

# QUALITY ISSUES REGARDING THE NUMBER OF HOURS ACTUALLY WORKED

in the German Labour Force Survey



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7th European Workshop on LFS Methodology,  
Madrid, 10 - 11 May 2012

# Agenda

**Confusing results on hours actually worked in Germany**

**Conceptual requirements and methodological challenges**

**Plausibility of hours actually worked in Germany**

- Paid leave
- Bank holidays
- Sick leave

**Measurement issues**

- Rounding effects
- Mode effects
- Proxy effects
- Effects due to seasonality

**Conclusions**

# Are the Germans really working six weeks more than the French?

Hours actually worked per year		Germany	France	Diff.
Employees	LFS	1,631	1,548	+ 5.3%
	National Accounts	1,323	1,363	- 3.0 %
Full-time employees	LFS	1,903	1,679	+ 13.3 %
	LFS (Eurostat publication)	2,106	1,976	+ 6.6 %
Part-time employees	LFS	874	978	- 10.6 %
	LFS (Eurostat publication)	957	1,157	- 17.2 %

# The concept and its measurement (1)

## Hours actually worked ...

... include	... exclude
Production of good or services	Paid leave
Ancillary activities	Sick leave
Short pauses	Bank holidays
Education and training necessary to carry out production or ancillary activities	Education and training not necessary to carry out production or ancillary activities
Travel time on business trips	Travel time between home and the place of work
Overtime hours	The main meal breaks
On-call time	Other absences for personal reasons

# The concept and its measurement (2)

## Measurement issues

- Concept specification in the questionnaire
  - Single questions vs. components
- Response process
  - Cognitively demanding task
  - Availability of information (recall)
  - Presence or not of an interviewer
  - Proxy answers
- Effects due to sampling design?

# Measuring hours actually worked in the German LFS

How many hours have you actually worked last week?

Please also consider extra work or hours worked less, e.g. due to paid leave, bank holidays or illness

52 **Wie viele Stunden haben Sie in der letzten Woche tatsächlich gearbeitet?**

*Berücksichtigen Sie bitte auch Mehrarbeit und weniger geleistete Stunden z. B. wegen Urlaub, Feiertagen oder Krankheit.*

*Bitte runden Sie gegebenenfalls auf volle Stunden auf oder ab.*

In der letzten Woche nicht gearbeitet .....

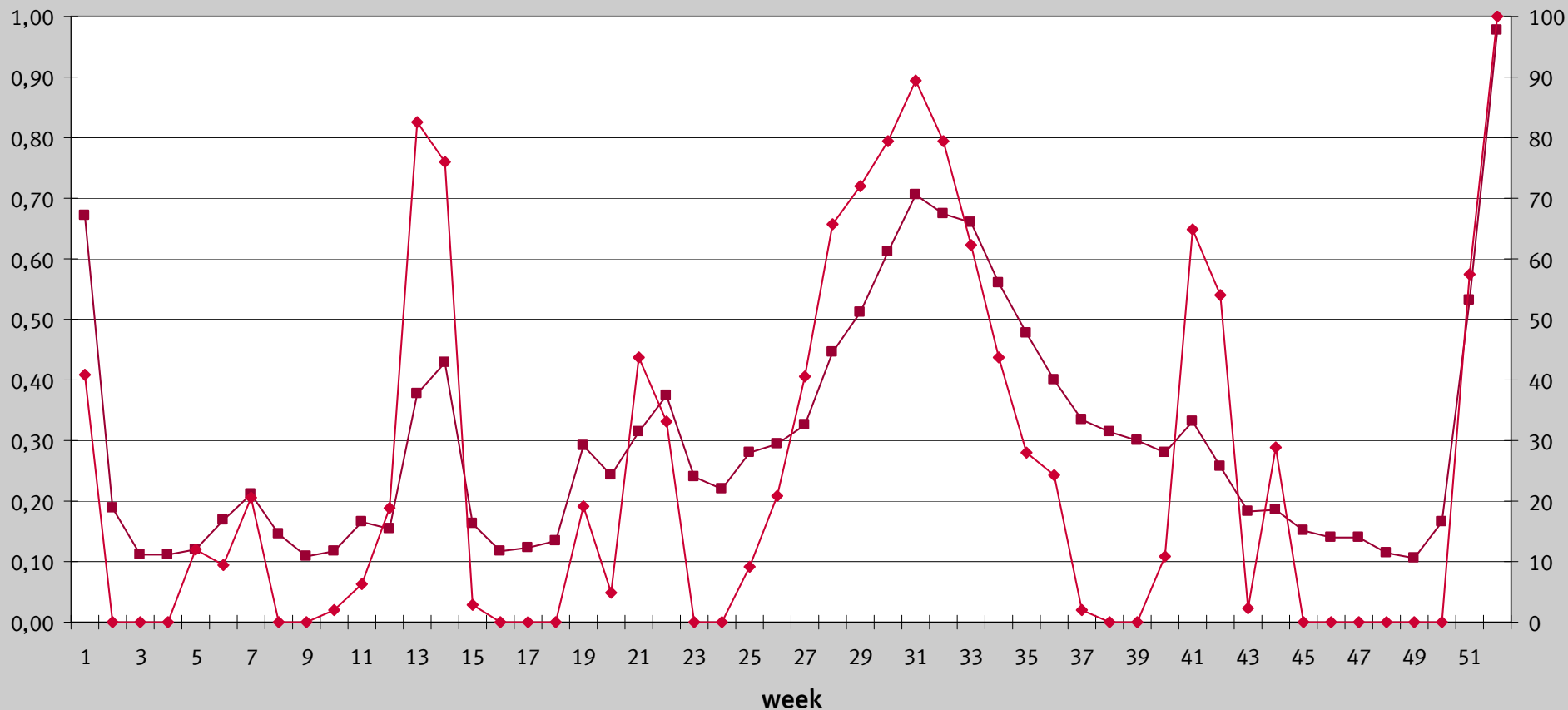
Not worked last week

Please round upwards or downwards to full hours

# Plausibility of working time estimates – paid leave and sick leave

	Share of full-time employees absent or partly absent in reference week	Estimated annual days of absence per full-time employee	“Expected” annual days of absence per full-time employee
<b>Paid leave</b>	7 %	16	25-30
<b>Sick leave</b>	3 %	7	9-10

# Paid leave vs. holiday intensity



— Average days off due to holiday per full-time employee — Holiday intensity index (right scale)

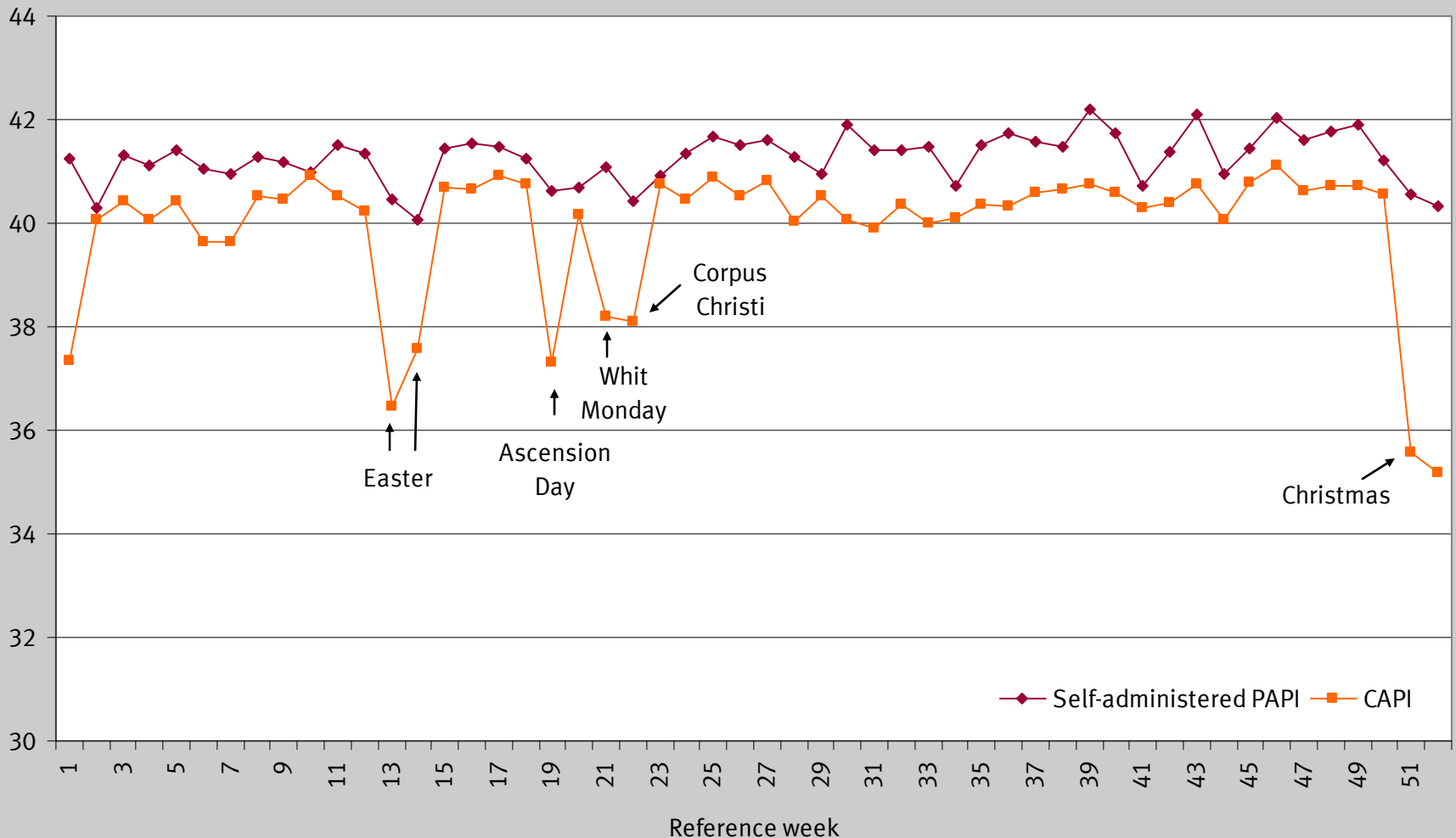


# Plausibility of working time estimates – bank holidays

	Share of full-time employees partly absent in weeks with bank holidays*)	Share of full-time employees fully absent weeks with bank holidays	“Expected” absence in weeks with one bank holiday
<b>National bank holidays</b>	17 %	10 %	80 % – 95 %

\*) Absences due to main reason „bank holiday“ (other reasons: 8%)

# Average hours actually worked per week



# Measurement issues

**Rounding Effects**

**Effects due to the data collection mode**

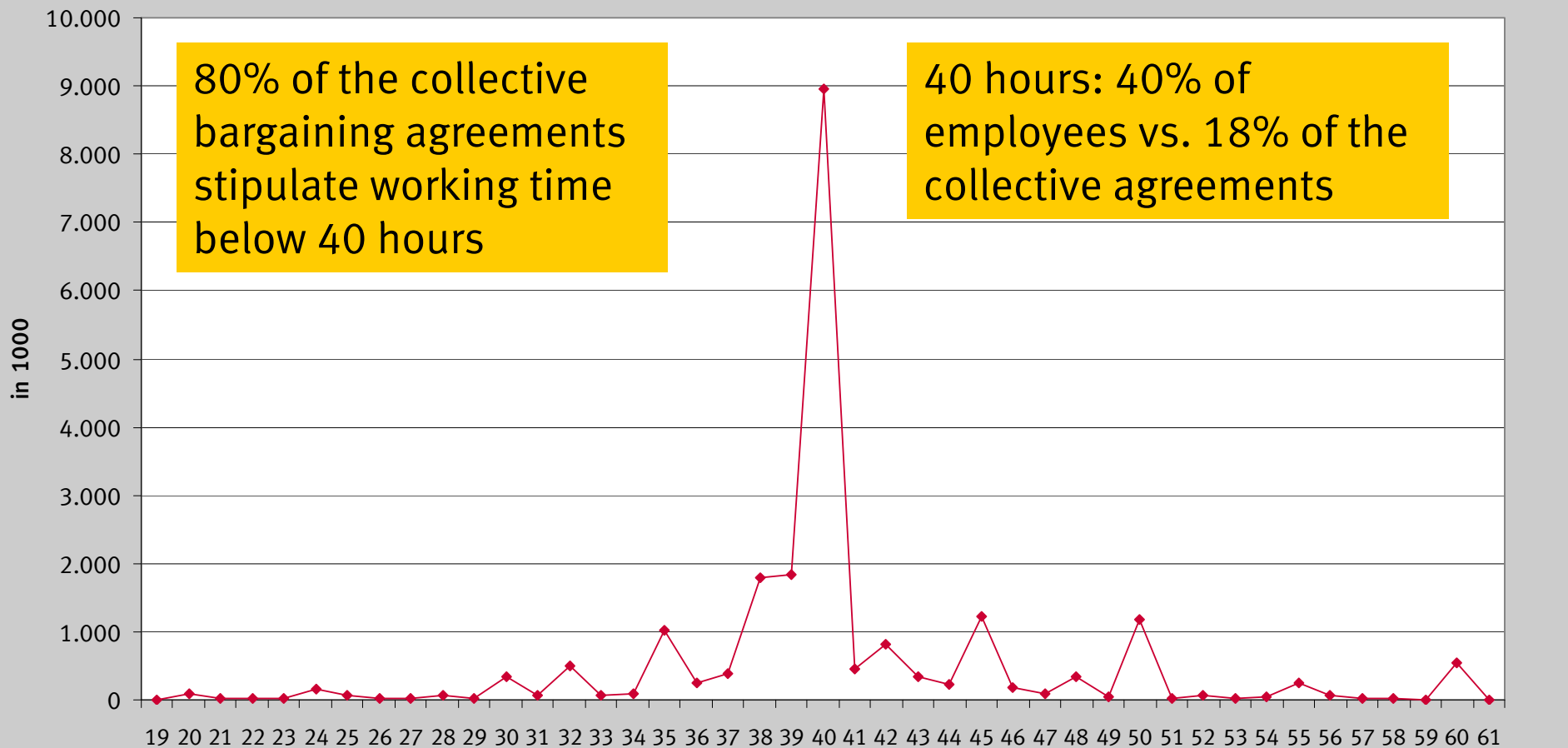
**Effects due to information provided by other household members**

**Effects to to the seasonality of the variable**

**Overediting?**

# Rounding effects

## Distribution of hours actually worked per week



# Mode & proxy effects

## Average hours actually worked (full-time employees)

	Total	Direct	Proxy	Proxy-Direct
Total	36.6	36.2	37.7	1.5
CAPI	36.5	36.0	37.7	1.7
Self-administered PAPI	37.1	37.1	37.5	0.4
Passive telephone interview	36.6	36.2	37.3	1.1
Difference PAPI-CAPI	0.6	1.1	0.2	

# Mode effects

	total	not worked in reference week	worked in reference week		
			working time <u>equal to</u> hours usually worked	working time <u>smaller</u> than hours usually worked	working time <u>higher</u> than hours usually worked
Self-administered PAPI	100%	10%	63%	11%	16%
CAPI	100%	9%	65%	10%	16%
Passive tel. interview	100%	10%	74%	5%	10%
Total	100%	9%	65%	10%	16%

# Proxy effects

	total	not worked in reference	worked in reference week		
			working time <u>equal</u> to hours usually worked	working time <u>smaller</u> than hours usually worked	working time <u>higher</u> than hours usually worked
Direct interview	100%	10%	61%	11%	18%
Proxy interview	100%	7%	74%	8%	11%
No answer	100%	10%	66%	10%	14%
Total	100%	9%	65%	10%	16%

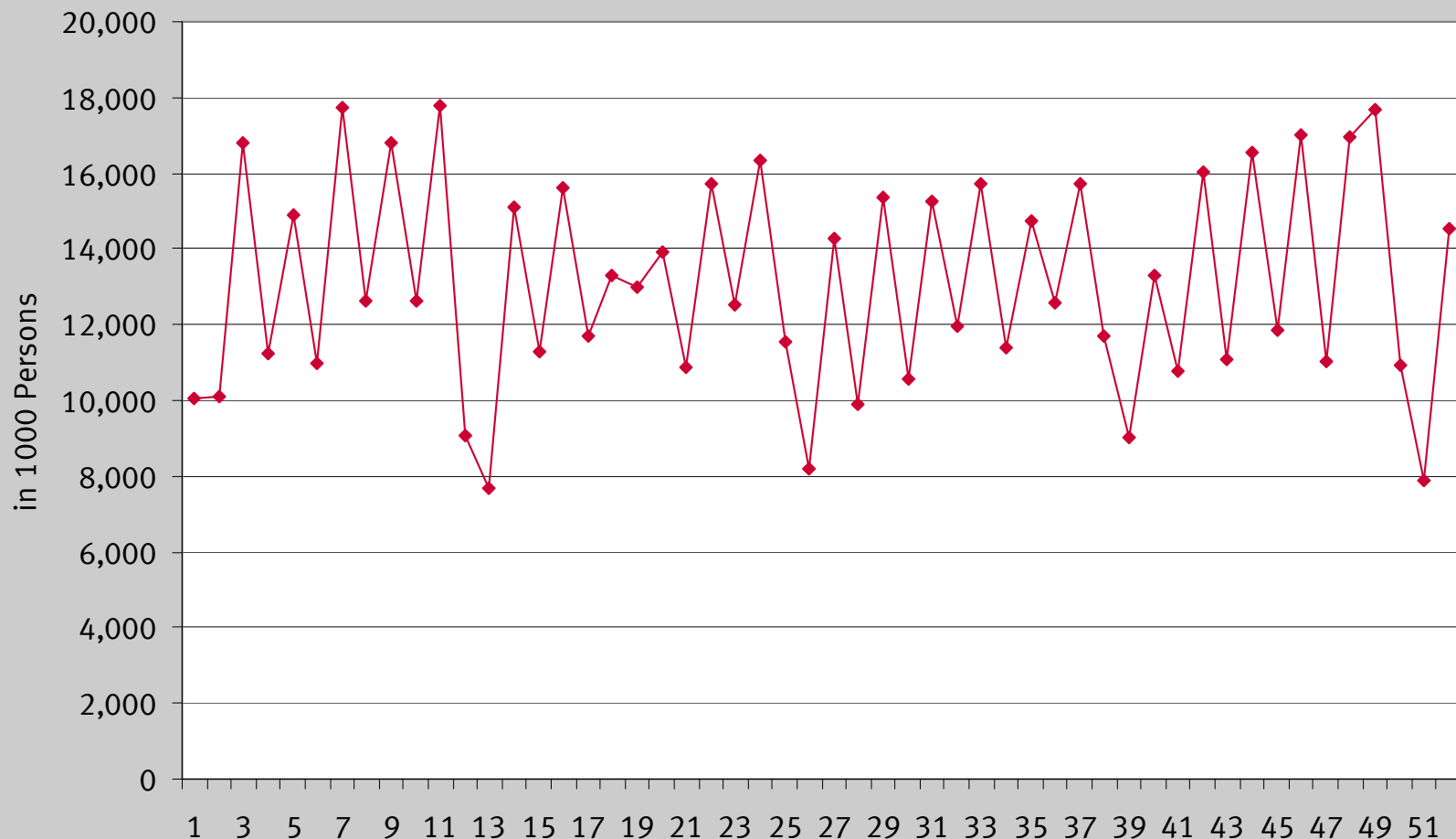
# Effects due to the seasonality

**Sliding reference week: Responses always refer to the week directly before the interview**

- Large variation of weekly sample size (7,700 – 17,800 persons)  
But minor correlation of sample size and working time (2010)
- Unintended effects of sliding reference week
  - Questionnaire unspecifically refers to the „last week“
    - > Tendency to report usual instead of actual hours?
  - Lower probability to achieve an interview in the first week following an absence
    - > Underestimation of number of persons absent from their job in reference week?



# Distribution of interviews over the weeks (2010)



# A case of overediting?

## Sequence of questions (2010)

No. 21 „Last week, did you work against pay or profit“

=> WSTATOR

...

No. 52 „Last week, how many hours did you actually work?“

=> HWACTUAL

## Editing rule

If WSTATOR=2 then HWACTUAL≠00

How are corrections made if this case appears?

# Conclusions

There is empirical evidence that the hours actually worked are overestimated in Germany

- “too few” employed persons not working in the reference week
- “too few” employed persons working reduced hours in the reference week

## Multiple reasons

- Some (limited) proxy and mode effects
- Strong evidence of rounding (presumably upwards)
- Other (major?) effects difficult to prove
  - Sliding reference week
  - Overediting

Any other ideas?

# THANK YOU!

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