

# **Interviewer effects in the European Social Surveys**

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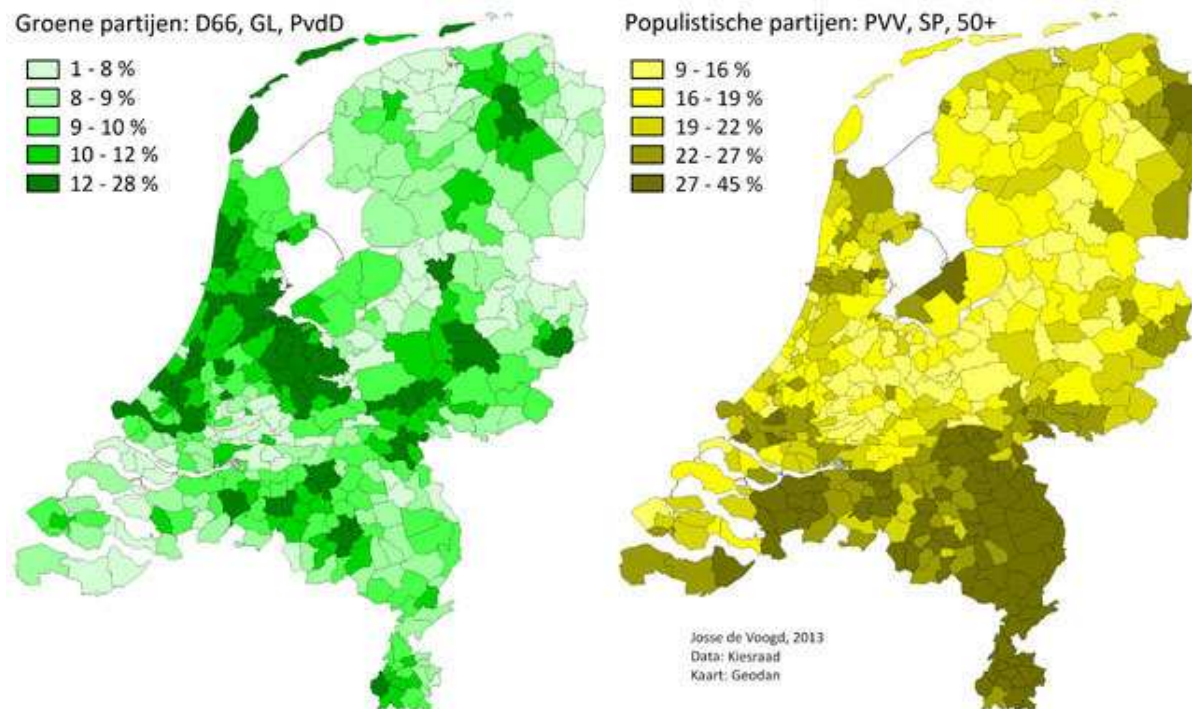
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# Interviewer effects or area effects?

- Interviewer effects:

- ◆ Literature
- ◆ ESS experience

- Area effects:



# Measurement or selection?

- Interviewers
  - ◆ might influence answers
  - ◆ different response rates
  - ◆ recruit different kinds of respondents
- Area
  - ◆ real regional differences
  - ◆ different response rates

# 2-by-2 interviewer- area and selection-measurement confounding

	Interviewer	Area
Measurement	I	II
Selection	IV	III

- I: Interviewer influences answers of respondents:

$$y_{ij} = \gamma_{00} + e_{ij} + \mu_{0j}$$

Solution: Take interviewer clustering into account & level out  $\mu_{0j}$ 's

- II: Target variable depends on area

Solution: Take area clustering into account

- III: Area have different response rates

Solution: Weight areas  $\sim$  response rates

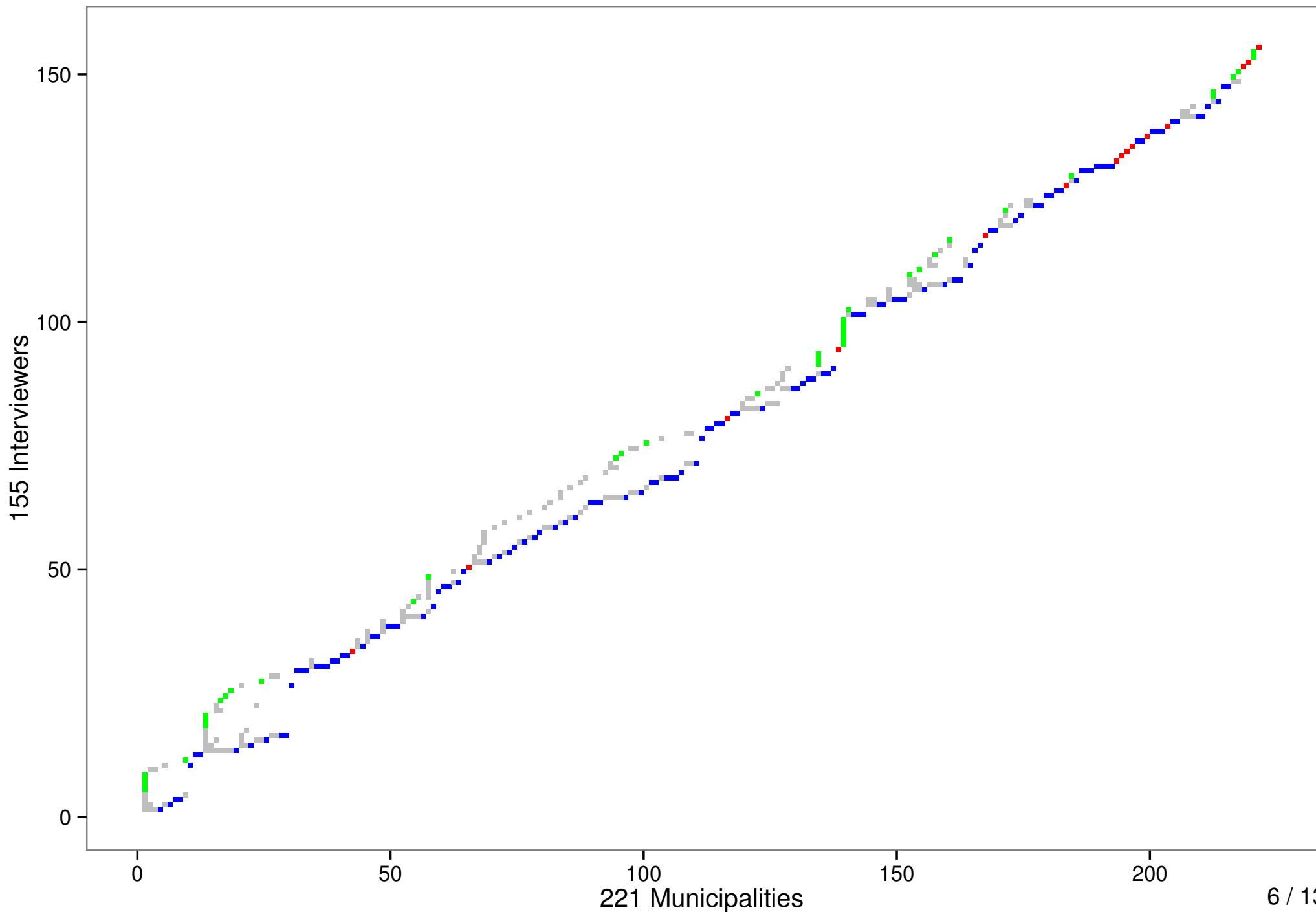
- IV: Interviewers have different response rates

Solution: ?

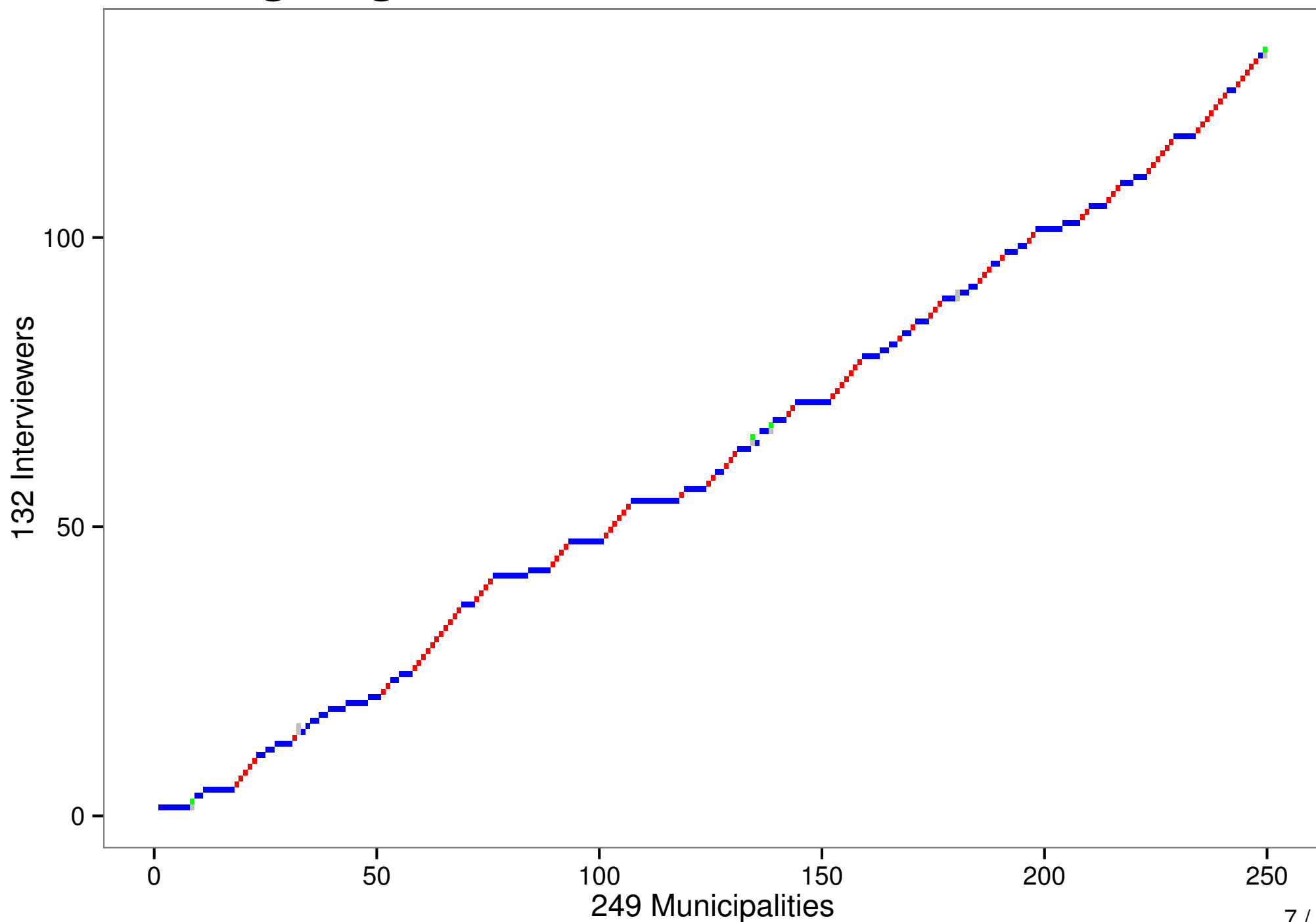
# Big problem

- Strong exclusive assignments of interviewers and areas
- No (not enough) interpenetration

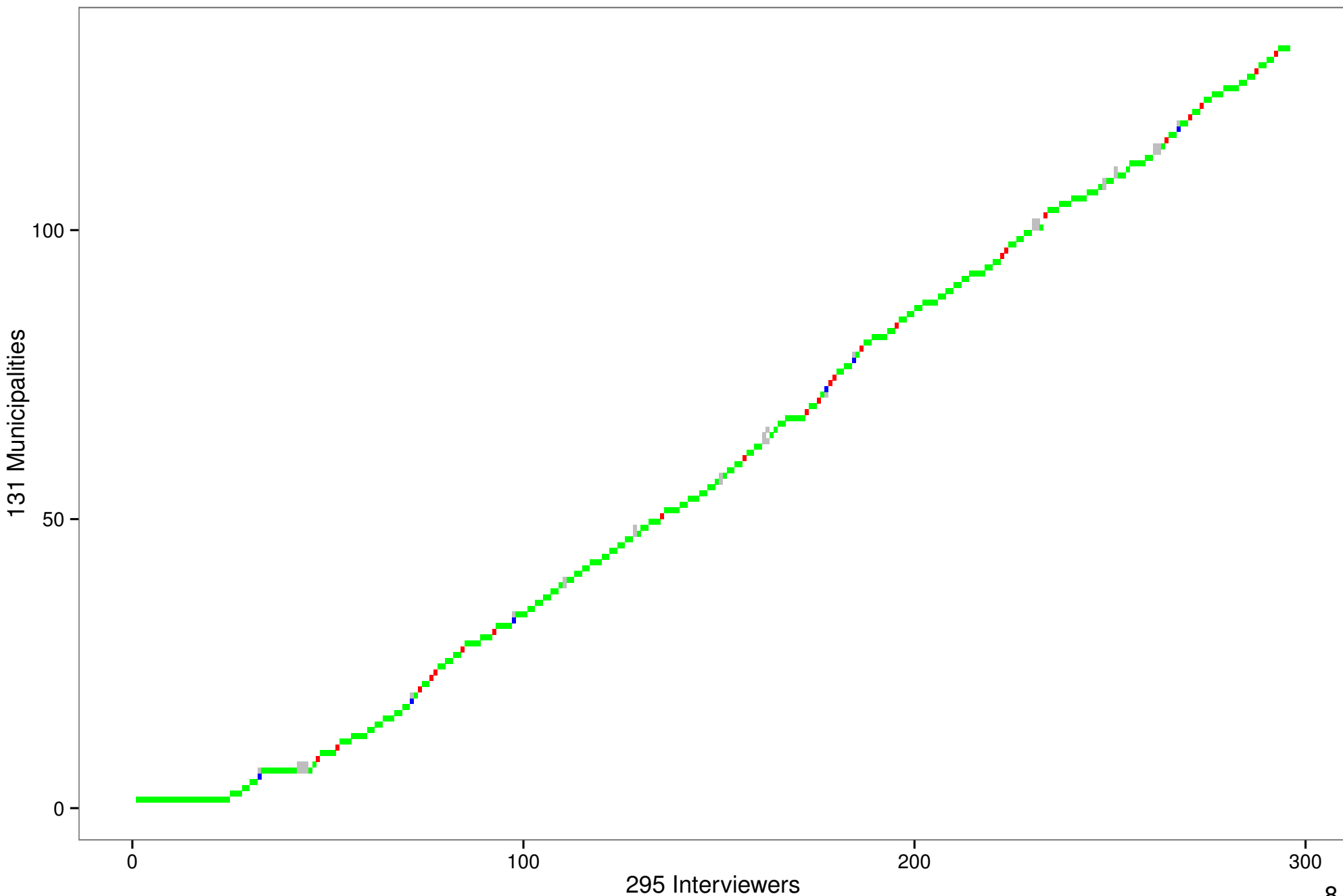
# Assigning areas to interviewers - Belgium



# Assigning areas to interviewers - Slovakia



# Assigning interviewers to areas - Russia





# Incompatibilities

- I and III

Attaching weights to interviewers to level out interviewer effects

$$\mu_{0j} \neq$$

Attaching weights to area to correct for area nonresponse

- III and IV

Attaching weights to area to correct for area nonresponse

$$\neq$$

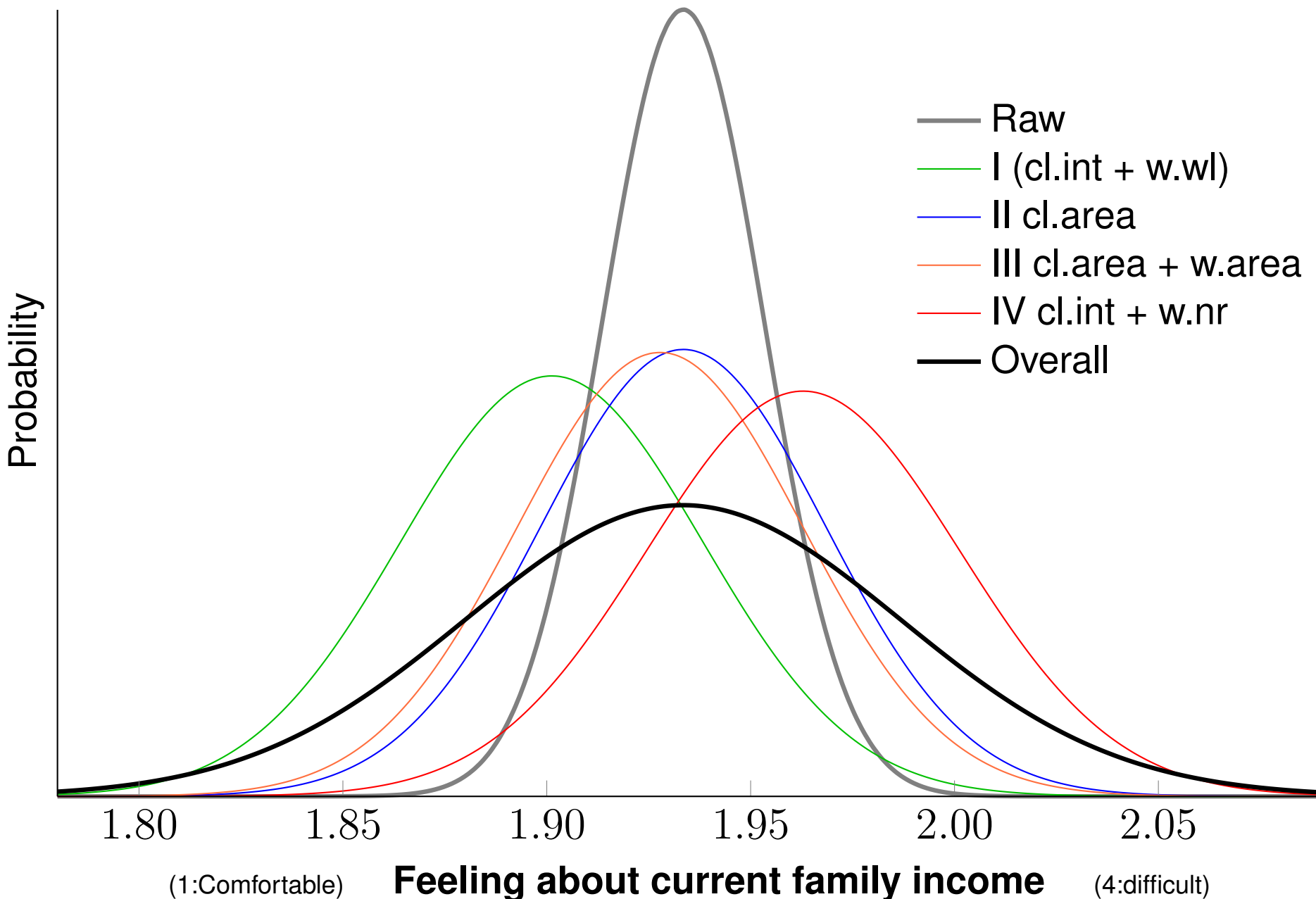
Attaching weights to interviewers to correct for interviewer nonresponse

# Incompatibility of interviewer and area effects

	Area A	Area B	target
Interviewer 1	50		0.50
Interviewer 2		60	0.50
Target	0.35	0.65	

- Due to strong collinearity of areas and interviewers, correcting the two aspects simultaneously is impossible.
- Solving one problem, causes another

# Possibly wrong estimates (BE)



# Effective sample size

Averaged over 51 survey items

Country	respon- dents	Effective sample size				Overall
		I	II	III	IV	
Belgium	1869	775	1157	1086	808	492
Slovakia	1853	401	665	677	230	175
Russia	2490	846	513	435	769	355
Portugal	2152	411	534	550	387	304
Poland	1903	689	1387	1306	733	514
UK	2287	873	1466	1371	997	597
Israel	2511	506	1042	993	645	415

# Discussion

- Hard to deal with 2-by-2 interviewer-area confounding
- Strongly jeopardizes the power in all countries
- Differences between countries regarding interviewer-area assignments
  
- Increase number areas/PSU's and homogenize their response rates
- Increase number of interviewers & homogenize workloads and response rates
- Reduce interviewer effects
- Reconsider the advantages of two-phase sampling for cost-purposes
- Consider nationwide interpenetration (local clustering of interviewers)
  
- Should interviewer and area id's be made more explicitly available to data users?