

Response quality in organizational surveys
- the use of different kinds of paradata to detect quality
threats

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Today's talk

- paradata as mean of observing the response process, and the response measurement and editing process
- complex response process in organizational surveys
(population heterogeneity: diverse information systems; diverse proxy informants)
- (How) Can paradata help identifying errors and help improving survey design?

paradata collection

Paradata had been collected at several stages

- 1.raw data inspection
- 2.data editing information
- 3.audio-recordings

paradata collection

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1.raw data inspection

2.data editing information

3.audio-recordings

- sample: responses not encodable
- Handwritten information from the original paper questionnaires
 - Comments
 - inadequate responses

paradata collection

Paradata had been collected at several stages.

1.raw data inspection

2.data editing information

3.audio-recordings

- done by survey institute staff
- data cleaning: checks of plausibility, consistency, filters
- In case of breaches: re-contacts by phone

paradata collection

Paradata had been collected at several stages.

1.raw data inspection

2.data editing information

3.audio-recordings

- behavior coding: deviations from the standardized interview situation are coded
- 41 different codes
 - Int. codes: e.g. reading, probing
 - Resp. codes: e.g. responding
 - use of external sources, knowledge, authority, sensitivity issues etc.

SOEP-LEE research design

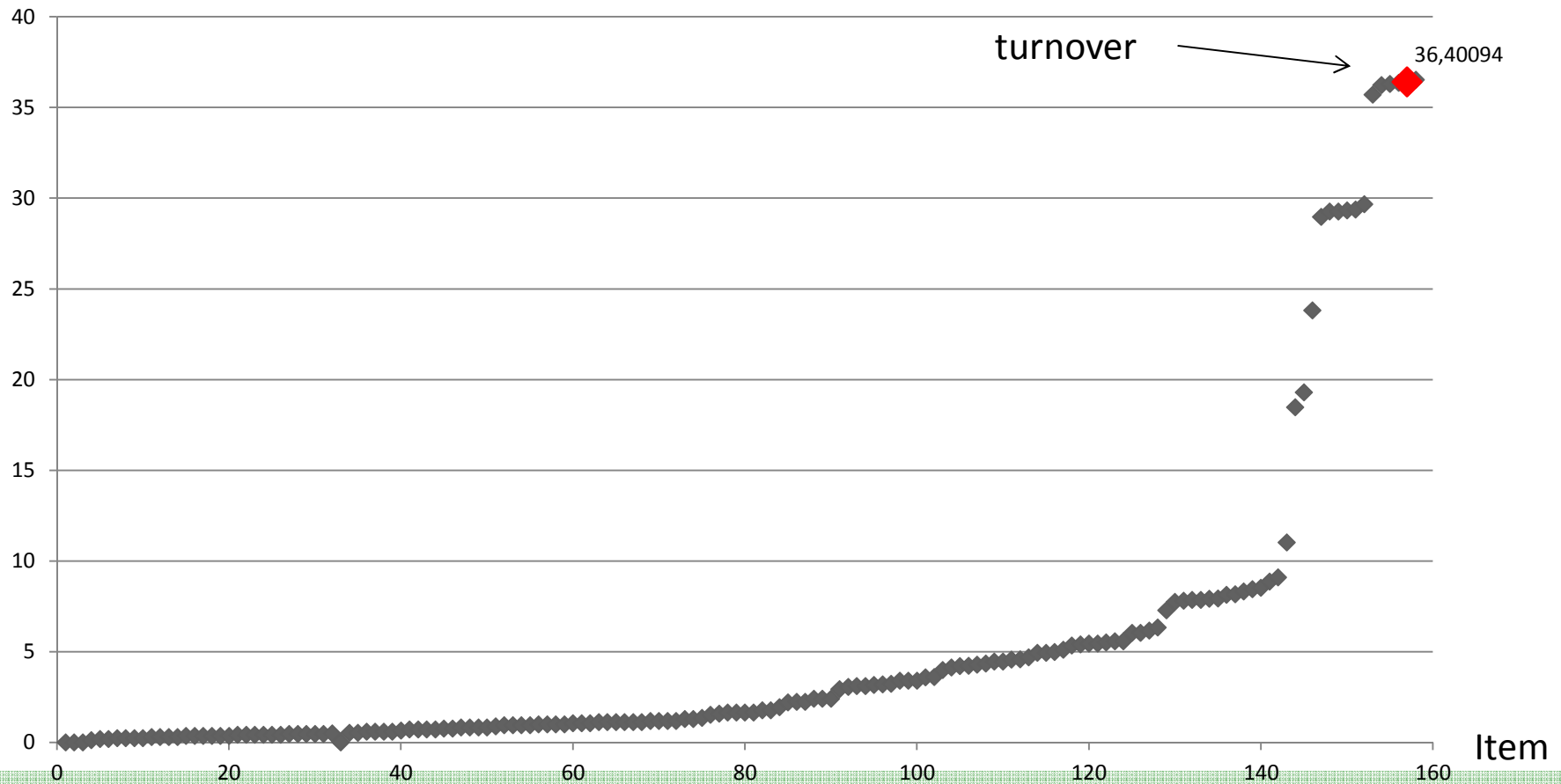
- establishment survey „SOEP-LEE“
- field period: 08/2012-04/2013
- net sample: 1708 establishments, gross sample: employers from the SOEP-individual survey
- mode: f2f (papi), plus option of self-administering, interview length approx. 30 minutes
- establishment informant: head of establishment or HR
- Topics: personnel policies, employee demographics

RESULTS regarding turnover

- the turnover item
 - „**What was the turnover in 2011 of this establishment?**
**By turnover we mean the sales volume for businesses,
the budget volume for public sector organizations or the
total balance sheet for banking and finance.“ (abbreviated)**
- What kind of quality problems regarding the *turnover item* can be identified using the paradata available?

% of Item Nonresponse per item

% INR over all establishments



1. raw data inspection: findings

- cases not encodable: overall 32 (1,9% of 1706)
- cases with problems due to response format: 14
 - errors: 1.0000.000
 - abbrev.: 1 bn instead of 1 000 000
- cases with handwritten comments: 7
 - problems with date (2), with establishment unit (2)
 - „schoolbudget, 6400“ (ref), „schoolbudget 13000“ (13000)

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1. raw data inspection: discussion

- usability of raw data information
 - hints of possible quality threats
 - small and selective no. of occurrences
- recommendations:
 - adjusting the response format to prevent format errors
 - (→ ___ . ___ . ___ , 00)

2. data editing: findings

- plausibility checks:
 - a) turnover per employee > 500.000 EUR
 - b) turnover per employee < 25.000 EUR

	absolute / % of 1706	cases with re-contact
breaches	203 / 12%	177*
edits	50	35
- edits of the figure	31	29
- edits to refusal	19	6
no edits	153	142

* re-contacts not necessary: 3; re-contacts not successful: 23

2. data editing: findings

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 - a) turnover per employee > 500.000 EUR
 - b) turnover per employee < 25.000 EUR

	<i>Hints of quality threats</i>	absolute / % of 1706	cases with re-contact
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Proof of errors!?

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2. data editing: discussion

- usability of plausibility breaches as quality indicator
 - depends on
 - a) Specification of the plausibility rule
 - b) The editing processes

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Note: A red box highlights the number 26 in the original image, with arrows pointing from it to the '203 / 12%' and '177' cells in the 'breaches' row.*

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2. data editing: discussion

- usability of plausibility breaches as quality indicator
 - depends on
 - a) specification of the plausibility rule
 - b) the editing processes
- recommendations
 - specifying distinguished rules of plausibility necessary
 - high standards of documentation of the processes needed

combining paradata sources

(1) raw data inspection showed:

- „Schoolbudget“ next to implausible low figures

(2) data editing/plausibility checks shows:

- All plausibility breaches of schools are due to figures too low.
- 24 implausible responses, 137 schools in the sample

3: audio recording / behavior coding: findings

Overview:

behavior codes:	no.
interviewer	
- not read exactly as scripted (meaning change)	25 of 29
- not probed neutrally	3 of 10
respondents	
- showed other behaviors	10 of 29

3: audio recording / behavior coding: findings

- explanation of the „school budget“ problem found

3: audio recording / behavior coding: quotes

Quote, SOEP-LEE audiointerviews, id30, translated and abbreviated:

i. turnover, is there something like that?

r. yes. Budget. [...] These are the costs, the material expenses, expenses for teaching and learning materials, overheads etc. [...]

That was 105.000 [...] I don't know what to include, because no personnel costs are included, neither for the teachers //

→ **105.000, personnel costs not included!**

(implausible too low, validated through re-contact)

3: audio recording / behavior coding: quotes

Quote, SOEP-LEE audiointerviews, id31, translated and abbreviated:

- i. What was the budget of this school?
- r. That's difficult. We have a budget for material expenses, that's right, but we also have the personnel costs. That are a few millions. And compared to this material costs are marginal. [...] I don't know the personnel costs. ... There is a rule of thumb, that says, that one full-time teacher costs all in all 6000 EUR. If we calculate that, then//

i. [...] It would be great, if we could calculate that.

→ **3.500.000, personnel costs included!**

(not implausible)

3: audio recording / behavior coding: findings

- explanation of the „school budget“ problem found
 - people differ in what they include: material expenses *plus* personnel costs
 - characteristic of the German public school system

3: audio recording / behavior coding: findings

- explanation of the „school budget“ problem found
 - people differ in what they include: material expenses *plus* personnel costs
 - characteristic of the German public school system

- recommendation:
 - include extra information in the question formulation
 - but Interviewers abbreviate considerably!
 - In 25 of 29 interviews question was not read as scripted

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(1) raw data inspection showed:

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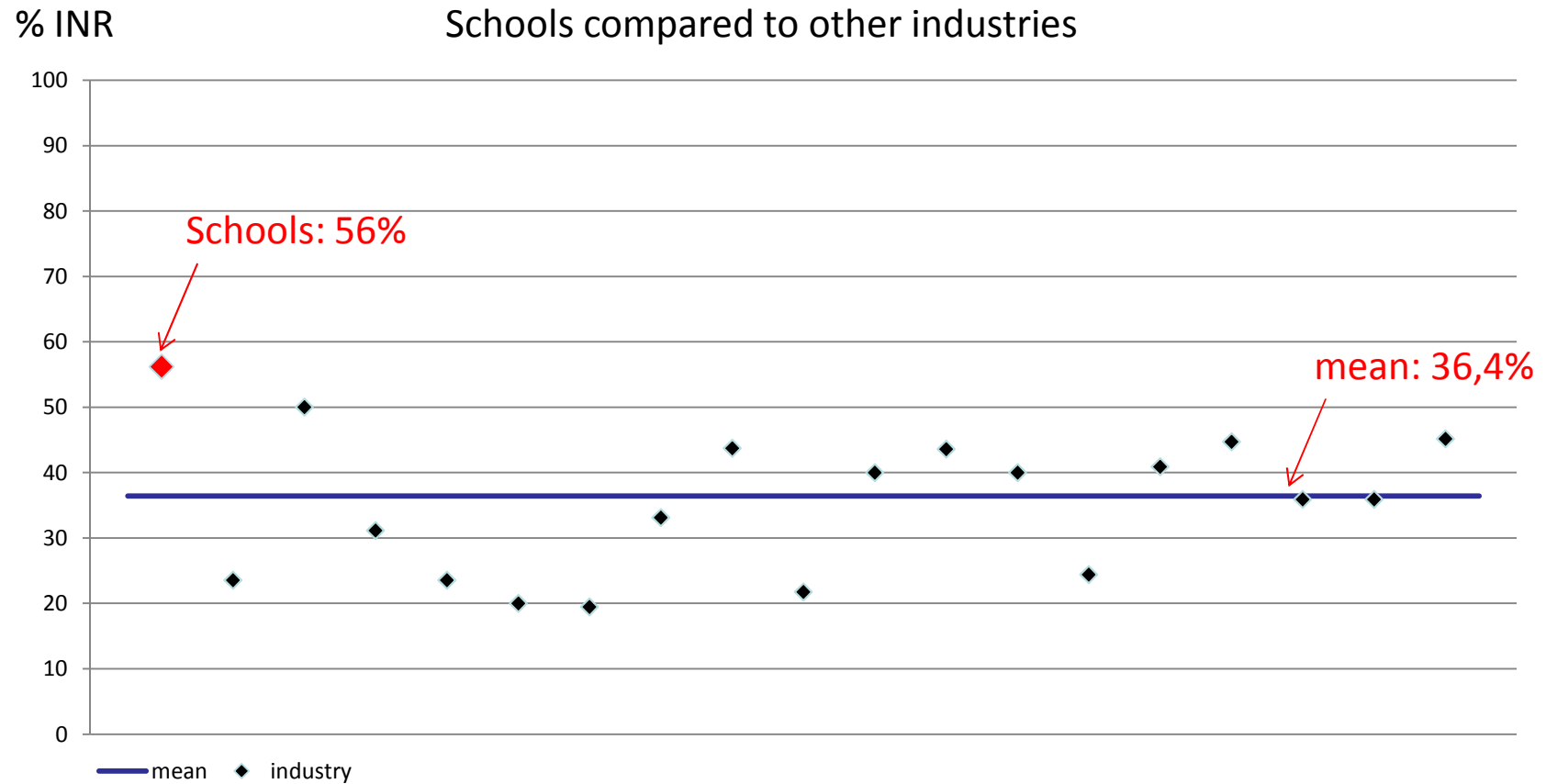
- All plausibility breaches (24) of schools (137) are due to figures too low.

(3) audio recordings and behavior coding shows:

- people differ in what to include

→ Item Nonresponse

Item Nonresponse Rates of Turnover



3. audio recordings / behavior coding: discussion

- usability of audio recordings data:
 - additional explanatory use due to in-depth-information
 - in-depths insights into the response process (question-answer-sequences) possible
 - selective

summary of findings

- We did find problems, as expected, due to population heterogeneity.
- main conclusions up to now...
 - paradata methods are useful to detect response problems
 - paradata differ in the ability to detect quality problems
 - combination of different sources of paradata can be fruitful
- further research needed:
 - systematic errors, size of effects, relevance within the TSE?

thank you very much for your attention

The project

„SOEP-LEE“

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