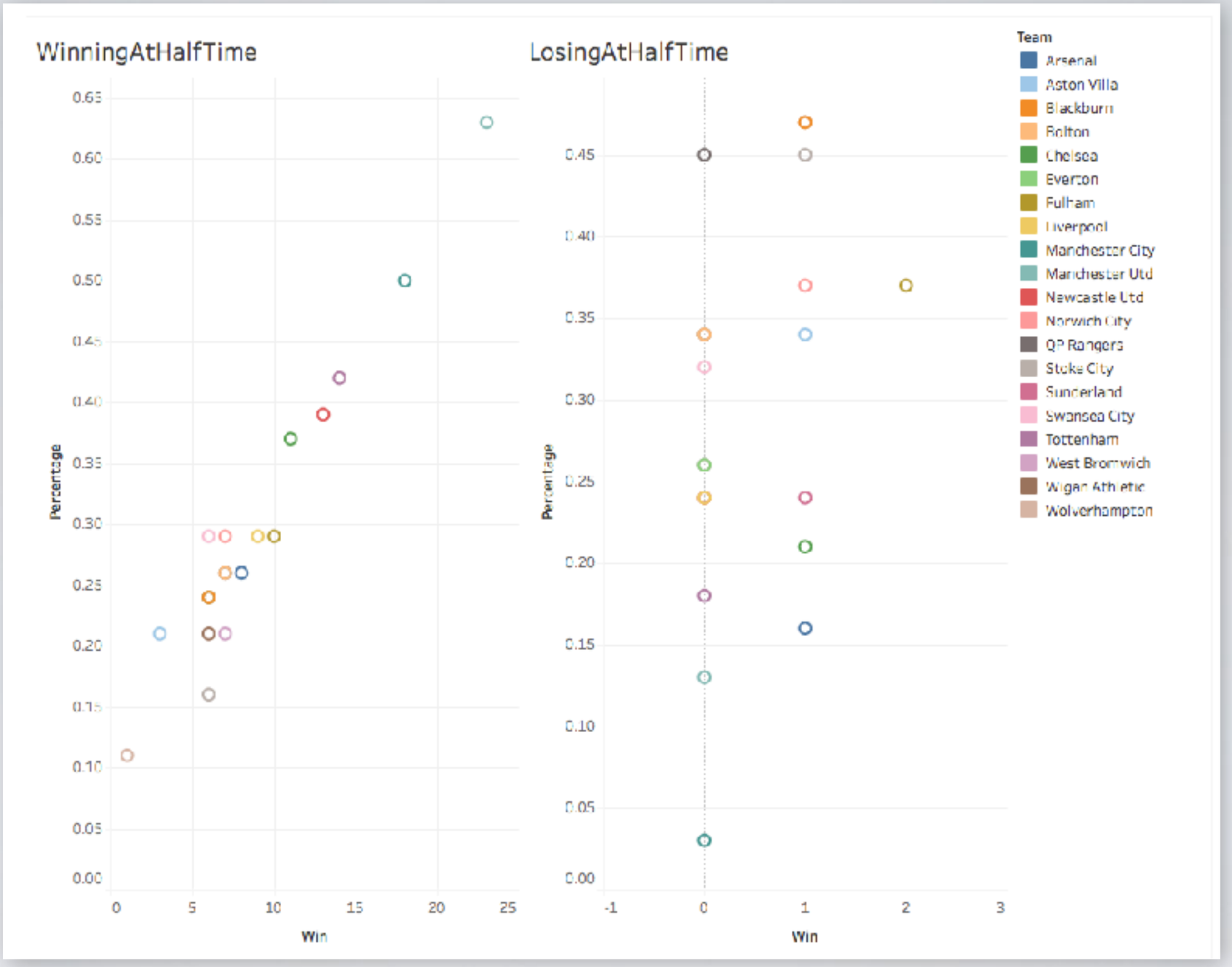
Feedback on Visualisation 1

FIT3179 Data Visualisation

Feedback

- Annotate and explain.


WinningAtHalfTime
LosingAtHalfTime
Percentage
Win
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
5
10
15
20
25
-1
1
2
3
Team
Arsenal
Aston Villa
Blackburn
Bolton
Chelsea
Everton
Fulham
Liverpool
Manchester City
Manchester Utd
Newcastle Utd
Norwich City
QP Rangers
Stoke City
Sunderland
Swansea City
Tottenham
West Bromwich
Wigan Athletic
Wolverhampton

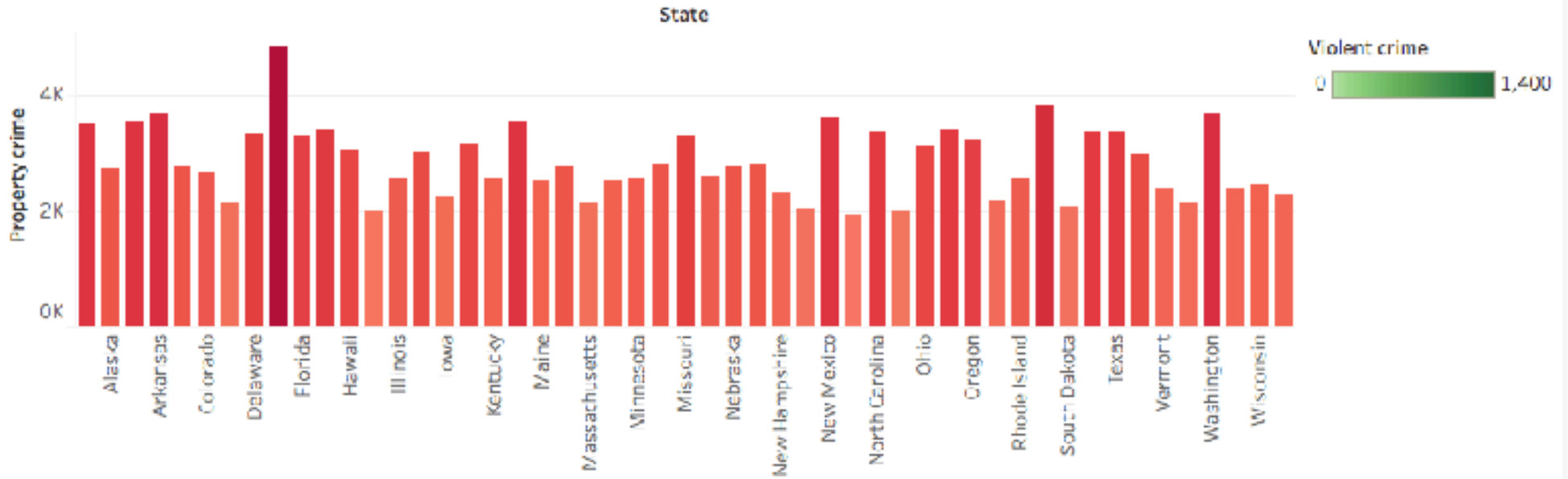
Crime Rate in the U.S. 2012

Sum of property and violent crimes for each state in year 2012

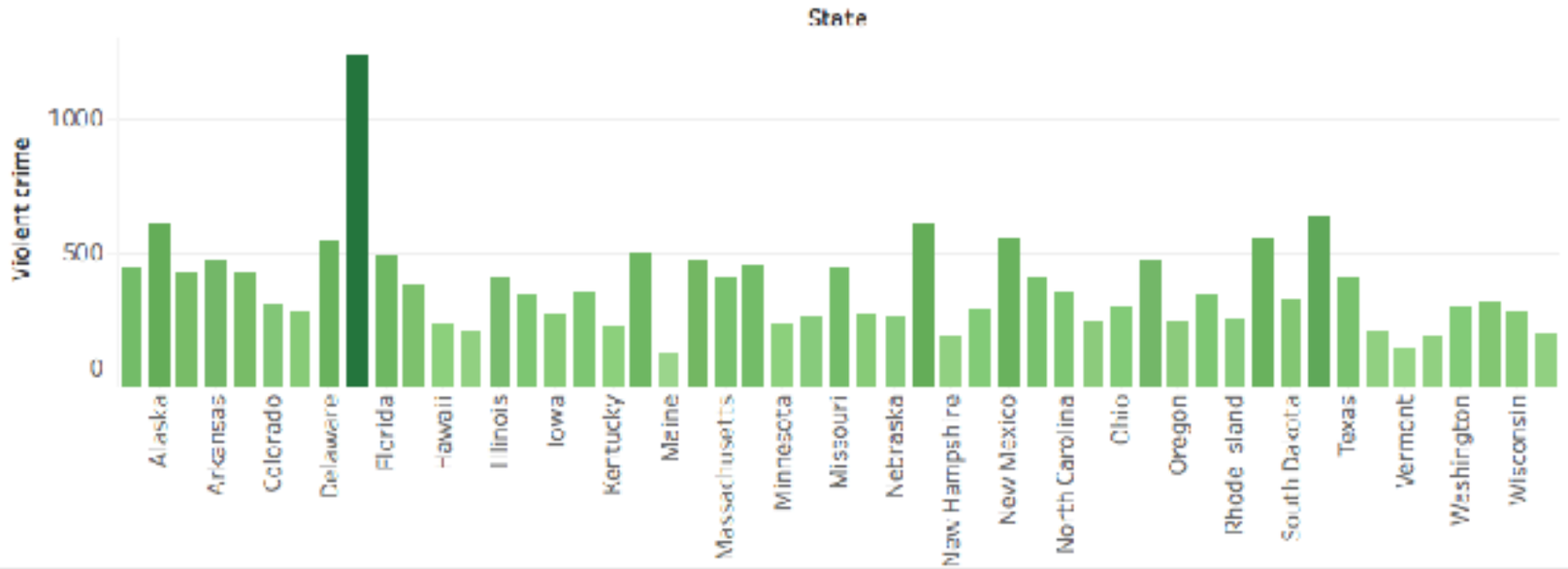
Different type of crime and respective rates for each state in the U.S. for year 2012

Overview of ethnicity, property and violent crime for each state in the U.S.

Sum of Property crime in U.S. 2012



Sum of Violent Crime in U.S. 2012



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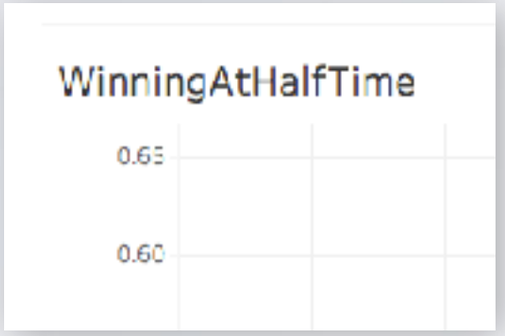

Should be
Winning at Half Time
or
Winning at half time

Feedback

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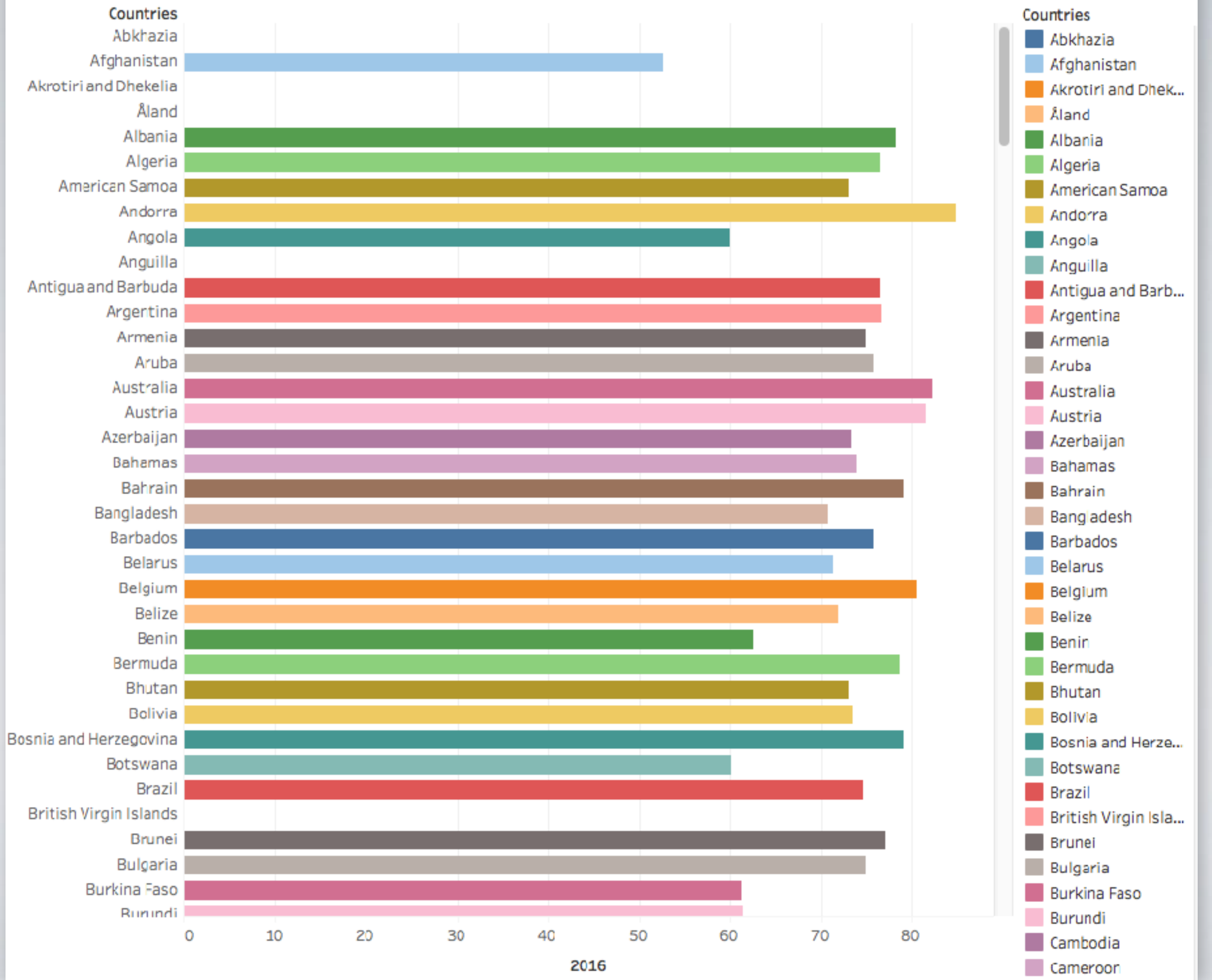
Countries
Abkhazia
Afghanistan
Akrotiri and Dhekelia
Åland
Albania
Algeria
American Samoa
Andorra
Angola
Anguilla
Antigua and Barbuda
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda
Bhutan
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
British Virgin Islands
Brunei
Bulgaria
Burkina Faso
Burundi
0
10
20
30
40
50
60
70
80
2016
Countries
Abkhazia
Afghanistan
Akrotiri and Dhek...
Åland
Albania
Algeria
American Samoa
Andorra
Angola
Anguilla
Antigua and Barb...
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bang adesh
Barbados
Belarus
Belgium
Belize
Benir
Bermuda
Bhutan
Bolivia
Bosnia and Herze...
Botswana
Brazil
British Virgin Isla...
Brunei
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroor

Feedback

- Annotate and explain.
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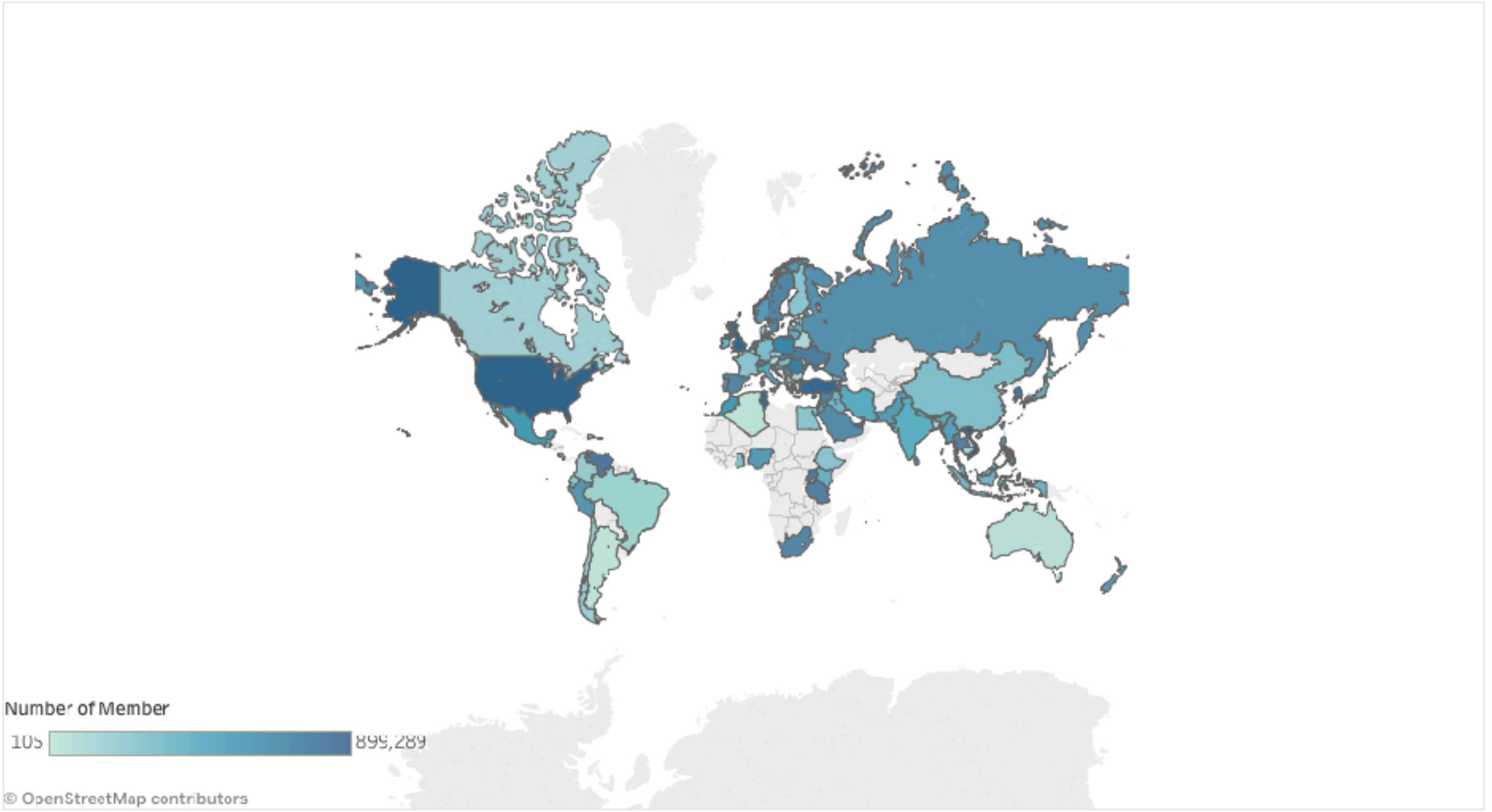
- Alphabetical order is a poor choice in most cases.
- Normalise data in choropleth maps! And use classes!

Stack OverFlow member distribute over the world



Feedback

- Annotate and explain.
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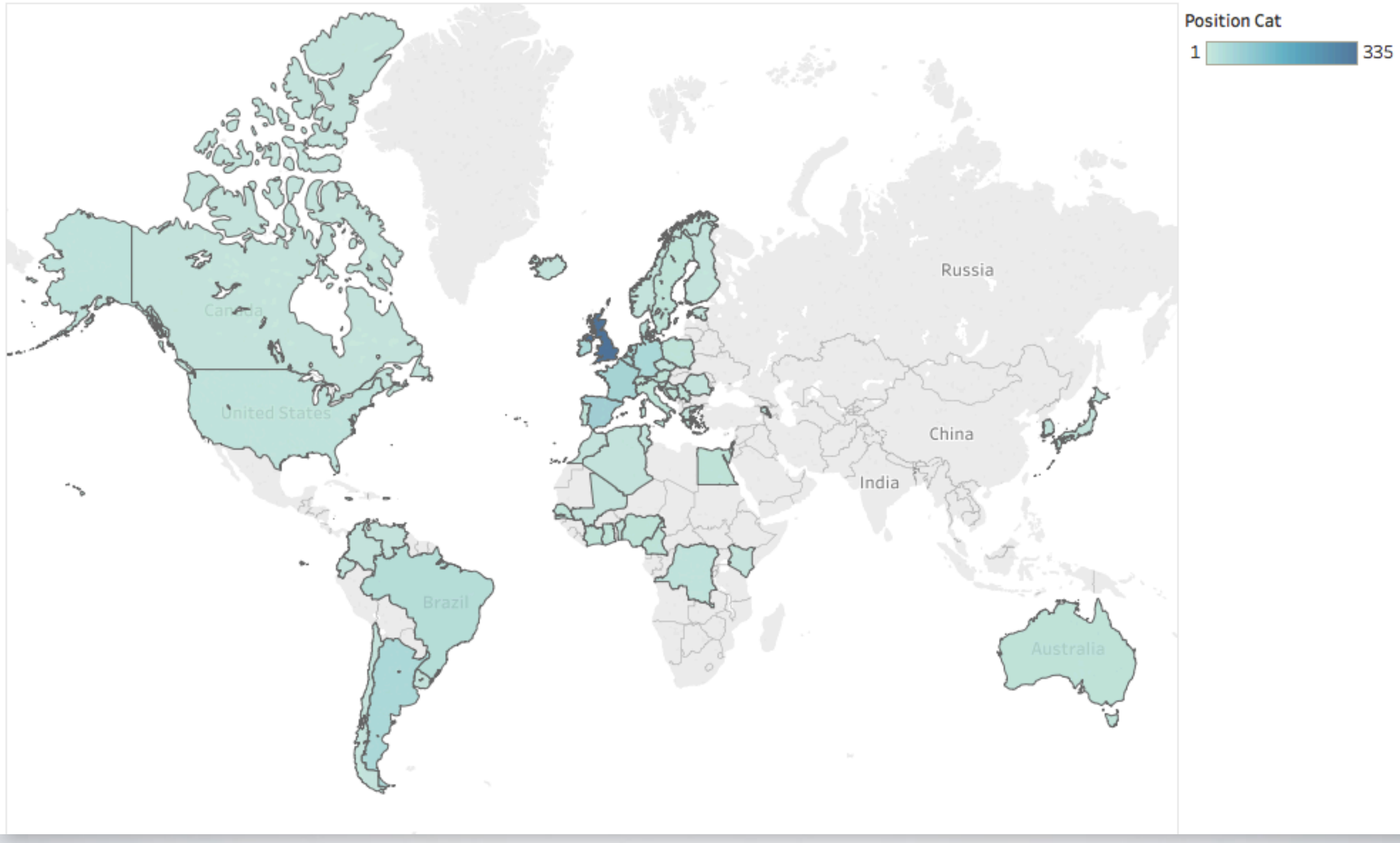
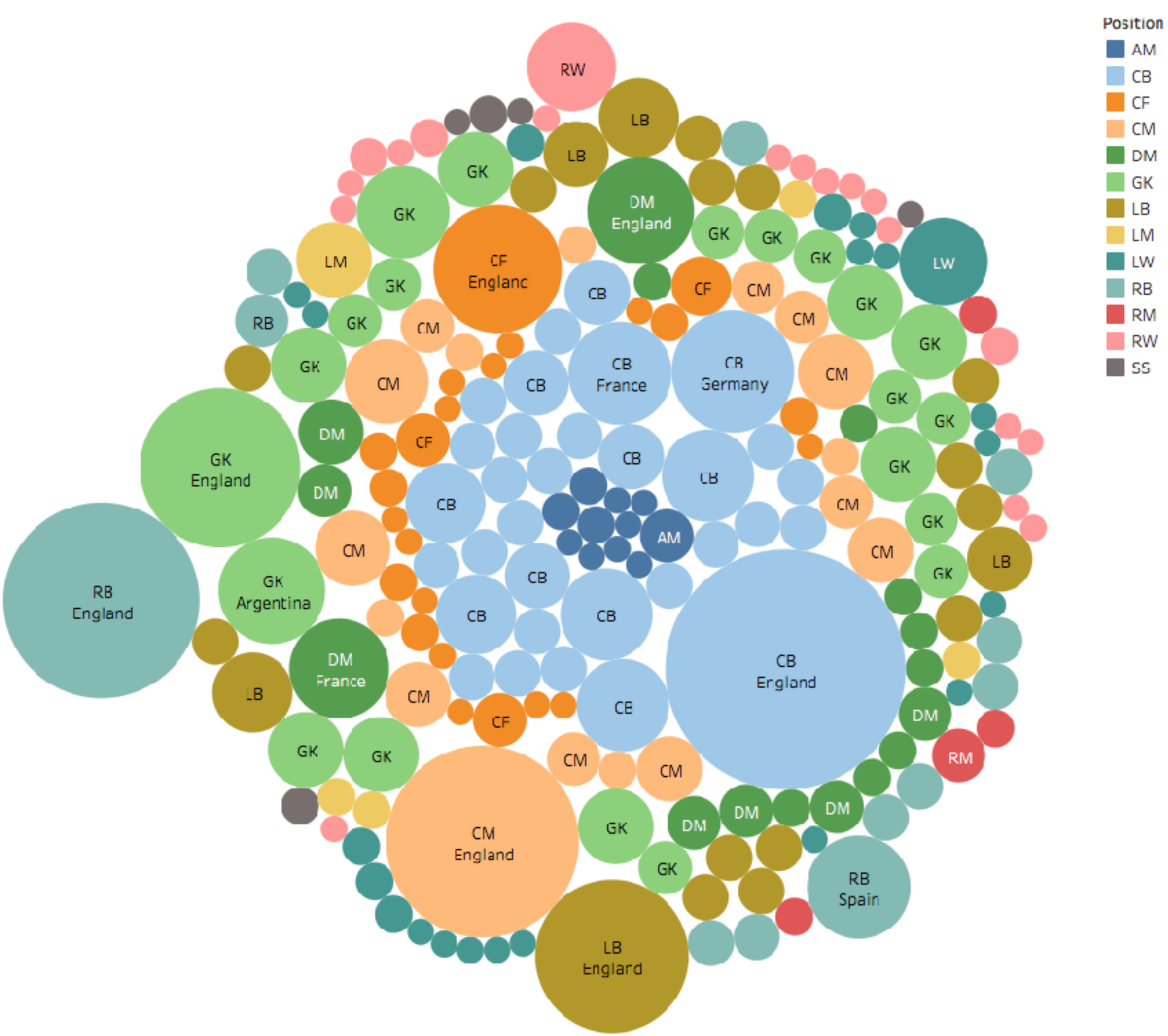
- Only include meaningful visualisations.


Position Cat
1
335
Canada
United States
Brazil
Russia
China
India
Australia

Feedback

- Annotate and explain.
- Select titles carefully, use proper English words, avoid typos.
- Alphabetical order is a poor choice in most cases.
- Normalise data in choropleth maps! And use classes!
- Only include meaningful visualisations.
- Avoid abbreviations if not needed.


Position
AM
CB
CF
CM
DM
GK
LB
LM
LW
RB
RM
RW
SS
RW
LB
LB
GK
GK
DM
England
GK
GK
GK
LW
LM
GK
CF
Englanc
CB
CF
CM
CM
GK
RB
GK
CM
GK
GK
CM
CB
CB
France
CB
Germany
CM
GK
GK
DM
CF
CB
GK
England
DM
CB
LB
CM
GK
GK
CM
CM
CB
AM
CM
GK
LB
RB
England
GK
Argentina
CB
CB
CB
CB
DM
France
CB
England
LB
CM
CE
DM
CF
RM
GK
GK
CM
CM
DM
DM
DM
CM
England
GK
GK
RB
Spain
LB
England

More Feedback

Usefulness of Elements

Meaningful titles often include what, when and where. A catchy statement also often works well.

Bar Chart of what Accident Type causes the most Fatalities	Column Graph of Types of Accident comparing from Male..	**Line Graph of Accident Date with Male and Female**	Bar Chart and Pie Chart of Region and Fatalities

Usefulness of Elements

Meaningful titles often include what, when and where. A catchy statement also often works well.

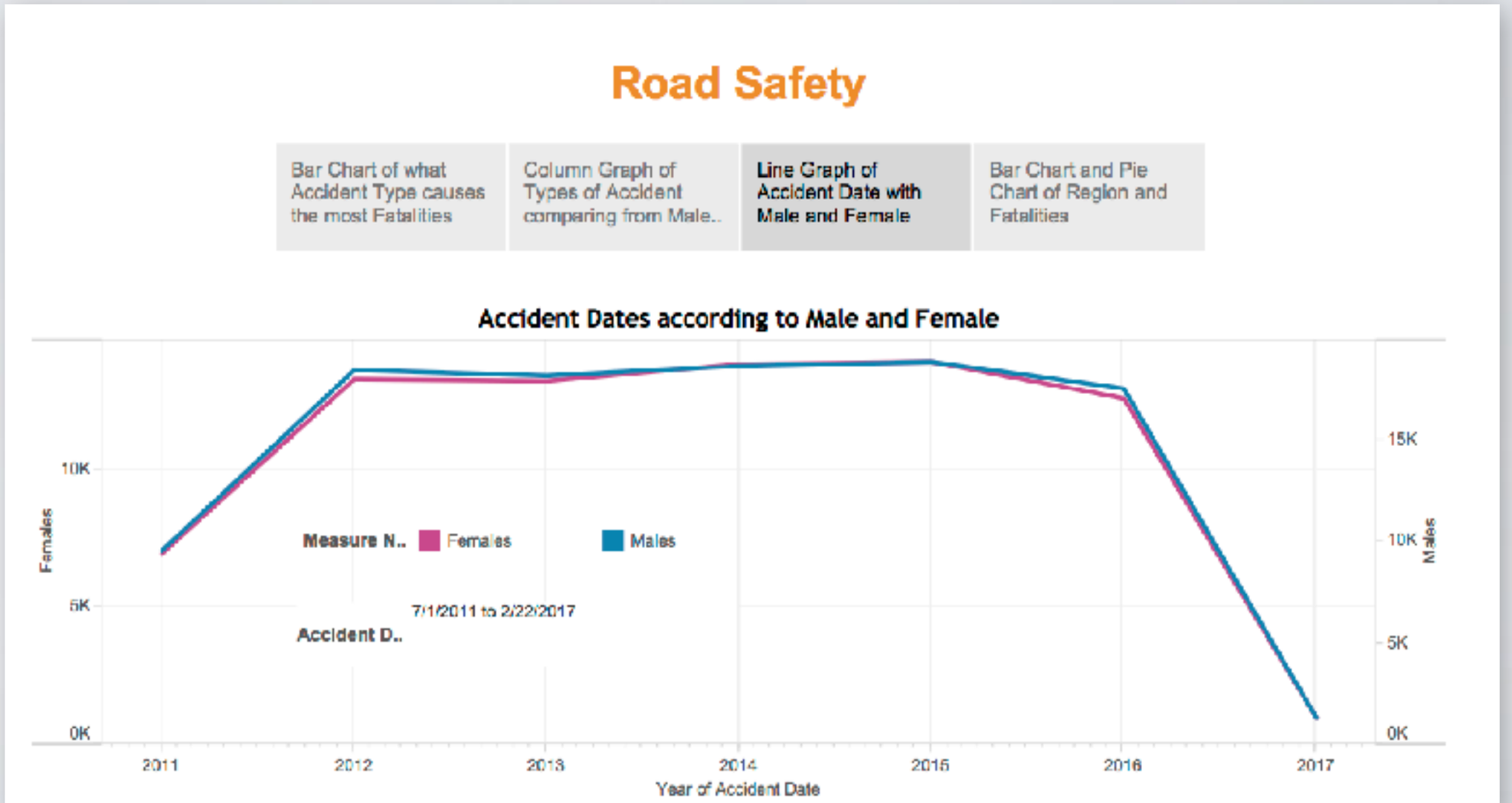
Here: The user is not interested in the visualisation idiom used, but in the information that is communicated. Better titles:

- *Accidents of Male and Female Drivers from 2011 to 2017 in Victoria*
- *Are females more careful drivers?*
- *Females are much better drivers than males!*

Bar Chart of what Accident Type causes the most Fatalities	Column Graph of Types of Accident comparing from Male..	**Line Graph of Accident Date with Male and Female**	Bar Chart and Pie Chart of Region and Fatalities

Usefulness of Elements

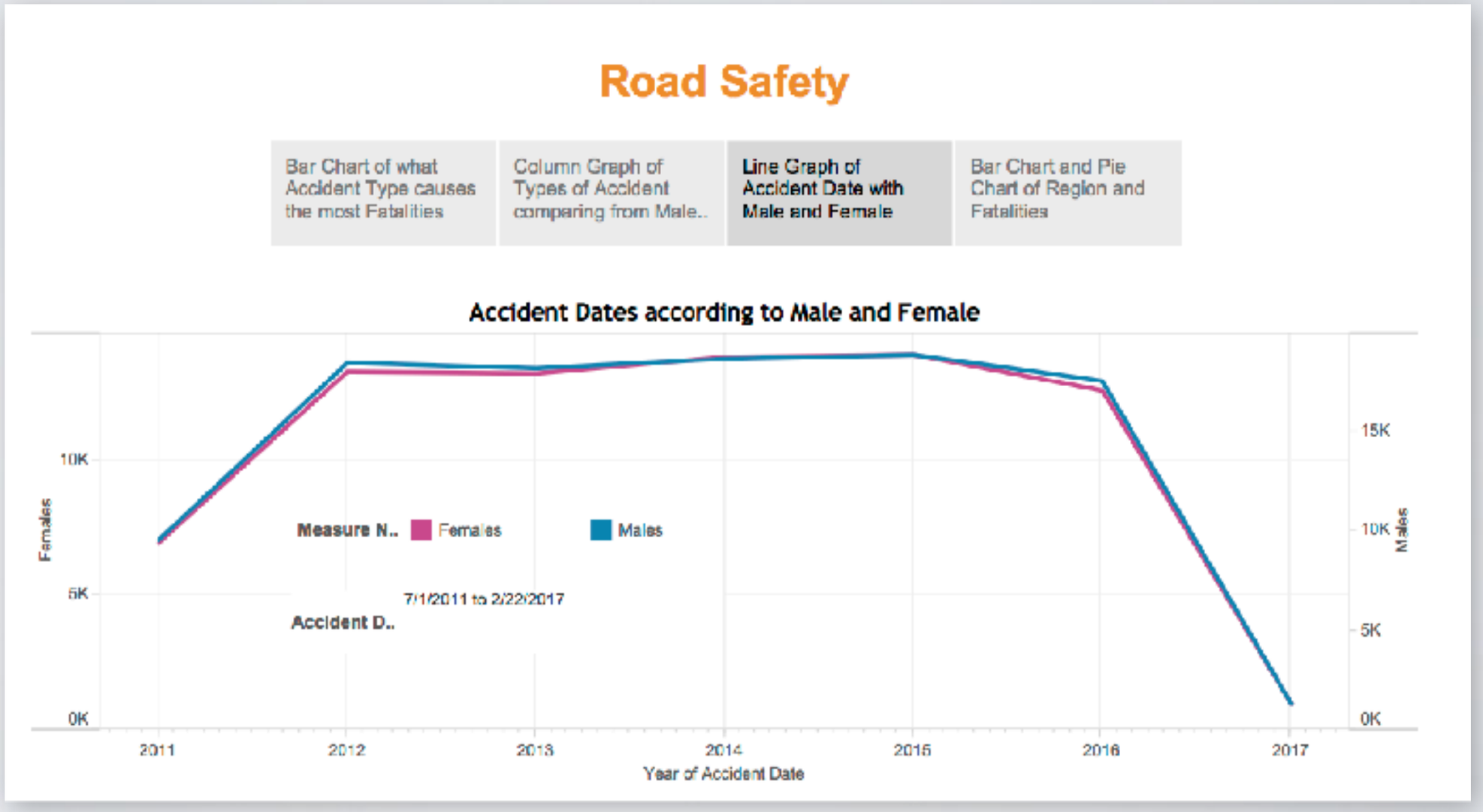
A visualisation must communicate an interesting message.



Usefulness of Elements

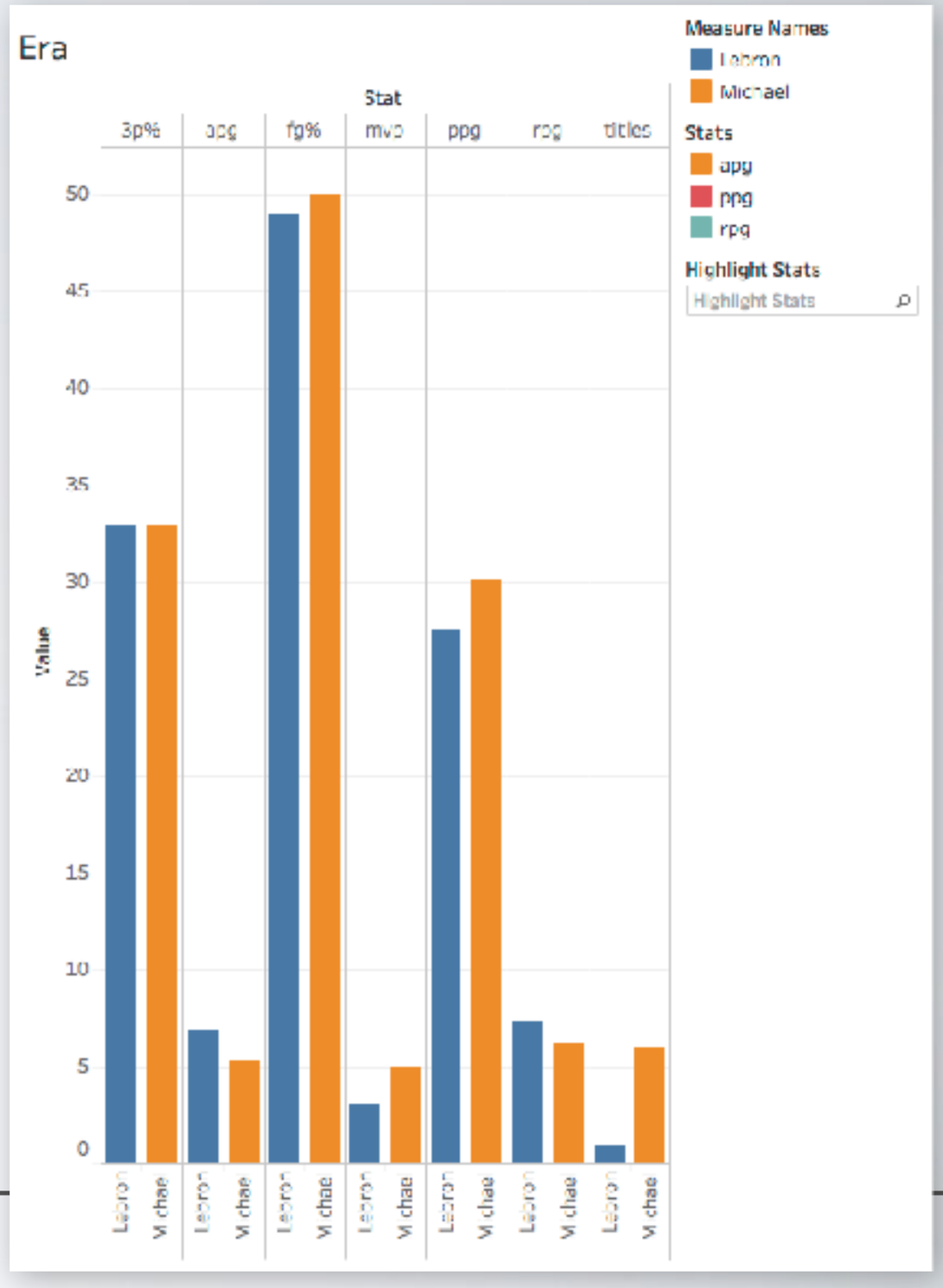
A visualisation must communicate an interesting message.

Here: The different axis scales hide the differences between the two curves.



Usefulness of Elements

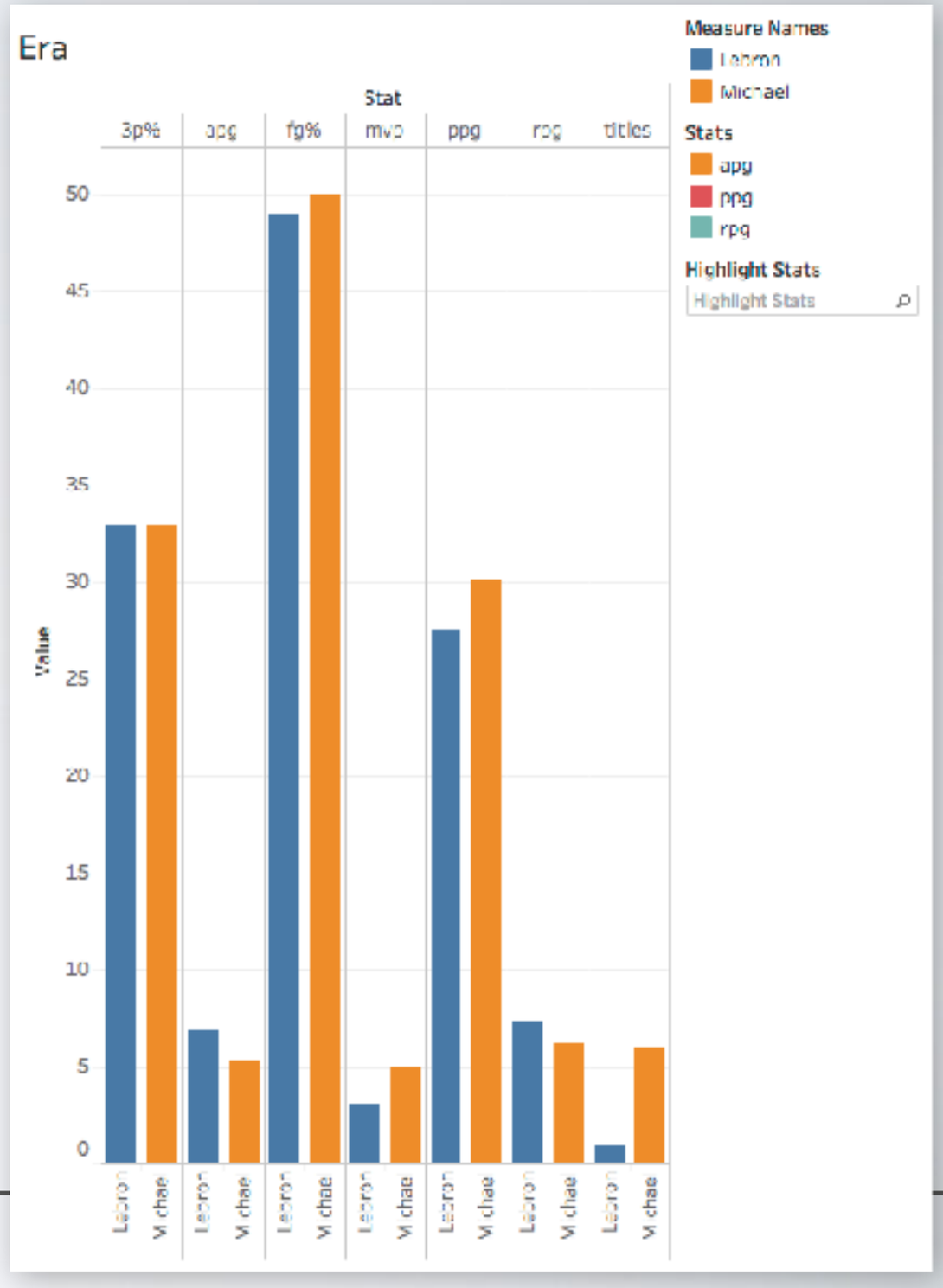
Avoid legends if not needed.



Usefulness of Elements

Avoid legends if not needed.

Here: Top-right legend is redundant, labels for bar charts are preferable.



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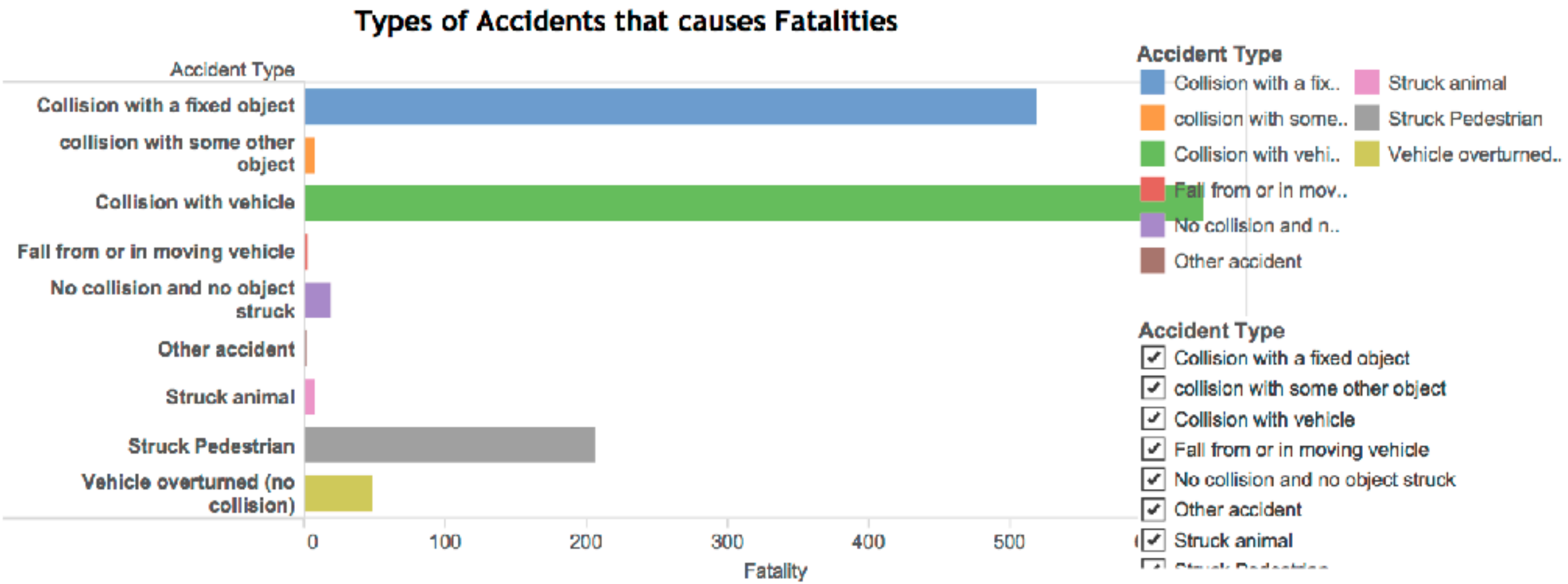
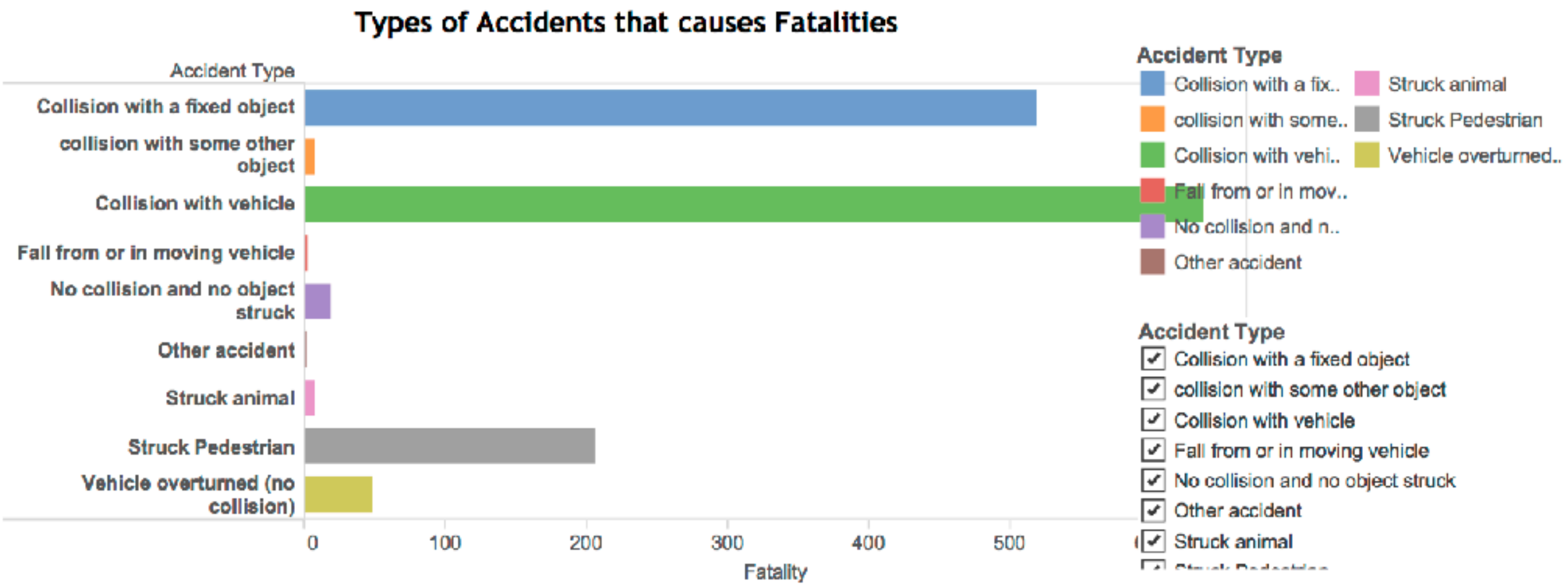


Usefulness of Elements

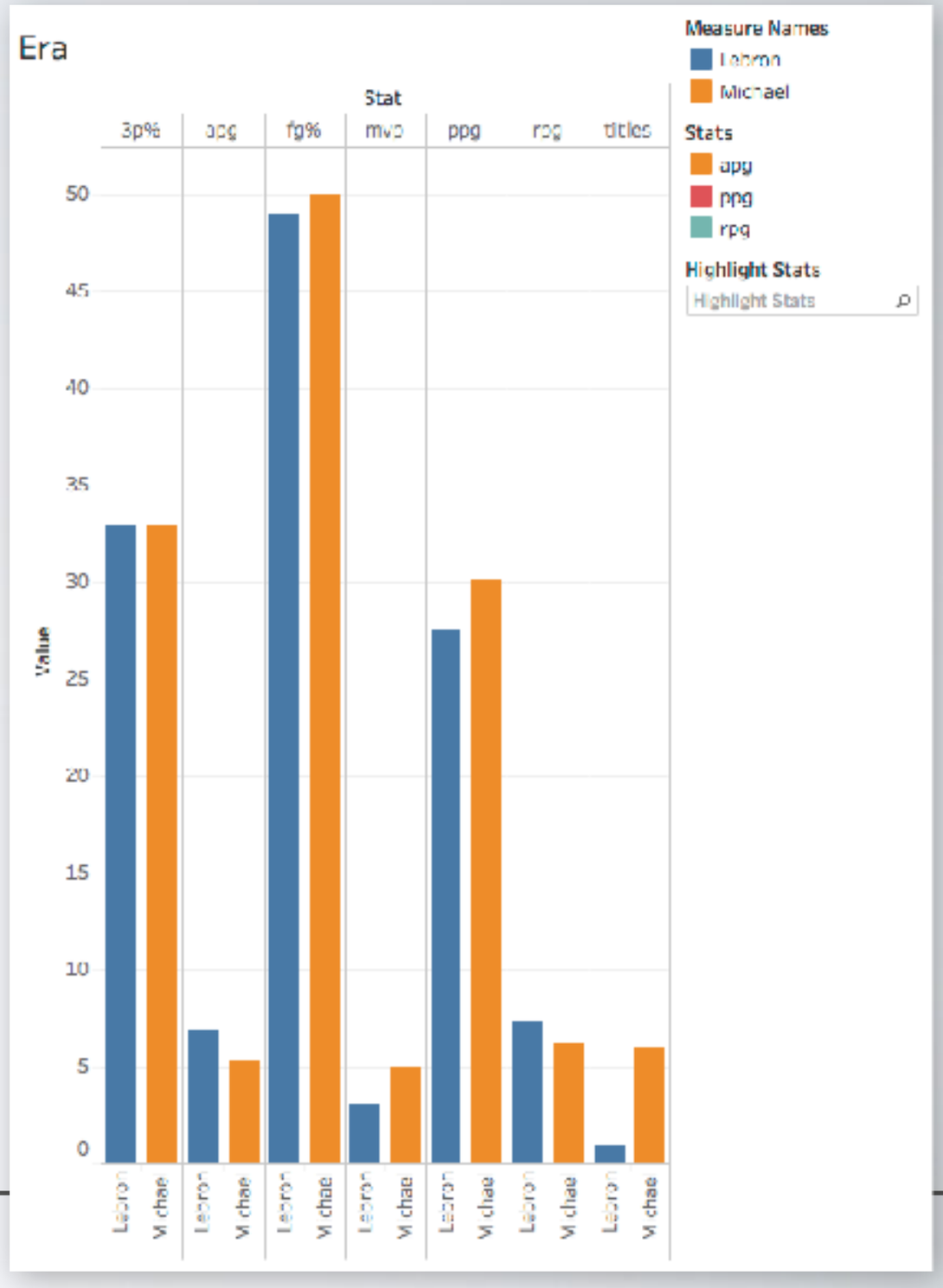
Avoid legends if not needed.

Here: Labels for bar charts (as on the left of the chart) are preferable.



Understandability of Elements

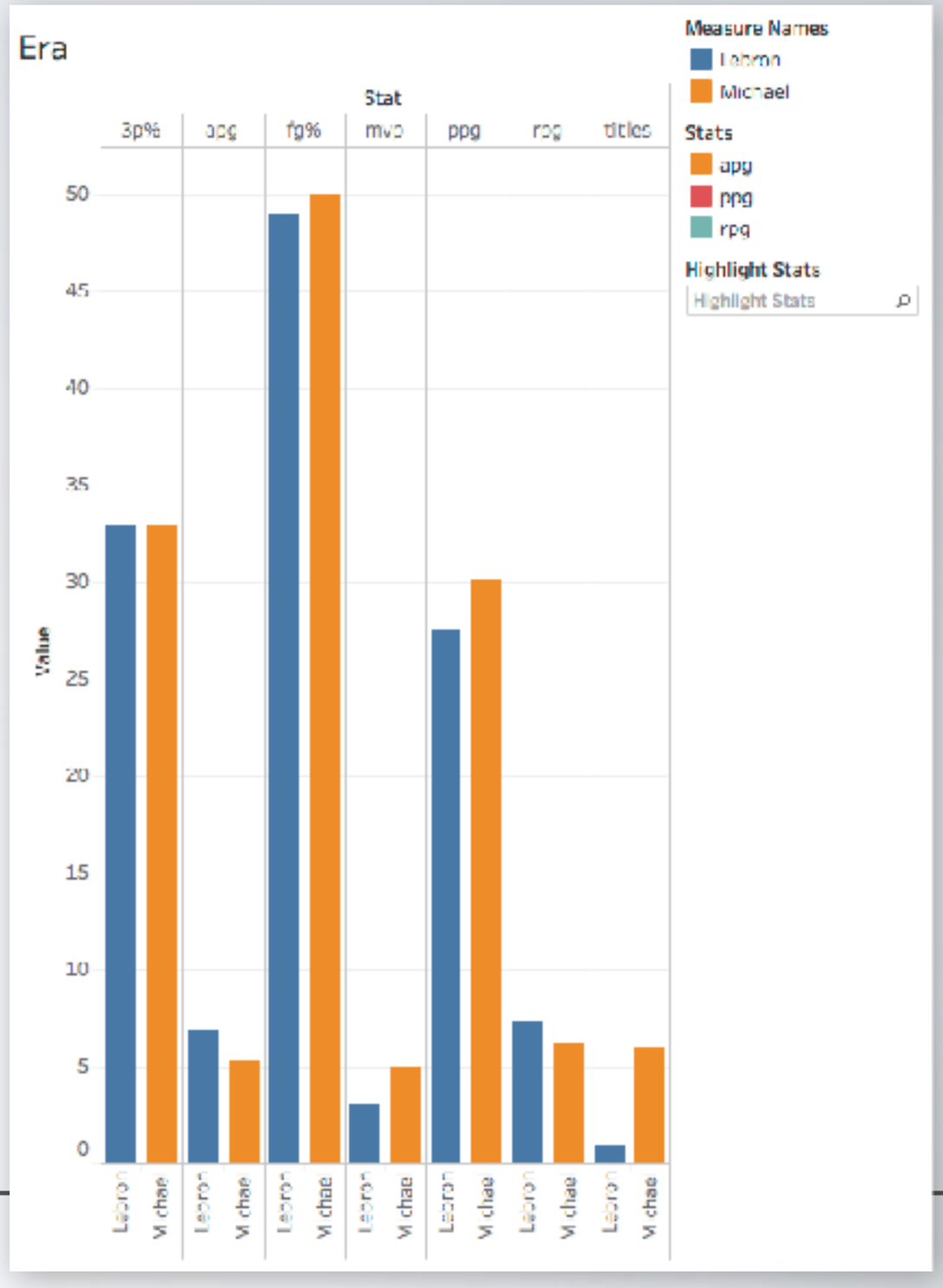
Do not assume your audience are experts.



Understandability of Elements

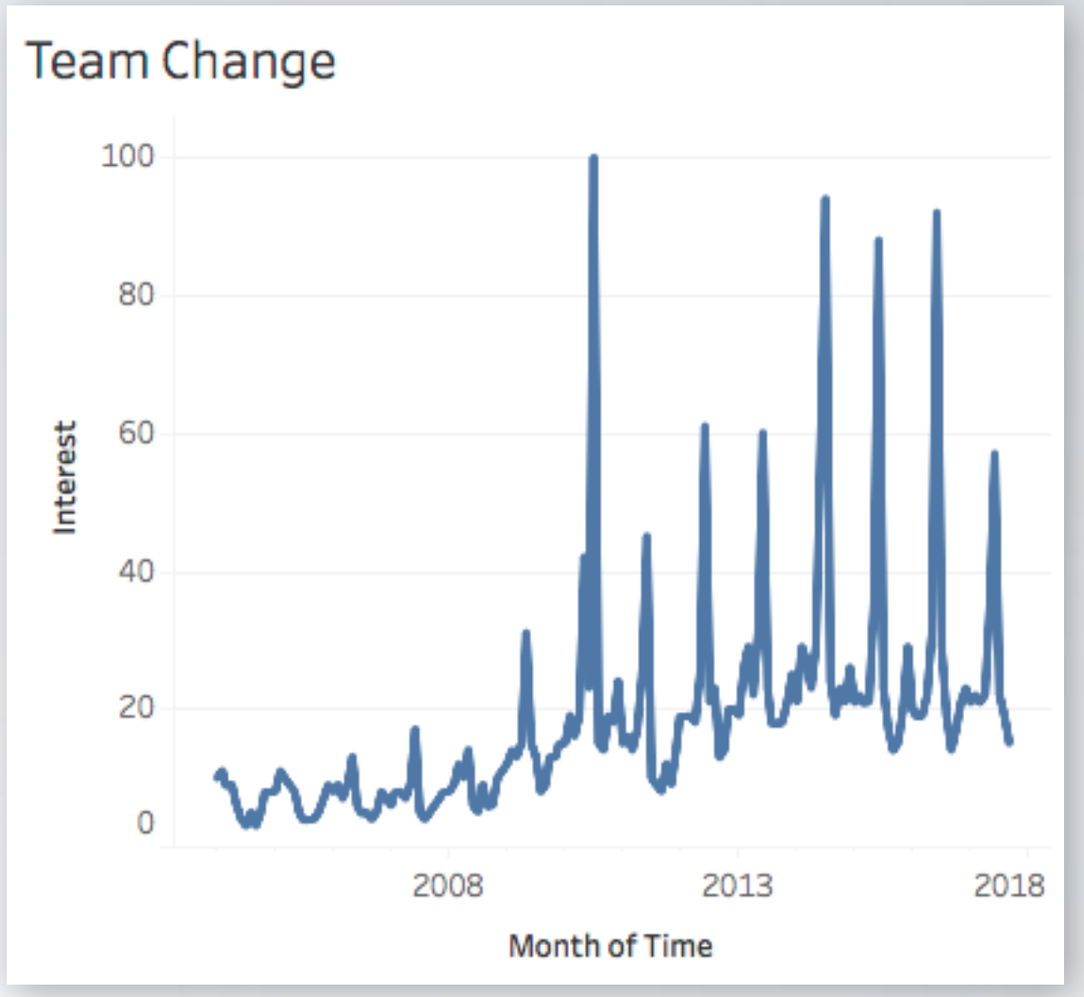
Do not assume your audience are experts.

Here: What do the acronyms mean?



Understandability of Elements

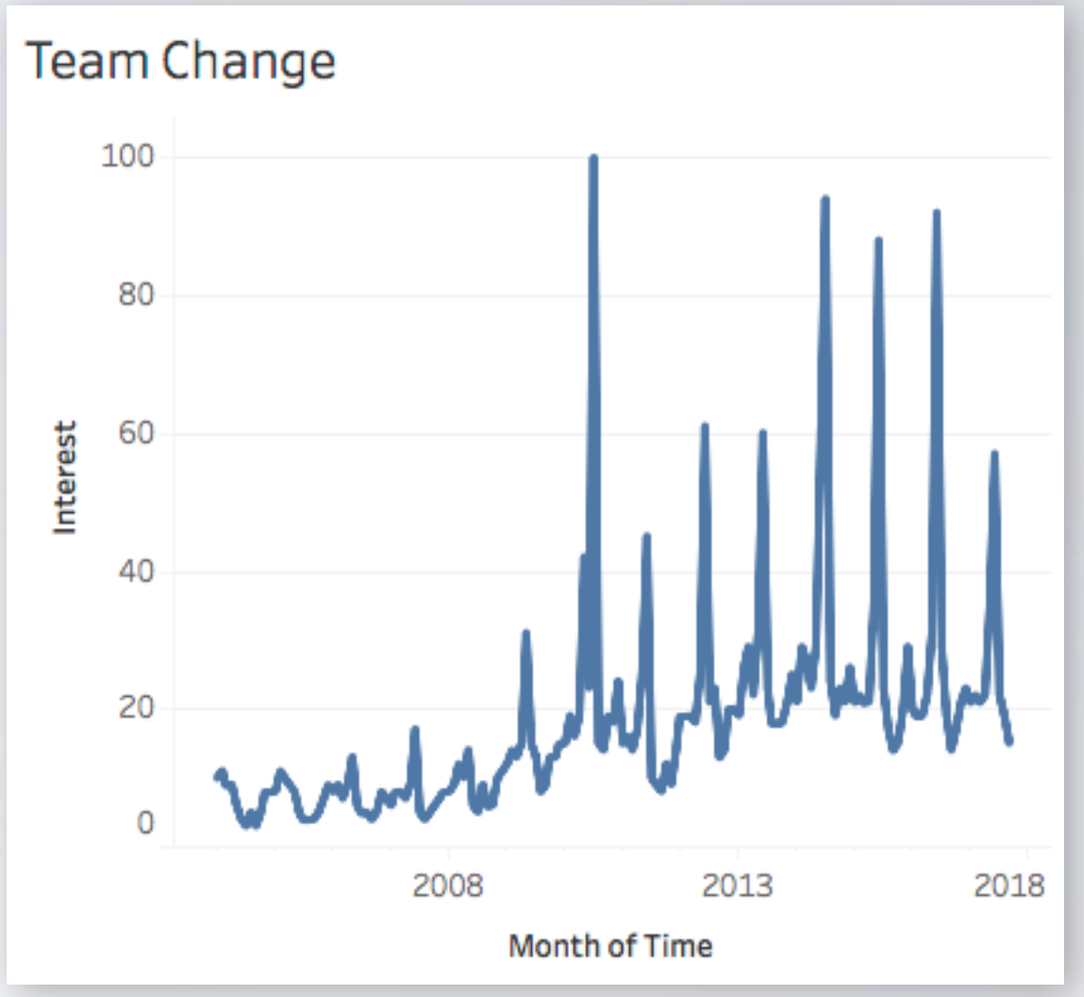
Explain what is shown and tell the message in your own words with text and chart annotations.



Understandability of Elements

Explain what is shown and tell the message in your own words with text and chart annotations.

Here: Why are there periodic peaks? What is interesting in this graph? Months seem to be important, but are not indicated on the horizontal axis.



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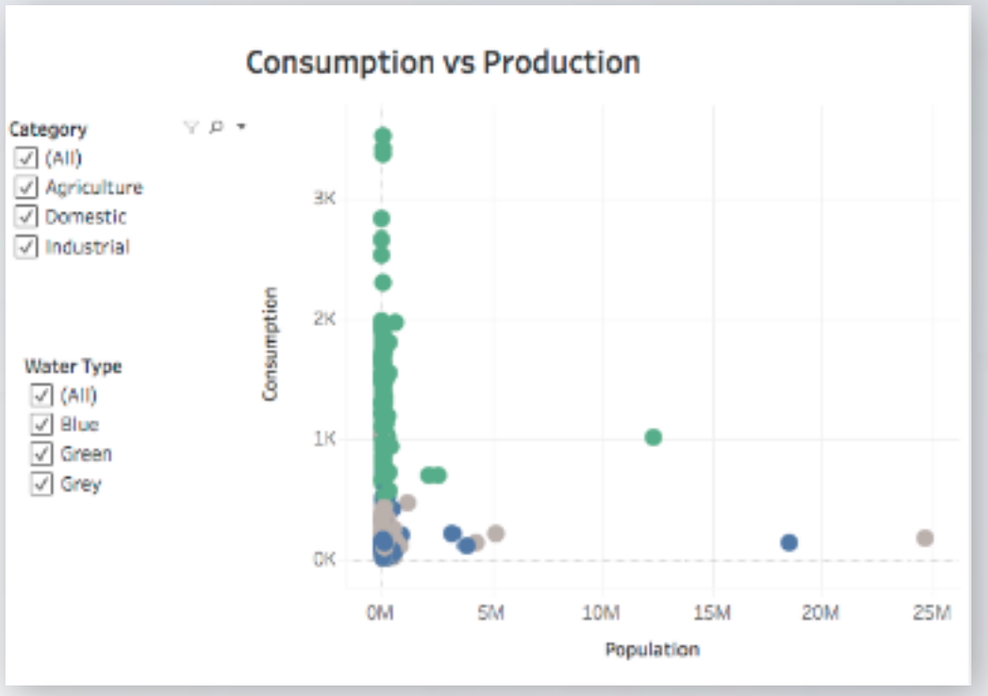
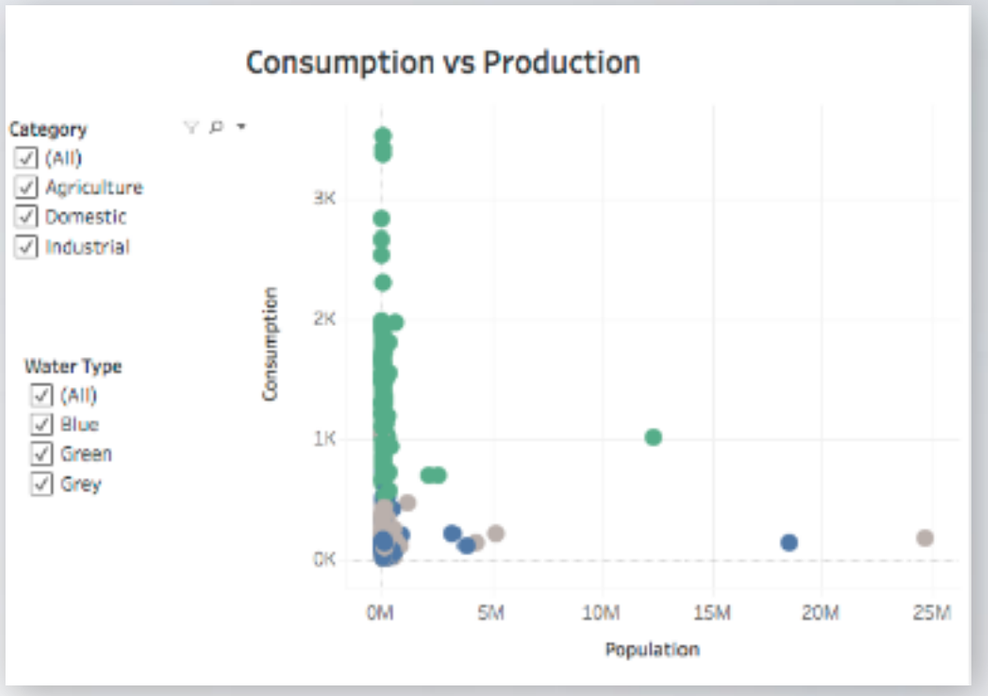


Understandability of Elements

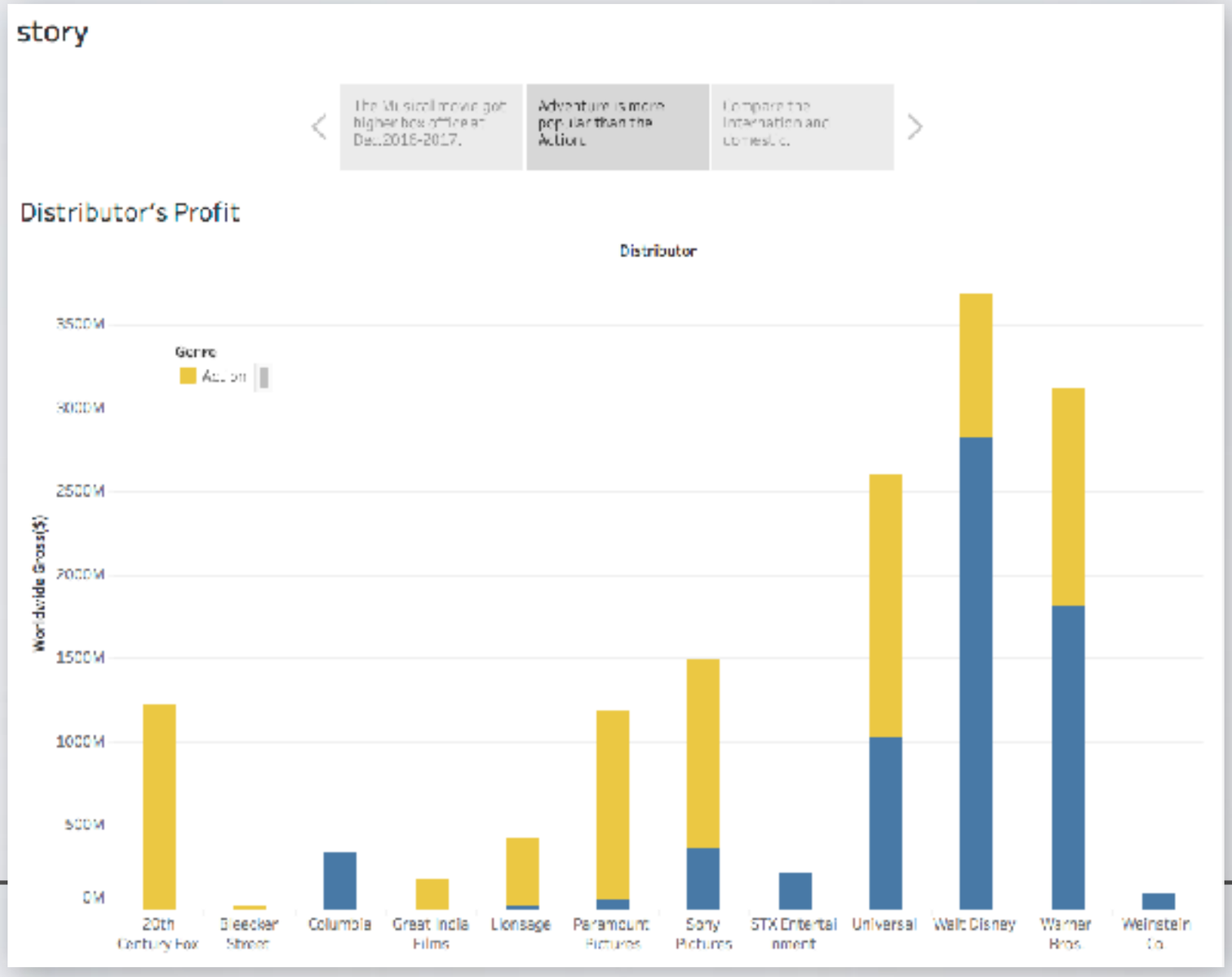
Explain what is shown and tell the message in your own words with text and chart annotations.

Here: What interesting patterns can be seen in this chart? Annotate interesting values (e.g. world mean value).



Logical Mismatch of Elements

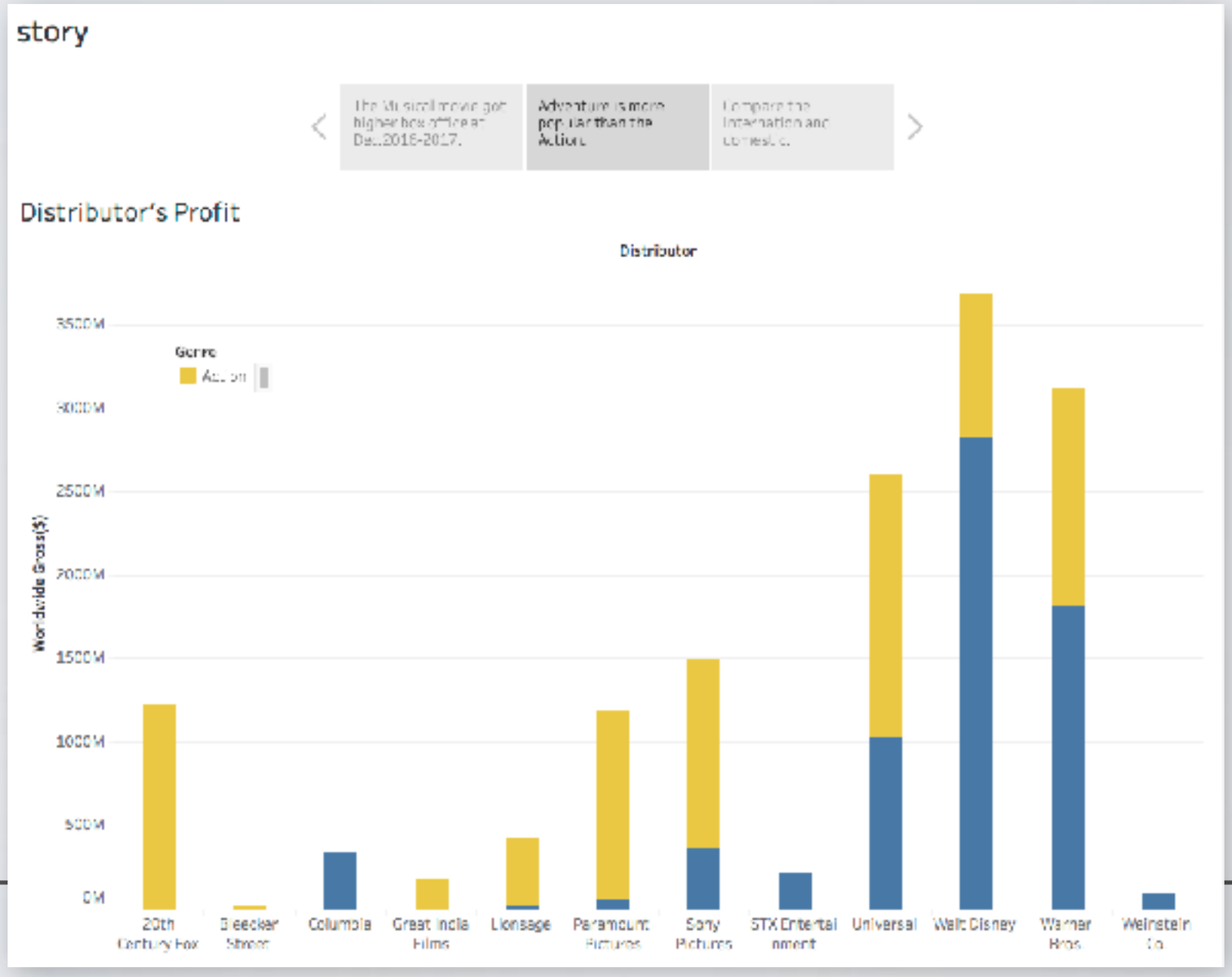
The data and visualisations must support your message.



Logical Mismatch of Elements

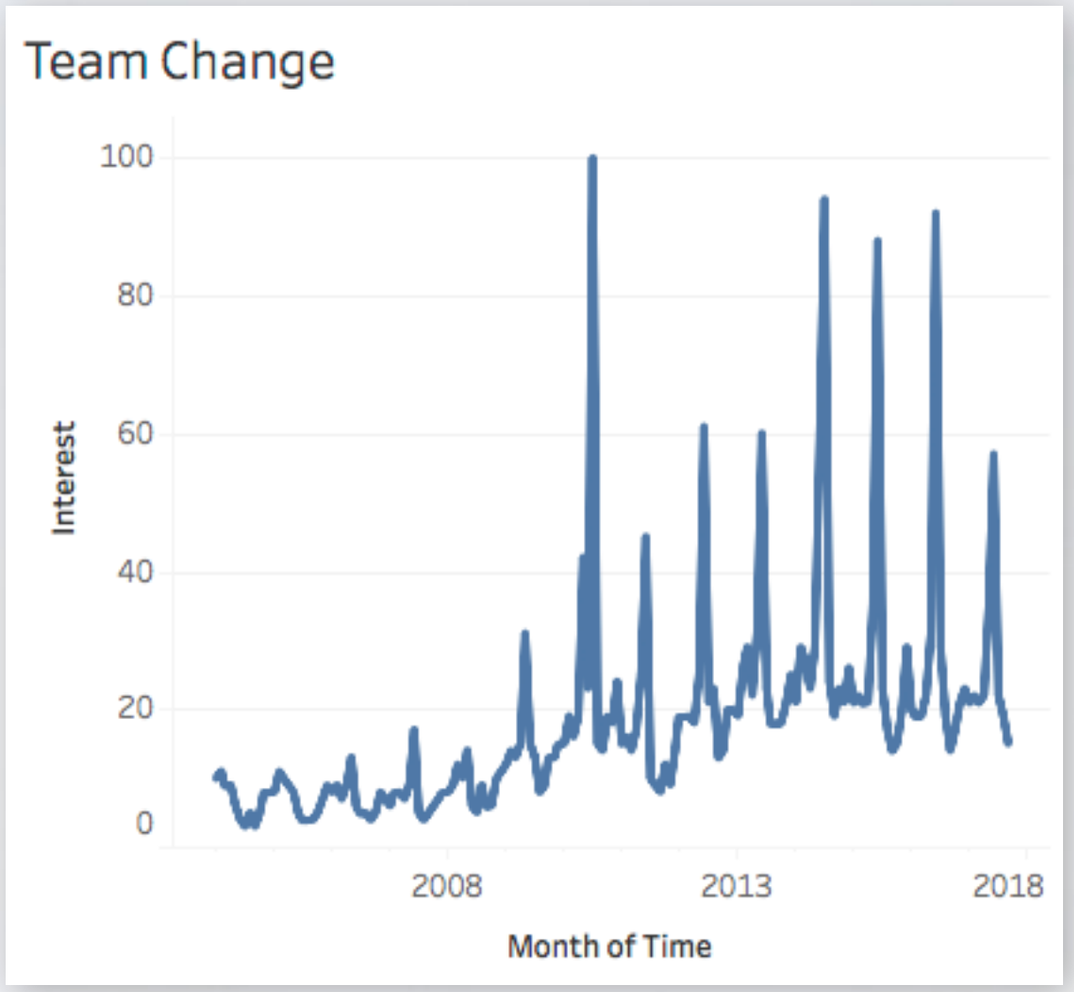
The data and visualisations must support your message.

Here: The story title (“Adventure is more popular than Action”) and the chart content do not logically match.



Logic of Elements

Check logic and sense of each element. Show your visualisation to your peers for proofreading and testing.



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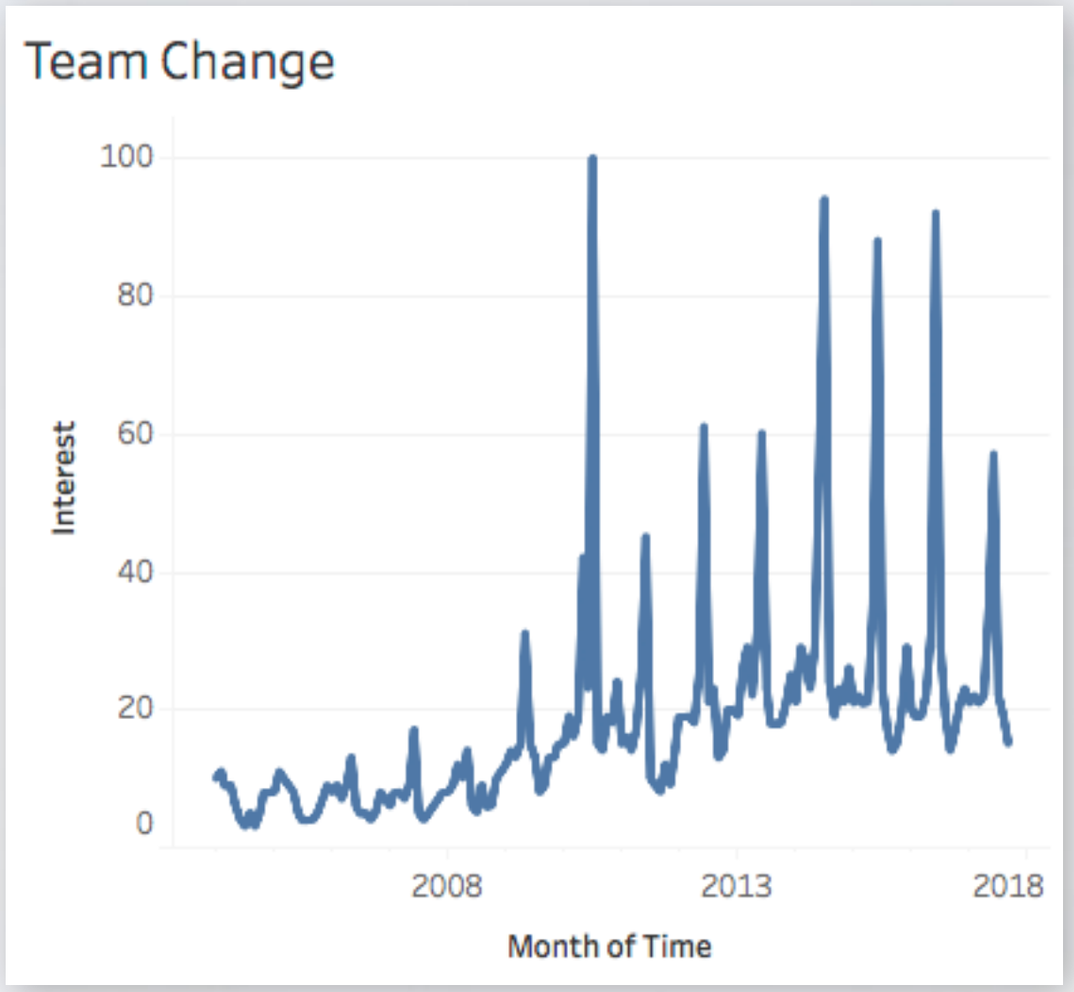
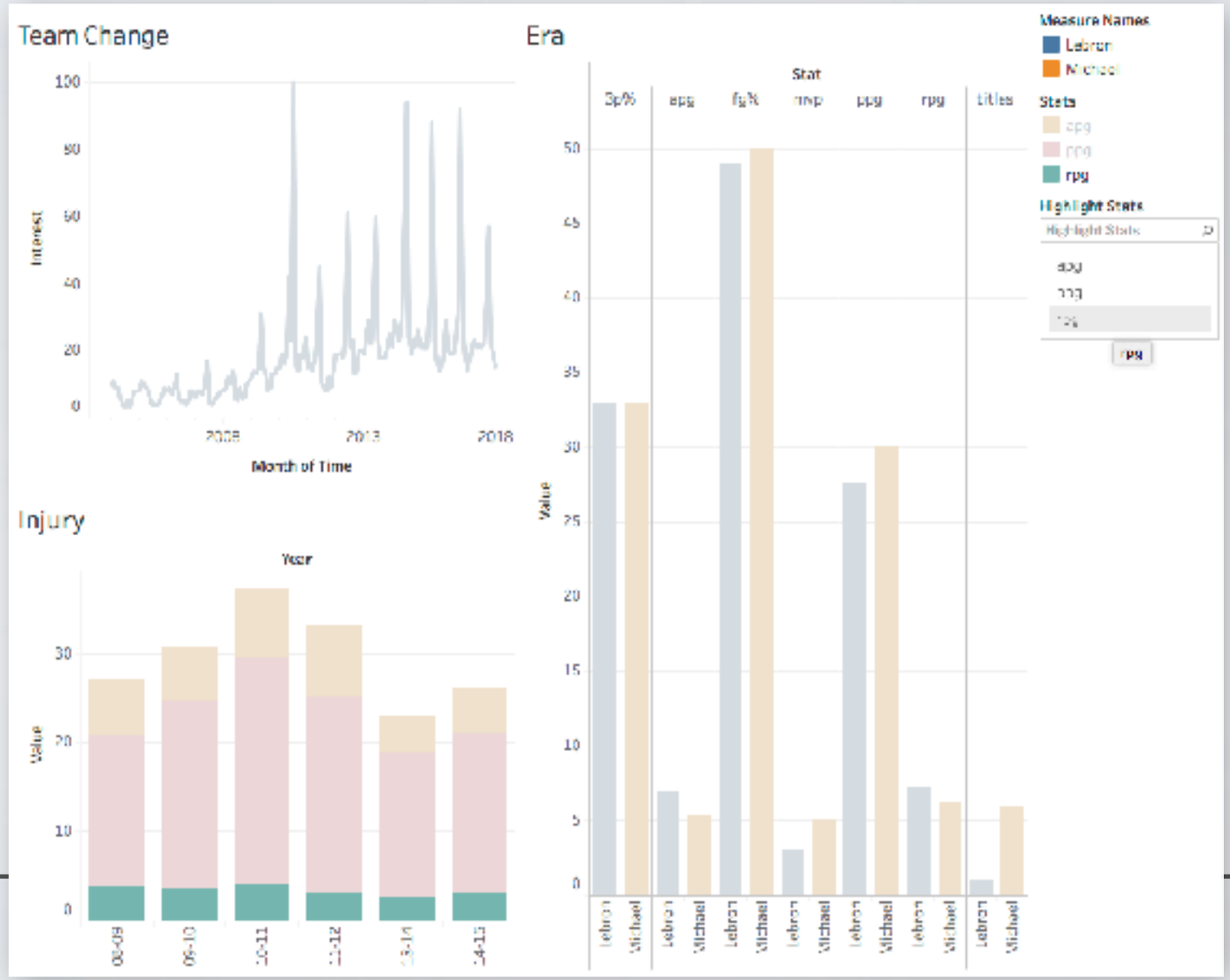
Here: What is a “Month of Time”?



Simplify the User Interface

Avoid redundant or unnecessary user interface elements. Group user interface elements.



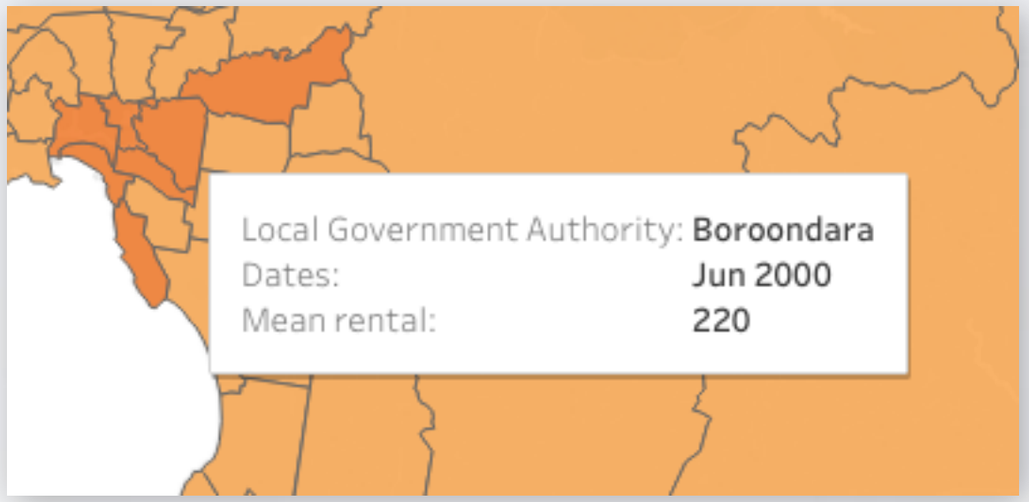
Simplify the User Interface

Avoid redundant or unnecessary user interface elements. Group user interface elements.

Here: Highlight Stats does the same as a click on Stats. Interface element on the right effects graph on the left.

Simplify the User Interface

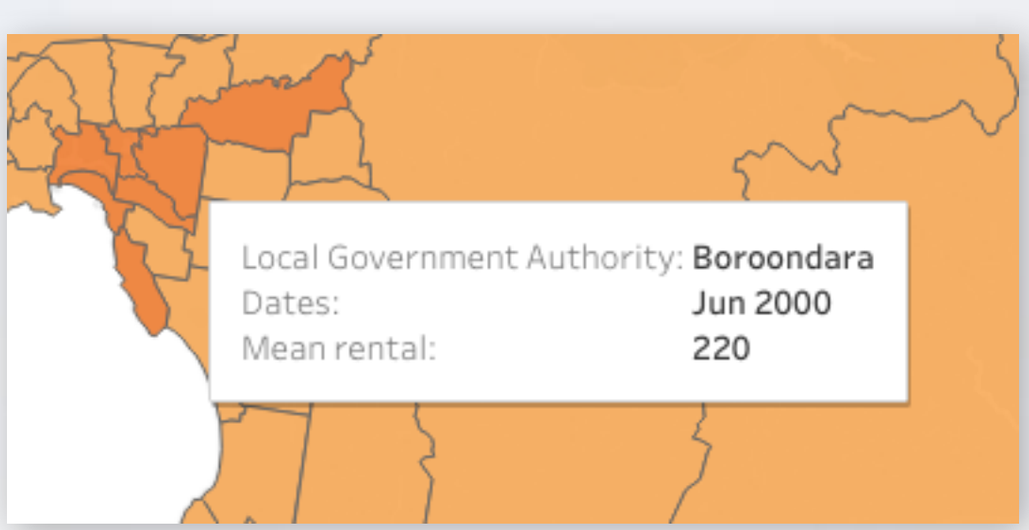
Make tooltips easy to read: Most important first, avoid redundant information.



Simplify the User Interface

Make tooltips easy to read: Most important first, avoid redundant information.

Here: The user is not reading “Local Government Authority” or “Dates”, so remove it. “Mean rental” is most important, to place it first. The date is identical for all marks, so remove it.



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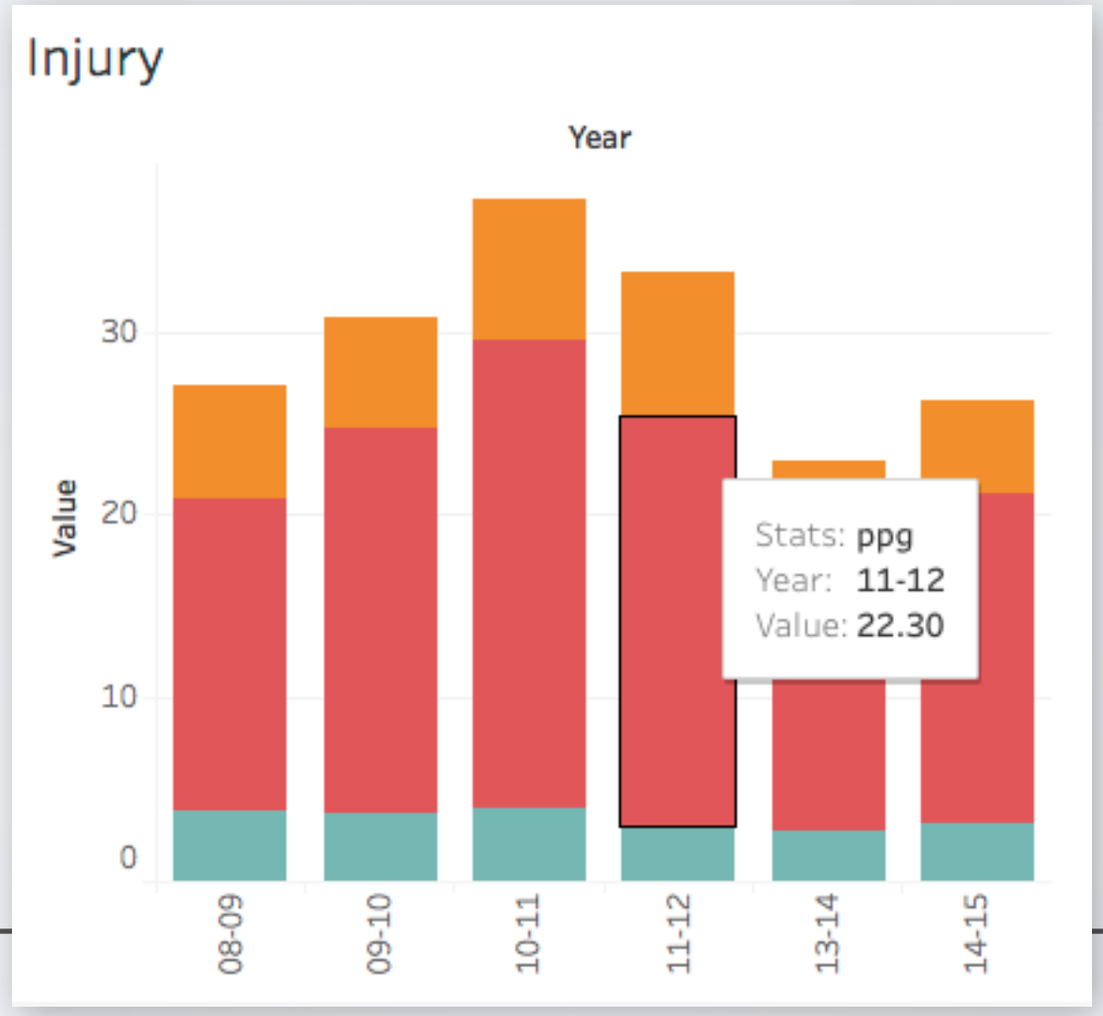
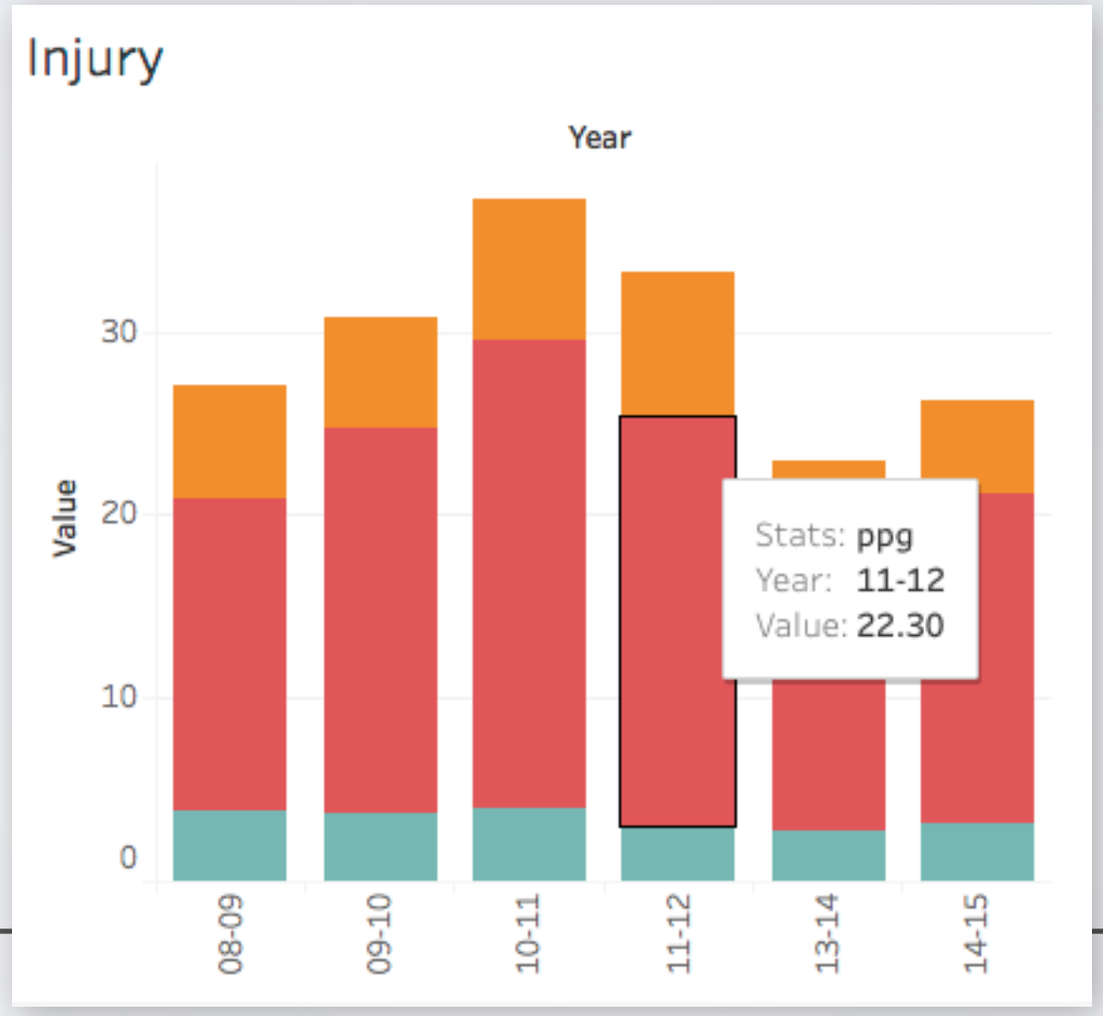


Simplify the User Interface

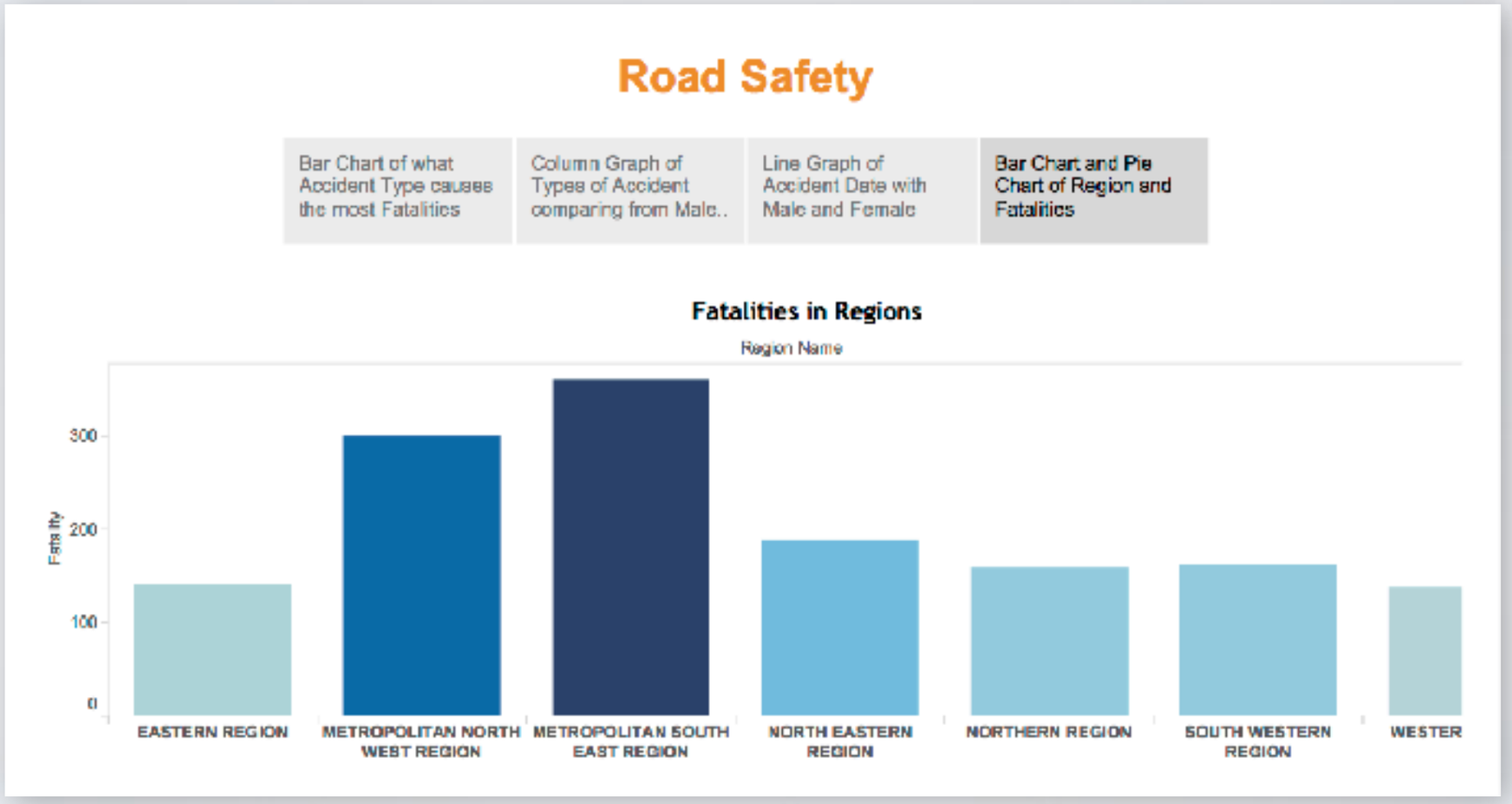
Make tooltips easy to read: Most important first, avoid redundant information.

Here: Remove “Stats”. Replace unknown acronyms with words. Replace “11-12” with “2011–2012”, which makes “Year” redundant, so also remove “Year”. “Value” is not informative, instead say what value this is.



Maps

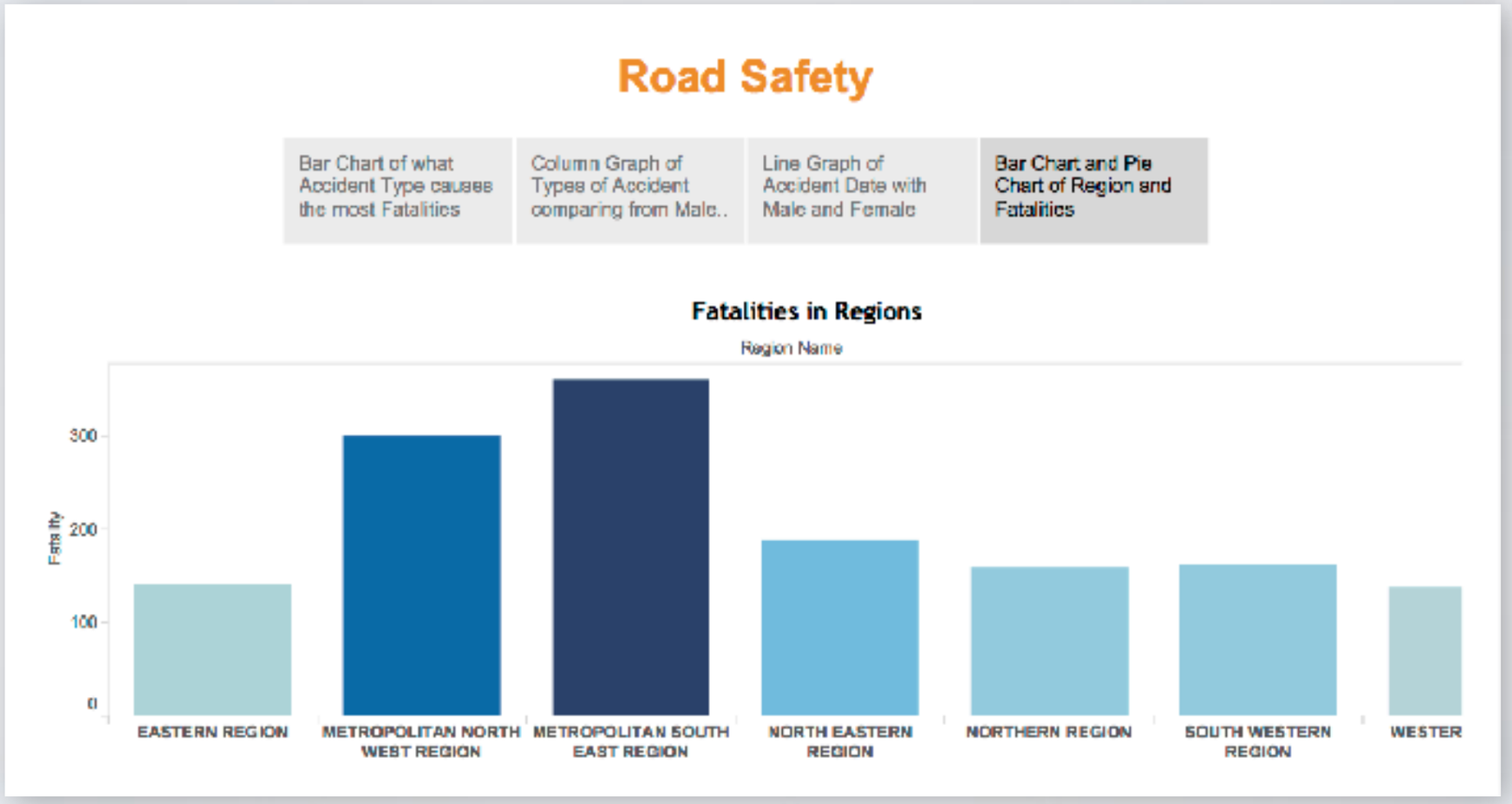
Consider using maps for geographic data.



Maps

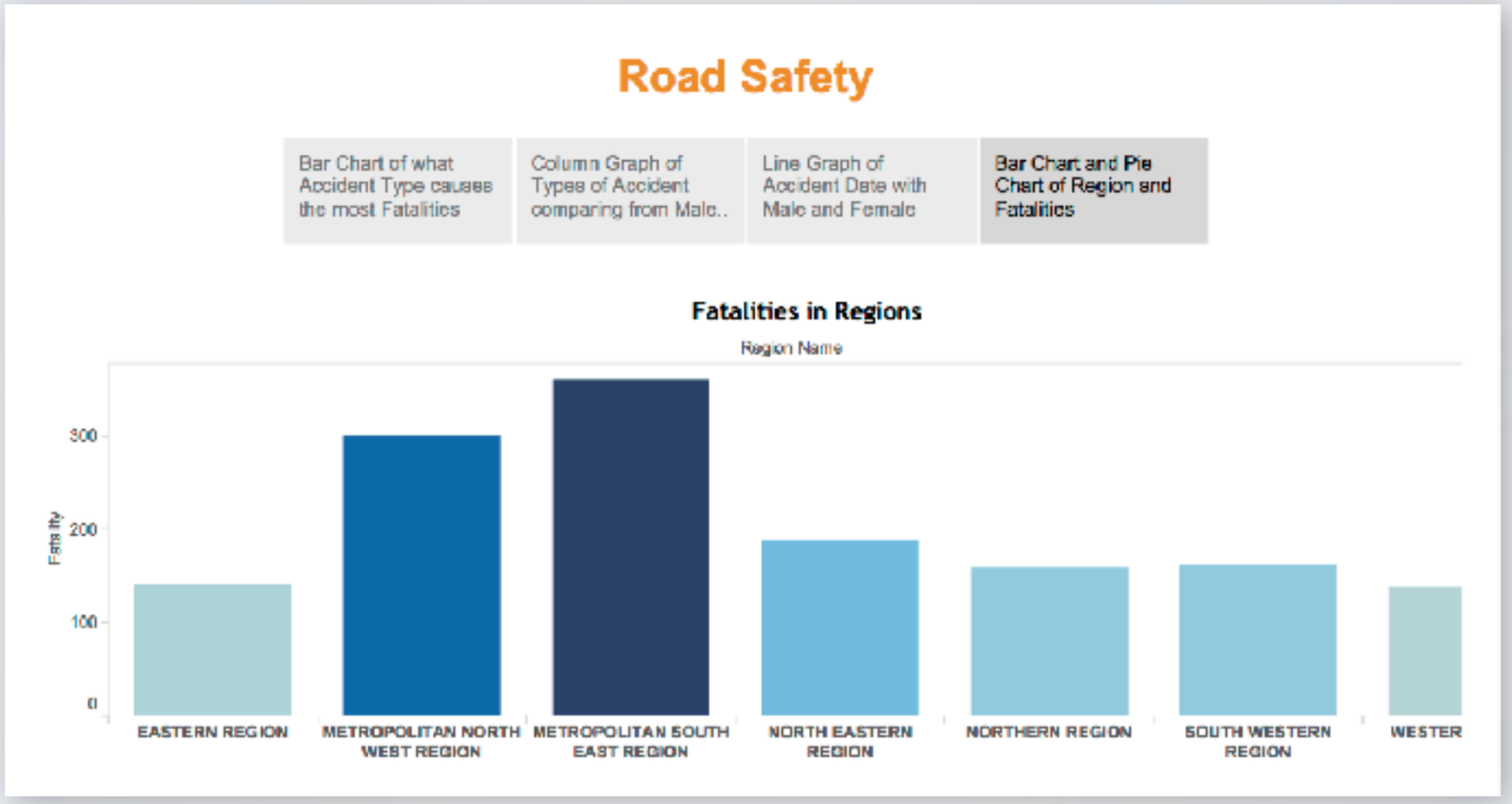
Consider using maps for geographic data.

Here: The user is likely not familiar with these areas, so show the values on a map using area-proportional circles. Also, there is a likely geographic pattern in this data that can only be shown on a map.



Data-Ink Ratio

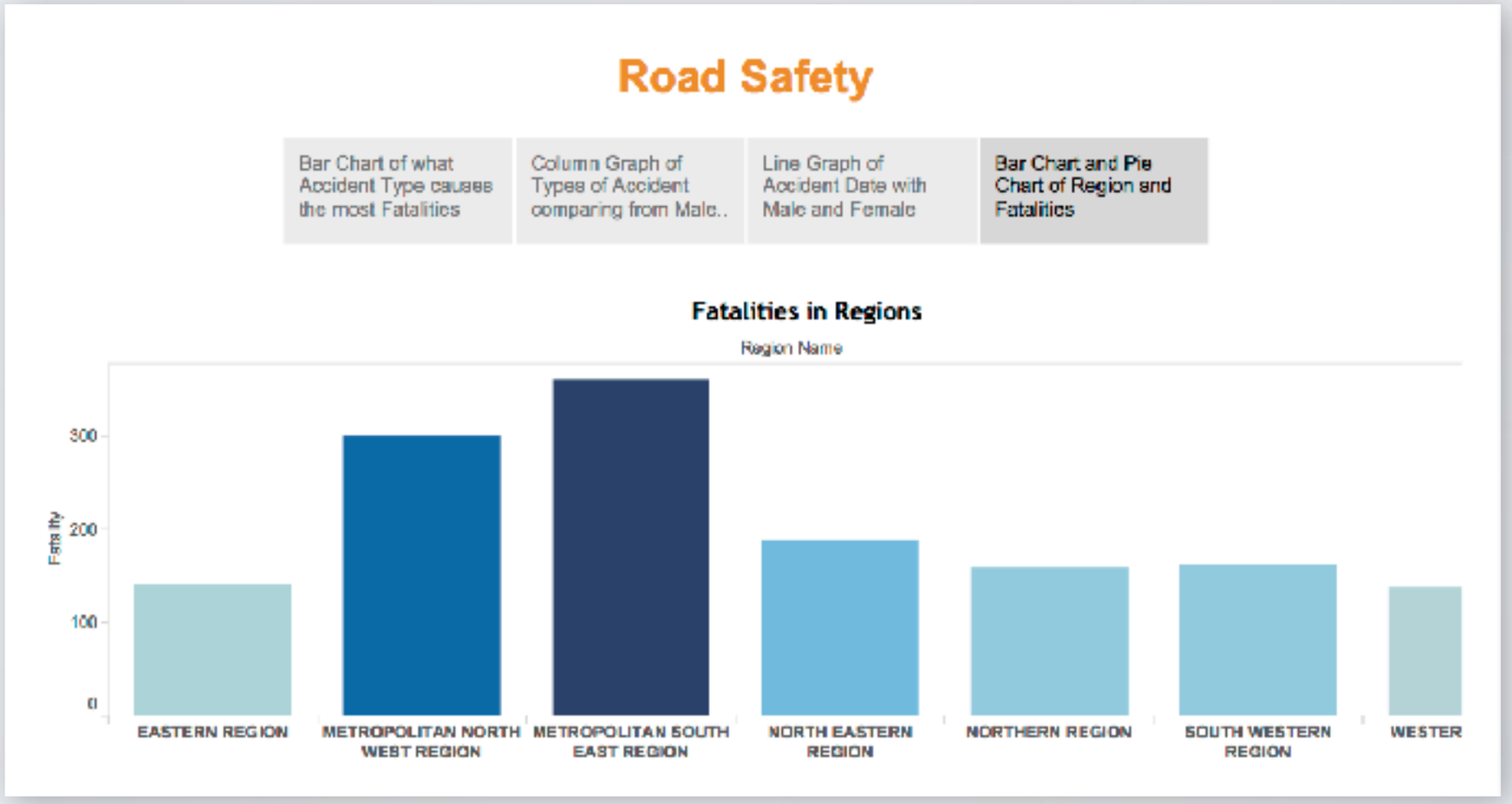
Increase data-ink ratio.



Data-Ink Ratio

Increase data-ink ratio.

Here: The entire screen space is used for only seven values.



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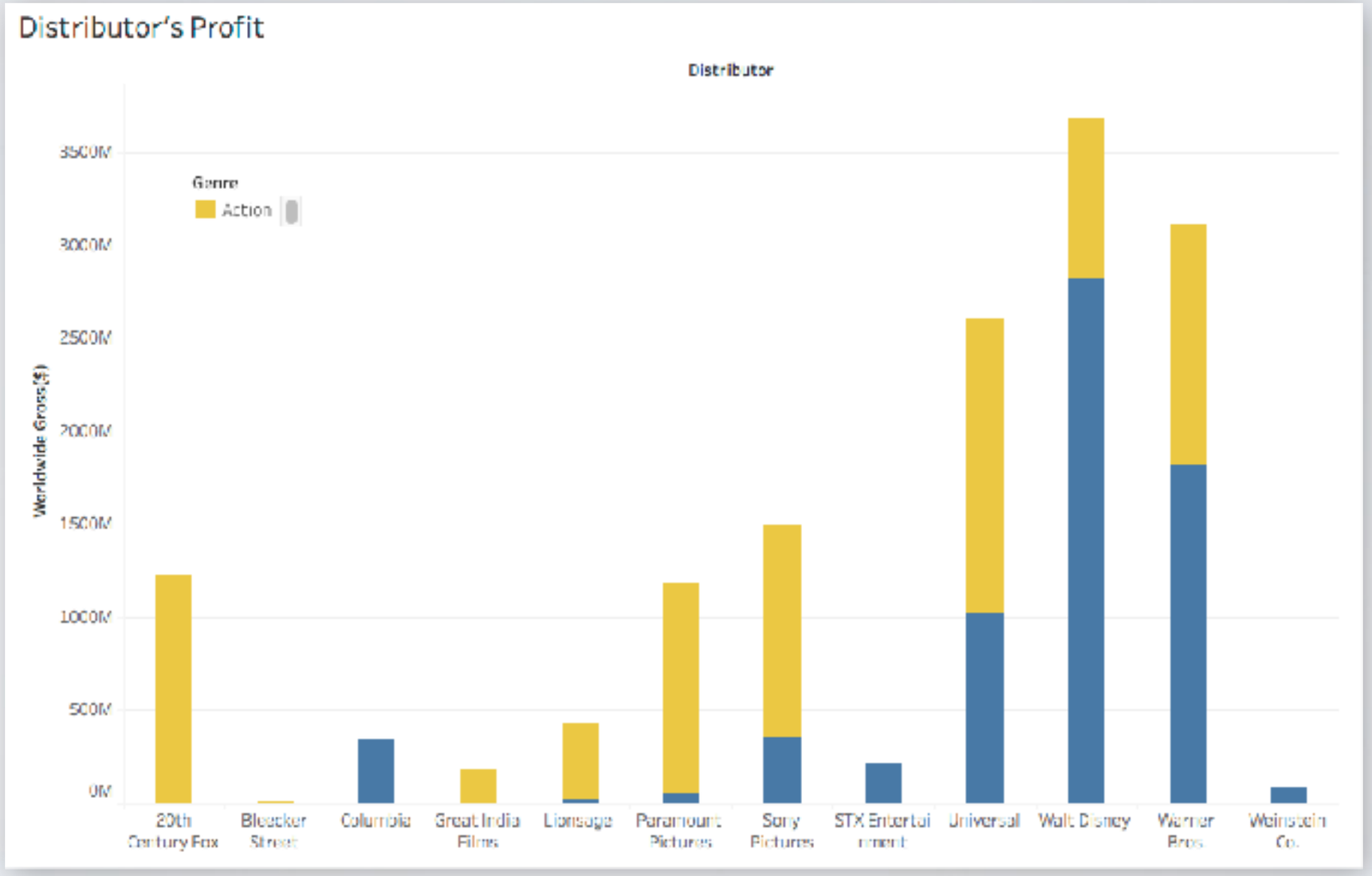
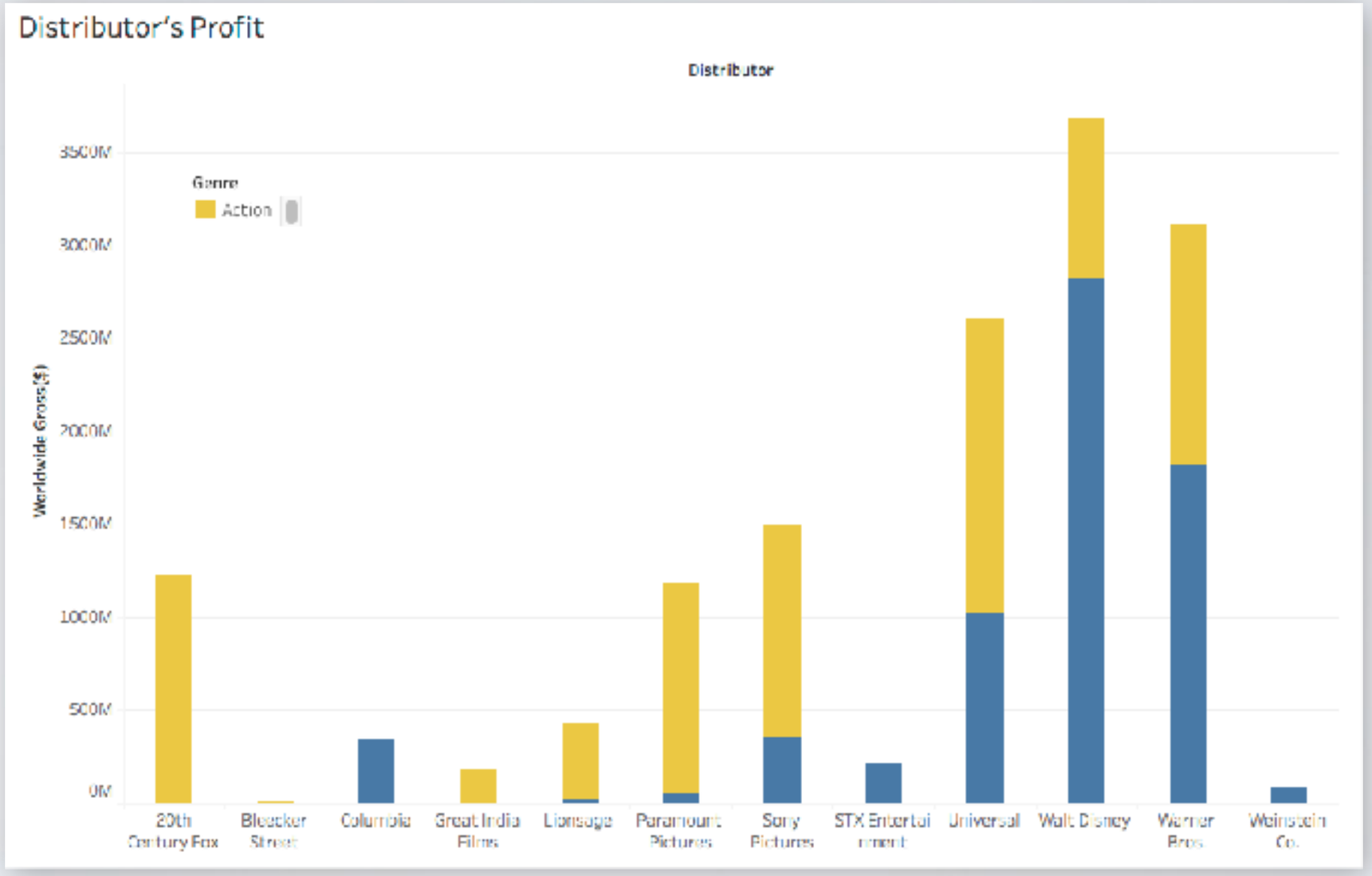


Data-Ink Ratio

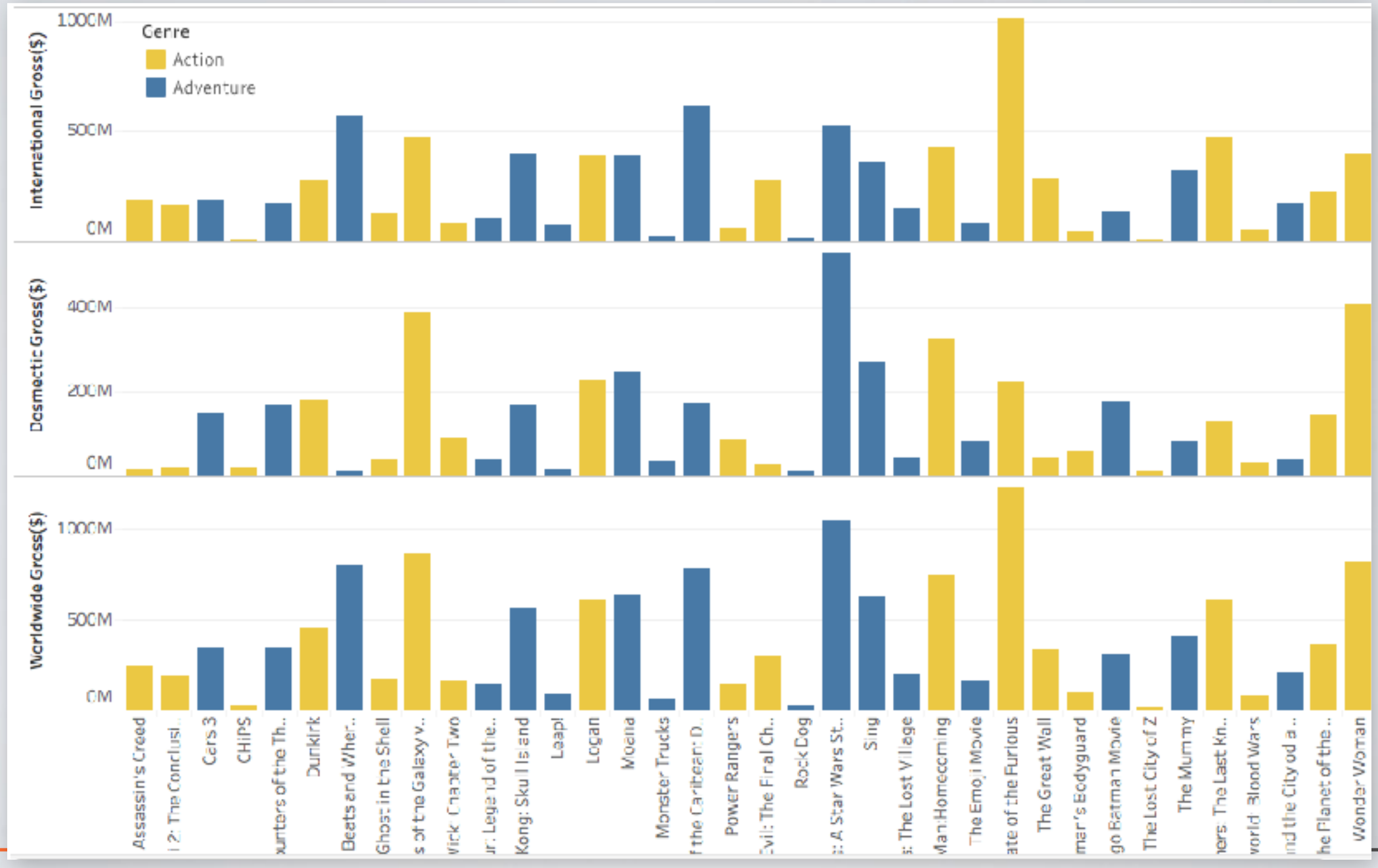
Increase data-ink ratio.

Here: The chart could reduced to a fourth of its size and still work well.



Data-Ink Ratio

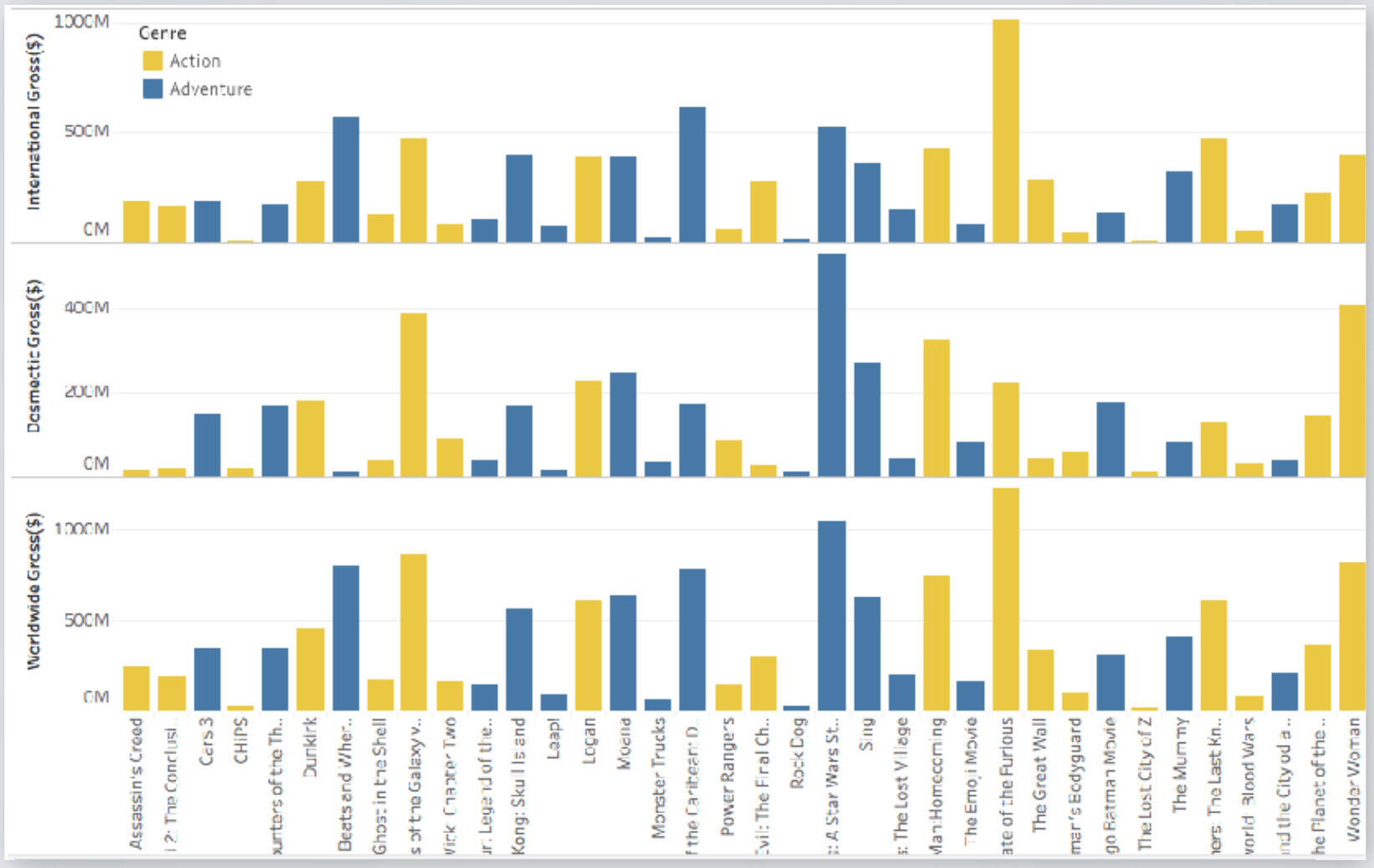
Prefer compact visualisation idioms



Data-Ink Ratio

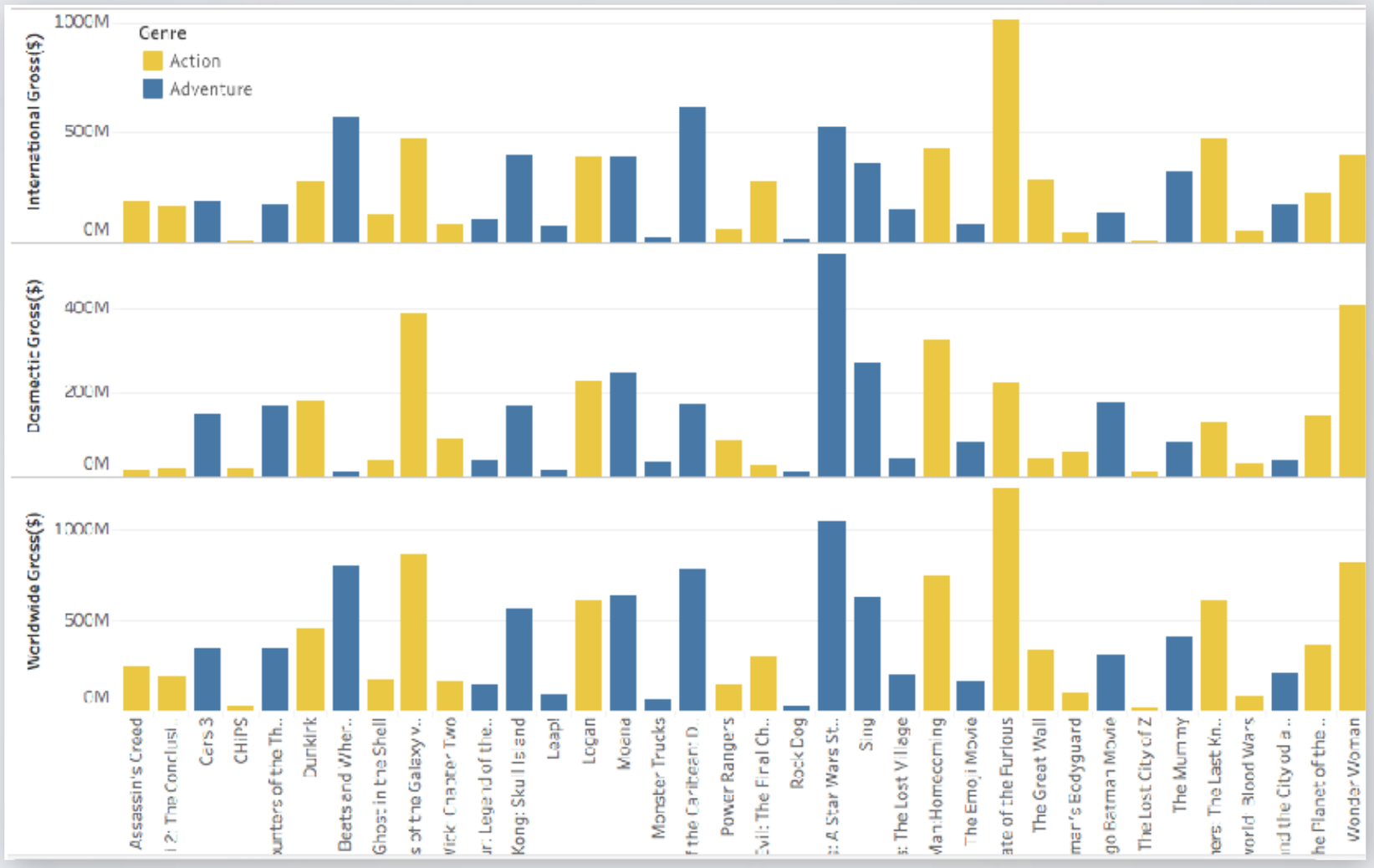
Prefer compact visualisation idioms

Here: A single stacked bar chart with domestic and international gross values would show the same information as the three bar charts below.



Visualisation Richness

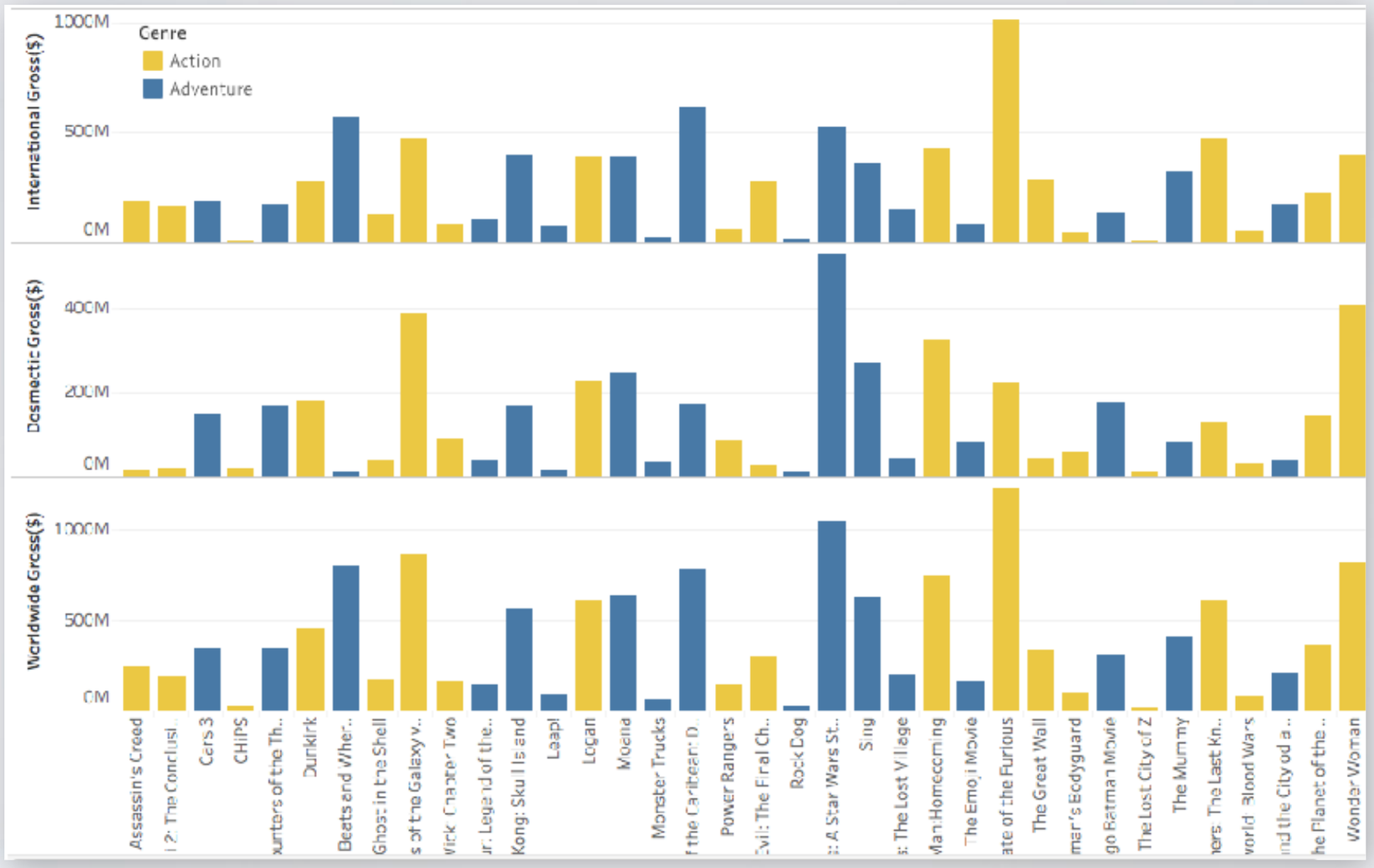
Provide access to the richness of your data through user interface elements.



Visualisation Richness

Provide access to the richness of your data through user interface elements.

Here: Why only compare Action to Adventure movies? A menu (or another user interface element) should provide access to all possible combinations.



Visualisation Richness

Provide access to the richness of your data through user interface elements.

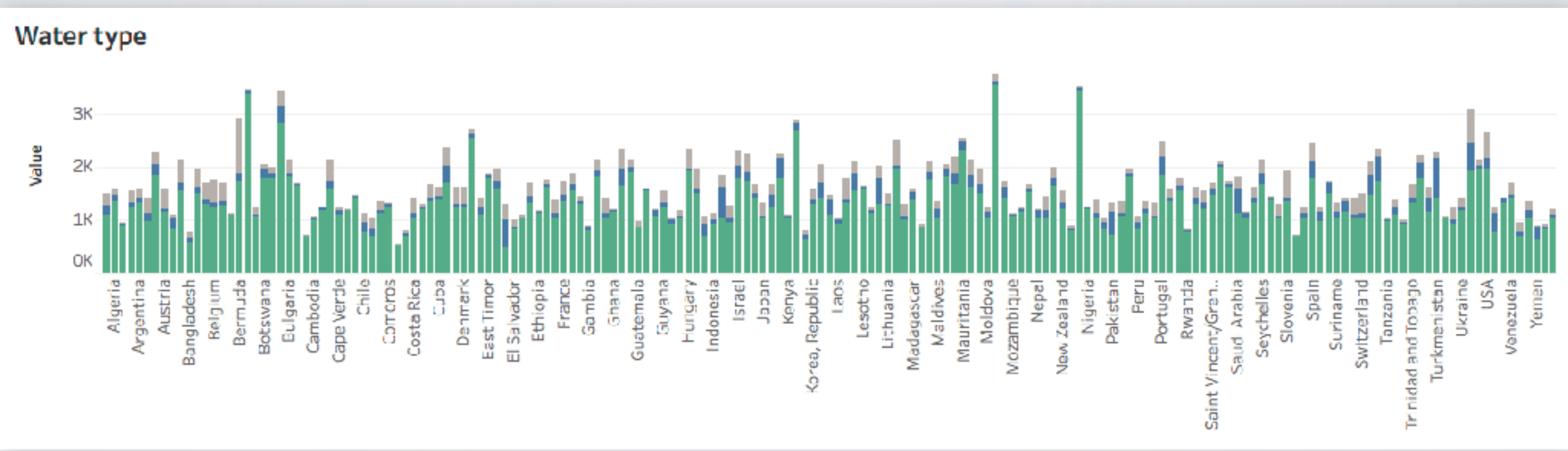
Visualisation Richness

Provide access to the richness of your data through user interface elements.

Here: Why only compare two preselected players? Instead let user choose from top N players.

Patterns

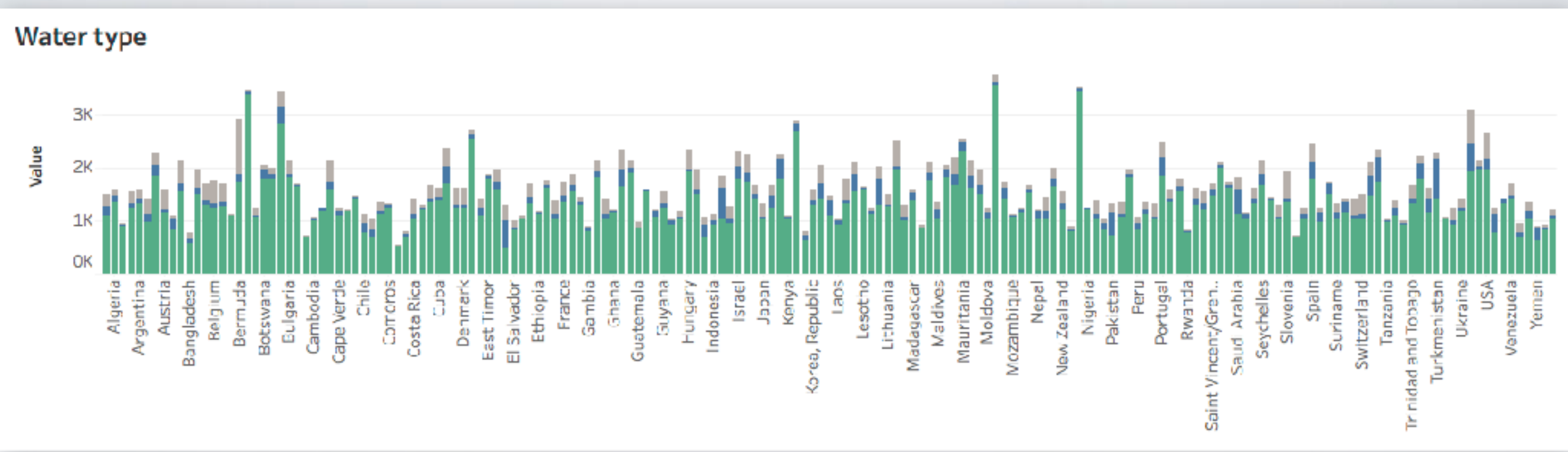
Highlight patterns in your data.



Patterns

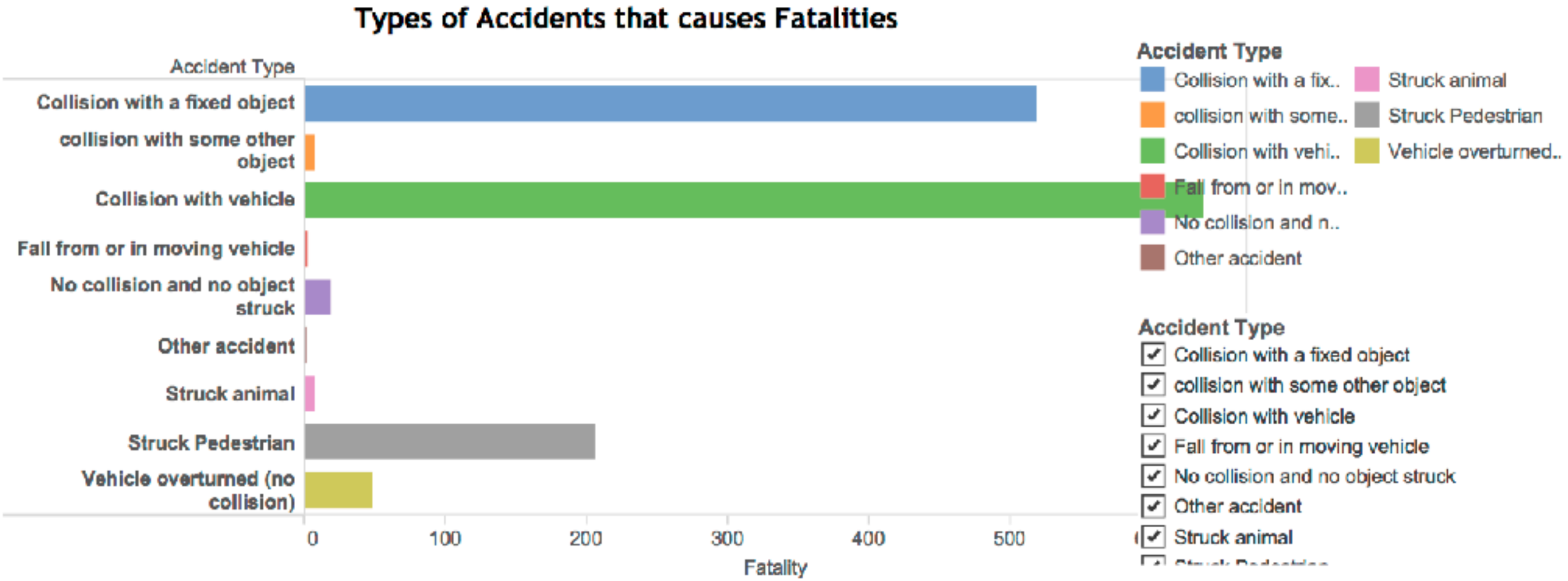
Highlight patterns in your data.

Here: Alphabetical order is not showing any pattern. How about ordered or grouped by continent, value, or GDP?



Patterns

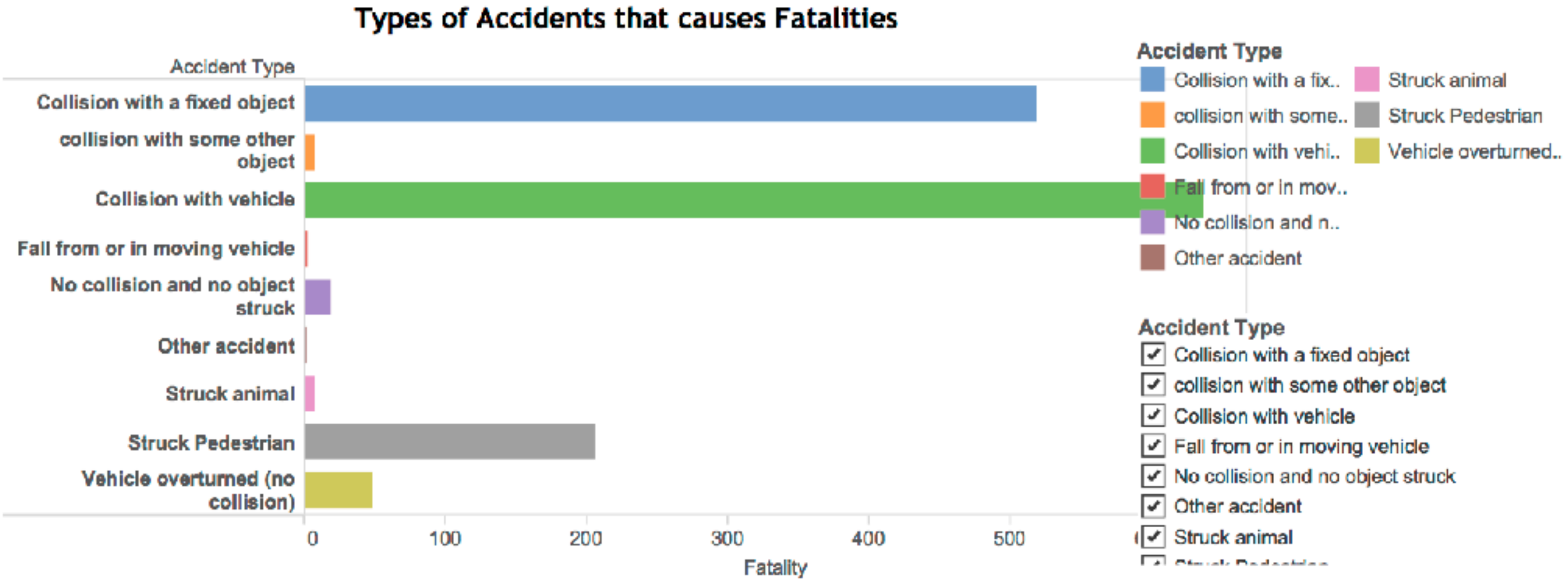
Simplify your data. Less is often more.



Patterns

Simplify your data. Less is often more.

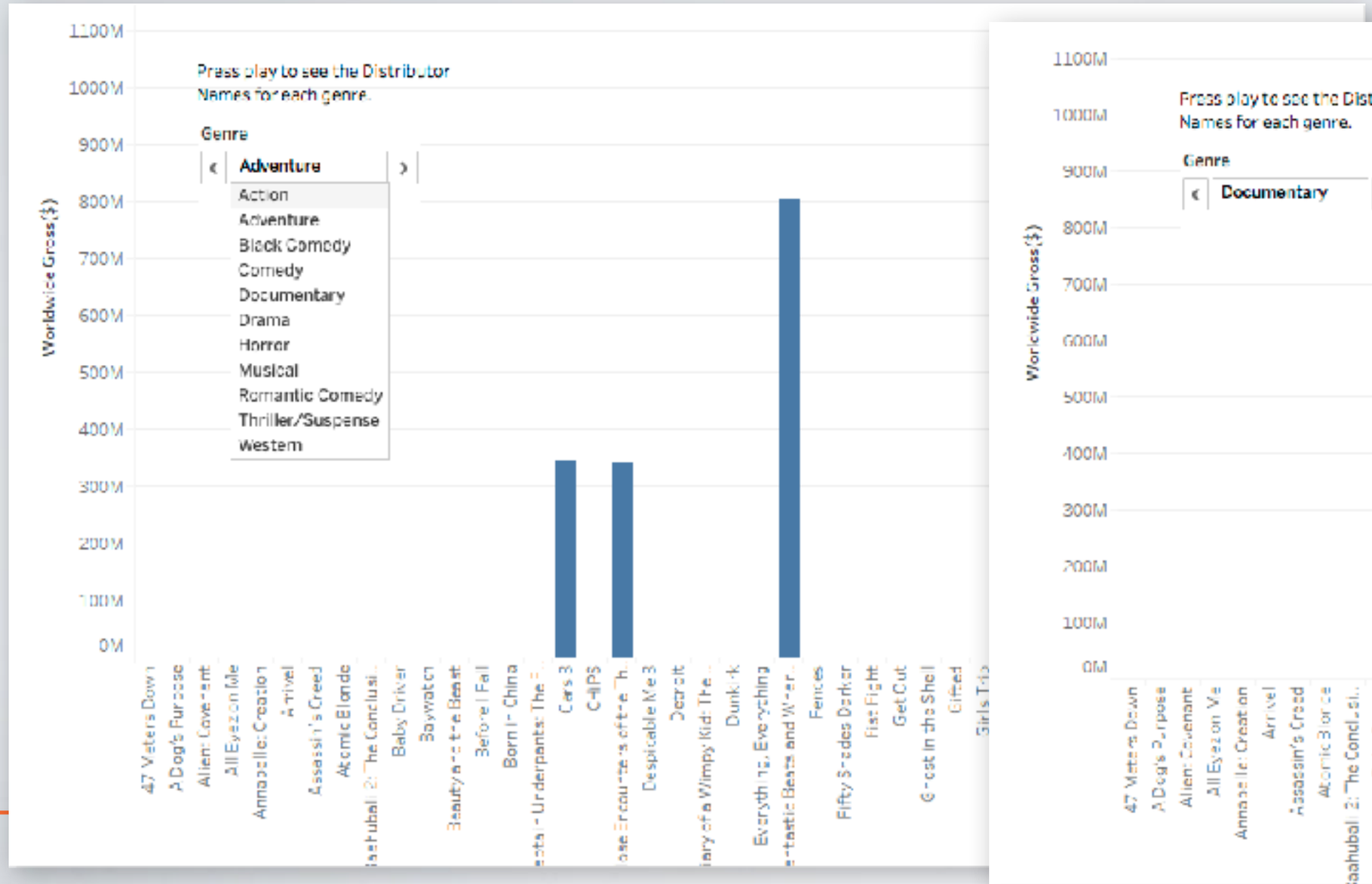
Here: Maybe aggregate all small values to “Other”?

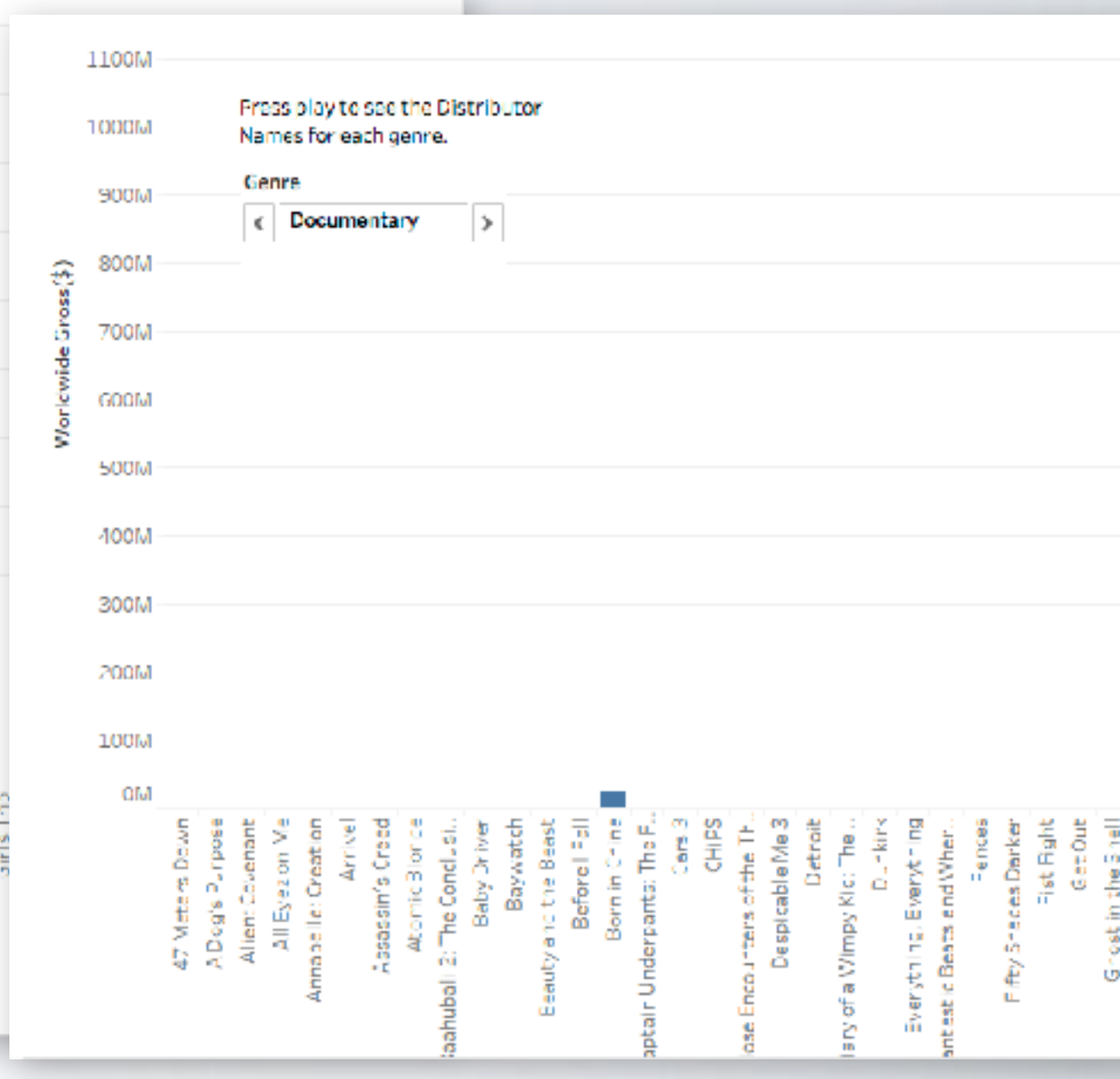


Patterns

Do not rely on visual memory for comparing values.

Here: Use colour-coded or grouped bars to show all information simultaneously instead of menu that hides most of the information.





Layout

Align elements, avoid scrolling to view first element.

Here: Scrolling should not be necessary to view the first chart.