Visualizing One Categorical and Two Numeric Variables

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Overview

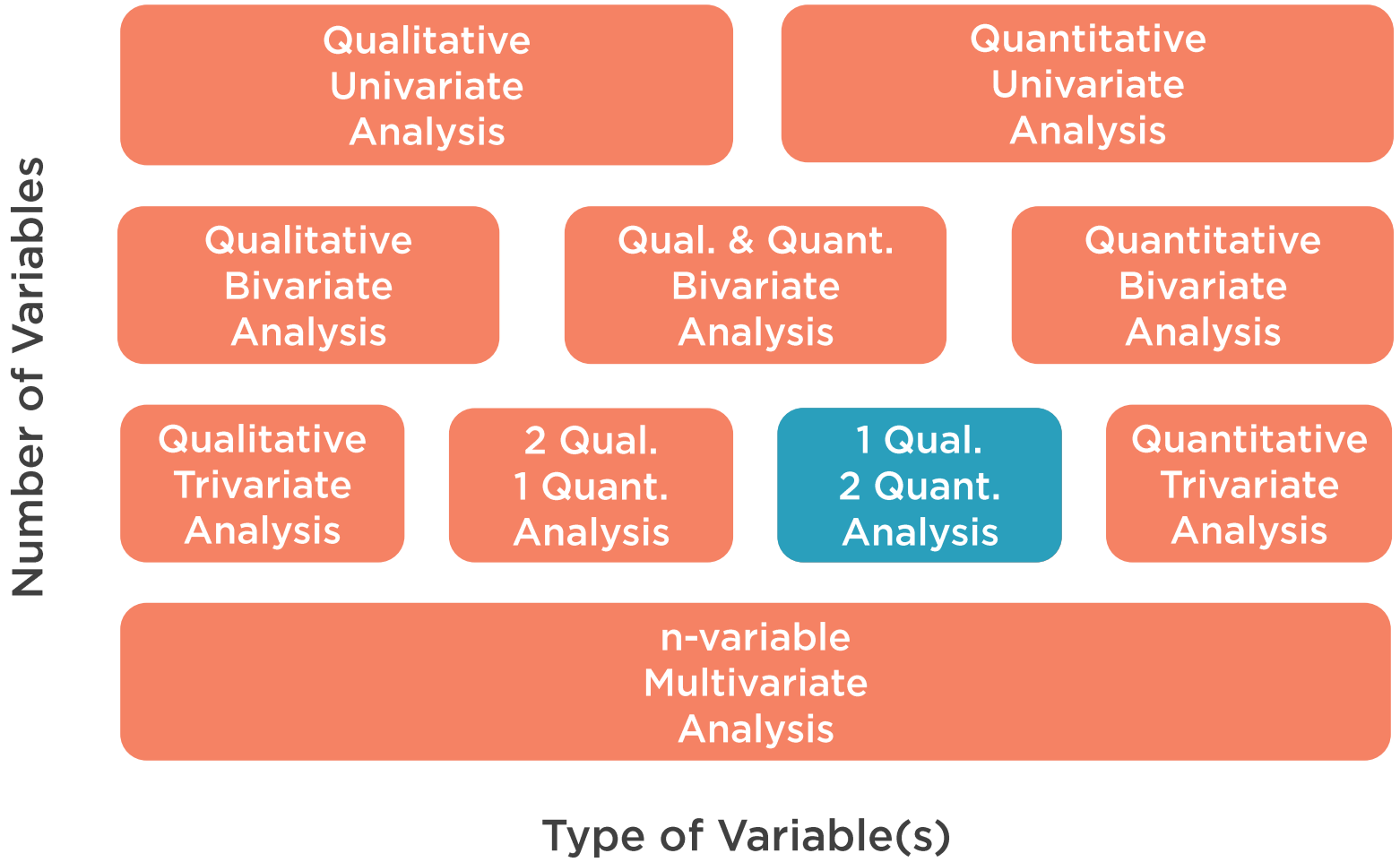
Visualizing One Categorical and Two Numeric Variables

Demo (Base)

Demo (Lattice)

Demo (ggplot2)

Types of Data Analysis



Trivariate Analysis for One Qualitative and Two Quantitative Variables

One categorical variable

Two numeric variables

Relationship by categories

Rating	Critic Score	Box Office
R	45	57.3
G	45	13.4
R	76	187.3
PG	65	135.6
PG-13	30	0.5
...	...	...
R	64	27.9

Trivariate Analysis for One Qualitative and Two Quantitative Variables

One categorical variable

Two numeric variables

Relationship by categories

Time series

Year	G	PG	PG-13	R
2000	46.1	85.7	61.2	23.1
2001	51.8	66.8	54.1	24.4
2002	48.4	67.6	56.9	23.5
2003	34.3	49.4	57.8	34.0
2004	24.8	54.3	51.1	25.0
...	...	...		
2015	16.3	69.2	81.0	24.0

Trivariate Analysis for One Qualitative and Two Quantitative Variables

One categorical variable

Two numeric variables

Relationship by categories

Time series

Year	Rating	Avg. Box Office
2000	G	46.1
2000	PG	85.7
2000	PG-13	61.2
2000	R	23.1
2001	G	51.8
...	...	...
2015	R	26.0

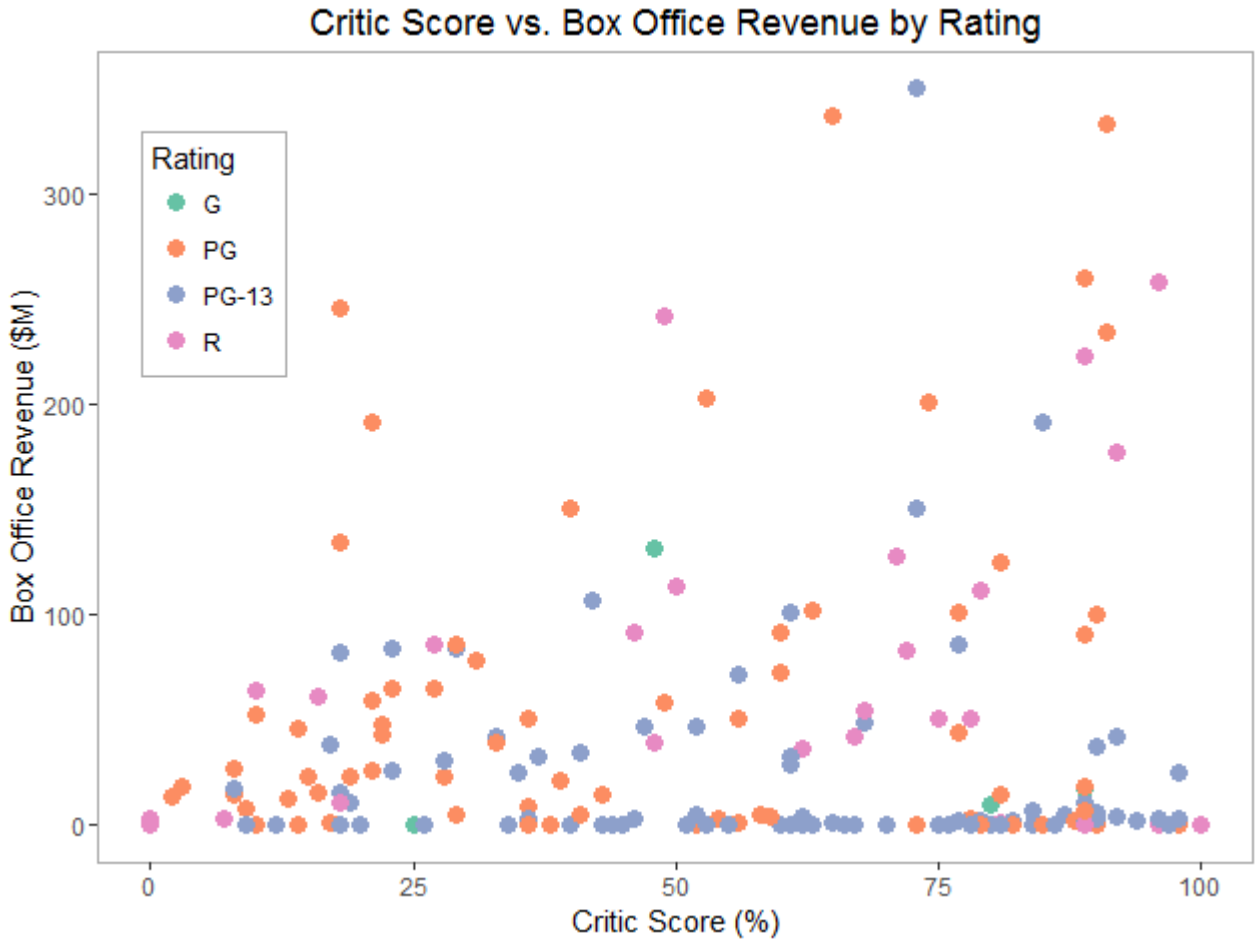
Color-coded Scatterplot

Scatterplot

Color-coded categories

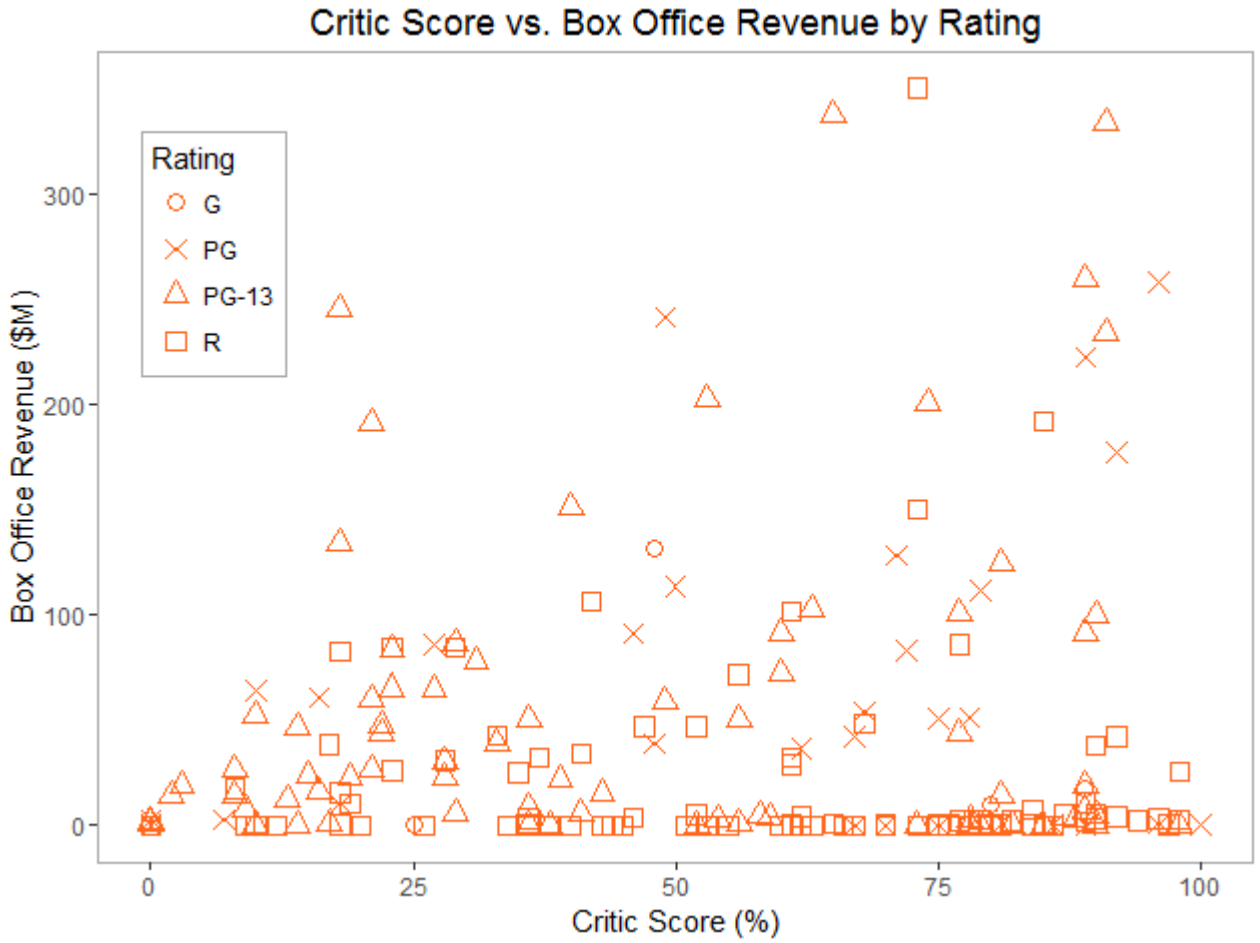
Discrete color palette

Small number of colors



Shape-coded Scatterplot

- Scatterplot
- Shape-coded categories
- Palette of shapes
- Small number of shapes

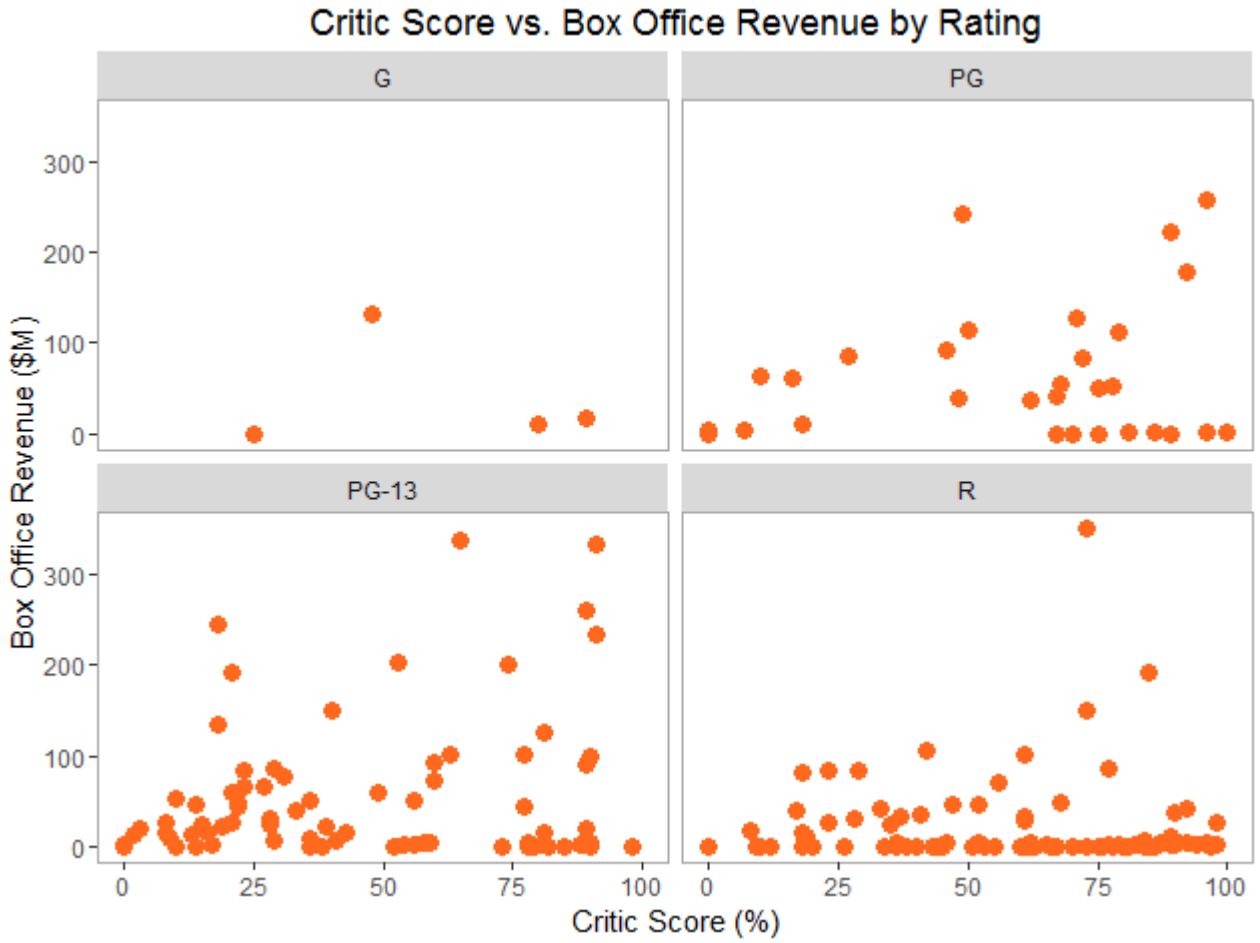


Faceted Scatterplot

Scatterplot

Faceted

Compare overall shape

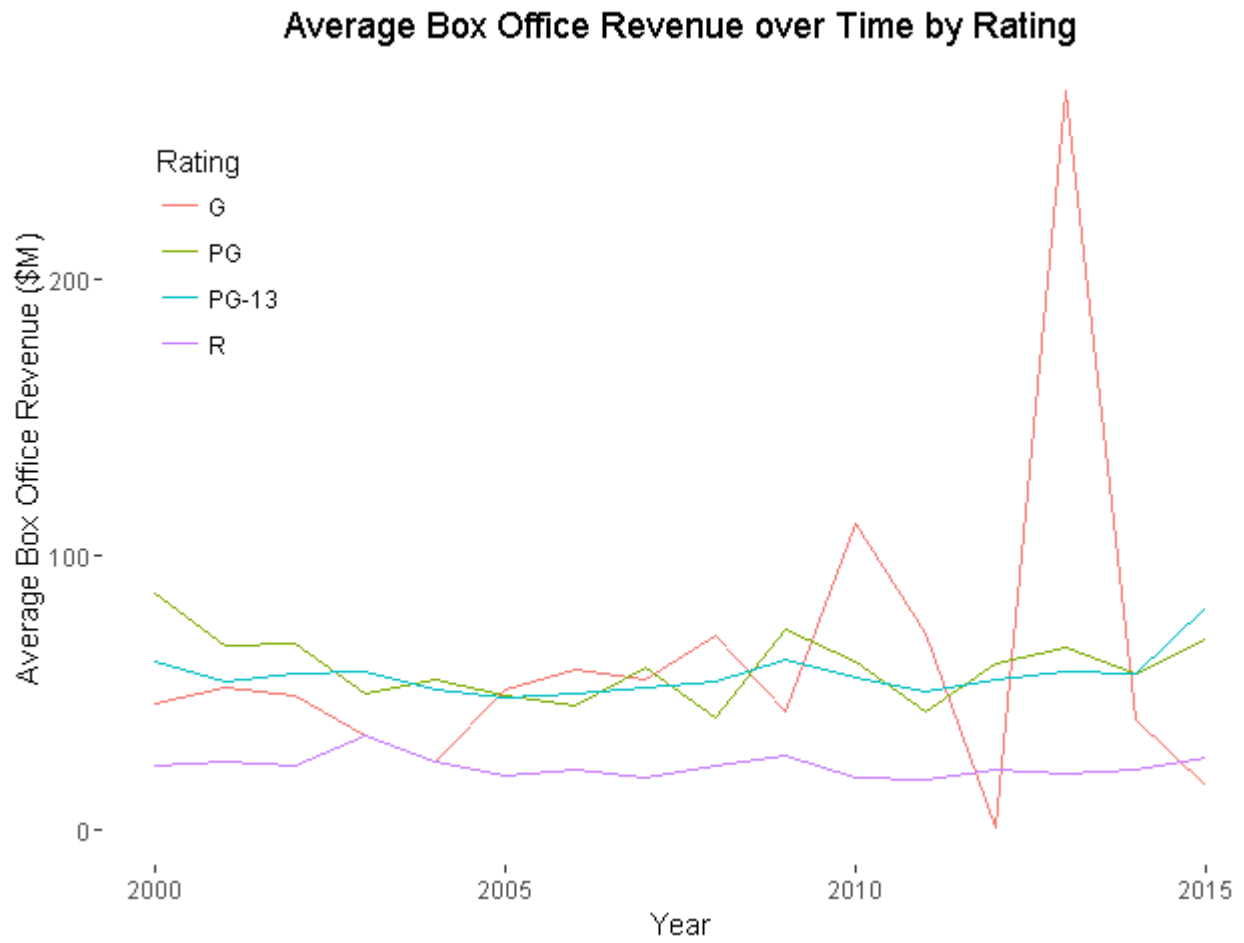


Multi-series Line Chart

Line chart

Multiple time series

Easy comparisons



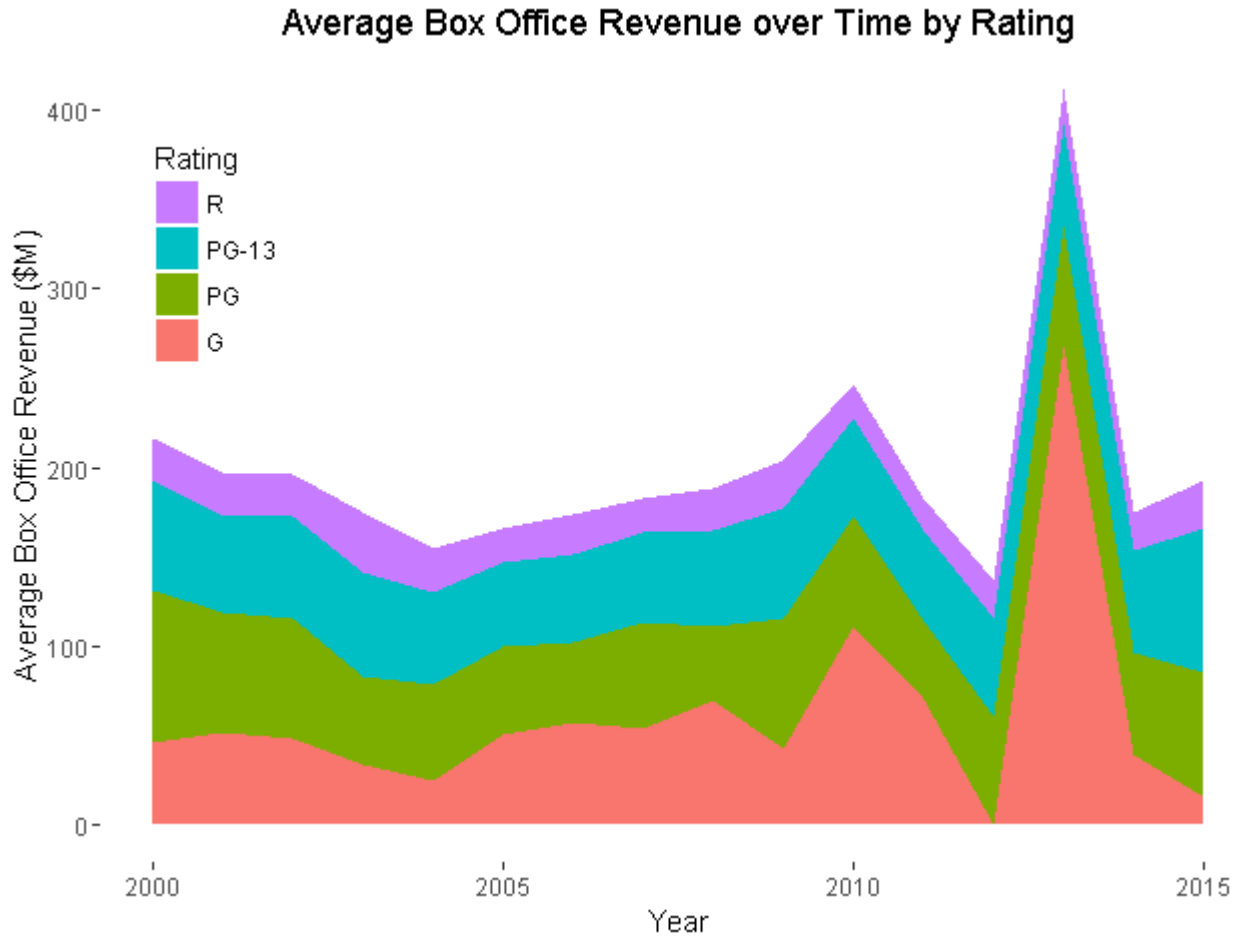
Stacked Area Chart

Area chart

Stacked areas

Cumulative values

Marginal values

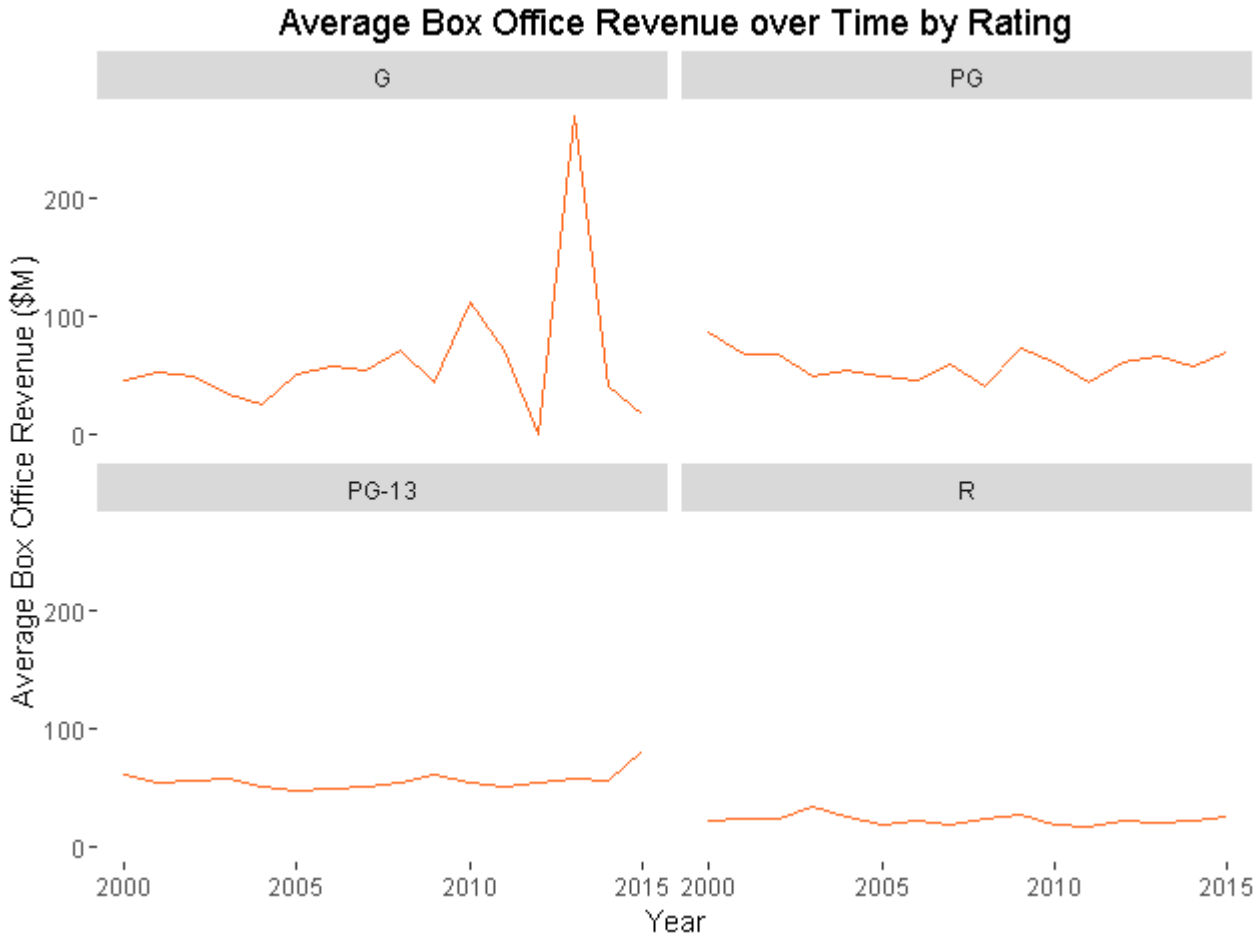


Faceted Line Chart

Line chart

Faceted

Compare overall shape



1. How does critic score relate to box office in each rating category?
2. How has box office revenue changed over time by rating category?

Subset the Data

Load Color Brewer

Create a Color Palette

Create a Color-Coded Scatterplot

Create a Shape Palette

Create a Shape-coded Scatterplot

Subset into Rating Tables

Create Faceted Scatterplot

Load Time Series

Create Multi-series Line Chart

Create Stacked Area Chart

Create a Faceted Line Chart

Create a Color-Coded Scatterplot

Create a Shape-Coded Scatterplot

Create a Faceted Scatterplot

Create Row-wise Time Series

Create Multi-Series Line Chart

Create a Stacked Area Chart

Create a Faceted Line Chart

Create a Color-coded Scatterplot

Create a Shape-coded Scatterplot

Create a Faceted Scatterplot

Create a Multi-Series Line Chart

Create a Stacked Area Chart

Create a Faceted Line Chart

Summary

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