



Non-response Analysis in the Household Budget Surveys in Bosnia and Herzegovina



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Background

- Statistical production is based on data collected in different ways
- There are errors in every statistical survey
- Total survey error is a cumulative value of all possible errors in statistical survey
- Non-response in statistical surveys is one of possible generators of survey errors



Non-response in sampling surveys (1)

- There are two main types of non-response in statistical surveys:
 - a) unit non-response and
 - b) item non-response.
- Non-response can have two effects on survey estimates:
 - (i) it contributes to an **increase of sampling variance** of estimates, as the sample size is reduced; and
 - (ii) it contributes to **bias of estimates**, when respondents differ from respondents in the survey characteristics.



Non-response in sampling surveys (2)

- The survey bias is rather a **multiplicative function** of the **nonresponse** level and the **differences in the survey question between respondents and non-respondents**
- There is no common opinion which is a minimum response rate in order to guarantee survey accuracy and representativeness
- It is needed to monitor, measure and report non-responses in statistical surveys and to apply appropriate methods for decreasing non-response



Methods for decreasing survey non-response (1)

- For a good strategy of non-response reduction, it is very important to identify and measure different components of non-response
- The most common indicators used for reporting non-response in household surveys are following:
 - (i) overall non-response rate,
 - (ii) non-contact rate,
 - (iii) refusal rate and
 - (iv) percentage of vacant dwelling



Methods for decreasing survey non-response (2)

- The most common methods, which can reduce non-response in household surveys are as follows:
 1. Improving the quality of the sampling frame;
 2. Data collection method;
 3. Questionnaire design and respondent burden;
 4. Length of data collection period and time in year for data collection;
 5. Legal obligation and protection of individual data confidentiality;
 6. Communication strategy;
 7. Trained survey staff;
 8. Total survey budget;
 9. Use of respondent incentives;
 10. Language of the questionnaire;
 11. Postsurvey adjustments.



Non-response in HBSs in BiH (1)

Table 1. Overall non-response rates, national and by entities, BiH HBS, 2004-2015

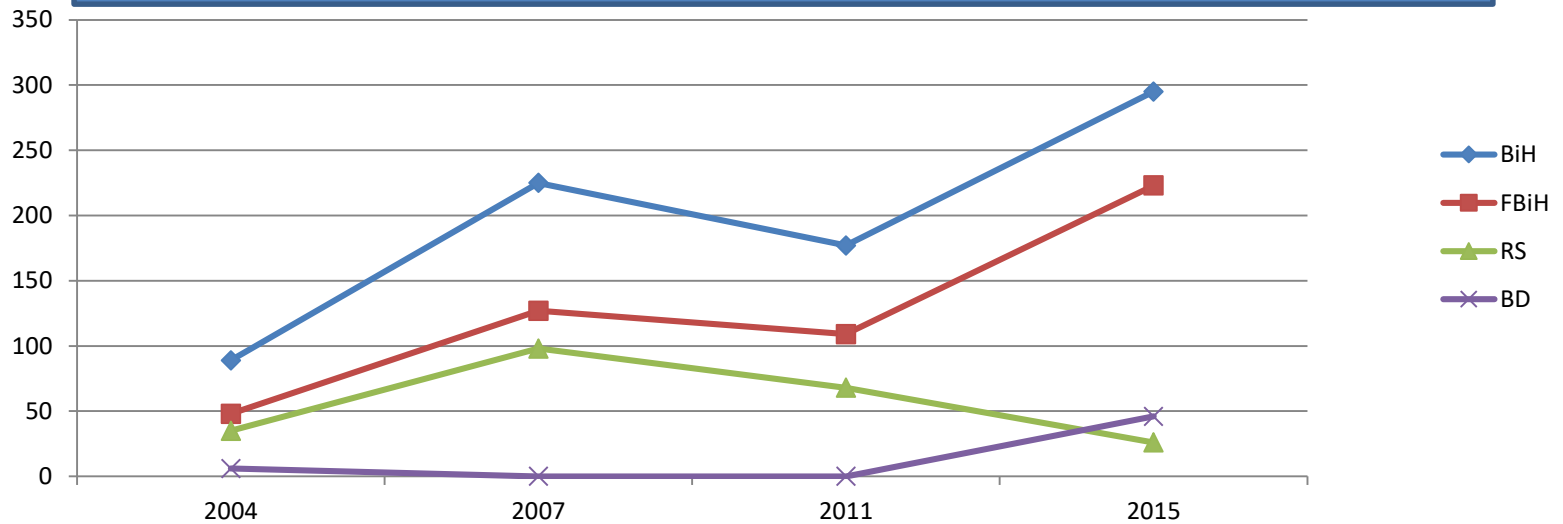
Year	BiH	FBiH	RS	BD
2004	17,2	18,1	15,9	17,0
2007	18,5	20,1	16,4	10,7
2011	24,0	24,8	21,1	30,7
2015	33,2	35,3	23,6	52,1

- The differences in the average non-response rates between survey years are statistically significant ($F=320,752$; $p=0.000$).

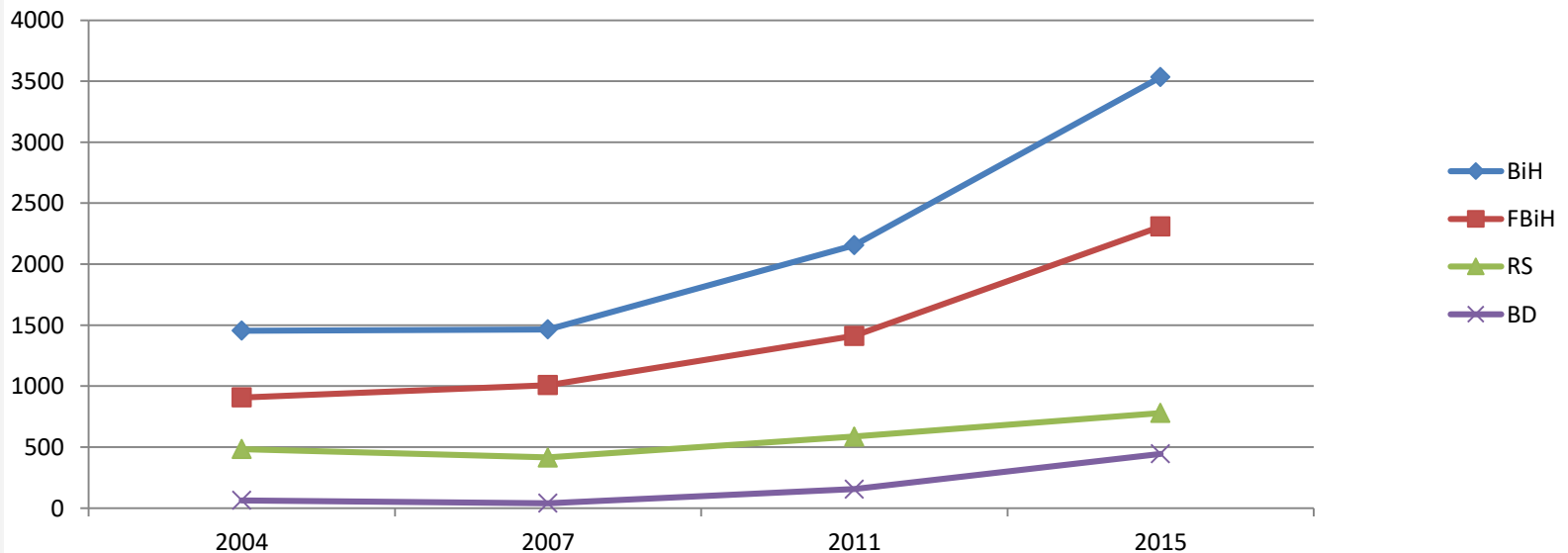


Non-response in HBSs in BiH (2)

Graph 1. Number households with incomplete interviews, national and by entities, BiH HBS 2004-2014



Graph 2. Number of households with no interview, national and by entities, BiH HBS 2004-2015



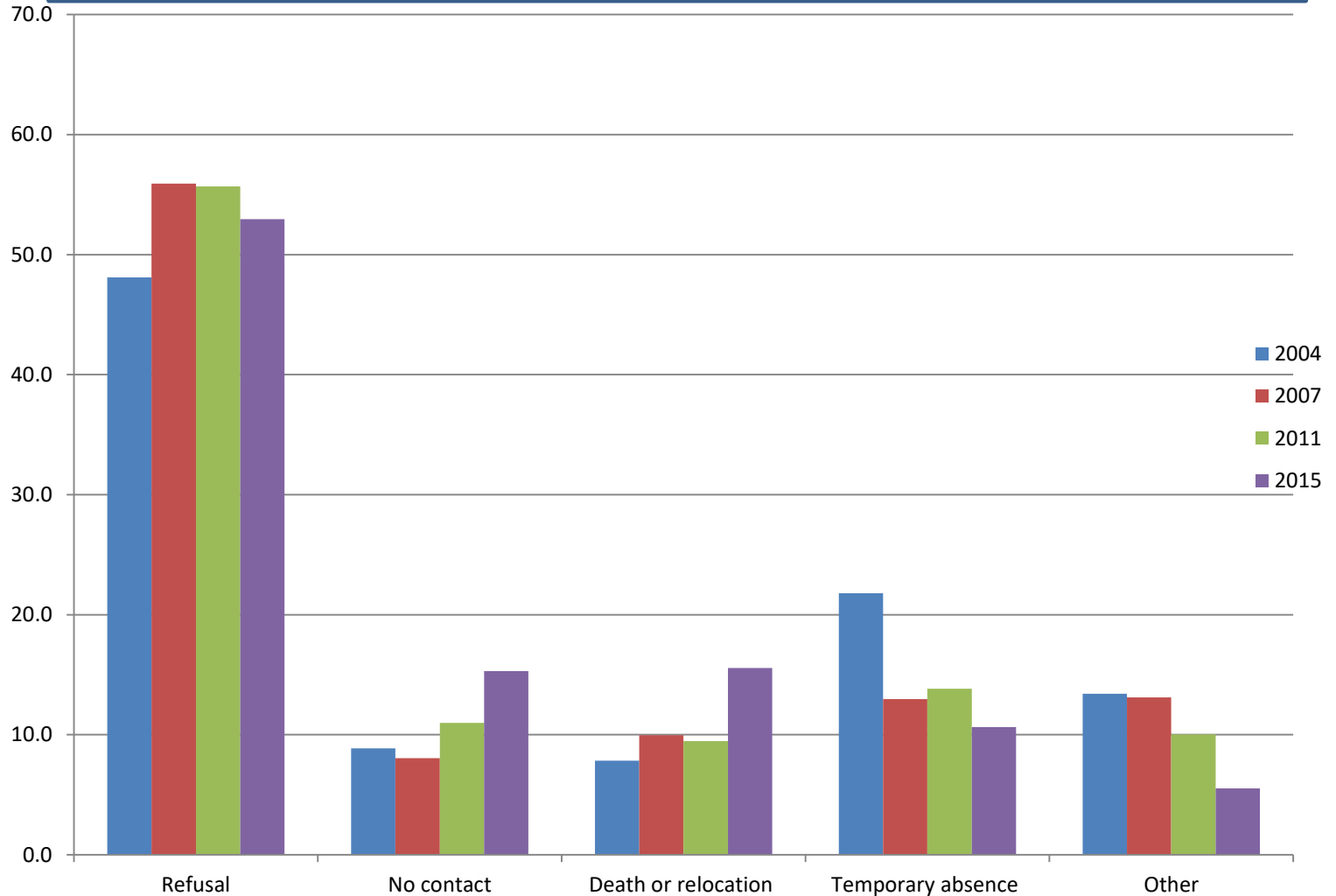
Non-response in HBSs in BiH (3)

- Since the achieved sample sizes were similar in all years (about 7500 HHS), the hugest increase of non respondent households was in Federation BiH
- The most difficult cases of the non-response are those related to not interviewed households
- Five reasons for no interviews have been monitored:
 1. refusal,
 2. no contact,
 3. death or relocation of all household members,
 4. temporary absence of all household members and
 5. other reasons



Non-response in HBSs in BiH (4)

Graph 3. Structure of households with no interview by reasons of the non-response, BiH HBS 2004, 2007, 2011 and 2015



Non-response in HBSs in BiH (5)

- Average rates of initial refusals are statistically significant between survey years ($F=8,295$; $p=0,000$)
- Tukey post hoc test indicated significant increases in average proportion of refusal households in last three years compared with the first survey run
- Differences between last three years are not statistically significant
- The similar pattern has been observed at entity/district levels
- It can contribute to the increase the total survey error and damage the total quality of the surveys
- Since 2004, when the survey was first time launched, no major improvements were made in order to decrease non-response
- Additionally, survey instruments were in 2011 and 2015 extended by ad hoc modules on social inclusion



Methods for improving response in HBSs in BiH

1. New master sample in process;
2. Current: PAPI; Plan: CAPI
3. Questionnaire design adjusted to new data collection method;
4. Plan to decrease the length of data collection period;
5. Legal obligation and protection of individual data confidentiality must be better communicated as well as the survey itself;
6. Permanent survey staff planned for the future;
7. Adequate total survey budget and use of respondent incentives;
8. No problems with language barriers in BiH;
9. Postsurvey adjustments (weights, imputations, poststratification)



Conclusions and future steps

- The significant increase of total non-response within HBSs in BiH was noted
- The non-response is caused by various reasons, the most important of which are refusals
- The imperfection of sampling frame contributes to increase of non-responses as one of most important non-sampling errors, especially in terms of non-contacts and relocation
- There is a lot of room for improvements in the nearest future
- The most important methods for decreasing the non-response are related to the creation of new master sample and to new data collection methods
- Their introduction will allow the implementation of other methods for improving survey responses.



Thank you for the attention!

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