2 Selective effects on response distributions

Another possibility to assess differential effects of incentives is to look at the response distributions in the realized sample. Since the incentives in our experiment were offered to a random subsample of the respondents, there should be no significant differences in variable distributions between respondents who received an incentive and those who did not. As long as we can preclude that the incentive had an effect on measurement (by altering the responses provided during the interview), any significant difference in variable distributions indicates that the incentive is more effective in recruiting certain subgroups than others.

We decided in a first step to look at *all* substantial variables of the topical modules “Leisure time and Lifestyle”, “Social Inequality”, “Health” and “Socio Demographics”. We take the data as they are in the dataset ALLBUS 2014. We look at 265 items and we compare all possible differences between the three conditions, which are for each item three tests (prepaid/control; prepaid/promised; promised/control). Therefore we calculated 795 (265×3) Chi^2 Tests to analyze the differences in response distributions. Altogether we found that 3.89% of the differences in response distributions were significant at a level of $p < .05$. At a level of $p < .10$ about 9% of the differences in answers were significant. The same is true for the .01 level. Less than 1% of the comparisons are significant. This indicates that the differences in distributions are almost randomly. Even if we consider only the significant items, we see no systematic effect of incentives on response distributions.

3.3 Effects on response quality

Another possible effect of incentives could be the influence of measurement error and response quality (Grauenhorst, Koch and Blohm 2015). According to the Satisficing

Framework, we calculated for each of 10 item batteries³ indicators for response quality. These are the proportion of answers in the middle categories, in extreme categories (2 indicators), the proportion of item nonresponse (3 indicators) and the proportion of straightlining answers (2 indicators).⁴ For all 8 calculated indicators we found no significant differences in quality for the prepaid condition compared to the promised condition and the control group. Only the number of “don’t know answers” is higher in the control group than in the promised group.

		control	promised	prepaid
Quality indicator	# items	Prop. (%)	Prop. (%)	Prop. (%)
middle cat.	68	17.53	17.30	17.58
extrem1 cat.	68	37.49	37.36	37.44
extrem2 cat.	68	40.96	41.20	40.78
INR hhinc_o	1	24.74	24.75	22.80
INR hhinc_c	1	12.10	11.49	11.03
INR DK	27	*2.50	1.36	1.96
straight1	10Ib	0.0028	0.0023	0.003
straight2	10Ib	0.0111	0.0112	0.013

* Significant difference between control group and promised treatment.

3.4 Fieldwork Efforts

The number of contact attempts interviewers have to make, either to complete an interview or to achieve a final outcome status for the nonresponding cases, are a strong determinant of fieldwork costs in face-to-face surveys. When we compute the total number of contact attempts in person for the gross sample and divide it by the number of completed interviews in both treatment conditions and the control group we found a ratio of 10.4 in the control group, a ratio of 9.4 for promised incentives, and a ratio of 6.4 for the prepaid incentives. This means that in the prepaid condition about 61% less contact attempts in person must be undertaken to get an interview compared to the control group. Compared to the promised condition it would

³ The 10 item batteries included: Leisure time I and II / Music / TV / Social Inequality I and II / social justice / health I and II

⁴ We calculated Waldtests, Chi² and poisson Regressions for small proportions e.g. Don’t Know answers.

be about 47% less contact attempts in person. If we extrapolate these figures to 3500 net cases, we get the following pattern for the key elements of fieldwork costs in relation to the cost of incentives and response rate.

Extrapolation for 3500 net cases	No incentive	10€ promised	10€ prepaid
Response rate (in %)	22,9	25,7	37,1
contacts attempts total	43799	38852	27024
contacts attempts in person	36494	32727	22336
Gross sample size	14894	12915	8728
Incentive costs in €	0	35000	87280

That means independent of the higher response rate 10€ prepaid incentives would be cost effective compared to the control group if the costs for the incentives 87,280 € would outweigh the costs for 14,158 (36494-22336) contact attempts in person. That means if a contact attempt in person is calculated with not less than 6.16 €, prepaid are cost-effective in this sense – but additionally response rate is 14.2 percentage points higher. For promised incentives compared to prepaid incentives the threshold for mean value of a of contact attempts in person is $(87,280€ - 35,000€) / (32727-22336) = 5.03€$.

4. Conclusion

A prepaid incentive of 10€ had a large positive effect on cooperation and response rates, whereas the conditional monetary incentive of 10 € had only a small positive effect on these rates. There is hardly any evidence, however, that both incentive types altered the sample composition of the ALLBUS survey. This means that the incentive neither increased nor decreased any potential sample bias. Regarding survey costs, the prepaid incentives led to a high and the promised incentives to a small reduction in the fieldwork efforts which the interviewers had to exert. As stated in 3.4, it is conceivable that the prepaid incentives in the ALLBUS experiment are cost effective. But this is not to be calculated accurately, since the contact attempts will not be charged to individual contact attempts.

Whether the results can be transferred without further evidence to other studies is an open question. It is important to keep in mind that this result only holds for this specific type of survey such as the ALLBUS which is used here. Surveys have different topical modules, other

survey protocols, etc.. Small changes in implementation could have large effects on sample composition or response rates (Blohm and Koch 2013).

Whether the incentives are cost-effective is not clear without the survey organization. In general, the incentives increase the overall cost. The question is whether the increase in response rates is worth the additional costs. As long as there is no impact on the sample composition and response bias, it is supposedly easy to decide. But if the incentives would lead to a higher bias, the decision on incentives would be more difficult to meet.

Next to these financial aspects you have to consider some practical aspects of using prepaid incentives. The receipt of a letter with a 10€ bill was very confusing for some target persons. About 7-10 percent of the target persons receiving prepaid incentives dialing complained or refused at a hotline which was implemented to provide the target persons a contact person. We also know from calls of the target persons – most of them elderly - suspect a trick or a crime beyond this advance letter.

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