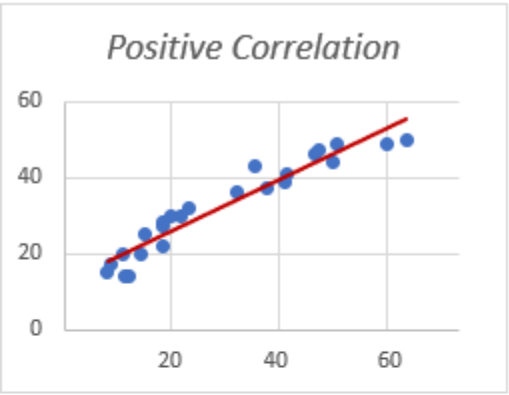
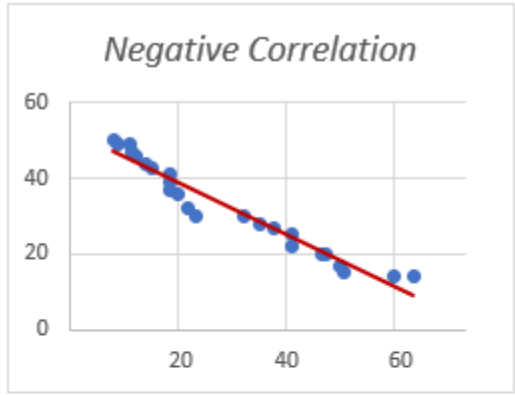
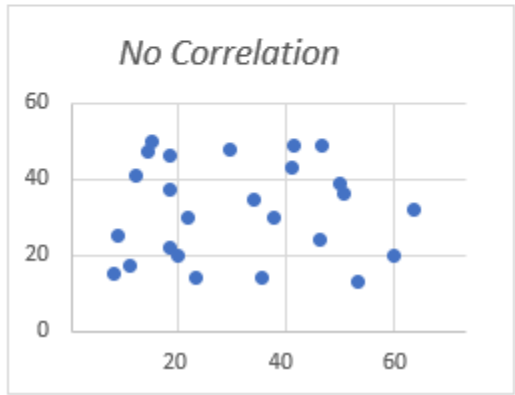
Scatter plot

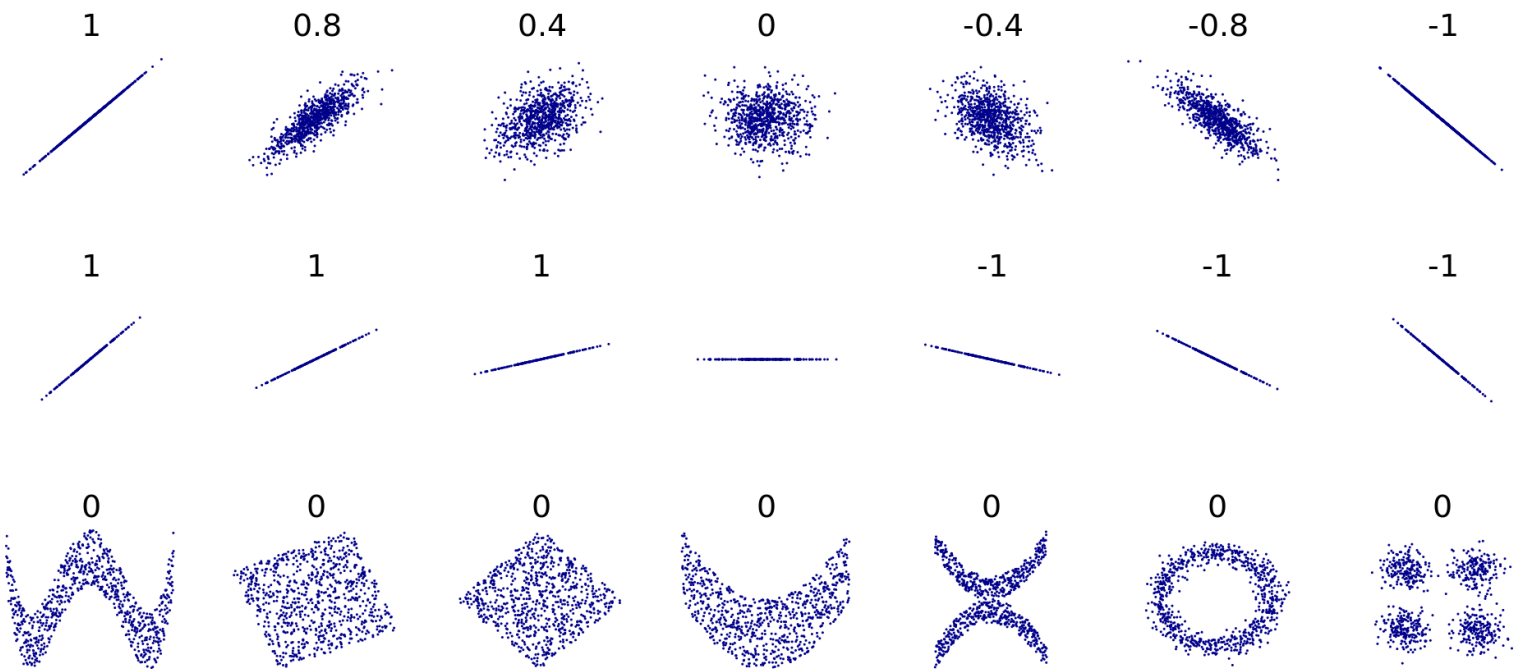
- Relationship of two interval variables
- Correlation

- Weight x height
- Unemployment rate x purchase power

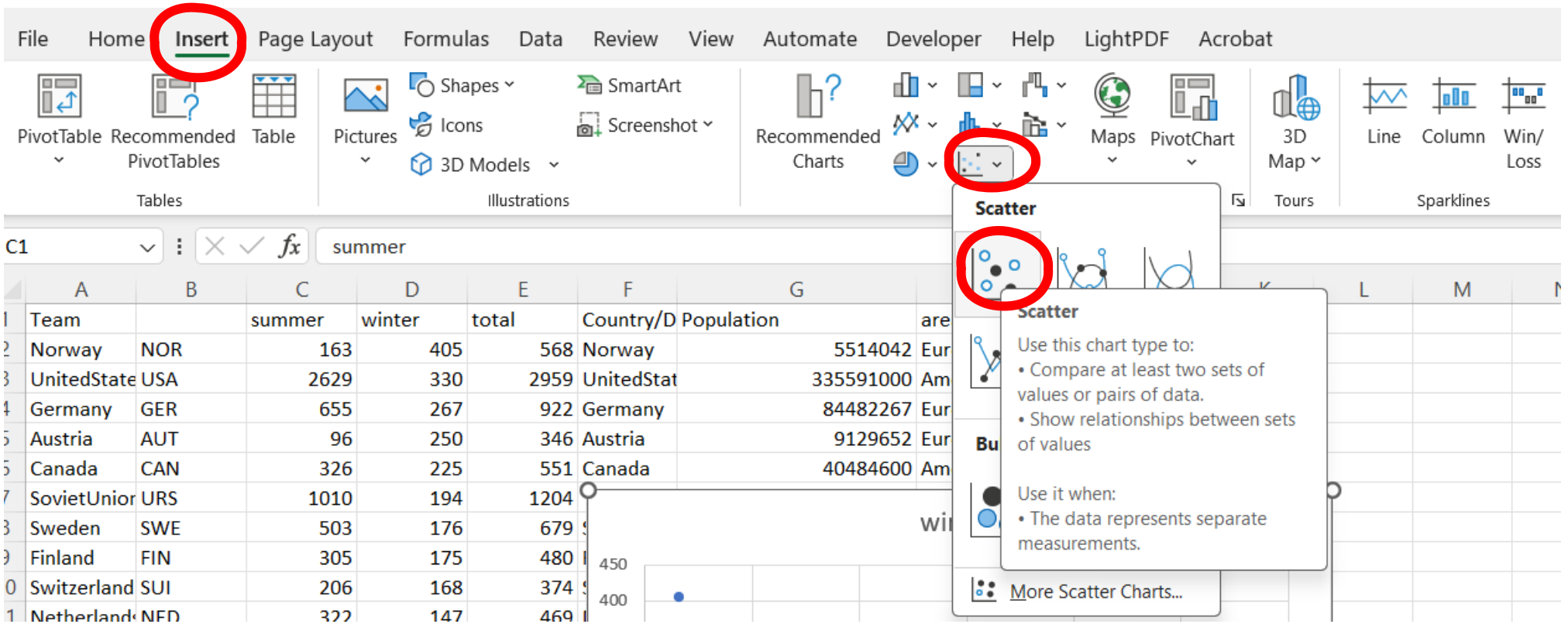

Positive Correlation
60
40
20
0
20
40
60

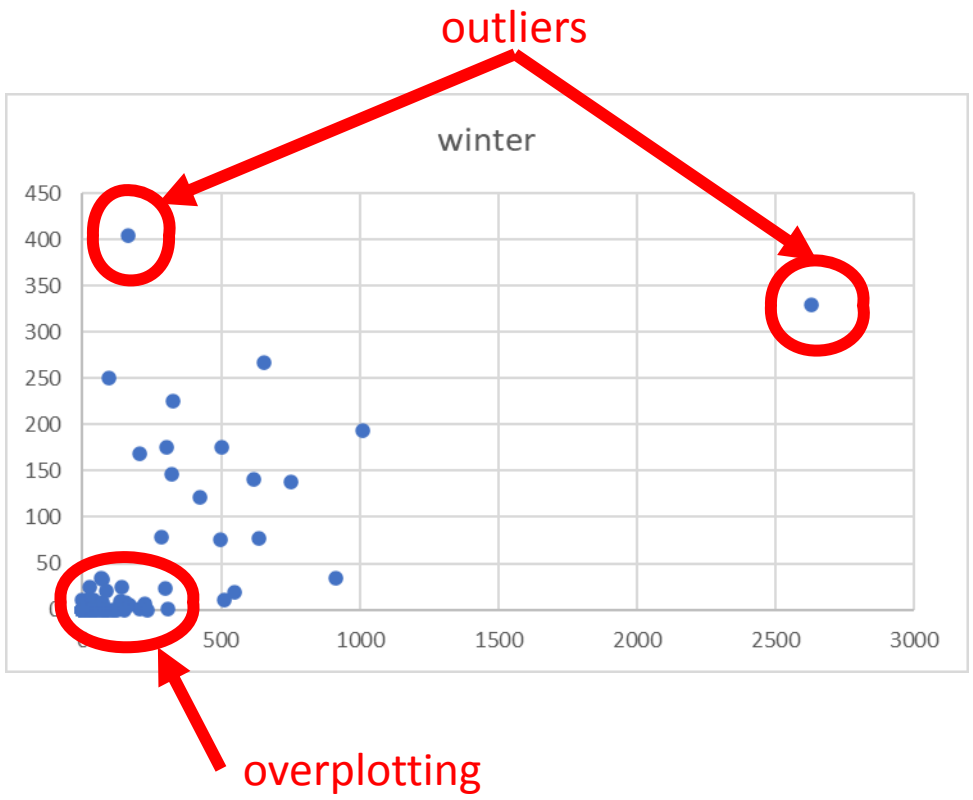

Negative Correlation
60
40
20
0
20
40
60


No Correlation
60
40
20
0
20
40
60


1
0.8
0.4
0
-0.4
-0.8
-1
1
1
1
-1
-1
-1
0
0
0
0
0
0
0

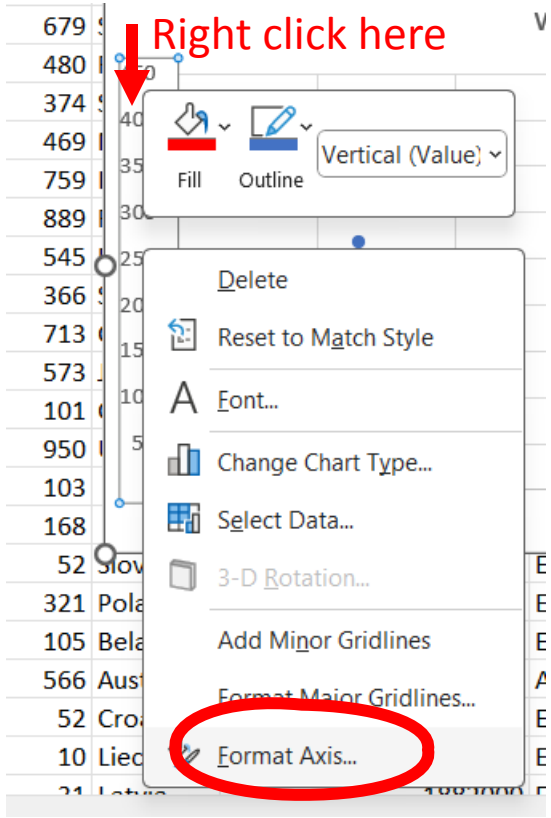
Scatterplot

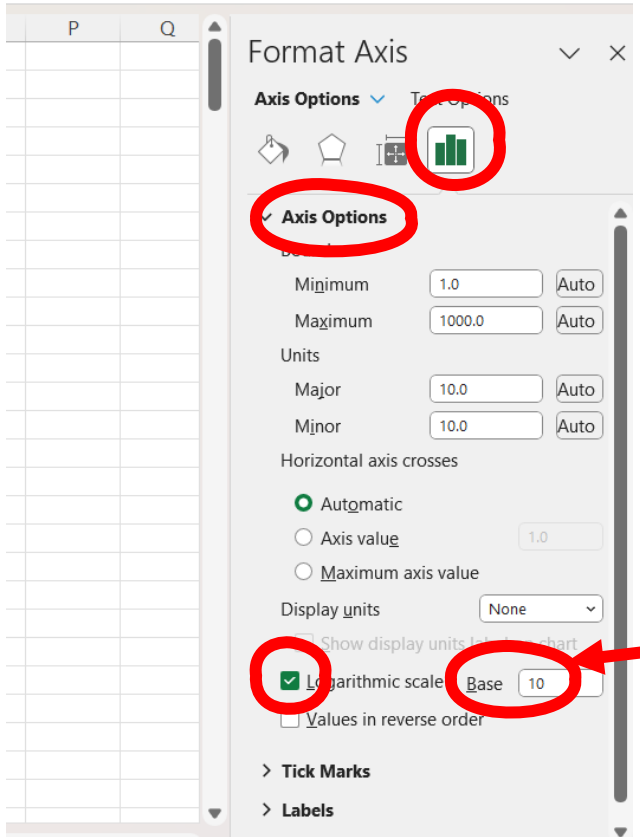



outliers
winter
450
400
350
300
250
200
150
100
50
0
500
1000
1500
2000
2500
3000
overplotting

Log axis

- Solution when there is a lot of small values and a few high values
  - Typical situation: population
- Problem: it does not work for 0 and negative numbers

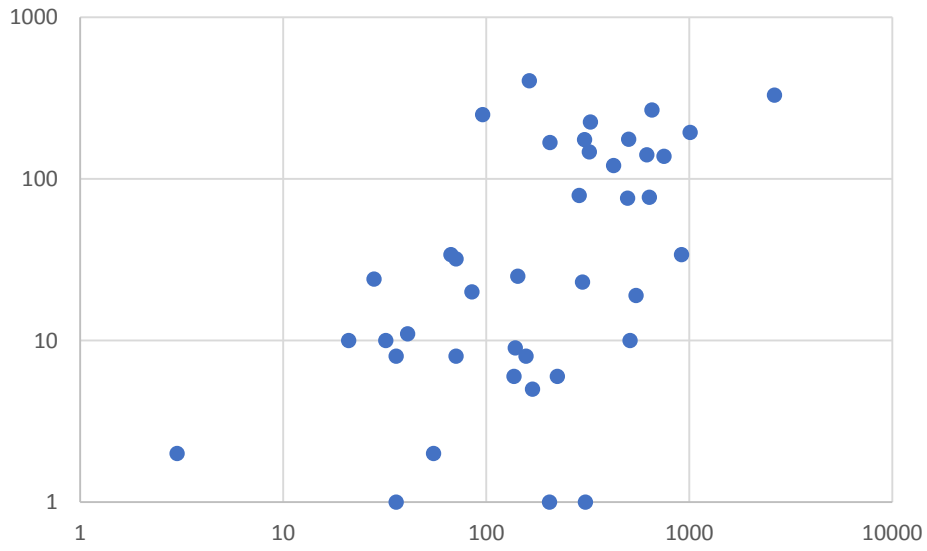




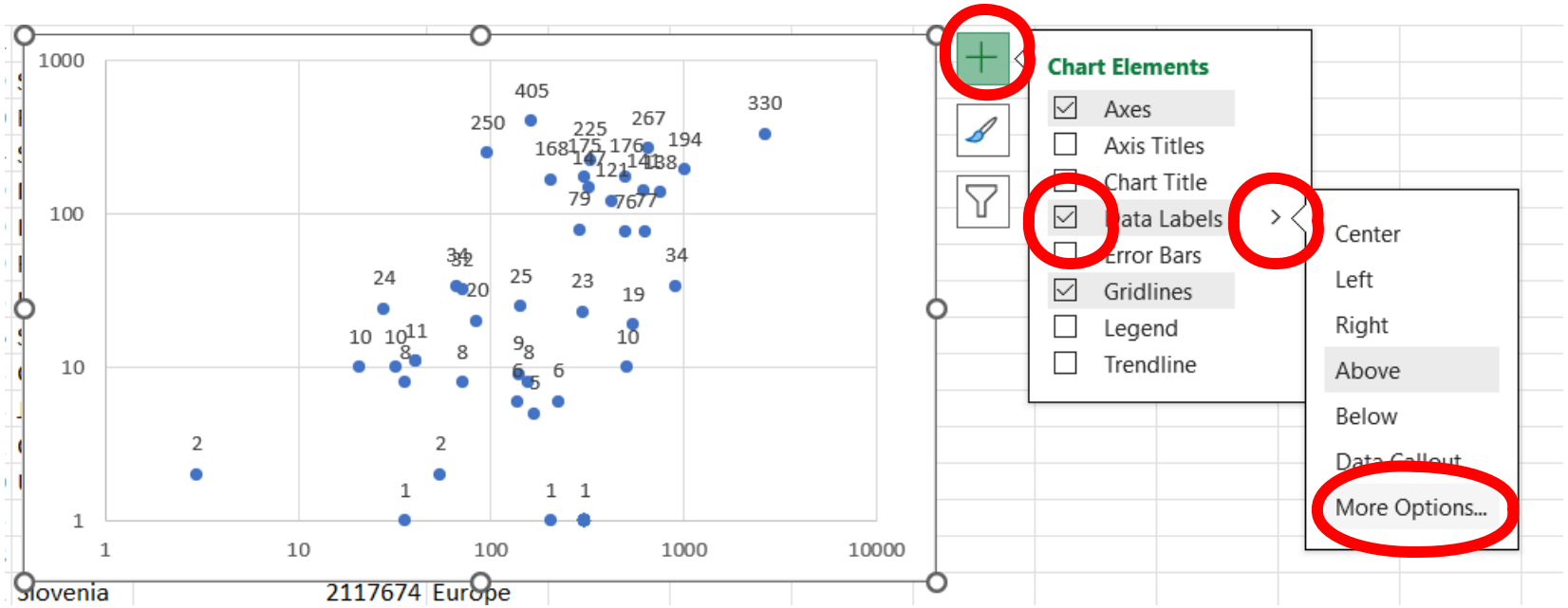
a quantity representing the power to which a fixed number (the base) must be raised to produce a given number (eg for 100 it is 2 because 10power2 is 100)

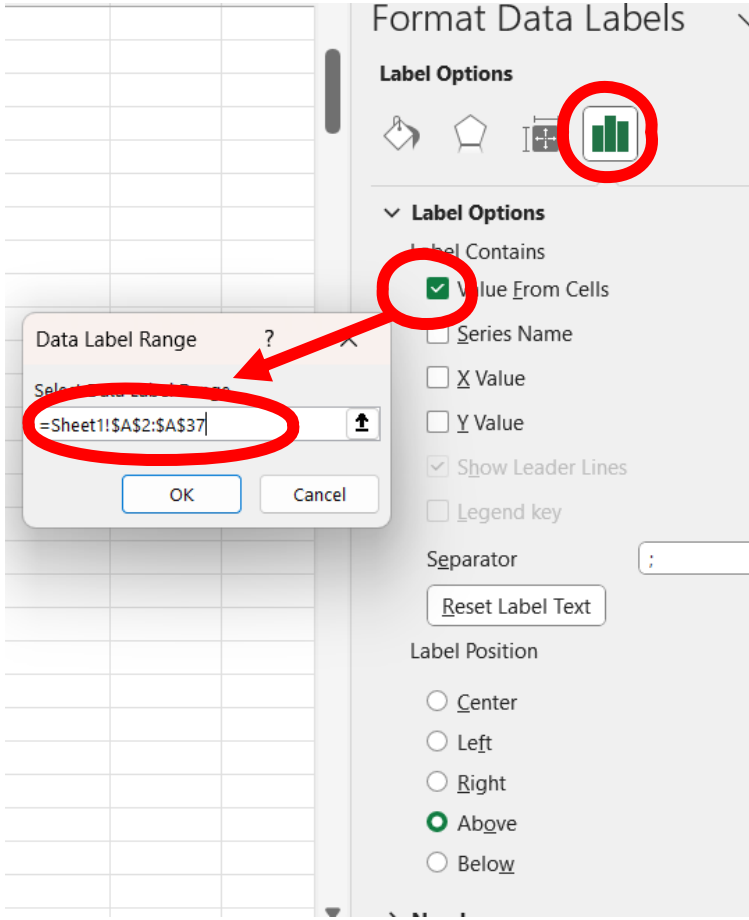
Excel leaves the labels as not transformed, but it change look of axis

Both axes logged

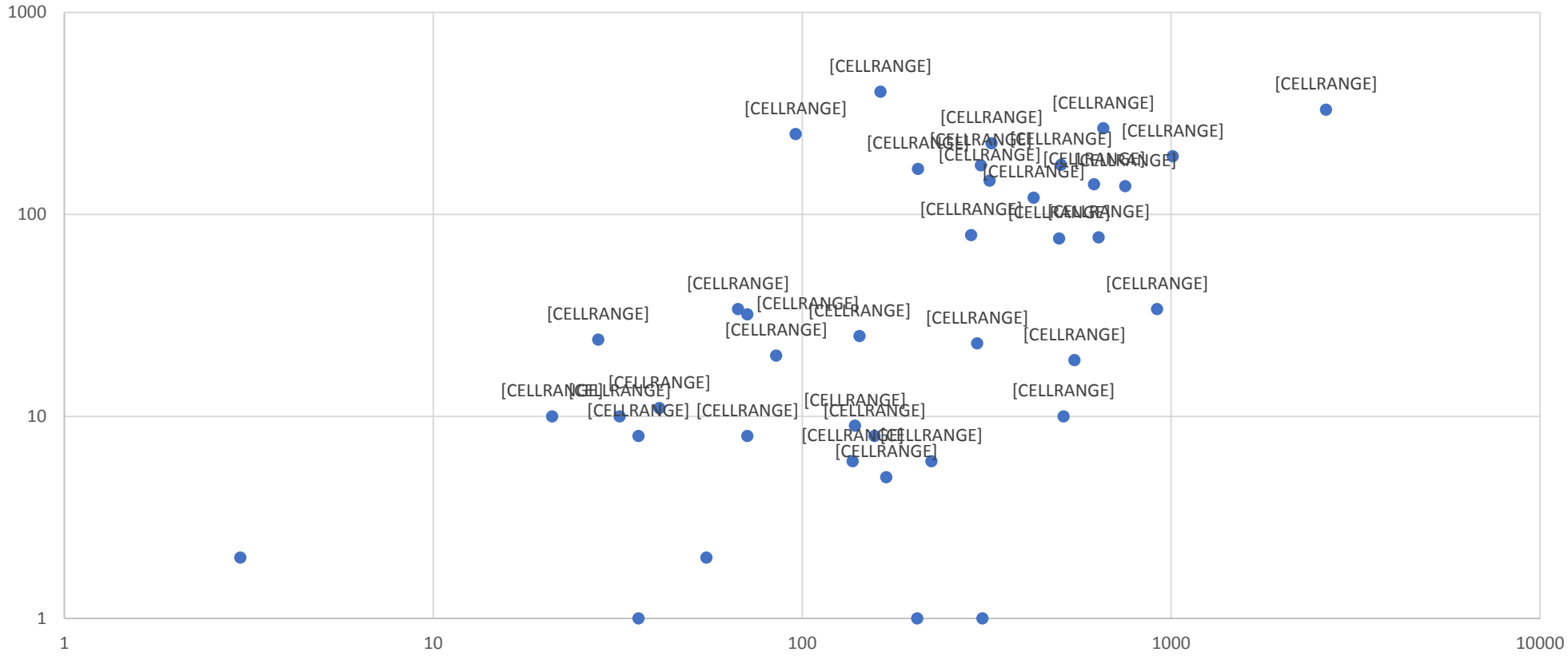


Add point labels



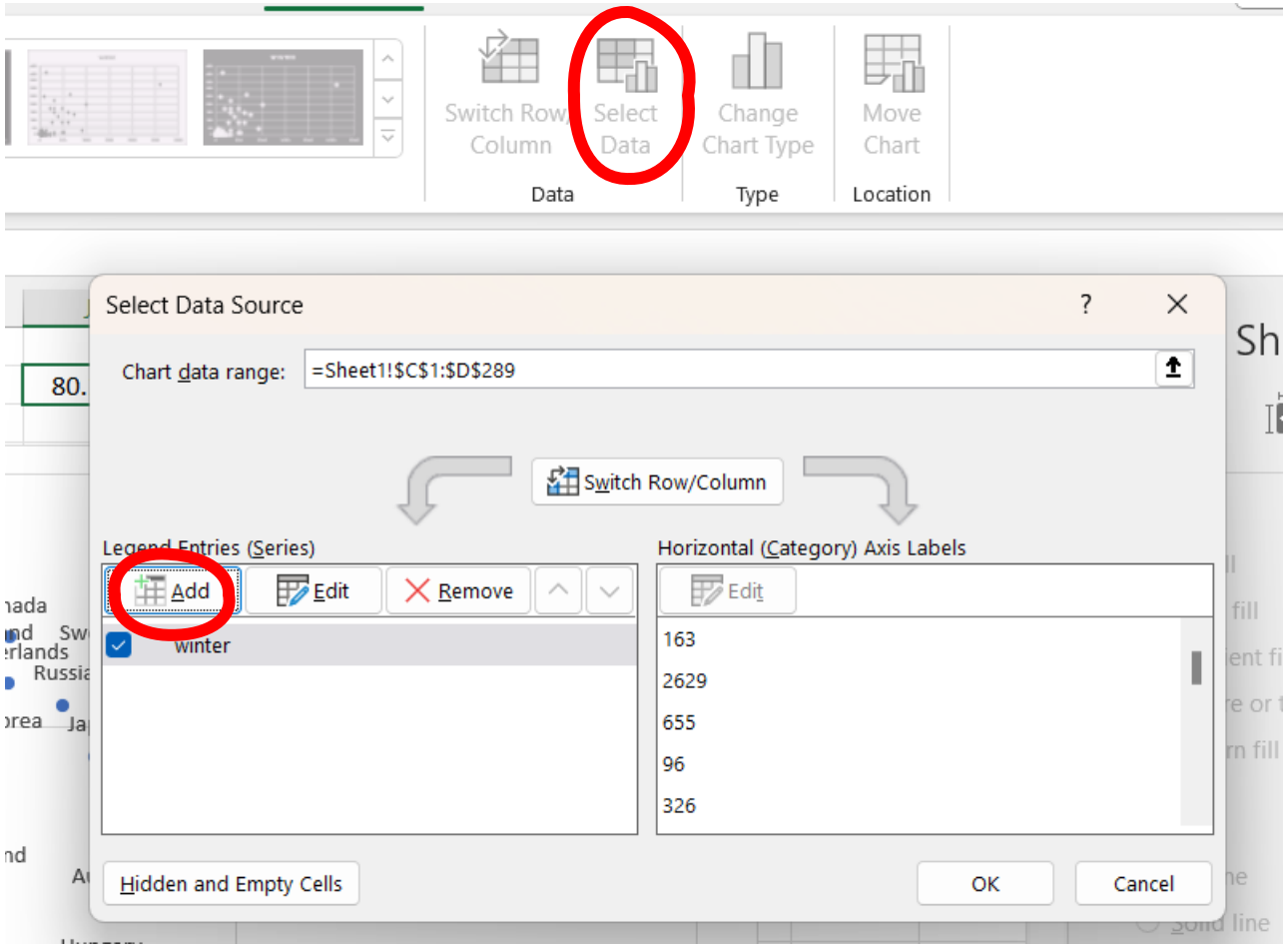


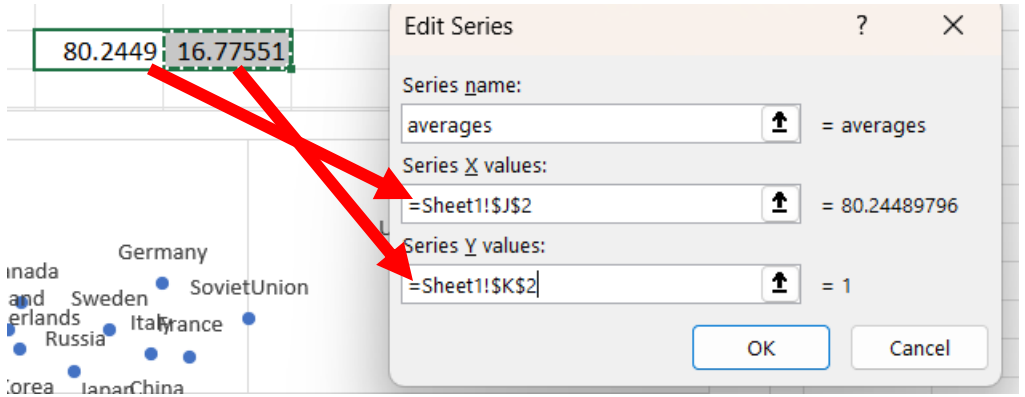
- Overlays need to be managed manuály
- Use short names or abbreviations

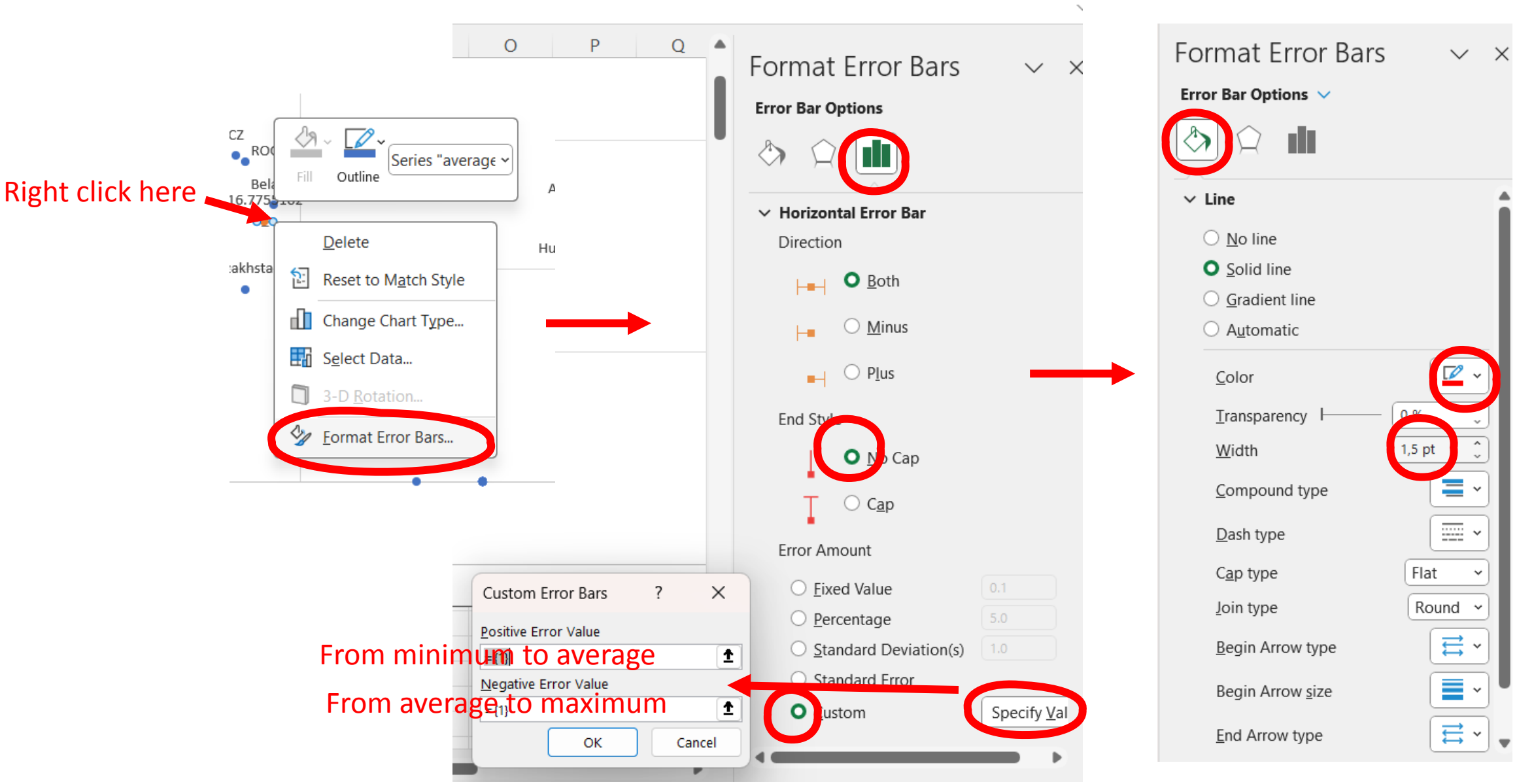


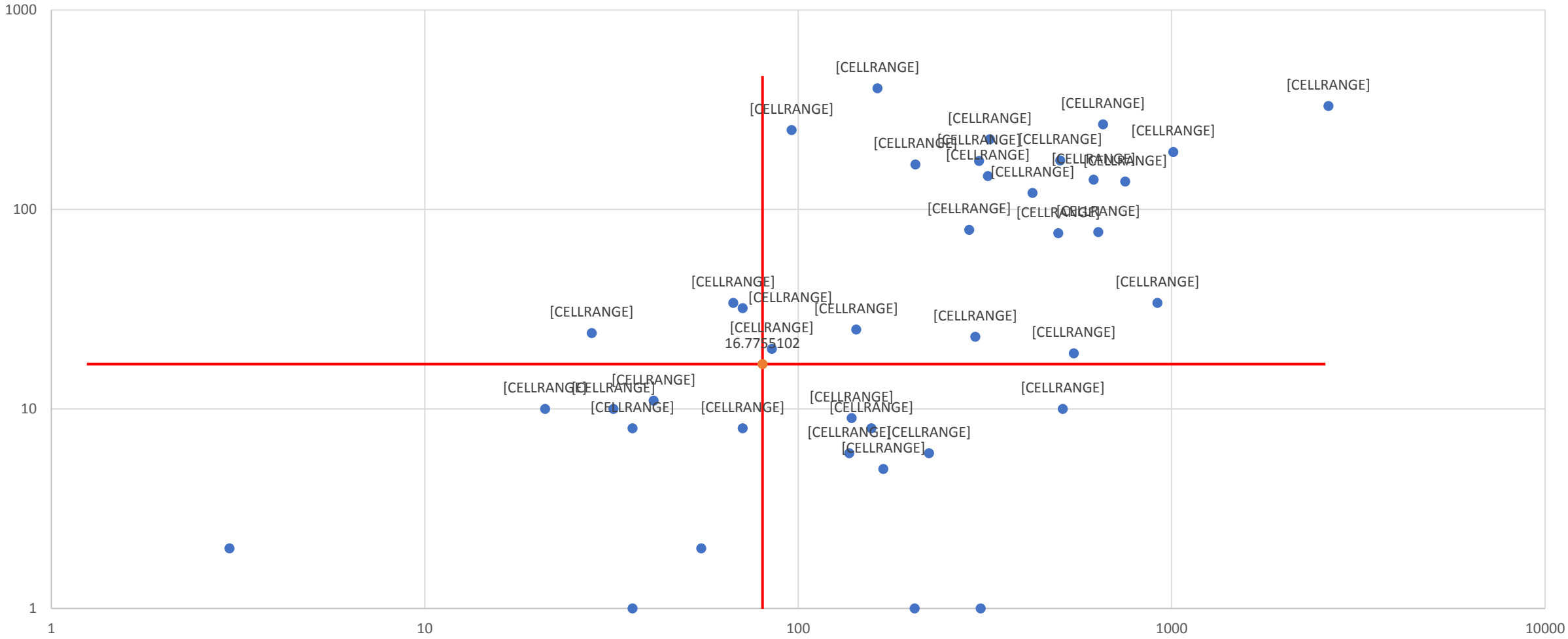
Add lines

- Trend line
  - Linear
  - Exponential
  - logarithmic
- Quartals

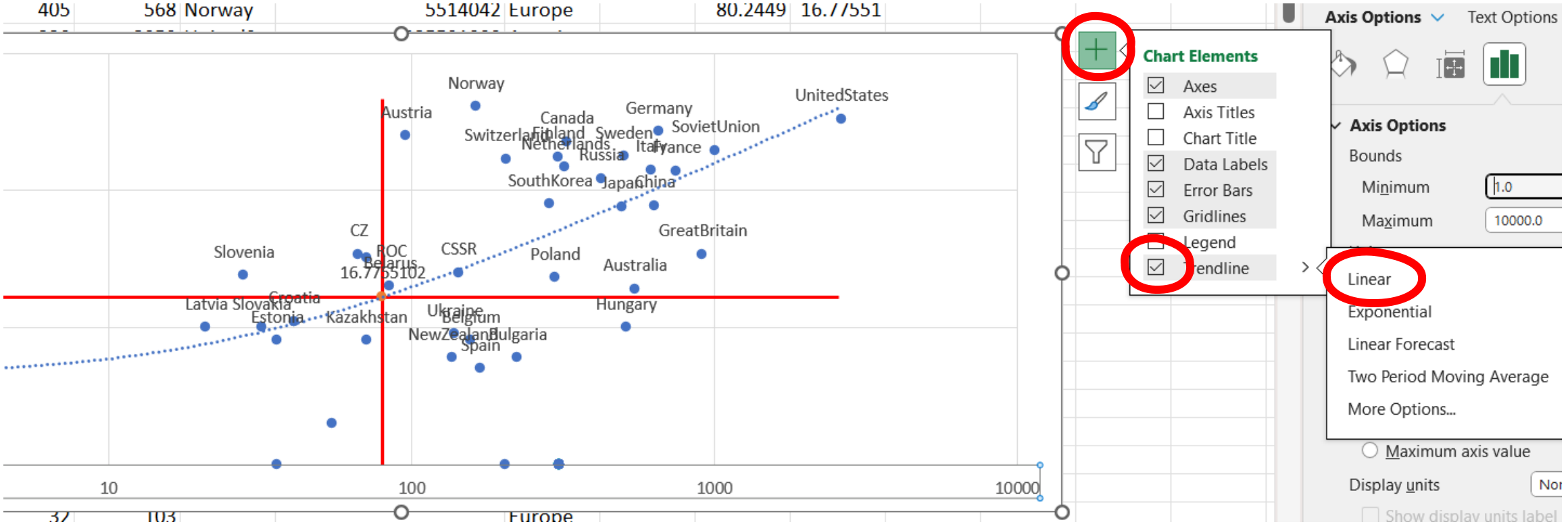

Switch Row/ Column
Select Data
Change Chart Type
Move Chart
Data
Type
Location
Select Data Source
Chart data range: =Sheet1!$C$1:$D$289
Switch Row/Column
Legend Entries (Series)
Add
Edit
Remove
winter
Horizontal (Category) Axis Labels
Edit
163
2629
655
96
326
Hidden and Empty Cells
OK
Cancel


80.2449
16.77551
Germany
SovietUnion
Sweden
Italy
France
Russia
China
Edit Series
Series name:
averages
= averages
Series X values:
=Sheet1!$J$2
= 80.24489796
Series Y values:
=Sheet1!$K$2
= 1
OK
Cancel


Right click here
Fill
Outline
Series "average
Delete
Reset to Match Style
Change Chart Type...
Select Data...
3-D Rotation...
Format Error Bars...
Format Error Bars
Error Bar Options
Horizontal Error Bar
Direction
Both
Minus
Plus
End Style
No Cap
Cap
Error Amount
Fixed Value
Percentage
Standard Deviation(s)
Standard Error
Custom
Specify Val
Custom Error Bars
Positive Error Value
Negative Error Value
OK
Cancel
From minimum to average
From average to maximum
Format Error Bars
Error Bar Options
Line
No line
Solid line
Gradient line
Automatic
Color
Transparency
Width
1,5 pt
Compound type
Dash type
Cap type
Flat
Join type
Round
Begin Arrow type
Begin Arrow size
End Arrow type


1000
100
10
1
1
10
100
1000
10000
[CELLRANGE]
16.7755102

Trend line


405 568 Norway 5514042 Europe 80.2449 16.77551
Norway
Austria
Canada
Germany
UnitedStates
Switzerland
Finland
Sweden
SovietUnion
Netherlands
Italy
France
Russia
SouthKorea
Japan
China
CZ
GreatBritain
Slovenia
ROC
CSSR
Poland
Australia
Belarus
16.7755102
Latvia
Slovakia
Croatia
Estonia
Kazakhstan
Ukraine
Belgium
Hungary
NewZealand
Bulgaria
Spain
10
100
1000
10000
32 103 Europe
Chart Elements
Axes
Axis Titles
Chart Title
Data Labels
Error Bars
Gridlines
Legend
Trendline
Axis Options
Text Options
Axis Options
Bounds
Minimum
1.0
Maximum
10000.0
Linear
Exponential
Linear Forecast
Two Period Moving Average
More Options...
Maximum axis value
Display units
Show display units label

Set of boxplots