

Fast & powerful
IRI-Nielsen retail data
analysis tool

Plotting guide

Abstract

- Easy to install and deploy (page 4)
- Simple interface for reporting and statistical analysis (pages 6-30)
- Fast, powerful and intuitive Price & Promotion, Sales & Share, Distribution analysis (pages 32- 86)

Installation

How to plot

Plot examples

1. Install free [Anaconda](#) Python distribution (15 minutes)
2. Save the .bat and the two notebook files in any directory
3. Click on the “Open_Jupyter” .bat file

Installation

How to plot

Plot examples

- Simple and intuitive menu-driven interface
- Current year vs year ago reporting (pages 8-16)
- Correlation and timeline statistical analysis (pages 18-30)

Installation

How to plot



Current Year Vs Year Ago notebook

Correlation & Timeline Analysis notebook

Plot examples

Menu Notebook 1 - Current Year Vs Year Ago Reporting

Time period	<input checked="" type="radio"/> Weeks <input type="radio"/> Months	Facets to display	4	Company
Metric type	<input checked="" type="radio"/> Absolute <input type="radio"/> Index	Max rank	1	Type
View	<input checked="" type="radio"/> Sales <input type="radio"/> Share on Total Market <input type="radio"/> Shares <input type="radio"/> Prices <input type="radio"/> Promo Sales <input type="radio"/> Promo Shares <input type="radio"/> Promo Prices <input type="radio"/> Price Ladder <input type="radio"/> Baseline Analysis			Brand
Chart type	<input checked="" type="radio"/> Standard <input type="radio"/> Faceted			Sub Brand
Facet to plot	<input checked="" type="radio"/> Company <input type="radio"/> Brand <input type="radio"/> Sub Brand <input type="radio"/> Type <input type="radio"/> Color <input type="radio"/> Color Detail <input type="radio"/> Retailer			Color
				Color Detail
				Retailer

Notebooks contain
detailed usage
instructions

5. Choose if you want to group data by months or by weeks in Current Year versus Year Ago comparisons

Time period

Months
 Weeks

6. Choose if you want to see absolute or index values. Index is calculated as Current Year / Year Ago x 100.

Metric type

Absolute
 Index

Choose the metric (view) your are interested in. The Price Ladder choice will return a slightly different type of chart.

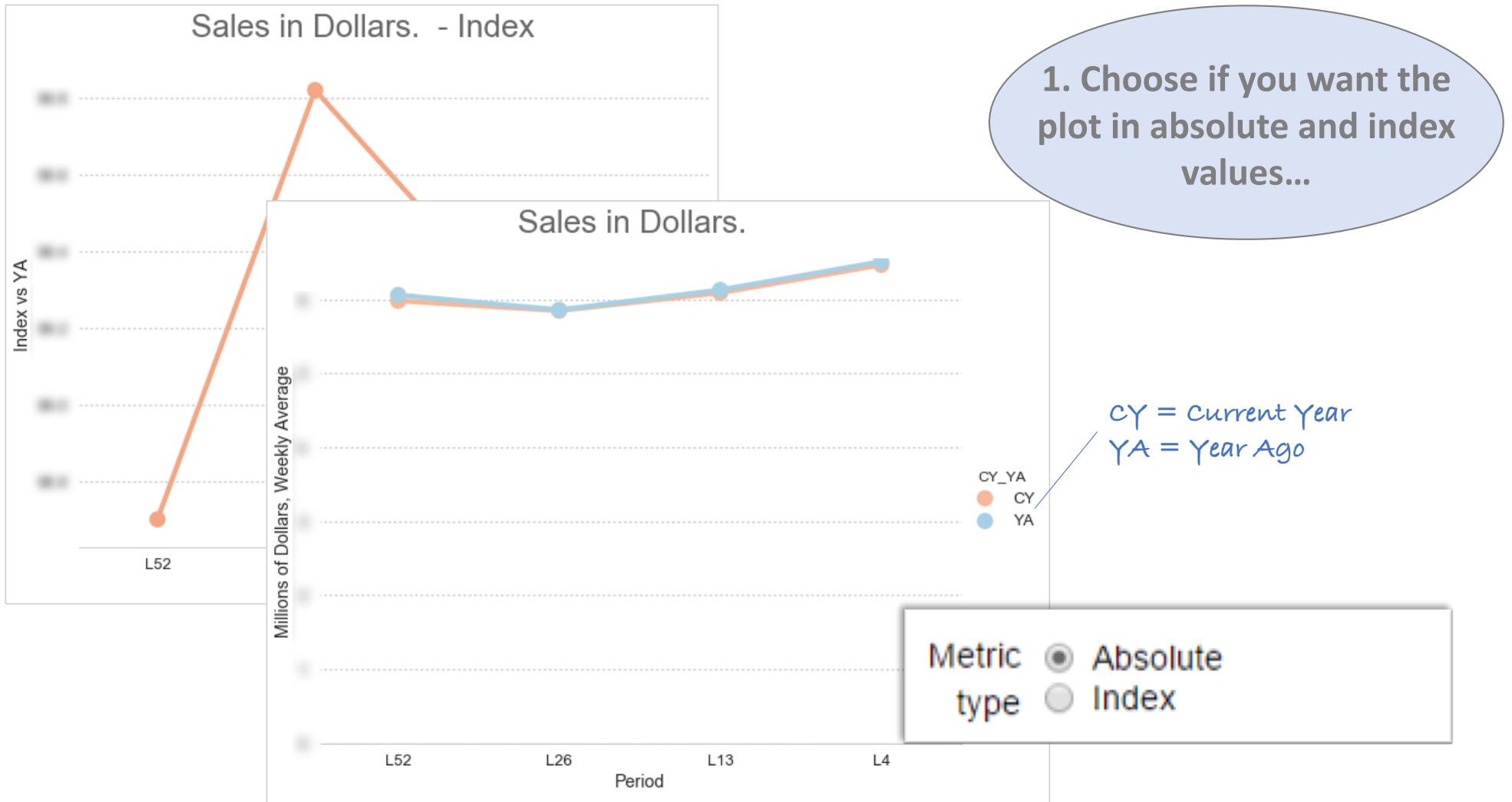
View

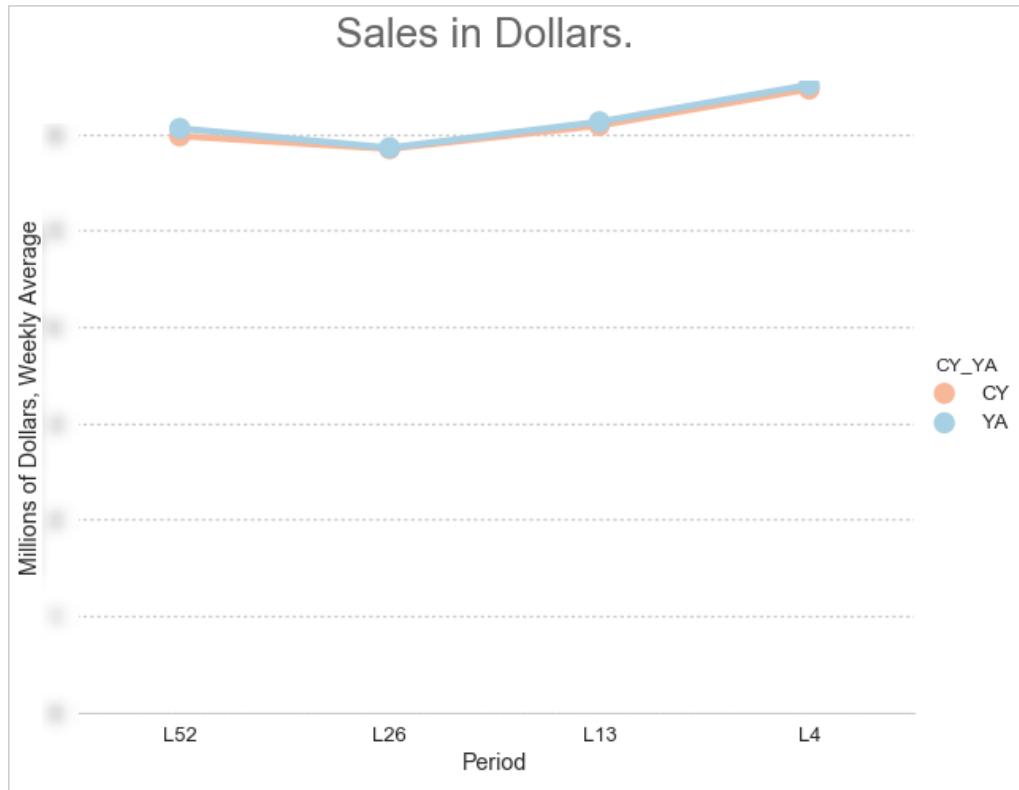
Sales
 Share on Total Market
 Shares
 Prices
 Promo Sales
 Promo Shares
 Promo Prices
 Price Ladder

7. Choose if you want to plot a "standard" or a "faceted" chart. A faceted chart is made up of a series of similar charts that use the same scale and axes, so to be easily compared. Below examples of a standard sales chart and the corresponding sales chart faceted by [company](#).

Chart type

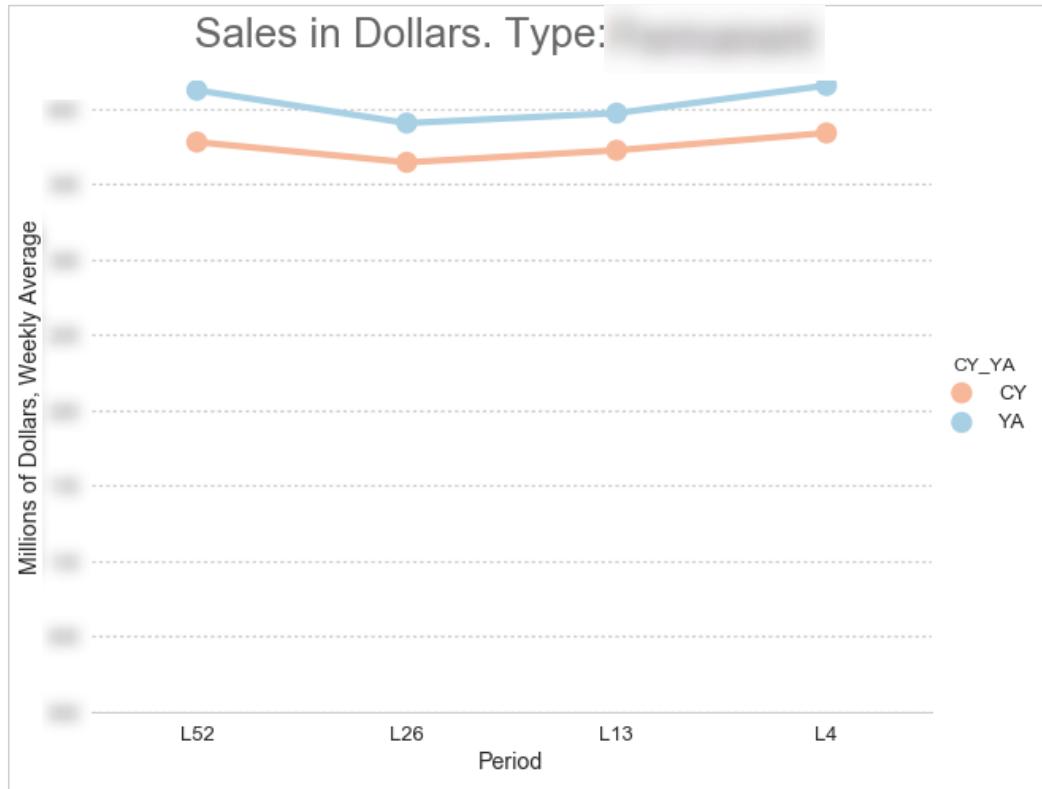
Faceted
 Standard





2. Choose which view of the data you are interested in...

- View
- Sales
 - Share on Total Market
 - Shares
 - Prices
 - Promo Sales
 - Promo Shares
 - Promo Prices
 - Price Ladder
 - Baseline Analysis



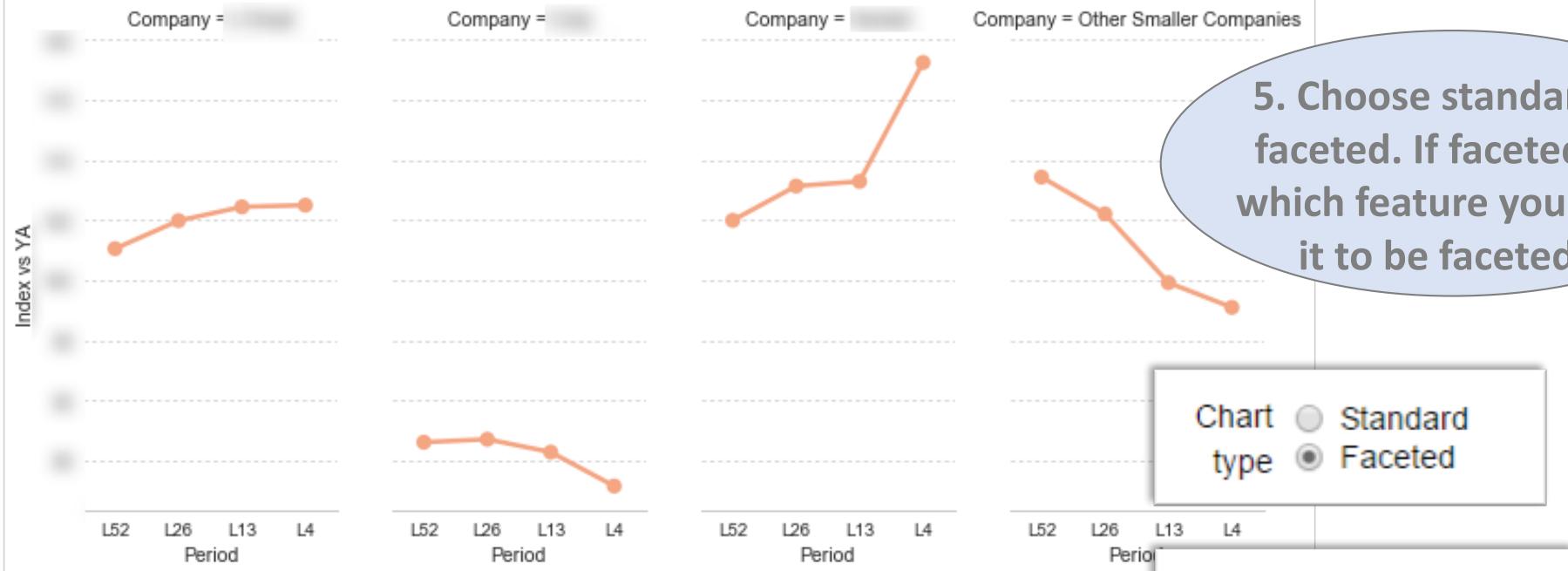
3. Choose the appropriate filters...

Company	None
Type	None
Brand	None
Sub Brand	None
Color	None
Color Detail	None
Retailer	None

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Sales in Dollars by Company. - Index

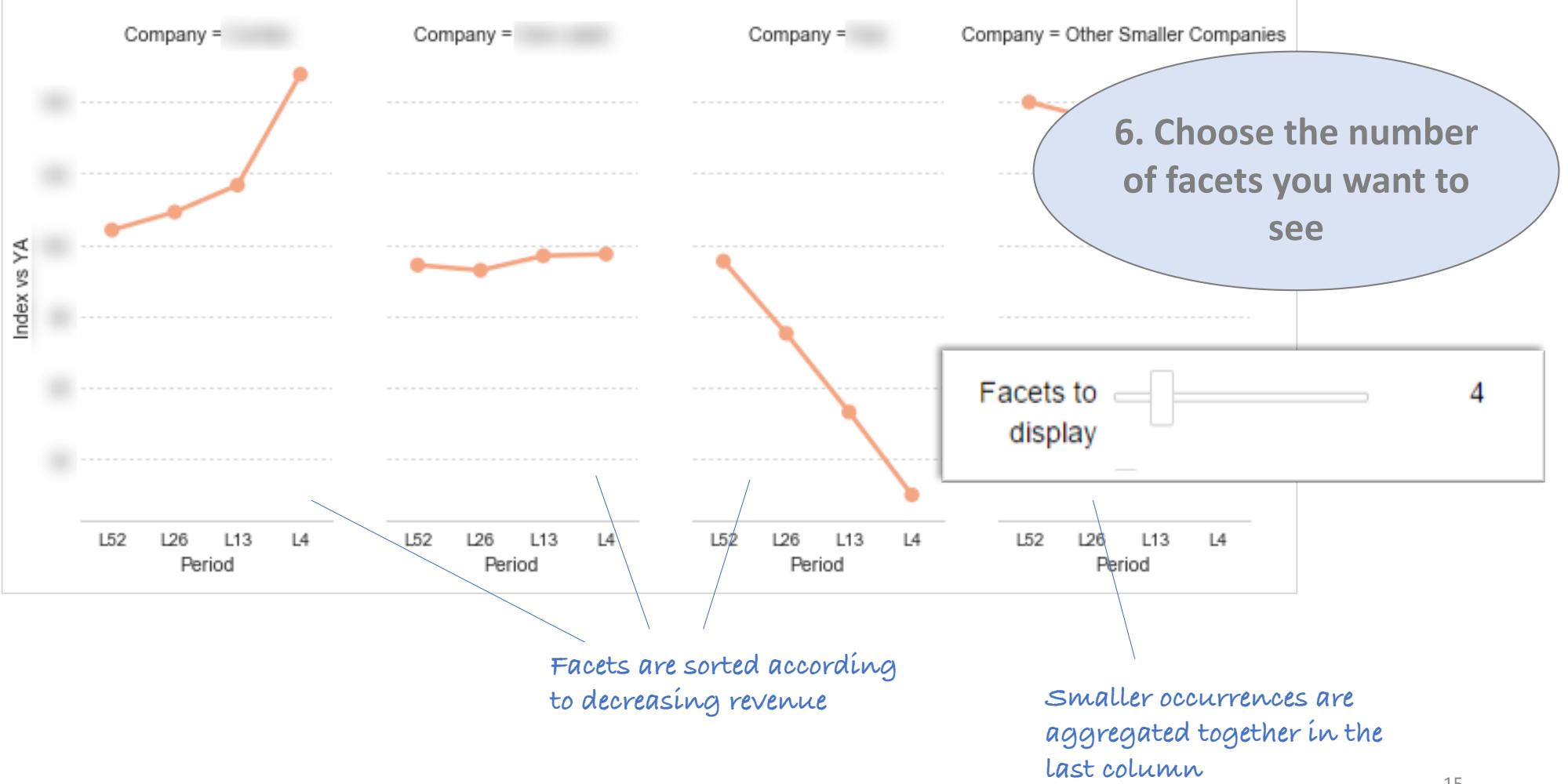


5. Choose standard or faceted. If faceted, by which feature you want it to be faceted...

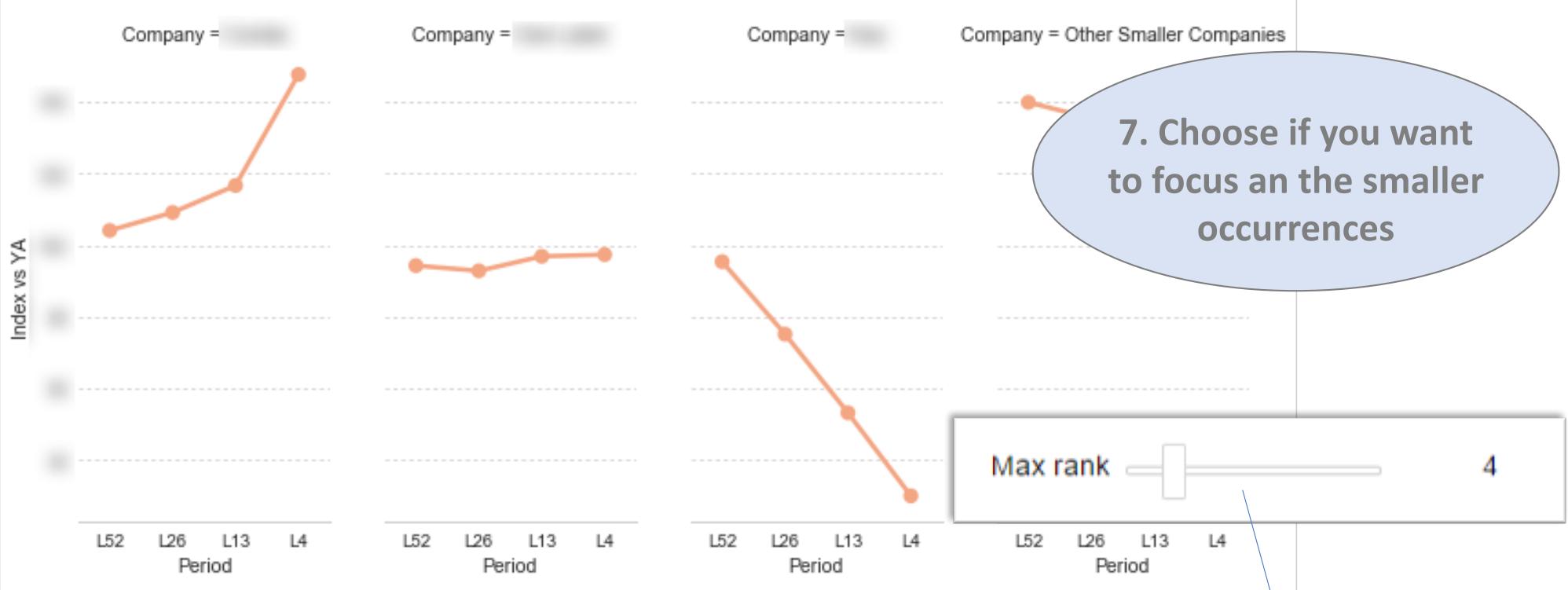
Chart type
Standard
Faceted

Facet to plot
Company
Brand
Sub Brand
Type
Color
Color Detail
Retailer

Sales in Dollars by Company. - Index



Sales in Dollars by Company. - Index



"Max rank" helps look into smaller occurrences but cutting out the top ones. This plot starts with the forth largest company

Installation

How to plot

Current Year Vs Year Ago notebook



Correlation & Timeline Analysis notebook

Plot examples

Menu Notebook 2 - Correlation and Timeline Statistical Analysis

Type: [dropdown] Sub Brand: [dropdown]

Show: Market Correlation
 Paired Correlation
 Market Correlation Matrix
 Paired Correlation Matrix
 Paired Distribution
 Paired Time Series
 Stacked Prices

X metric: Competitor No Promo Price

Plot type: Standard
 Faceted

Y metric: No Promo Price

Y metric (select one or more values): None

Plot control charts

Show confidence intervals

Exclude outliers

Standard deviations: 3

Resample timeseries

Resample rule: two weeks

Plot group details

Share axes

Period: All
 Current Year
 Year Ago

Chart color: #663399

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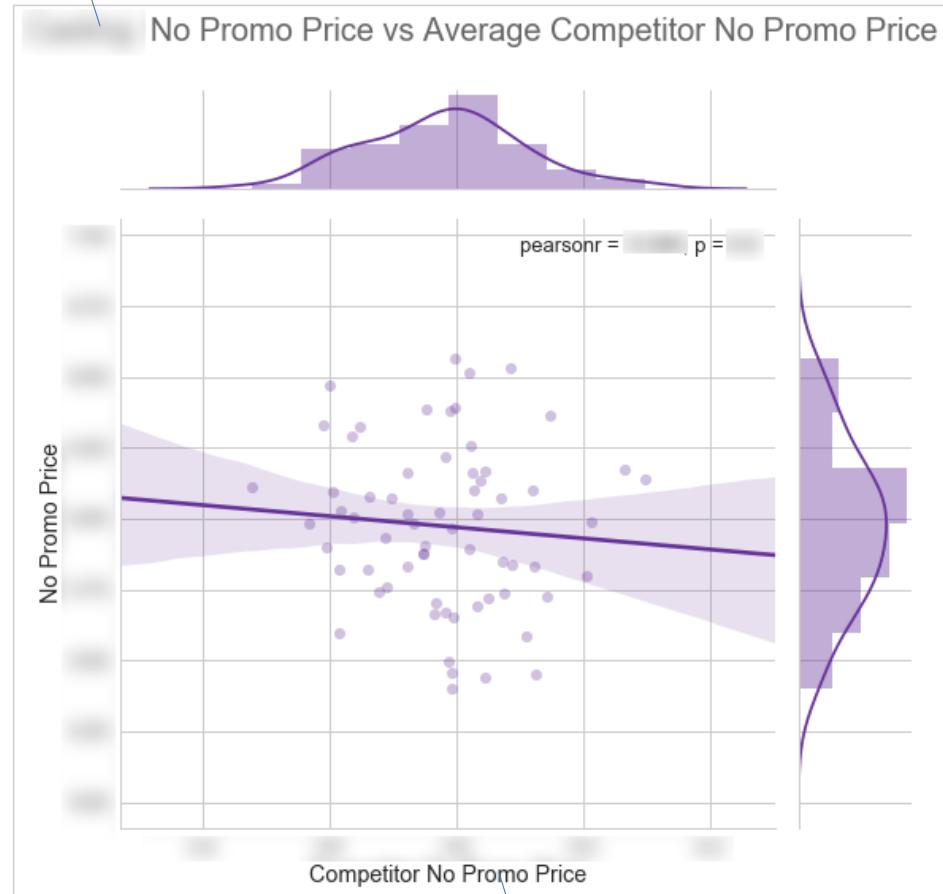
1. Filter by type and choose the Sub Brand you want to analyze...

Type:

Sub Brand:

Sub Brand selected by

user



Sub Brand no promo price mapped against average no promo price
of all competitors given "Market Correlation" choice

2. Choose the kind of analysis you want to perform...

- Show
- Market Correlation
 - Paired Correlation
 - Market Correlation Matrix
 - Paired Correlation Matrix
 - Paired Distribution
 - Paired Time Series
 - Stacked Prices

...among these seven...

- | Show | Market Correlation | Paired Correlation | Market Correlation Matrix | Paired Correlation Matrix | Paired Distribution | Paired Time Series | Stacked Prices |
|------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------|
| | Correlates chosen Sub Brand metrics to rest of market metrics or to other metrics of the chosen Sub Brand | Correlates chosen Sub Brand metrics pairwise vs other Sub Brand metrics | Computes correlation matrix of Sub Brand vs rest of market | Computes pairwise correlation matrixes of Sub Brand vs other Sub Brands | Shows distribution of chosen Sub Brand metrics pairwise vs other Sub Brand metrics | Shows chosen Sub Brand metrics across time pairwise vs other Sub Brand metrics | Shows stacked price distribution of all Sub Brands |

3. Choose the metrics you want to plot...



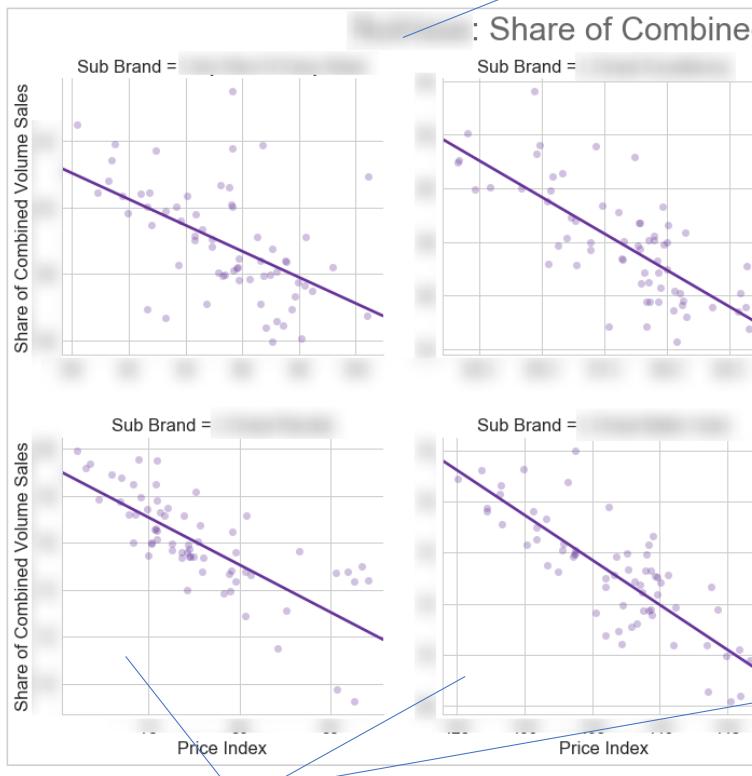
X metric: Price Index

Y metric: Share of Combined Volume Sales

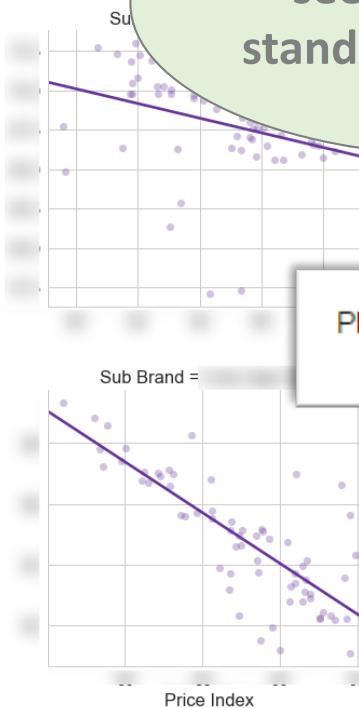
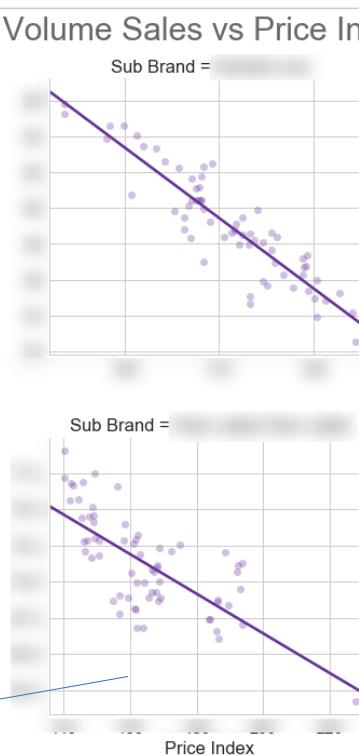
Y metric (select one or more values): None

Menus will automatically populate with metrics based on plot choice

Sub Brand selected by user



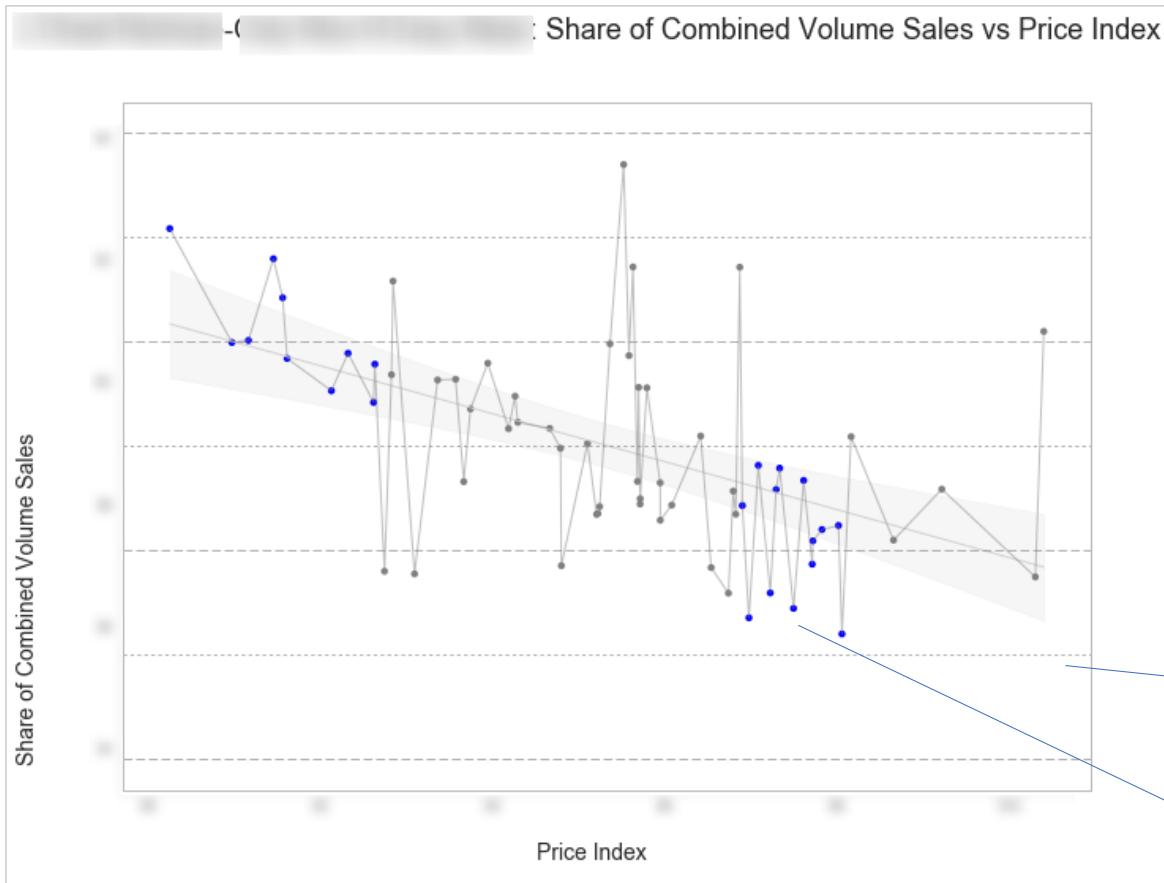
Sub plots show metrics of other Sub Brands relative to chosen Sub Brand



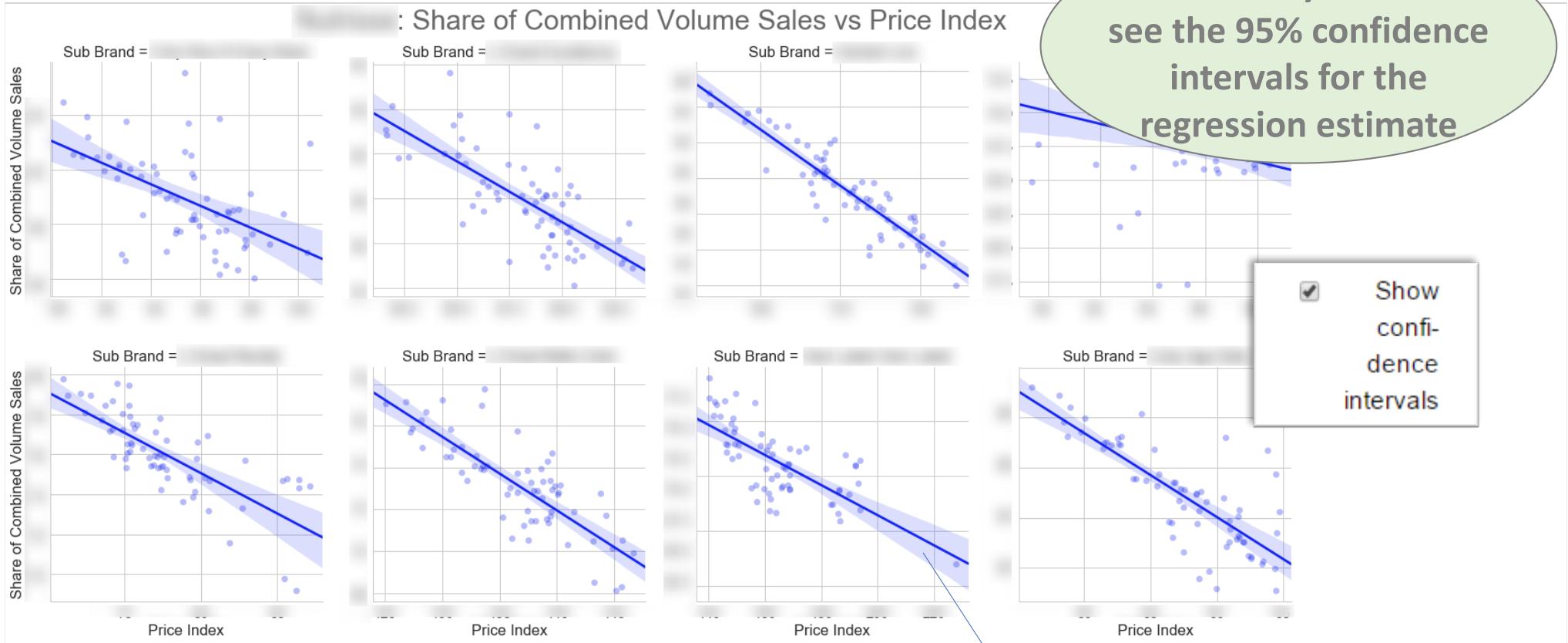
4. Choose if you want to see the data in a standard or a faceted form...

Plot Detail Standard
 Faceted

5. Choose if you want to see the data in the form of a control chart, with “breaks” highlighted



Horizontal lines show
mean, and 1,2,3
standard deviations from
mean
Break points colored blue



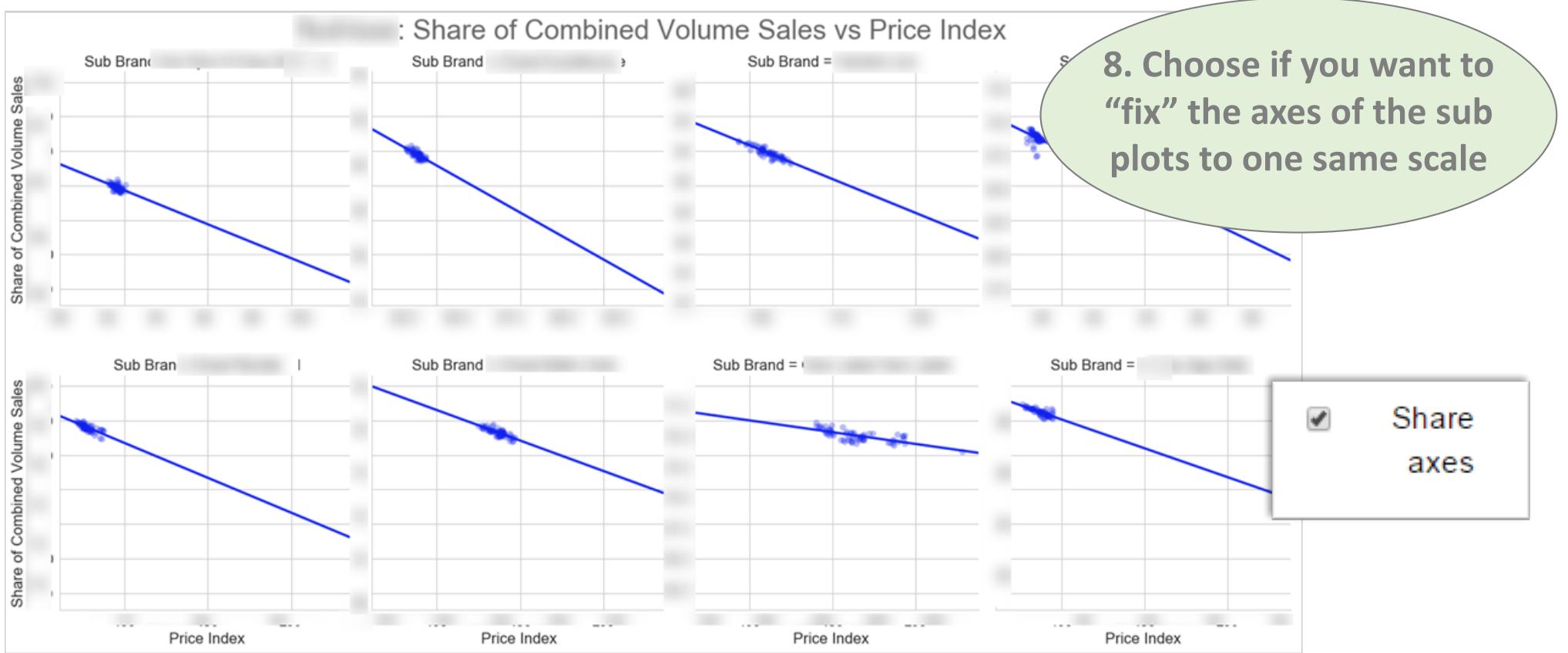
Shaded area shows confidence interval for the regression estimate

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7. Choose if you want to run the regression on the data by sub group...

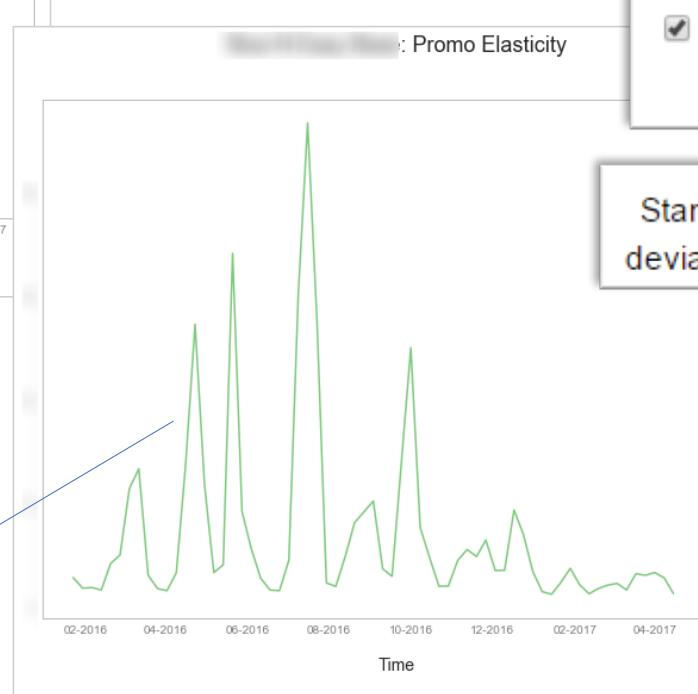
Plot group details





Raw data

After excluding
> 4 standard
deviations
outliers

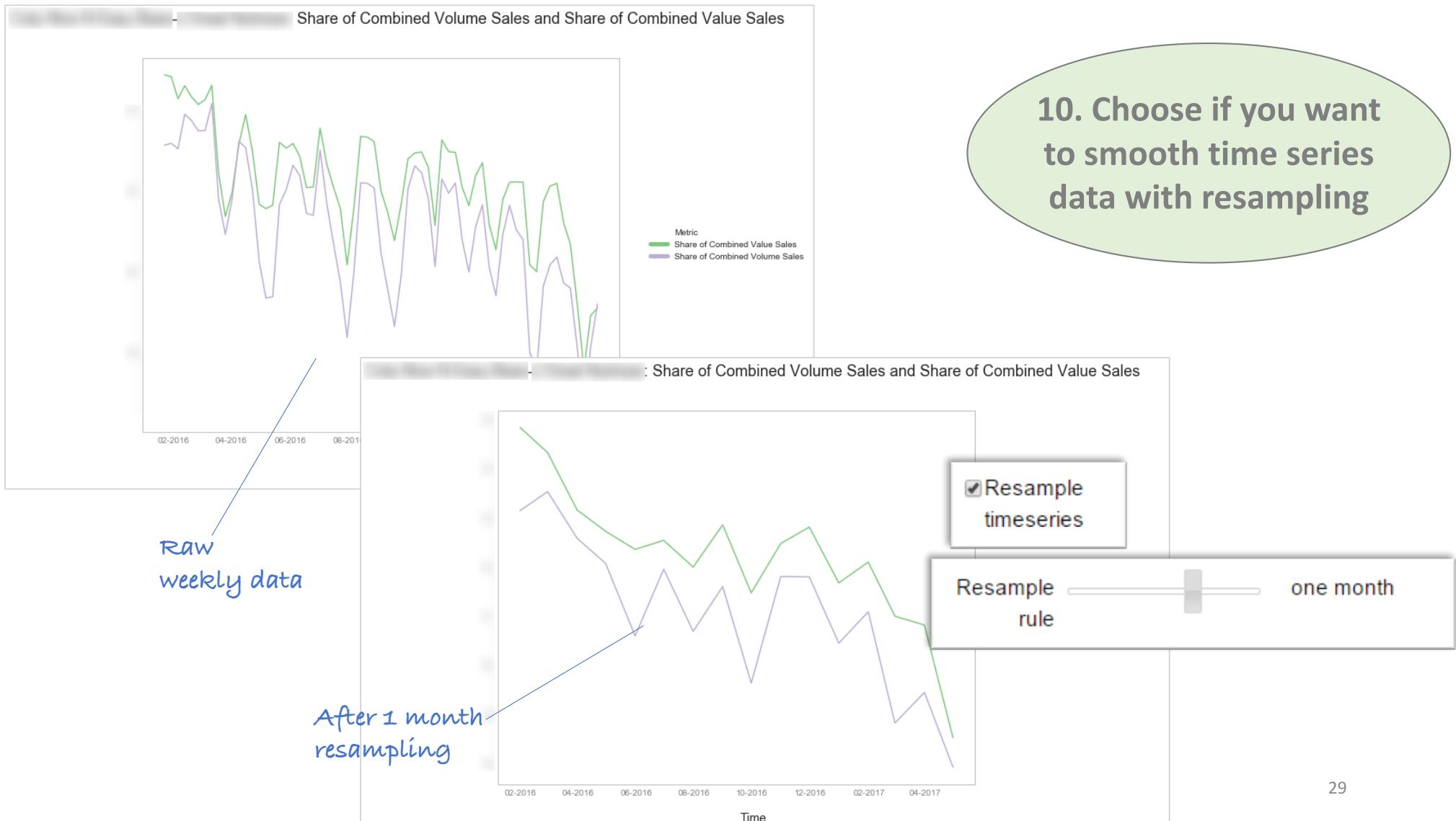


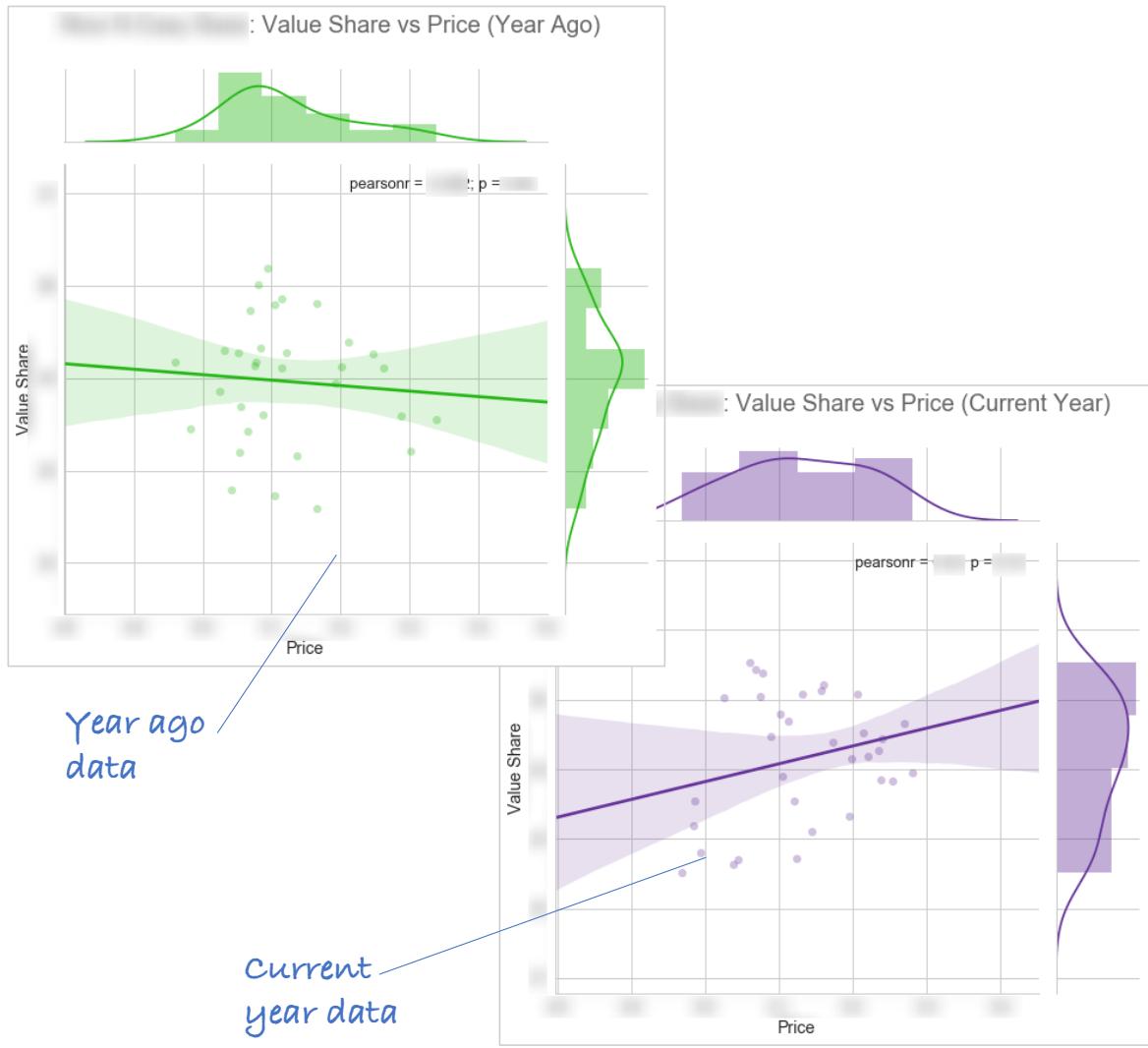
9. Choose if you want to exclude outliers beyond a certain number of standard deviations

Exclude outliers

Standard deviations

4





11. Choose whether you want see only current year or year ago data

Period

- All
- Current Year
- Year Ago

Installation

How to plot

Plot examples

- Quick, powerful and intuitive plotting
- Focus on Price & Promotion (pages 34-69). Solid support of Sales & Share (pages 71-75), Distribution analysis (pages 77-86)
- Each example is accompanied by its menu set-up

Installation

How to plot

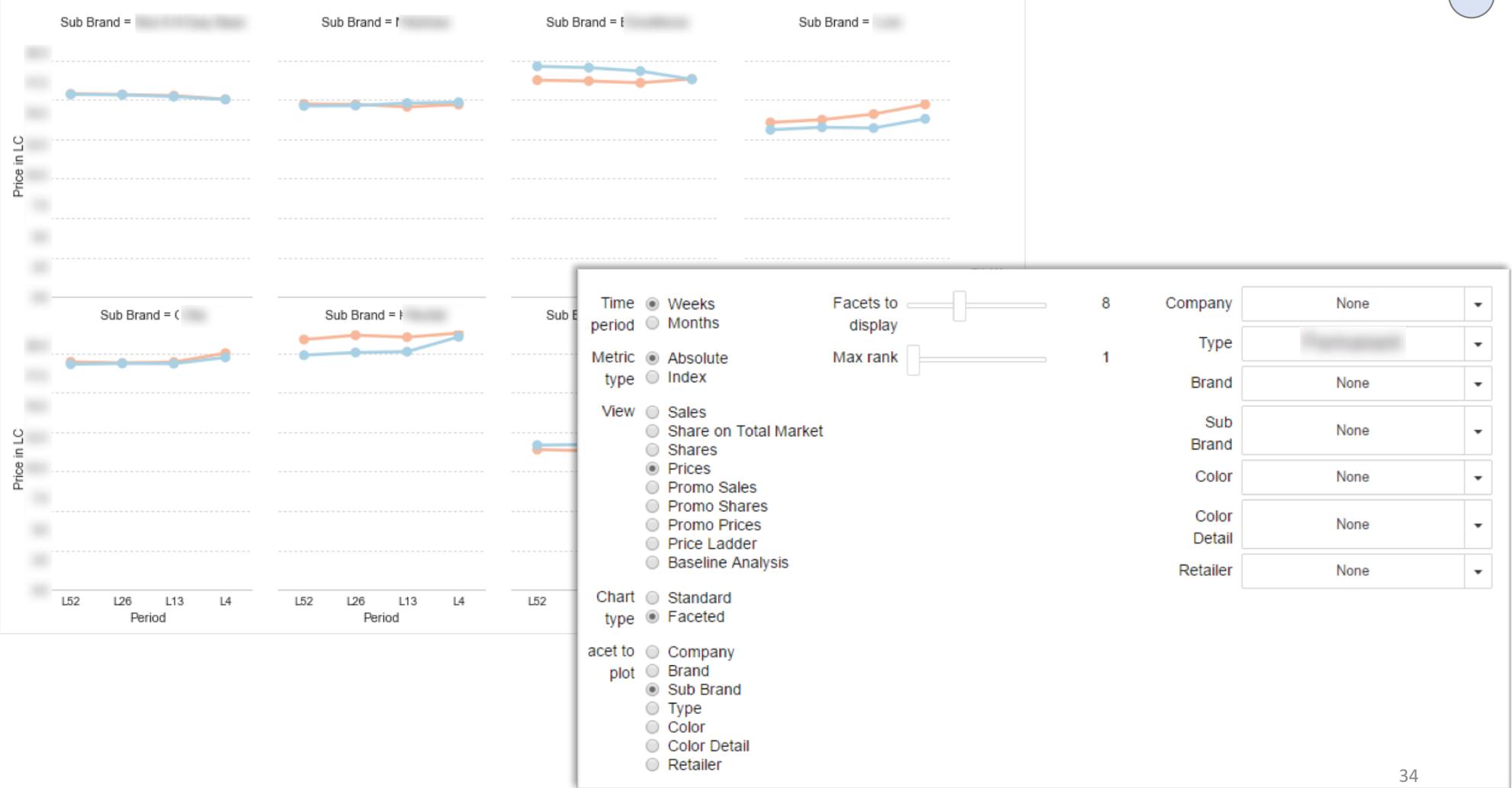
Plot examples

 Price & Promotion

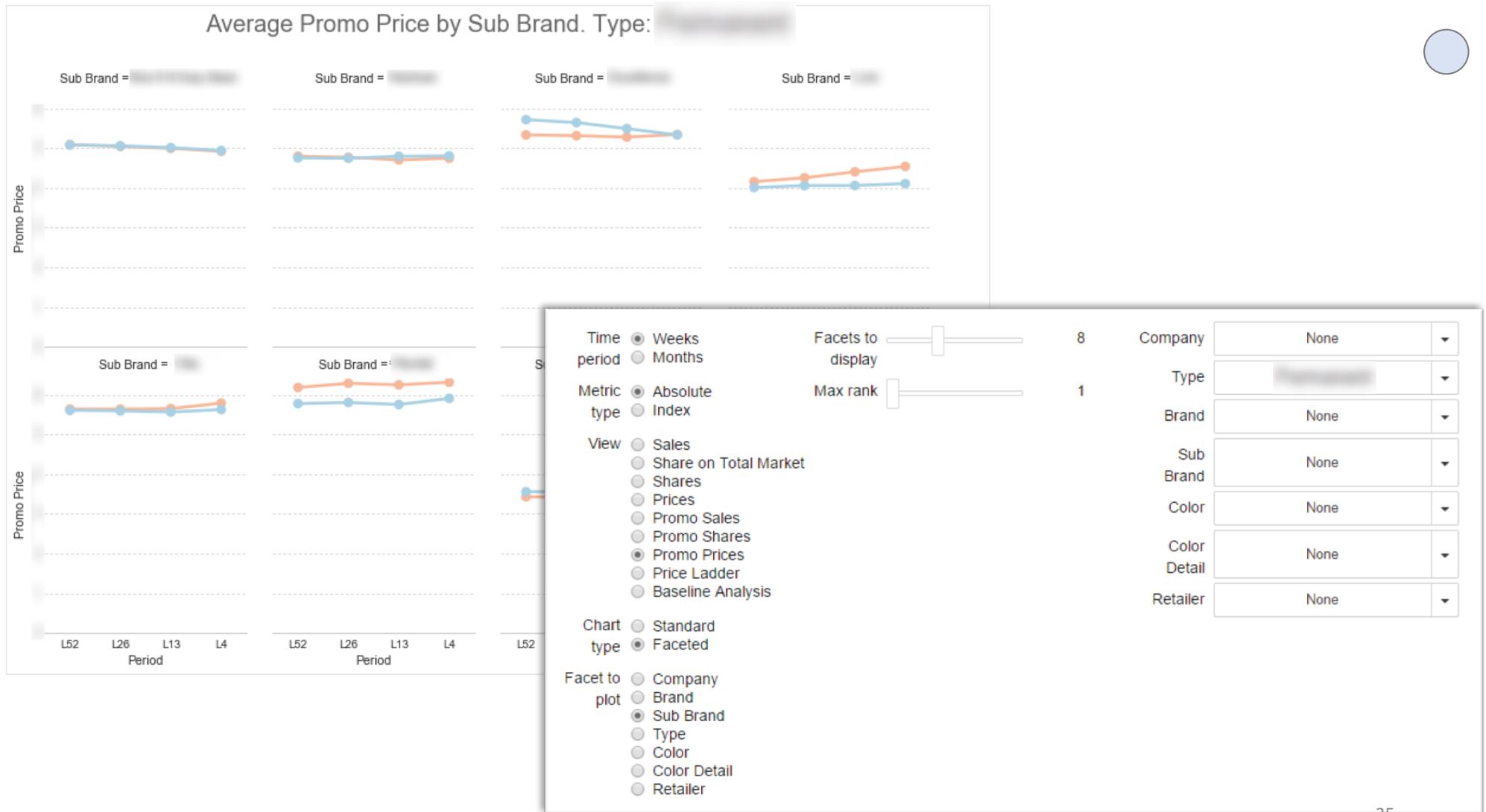
Sales & Share

Distribution

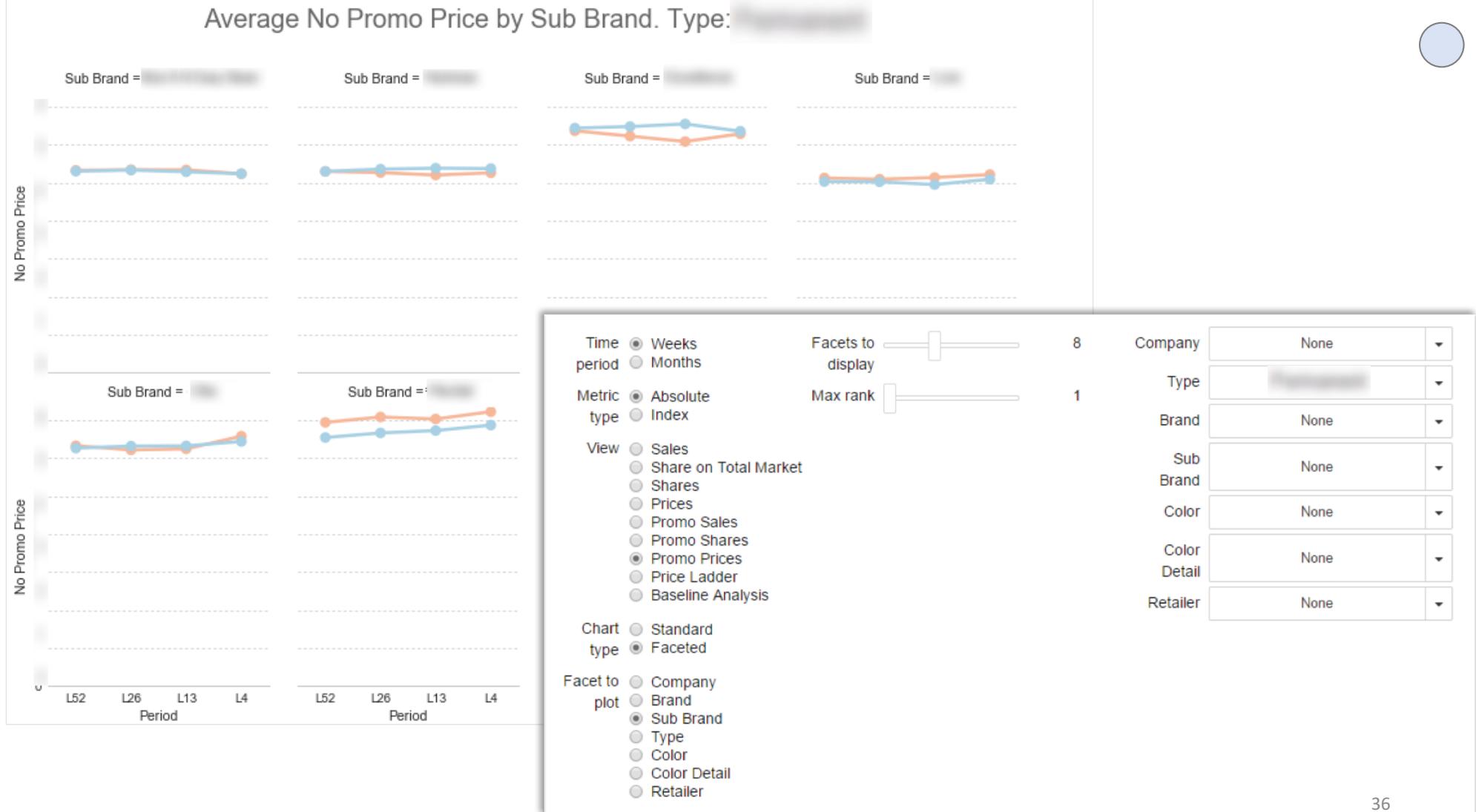
Average Price by Sub Brand Type:

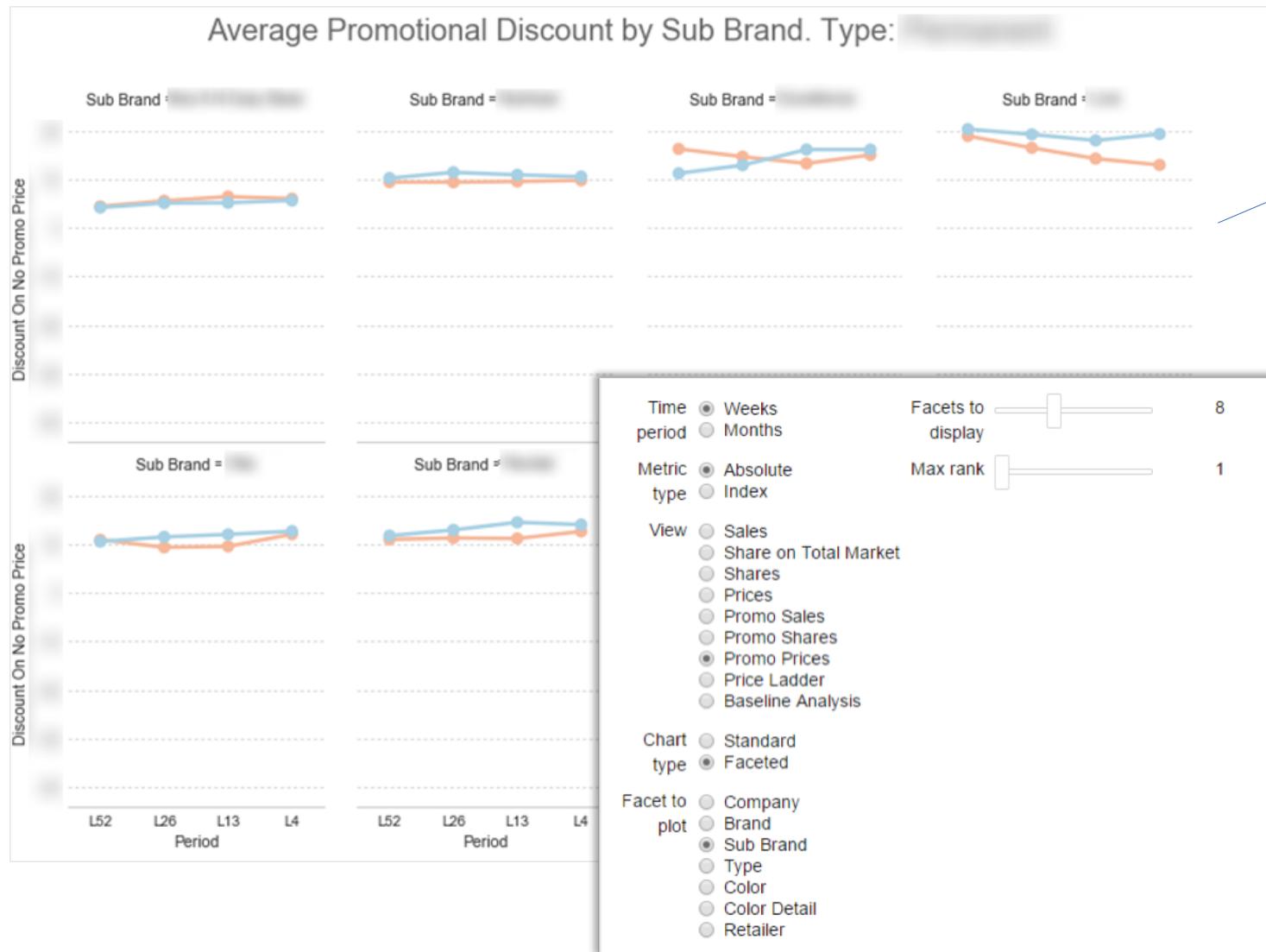


Average Promo Price by Sub Brand. Type:



Average No Promo Price by Sub Brand Type:





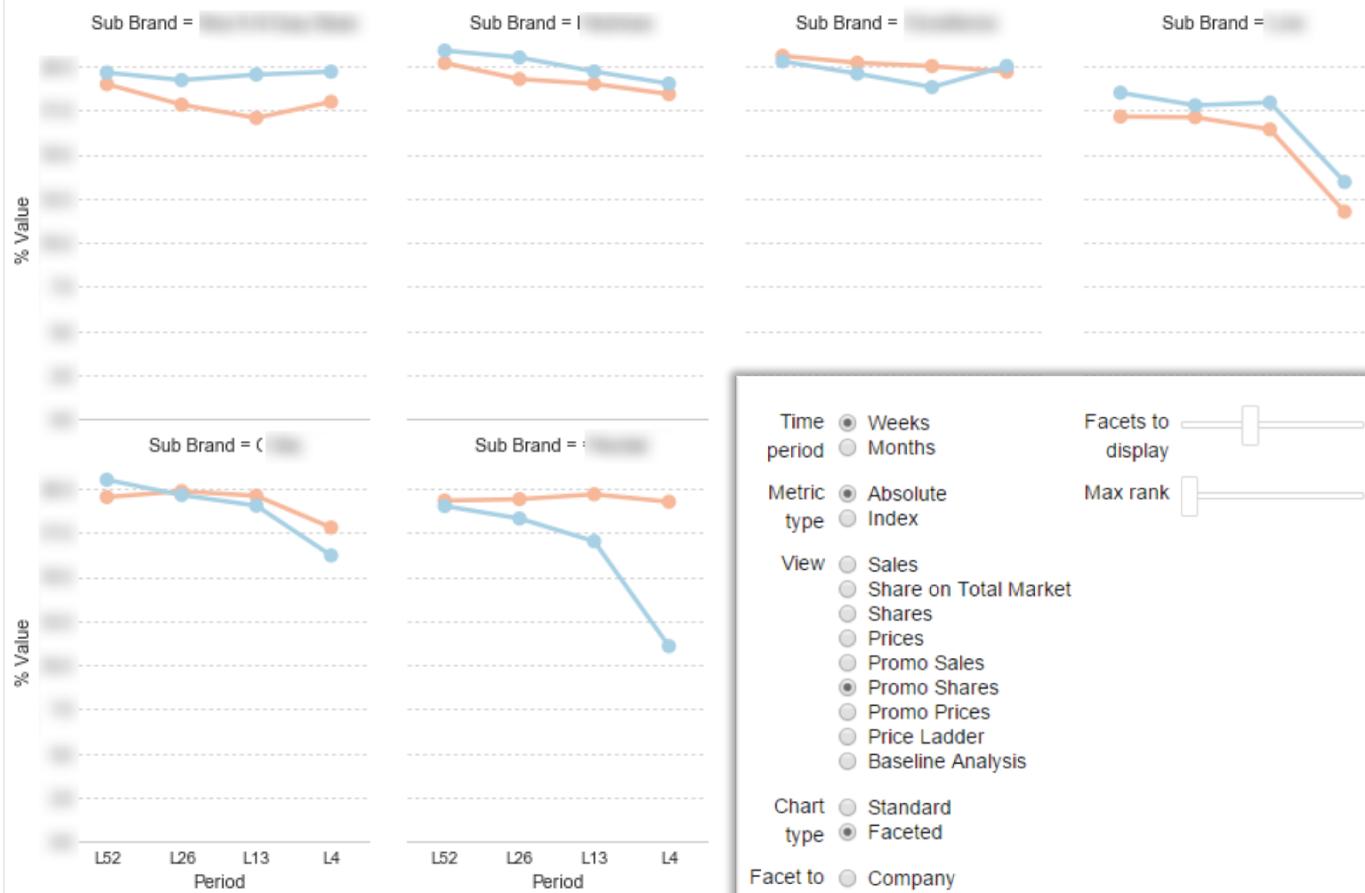
Promo discount:
(Non Promo
Price - Promo
Price) / No Promo
Price *100

Total Promo in Units by Sub Brand Type:

Available also in
Local Currency
and in Dollars



% Value Sales in Promo by Sub Brand. Type:



Available also in
% of unit sales

Time period: Weeks

Metric type: Absolute

View: Sales

Chart type: Standard

Facet to plot: Company

Facets to display: [Slider]

Max rank: [Slider]

Company: None

Type: [REDACTED]

Brand: None

Sub Brand: None

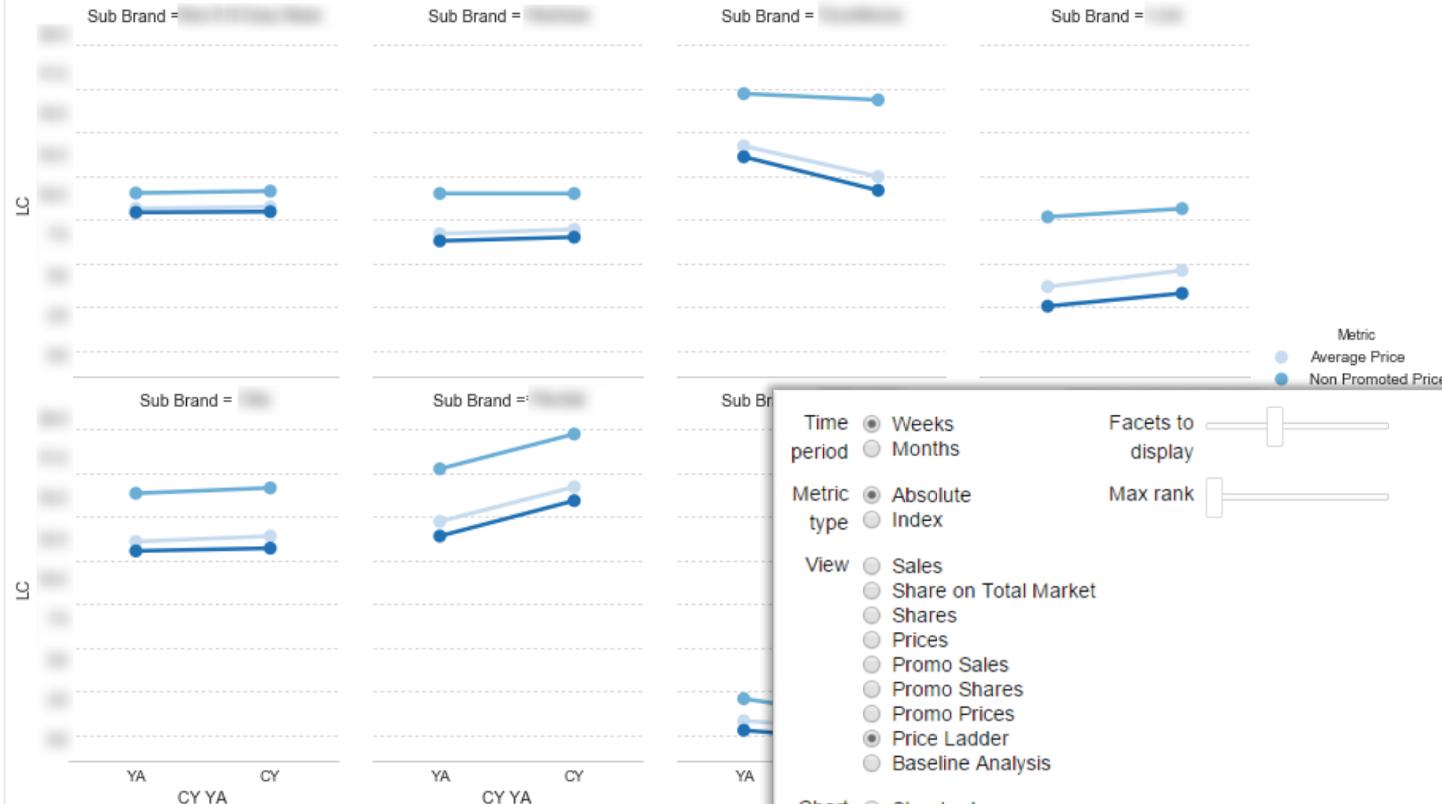
Color: None

Color Detail: None

Retailer: None

8 1

L52W Price Change by Sub Brand. Type:



Available also for
the other monthly
and weekly
periods (L4W,
L1M, L13W,
L3M...)

Time Weeks Months

Facets to display

Metric Absolute type Index

Max rank

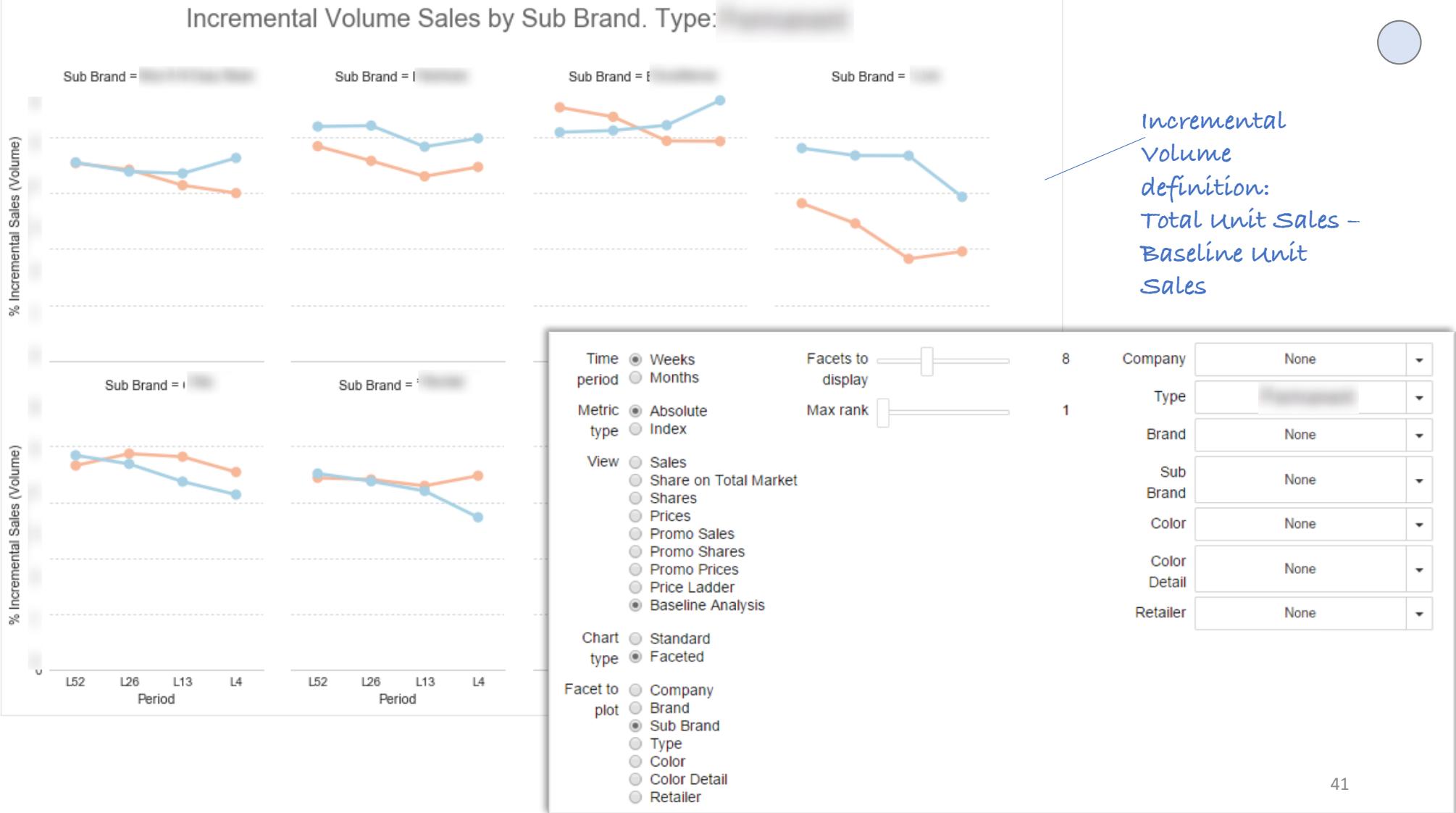
View Sales Share on Total Market Shares Prices Promo Sales Promo Shares Promo Prices Price Ladder Baseline Analysis

Chart Standard type Faceted

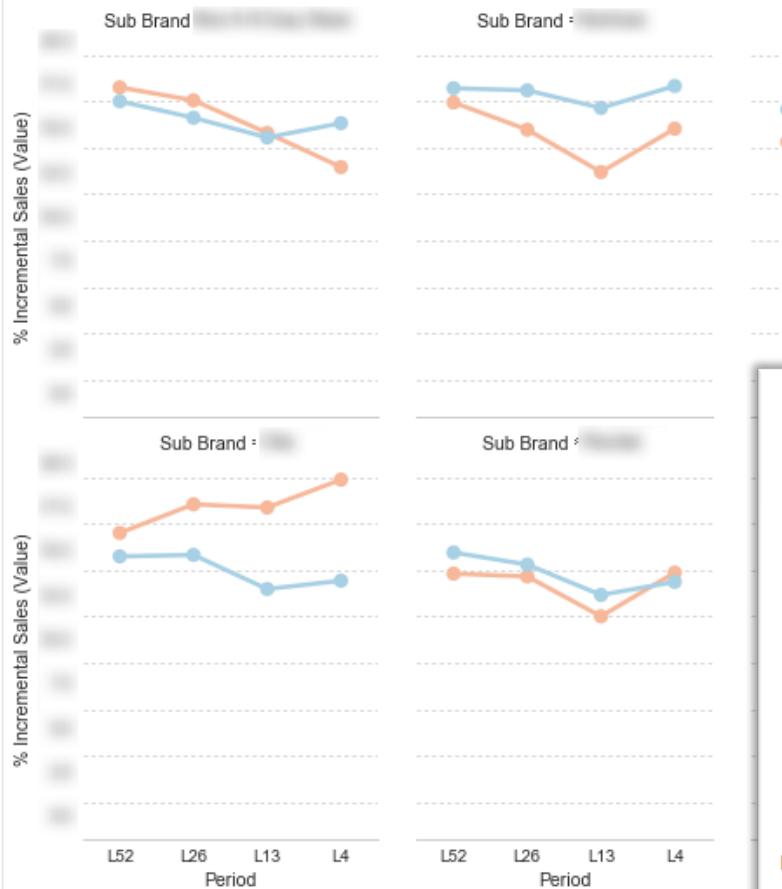
Facet to plot Company Brand Sub Brand Type Color Color Detail Retailer

Company	None
Type	[REDACTED]
Brand	None
Sub Brand	None
Color	None
Color Detail	None
Retailer	None

Incremental Volume Sales by Sub Brand. Type:



Incremental Value Sales by Sub Brand. Type:



Time period: Weeks Months

Metric type: Absolute Index

View: Sales Share on Total Market Shares Prices Promo Sales Promo Shares Promo Prices Price Ladder Baseline Analysis

Chart type: Standard Faceted

Facet to plot: Company Brand Sub Brand Type Color Color Detail Retailer

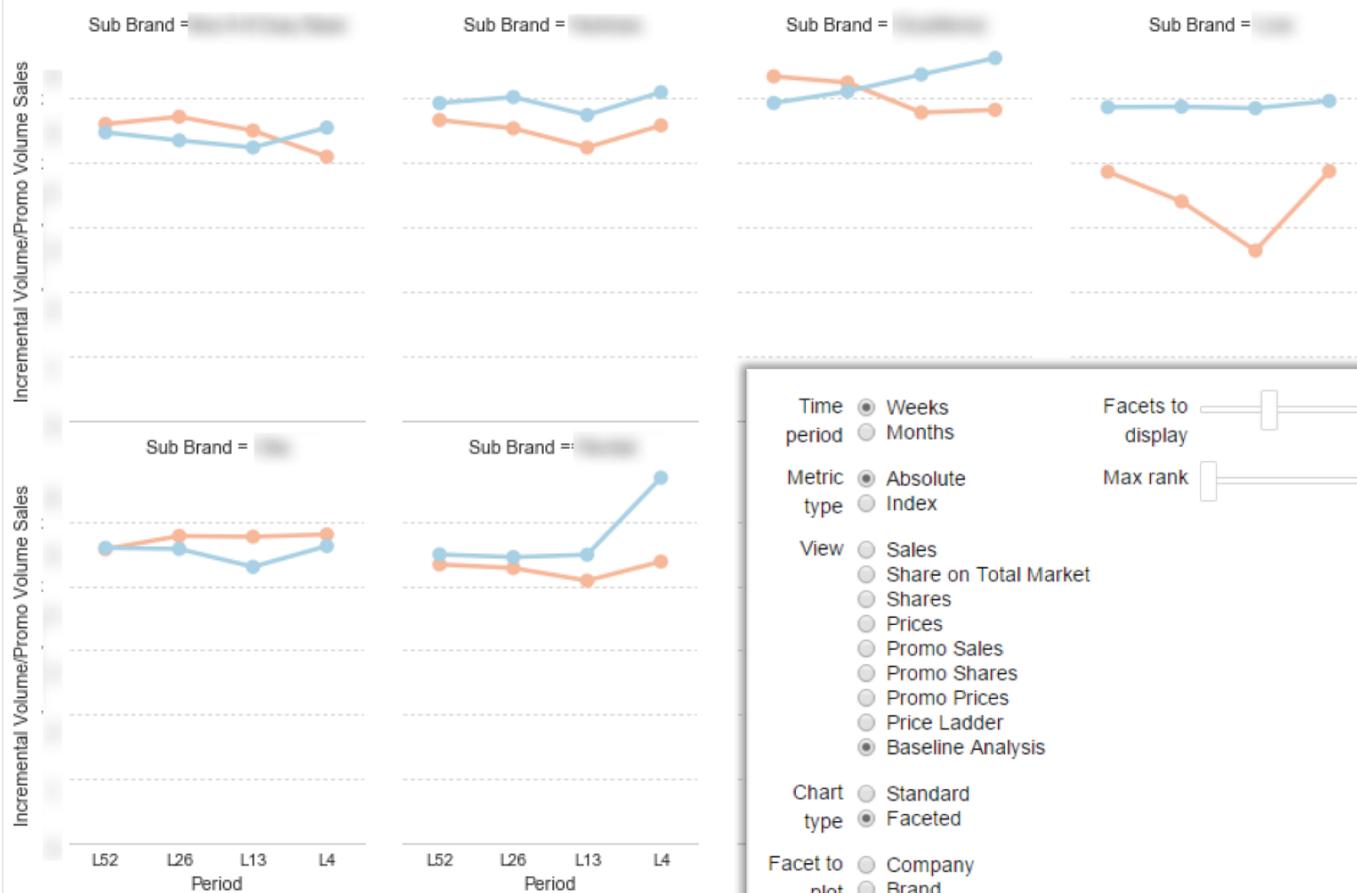
Facets to display: [Slider from 1 to 8]

Max rank: [Slider from 1 to 8]

Incremental value definition:
Total value Sales
- Baseline value Sales

Company	None
Type	[REDACTED]
Brand	None
Sub Brand	None
Color	None
Color Detail	None
Retailer	None

Trade Deal Efficiency by Sub Brand. Type:



Trade Deal Efficiency definition: Incremental Volume Sales / Promo Volume Sales

Time period: Weeks (radio button selected), Months (checkbox)

Metric type: Absolute (radio button selected), Index (checkbox)

View: Sales (radio button selected), Share on Total Market, Shares, Prices, Promo Sales, Promo Shares, Promo Prices, Price Ladder, Baseline Analysis

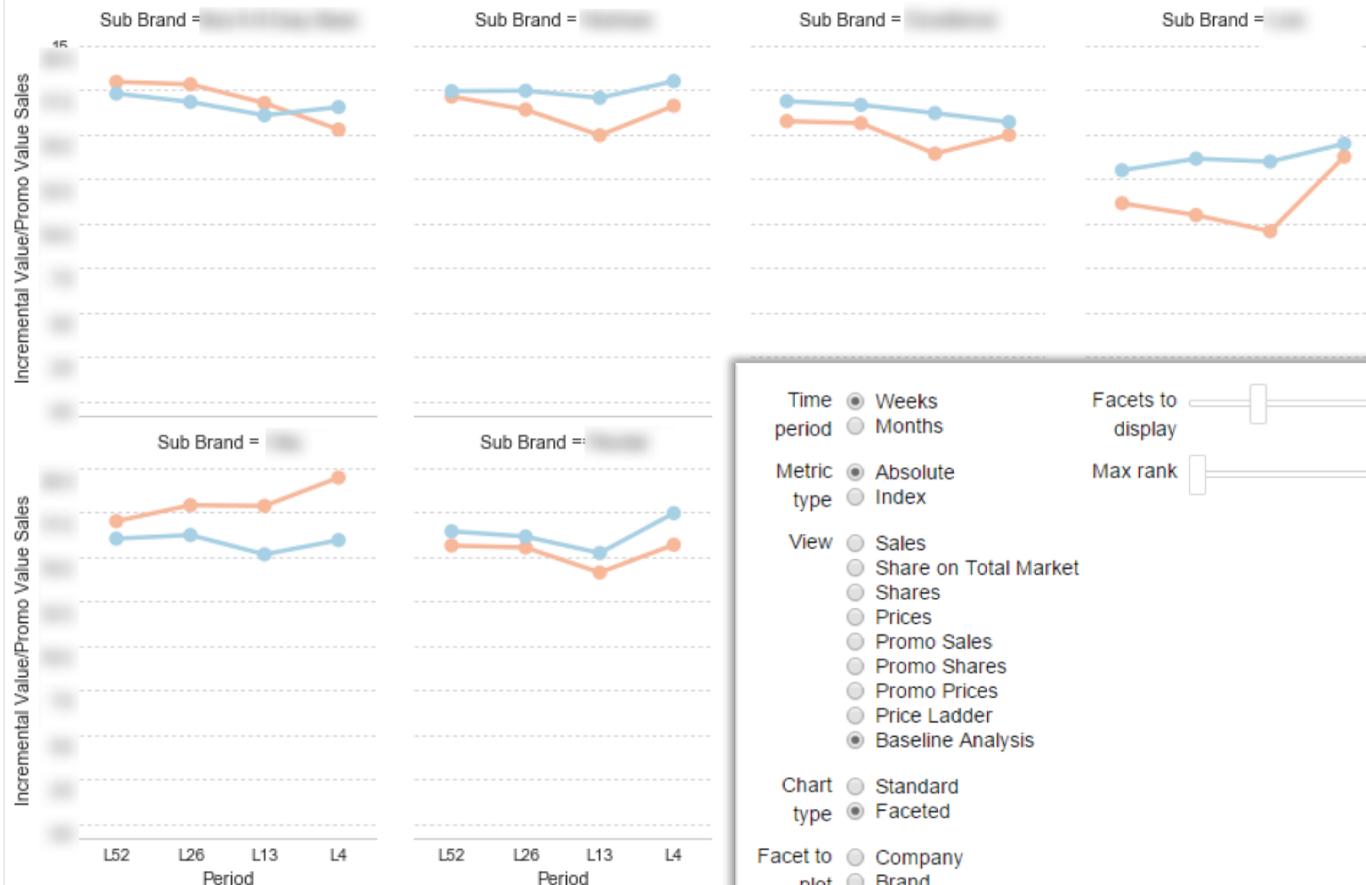
Chart type: Standard (radio button), Faceted (radio button selected)

Facet to plot: Company, Brand, Sub Brand (radio button selected), Type, Color, Color Detail, Retailer

Facets to display: 8 (slider), Max rank: 1 (slider)

Company	None
Type	[REDACTED]
Brand	None
Sub Brand	None
Color	None
Color Detail	None
Retailer	None

Trade Deal Value Effectiveness by Sub Brand. Type



*Trade Deal
Effectiveness
definition:
Incremental value
Sales / Promo value
Sales*

Time period: Weeks

Metric type: Absolute

View: Sales

Chart type: Standard

Facet to plot: Company

Facets to display: 8

Max rank: 1

Company: None

Type: [REDACTED]

Brand: None

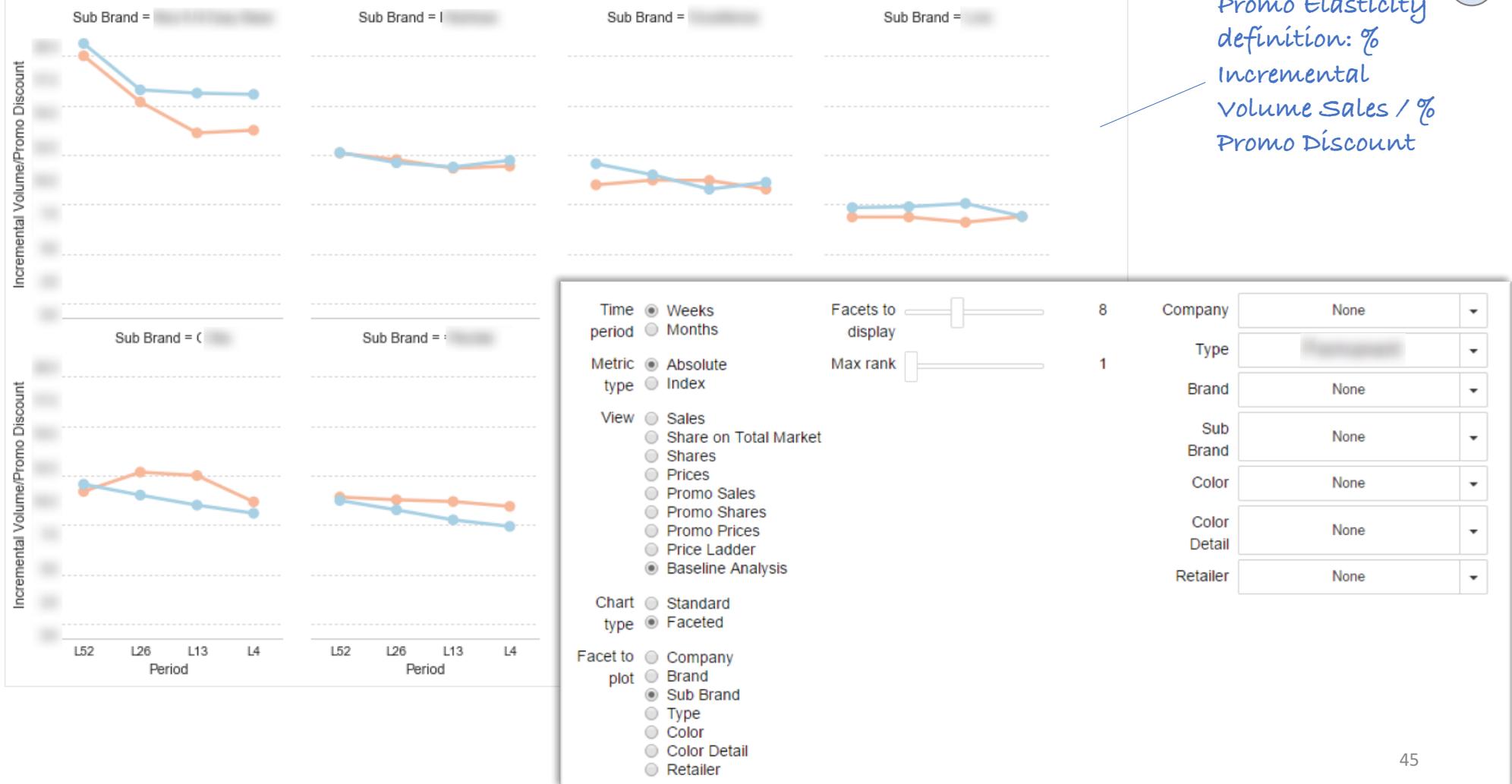
Sub Brand: None

Color: None

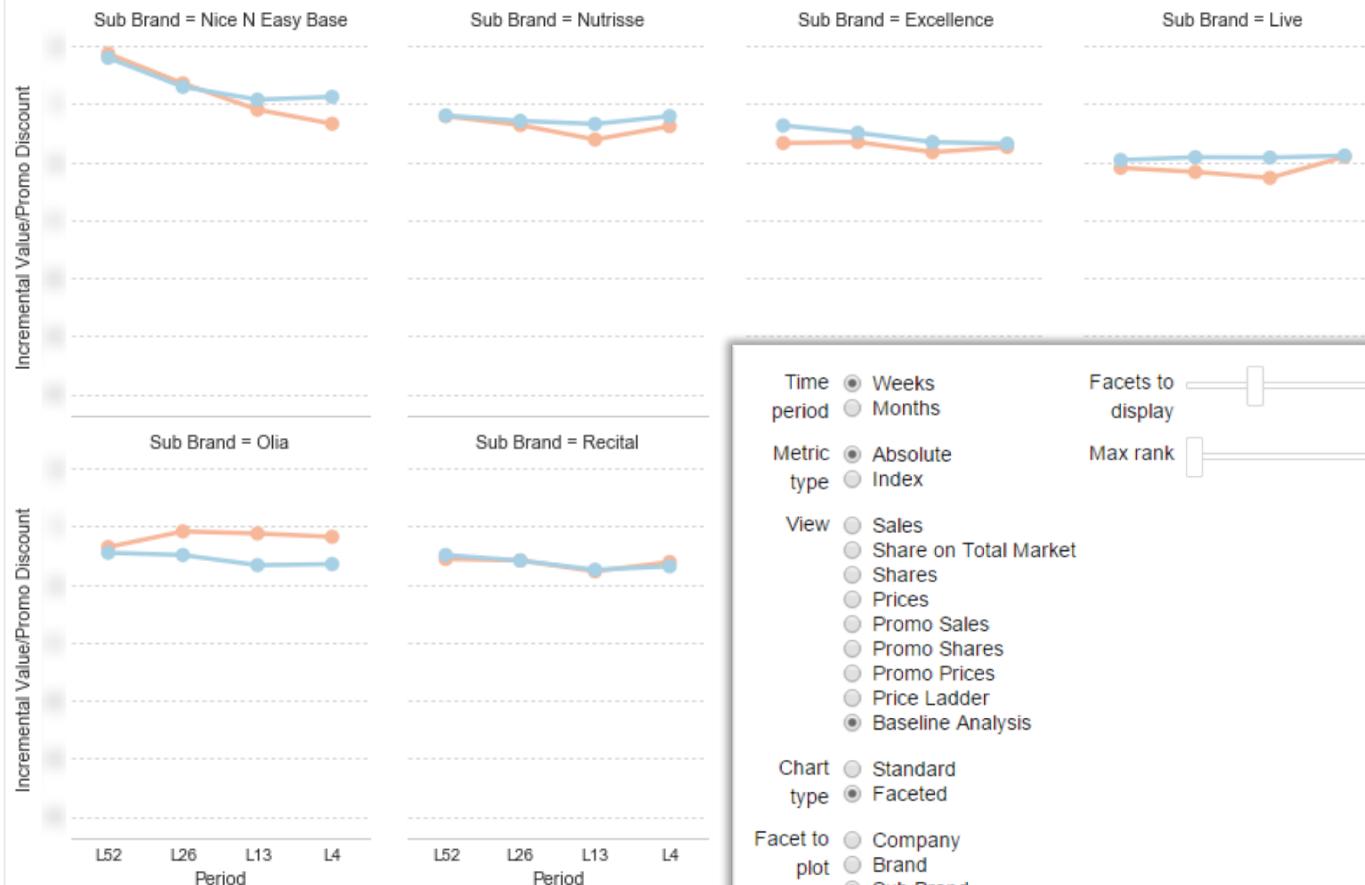
Color Detail: None

Retailer: None

Promotional Elasticity by Sub Brand. Type



Promotional Value Elasticity by Sub Brand. Type:



Time period: Weeks

Metric type: Absolute

View: Sales

Chart type: Standard

Facet to plot: Company

Facets to display: 8

Max rank: 1

Incremental Value/Promo Discount

Facet to plot: Sub Brand

Facets to display: 1

Max rank: 8

Incremental Value/Promo Discount

Facet to plot: Type

Facets to display: 1

Max rank: 8

Incremental Value/Promo Discount

Facet to plot: Color

Facets to display: 1

Max rank: 8

Incremental Value/Promo Discount

Facet to plot: Color Detail

Facets to display: 1

Max rank: 8

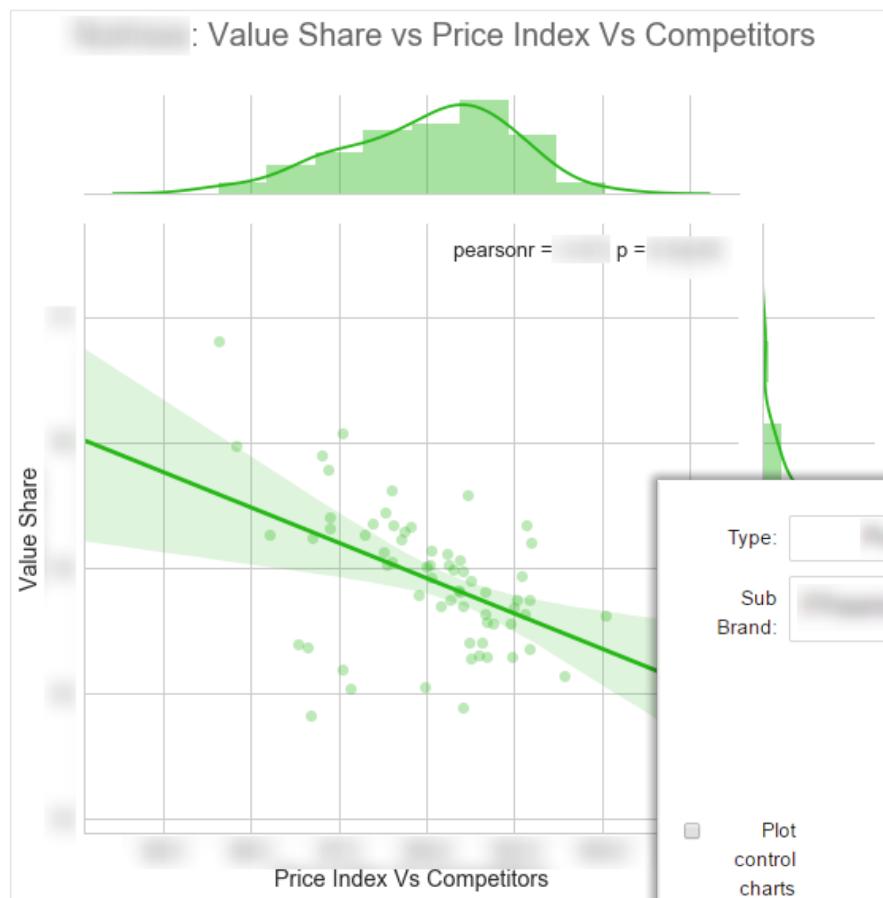
Incremental Value/Promo Discount

Facet to plot: Retailer

Facets to display: 1

Max rank: 8

Promo value elasticity
definition: %
Incremental value
Sales / % Promo
Discount



The Market Correlation option correlates chosen Sub Brand metrics to rest of market metrics (here average competitor price) or to other Sub Brand metrics

Type: [redacted] ▾

Show: Market Correlation
 Paired Correlation
 Market Correlation Matrix
 Paired Correlation Matrix
 Paired Distribution
 Paired Time Series
 Stacked Prices

X metric: Price Index Vs Competitors ▾

Sub Brand: [redacted] ▾

Y metric: Value Share ▾

Plot type: Standard
 Faceted

Y metric (select one or more values): None

Plot control charts

Plot group details

Show confidence intervals

Share axes

Exclude outliers

Resample timeseries

Standard deviations: 3

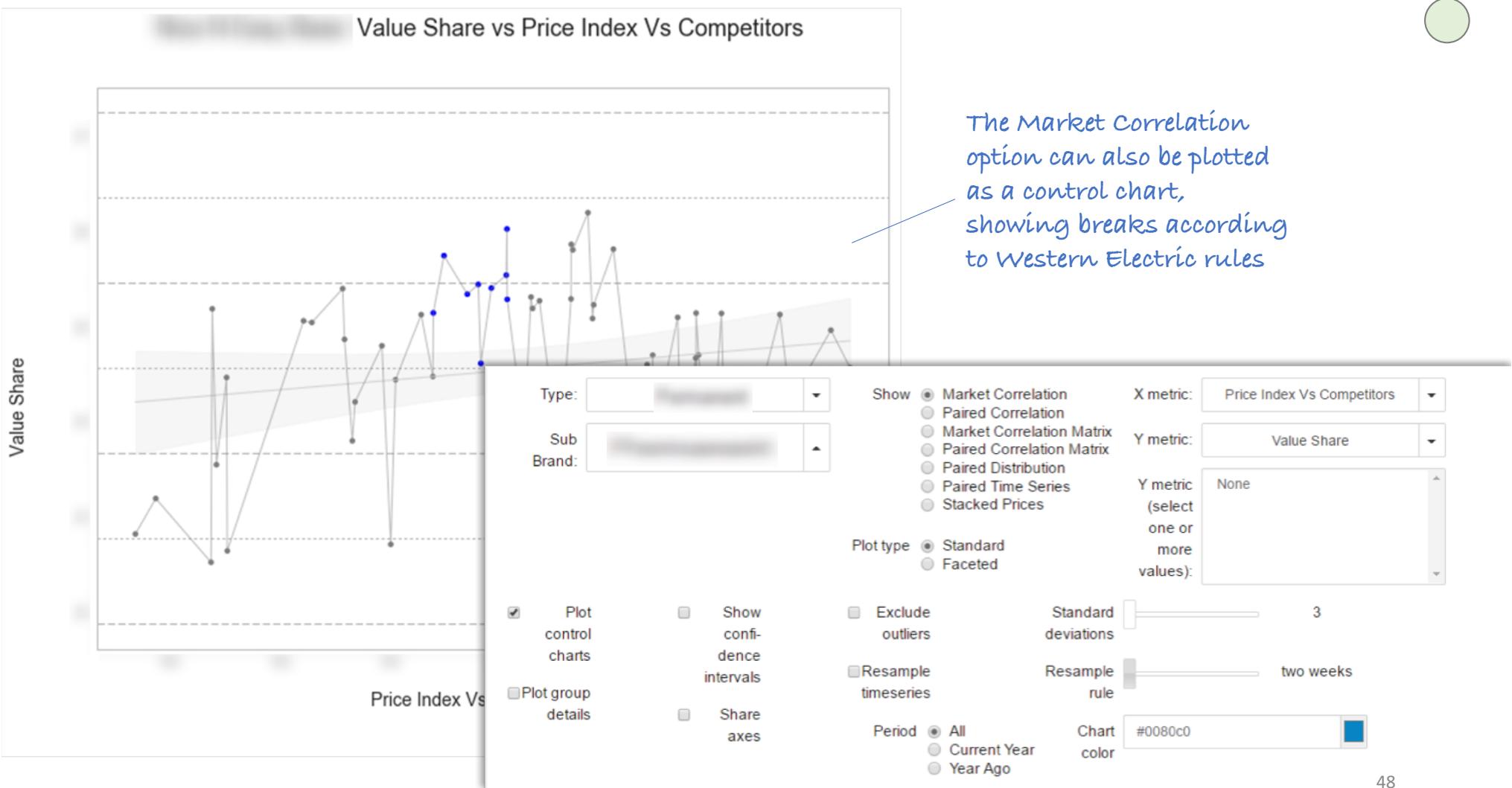
Resample rule: two weeks

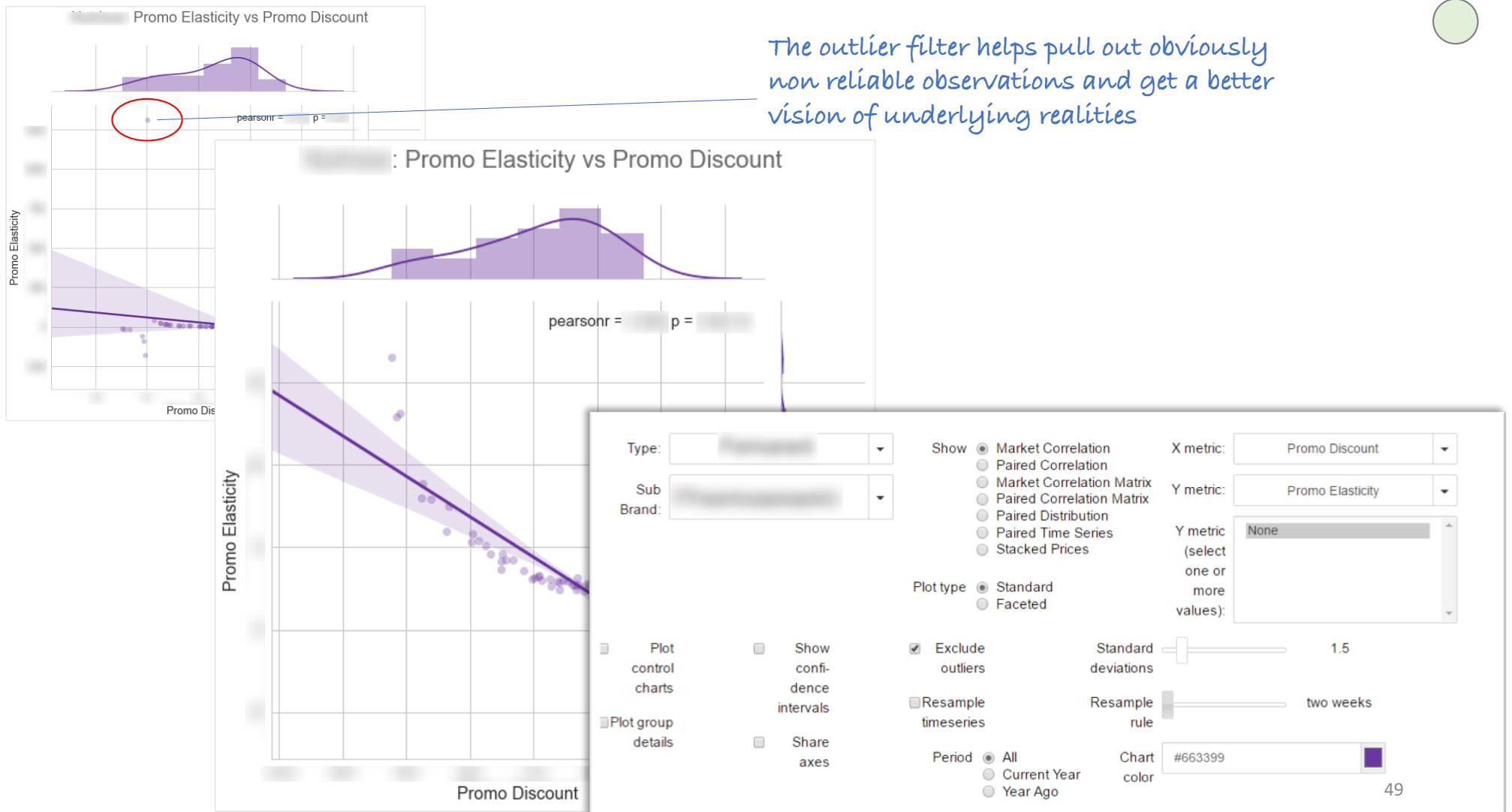
Period: All
 Current Year
 Year Ago

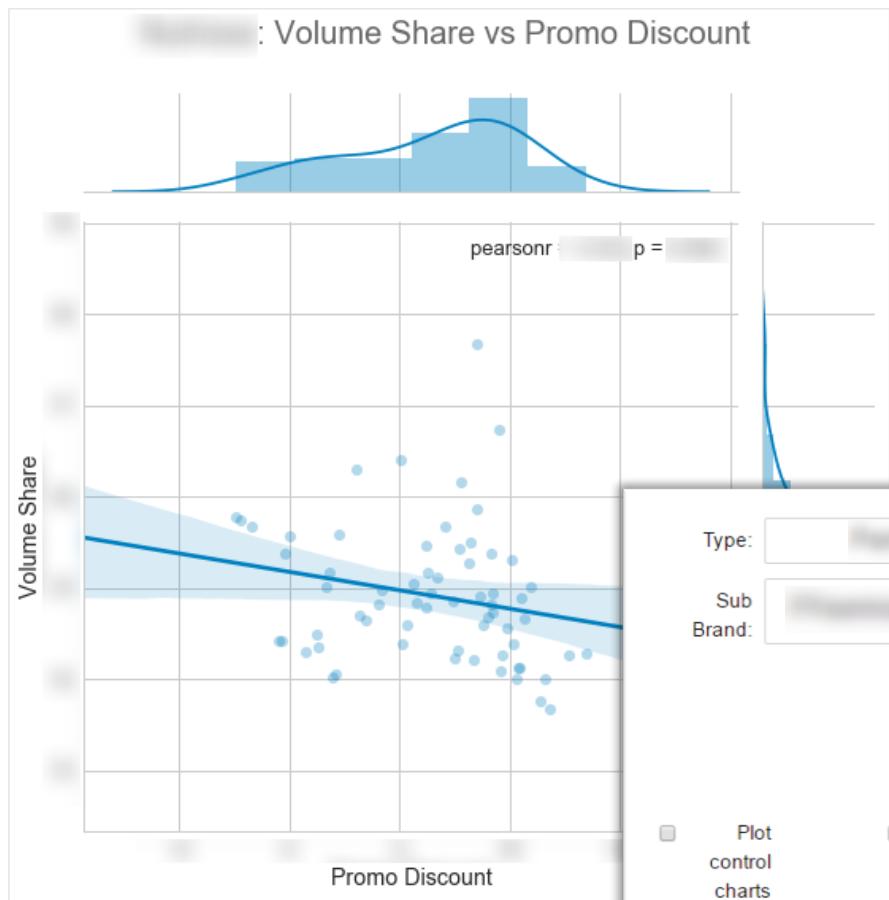
Chart color: #25b715

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Value Share vs Price Index Vs Competitors







Type: Sub Brand:

Show Market Correlation Paired Correlation Market Correlation Matrix Paired Correlation Matrix Paired Distribution Paired Time Series Stacked Prices

X metric: Y metric: Y metric (select one or more values):

Plot type: Standard Faceted

Plot control charts Show confidence intervals Exclude outliers Standard deviations 3

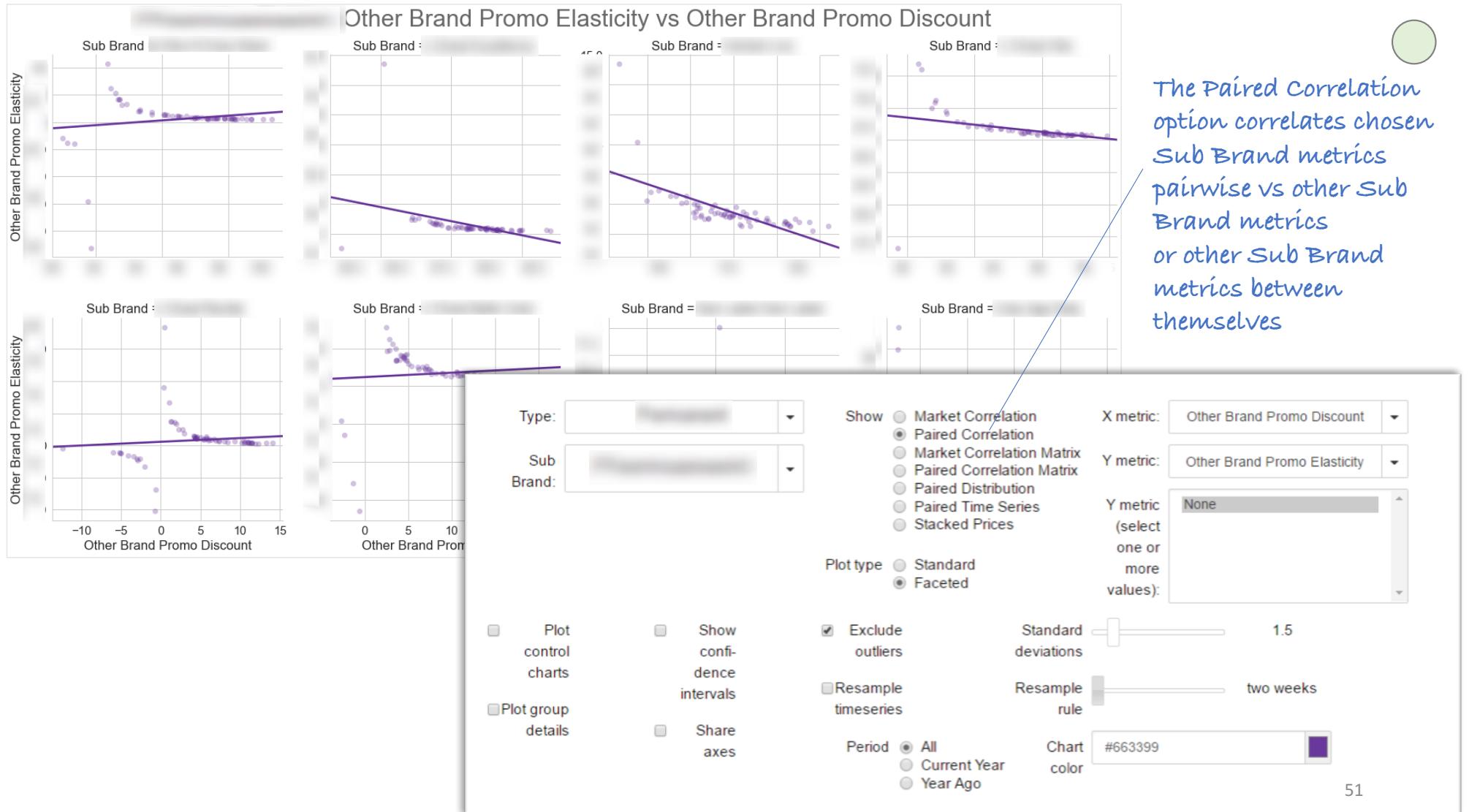
Plot group details Share axes Resample timeseries Resample rule two weeks

Period: All Current Year Year Ago

Chart color:

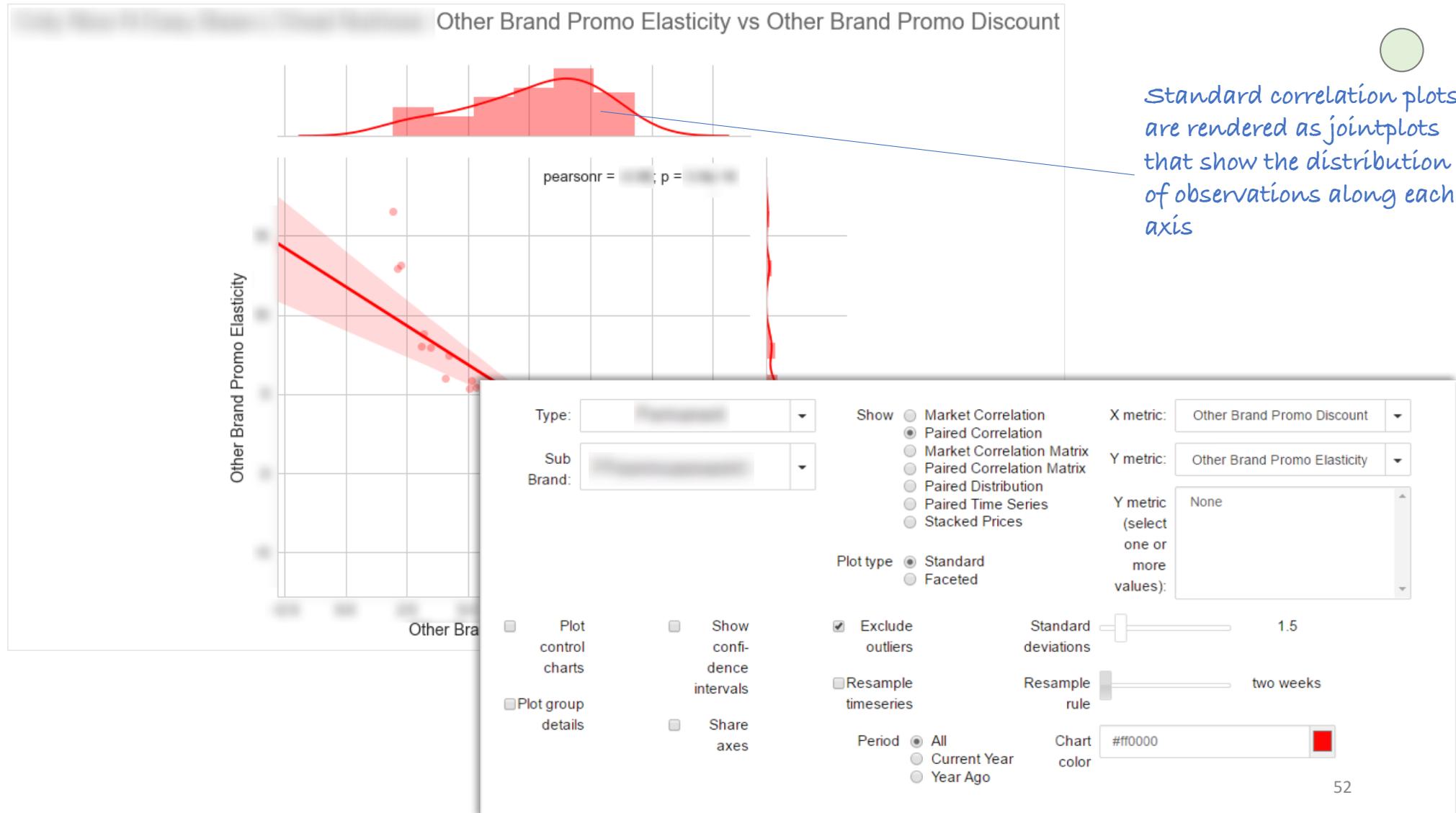
50

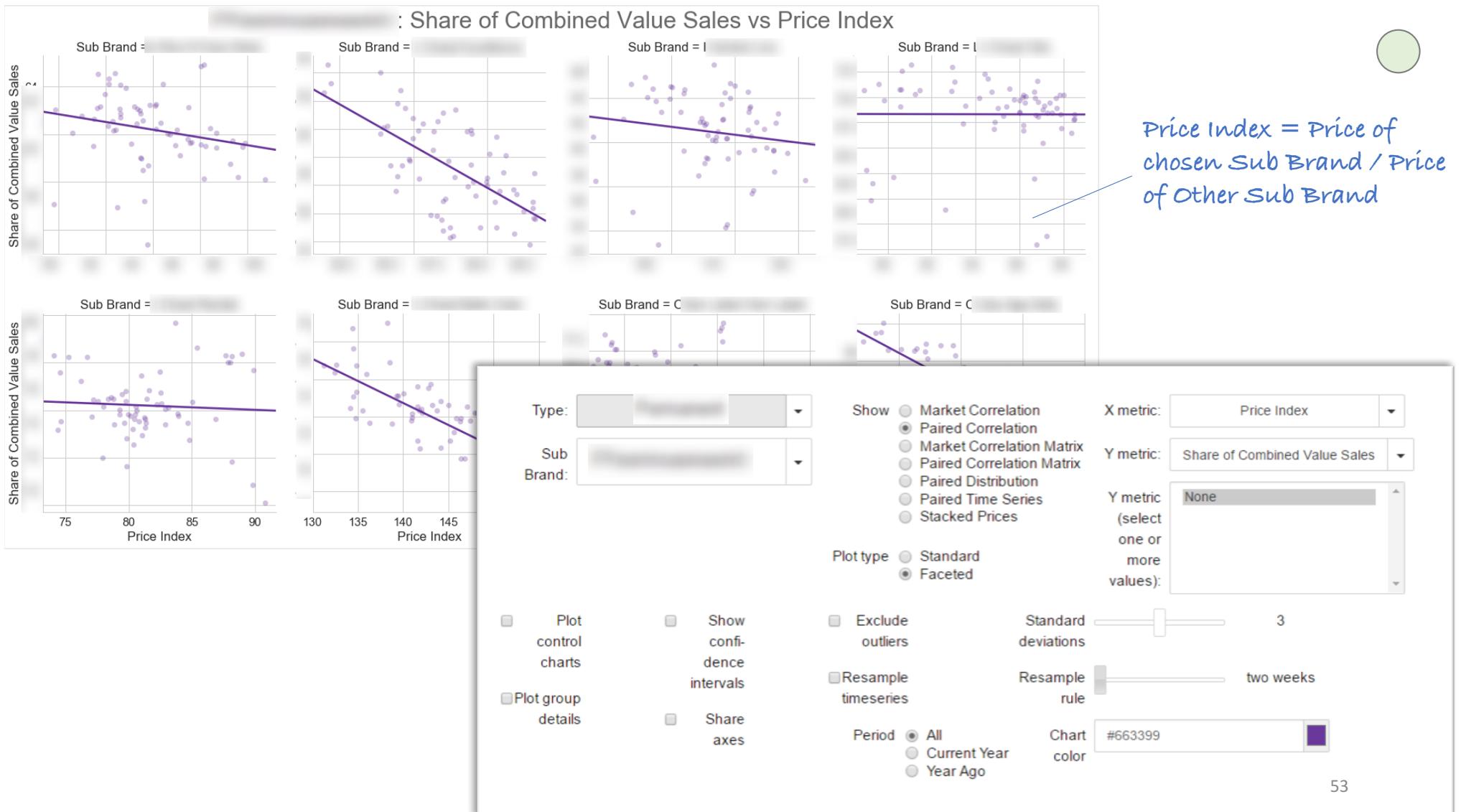
The Market Correlation option also offers the choice of many other pre-calculated metrics

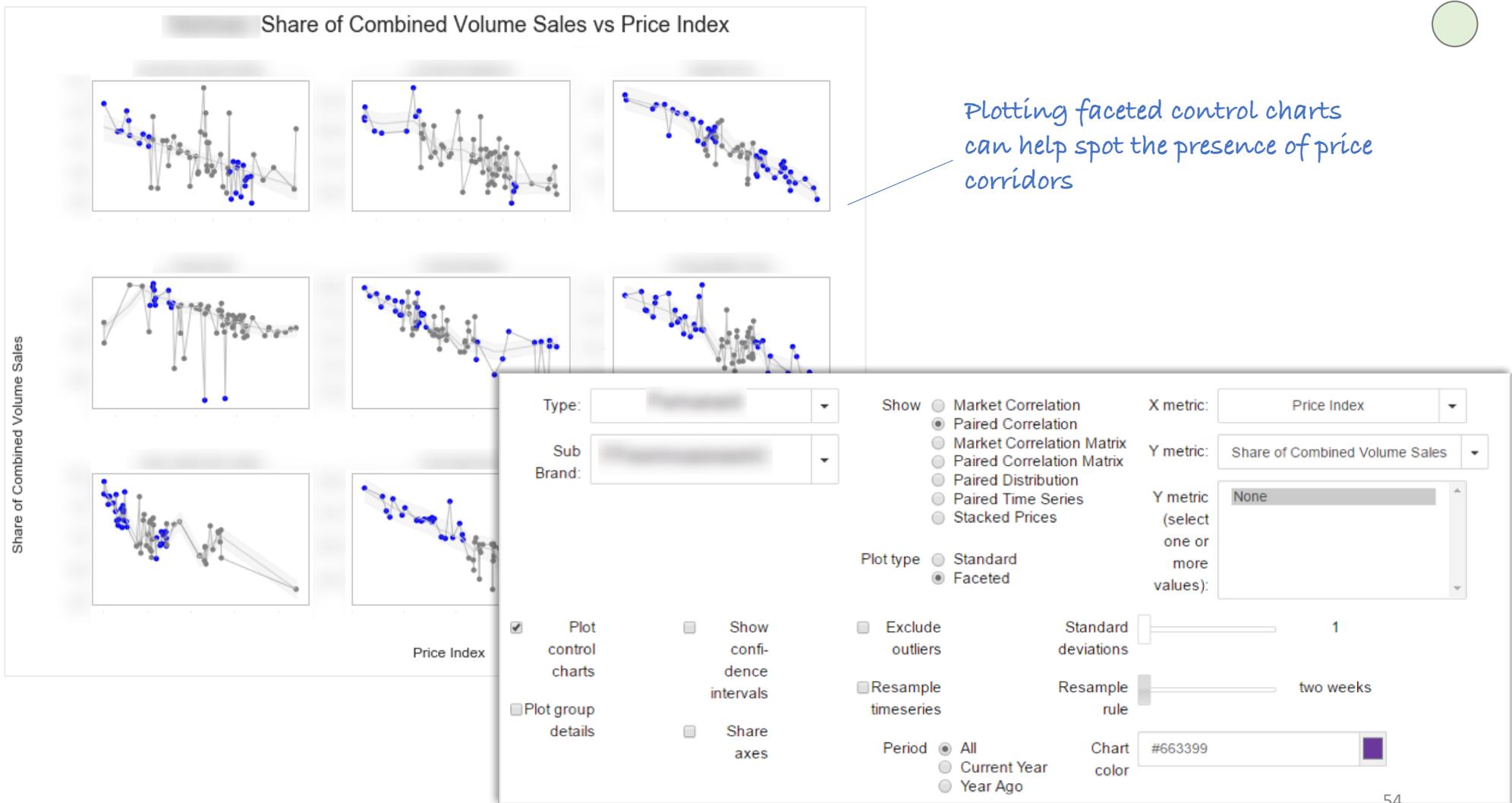


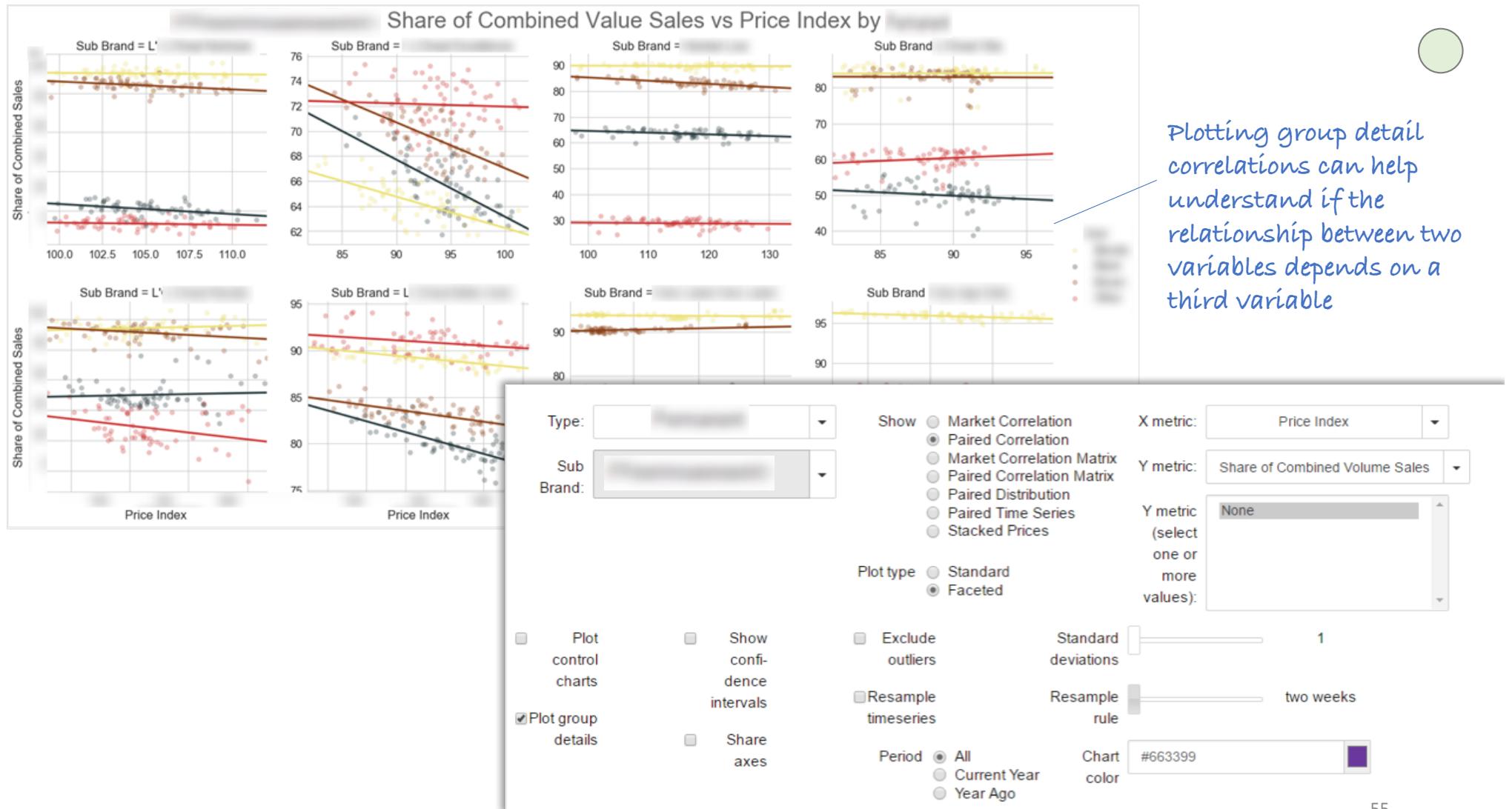


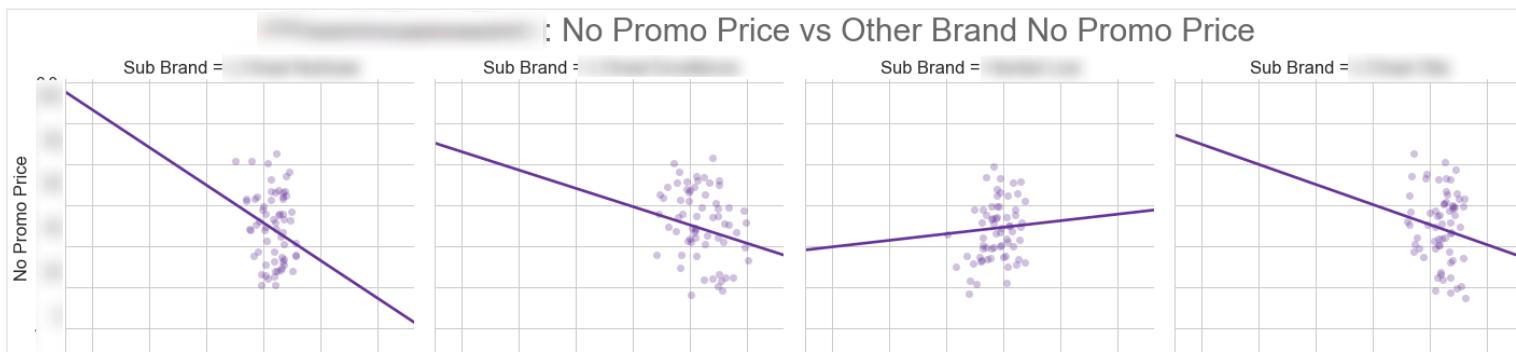
Standard correlation plots are rendered as jointplots that show the distribution of observations along each axis



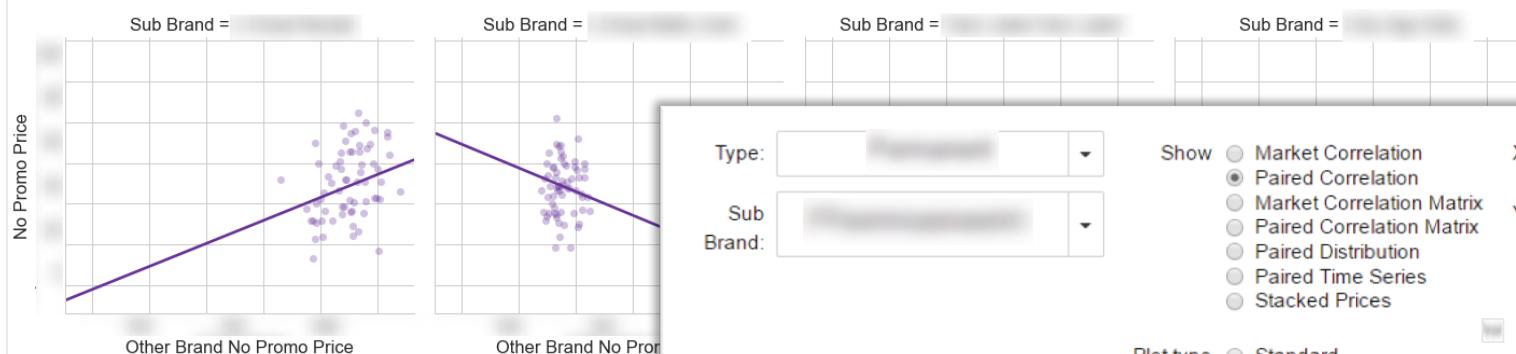




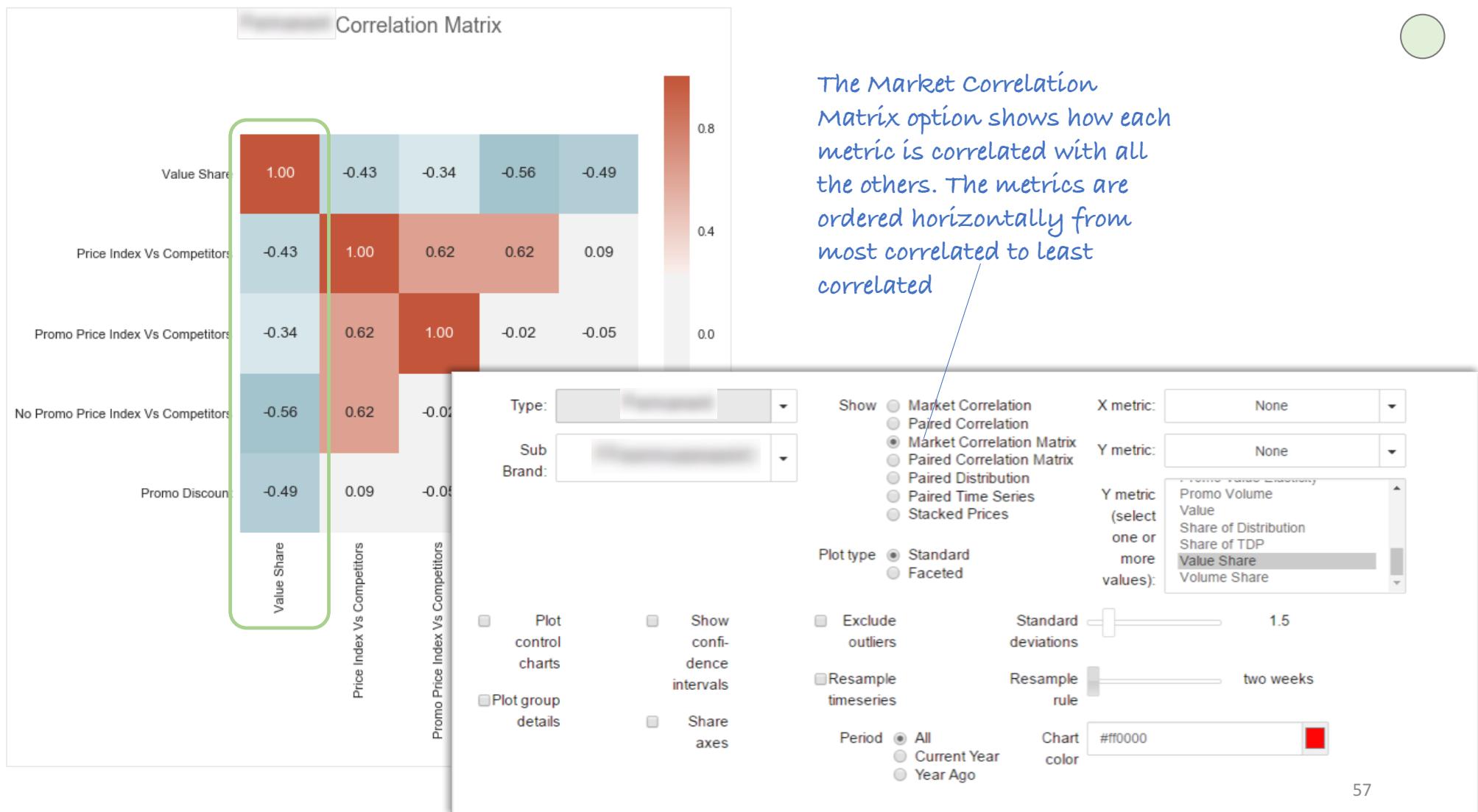


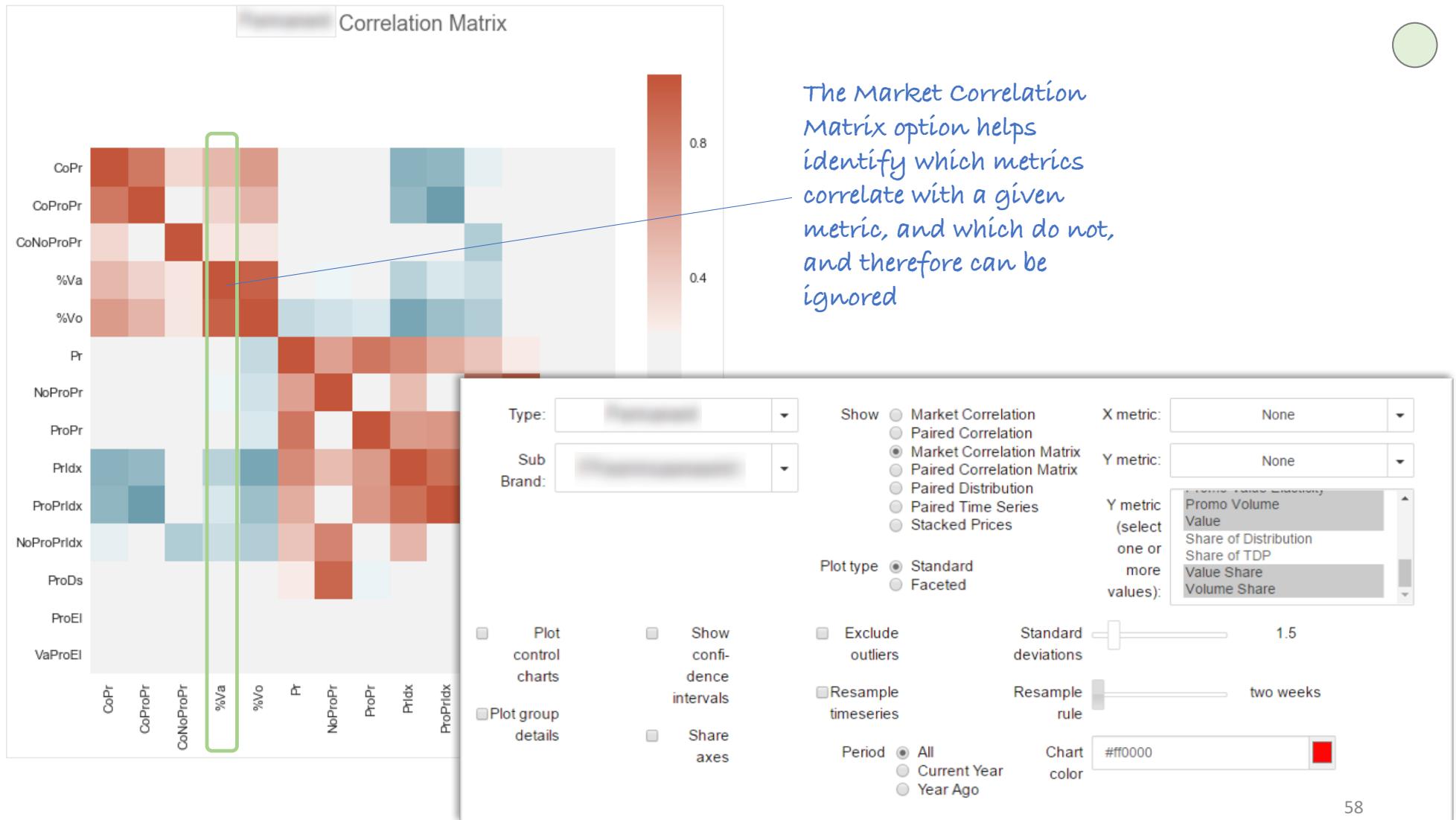


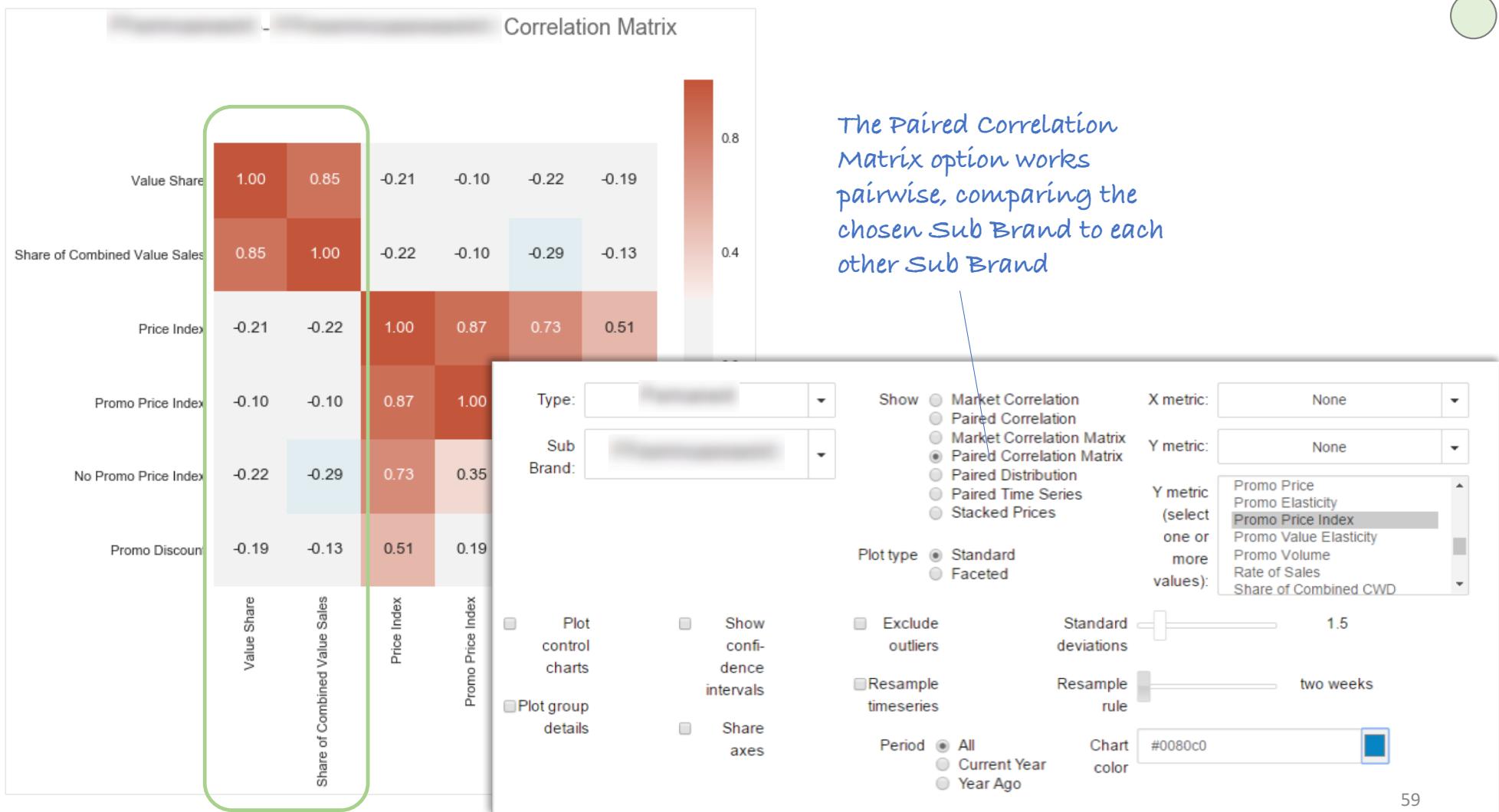
The Paired Correlation option also offers the choice of many other pre-calculated metrics

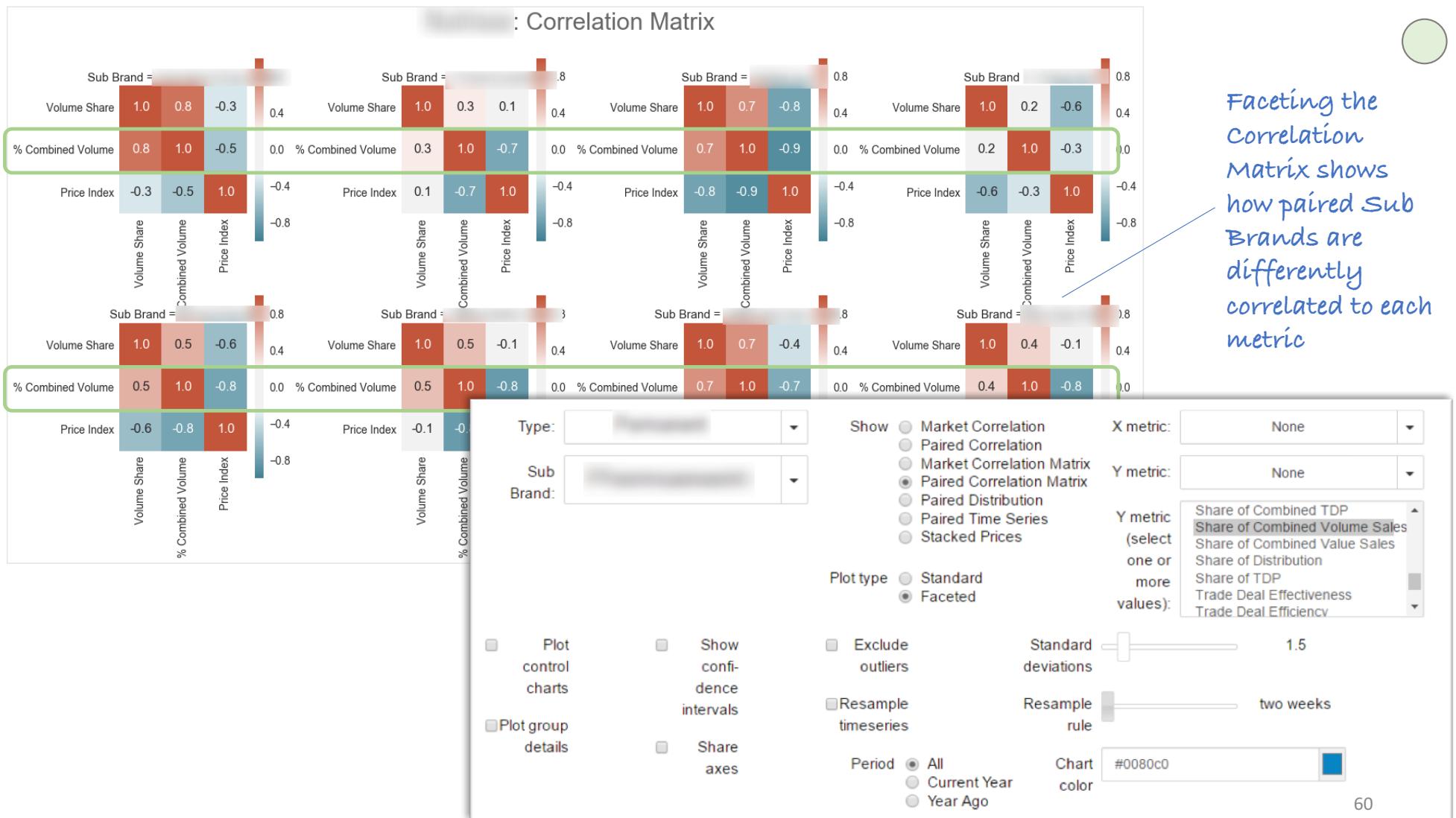


Type: <input type="text"/>	Show: <input checked="" type="radio"/> Market Correlation <input checked="" type="radio"/> Paired Correlation <input type="radio"/> Market Correlation Matrix <input type="radio"/> Paired Correlation Matrix <input type="radio"/> Paired Distribution <input type="radio"/> Paired Time Series <input type="radio"/> Stacked Prices	X metric: Other Brand No Promo Price
Sub Brand: <input type="text"/>	Plot type: <input checked="" type="radio"/> Standard <input checked="" type="radio"/> Faceted	Y metric: No Promo Price
		Y metric (select one or more values): <input type="text" value="None"/>
<p>Plot control charts</p> <p><input type="checkbox"/> Show confidence intervals <input type="checkbox"/> Exclude outliers <input type="checkbox"/> Standard deviations <input type="range" value="1"/></p> <p><input type="checkbox"/> Resample timeseries <input type="checkbox"/> Resample rule <input type="range" value="two weeks"/></p> <p>Plot group details</p> <p><input type="checkbox"/> Share axes Period: <input checked="" type="radio"/> All <input type="radio"/> Current Year <input type="radio"/> Year Ago Chart color: <input type="color" value="#663399"/></p>		

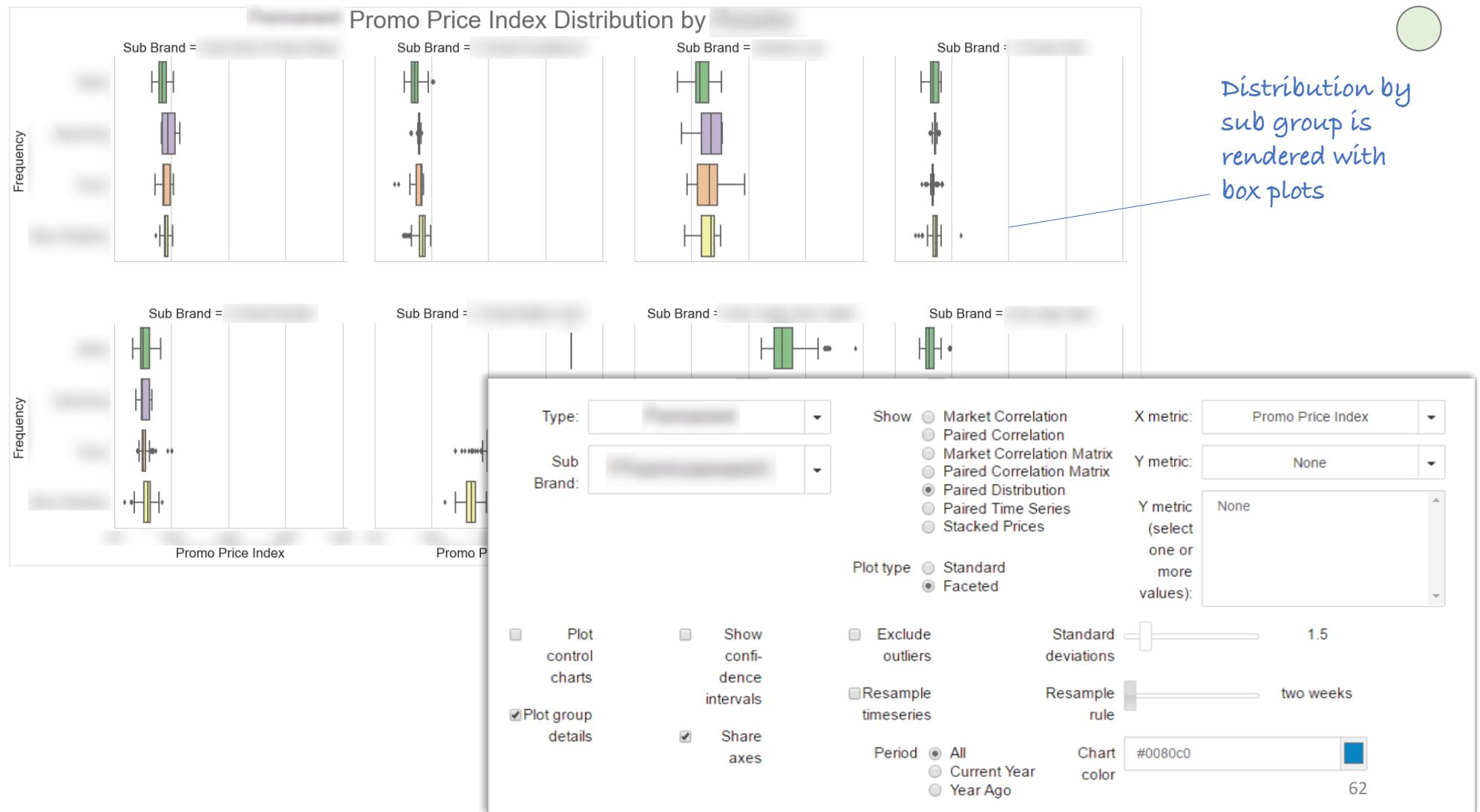












: % Promo Volume and Volume Share



The Paired Time Series option plots the chosen Sub Brand metrics pairwise vs paired Sub Brand metrics or vs other metrics of the chosen Sub Brand

Type: [dropdown]

Sub Brand: [dropdown]

Show:

- Market Correlation
- Paired Correlation
- Market Correlation Matrix
- Paired Correlation Matrix
- Paired Distribution
- Paired Time Series
- Stacked Prices

X metric: [dropdown] None

Y metric: [dropdown] None

Y metric (select one or more values):

- Other Brand Value
- Other Brand Volume
- Other Brand Trade Deal Effectiveness
- Other Brand Trade Deal Efficiency
- Price
- Price Index
- Promo Discount

Plot type:

- Standard
- Faceted

Plot control charts

Plot group details

Show confidence intervals

Share axes

Exclude outliers

Resample timeseries

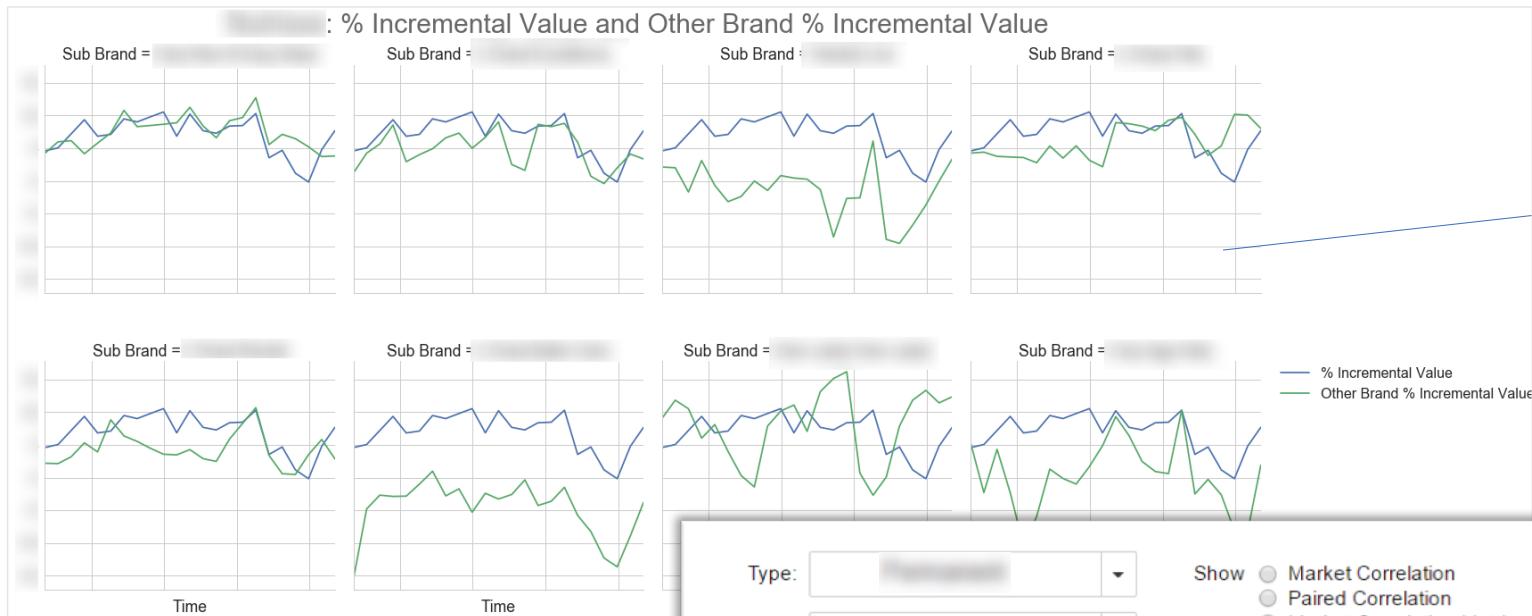
Standard deviations

Resample rule

Period:

- All
- Current Year
- Year Ago

Chart color: #0080c0



It can be handy to compare a chosen Sub Brand metric repeated across all subplots against that same metric for each paired Sub Brand

Type: [redacted] ▾
Sub Brand: [redacted] ▾

Show

- Market Correlation
- Paired Correlation
- Market Correlation Matrix
- Paired Correlation Matrix
- Paired Distribution
- Paired Time Series
- Stacked Prices

X metric: None ▾

Y metric: None ▾

Y metric (select one or more values):

- % Incremental Value
- % Incremental Volume
- % Promo Value
- % Promo Volume
- No Promo Price
- No Promo Price Index
- Other Brand % Incremental Value

Plot type

- Standard
- Faceted

Plot control charts

Plot group details

Show confidence intervals

Share axes

Exclude outliers

Resample timeseries

Standard deviations

Resample rule

Period

- All
- Current Year
- Year Ago

Chart color

1.5

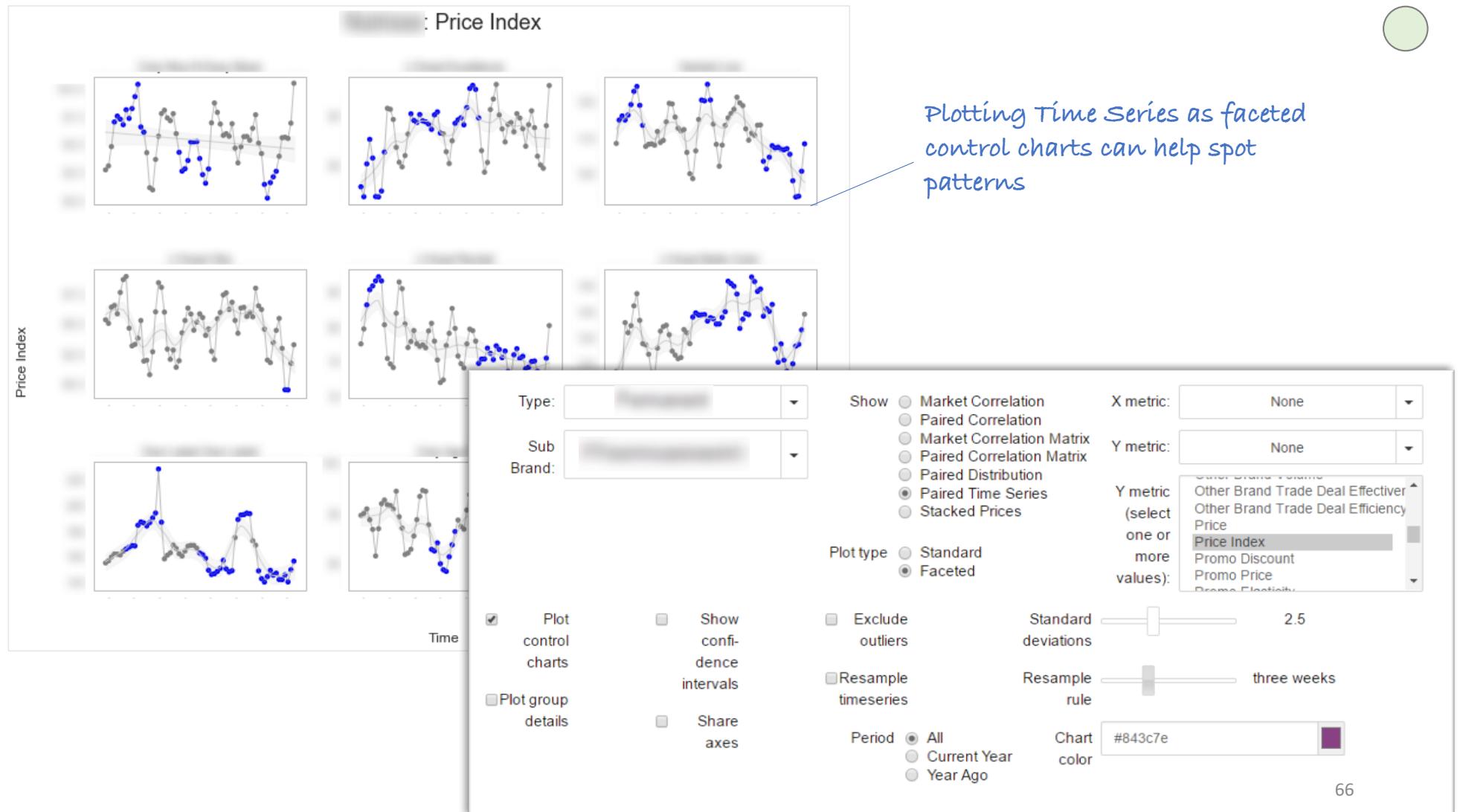
three weeks

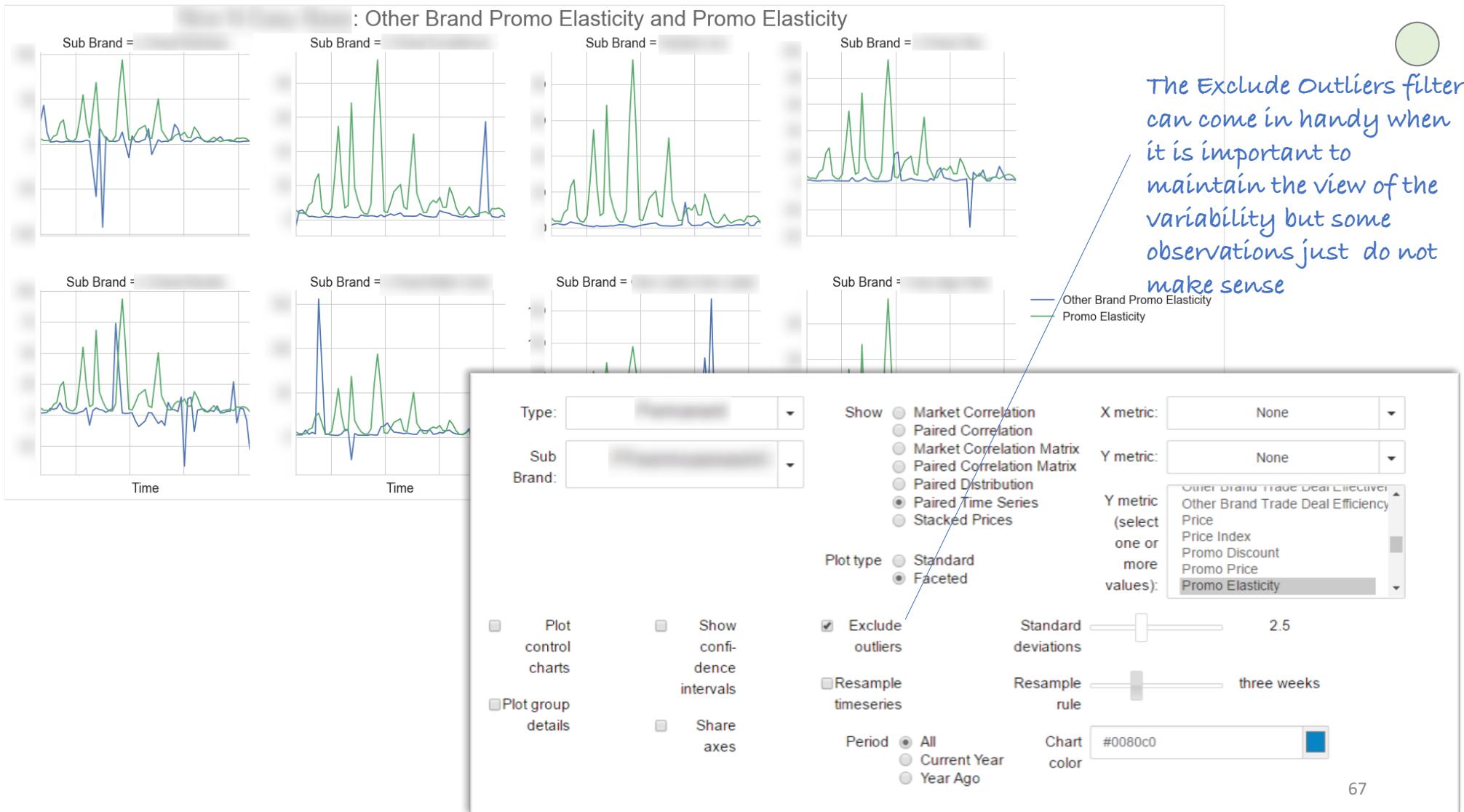
#0080c0

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It can also be useful to compare two paired Sub Brand metrics across all Sub Brands

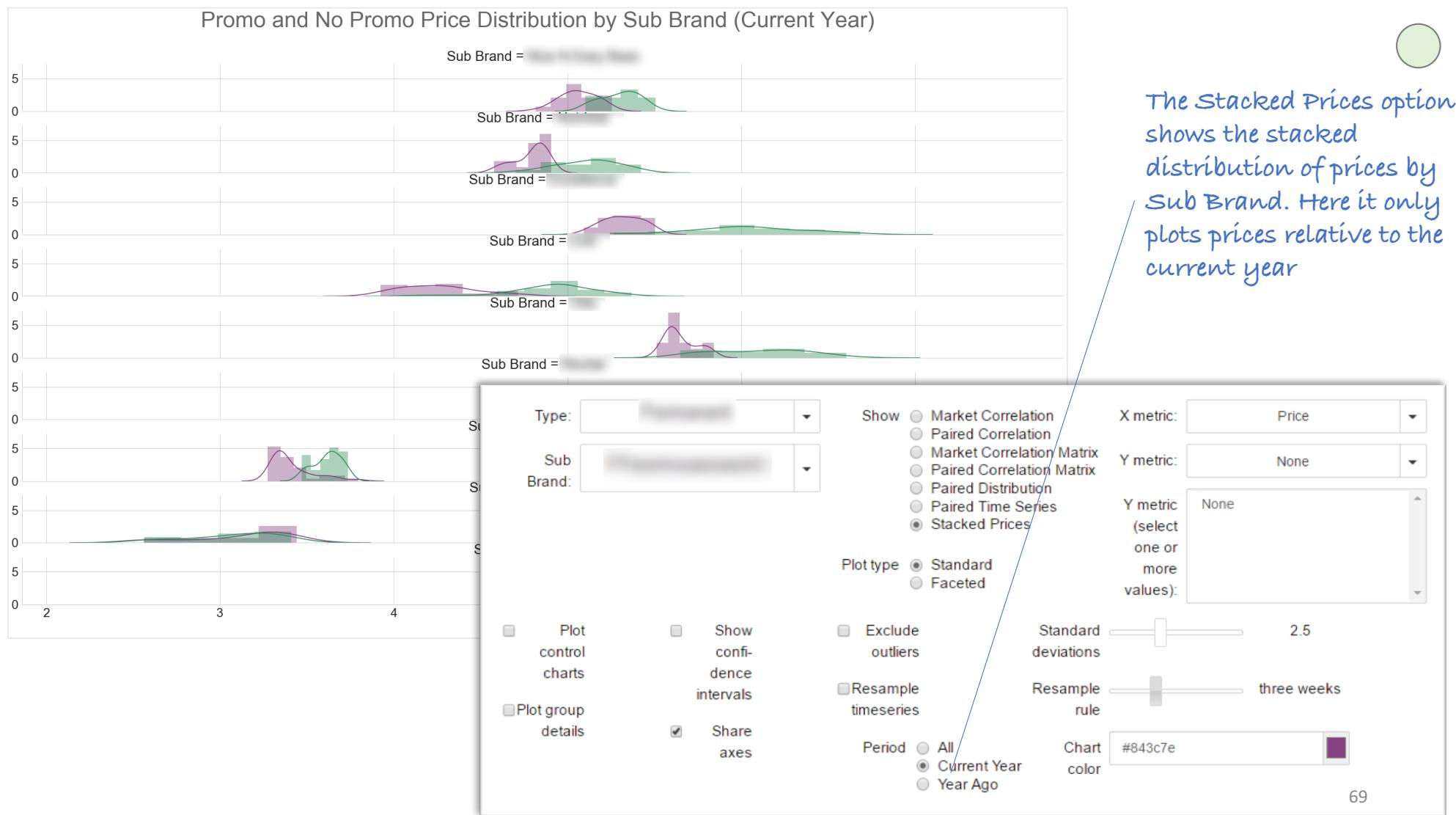






: Other Brand Promo Discount and Promo Discount





The Stacked Prices option shows the stacked distribution of prices by Sub Brand. Here it only plots prices relative to the current year

Installation

How to plot

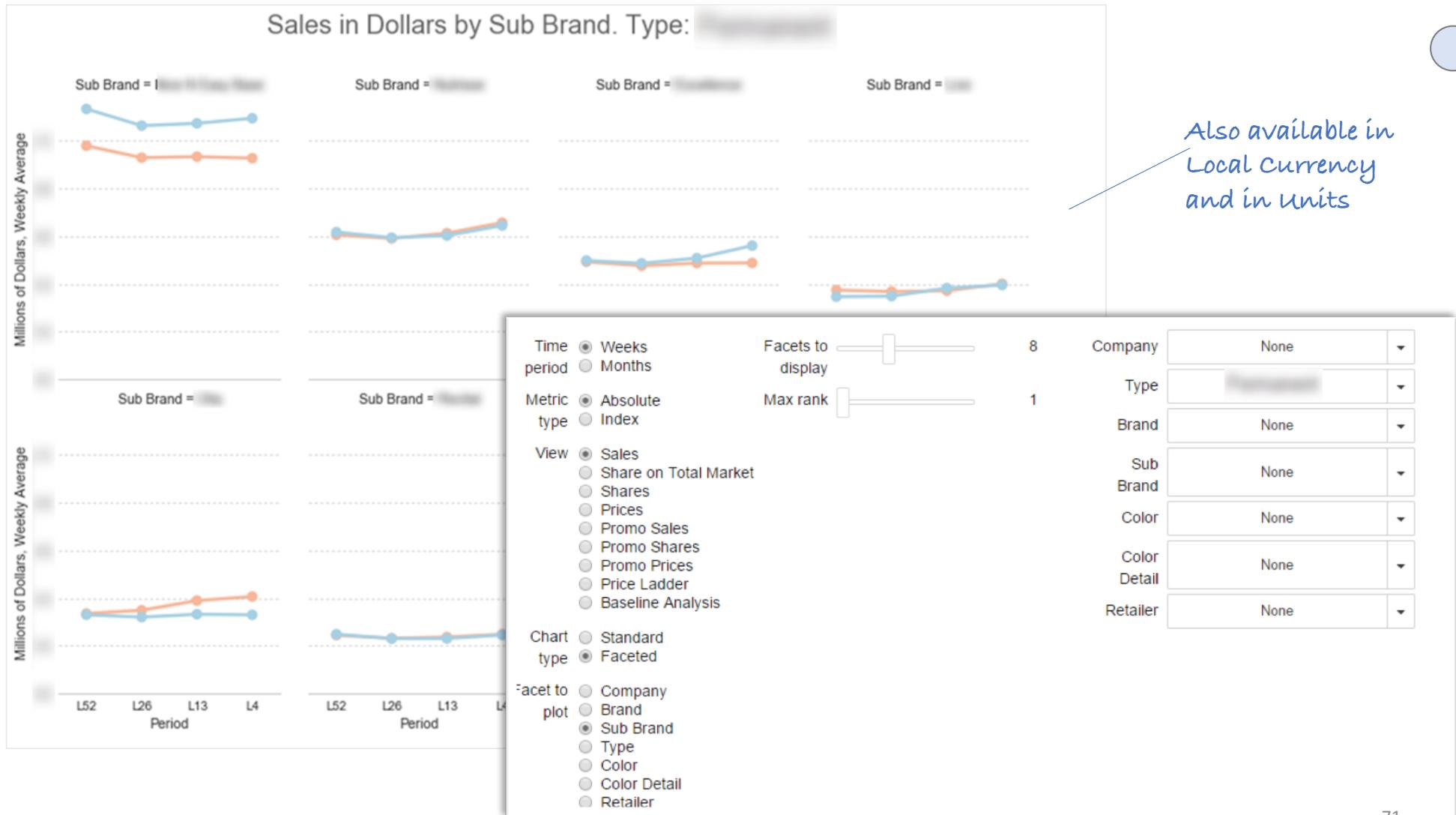
Chart types:

Price & Promotion

 Sales & Share

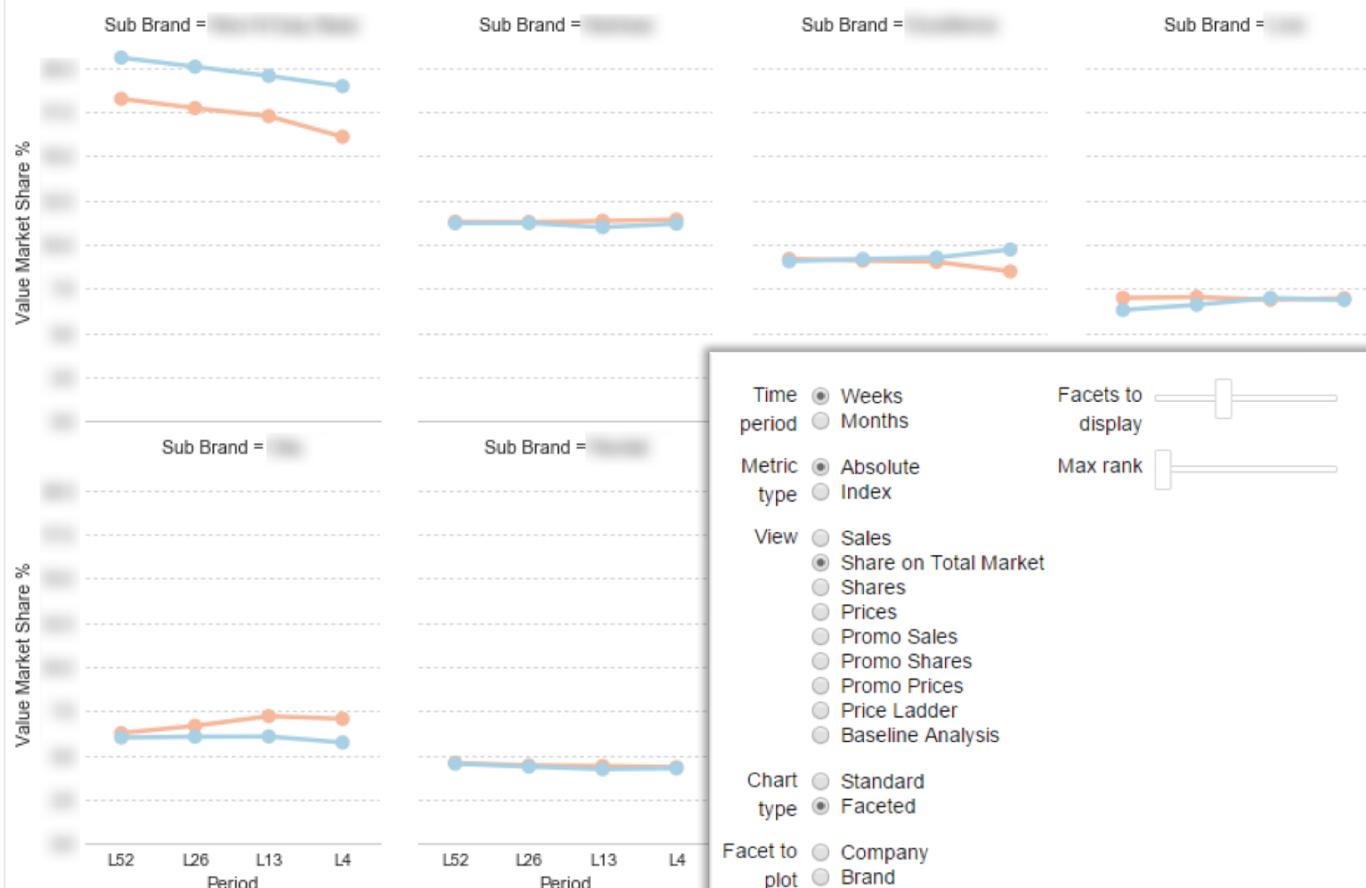
Distribution

Sales in Dollars by Sub Brand Type:



Also available in
Local currency
and in units

Value Market Share by Sub Brand. Type:



Shows share of total market without considering applied filters

Time period: Weeks (radio button selected), Months (radio button)

Metric type: Absolute (radio button selected), Index (radio button)

View: Sales (radio button selected), Share on Total Market (radio button), Shares (radio button), Prices (radio button), Promo Sales (radio button), Promo Shares (radio button), Promo Prices (radio button), Price Ladder (radio button), Baseline Analysis (radio button)

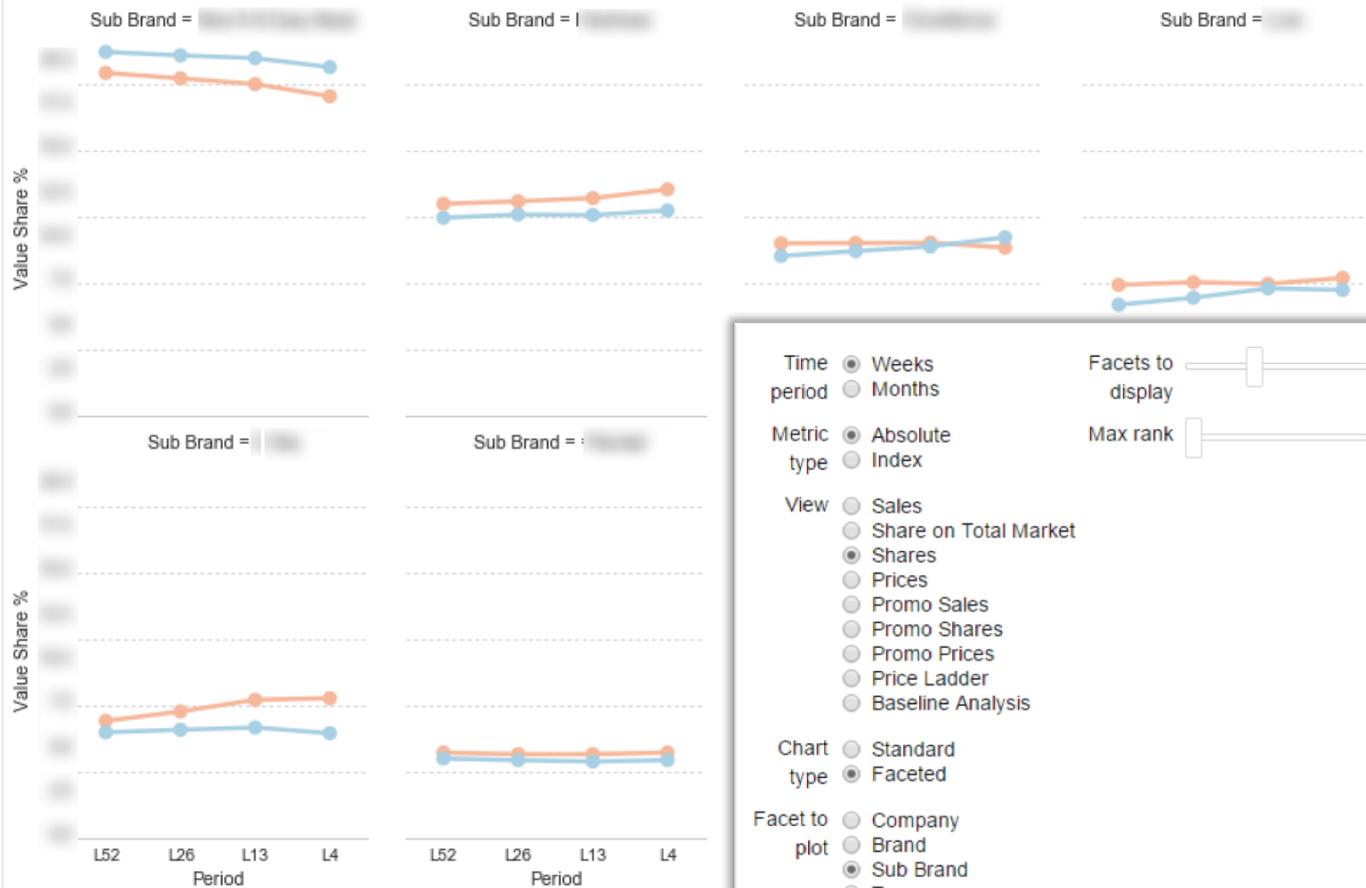
Facets to display: 8 (slider), Max rank: 1 (slider)

Company	None	<input type="button" value="▼"/>
Type	[dropdown]	<input type="button" value="▼"/>
Brand	None	<input type="button" value="▼"/>
Sub Brand	None	<input type="button" value="▼"/>
Color	None	<input type="button" value="▼"/>
Color Detail	None	<input type="button" value="▼"/>
Retailer	None	<input type="button" value="▼"/>

Chart type: Standard (radio button), Faceted (radio button selected)

Facet to plot: Company (radio button), Brand (radio button), Sub Brand (radio button selected), Type (radio button), Color (radio button), Color Detail (radio button), Retailer (radio button)

Value Share by Sub Brand. Type: [REDACTED]



Time period Weeks Months

Metric type Absolute Index

View Sales Share on Total Market Shares Prices Promo Sales Promo Shares Promo Prices Price Ladder Baseline Analysis

Chart type Standard Faceted

Facet to plot Company Brand Sub Brand Type Color Color Detail Retailer

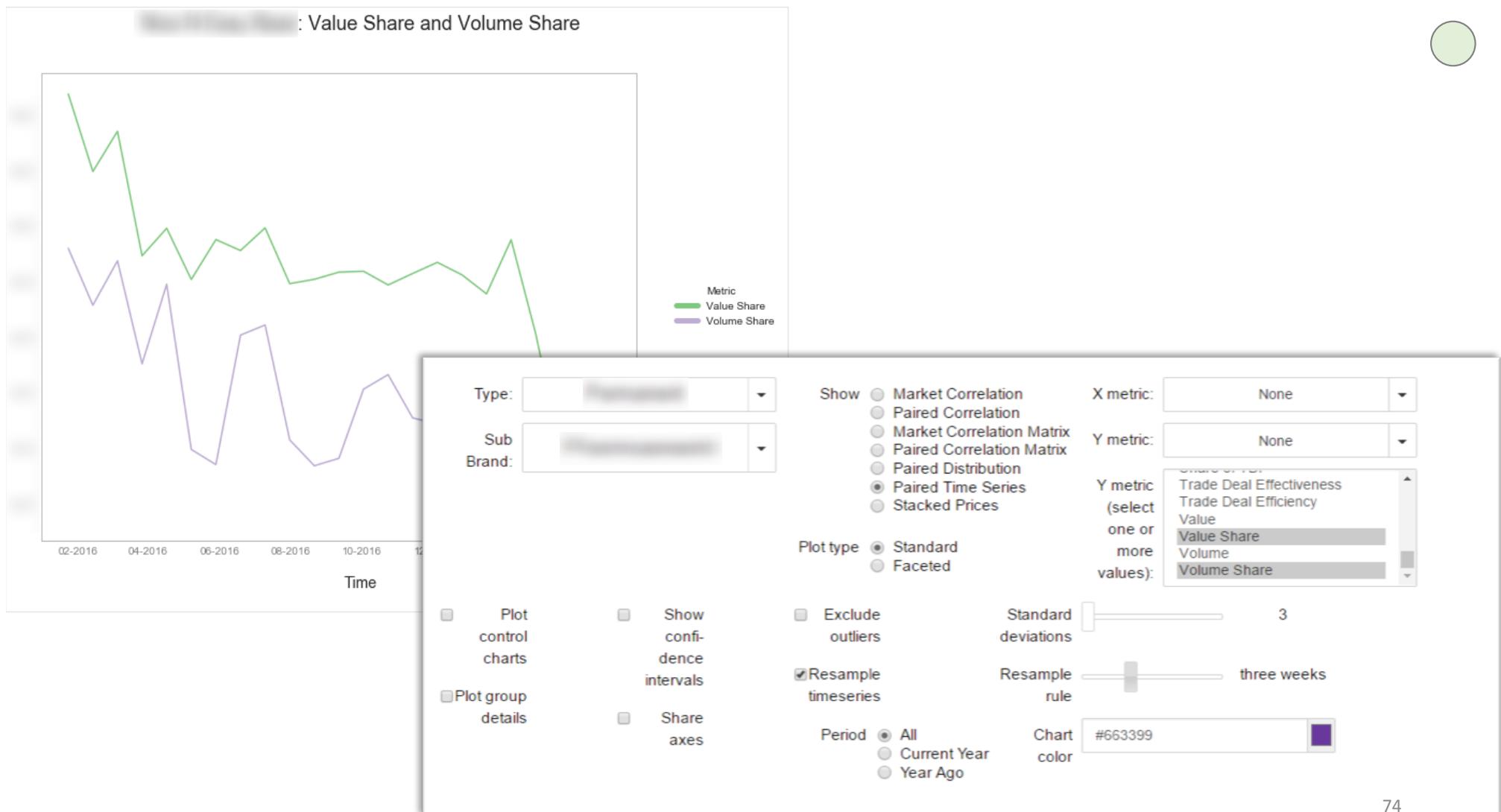
Facets to display 8

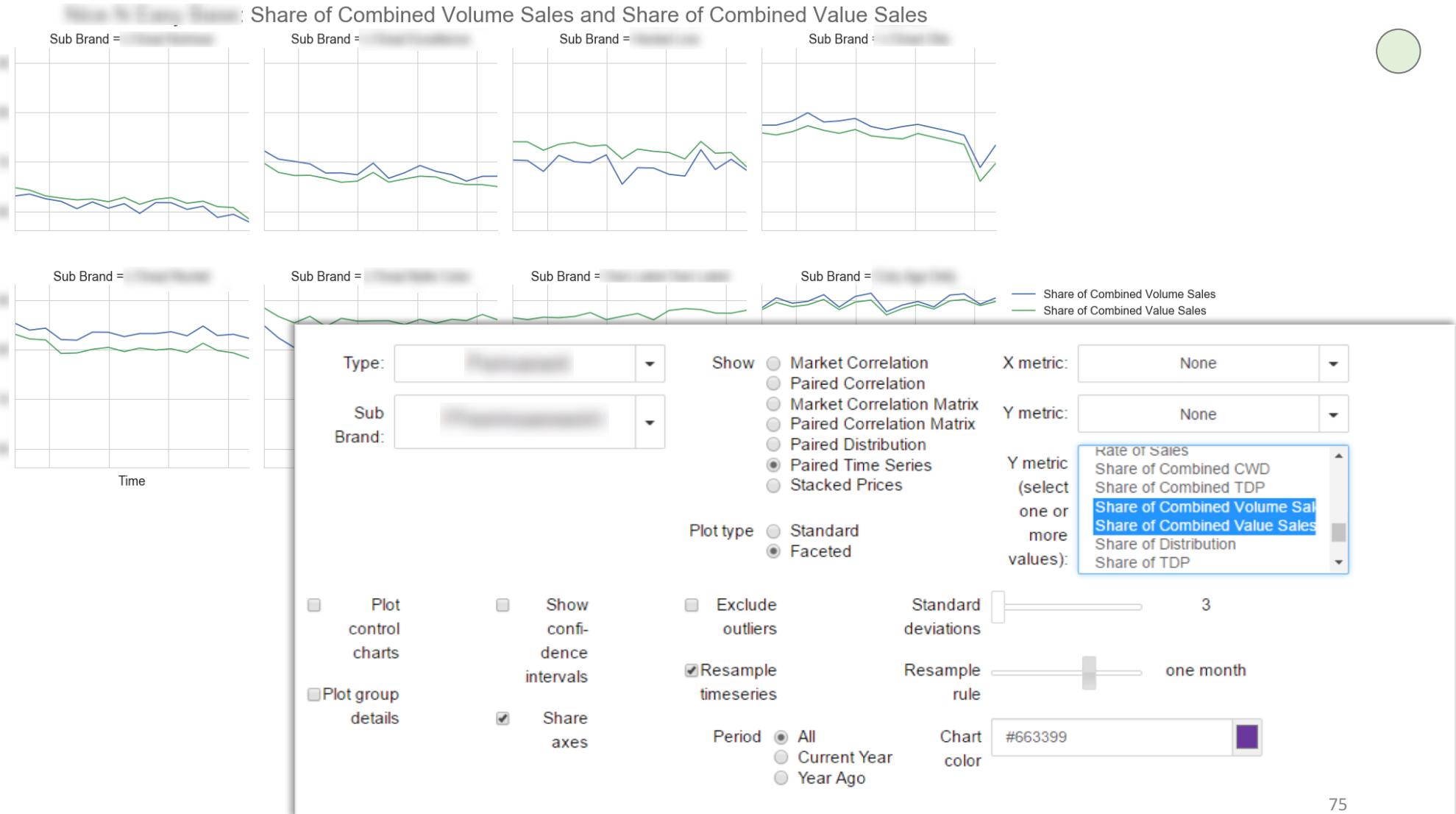
Max rank 1

Shows share of filtered universe after filters are applied

Company	None
Type	[REDACTED]
Brand	None
Sub Brand	None
Color	None
Color Detail	None
Retailer	None

: Value Share and Volume Share





Installation

How to plot

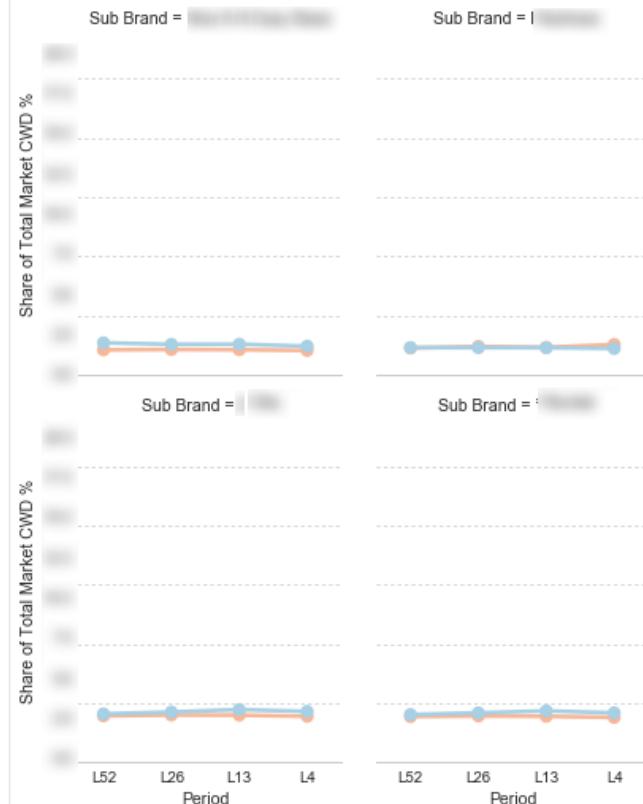
Plot examples

Price & Promotion

Sales & Share

 Distribution

Share of Category Distribution by Sub Brand. Type



Share of category distribution definition:
sum of CWD / total market CWD. Measure of share of total weighted shelf space

Time period: Weeks

Metric type: Absolute

View: Share on Total Market

Chart type: Faceted

Facet to plot: Company

Facets to display: 8

Max rank: 1

Company	None
Type	[REDACTED]
Brand	None
Sub Brand	None
Color	None
Color Detail	None
Retailer	None

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Share of Total Distribution Points by Sub Brand. Type:



*Share of TDP
definition: sum of TDP
/ total market TDP.
Measure of share of
total weighted shelf
space, adding depth*

Time period: Weeks (selected), Months

Metric type: Absolute (selected), Index

View: Sales, Share on Total Market (selected), Shares, Prices, Promo Sales, Promo Shares, Promo Prices, Price Ladder, Baseline Analysis

Chart type: Standard (Faceted selected)

Facet to plot: Company (selected), Brand, Sub Brand, Type, Color, Color Detail, Retailer

Facets to display: 8

Max rank: 1

Company: None

Type: [redacted]

Brand: None

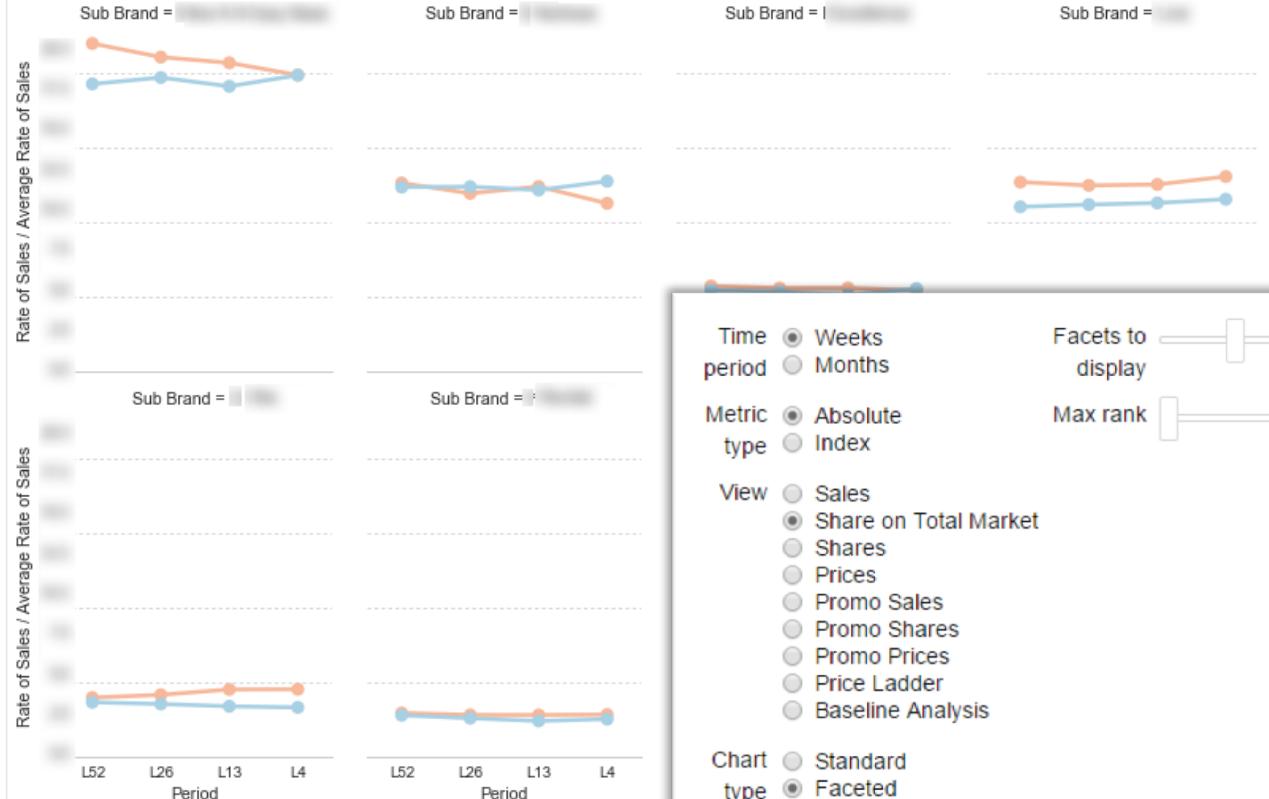
Sub Brand: None

Color: None

Color Detail: None

Retailer: None

Rate of Sales Ratio by Sub Brand. Type: [REDACTED]



*Rate of Sales
definition: Share of
Sales / Share of
Distribution. Measure
of rotation per unit of
shelf space*

Time period: Weeks

Metric type: Absolute

View: Sales

Chart type: Standard

Facet to plot: Company

Facets to display: 8

Max rank: 1

Company: None

Type: [REDACTED]

Brand: None

Sub Brand: None

Color: None

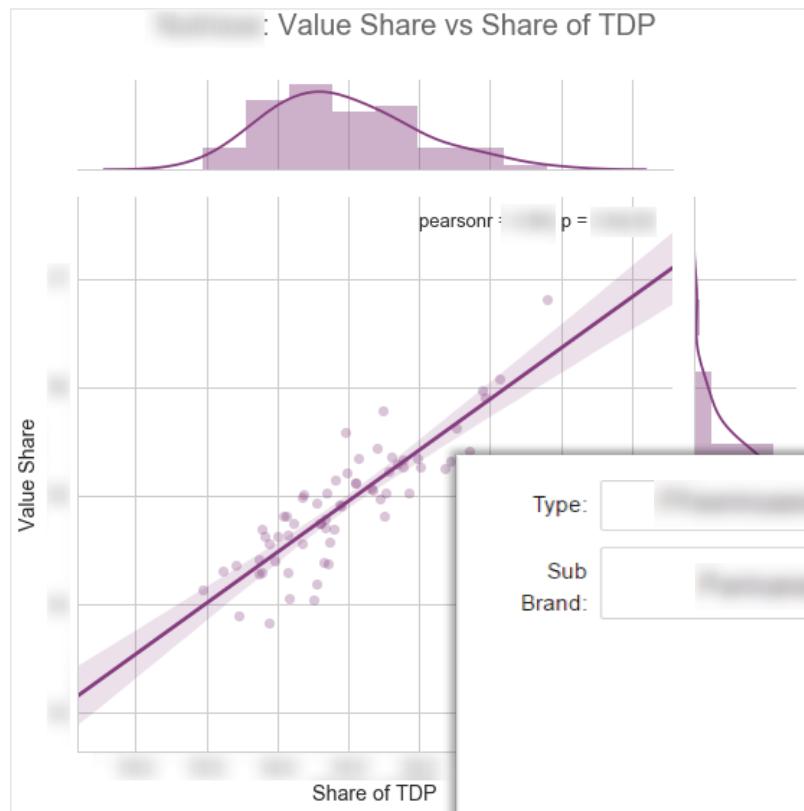
Color Detail: None

Retailer: None

Page: 79

Average Items Carried by Sub Brand. Type





Type: [dropdown] Show: Market Correlation Paired Correlation Market Correlation Matrix Paired Correlation Matrix Paired Distribution Paired Time Series Stacked Prices X metric: Share of TDP

Sub Brand: [dropdown] Y metric: Value Share

Plot type: Standard Faceted Y metric (select one or more values): None

Plot control charts Show confidence intervals Exclude outliers Resample timeseries Standard deviations: 2.5

Plot group details Share axes Resample rule: three weeks

Period: All Current Year Year Ago Chart color: #843c7e





