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Professional work methods with graphic elements

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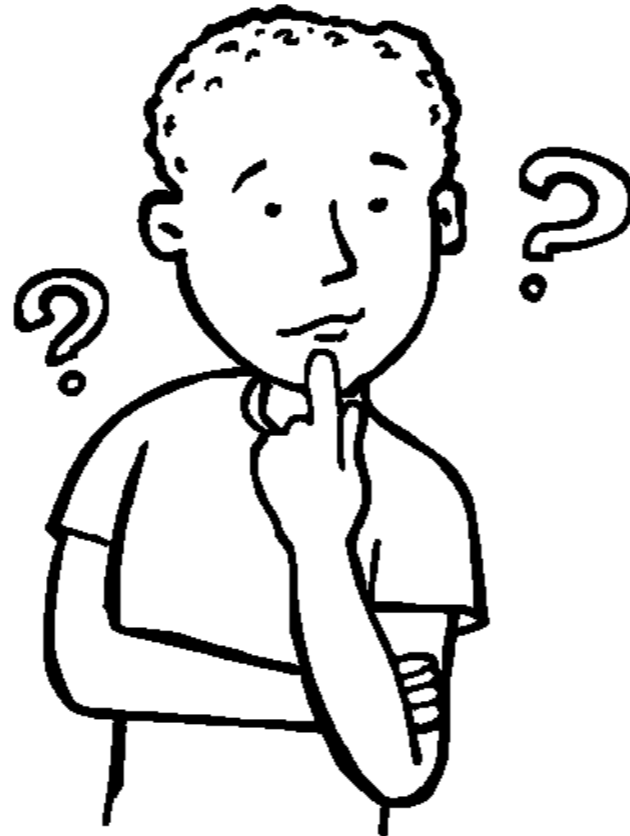
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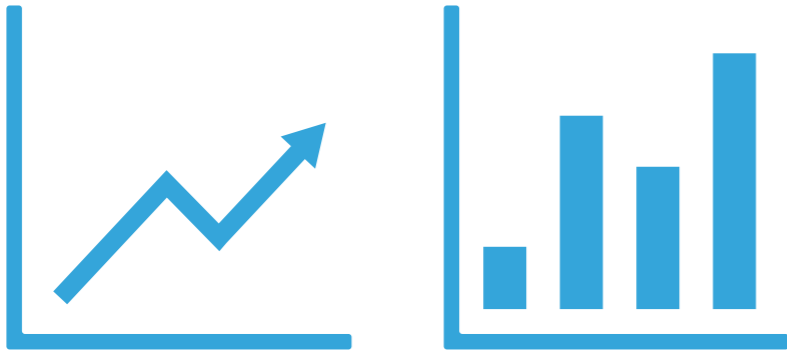
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WHAT ARE GRAPHIC
ELEMENTS?

WHAT ARE GRAPHIC
ELEMENTS FOR?



WHAT ARE GRAPHIC ELEMENTS?



tables

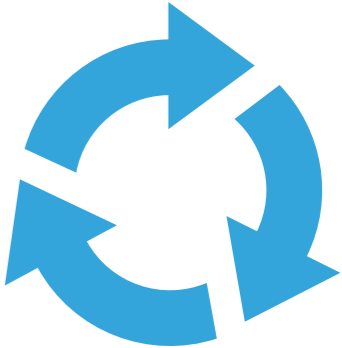
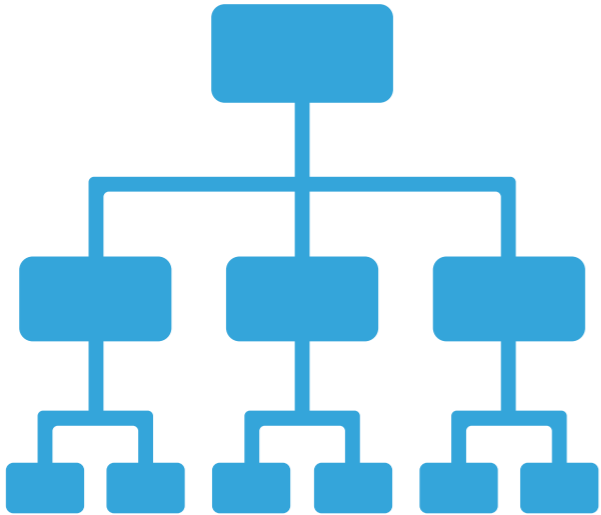
charts

pictures

maps

schemes

etc.



WHAT ARE GRAPHIC ELEMENTS USEFUL FOR?

- ▶ They visualize the results of your research or other information
- ▶ They structure the text and make it more understandable for the reader (opponent)
- ▶ Suitable for use in Part 4 of your study (Results of your own analysis)



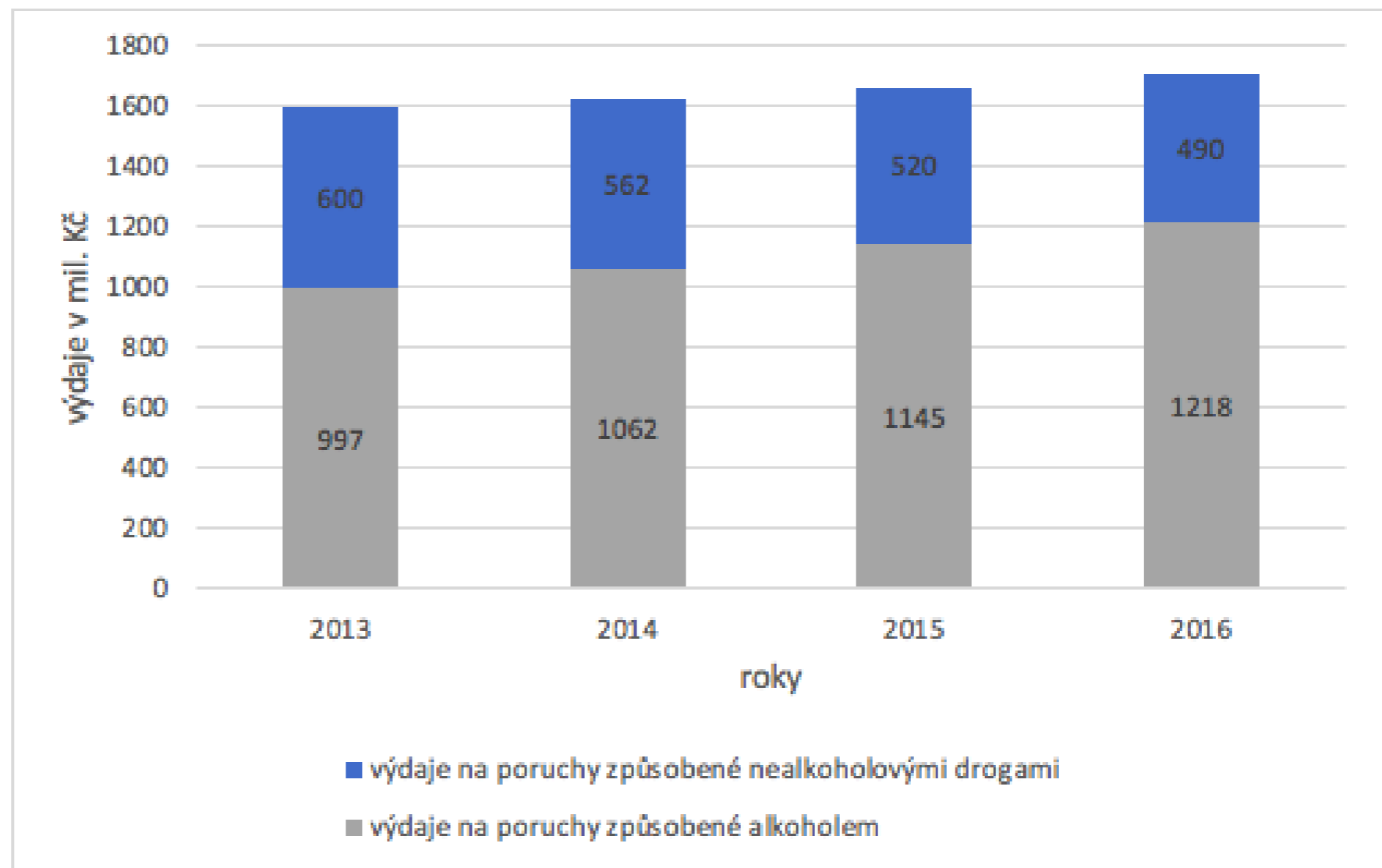
Own creation is preferred over pasting (copying) already created elements

However, it is possible to use an already “created” element, but it is necessary to cite it properly!

GRAPHIC ELEMENTS

- ▶ the appearance of graphic elements is unified (uniform) throughout the work
- ▶ Form of marking of graphic elements at UJEP:

Graf 1: Výdaje zdravotních pojišťoven na poruchy způsobené užíváním návykových látek v období 2013-2016
v mil. Kč



▶ TOP: number, name of graphic element

▶ BELOW: source

Zdroj: vlastní zpracování dle Mravčík et al., 2014-2018

Tab. 1. Vstupní údaje k opatřením

Druh nákladu	Kategorie nákladu	M.J.	Počet M.J.	Tabulková cena za M.J.	Celkový náklad	Životnost opatření
plastové potrubí DN300	investiční náklad	bm	2500	8 000,00 Kč	20 000 000,00 Kč	80
tlakové PE potrubí DN100	investiční náklad	bm	2000	3 650,00 Kč	7 300 000,00 Kč	50
čerpací stanice/EO	investiční náklad	EO	210	6 500,00 Kč	1 365 000,00 Kč	10
domovní přípojka kanalizace	investiční náklad	ks	70	12 500,00 Kč	875 000,00 Kč	60
průměrný náklad při čištění na centrální ČOV	provozní náklad	EO	210	1 095,15 Kč	229 981,50 Kč	x

Source: own processing



If you processed the graphic element yourself, you can list “own processing” as the source.

ABSOLUTE AND RELATIVE FREQUENCY

- ▶ **Absolute** = how many values of a given character occur in the file (*e.g. 300 thousand people are currently registered with the Labour Office of the Czech Republic*)
- ▶ **Relative** = related to the total number of elements in the set (*e.g. 4.3% (0.043) of the population of the Czech Republic is currently unemployed*)

BEWARE OF CONFUSING PERCENTAGES AND PERCENTAGE POINTS!

Percentages (%) - express a certain proportion of a part of a whole or some development

, e.g.: there was an increase in production by 10%

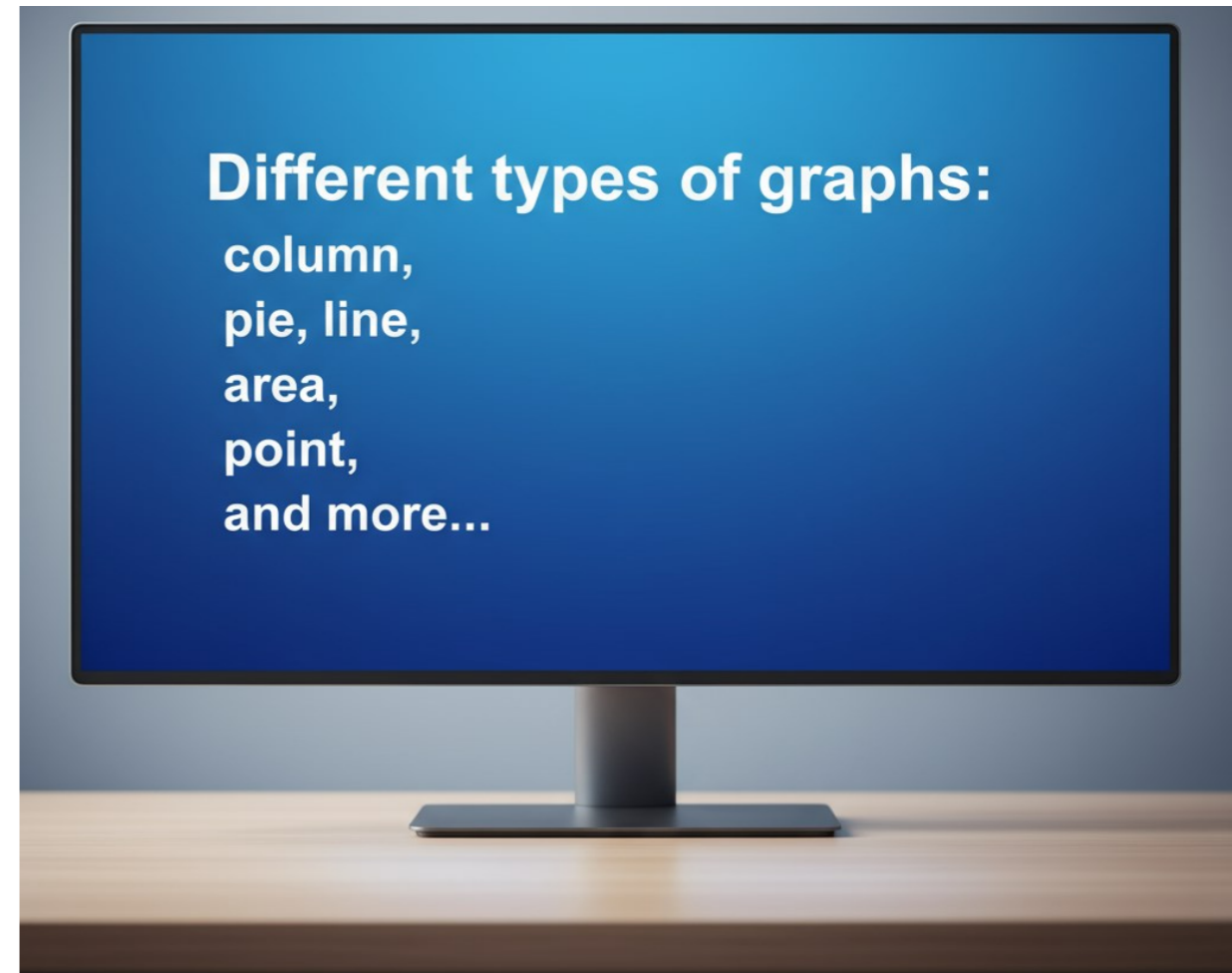
Percentage point (pb) - usually used for the development of an indicator that is expressed in percentages

ex.: Production increased from 10% to 12%. So there was a change of 2 pp (20%)

"Unemployment in the Czech Republic increased to 3.6% in May. Compared to the previous month of April, this is an increase of 0.2 pp" (MPSV, 2021)

GRAPHS AND TABLES

- ▶ Clear data organization
- ▶ Charts - They make it easier to navigate through data, they can be highlighted in color
 - ▶ They can also be used to determine the relationships between data (e.g., monitoring trends)



ASSIGNMENT 1: PROCESS THE TABLE AND GRAPH

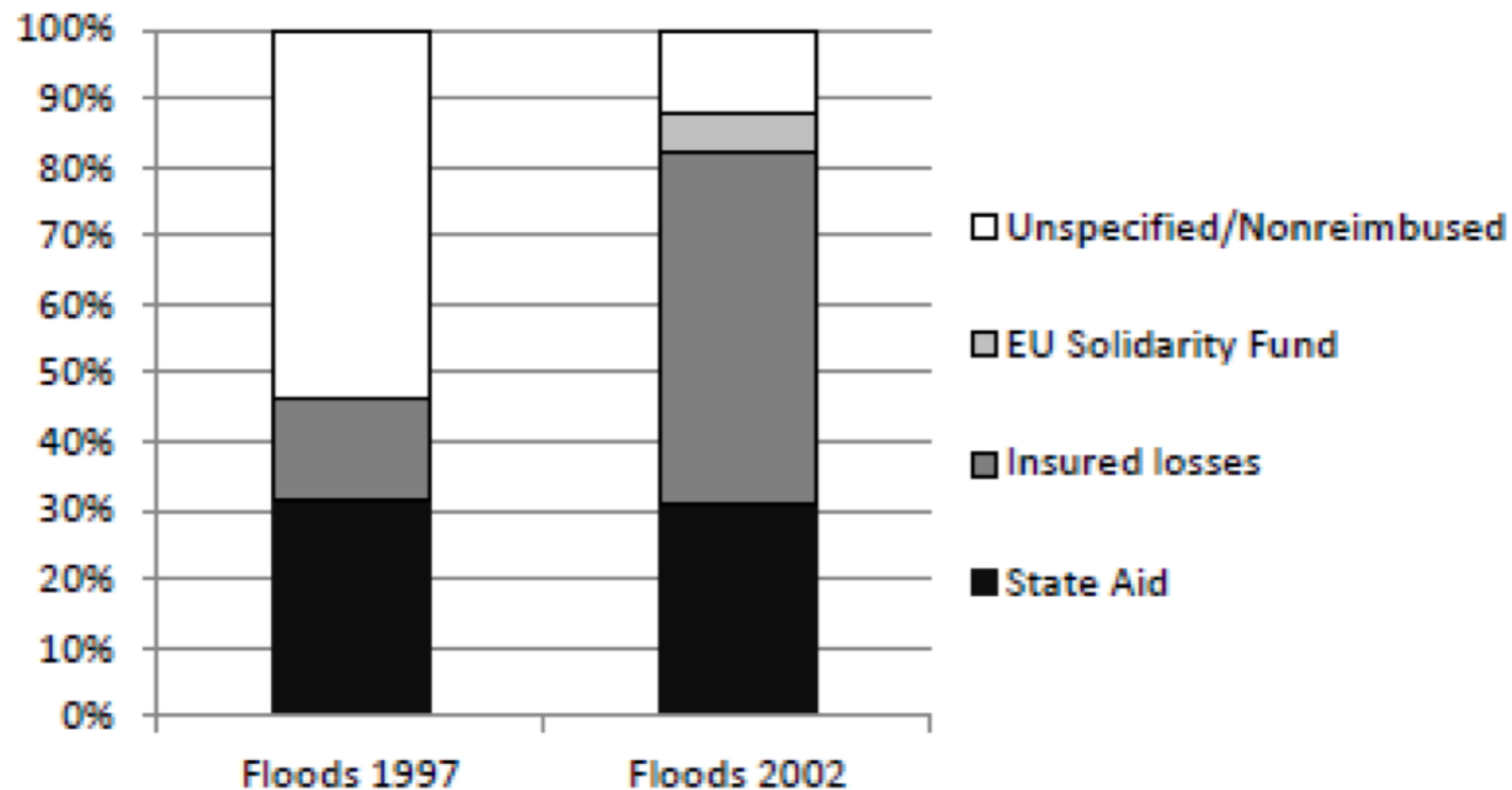
The Czech Republic was hit by extensive floods in 1997 and 2002. According to a report by the Ministry of Agriculture of the Czech Republic from 2003, the floods in 1997 caused damage worth 63 billion CZK and in 2002 up to 75 billion CZK.

The different structure of "coverage" of these damages is interesting. Damage from the 1997 floods was covered up to CZK 24 billion by financial assistance from the state budget and CZK 12 billion by private property insurance. The rest was "unpaid" damages (damages for which there is no obvious source of coverage).

Damage from the 2002 floods was covered up to CZK 28 billion from the state budget, CZK 37 billion was insurance, and CZK 3 billion was subsidies from the EU Solidarity Fund.

ASSIGNMENT 1: FRAMEWORK SOLUTION (ONE OF THE POSSIBLE)

Figure 2: Percentage of flood damage reimbursed by different sources (in %)



Source: Own calculations

ASSIGNMENT 2: PROCESS THE TABLE AND GRAPH

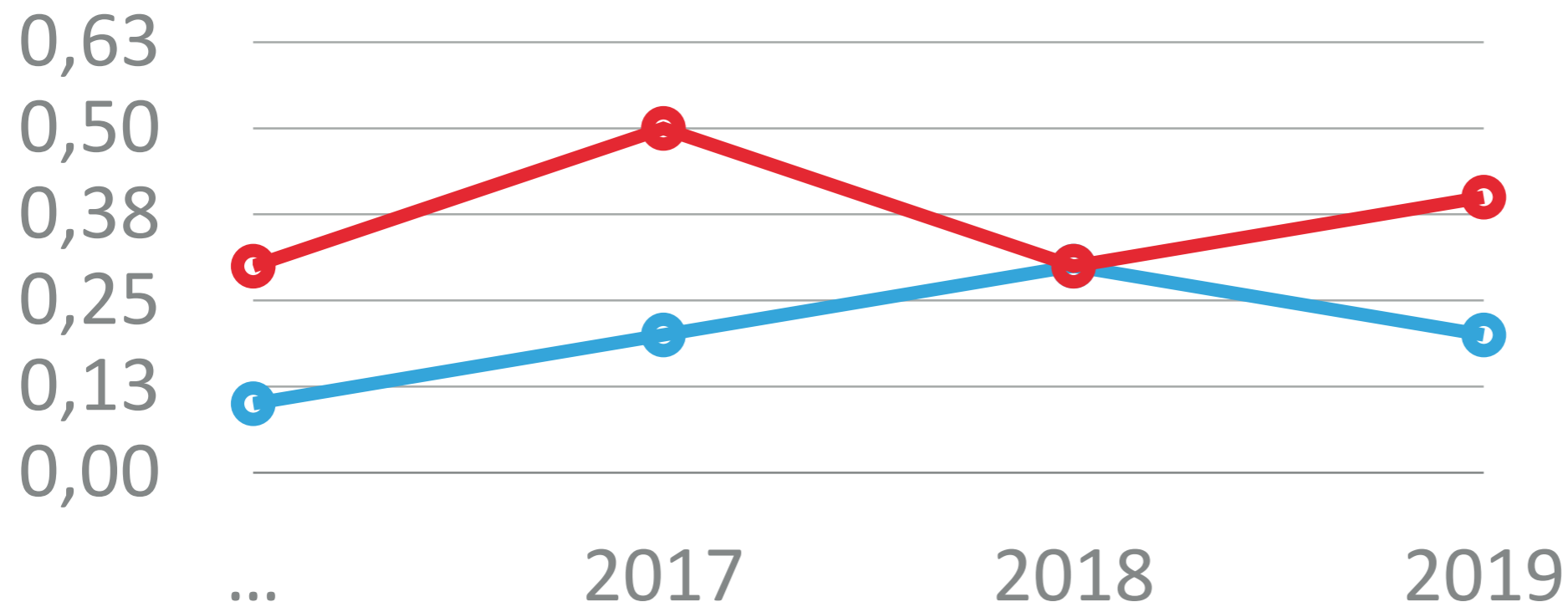
Search for data on GDP and unemployment rate on the website of the Czech Statistical Office.

Process a time series of at least 10-15 observations, from which it will be possible to draw conclusions about the development of trends in both indicators and THEIR RELATIONSHIP WITH OTHERS.

Present the data in the form of a table and graph, which will make the dependence (or independence) of both indicators clear .

ASSIGNMENT 2: GRAPH FORM AND PROCESSED TABLE

	2019	2018	2017	...
Unemployment				
GDP				

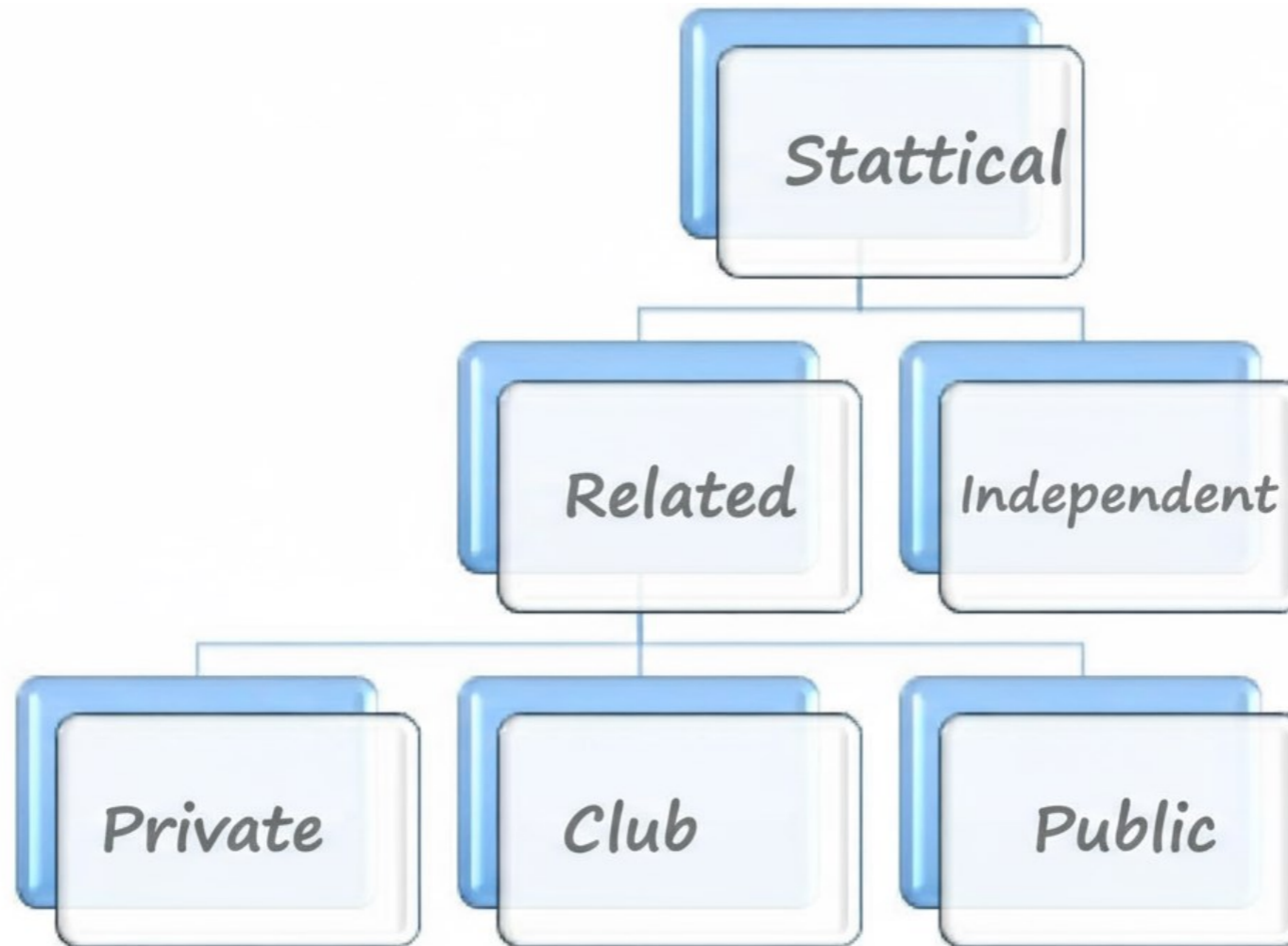


NOTE: The resulting trend lines will be different depending on the real values (I worked with imaginary numbers), but the basic shape of the graph should be the same.

ASSIGNMENT 3: CREATE A SCHEME

In economics, goods are divided into free and scarce. Scarce goods can be further divided into private, public and club goods.

ASSIGNMENT 3: RESULTING SCHEME



RECOMMENDATIONS FOR GRAPHIC ELEMENTS

- ▶ It is pointless to present the same data in both a table and a graph -> choose one
- ▶ Don't forget the axis labels
- ▶ If you are taking data from someone else to create a table/graph, you must provide a citation, even if it is your own processing.
 - ▶ suitable formulation is e.g. own processing according to **AUTHOR, YEAR**
- ▶ Do not forget to comment on the graph in the text; it is advisable to refer to it directly in the text ("this is shown in graph no. 1", "as can be seen from figure no. 1", etc.)

TWO BASIC APPROACHES:

▶ Qualitative

- ▶ Subject of investigation – cannot be measured or conversion would be an unacceptable simplification of reality
- ▶ Low number of observations, progress shaped over time
- ▶ High internal validity
- ▶ Result = description of situations, relationships

▶ Quantitative

- ▶ Subject of research – measurable, sortable, statistically testable
- ▶ High number of observations, standardized procedures
- ▶ Ability to interpret and generalize objectively
- ▶ The result is numbers

EACH APPROACH HAS ADVANTAGES AND DISADVANTAGES

▶ Qualitative

- ▶ A lot of information about a limited number
- ▶ Difficult to generalize, objectivity is a question
- ▶ It does not offer universal, generally valid knowledge

▶ Quantitative

- ▶ Limited information options for a large number of individuals
- ▶ The risk of research becoming disconnected from reality
- ▶ It does not cover local specifics that cannot be statistically captured
- ▶ Risk of omitting a significant explanatory factor

THANK YOU FOR YOUR ATTENTION!

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