

# Using poll-based information for supporting policy positions

Some basics

# The Nature of Public Opinion

# History of Public Opinion

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- **Appeared as meaningful notion along with the written press, initially Public Opinion was channeled and presented by the media**
- **Seen as a threat by liberal thinkers at the time of the evolving of media (Mill, Tocqueville) – *Autocracy of Public Opinion***
- **After the evolving of mass media, and primarily electronic media, now thinkers are more afraid of *Vulnerability of Public Opinion***
- **There are still scholars who argue that Public Opinion does not exist (Bourdieu)**
- **Still, Public Opinion is measured and reported widely in the global media**

# **Bourdieu's Logic: there is no Public Opinion**

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- **... because it investigates hypothetical problems, that are not necessarily converging with the „important” political, economical, structural reality, decision models and structures, interests**
- **... because it levels out the importance of the opinions of very different people, who are not equal in their influence, (competence, etc)**
- **... because it generates Public Opinion in questions where Public Opinion does not exist**

# **Vulnerability of *Truth* – The Power of Public Opinion**

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- **The CBS's case with McCarthy**

**A CBS anchor, Murrow broadcasted an investigative story about McCarthy's committee – how they misused their mandates, etc.**

**A follow-up survey revealed that the public opinion was still on McCarthy's side, and did not like presenting him on the „bad side“. Soon after this, Murrow was released from CBS – the „truth“ did not matter**

- **Public Opinion Survey's greater role lead to decline of minority truths in general – „Spiral of Silence“**

# The First Surveys

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- **were usually reader's surveys: questions were posed to readers of a newspaper, and readers did respond by mail (Literary Digest)**
- **George H. Gallup was one of the pioneers of scientific, sample-based measurements**
- **in 1936 Gallup's poll outperformed the well-respected Literary Digest poll, which failed to predict the winning candidate on the Presidential Elections  
(more on this topic can be found in the handout)**

# Public Opinion Investigation Methods

# Qualitative & Quantitative Surveys

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**These are basically the two big families of methods used in Public Opinion research**

- **Qualitative Surveys are usually used to explore and describe fine attitudes, paradigms, frameworks, how people are approaching problems, often involving indirect, projective techniques**
- **Quantitative Surveys are the tool of generalization, with the help of these methods we can quantify the presence of different opinions, intended behaviors in a population; and therefore build predictive models**

# Quantitative Methods

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- **Sample-based**
- **„Questionnaires”**
- **can be:**
  - **interviewer facilitated, or**
  - **self administered**
- **different methods: the „medium”**
  - **in-person interviews (paper, CAPI, can be wireless)**
  - **telephone interviews (CATI)**
  - **(mail interviews)**
  - **web based interviews**

# Qualitative Methods

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- **non-sample studies**
- **in-depth interviews**
  - **only the topic is given, and there is a free conversation between interviewer and interviewee**
- **structured semi in-depth interviews**
  - **similar to in-depth interview, except that there is a standard guideline where several issues are listed that have to be discussed along the interview**
- **focus groups**
  - **a group of people (6-8), sitting in a room and discussing the given topic with the help of a guideline**
  - **the group is moderated, a moderator keeps the discussion under control**

# Typical Statements from Qualitative & Quantitative Surveys

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- **Quantitative:**
  - „15 percent of Serbs living in Republika Srpska reported that they approve NATO peacekeeping forces (SFOR) in the territory of Bosnia and Herzegovina”
  - „Bush leads over Gore by a minimal, 2 percentage point margin”
- **Qualitative:**
  - „Based on focus groups studies we’ve found that the siege of Sarajevo resulted in enormous value-crisis among those who remained from the once multi-ethnic city.”
  - „Expert interviews suggest that the US electoral system should undergo a serious structural change to provide fair results, based more on the share of popular votes”

# The Key: Sampling

# Why Could Dr. Gallup Could Predict Roosevelt's Success Correctly?

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- A series of discoveries from Central Europe / L. Kish, Lazarsfeld, Zeisel, etc.
- First uses of „*probability sample*”
- The basic principle: a randomly selected, small percent of a population of people *can* represent the attitudes, opinions, or projected behavior of all of the people, if the sample is selected randomly, that is,
- Where each member of the investigated population has equal probability for being selected

# An Example for Equal Probability Sampling

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**How do you determine the ingredients?**

**You might do a census...**

**But it costs you a lot the day after**

**Or you sample it – to do that, you'll have to shake it**

# Random, Equal-Probability Sample

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- **Ensures that subsequent measurements can be made with a known margin of error (compare to the censuses in every decade?)**
- **Makes it relatively cheap to learn societal processes, attitudes**
- **Can predict certain things with some reliability**
- **BUT IS NOT A TOOL WITHOUT LIMITATIONS!**

# Reliability and Validity

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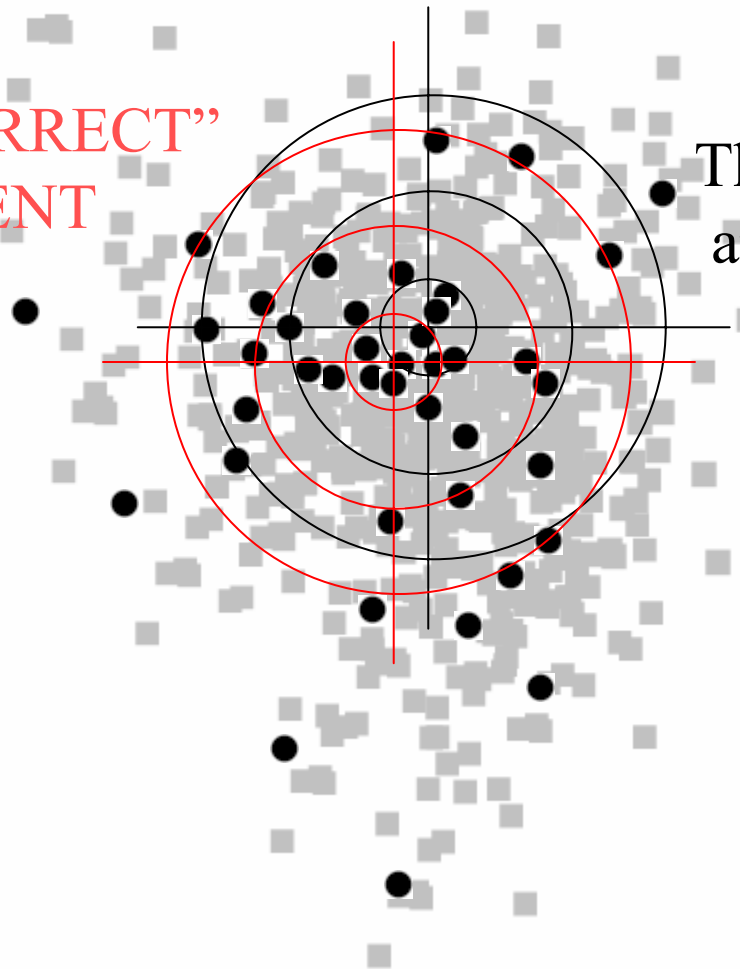
- **Difference between repeatedly asking the wrong question, and asking the “right” question, without being sure that the results are comparable**
- **Refer to reader paper for great examples**

# Measurement Theory – The Crosshair Example

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The deductive explanation of sample size effect

THIS IS OUR „CORRECT”  
MEASUREMENT



That is what we  
are measuring?

# The Case of Low-Incidence Phenomena

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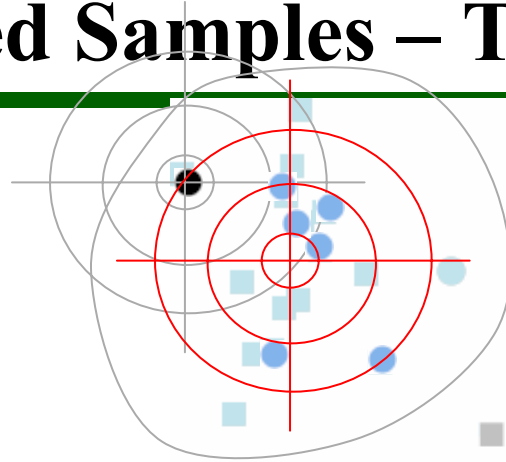
- There are 80 „A”s, 34 „B”s, etc., and only 6 „E”s in this soup
- There is a good possibility that there is no „E”s in the sample in the spoon – although, this is an equal probability selection

# The Common Solution: Skewed Samples

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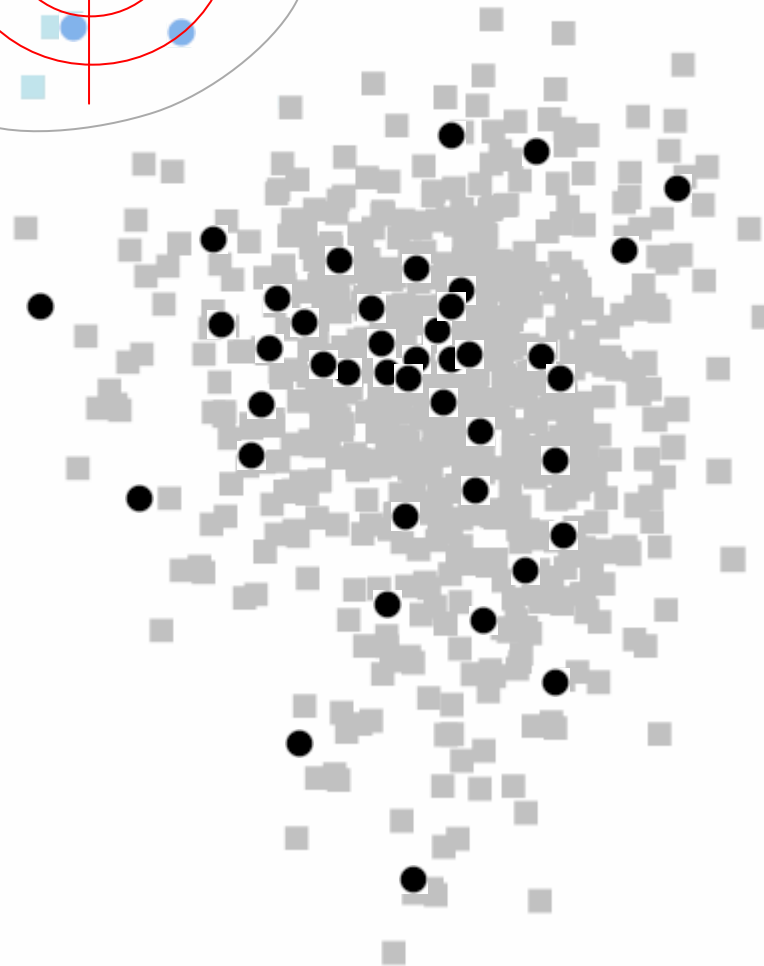
- The simplest solution to find these hardly reachable target groups is to raise sample size: with a larger spoon we would find „E”s in the soup
- In many cases opinion researchers „bias” their sample to reach small-incidence populations (e.g. very large businesses, ones with special disease, etc.)
- This is called oversampling
- In these cases you deliberately select more sample members that fit a special criterium or set of criteria
- **BUT:** at the end you will need to *weight* your data to restore the original population distribution if you are reporting on the larger population

# Skewed Samples – The Crosshair Example



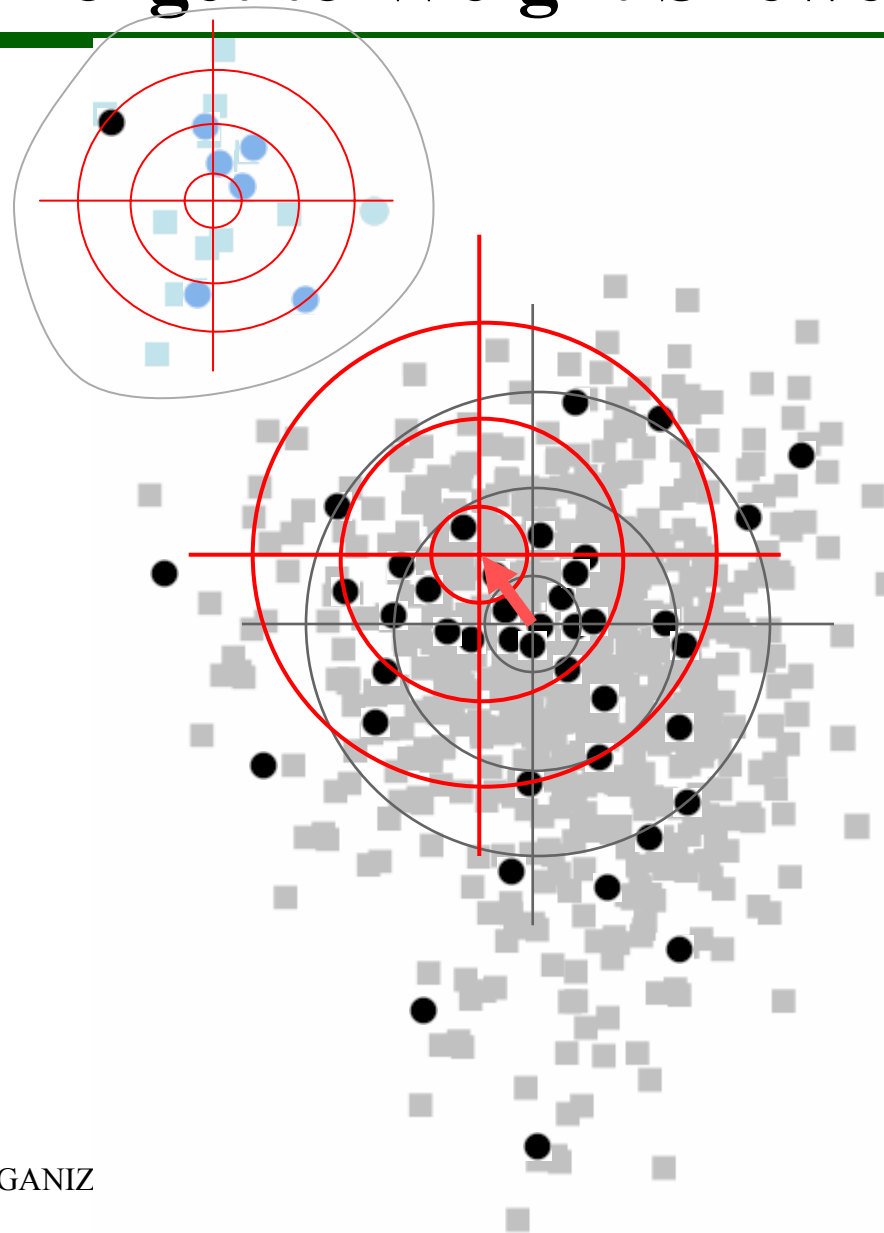
Can we measure this group with our sample correctly?

ONLY IF WE  
OVERSAMPLE  
IT



# But Never Forget to Weight Skewed Samples...

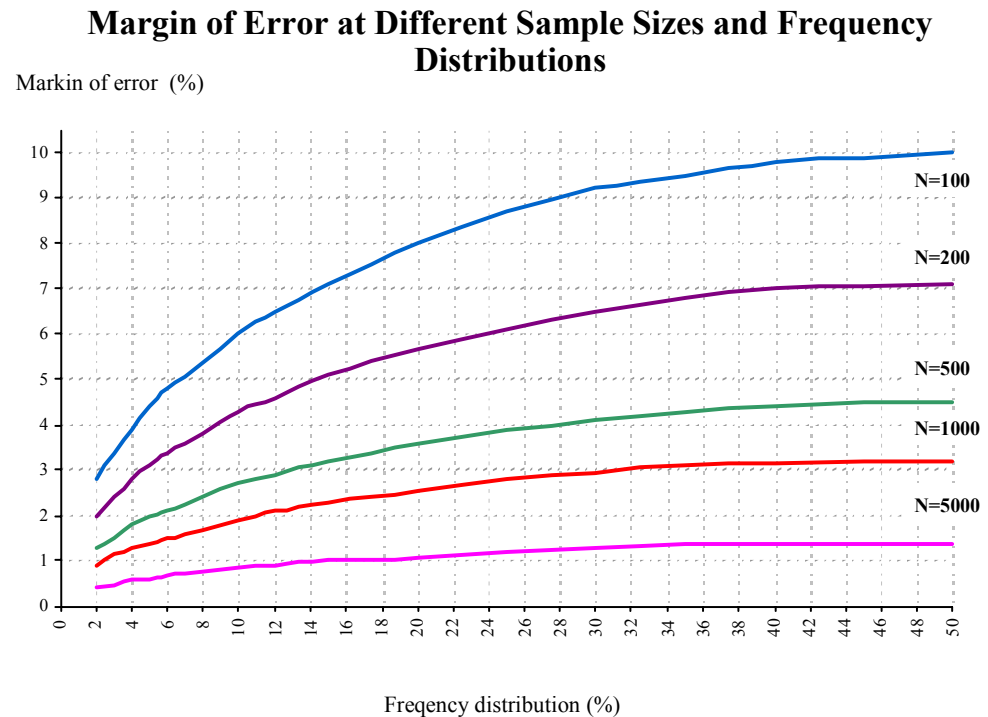
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**Our results for  
the total  
population will  
shift  
substantially**

# Margin of Error 1.

- Depends on sample size AND distribution of values within the variable
- Each variable in the same survey has a different margin of error

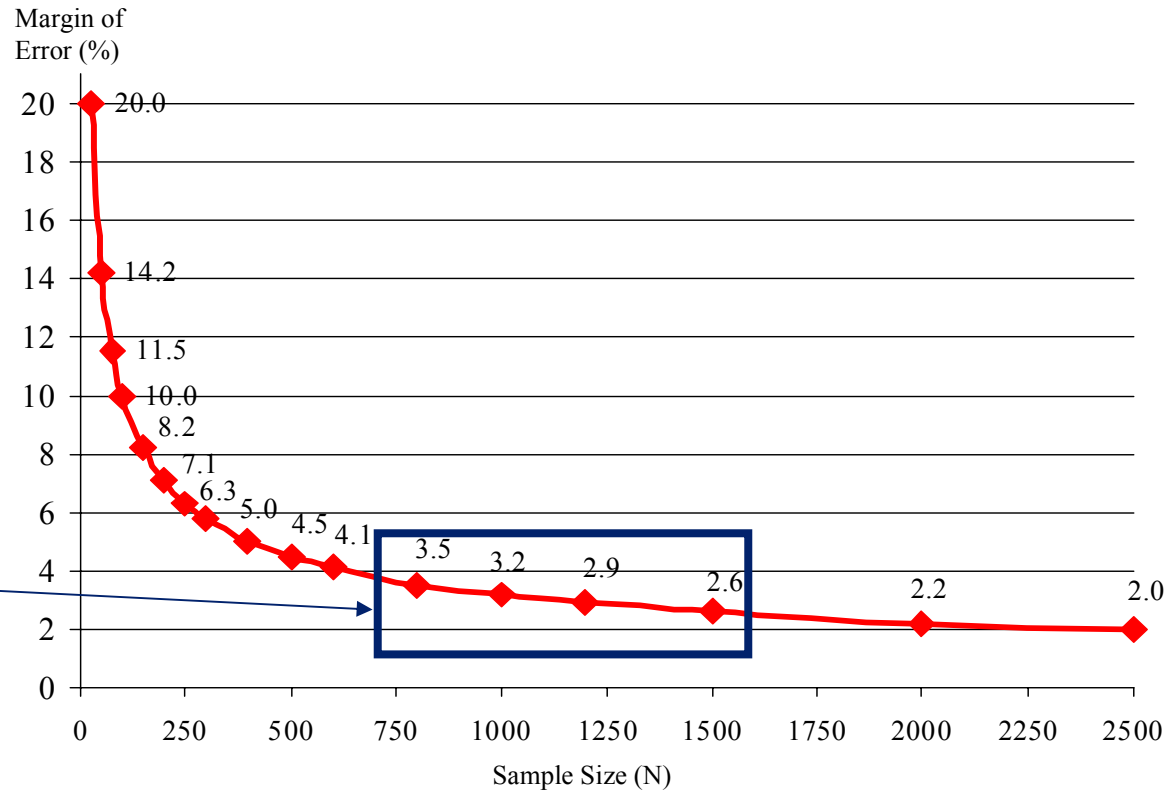


# Margin of Error 2.

- Margin of error at highest frequency distribution with different sample sizes

Maximum Margin of Error at Different Sample Sizes  
at 95% of confidence

meaning, that we will remain  
in the given  $\pm$  range out of  
100 repeated measurements



the effective range, used  
for most measurements

# Effective Samples

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- Usually a base population is much larger and than a pot of soup or a cocktail
- Sometimes it is very difficult to provide every member with equal chances for being selected, for very practical reasons
- Therefore opinion researchers usually stratify their samples, that is, they determine the actual sample in more steps
- But we keep the random rule at each stage of the stratification

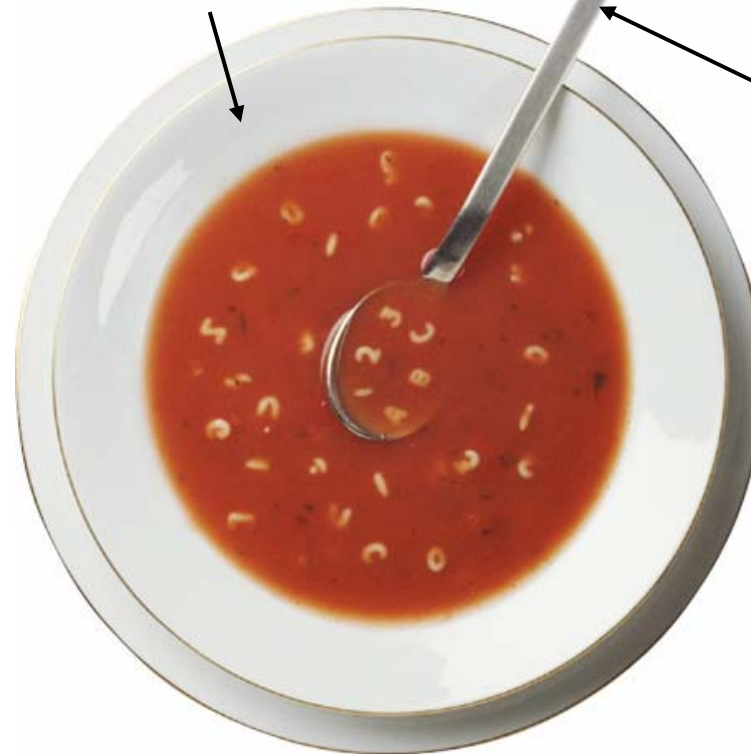
# Stratified Sample

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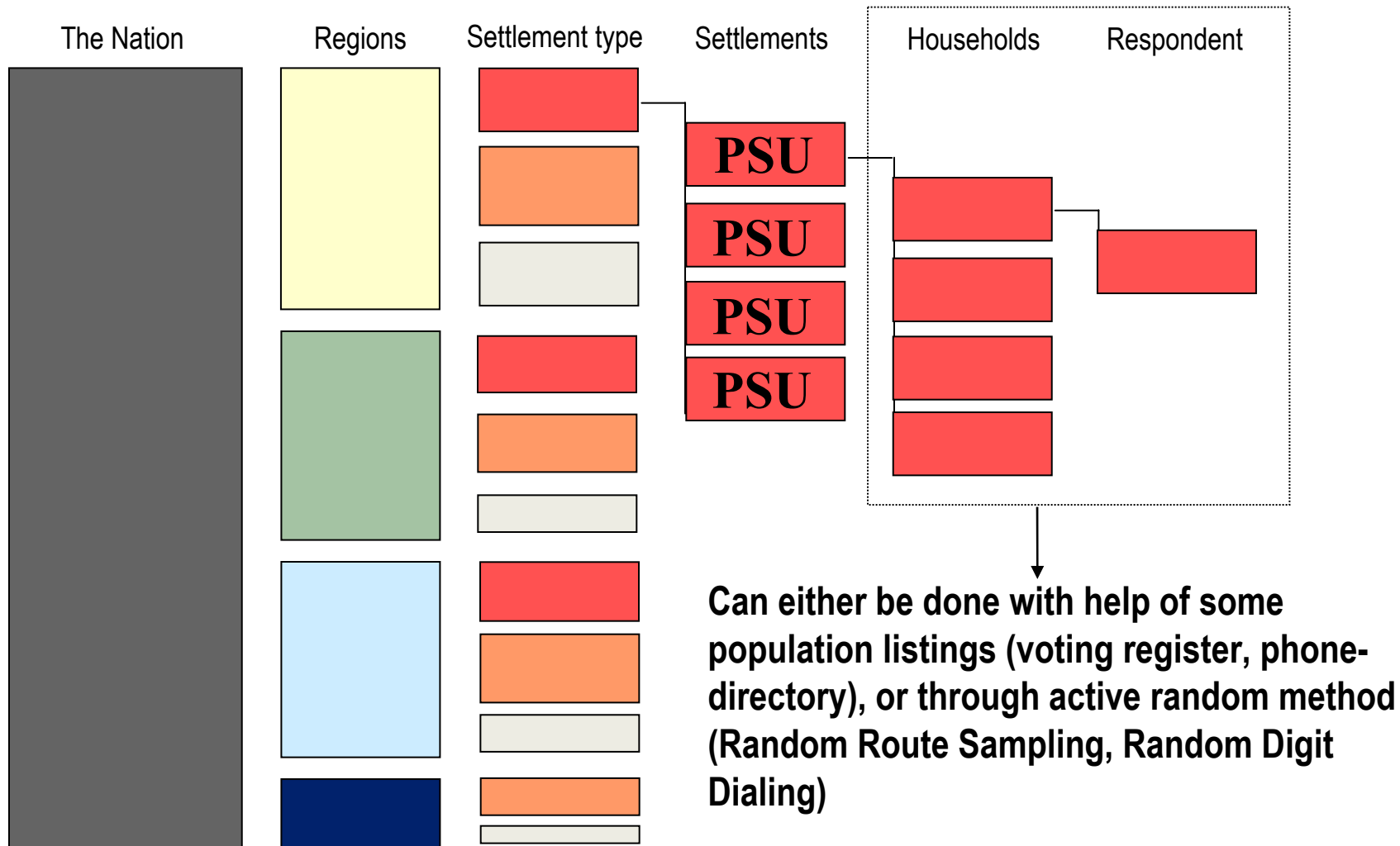
**Total  
population**

**First  
stratification**



**Second  
stratification**

# An Example for Stratified Sample



# How To Ensure Random Selection If No Proper Lists Are Available

It's very important to use well trained interviewers, who themselves are involved in the sampling process, since they are the key for proper respondent selection

## ✚ Step FOUR: How To Proceed With The Walk – Selection Of Further Dwelling Units

The general idea is the right-hand rule and the every-third dwelling selection. In a classic case you will do the following, after identifying your starting address:



From the bullet you start. Then you find the third door in your proper direction, where the fat arrow points. Then you will walk on the sidewalk right hand side and attempt to contact every third dwelling unit you encounter. If you arrive to a crossing, you will **turn to the right**, stay on the right-hand side and continue the search. It is possible that there are very few dwelling units in the block which was primarily assigned to You, in that case – as the dashed arrows show – you will go further on Moon Street after you arrived back to your

starting point. And so on. It's very unlikely, but can occur, that you went every possible way from the starting point and still not completed your quota. In this case go along you original route again, but this time choose the **FIRST** dwelling unit first and than every third one. If this does not help either, contact your instructor for another starting point

# Basics of Measurement

# What does Measurement Mean

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- **Measurement means the implementation of an outer reference-system on the subject of measurement**
- **This reference system is by definition subjective, and is based on some consensus**
- **The subject of measurement has an influence on the reference system**
- **Essentially, measurement is often a *comparison***

# Levels of Measurement 1. – **nominal**

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- you can measure things on nominal level: past enrollment in the army, presence of war casualties in family, or country of permanent residence
- The numbers we might use for categorizing these things are not even numbers in the arithmetical sense – they are just simple names for the categories
- It is absolutely pointless to apply any arithmetical operation (e.g.: calculation an average) on them
- There are, however, some indicators, that can describe these variables

# Levels of Measurement 1. – nominal

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- These are: Frequency Distribution, and Mode
- What can we do if we need to explore relations between two nominal variables (For example we want to know if there is a significant difference in past enrollment in the army and the country of residence)
- In these cases we use cross-tabulation and  $X^2$  (chi-square) test

## Levels of Measurement 2. – ordinal

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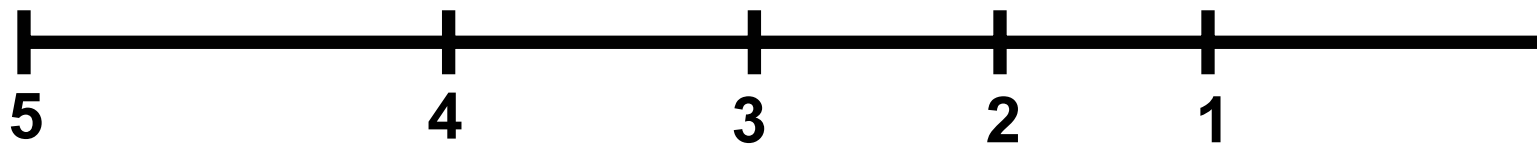
- Things we may measure on ordinal level are: anger, trust, most of the attitudes, opinions, etc.
- In these cases we know that a measured value is smaller or bigger than the other, but we can't know the exact distance between the lower and higher values
- If we consider school grading (which is frequently used as response options in ordinal variables), it is clear that A (or 5) is better than B (4), and B(4) is better than C(3), but are we sure that the distance between A and B is equal to that between B and C?

## Levels of Measurement 2. – ordinal

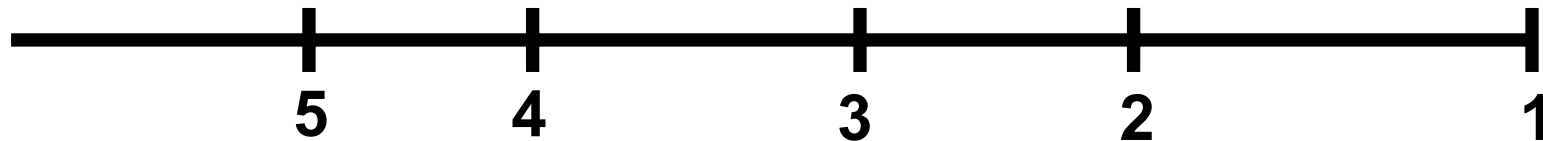
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- Grading system of the rigorous teacher

„Knows everything”



- Grading system of the „understanding” teacher



„Knows nothing”

- The same measurement tool measures different distances in two different applications: that can be the case with the respondents of the interview as well.

## Levels of Measurement 2. – ordinal

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- things measured on ordinal level can be *rank-ordered*, but the distances between categories cannot be determined
- Theoretically we should not even calculate an average of these variables
- Principally there are two further indicators we could apply at ordinal variables: Median and Rank-Correlation
- However, in real life, we usually treat the ordinal variables as they would present an equal-distance scale.

## Levels of Measurement 3. – interval

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- Looking at variables that are and can be measured on interval level, we are able to tell not only if one thing is smaller or larger than the other, but we can also tell how much one thing is larger than the other.
- In these cases we can use all kinds of algorithmic operations: mean, variance, standard deviation, correlation, regression, etc.
- When sociologists, psychologists are developing attitude-scales, they tend to measure things on interval level. This is however very time-consuming and needs lots of work.

## Levels of Measurement 3. – interval

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- **At the interval level there is not only equal distance between scale points, but we can observe an absolute zero point as well**
- **Only at interval level can we meaningfully and legitimately state that one thing is „twice as large”, or „half as much” than the other**
- **We cannot say however, that 20°C is twice as warm as 10°C. But we can say, that somebody is twice as heavy that the other person.**

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# **Few Examples of Different Methods**

# Contingency Table or Cross-table

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	Experiences economic difficulties...	Does not experience such difficulties...	
County 1	12	15	<b>27</b>
County 2	8	14	<b>22</b>
County 3	11	13	<b>24</b>
	<b>31</b>	<b>42</b>	<b>73</b>

# Measured Frequency Distribution vs. Expected Distribution

	Experiences economic difficulties...	Does not experience such difficulties...	
County 1	$(27 \times 31) / 73 = 11,5$ 12	$(27 \times 42) / 73 = 15,5$ 15	<b>27</b>
County 2	$(22 \times 31) / 73 = 9,3$ 8	$(22 \times 42) / 73 = 12,7$ 14	<b>22</b>
County 3	$(24 \times 31) / 73 = 10,2$ 11	$(24 \times 42) / 73 = 13,8$ 13	<b>24</b>
	<b>31</b>	<b>42</b>	<b>73</b>

# Expected Distribution: The Hypothesis of Independence

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- $\chi^2 = \sum (F_m - F_e)^2 / F_e$

Where:  $F_m$ : observed distribution in each cell  
 $F_e$ : expected distribution in each cell

- To take the square serves two goals:
  - differences become absolute
  - emphasizes larger differences
- In our case  $\chi^2 = 3,96$
- After having looked up in  $\chi^2$  table (degree of freedom: 2), we can say that with a great likelihood there is no relationship between economic status and place of living.

# Excerpt from $\chi^2$ test table

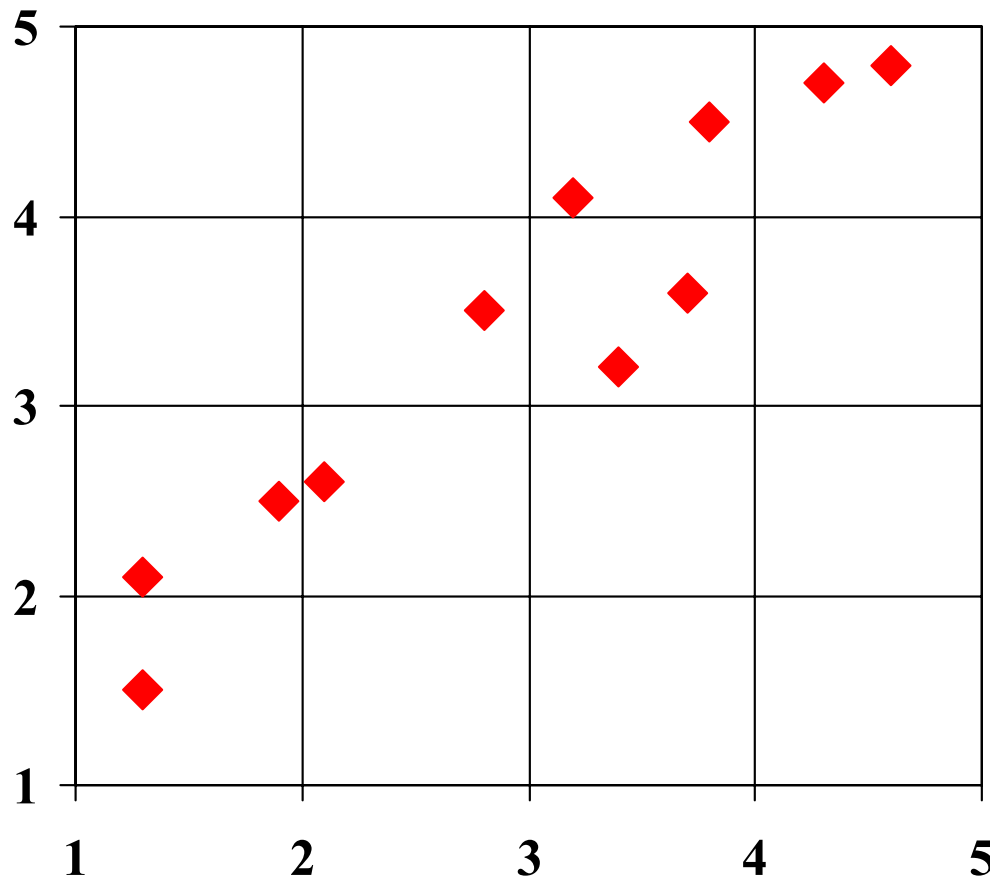
Deg. of Freedom	Sig: 0,10	Sig: 0,05	Sig: 0,02	Sig: 0,01
1	2,706	3,841	5,412	6,635
2	4,605	5,991	7,824	9,210
3	6,251	7,815	9,837	11,345
4	7,779	9,488	11,668	13,277
5	9,236	11,070	13,388	15,086
6	10,545	12,592	15,033	16,812
7	12,017	14,067	16,622	18,475
8	13,362	15,507	18,168	20,090

Our value is:

$$\chi^2 = 3,96$$

# Correlation Coefficient

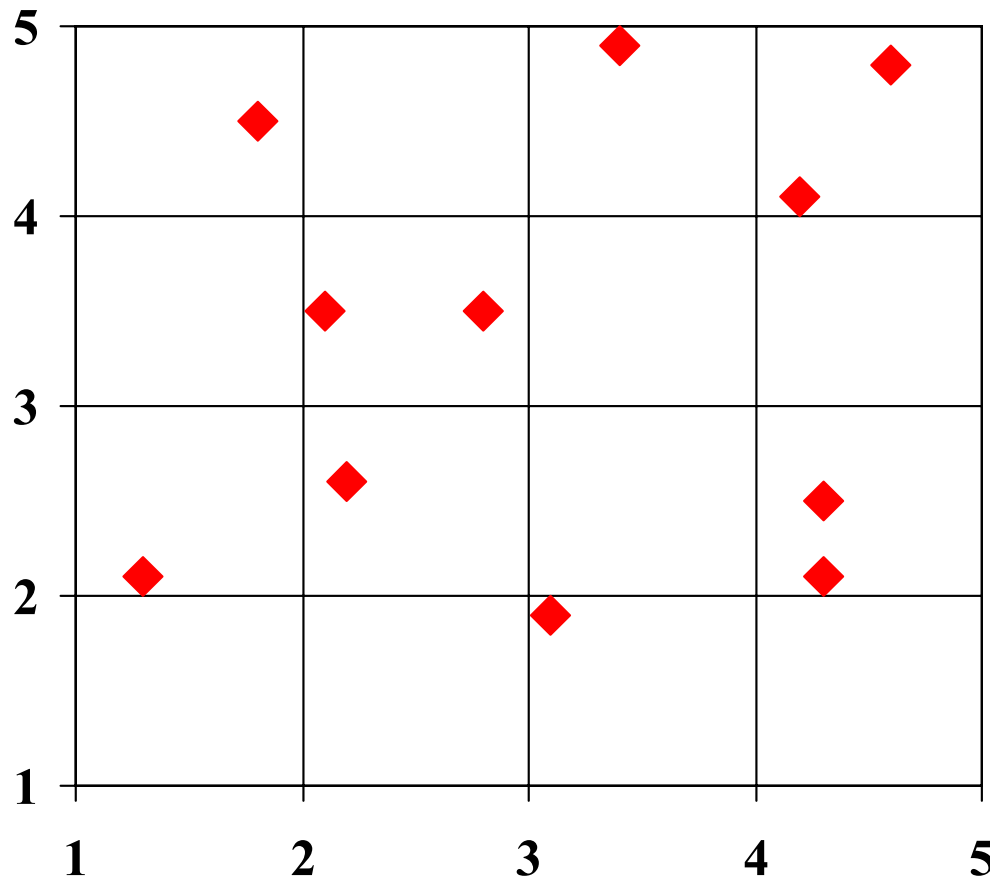
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Two attitudes,  
measured on a 5-  
point scale:  
**Strong  
relationship**

# Correlation Coefficient

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Two attitudes,  
measured on a 5-  
point scale:  
**NO relationship**

# Calculation of the Correlation Coefficient

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- **Pearson Correlation Coefficient**

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2} \sqrt{\sum (y_i - \bar{y})^2}}$$

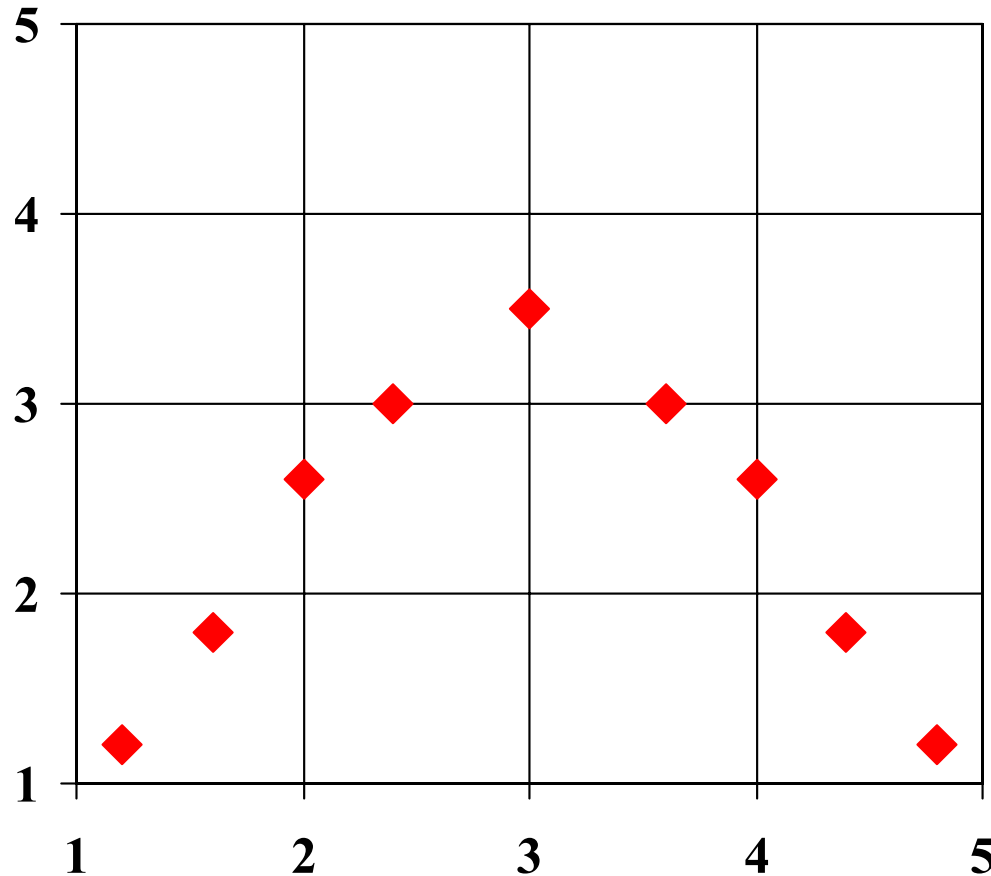
- **Can range between -1 and +1.**

The closer it is to -1 or +1, the stronger is the relationship, the closer it is to 0 the weaker the relationship is

- **Attention:** It measures association and not casual relationship!
- **Attention:** The association may be caused by other factors, that are not involved in the equation!
- **Attention:** It only shows linear relationships!

# Correlation Coefficient

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Two attitudes,  
measured on a 5-  
point scale:  
**Correlatoon  
coefficient  
= 0,00**

**An association  
still exists!!!  
... but a non-  
linear one.**

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# Measuring Change – Trend Studies, Tracking Studies

# Trend Studies

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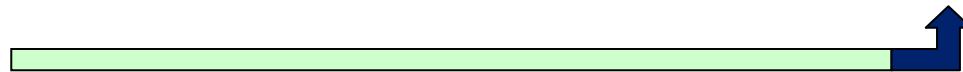
- **To be applied in cases where we are observing processes, or want to influence processes**
- **For Early Warning Systems this is the obvious measurement approach**
- **There is a need of having comparable data or information from different points of time.**
- **These kinds of studies are usually called trend-studies, or tracking-studies.**

# Types of Trend Studies

One-time cross-section  
static „photograph”



Retrospective study  
Asking the past in the present



Irregular, repeated  
cross-sections



Periodical studies



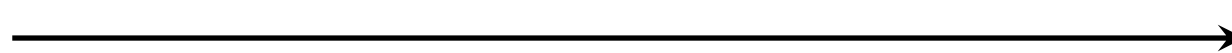
Continuous periodical  
studies



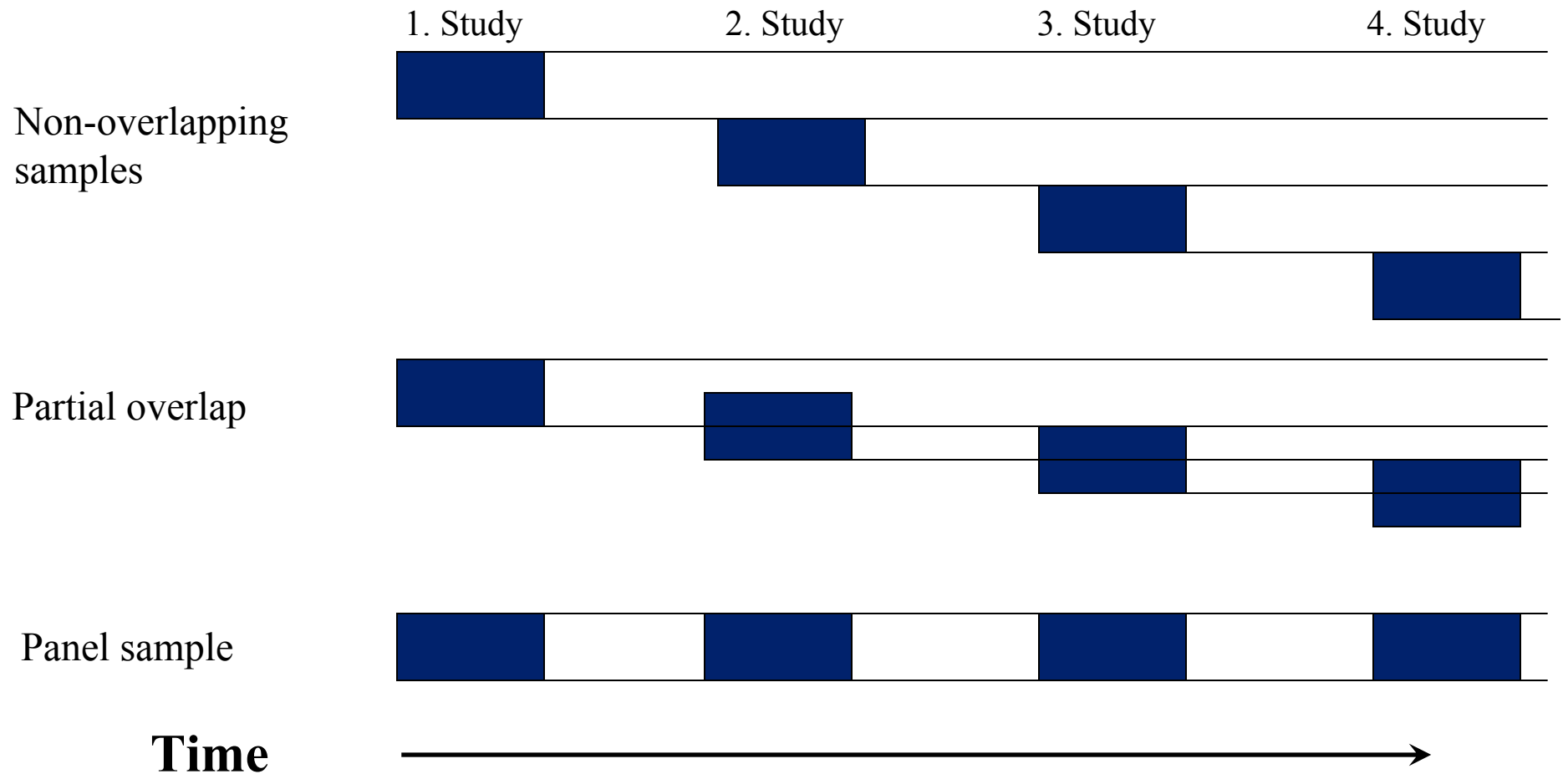
Continuous register



**Time**



# Sample types



# Four basic types of change

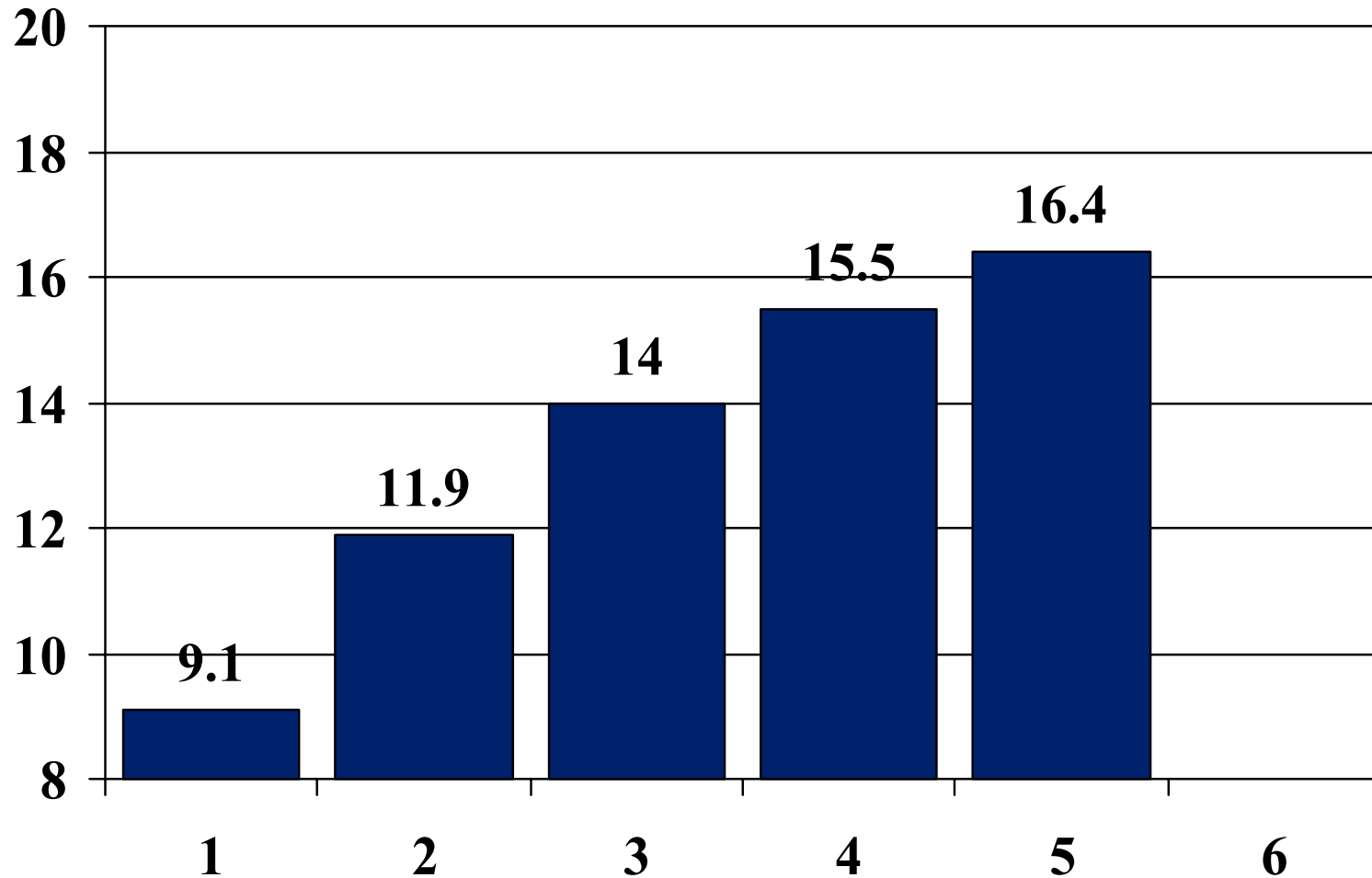
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	The MEAN (average)	
The VARIANCE	have changed	remained the same
have changed	<b>B</b>	<b>D</b>
remained the same	<b>A</b>	<b>C</b>

# Results of five waves

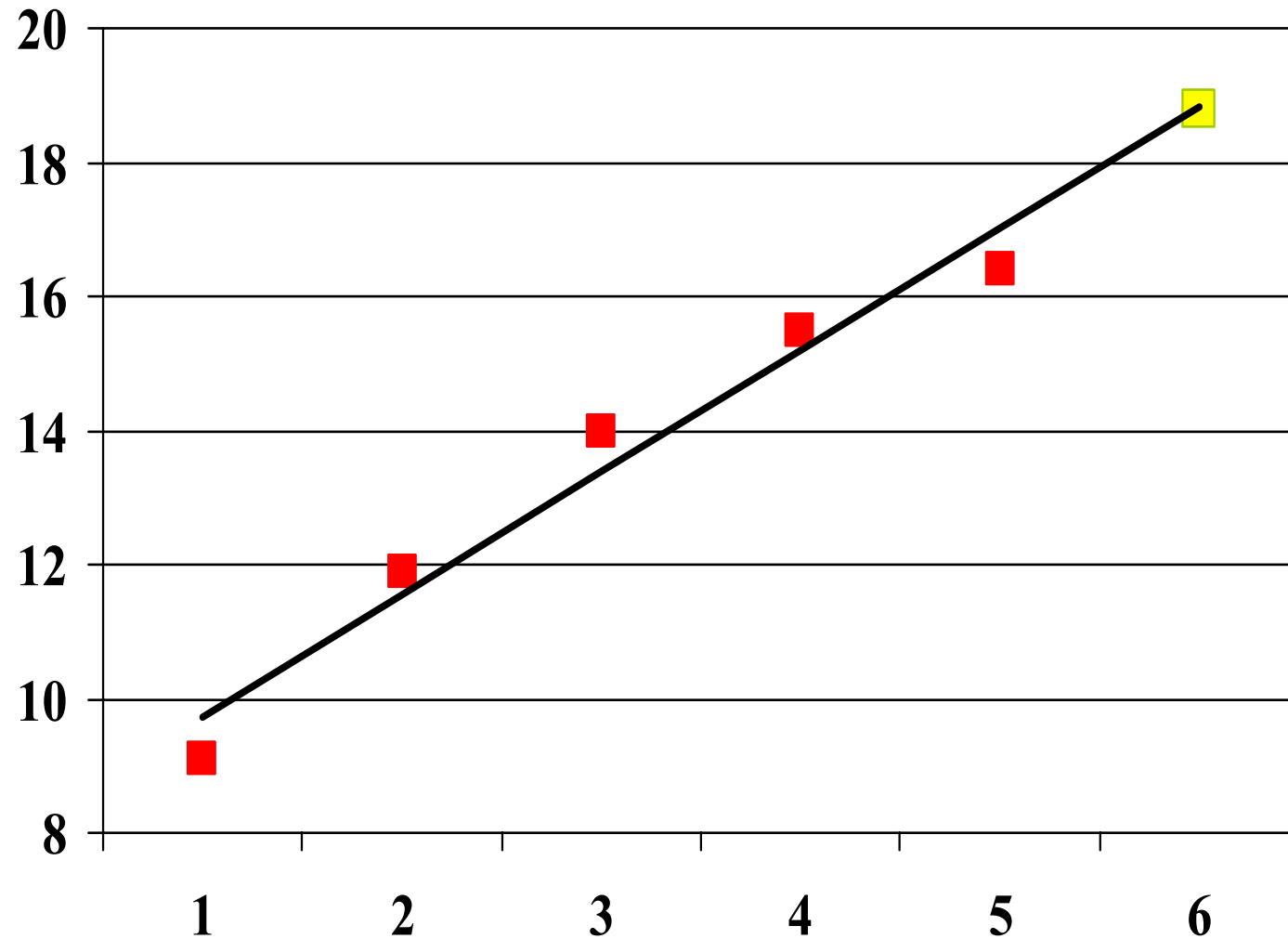
– what can we expect in the 6<sup>th</sup> measurement?

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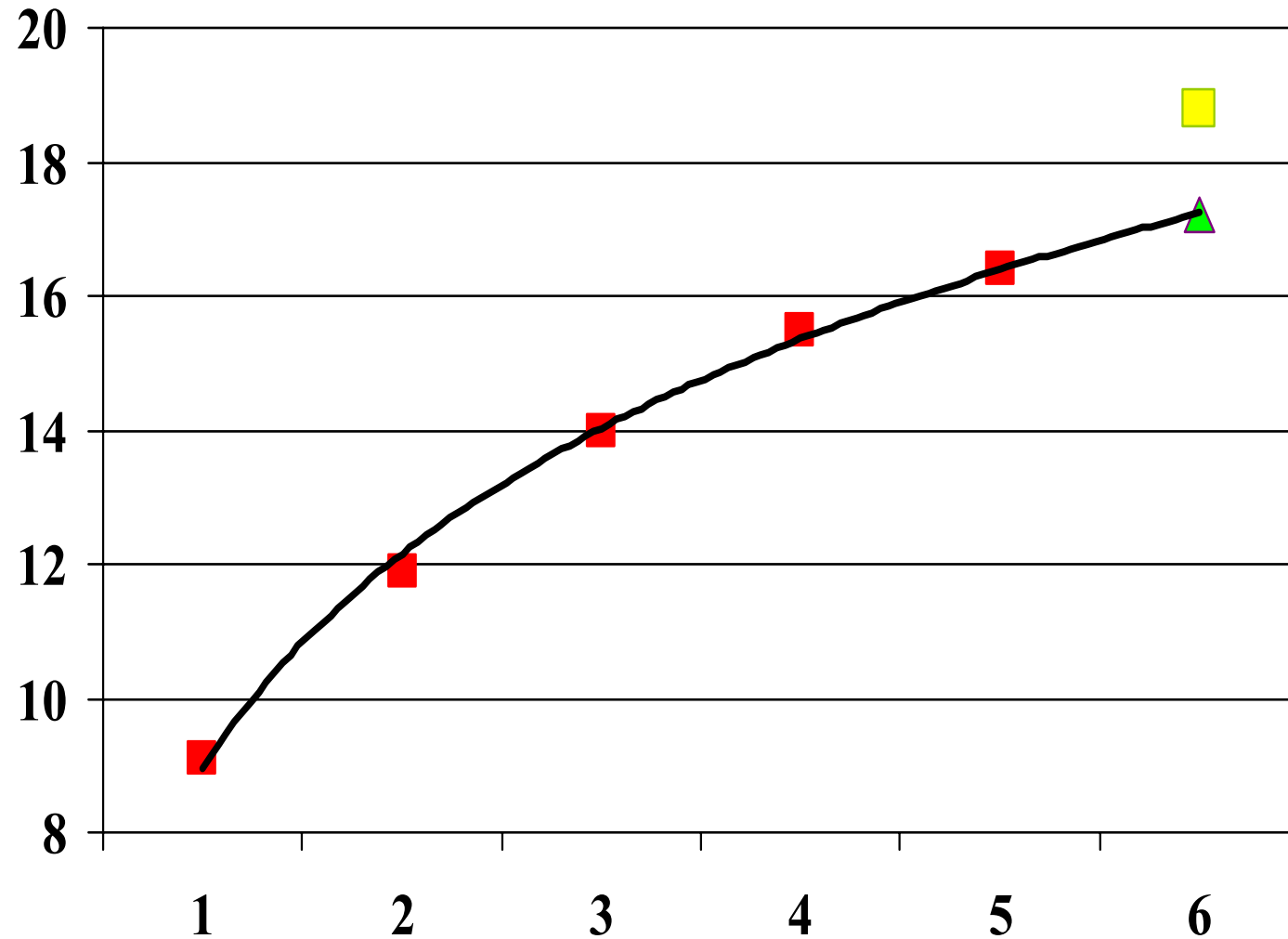


# Trend-fitting – linear (???)

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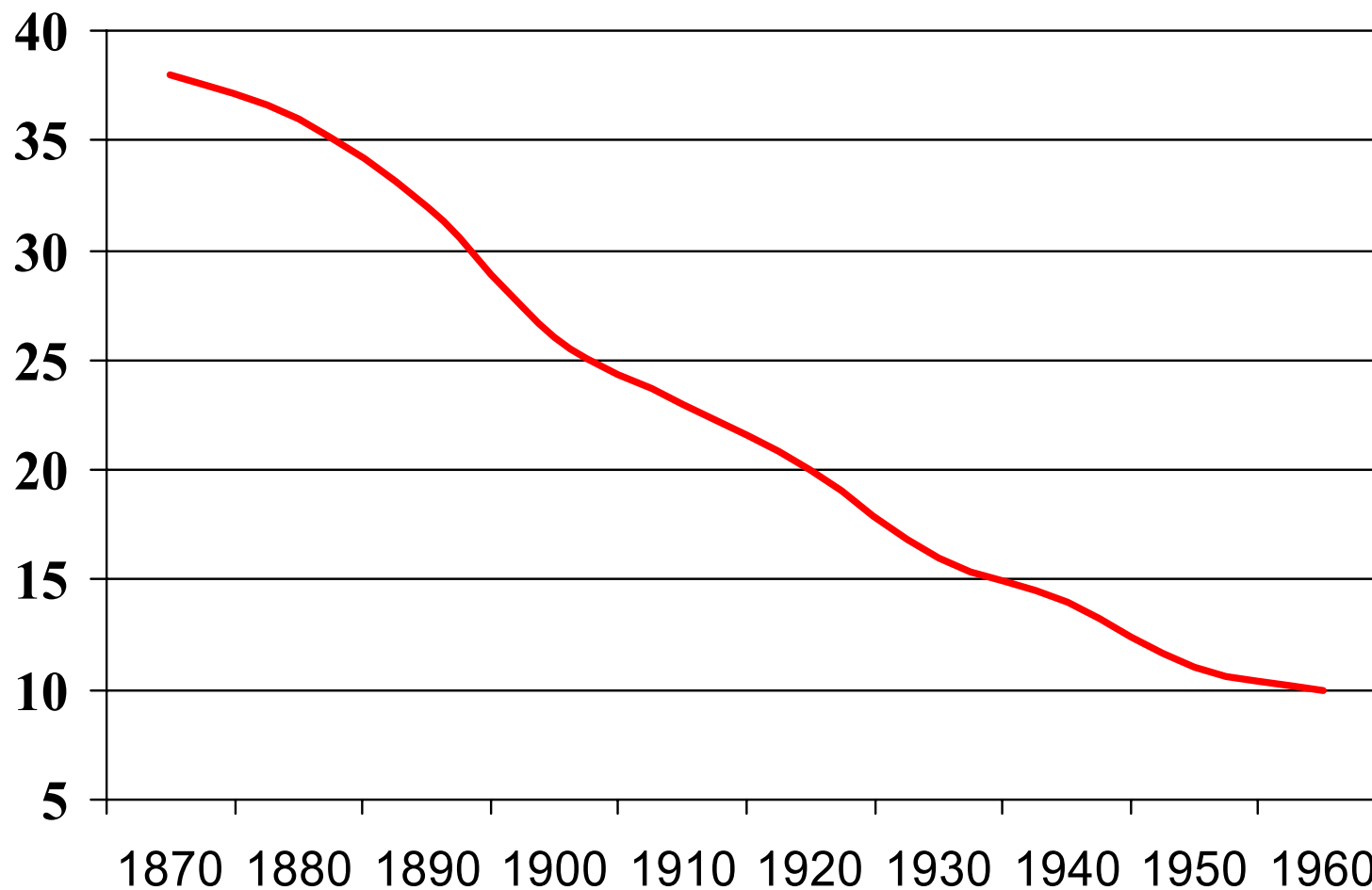


# Trend-fitting – non-linear



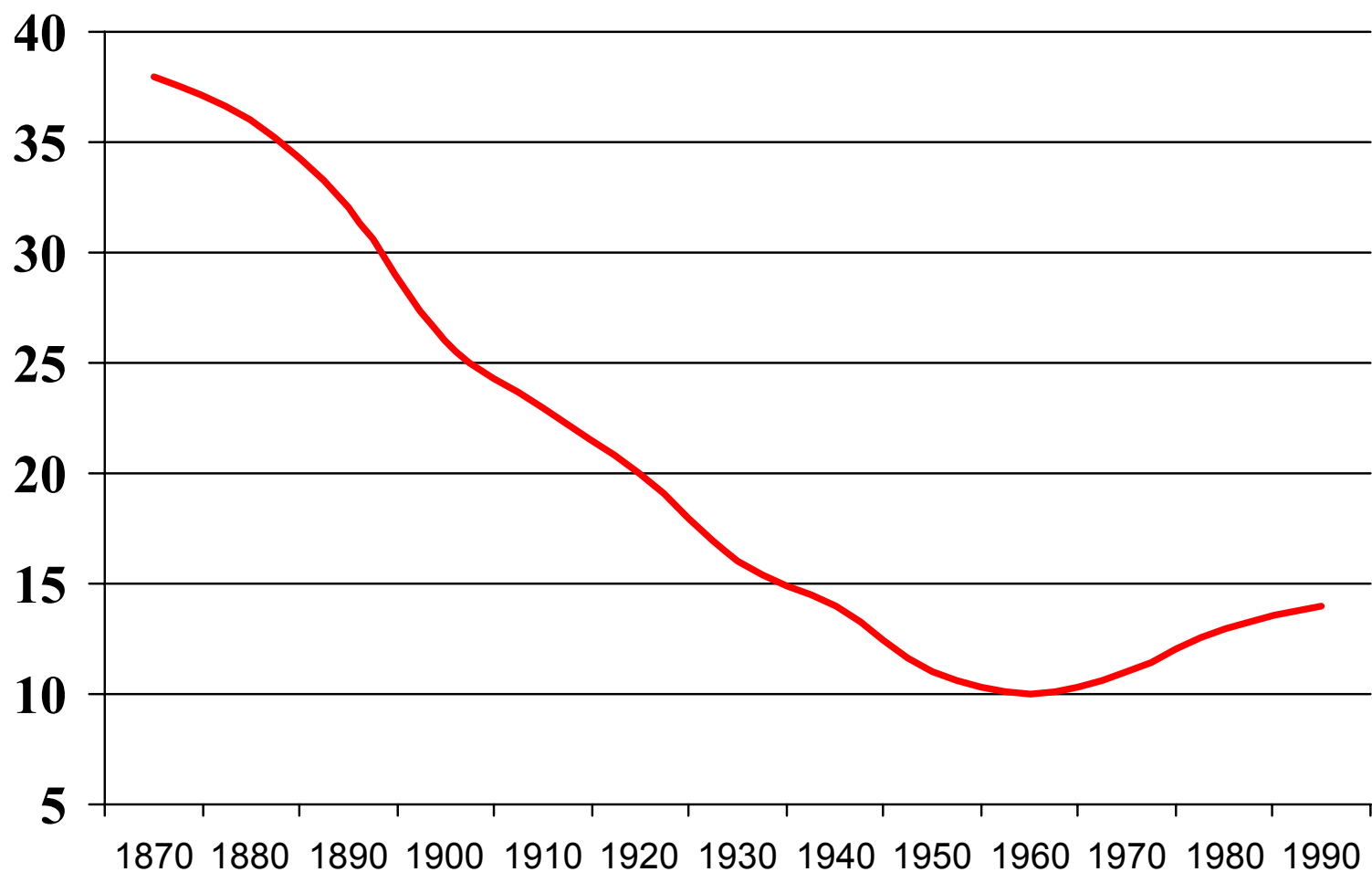
# Mortality in Hungary from 1870 to 1960

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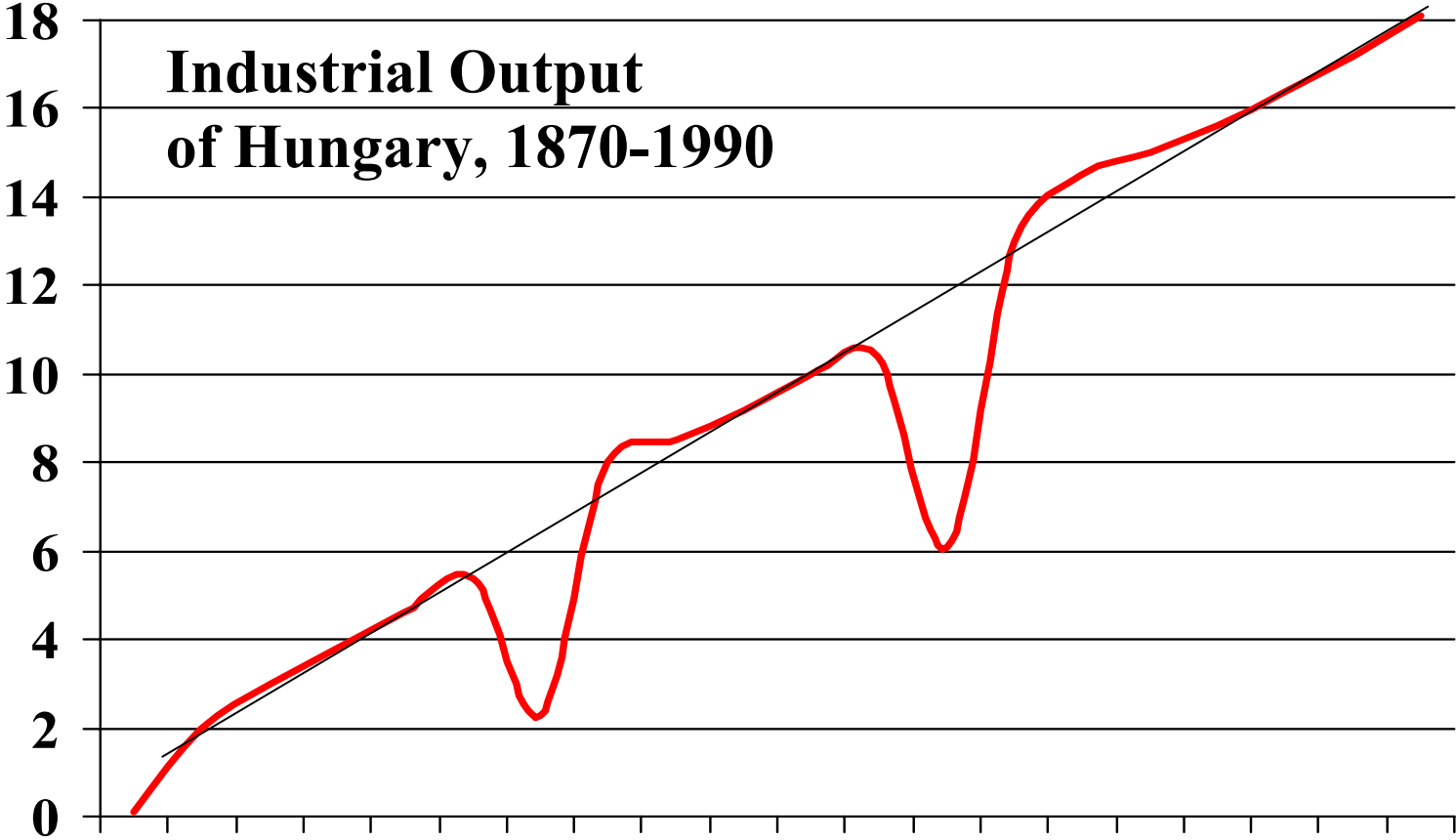


# Mortality in Hungary from 1870 to 1990

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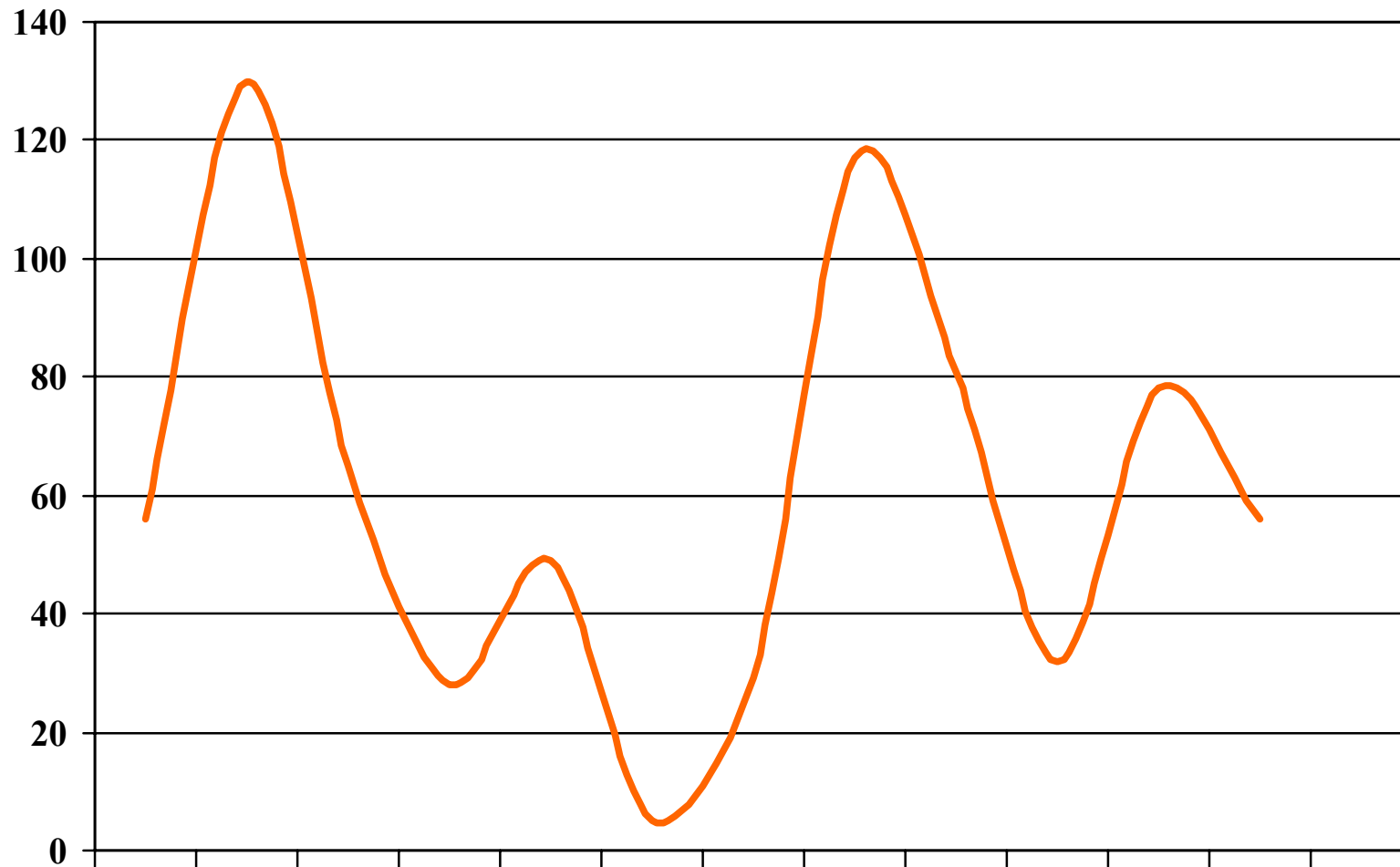


# Gravity to trendlines



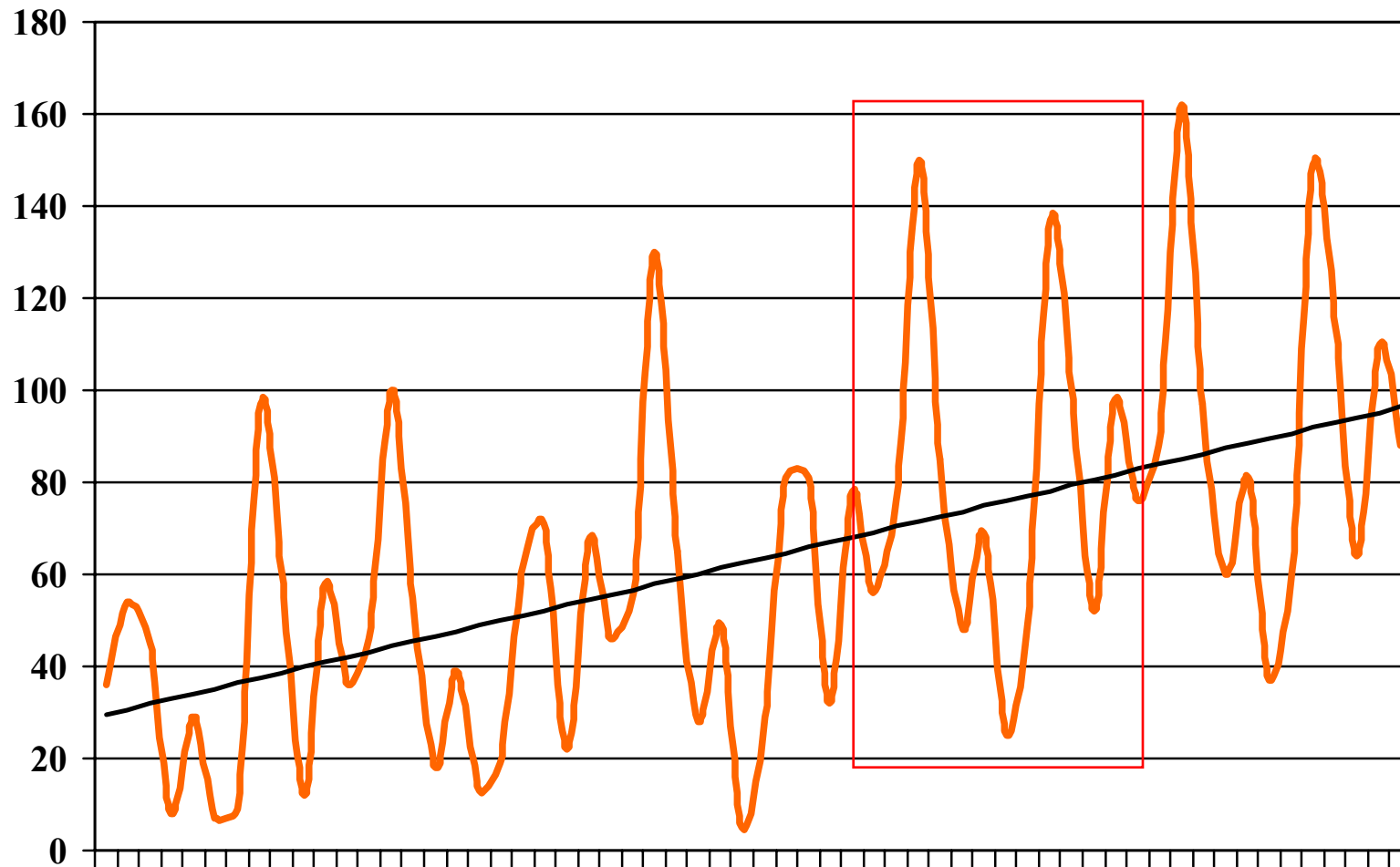
# Chaotic process – „trendless” behavior OR?

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# A more comprehensive longitudinal data-set and analysis might even find trends in data that seems chaotic on short term

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# The Concept Behind

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- **In order to have a strong argument – you need solid evidence (don't cry wolf too often)**
- **Statistical data from national statistical offices or from International sources – have limited availability and coverage, and rarely go to sub-national level, or show the effects on “individuals”**
- **Some of the missing statistical information can be obtained through population and business quantitative surveys – list of proposed indicators**
- **But: conflicts are produced by people and not by statistical information**
- **“Evidences” have to relate to the most significant players in conflicts – look for effects / input from the social actors affected most**

## The Concept Behind 2.

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- **Obvious need to track the change of opinions in groups of people (question: what we are looking for: national, regional, ethnic, religious, young, politicians)**
- **Qualitative and Quantitative methods can contribute to this goal, even Media Analysis seems to be of some interest**
- **Obviously, we can survey larger population and create quantitative indices (see Eurobarometer)**
- **... but we might want to survey very peculiar segments qualitatively as well**

# The Concept Behind 3.

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- **Looking for a convincing case, the evidences should**
  - **keeping track of the missing „hard indicators” on household level**
  - **keeping track of the missing „hard indicators” on business level**
  - **keeping track the changes in the opinion of the general public or large groups in certain key aspects**
  - **and is able to capture critical changes of attitudes in the elite, or conflict-prone groups, who could trigger crises**
- **Remember: this is an ideal design that is not necessarily feasible with the every policy problem, and depends on the given material and human resources, but a good point to start thinking of the problem**

# Tracking – Residential – Topics

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- **Household economy**
  - **activity, earnings, cost of living, sources of income, food production, size, composition, etc.**
  - **flat characteristics, vehicle, other tangible and intangible goods**
- **Expectations related to economical, or other household characteristics**
- **Personal attitudes about the general socio-political situation**
  - **Attitudes towards democracy vs. strong leader**
  - **Trust in public institutions, general stability**
  - **Trust in key leaders and potential leaders**
  - **Relationship with others inside and outside (could use some projective techniques, like showing different flags or national symbols and asking opinions in relation of them)**
  - **Expectation of conflict or crisis in several areas**

# Tracking – Business – Topics

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- **Microeconomics [the missing data]**
  - **operational information**
  - **employees, quality of labor**
  - **income, turnover, profits (sensitive – difficult to get answered)**
  - **usage of market economy infrastructure (banks, insurance, stock market, etc.)**
  - **security strategies (insurance policies, other forms of saving resources for scarce times)**
  - **indebtedness**
- **Expectation for the future**
  - **Bull or Bear**
  - **Anticipated change of income profits**
  - **Anticipated layoffs**
  - **etc.**

# Tracking Omnibus

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- **Omnibus survey in the sense that it has a hard core, repeated in each wave, but has some space for ad-hoc needs that can be altered either from time-to-time, or by location**
- **Advantages of the design: in some cases it might make sense to add some questions that have to be asked everywhere, while regularly, local agencies can have nation-specific questions on their questionnaires**

# Tracking: Series of Cross-sections, or Panel?

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- **Both methods have advantages, but also pose some problems**
- **Cross-sections**
  - **There is no need to take care of the study between waves**
  - **Relatively minor effect of current sampling problems**
  - **Able to measure trends**
- **Panel**
  - **You have to take care of your panel continuously, have to replace drop-outs**
  - **You can screw it up very much if the initial sample is not well selected**
  - **Able to understand the logic of trends**
  - **You can follow the „routes” how different opinions and behaviors get formed**

# Designing Multi-language, Multi-country Surveys

*The Art of Standardization*

# The Key Points from Technical Perspective

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- **Questionnaire, Cards, Visual Aids**
- **Sampling**
- **Interviewer Training**
- **Open-ended questions**
- **Database management, data-description**
- **Sample evaluation, Technical reports**
- **Weighting**
- **Report templates**
- **Chart templates**
- **Tabulation templates**

# Questionnaire

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- **has to be evaluated if the master questionnaire can be translated to local languages („*image of OLAF*”)**
- **has to be translated multiple times, with checks involved**
- **At Eurobarometer we do**
  - **two independent translation done locally by survey research experts**
  - **a synthesis of the two versions**
  - **a back-translation of the synthesis**
  - **a central check and discussion of dubious points**
  - **see it here: EXAMPLE**

# Sampling

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- **Agreed sample size: comparable margin of errors**
- **Possibly same method of distributing PSUs, see EXAMPLE**
- **Same method for respondent selection**
- **Same level of „care”, i.e. number of revisits, interviewer rotation, etc.**

# Interviewer Training

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- **Uniform Guideline for training to be applied everywhere**
- **Possibly uniform advisory to questionnaire (or special advisory locally that helps to avoid misunderstanding (computer also means „calculator” in Slovenian – but we won’t call it a PC)**
- **Manual developed centrally and to be translated to each local languages, EXAMPLE**

# Open-Ended Questions

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- might be coded according uniform criteria – or might not
- if yes, verbatim responses have to be collected, see EXAMPLE
- and a coding scheme has to be developed on that basis, see EXAMPLE
- that scheme has to be than translated for local coders into local languages

# Database management, data-description

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- we have to make sure, that we produce data that is convertible – also technically – with each other, and can be merged into a larger data file
- therefore a central data-description document is needed that defines
  - the name of variables
  - the position of variables
  - the length of variables
  - the possible values
  - and labels of the values
- An EXAMPLE

# Sample evaluation, Technical reports

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- **To prepare a final technical report there is a need for standard information coming in from research agencies from all countries.**
- **For the desired content of the required information, please refer to CASRO's „Responsibilities in Reporting to Clients and the Public” subchapter in the manual, on page 20.**

# Weighting

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- **Weighting of the datafiles has two steps in such a research:**
  - **a weighting scheme for national results**
  - **and another one for the total, „regional” results, that reflect the size of the participant countries’ population**
- **There should be a consensus what the basis for weighting should be (age, sex, education, employment, etc.)**
- **We usually suggest to do both weightings centrally, mostly to ensure that it is equally well done**
- **For this we need to collect the population information in the variables that we are including in weighting procedure**
- **Sometimes weighting requirements imply that locally different question have to be asked, since the population statistics are different (education level is a good example)**

# Templates for reporting

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- **In many cases in multi-country surveys, there is a *central report* about the region as such, accompanied with *country reports* that are prepared locally, by those who are the most familiar with the situation**
- **To preserve consistency of country reports, often examples, a table-of-contents, and a defined format of depicting information are given**
- **This helps output production enormously: it can significantly decrease the time and effort in editing any general report**

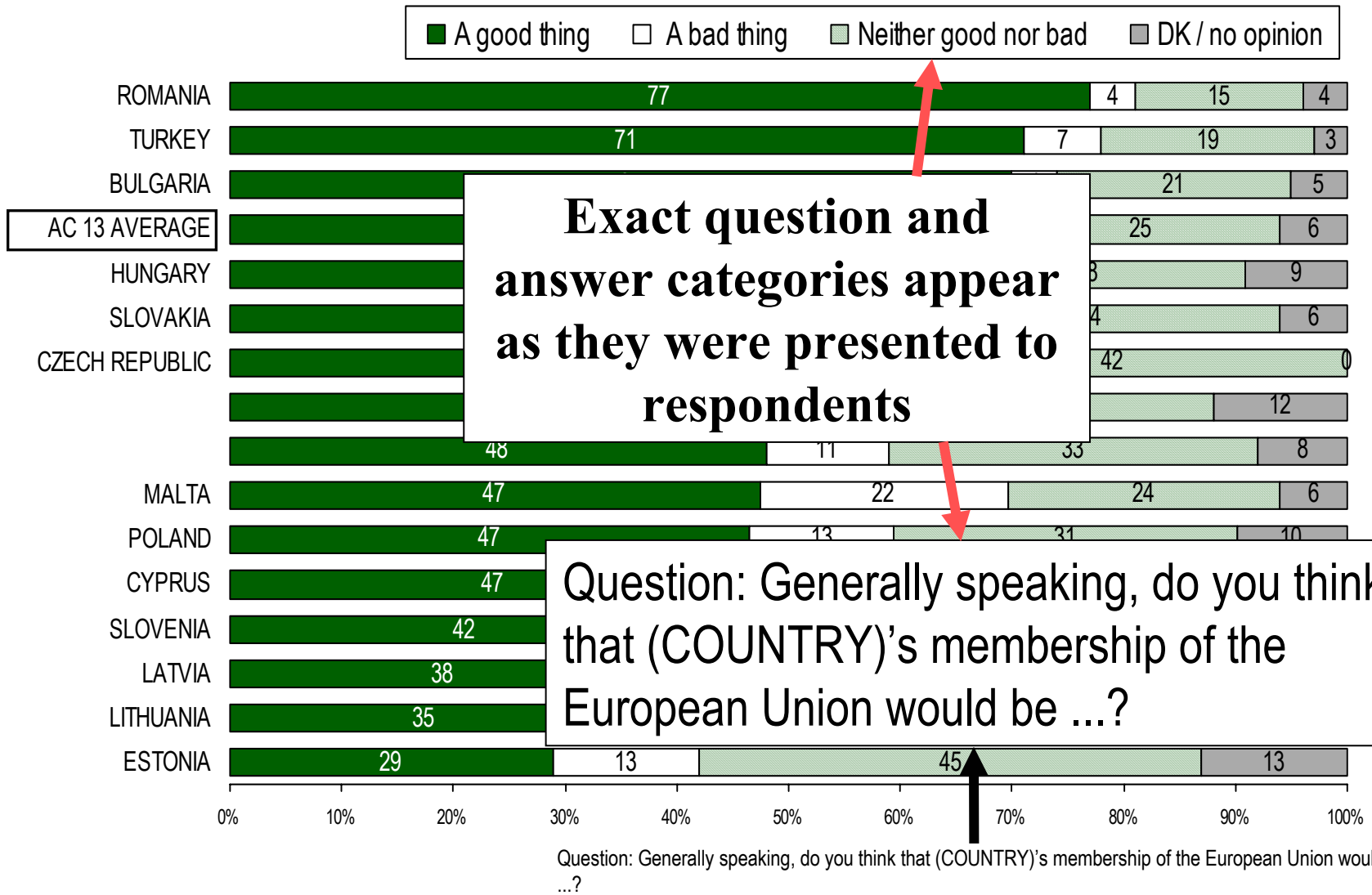
# **Membership in the EU: a Good Thing or a Bad Thing?**

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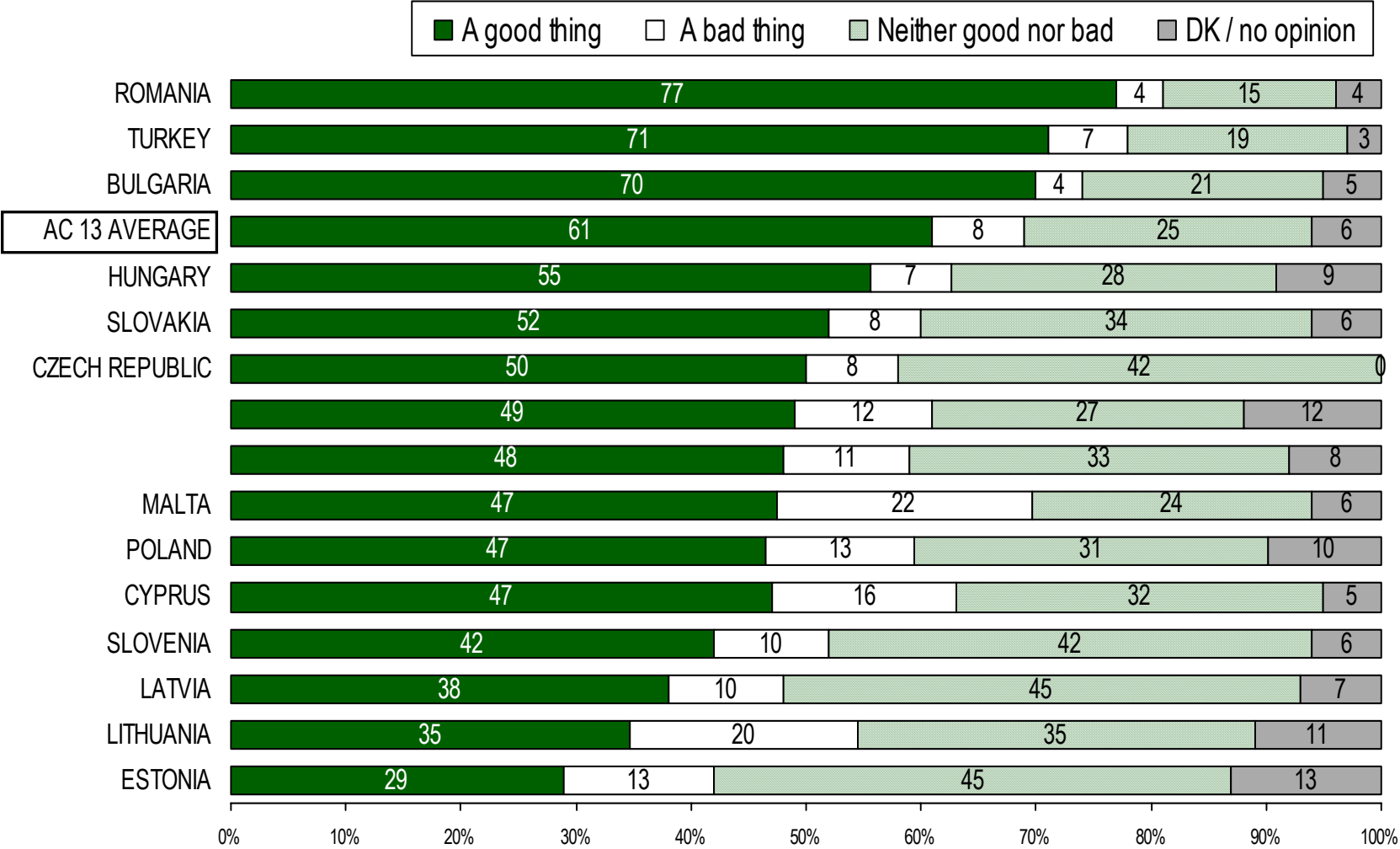
# Membership in the EU: a Good Thing or a Bad Thing?



# Membership in the EU: a Good Thing or a Bad Thing?

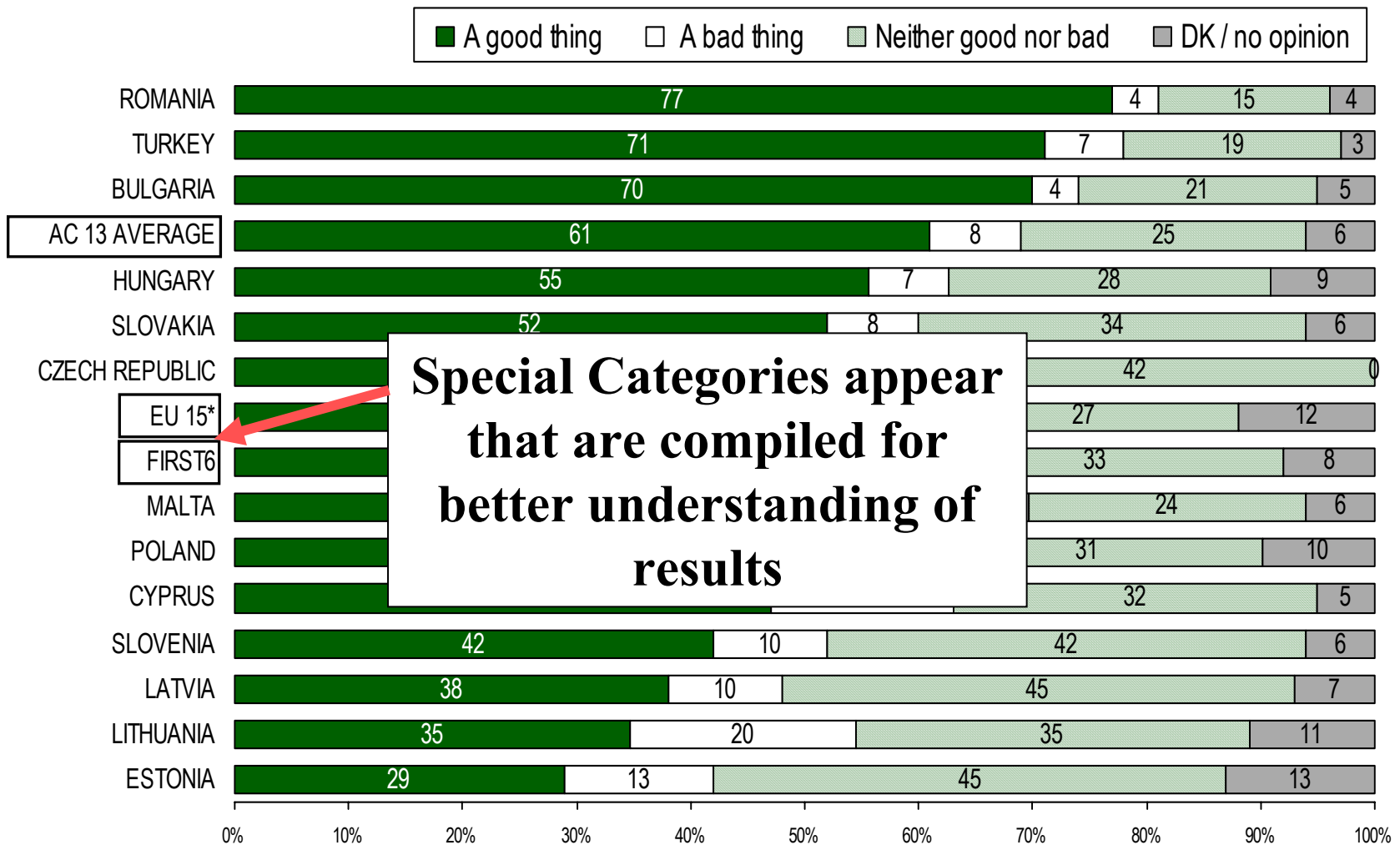


# Membership in the EU: a Good Thing or a Bad Thing?



Question: Generally speaking, do you think that (COUNTRY)'s membership of the European Union would be ...?

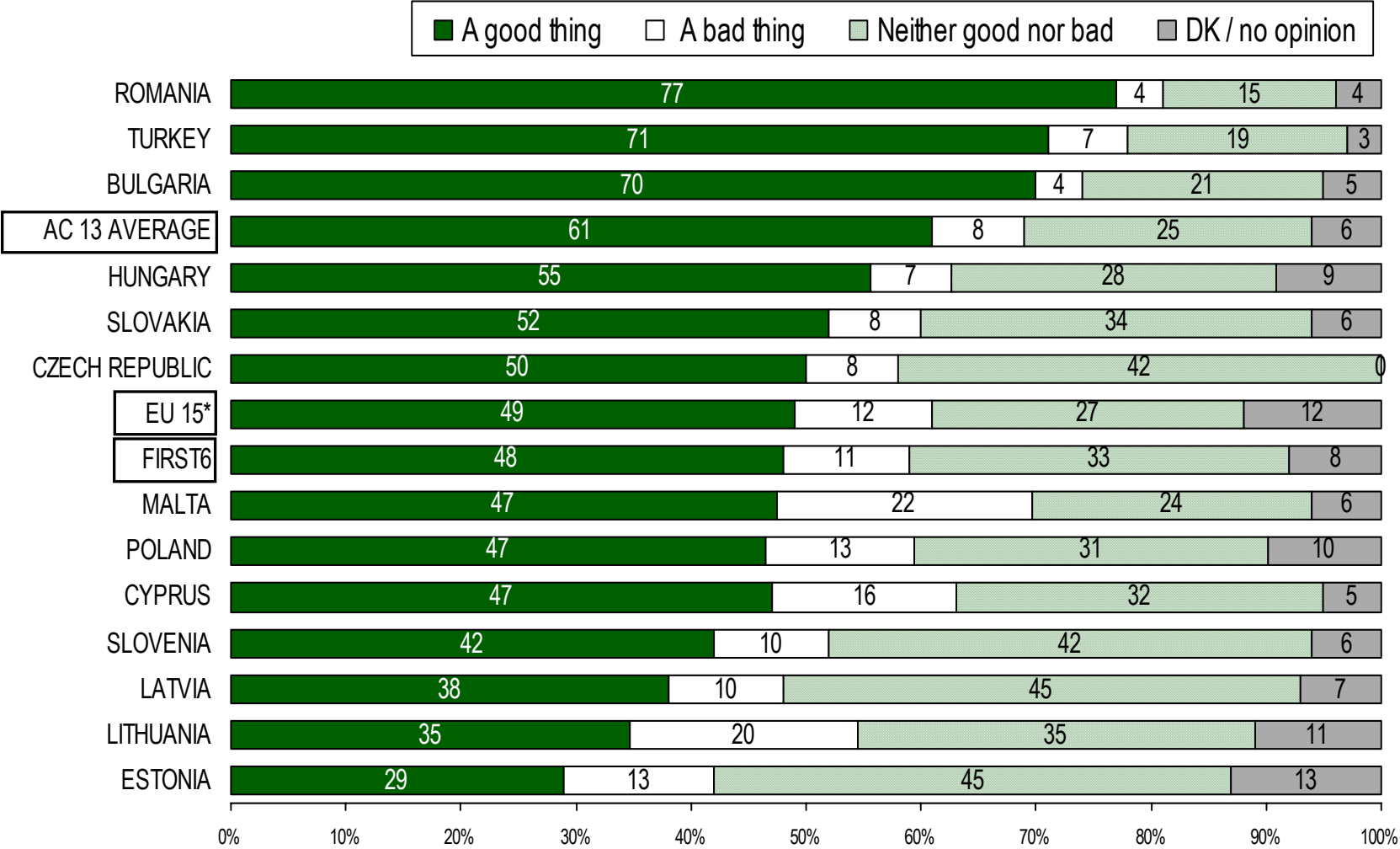
# Membership in the EU: a Good Thing or a Bad Thing?



**Special Categories appear that are compiled for better understanding of results**

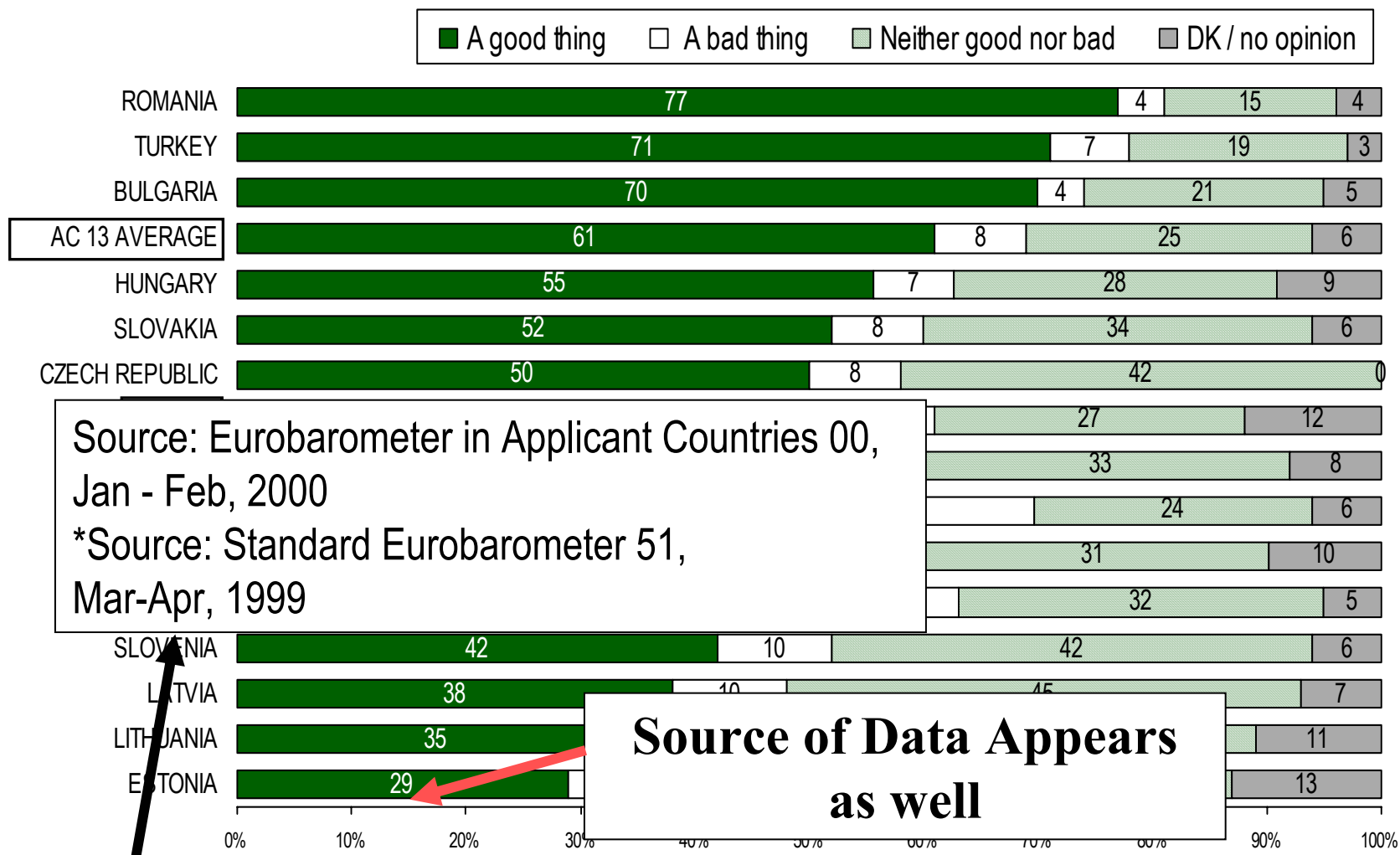
Question: Generally speaking, do you think that (COUNTRY)'s membership of the European Union would be ...?

# Membership in the EU: a Good Thing or a Bad Thing?



Question: Generally speaking, do you think that (COUNTRY)'s membership of the European Union would be ...?

# Membership in the EU: a Good Thing or a Bad Thing?



Source: Eurobarometer in Applicant Countries 00, Jan - Feb, 2000  
 \*Source: Standard Eurobarometer 51, Mar-Apr, 1999

Question: Generally speaking, do you think that (COUNTRY)'s membership of the European Union would be ...?

# Correct Representation

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- **Needs clear explanation of what reader sees**
- **Needs clear specification of the sample, the sample size (can be an overview slide in the front), margins of error**
  - **If the chart shows sub-populations than those sample sizes have to appear on the chart as well**
- **Needs objective titles**
- **... and of course factual, „objective” or „neutral” verbatim (written or oral) assessments as well**