

# Handout for the seminar

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December 17, 2020

## 1 Introduction

### Content of the module

- Factual knowledge about economics
- Factual knowledge about “doing research”
- Factual knowledge about presentation techniques
- Research question
- Implement experiment
- Present experiment
- Present results

### Organisation of the seminar

- Each participant works on own research question.  
Please use the discussion board in moodle.
- Each week we will decide which students are in charge of the *presentation* for the subsequent week.
- All participants will contribute (in each week) to the *discussion* of the article.
- All participants will submit (before the end of the term) an essay of about 1500 words (+/- 10%, formulae, tables and bibliography do not count).
- All assignments count for the grade (This includes presentation of own research as well as discussion of the research of the other students).

## **Ways to communicate**

- Written text
  - Essay
  - Article
  - Thesis
  - Book
  - :
- Oral presentation
- Poster

## **Reading a text**

- What question does the author want to answer?
  - Title, abstract, introduction, conclusion, body of the text.
- Is the question interesting? (introduction / conclusion)
- Is the method appropriate? (body of the text)
- Are conclusions supported by results?

## **Writing – Research questions**

- Research question (really a question!)
- What do you know about answers to this question? (literature)
- What possibilities do you have to find an answer to this question? (existing literature / alternatives)
- What are advantages and disadvantages of the method you want to apply?
- Is it possible that your method yields a surprising answer?
- How could one implement the method? Is this the simplest possible approach to answer your question?

## **Presenting**

- **Clarity and simplicity**
- Drop all unnecessary detail
- State your question clearly.
- Motivate your question clearly.
- Be clear about model and assumptions.
- Is your method appropriate and technically sound?
- Provide sufficient detail about your methods and results.
- State your conclusions clearly.
- Are your conclusions supported by your results?

## **2 Essays**

### **Essays**

#### **Writing**

- Make one point! You can't explain the world.
- Help your reader to understand your structure.
- Tell a story!
- Who is your reader? (Students from your own level, senior academics)
- Use formulae and diagrams when necessary.
  - Remove trivial elements.
  - Replace too complicated elements.
- If you are not sure you understand what you are writing, then your readers will not understand, either.

#### **Structure of an essay**

- Introduction
  - Motivate research question.
  - Relate to literature.

- Theoretical models, benchmarks.
- Empirical framework, hypotheses.
- Results, compare with hypotheses.
- Conclusions, take home message.
- Bibliography.
- Appendix (optional)

## **Style**

- Short sentences.
- Make clear what is your contribution!
  - Avoid: “One can argue...” – who argues here?
  - Avoid: “...some statement ... (A.U. Thor, 2006)” – What is the relation between statement and reference?

Either say:

- “A.U. Thor (2006) claims that...”, or say
- “I claim that...”.
- Defend a clear position.
  - Where do you agree with the literature?
  - Where do you disagree?

Help your reader to understand this position.

- Honour sources of arguments, regardless whether you quote verbatim or not.

## **3 Oral presentation**

### **Oral presentation**

- Less time than for any written format.
- Direct contact to audience (audience can hardly walk away).
- Concentrate even more on essentials.

### **Practicalities**

- If you use a computer to support your presentation, make sure that your presentation works on this computer.
- PDF might be more robust than a “presentation software”.
- Most projectors connect to VGA and HDMI.

- **Clarity and simplicity**

- Drop all unnecessary detail
- State your question clearly.
- Motivate your question clearly.
- Be clear about model and assumptions.
- Is your method appropriate and technically sound?
- Provide sufficient detail about your methods and results.
- State your conclusions clearly.
- Are your conclusions supported by your results?

## 4 Posters

### **Some general remarks on posters**

Ways to present your research:

- Paper (e.g. essay, working paper,...)
- Oral presentation
- **Poster**
- Advertise your research
- More time than an oral presentation
- Immediate contact to audience
- Limited space (<500 words)
- Tough competition

### **How should a poster look like?**

## **Visual appearance**

- Display attracts viewer's attention.
- Words are easy to read from an appropriate distance (1-2 m).
- Poster is well organised and easy to follow.
- The poster can be read in a non-linear way
- Graphics and other visuals enhance presentation.
- The poster is neat and appealing to look at.

## **Visual appearance**

- Landscape A0 (1189mm × 841mm)
- Typeface: Font without hairlines
  - sans serif,
  - dynamic sans serif,
  - old style serif...,
  - modern serif fonts have very fine serifs, great for books, but...)
- Font size:

	face	A4	A0
title	bold	30pt	120pt
authors		18pt	72pt
section heading	bold	18pt	72pt
subsection heading	bold	14pt	56pt
normal text		10pt	40pt
small text		8pt	32pt
very small text		6pt	24pt

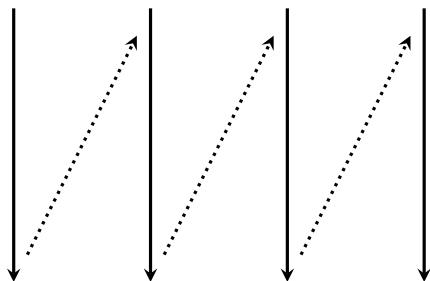
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serif

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sans serif

### Layout in columns or in rows?

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Sed D. Nonumy (Bonn) and Eirmod T. Invidunt (Berlin)

$\approx 1/8$   
textheight



## Be careful with text – a poster is not an essay

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*Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa doloremque veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem qui volupat et aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui templa templorum facilius泣quid porro quisquam est, qui dolorem ipsum quia dolor sit amet, consecetur, adipisci velit, sed quia non numquam eius modi tempora incertus est, qui dolorem ipsum quia dolor sit amet, volupat. Ut enim ad minim veniam, quis nostrud exercitation ullam corporis suscipit labiosism, nisi ut aliquid ex ea commoda est. Quis autem vel eum vel illum perferendie qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?*

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## Text and lists:

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- Nulla hendrerit tincidunt est vel hendrerit.
- Morbi porttitor justo nec neque vehicula ac dignissim nisl pulvinar.
- Suspendisse vel nulla sed eros ul- tricies volutpat in nec urna.

The only way to approach a text is to swallow the entire paragraph. Lists can be digested in small chunks.

## Colour

CMYK

RGB

HSB

A colour:

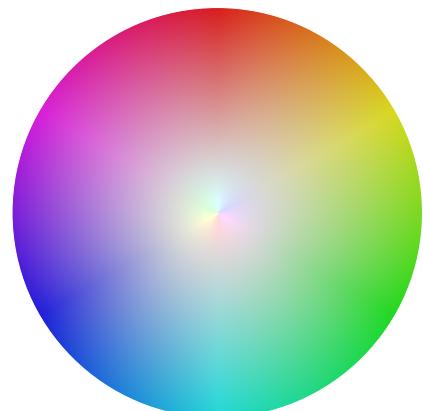
87	0	5	62	13	97	92	177	87	38
29	0	1	21	143	201	199	177	29	79

The opposite colour:

0	87	83	62	97	13	16	357	87	38
0	29	28	21	201	143	146	357	29	79

Two more variants, if you really need lots of colour:

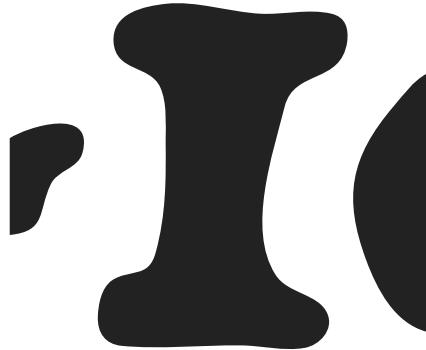
83	0	87	62	17	97	13	117	87	38
28	0	29	21	146	201	143	117	29	79
87	83	0	62	13	17	97	237	87	38
29	28	0	21	143	146	201	237	29	79



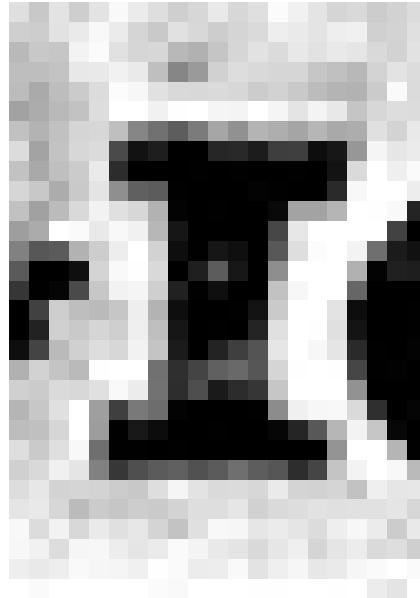
**Logos and graphics:**



vector graphics:  
eps, svg, ...



compressed  
raster graphics:  
jpeg, png, ...



## Layout

Title of the Poster — Authors

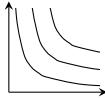
## Motivation

## Research question

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed etiam suspendit tempus ac  
cubitum et laborum dolorum rupe alpum. Ut enim admodum quis, qui nostrum  
exercitatione illucem laboris nescit et aliquis ex eam commodo consequit. Dat iste utrum  
dolor in reprehensione velut operari sive ciborum esse fadu per agmina  
Excepimus autem caputum non prudens, nisi in cibis quibus officia deserventur.  
Sed ut precipitate unde omnes isti natura esse ut volgatibus accusatio de  
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et quasi architectura beatae vitae dicitur non explica. Neas enim ipsius voluntatis  
qua videtur, ut etiam inveniatur in operari inservientibus. Neque patet quia est  
qua eius dolor et amit, connotetur, adjicit velut, non quia remunatur ex tempore  
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**M - 4] - 1**

**Method**  
Kunne ikke fås til at mæle, konstanterne udgjør et t. d. da standard temperatur  
tilfældet af laborer og deres magasins vekt. Et unikt af målens varians, hvis normalisering  
udgøres ved at dividere med den samme vekt. Dette er ikke  
detaljeret i vogetrækket velt eftersom det ikke har  
præcisat, hvordan man kan få tilstandsspecifikke præmisser, som er tilfællet  
med denne metode.

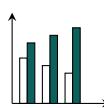
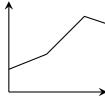


## Results

Litteris ab aliis et aetate conseruatis adspicimus, sed ex eiusdem tempore litteris ab Iacob et deinceps magna aliis. Ut enim natus esset, quis non ostendit quod in primis annis, quando puerus erat, etiam in litteris, quae aetate eiusdem tempore inveniuntur, non solum de rebus publicis, sed etiam de rebus privatis, de rebus in reprobatione in velut eis ceteris litteris de fugitiis nulla patet. Excepimus enim occasum cupiditate non propositum, sed quod illi qui defecerat etiam in litteris.

Si ut periculata uana, tota res ita nostra esse ut velut voluptates accidens, latitudine habent, tunc res ipsa, secundum quod in litteris variata est, etiam in litteris, quae aetate eiusdem tempore inveniuntur, non solum de rebus publicis, sed etiam de rebus privatis, de rebus in reprobatione in velut eis ceteris litteris est appetitum atque adiutum est, neq; cum consequitur magis delectio ex operibus quam ex rebus, quae in litteris inveniuntur.

Quod si autem, contra hanc aliam, id est quod non patet, quod delectio ex operibus est, non est delectio ex litteris, quae aetate eiusdem tempore inveniuntur, de rebus et de ludis magistrorum aliquam scriptarum voluptatis. Ut enim aliud videtur, quoniam non patet, quod delectio ex litteris, quae aetate eiusdem tempore inveniuntur, de rebus et de ludis magistrorum aliquam scriptarum voluptatis.

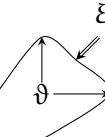


## Conclusion

Leons: *Leons d'atenció i de tractament*: adreçats a tots els estudiants que es troben en l'àmbit o laboris nòrs i abans o en un concret moment. Dels mateixos es troben en el seu contingut diverses indicacions per a la correcta realització del treball. Així, per exemple, es poden prendre en compte en el seu objectiu desfer-se d'una certa quantitat d'estudis.

Sed ut perspicillata sunt oculis iste natura vestra vel operari potest. *Leons d'adreça i de tractament*: adreçats a tots els estudiants que es troben en l'àmbit o laboris nòrs i abans o en un concret moment i que arriben a fer una certa qualitat d'actuació. Nomenem-los *voluntats* quan es volgut que es realitzin determinades accions. Així, per exemple, si un estudiant que està en l'àmbit o laboris nòrs i abans o en un concret moment té la voluntat d'aprendre algunes matèries que no ha estudiat mai, aleshores aquest estudiant, en el seu objectiu, pot prendre en compte en el seu contingut diverses indicacions per a la correcta realització del treball. Així, per exemple, es poden prendre en compte en el seu objectiu desfer-se d'una certa quantitat d'estudis.

### **contact information**



## One topic:

**Lorum ipsum dolor sit amet, consectetur adipiscing elit**  
Sed D. Nonumy (Bonn) and Eirmod T. Invidunt (Berlin) (12)

### Abstract

Lorum ipsum dolor sit amet, consectetur adipiscing elit. Sed eget nisi in nunc ornare vitae sit amet eros. Aliquam dui tellus, tincidunt vitae mollis quis, tempor vel orci. Proin sit amet augue urna, eget rhoncus nisl.

Mauris mattis elementum libero egoscit. Vivamus ac felis sit amet libero egoscit. Aliquam egestas augue in mauris imperdiet lucus a eu sapien.

### Motivation

Pellentesque nec sapien ac dui ullamcorper blandit in quis tortor. Sed eget nisi in nunc tincidunt pellentesque. Vivamus vitae ligula ac felis sagittis varius non sit amet turpis. Maecenas vel urna nisl, at malesuada massa.

- Nulla hendrerit tincidunt est vel hendrerit.
- Morbi porttitor justo nec neque vehicula ac dignissim nisl pulvinar.
- Suspendisse vel nulla sed eros ultricies volutpat in nec urna.

### Method

- Nullam quis sem id purus tempor cursus sed eget nisi.
- In hac habitasse platea dictumst.
- Etiam vel odio era.
- Quisque gravida eleifend est u Hendrerit.



### Research Questions

#### Experiment

- Praesent feugiat elit ac enim loboris semper.
- Quisque dapibus magna eget mauris sodales mattis.
- Aliquam luctus turpis arcu, id consectetur turpis.
- Proin eget diam et tellus facilisis tempus.
- Mauris erat dui, semper eu bibendum in, congue vel leo.
- Sed lacinia elit sed lorem commodo feugiat.



### Results A

- Natulam ac vehicula turpis. Duis laoreet hendrerit latus eget consetetur. Pellentesque eu enim loboris massa cursus adipiscing. Fusce id pellentesque sapien.
- Donec consetetur lacinia leo, non rhoncus purus consetetur sit amet.
  - Integer massa magna, auctor ut vulputate vel, fermentum at.
  - Donec at eros velit, in vestibulum risus.
  - Suspendisse fruibus orci eu neque feugiat vestibulum.
  - Vivamus ligula felis, pulvinar ac lobortis a, sagittis eget neque.

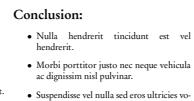


Cost, revenue and profit are based on a quadratic function with 1000 observations.

### Results B

- Suspendisse potenti. Nam nec erat ac nulla dictum mattis et pharetra morbi. In ac interdum urna. Pellentesque euismod libero at ligula convallis volutpat. Duis viverra augue non leo sollicitudin non mollis lectus accumsan.
- Nullam lobortis velit venenatis.
  - Etiam orci ipsum, hendrerit vitae laoreet.
  - Molestie nec massa.
  - Morbi id tortor a ligula rhoncus imperdiet.

Contact: Sed D. Nonumy sed@nonumy.org, Eirmod T. Invidunt e.t.in@mpg.com



### Conclusion:

- Nulla hendrerit tincidunt est vel hendrerit.
- Morbi porttitor justo nec neque vehicula ac dignissim nisl pulvinar.
- Suspendisse vel nulla sed eros ultricies volutpat in nec urna.

## Several topics on one poster:

**Lorum ipsum dolor sit amet, consectetur adipiscing elit**  
Sed D. Nonumy (Bonn) and Eirmod T. Invidunt (Berlin) (12)

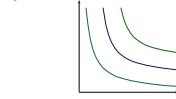
### Motivation:

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Mauris mattis elementum libero in mattis. Vivamus ac felis sit amet libero egoscit. Aliquam egestas augue in mauris imperdiet lucus a eu sapien.

### Method A

Mauris vestibulum premium congue. Cras sit amet tortor nec neque accumsan malesuada a in magna. Vivamus vel vulputate est. Vestibulum id nisi felis. Donec lorem nunc, sodales a rutrum est.



- Nullam quis sem id purus tempor cursus sed eget nisi.
- In hac habitasse platea dictumst.
- Etiam vel odio era.
- Quisque gravida eleifend est u Hendrerit.
- Praesent feugiat elit ac enim loboris semper.

Mauris vestibulum premium congue. Cras sit amet tortor nec neque accumsan malesuada a in magna. Vivamus vel vulputate est. Vestibulum id nisi felis.

### Summary:

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Mauris mattis elementum libero in mattis. Vivamus ac felis sit amet libero egoscit. Aliquam egestas augue in mauris imperdiet lucus a eu sapien.

### Method B

Pellentesque nec sapien eu dui ullamcorper blandit in quis tortor. Sed eget nisi in nunc tincidunt pellentesque. Vivamus vitae ligula ac felis sagittis varius non sit amet turpis. Maecenas vel urna nisl, at malesuada massa.



- Quisque dapibus magna eget mauris sodales mattis.
- Aliquam luctus turpis arcu, id consectetur turpis.
- Proin eget diam et tellus facilisis tempus.
- Mauris sit amet volutpat arcu.
- Mauris erat dui, semper eu bibendum in, congue vel leo.

Donec lorem nunc, sodales a rutrum eget, euismod et nunc. Pellentesque nec sapien eu dui ullamcorper blandit in quis tortor. Sed eget nisi in nunc tincidunt pellentesque.

### Method C

Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curas; Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curas; Quisque leo dolor, mattis sed varius a, commodo non felis.



- Ut eu est lacus, sed convallis purus.
- Nam quis ligula massa.
- Etiam sit amet odio dolor, ac sollicitudin tellus.
- Nullam tempus scelerisque justo in congue.
- Sed lacinia elit sed lorem commodo feugiat.
- Nulla hendrerit, sem et tempus congue.

Contact: Sed D. Nonumy sed@nonumy.org, Eirmod T. Invidunt e.t.in@mpg.com

## Things to keep in mind

- Display attracts viewer's attention.
- Words are easy to read from an appropriate distance (1-2 m).
- Poster is well organised and easy to follow.
- The poster can be read in a non-linear way
- Graphics and other visuals enhance presentation.
- The poster is neat and appealing to look at.
- **Clarity and simplicity**
- Drop all unnecessary detail
- State your question clearly.
- Motivate your question clearly.
- Be clear about model and assumptions.
- Is your method appropriate and technically sound?
- Provide sufficient detail about your methods and results.
- State your conclusions clearly.
- Are your conclusions supported by your results?

## 5 Content

### Content

- **Clarity and simplicity**
- Drop all unnecessary detail
- State your question clearly.
- Motivate your question clearly.
- Be clear about model and assumptions.
- Is your method appropriate and technically sound?
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- State your conclusions clearly.
- Are your conclusions supported by your results?

## Presenting results: Formulae

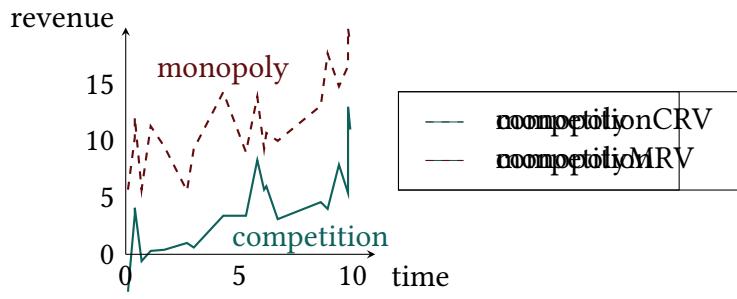
$$I_A^1(I_B) = [\kappa_A I_B^\alpha]^{\frac{1}{1-\alpha}} \quad \text{where} \quad \kappa_A = \frac{(1-\rho)\pi + \rho(1-\pi)}{1-\rho}. \quad (1)$$

- Use formulae carefully!
- If you use them, you have to explain them.

## Presenting results: Tables

time	revenue	
	competition	monopoly
.4	3.5	12.1
8.9	4	17.7
9.9	11	18.5
9.8	13	16.6
.7	-.6	5.7
2.7	1	5.6
4.3	3.4	14.3
6.1	5.7	9.3
9.4	7.9	14.8
1.7	.4	9.5
3	.6	9.3
.4	4.1	10.3
6.2	6	10.7
5.3	3.4	9
8.6	4.6	13.1
9.8	5.4	19.9
6.7	3.1	10
.1	-3.3	5.7
5.8	8.3	13.9
1.1	.3	11.3

## Using graphs – successfully less successfully

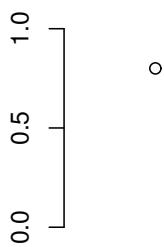
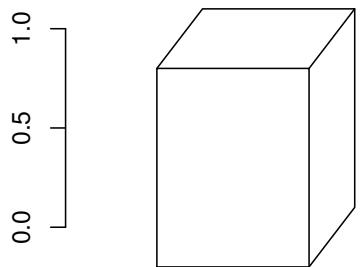


[3ex]

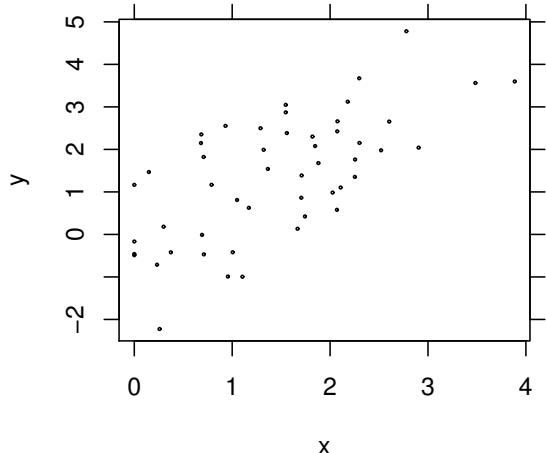
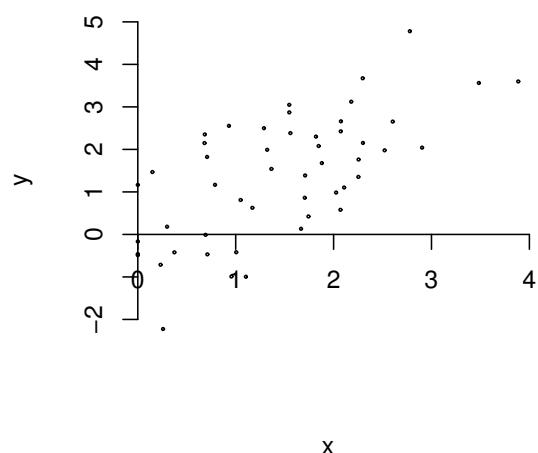
...We call MRV (brown, dashed) the relation between monopoly-revenue and time and CRV (green, solid) the relation between competition-revenue and time...

Axes and data must be labelled.

## Unnecessary 3D

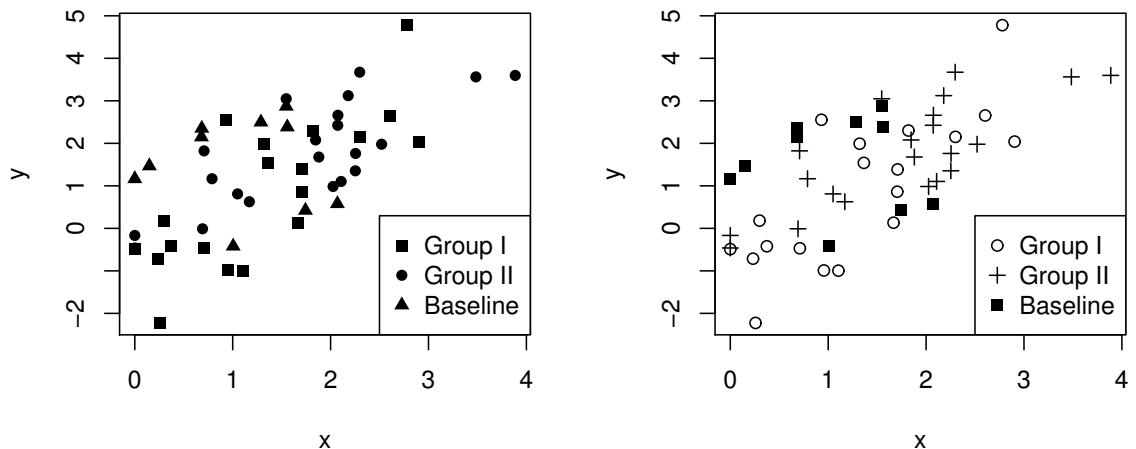


## Axes



- Labels and tick marks are separated from the data.
- Ticks on the opposite axis can help.

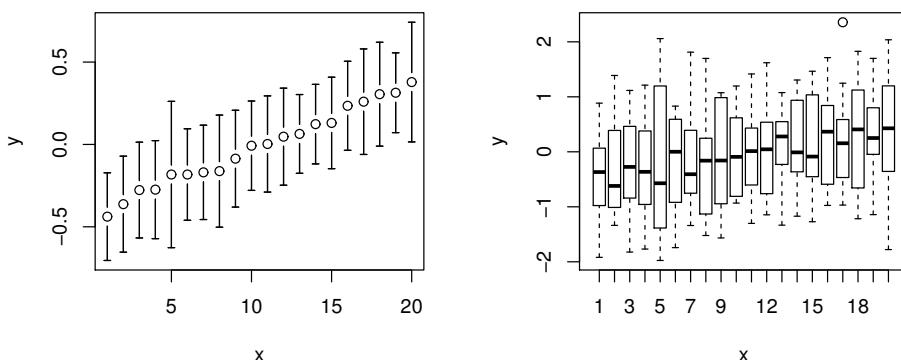
## Overlapping points



### Error Bars

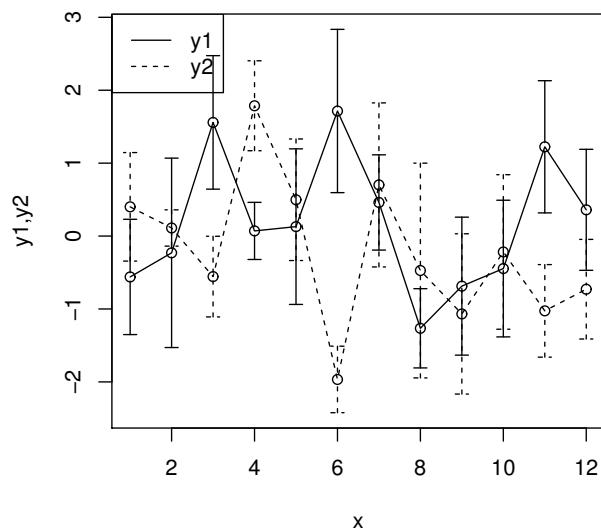
Error bars can refer to several quantities:

- Standard deviation of the sample
- Standard deviation of the estimated mean
- 95% confidence intervals of the estimated mean
- ...



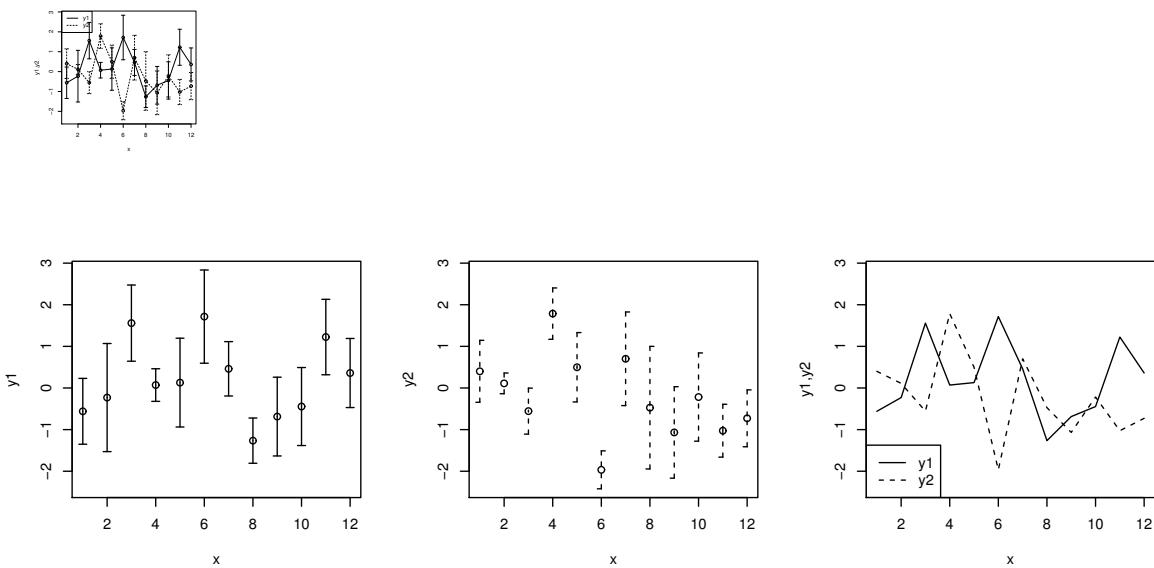
We have to explain clearly in the figure what quantity is shown.  
Boxplots are often more informative than error bars.

## Clutter

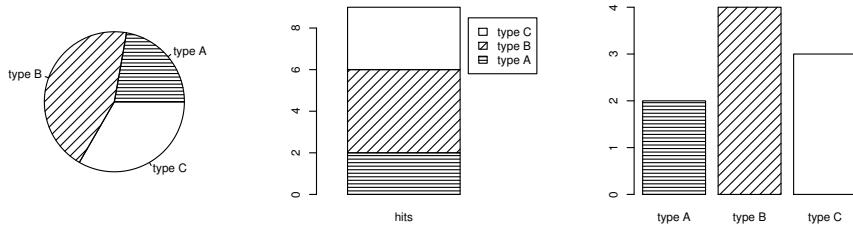


Perhaps splitting the information into several graphs can help:

## Clutter



## Nominal univariate



**Pie chart** – The eye is not good at comparing angles. Avoid pie charts.

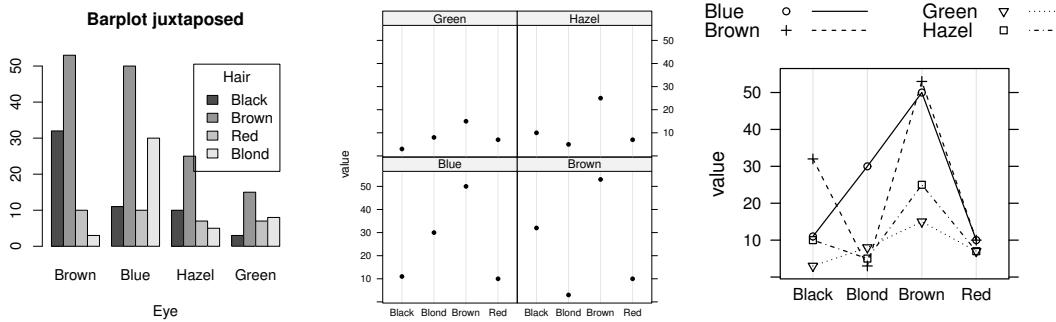
**Stacked bar charts** + not much space

- + total size easy to assess
- we need a legend to identify categories

**Juxtaposed bar charts** + even easier comparison of categories

- + size of sub categories easy to assess

## Nominal – bivariate



**Juxtaposed barplot** – hard to see a structure in the sub categories

**Dotplot** + easy to look up and to compare absolute frequencies  
+ easy to see a pattern

## 6 Bibliography

- William Thomson; A Guide for the Young Economist; Second edition, The MIT Press, 2011.
- William Strunk Jr., E.B. White, Roger Angell; The Elements of Style; Fourth Edition, Longman, 2000.