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- v1.0.0** Initial Release
- v1.0.1** CMYK value for Aqua corrected
- v1.0.2** Y-axis Label Color Adjusted
Colors + Color Order Updated
- v1.1.0** Color Meanings Added
Area Added
Sparkline Added
Zero Line rules for Bar Charts
Style Map Added
Style Trail Added
Scatter Plot renamed to Bubble
New Scatter Plot Added
Correlation Matrix Added

- v1.1.1** Color Meanings refined
Y-axis Label options refined
Vertical Bar X-axis Value Overflow
Vertical Bar Value Label
Stacked Bar color order adjusted
Donut Chart section border added

Charting Principles

Focus on the data

- ▶ Maximize data-ink, minimize non-data-ink
 - Value data over decoration
 - Show data variation, not design variation
 - Avoid “chartjunk”
- ▶ Aim for density and precision
 - On larger graphs, include details that allow the viewer to read the data (detailed scales and labels, grid lines, etc.)
 - For graphs with less data or those intended to convey only direction, trend, etc., consider shrinking them or using sparklines, small multiples, etc.
- ▶ Every mark should have a meaning (color/shading, connecting dots)
- ▶ Balance richness and simplicity

“Graphical excellence is that which gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.” — E. Tufte

“Excellence in statistical graphics consists of complex ideas communicated with clarity, precision, and efficiency.” — E. Tufte

Tell a story

- ▶ Choose data and visuals that tell a story
 - More isn’t always better
- ▶ Choose the best tool to tell the story
 - Is it a graph, a table, a sentence?

Tell the truth

- ▶ Maintain graphical integrity — Tell the truth and don’t distort visuals (3-D) or data (log/linear)

Be smart

- ▶ Use relevant, meaningful, intelligent scaling and axis labeling (log vs linear; intelligent units, boundaries, and significant digits)

General design and editorial guidelines

- ▶ Place structural chart elements or chart substrate (axes labels, legends, interactive controls, etc.) outside the data/graph area of the chart
- ▶ Use assigned colors for specific types of Morningstar data; if no color is specified, use the corporate color palette as needed
- ▶ Use log, rather than linear, scale for price/growth charts
- ▶ Aim for evenly spaced, rounded units (e.g. 10, 20, 30 – not 6.5, 8.7, 10.3, etc.)
- ▶ Limit significant digits and use one or two decimal places in most instances, unless using currency (\$12.95)
- ▶ Label starting point of axes
- ▶ When appropriate, highlight relevant data and/or labels directly on charts to add richness/density/precision
- ▶ Use specified default formats for dates and time periods

Example Spec

Here you will find an explanation of this visualization, when it should be used, and some editorial suggestions around its use.

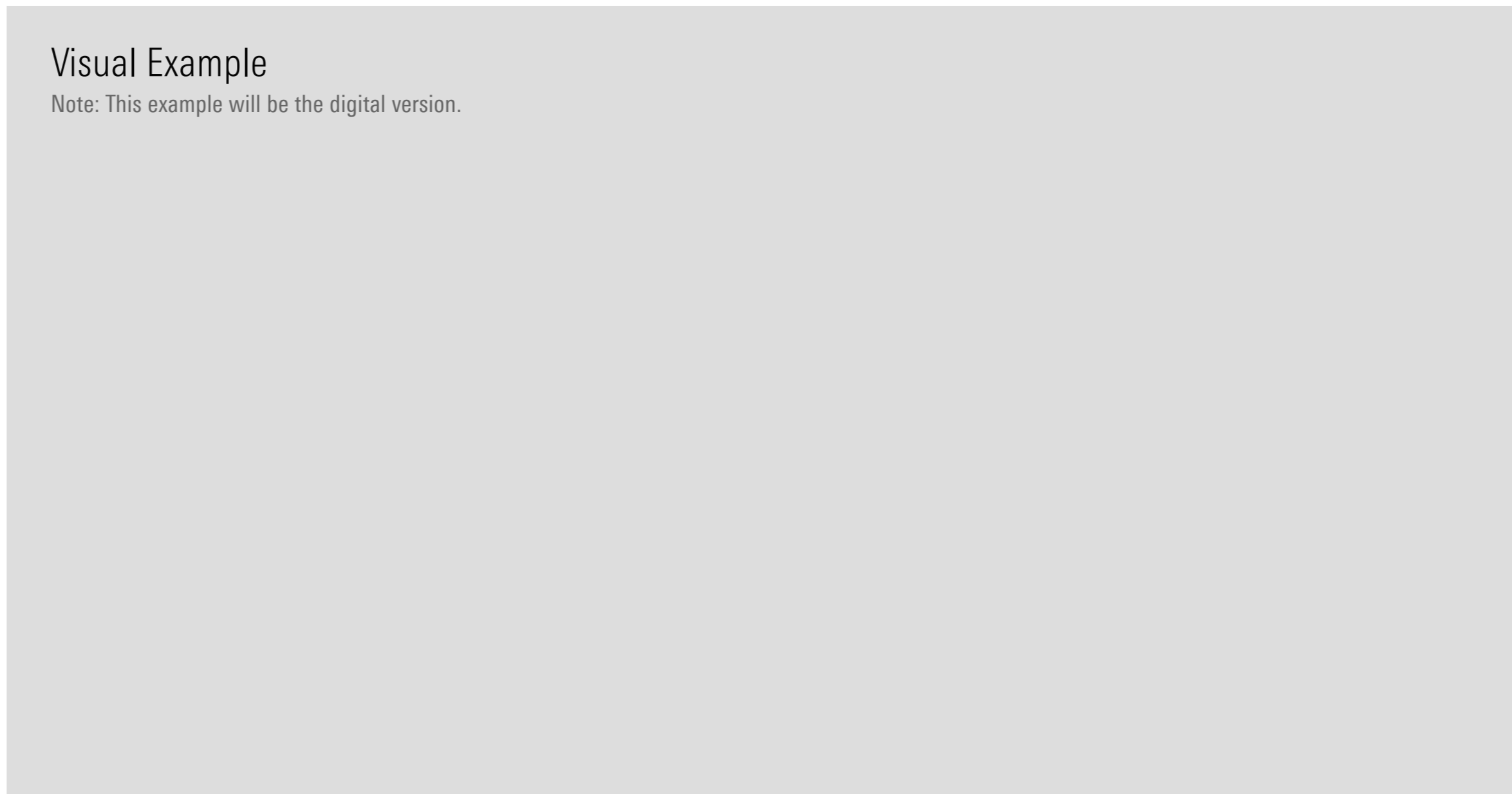
TITLE

Variable: **Digital Value** [Print Value]

Note: Values are the same for Digital & Print unless noted (px will change to pt)

Visual Example

Note: This example will be the digital version.



Structure

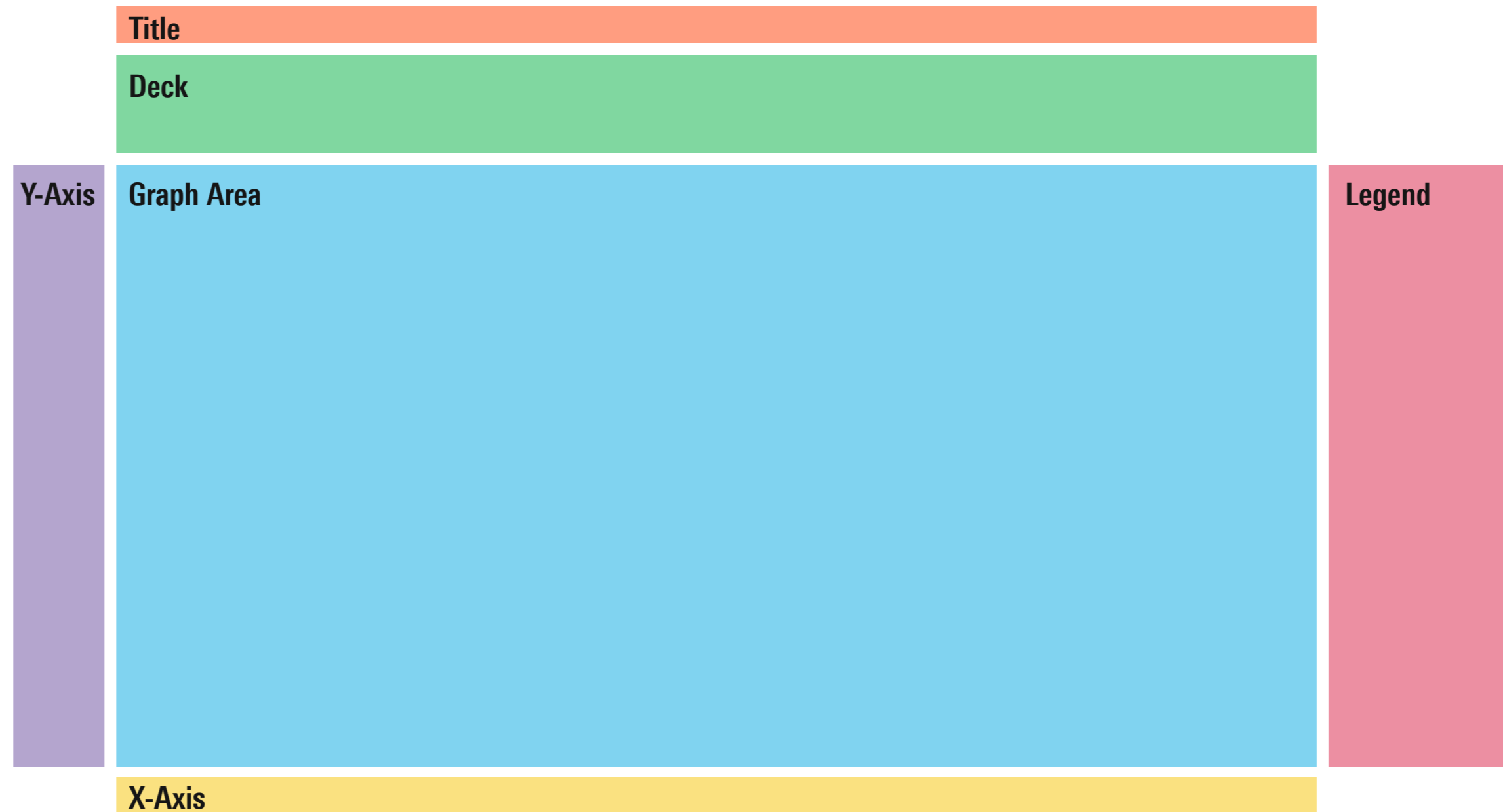
Charts are made up of several distinct structural elements. Our charts should feature these elements in consistent, predictable places whenever possible, to help brand them as Morningstar charts and make them easy for users to interpret.

As a default, the Y-axis should appear on the left and the X-axis on the bottom, with the legend listed vertically on the right, as shown here in Structure A. However, there may be cases when the X-axis could appear on the top of the graph (e.g. when multiple graphs or data tables are stacked vertically and share the same X-axis) or when one or more Y-axes appear in different locations. See following page for alternative structures.

SPACING

padding: **12px** [6pt]

Structure A



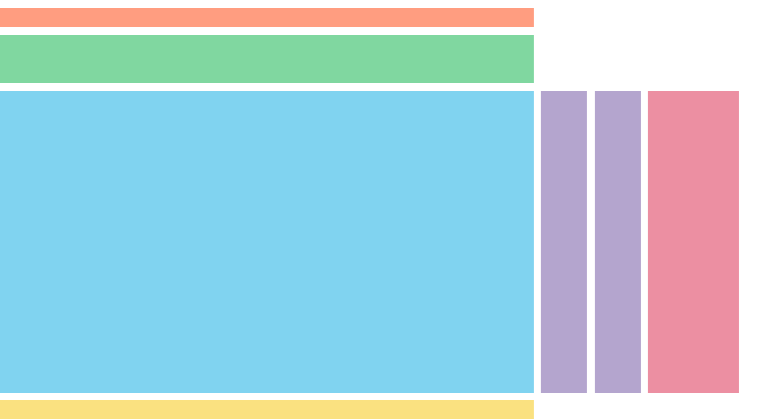
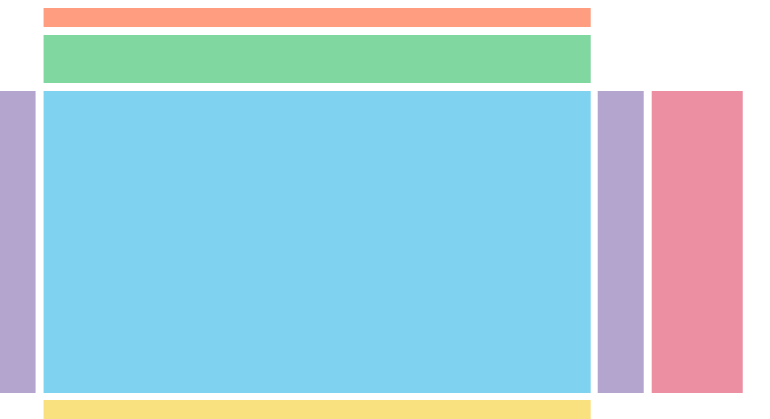
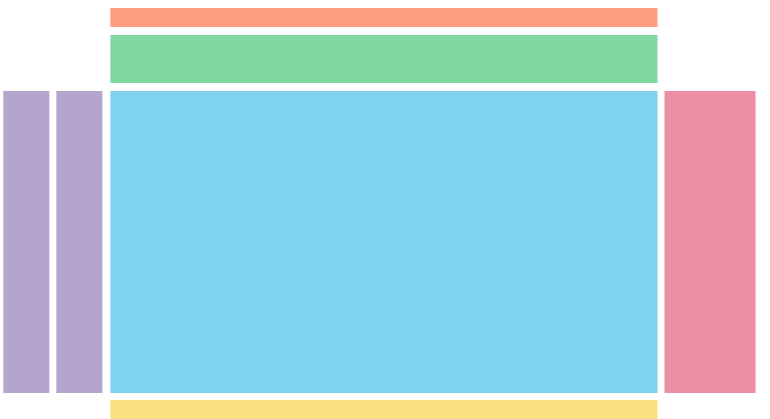
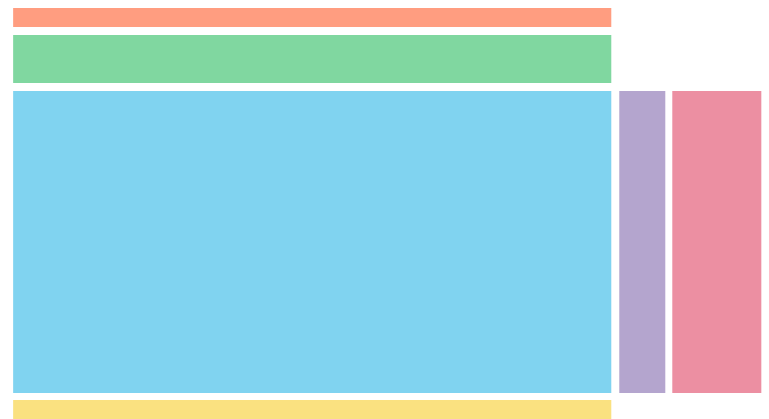
Structure B

Structure C

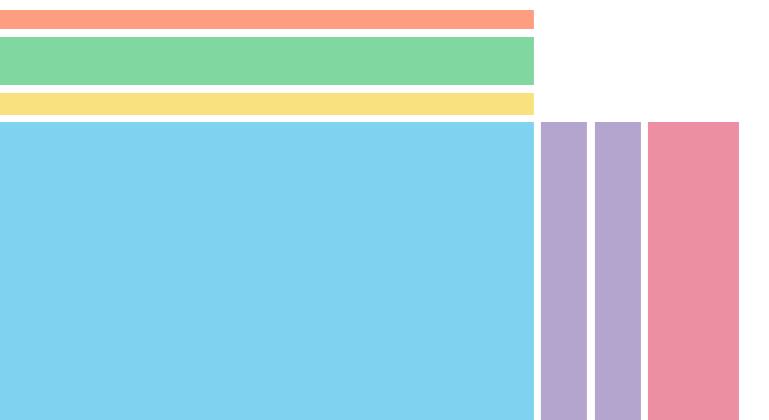
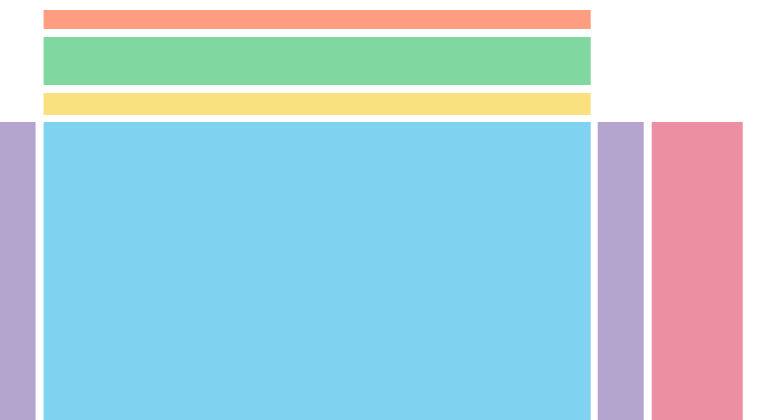
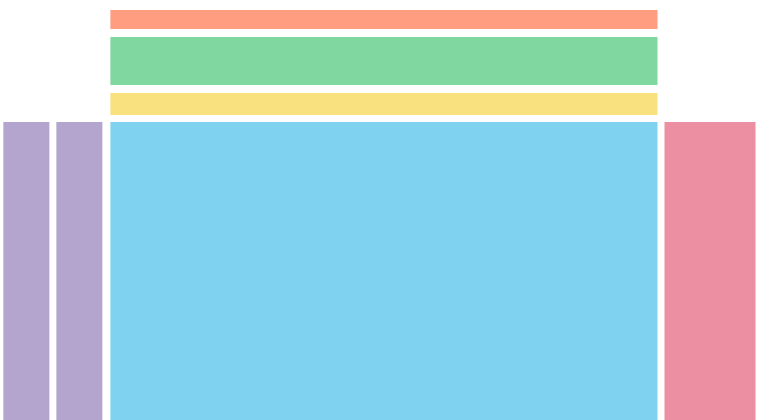
Structure D

Structure E

X-Axis Bottom



X-Axis Top



Colors

In this palette, we've limited the total number of colors to strengthen our overall corporate identity. Each color can be applied at a variety of percentages to expand the number of choices. In addition to the main corporate palette, there is an extended charts palette to be used only for charts where more colors are needed to represent data.

Certain colors are assigned for use in certain situations (red/green for performance, orange/blue for valuation, designated colors for asset classes, etc.). These assignments help provide data clarity as well as strengthen our brand identity. For situations where there is no assigned color, feel free to use whatever shades from the general palette work best to communicate the information you're trying to convey.

COLOR ORDER



| | | | | | | | | |
|-----------|--------------|------------|----------------|-----------|------------|------------|-------------|------------|
| PMS 2144 | PMS 207 | PMS 7406 | PMS 370 | PMS 2995 | PMS 2095 | PMS 158 | PMS 7719 | PMS 354 |
| C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K |
| 90 60 0 0 | 22 100 78 15 | 5 22 100 0 | 65 26 100 9 | 80 12 1 0 | 59 67 0 0 | 2 66 100 0 | 99 36 59 19 | 94 0 100 0 |
| R G B | R G B | R G B | R G B | R G B | R G B | R G B | R G B | R G B |
| 31 85 165 | 165 0 50 | 245 196 0 | 81 132 40 | 0 168 225 | 106 76 158 | 239 118 34 | 0 95 95 | 0 175 65 |
| #1F55A5 | #A50032 | #F5C400 | #518428 | #00A8E1 | #6A4C9E | #EF7622 | #005F5F | #00AF41 |
| mbc-blue | mbc-maroon | mbc-yellow | mbc-dark-green | mbc-cyan | mbc-violet | mbc-orange | mbc-teal | mbc-green |

EXCLUDED FROM CHART ORDER



| | |
|-----------|-------------|
| PMS 185 | PMS 425 |
| C M Y K | C M Y K |
| 0 91 76 0 | 65 56 53 29 |
| R G B | R G B |
| 255 0 0 | 85 87 89 |
| #FF0000 | #555759 |
| mbc-red | mbc-??? |

| | | | | | | | | | | |
|------------------|---------------------------------------------------------------------|-------------|-------|-----------|--|----------|-----------------|--|----------|---------------------------|
| Asset Allocation | Stocks | Real Estate | Other | Cash | | Bonds | | | | Not Classified (20% tint) |
| Sector | Sensitive | | | Defensive | | Cyclical | | | | |
| Valuation | | | | Under | | Over | Fair (10% tint) | | | |
| Performance | | | | | | | Positive | | Negative | |
| Other | Note: Local Stocks use a 100% tint, Non-local Stocks use a 50% tint | | | | | | Moat | | | |

EXTENDED CHART PALETTE

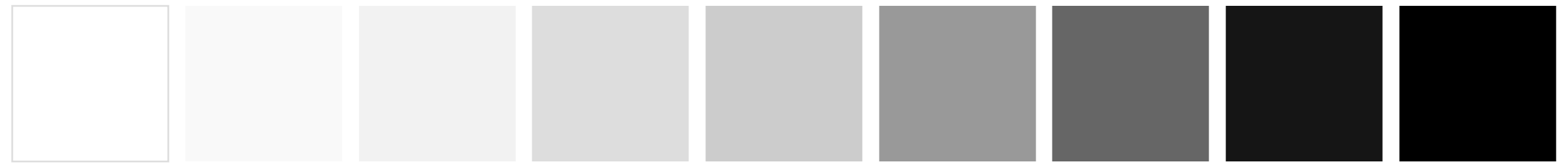


| | | | | | |
|---------------|-----------------|-----------------|-----------|-------------------|-----------------|
| PMS 1925 | PMS 2355 | PMS 103 | PMS 2398 | PMS 172 | PMS 2293 |
| C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K |
| 6 100 62 0 | 57 100 17 3 | 25 28 100 1 | 72 0 40 0 | 0 87 100 0 | 51 1 100 0 |
| R G B | R G B | R G B | R G B | R G B | R G B |
| 230 5 70 | 125 37 111 | 193 156 49 | 0 190 175 | 255 60 0 | 137 189 64 |
| #E60546 | #7D256F | #C19C31 | #00BEAF | #FF3C00 | #89BD40 |
| mbc-light-red | mbc-dark-violet | mbc-dark-yellow | mbc-aqua | mbc-bright-orange | mbc-light-green |

Greys

These greys are used for various structural chart elements as well as type.

Greys from Lightest to Darkest



| White | Grey 1 | Grey 2 | Grey 3 | Grey 4 | Grey 5 | Grey 6 | Grey 7 | Black |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-----------|
| C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K | C M Y K |
| 0 0 0 0 | 0 0 0 2 | 0 0 0 4 | 0 0 0 8 | 0 0 0 23 | 0 0 0 35 | 0 0 0 60 | 0 0 0 90 | 0 0 0 100 |
| R G B | R G B | R G B | R G B | R G B | R G B | R G B | R G B | R G B |
| 255 255 255 | 249 249 249 | 242 242 242 | 221 221 221 | 204 204 204 | 153 153 153 | 102 102 102 | 21 21 21 | 0 0 0 |
| #1F55A5 | #F9F9F9 | #F2F2F2 | #DDDDDD | #CCCCCC | #999999 | #666666 | #151515 | #000000 |
| mbc-white | mbc-grey1 | mbc-grey2 | mbc-grey3 | mbc-grey4 | mbc-grey5 | mbc-grey6 | mbc-grey7 | mbc-black |

Y-axis

Position single axis left or right (left is preferred/default).

Position dual axes left/right, left/left, or right/right.

Graph data is always the topmost layer (e.g. bars cover grid lines).

Position axis values below interval rules, with the exception of the starting point of axis, which is labeled above bottom rule. Always label starting point of axis if possible; omit only if space does not permit and axis intervals cannot be adjusted to accommodate the start point label.

Default to logarithmic scale for price/growth charts.

Choose logical, rounded intervals and units for value labels when possible (e.g. 0, 5, 10 rather than 4.6, 5.9, 9.8, etc.).

Y-AXIS TICK MARKS
 min-width: **28px**
 If text width > than 28px, padding-left: **6px**
 color: **\$gs7 (#999999) [K35]**
 line-weight: **1px**
 space between chart plot area and the Y-axis: **12px or 6px depending on chart size [6pt]**

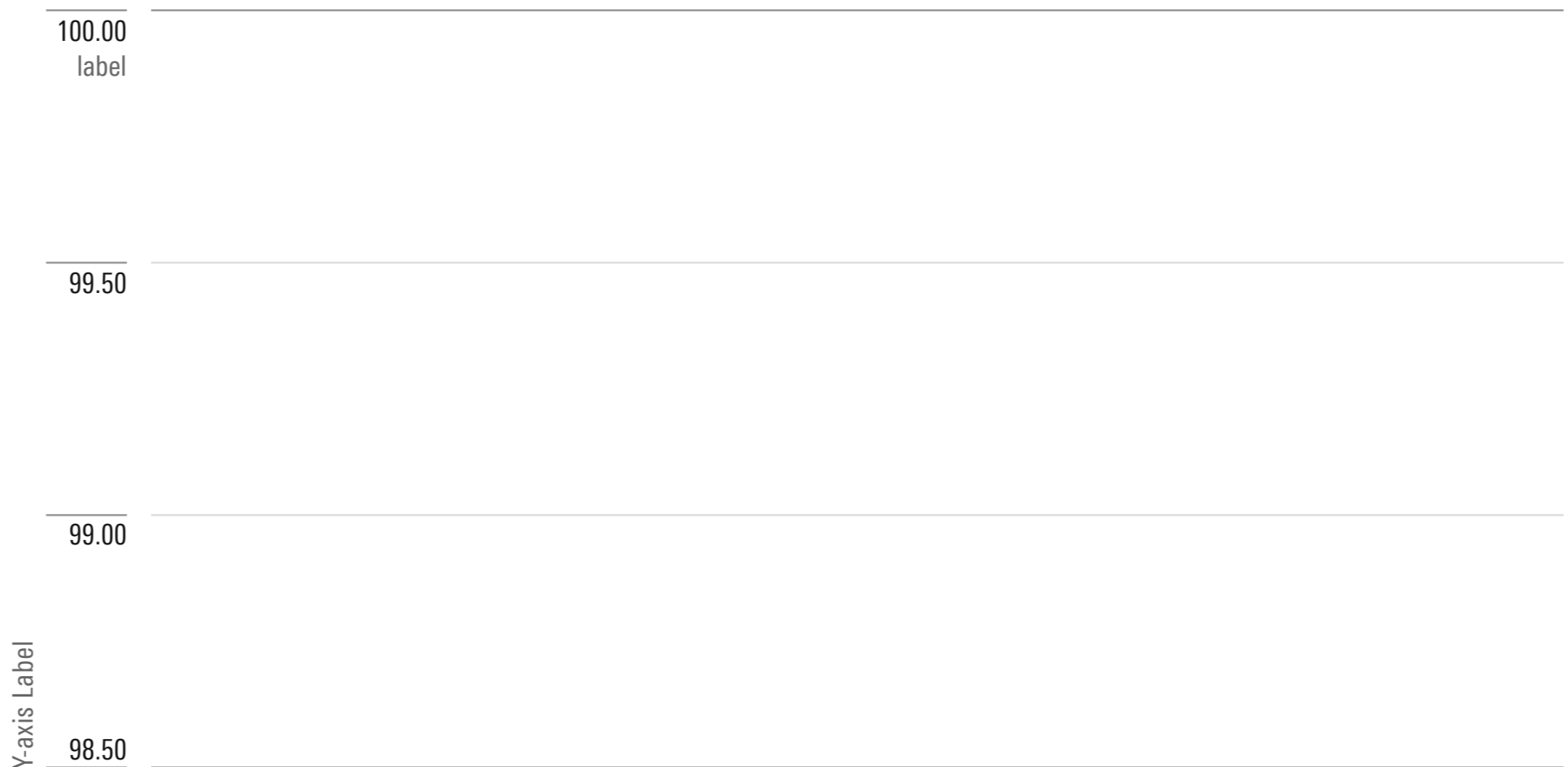
TOP & BOTTOM GRID LINES
 color: **\$gs7 (#999999) [K35]**

HORIZONTAL GRID LINES
 color: **\$gs4 (#DDDDDD) [K8]**

FONT
 font-weight: **Condensed**
 font-size: **14px**
 line-height: **17px**
 font-color: **\$gs14 (#151515) [K90]**

TOP OR BOTTOM PADDING
 When label is beneath tick mark:
 visually: **3px from cap height**
 padding-top: **1px with line-height: 17px**

When label is above tick mark:
 visually: **3px from baseline**
 padding-bottom: **0px with line-height: 17px**



Y-AXIS LABEL
 Y-axis label is toggleable on/off and can be placed vertically on the side OR placed below the Max Y-axis value. Single symbol units (\$, &, etc.) can be placed in the max value.
 color: **\$gs8 (#666666) [K60]**
 font-size: **14px**
 line-height: **17px**
 padding-right: **3px**
 letter-spacing: **1px**

X-axis

Position axis above or below chart (below is preferred).

Position of labels – time series left-aligned for greater precision, groupings centered

Choose logical, precise intervals and units (e.g. months for monthly data, etc.).

X-AXIS

line-weight: **1px**

line-color: **\$gs7 (#999999) [K35]**

FONT

font-weight: **Condensed**

font-size: **14px**

line-height: **17px**

font-color: **\$gs14 (#151515) [K90]**

secondary label font-color: **\$gs8 (#666666) [K60]**

TOP PADDING

visually: **3px from cap height**

padding-top: **0px with line-height: 17px**

Nov Dec Jan
2016 Feb Mar Apr May Jun Jul Aug

Legend

When possible, show legend information vertically, and to the right of the graph.

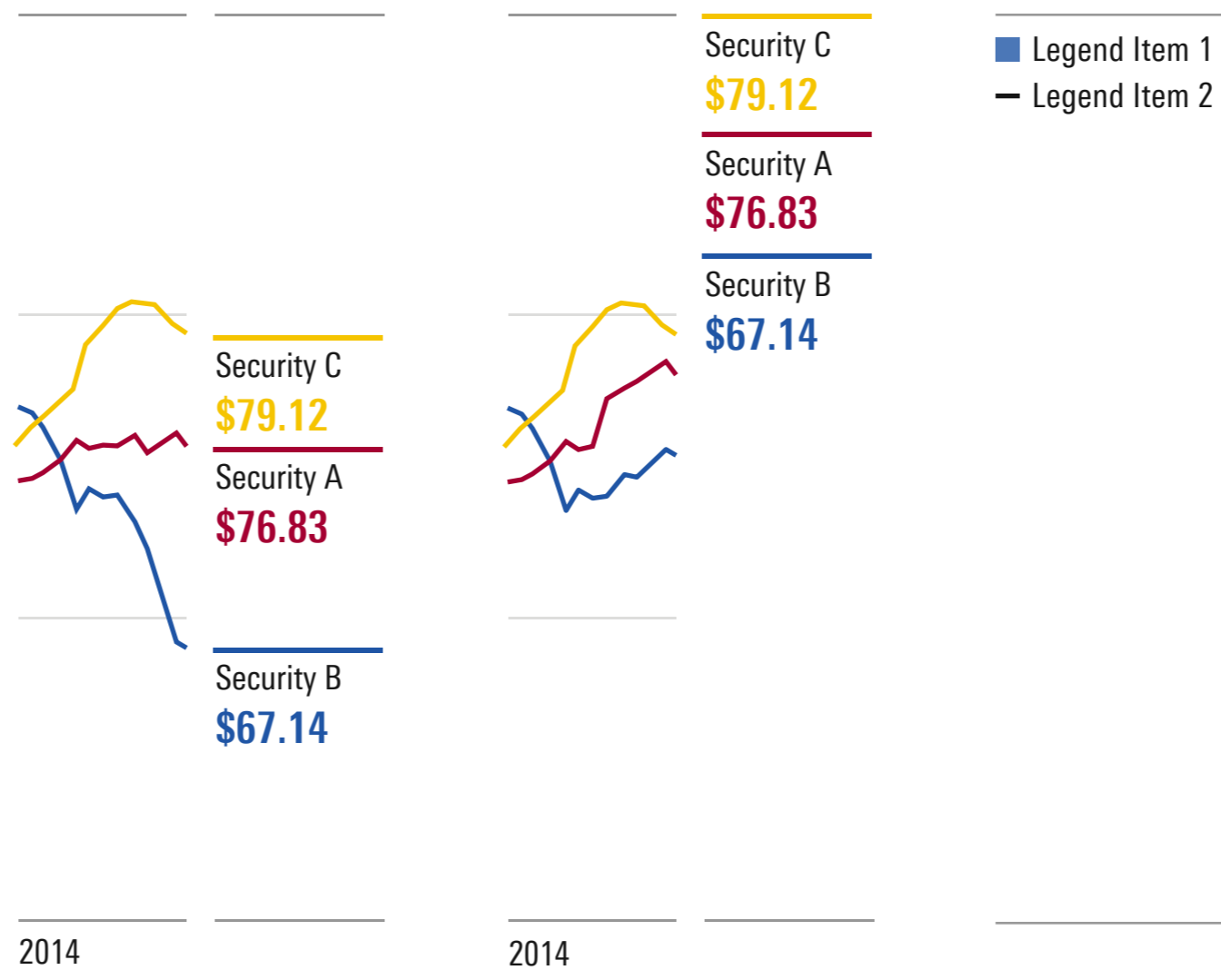
Use appropriate shapes or symbols in legends, depending on chart or data type — lines for lines, squares for bars, etc.

These shapes and symbols exist as SVGs already, and can be found on the design drive, within the icons folder.

This page contains some examples of the different legends we have within the system. For the specifications of each legend, please look at the page for that chart.

SHAPE

Use the appropriate shape to label specific chart type. The SVGs for the legend icons exist on the Design Drive.



- Legend Item 1
- Legend Item 2

| | % |
|--------------|-------|
| Equity | 84.45 |
| Fixed Income | 11.36 |
| Cash | 4.19 |
| Alternative | 0.00 |

Sectors

- Basic Materials
- Communication Services
- Consumer Cyclical
- Consumer Defensive
- Consumer Sensitive
- Energy
- Financial Services
- Healthcare
- Industrials
- Technology
- Utilities
- Unclassified

Title/Deck

When possible, give charts clear, simple, and descriptive titles/decks to help users understand the chart content.

FONT

title font: **UniversNEXT for MORN Condensed Bold**

title font-size: **Match legend figure size**

title line-height: **Follow MUI Type Guidelines**

deck font-size: **UniversNEXT for MORN Condensed Light**

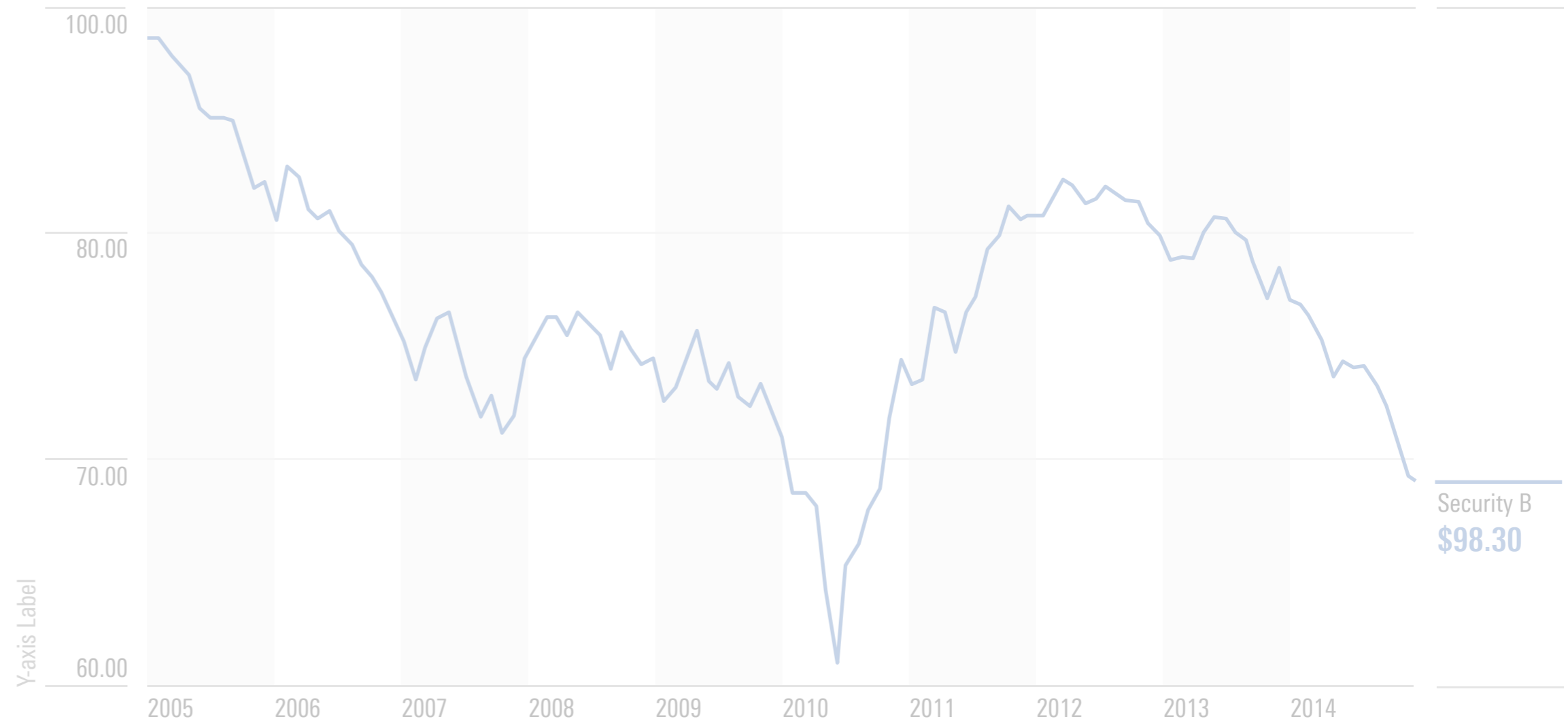
deck font-size: **Match legend label size**

deck line-height: **Follow MUI Type Guidelines**

font-color: **\$gs14 (#151515) [K90]**

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Etiam lectus neque, laoreet et vulputate vel, porta egestas quam. Ut ullamcorper imperdiet suscipit. Curabitur ornare dolor commodo ex fringilla, vitae volutpat eros commodo. Etiam lectus neque, laoreet et vulputate vel, porta egestas quam. Ut ullamcorper imperdiet suscipit. Curabitur ornare dolor commodo ex fringilla.



Line

For continuous data; useful for showing trend or progression over time.

Only use fill under a line to convey meaning (green/red for positive/negative performance or orange/blue for over-/undervaluation).

LINES

weight: **2px [1pt]**

BENCHMARK

color: **\$gs14 (#151515) [K90]**
size: **2px [1pt]**

VERTICAL GRID BARS

The width of the grid bars is evenly split according to the number of X-axis values.

color: **\$gs2 (#F2F2F2) [K4]**

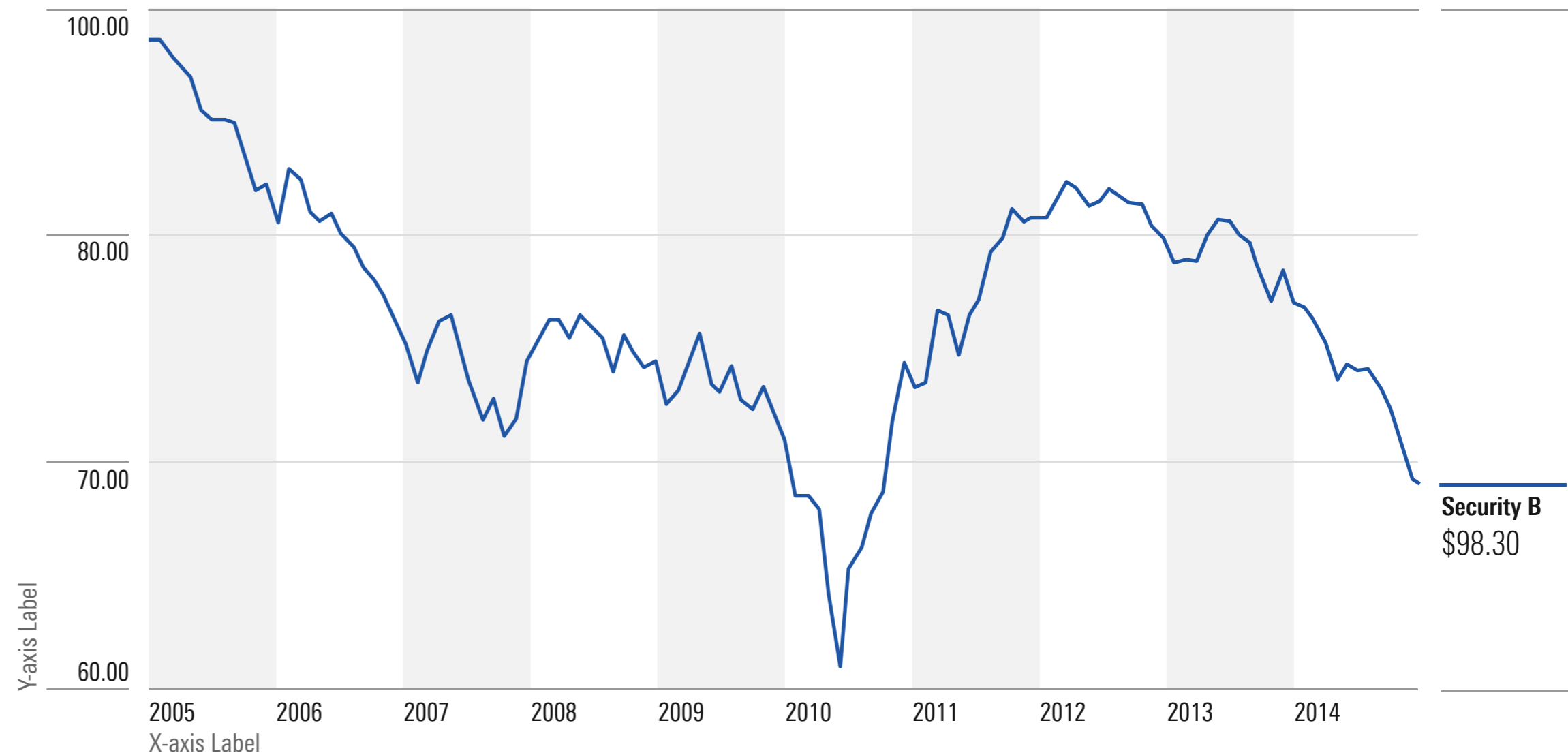
LEGEND

label font-size: **14px**
label font-weight: **Condensed Bold**
figure font-size: **18px**
figure font-weight: **Condensed Light**

label font-color: **\$gs14 (#151515) [K90]**
figure font-color: **\$gs14 (#151515) [K90]**

label line weight: **2px [1pt]**
label line length: **longest value + padding-right: 6px**
padding between line & label: **3px**
margin-bottom: **6px**

top and bottom rule weight: **1px**
top and bottom rule length: **longest value + padding-right: 6px**
color: **\$gs7 (#999999) [K35]**



Area

For continuous data; useful for showing trend or progression over time and also data with part-to-whole relationships.

SECTIONS

color: **100%, 60%, 30% tint (or equivalent breakdown)**
transparency blend mode: **multiply**

VERTICAL GRID BARS

The width of the grid bars is evenly split according to the number of X-axis values.

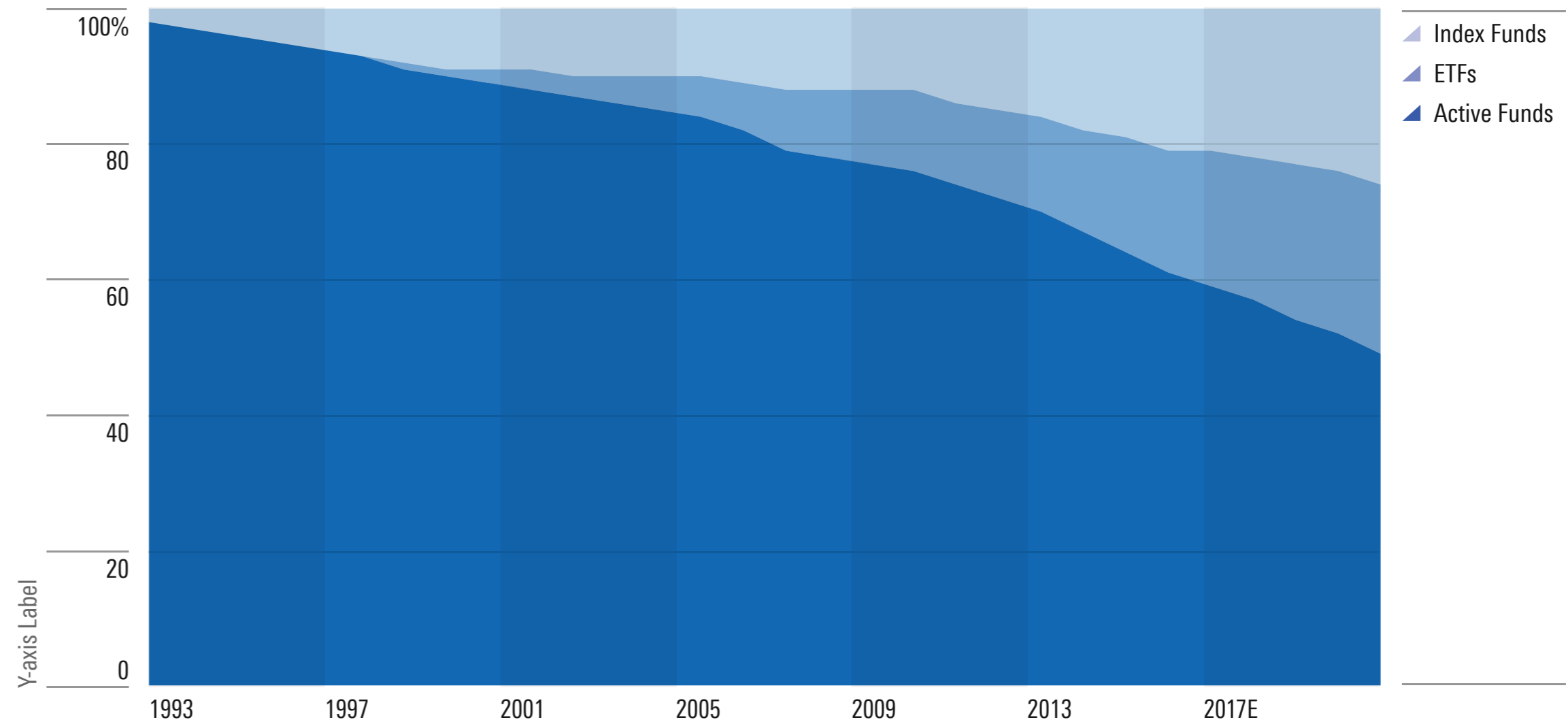
color: **\$gs2 (#F2F2F2) [K4]**

LEGEND

label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

top and bottom rule length: **longest value + padding-right: 6px**

Triangle icon: **10px by 9px**
padding between icon and text: **5px**



Vertical Bar

Use for comparison, among different items or the same item over time

No X-axis rule is needed when the bars begin from the bottom of the chart plot area. No vertical gridlines or shading are needed for the vertical bar.

Rolling periods are best represented with bars rather than a line. The relevant information with a rolling return chart is not the "trend" between periods but the magnitude and frequency of positive and negative returns. This is more clearly represented with bars than with a continuous line. The line connecting the data points isn't produced by actual data values, and as such may not be relevant or accurate.

BARS
width: **Dynamic Width w/ 9px padding**
(padding can adjust to 6px, 3px, or 1px depending on chart width relative to total number of objects plotted)
color: **80% Opacity**

Y-AXIS
color: **\$gs14 (#151515) [K90]**
font-size: **14px**
line-height: **17px**
padding: **3px**

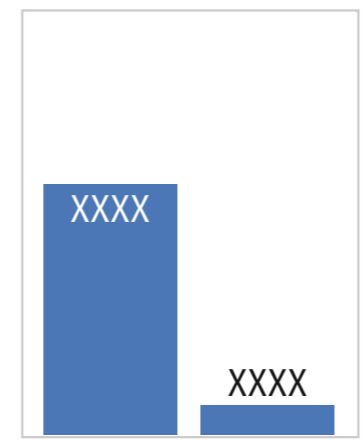
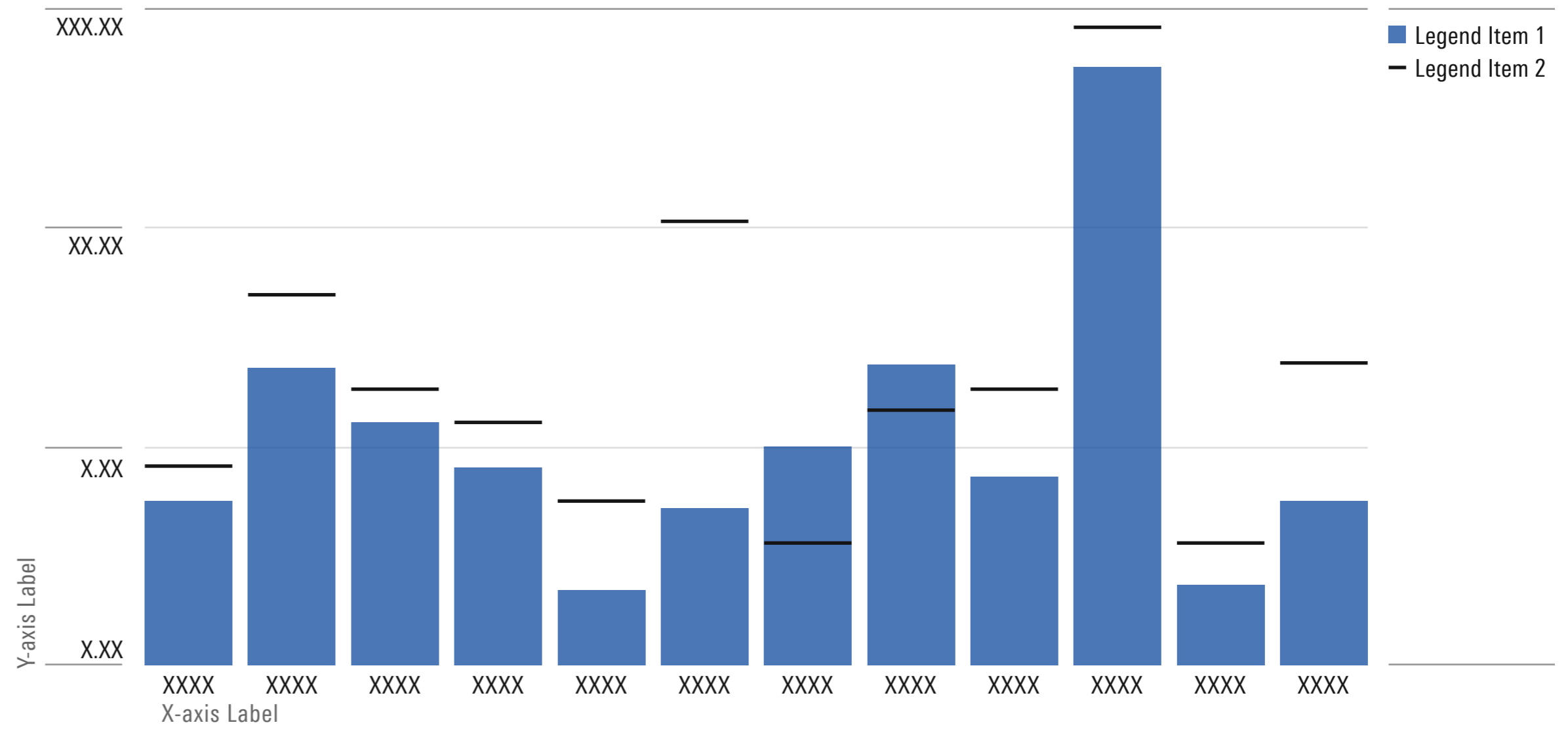
Y-AXIS LABEL
color: **\$gs8 (#666666) [K60]**
font-size: **14px**
line-height: **17px**
padding-right: **3px**
letter-spacing: **1px**

HORIZONTAL GRID LINES
color: **\$gs4 (#DDDDDD) [K8]**
size: **1px**
zero line: **hidden if all values are positive, if there are negative values, show the zero line**

LEGEND
label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

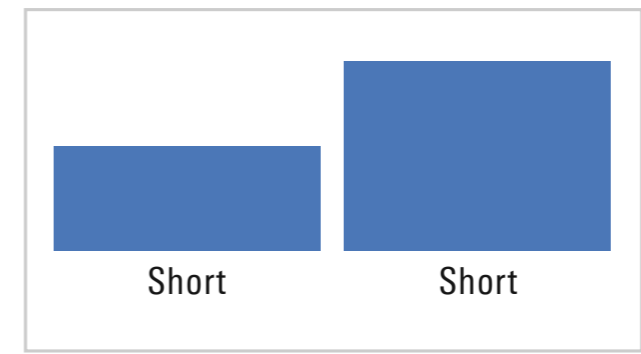
top and bottom rule length: **longest value + padding-right: 6px**

square icon: **10px by 10px**
padding between icon and text: **5px**

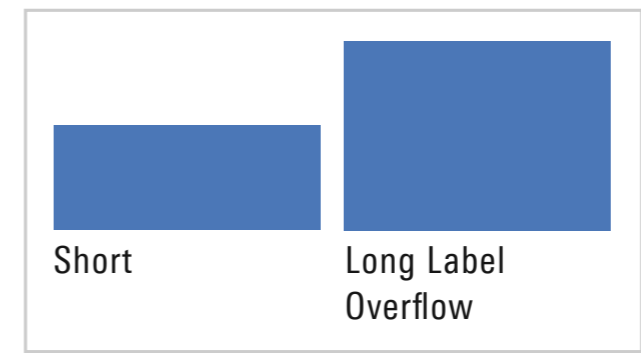


BAR VALUE LABELS
The bar value label should be within the bar, unless the bar is too short to hold the label, then it should be above.

label font-size: **14px**
label line-height: **17px**
label font-weight: **Condensed**
inside label color: **#FFFFFF [K0]**
outside label color: **#151515 [K90]**



X-AXIS VALUE OVERFLOW
When a value becomes too long and needs to break to a second line, the text should become left aligned. All values should be consistently aligned. If one value overflows and becomes left aligned, even those which do not overflow, should still be left aligned.



Stacked Bar

Use to show underlying composition of a whole or to compare underlying composition of multiple items.

Note: The color order within the plotted bars goes from top to bottom in order to match the legend order.

BARS

width: **Dynamic Width w/ 9px padding**
(padding can adjust to 6px, 3px, or 1px depending on chart width relative to total number of objects plotted)
color: **80% Opacity**

Y-AXIS

color: **\$gs14 (#151515) [K90]**
font-size: **14px**
line-height: **17px**
padding: **3px**

Y-AXIS LABEL

color: **\$gs8 (#666666) [K60]**
font-size: **14px**
line-height: **17px**
padding-right: **3px**
letter-spacing: **1px**

HORIZONTAL GRID LINES

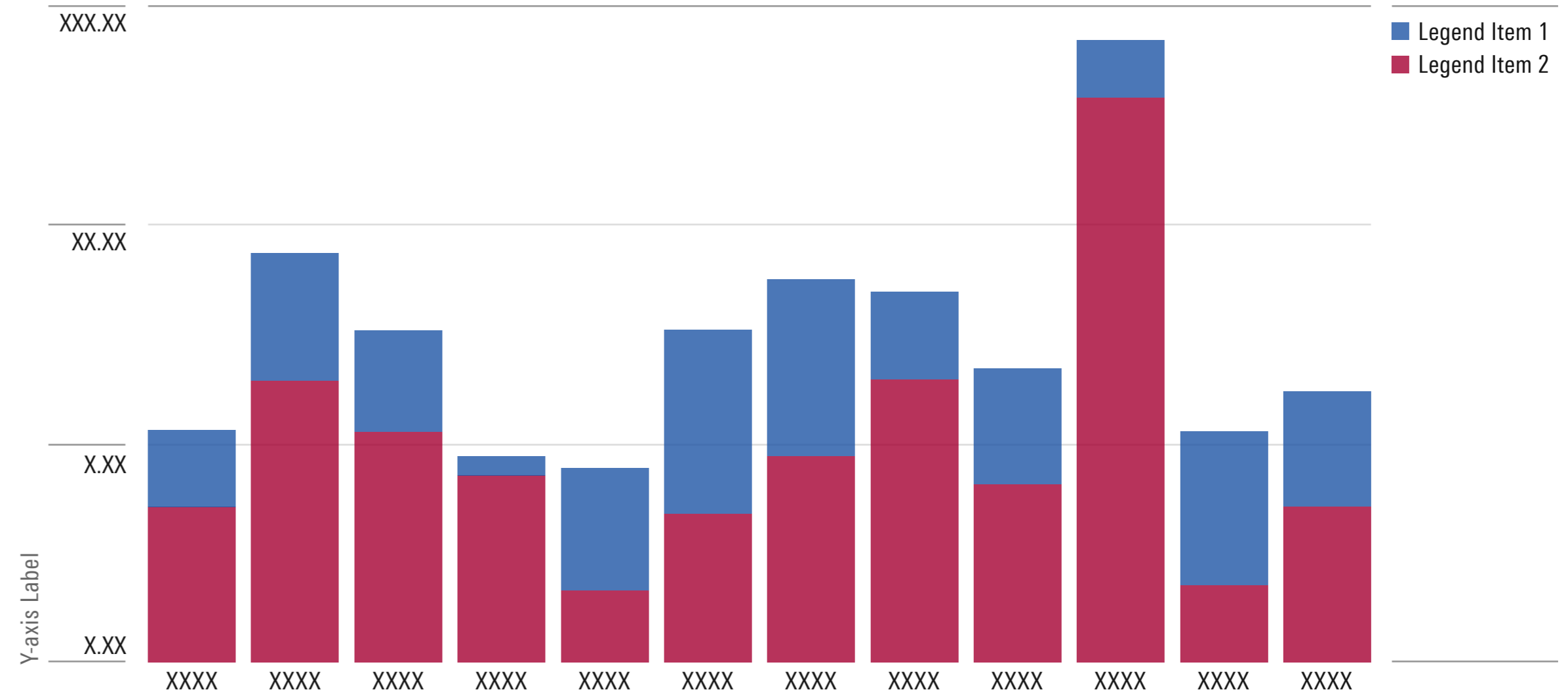
color: **\$gs4 (#DDDDDD) [K8]**
size: **1px**
zero line: **hidden if all values are positive, if there are negative values, show the zero line**

LEGEND

label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

top and bottom rule length: **longest value + padding-right: 6px**

square icon: **10px by 10px**
padding between icon and text: **5px**



Grouped Bar

Use to show contrasting data points within groupings.

BARS

width: **Dynamic Width w/ 9px padding**
(padding can adjust to 6px, 3px, or 1px
depending on chart width relative to total
number of objects plotted)
color: **80% Opacity**

Y-AXIS

color: **\$gs14 (#151515) [K90]**
font-size: **14px**
line-height: **17px**
padding: **3px**

Y-AXIS LABEL

color: **\$gs8 (#666666) [K60]**
font-size: **14px**
line-height: **17px**
padding-right: **3px**
letter-spacing: **1px**

HORIZONTAL GRID LINES

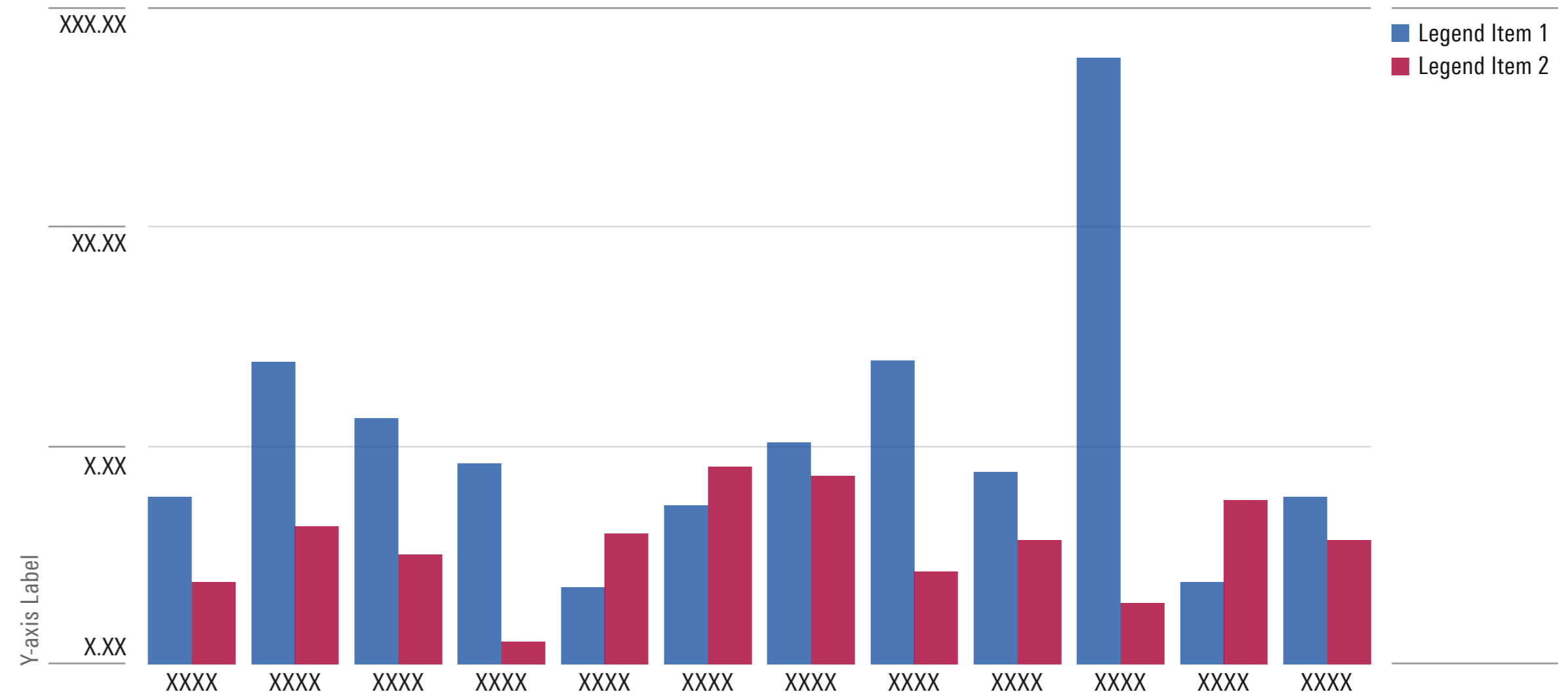
color: **\$gs4 (#DDDDDD) [K8]**
size: **1px**
zero line: **hidden if all values are positive,**
if there are negative values, show the zero line

LEGEND

label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

top and bottom rule length: **longest value +**
padding-right: 6px

square icon: **10px by 10px**
padding between icon and text: **5px**



Horizontal Bar

Can be a useful alternative to vertical bar for large collections of data and/or data labels that are long and difficult to fit along the X-axis. Use a solid X-axis line left-justifying unit labels at the beginning of time period or increment.

Use vertical gridlines, rather than vertical striping, for the horizontal bar.

Do not use vertical line at the zero point, whether it's at the left edge of the chart or in the center of a horizontal bar chart with positive/negative values.

BARS
height: **Dynamic Height w/ 9px padding**
(padding can adjust to 6px, 3px, or 1px depending on chart height relative to total number of objects plotted)
color: **80% Opacity**

BENCHMARK
color: **\$gs14 (#151515) [K90]**
size: **2px**

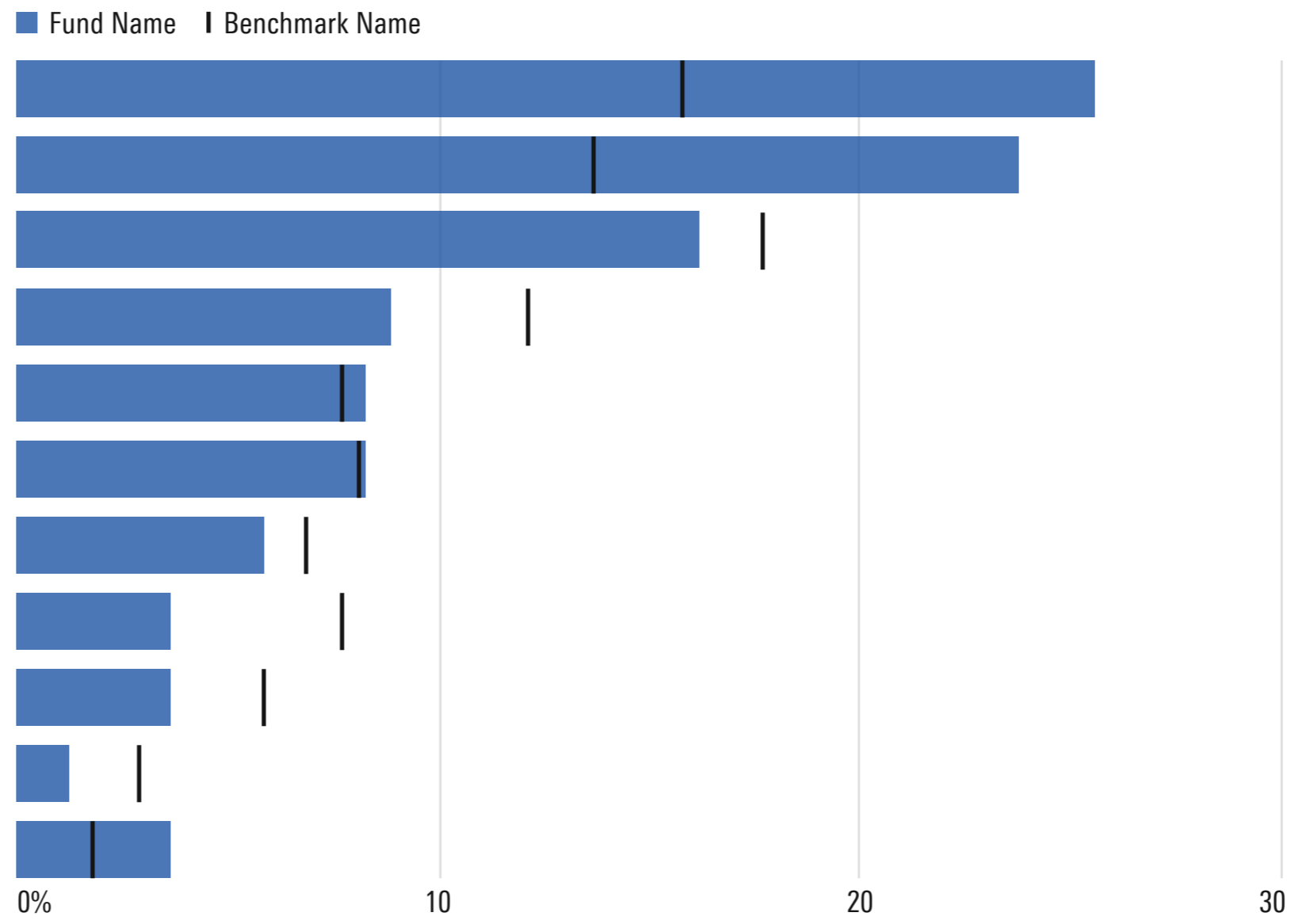
VERTICAL GRID LINES
color: **\$gs4 (#DDDDDD) [K8]**
size: **1px**
zero line: **hidden if all values are positive, if there are negative values, show the zero line**

FONT
font-weight: **Condensed**
font-size: **14px**
line-height: **17px**
font-color: **\$gs14 (#151515) [K90]**

TOP PADDING
visually: **3px from cap height**
padding-top: **0px with line-height: 17px**

LEGEND
label font-size: **14px**
label font-weight: **Condensed**

square icon: **10px by 10px**
padding between icon and text: **5px**
padding legend items: **15px**



Horizontal Bar

with Negative Values

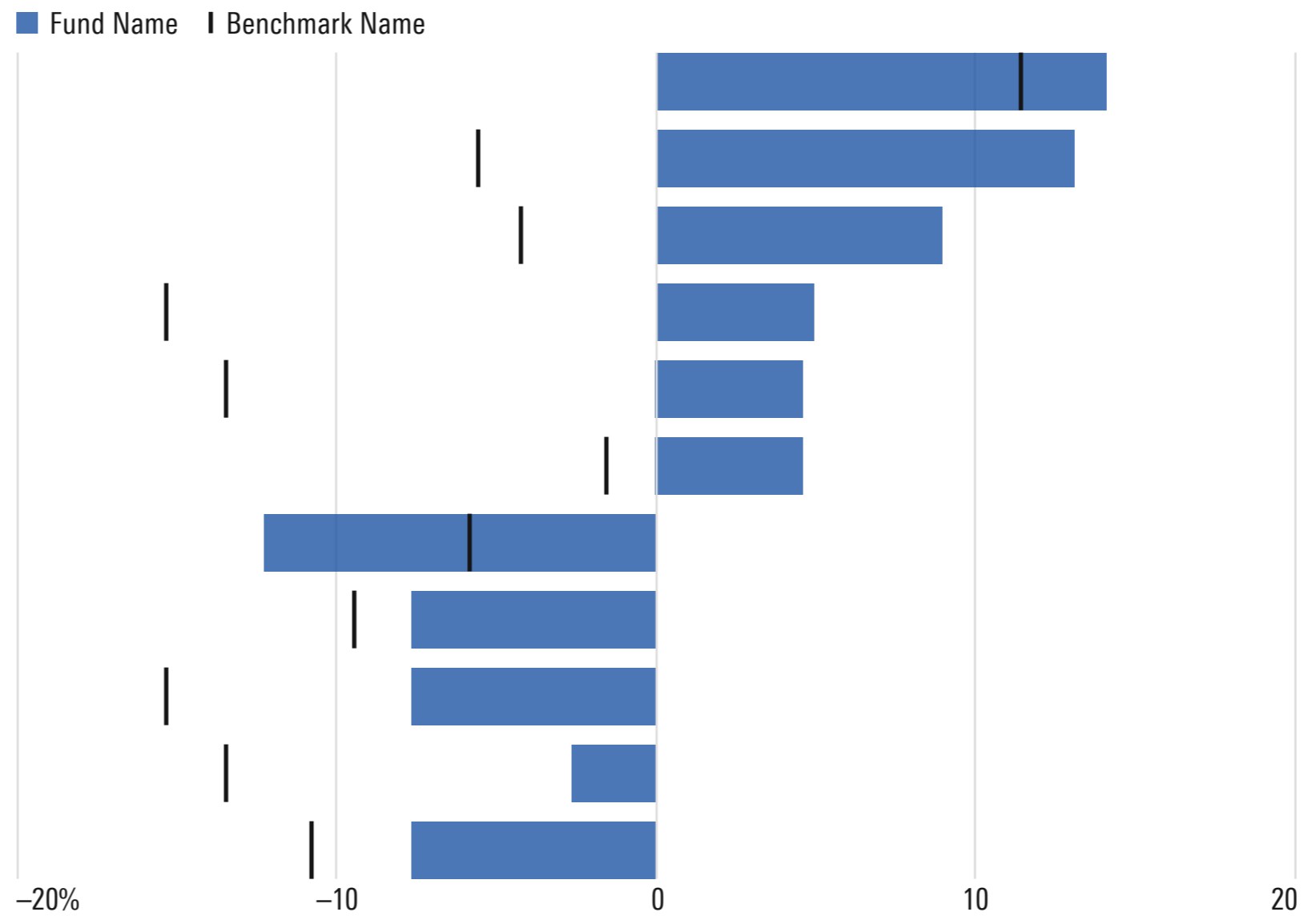
Do not use vertical line at the zero point, whether it's at the left edge of the chart or in the center of a horizontal bar chart with positive/negative values.

Do use a vertical line at the left edge of a horizontal bar chart when negative values are present.

Use vertical gridlines, rather than vertical striping.

Use a solid x-axis line, left-justifying unit labels at the beginning of time period or increment.

- BARS**
height: **Dynamic Height w/ 9px padding (padding can adjust to 6px, 3px, or 1px depending on chart height relative to total number of objects plotted)**
color: **80% Opacity**
- BENCHMARK**
color: **\$gs14 (#151515) [K90]**
size: **2px**
- VERTICAL GRID LINES (INSTEAD OF VERTICAL STRIPES)**
color: **\$gs4 (#DDDDDD) [K8]**
size: **1px**
zero line: **hidden if all values are positive, if there are negative values, show the zero line**
- FONT**
font-weight: **Condensed**
font-size: **14px**
line-height: **17px**
font-color: **\$gs14 (#151515) [K90]**
- TOP PADDING**
visually: **3px from cap height**
padding-top: **0px with line-height: 17px**



Donut (Pie)

Use to show parts of a whole.

Works best with limited number of slices (<8) to show simple share of a whole. Consider stacked bar as an alternative to multi-slice pie, especially if comparing multiple wholes.

PIE PROPORTIONS

The center cutout is **45%** of the whole circle.
There is a **1px** border between each slice.

DATA CALLOUTS

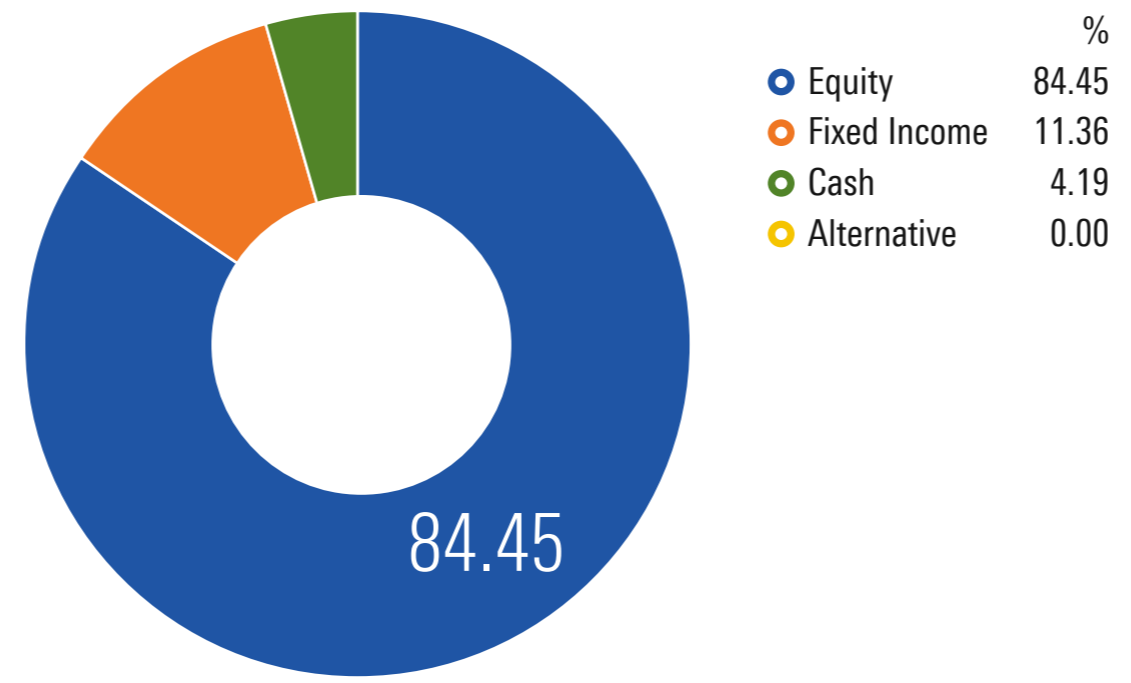
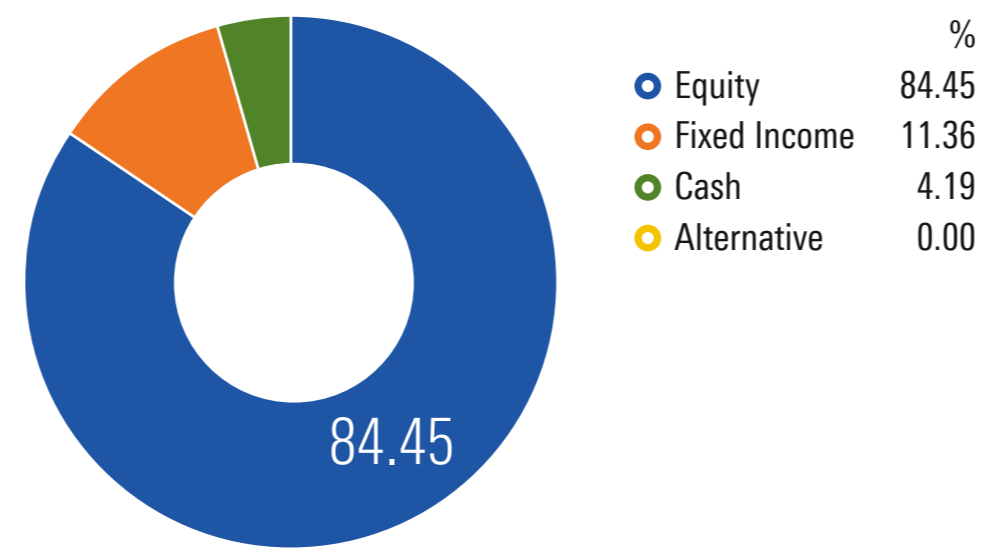
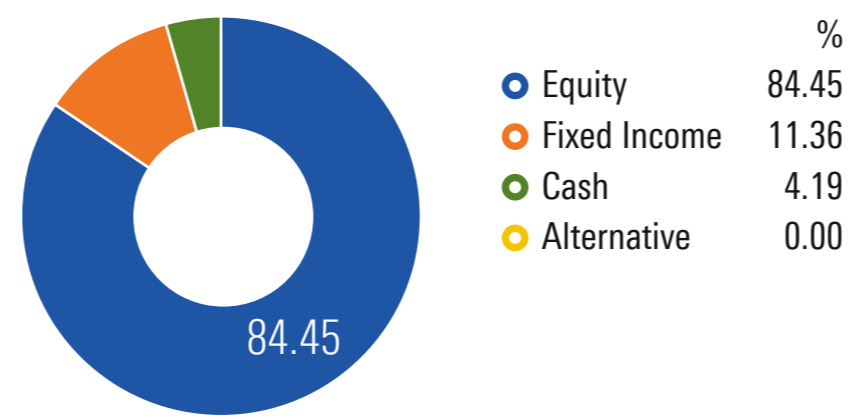
Data Values show up on the donut when there is room for them. They appear centered within their slice. The type has a minimum size of 18px and scales proportionally to the size of the whole donut (all type should be the same size).

font-weight: **Condensed Light**
minimum font-size: **18px**
font-color: **\$white (#FFFFFF)**

LEGEND

label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

padding between icon and text: **5px**



Style Box

This version of the style box shows distribution of a portfolio across style box categories.

LABELS

- >150px style box size, font-size: **14px**
- >600px style box size, font-size: **16px**
- >800px style box size, font-size: **18px**

font-weight: **Condensed**

>600px style box size, font-weight: **Condensed Light**

min-size padding: **4px**

>600px style box size, padding: **6px**

>800px style box size, padding: **8px**

BOXES

≤150px style box size, padding: **1px**

>150px style box size, padding: **2px**

>600px style box size, padding: **3px**

font-size: **43% of box**

font-weight: **Condensed Light**

LEGEND

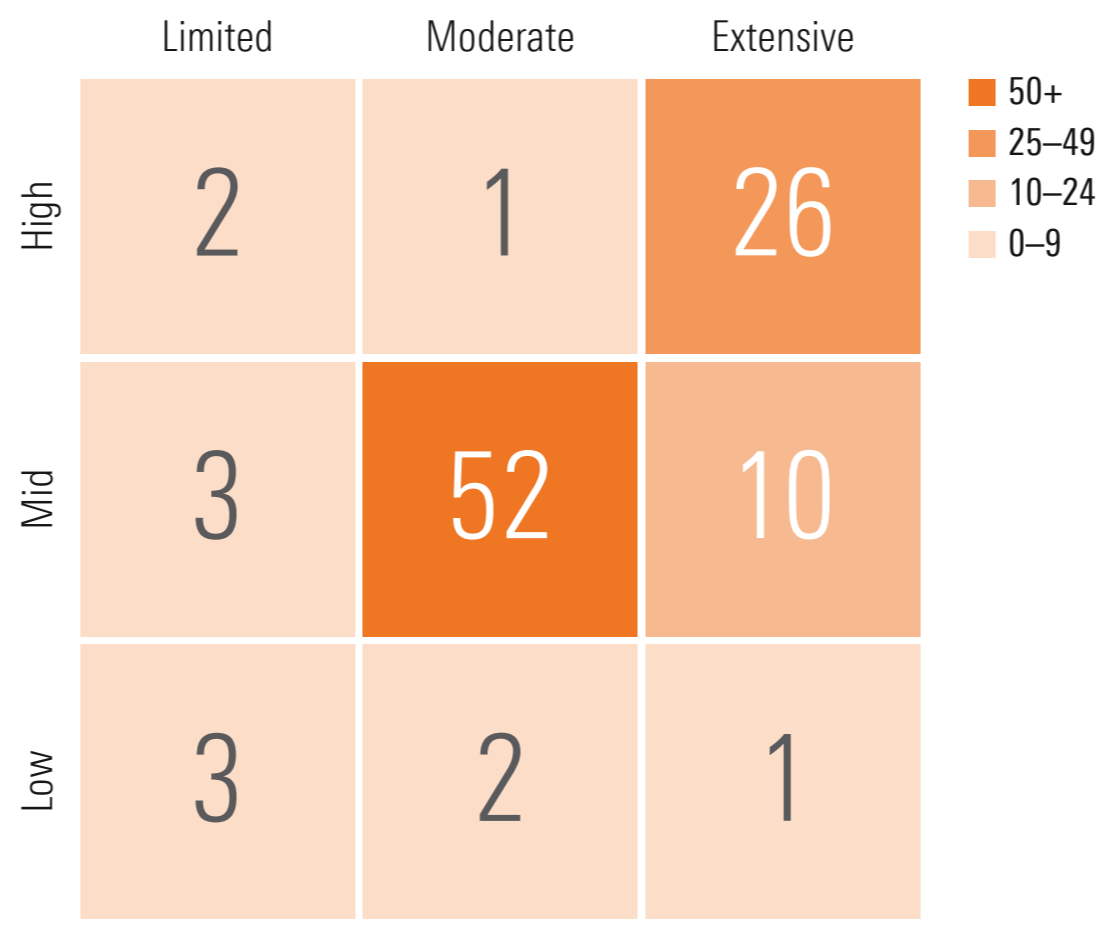
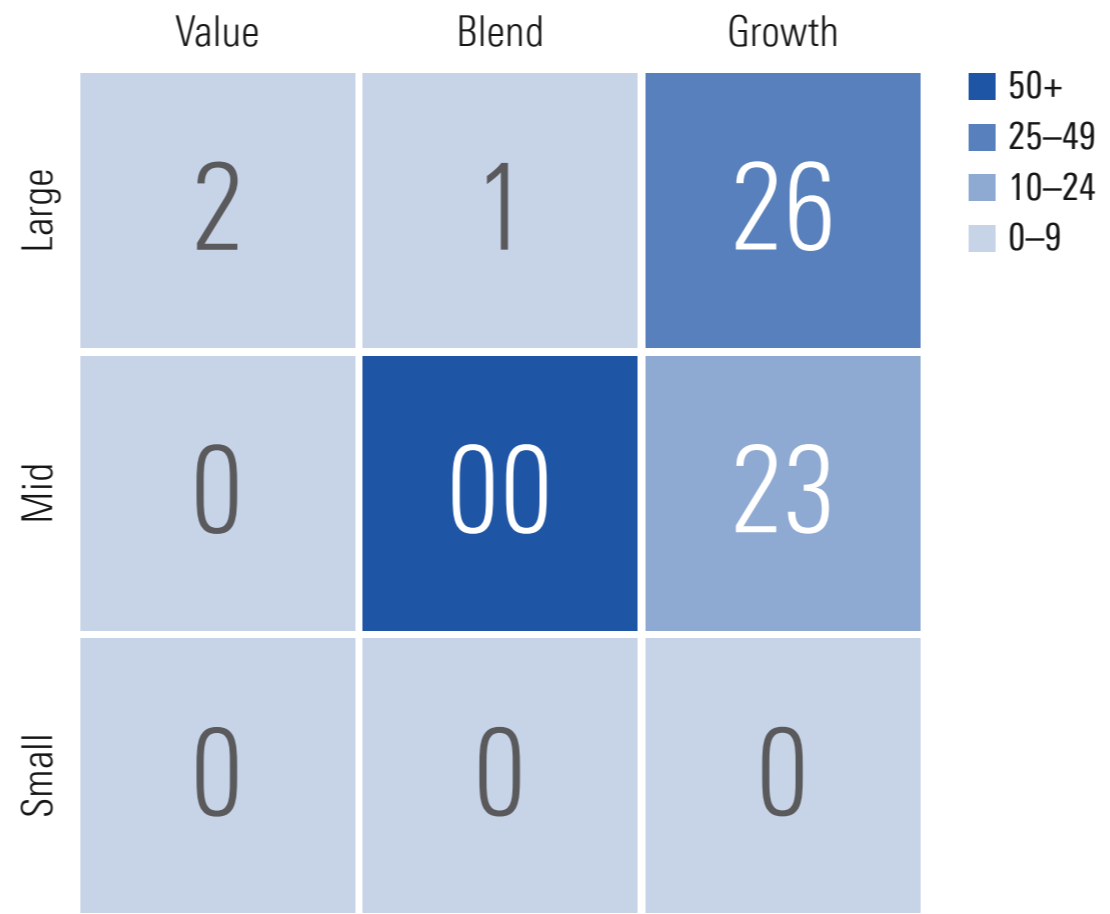
label font-size: **14px**

label line-height: **19px**

label font-weight: **Condensed**

square icon: **10px by 10px**

padding between icon and text: **5px**



EQUITY STYLE BOX COLORS
 color 1: #1F55A5 [C90 M60 Y0 K0]
 color 2: 75% tint of color 1
 color 3: 50% tint of color 1
 color 4: 25% tint of color 1

FIXED-INCOME STYLE BOX COLORS
 color 1: #EF7622 [C22 M66 Y100 K0]
 color 2: 75% tint of color 1
 color 3: 50% tint of color 1
 color 4: 25% tint of color 1

MARKET BAROMETER COLORS
 color 1: #00AF41 [C94 M0 Y100 K0]
 color 2: 60% of color 1
 color 3: 30% of color 1
 color 4: #CCCCCC [K25]
 color 5: 30% of color 7
 color 6: 60% of color 7
 color 7: #FF0000 [C0 M91 Y76 K0]

Style Map

This version of the style box shows distribution of a portfolio across style box categories.

INNER BOX
line-weight: **1px**
line color: **gs14 (#151515)**

OUTER BOX
line-weight: **1px**
line color: **gs4 (#DDDDDD)**

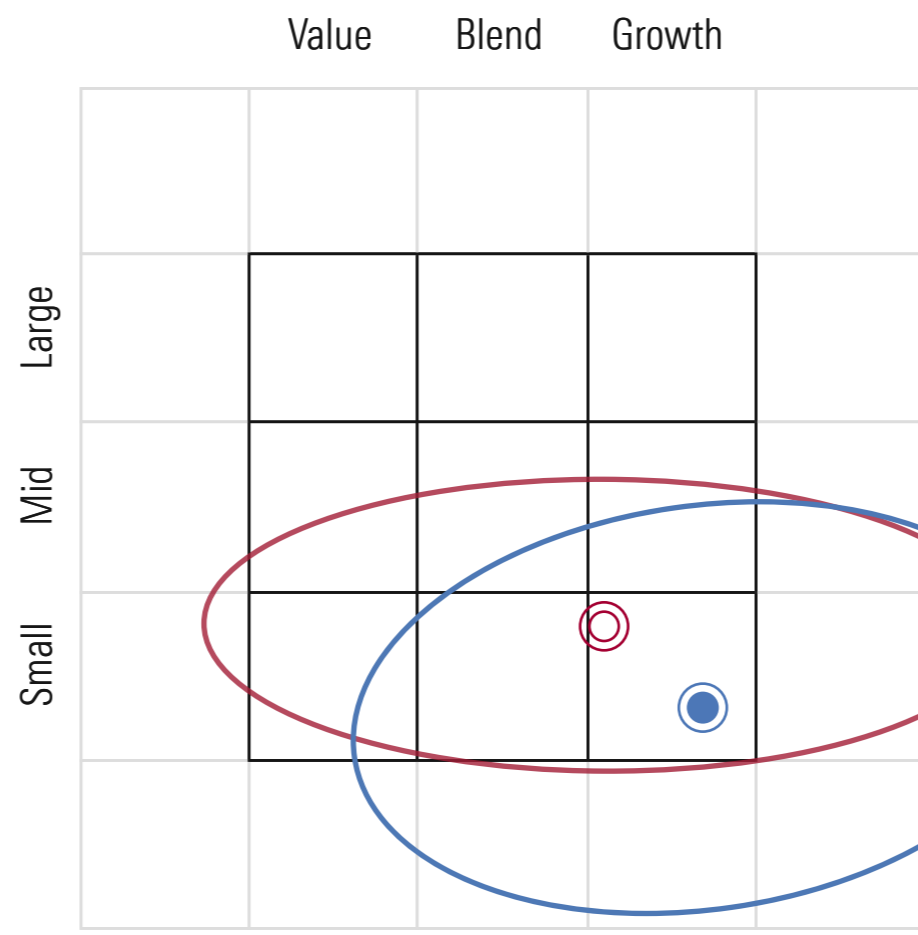
LABELS
>150px style box size, font-size: **14px**
>600px style box size, font-size: **16px**
>800px style box size, font-size: **18px**

font-weight: **Condensed**
>600px style box size, font-weight: **Condensed Light**

min-size padding: **4px**
>600px style box size, padding: **6px**
>800px style box size, padding: **8px**

LEGEND
label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

square icon: **10px by 10px**
padding between icon and text: **5px**



- Centroid
 - Holdings
 - Ownership Zone
- Symbol Key
- 290 GAMCO Small/Mid Cap Value Fund Class 1 as of 7/1/2015
 - Russel 2000 Index as of 5/30/2015
- Color Key

Labels
Switch all **labels to abbreviations** once the maximum square area is reached.

Value: **Val**
Blend: **Bld**
*Growth: **Gwth**
Small: **Sm**
Mid: **Mid**
Large: **Lg**

Do not abbreviate **outer labels [Micro, Giant, Deep Value, *High Growth]**
Drop outer labels once they reach the maximum square area.
[See responsive rules]

- Centroid
 - Holdings
 - Ownership Zone
- 10px
5px
- 290 GAMCO Small/Mid Cap Value Fund Class 1 as of 7/1/2015
 - Russel 2000 Index as of 5/30/2015
- Separator
1px dotted GS7 [999999]
- Ancillary Detail
14px, UniversCondensed GS8 [666666]

Style Trail

This version of the style box shows distribution of a portfolio across style box categories.

LABELS

- >150px style box size, font-size: **14px**
- >600px style box size, font-size: **16px**
- >800px style box size, font-size: **18px**

font-weight: **Condensed**

>600px style box size, font-weight: **Condensed Light**

min-size padding: **4px**

>600px style box size, padding: **6px**

>800px style box size, padding: **8px**

BOXES

≤150px style box size, padding: **1px**

>150px style box size, padding: **2px**

>600px style box size, padding: **3px**

font-size: **43% of box**

font-weight: **Condensed Light**

LEGEND

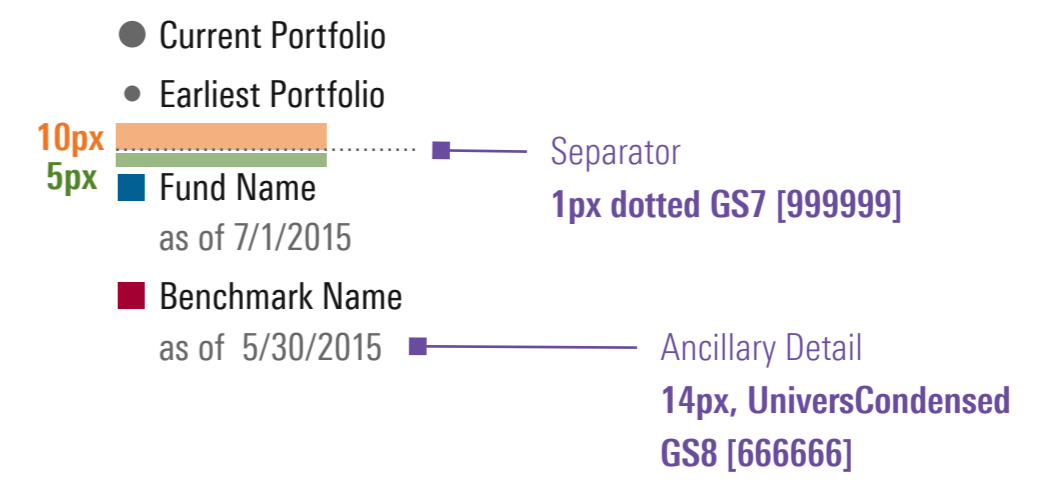
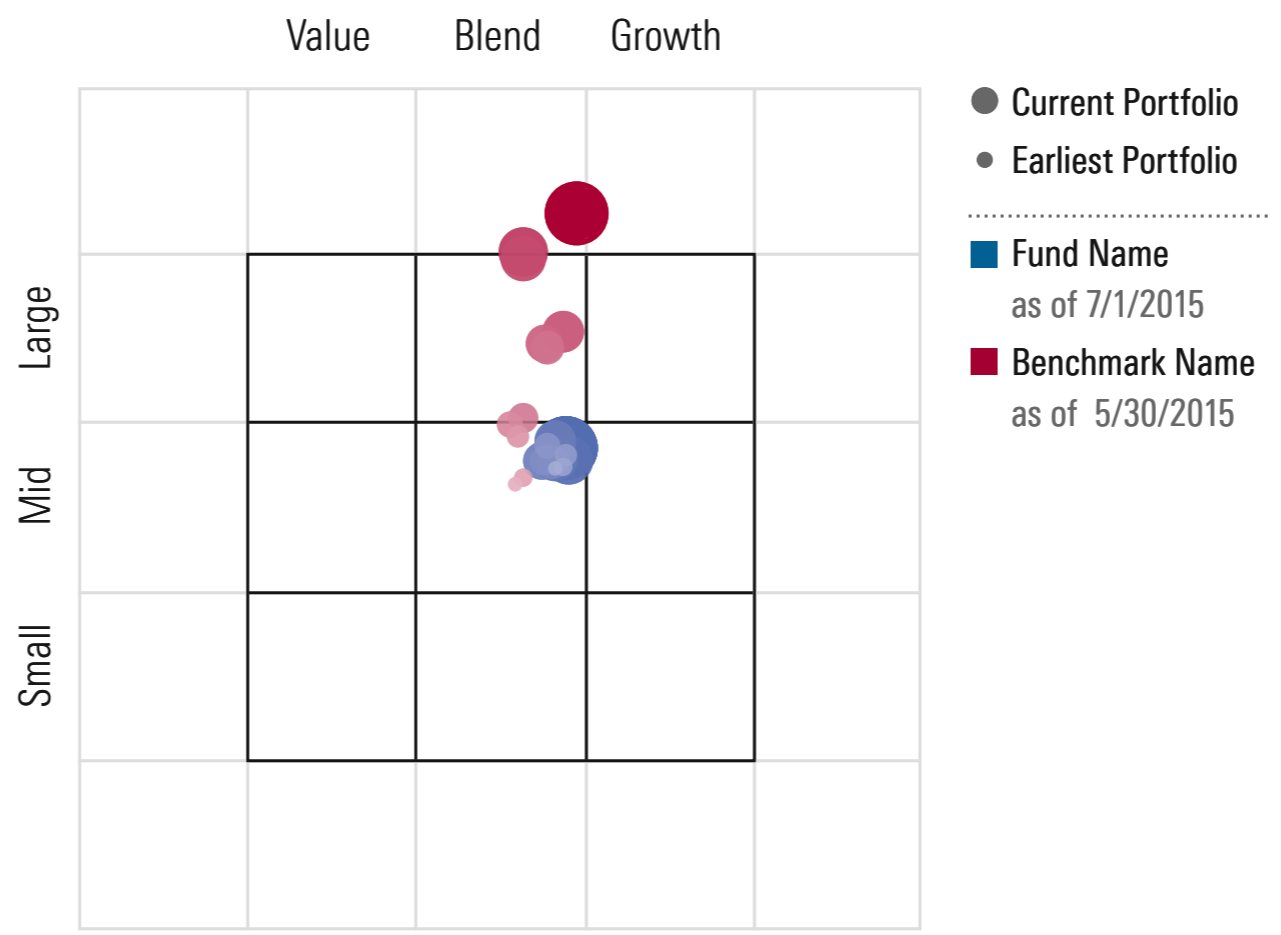
label font-size: **14px**

label line-height: **19px**

label font-weight: **Condensed**

square icon: **10px by 10px**

padding between icon and text: **5px**



Scatter Plot

Use a scatter plot to graph two variables are plotted along two axes, the pattern of the resulting points revealing any correlation present.

GRID LINES

weight: **1px**

color: **#DDDDDD**

CIRCLES

min-size: **15px by 15px**

Circles should scale proportionally to the size of the chart

opacity: **80%**

LEGEND

group name font-weight: **Condensed Bold**

label font-size: **14px**

label line-height: **19px**

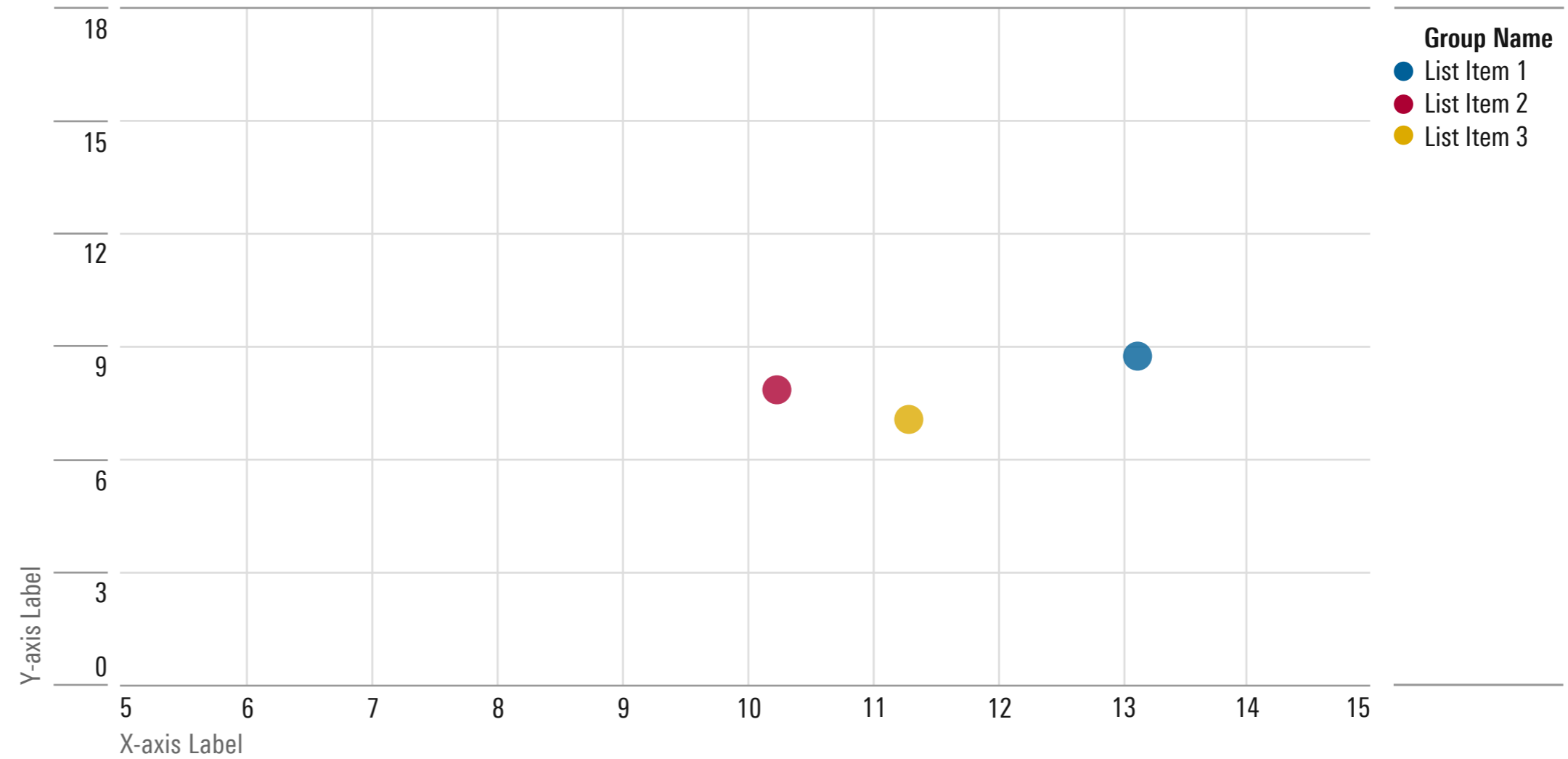
label font-weight: **Condensed**

top and bottom rule length: **longest value + padding-right: 6px**

circle icon: **10px by 10px**

padding between icon and text: **5px**

padding between icon and text: **5px**



Bubble

Use a bubble chart to displays three dimensions of data. A variable is represented by each axis and the third is represented by size of bubble.

The tick marks on each axis serve to show the center value of each bubble. Since the size of these bubbles does not effect their values on either axis. This histogram axis view is used to avoid the possible misunderstanding as the width or height of the object correlating to a range of axis values.

TOP RULE
weight: **1px**
color: **\$gs7 (#999999) [K35]**
padding-bottom: **10px**

X-AXIS TICKS
height: **20px**
weight: **1px**
color: **matches plot it refers to**
padding-top: **10px**

X-AXIS
color: **\$gs14 (#151515) [K90]**
font-size: **14px**
line-height: **17px**
padding-top: **3px**

X-AXIS LABEL
matches X-axis type
color: **\$gs8 (#666666) [K60]**
padding-top: **6px**

Y-AXIS TICKS
width: **20px**
weight: **1px**
color: **matches plot it refers to**
padding-right: **12px**

Y-AXIS
matches Y-axis type
padding-right: **3px**

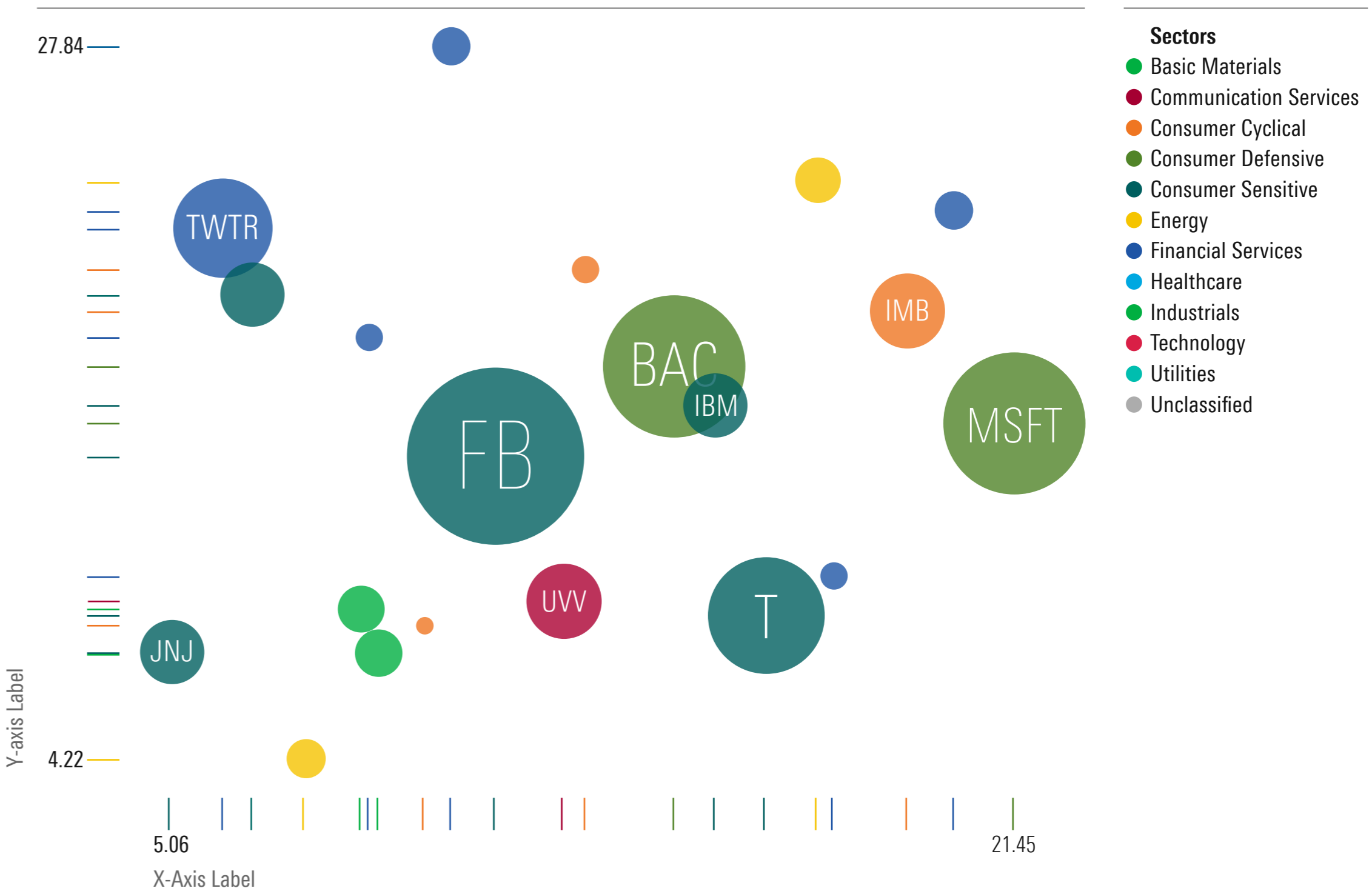
Y-AXIS LABEL
color: **\$gs8 (#666666) [K60]**
font-size: **14px**
line-height: **17px**
padding-right: **3px**

BUBBLES
minimum size: **8px by 8px**
opacity: **80%**

LEGEND
group name font-weight: **Condensed Bold**

label font-size: **14px**
label line-height: **19px**
label font-weight: **Condensed**

circle icon: **10px by 10px**
padding between icon and text: **5px**
padding between icon and text: **5px**

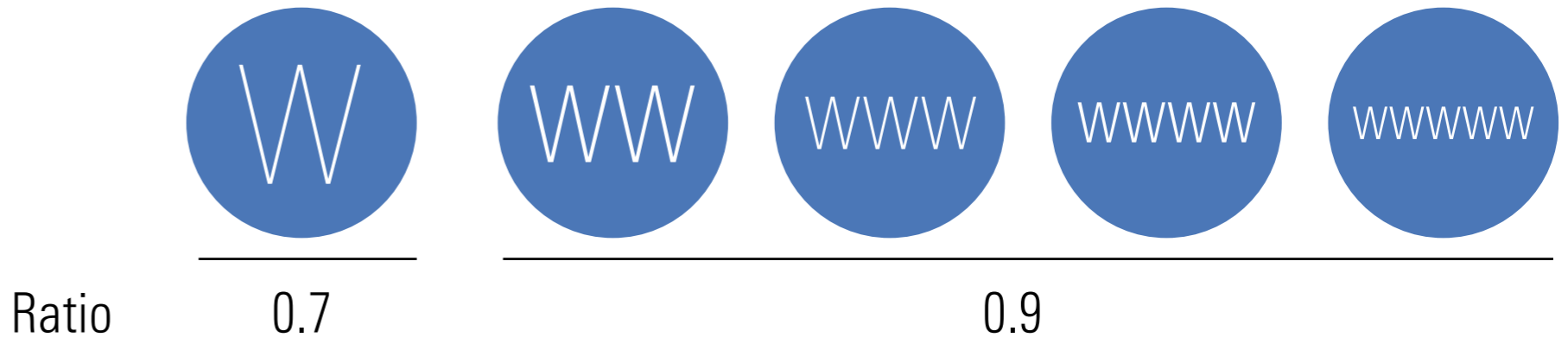


Dynamic labels

for Bubble Chart

In some charts, like scatter plot, where there is a ticker associated with each object/circle, the type size is dynamic to the size of the circle following these rules.

$$\frac{\text{Circle Diameter} \times \text{Ratio}}{\text{Number of Characters}} = \text{Ticker font size in pixels}$$



Text sizes:

Over 28px

Univers For MORN Con Thin

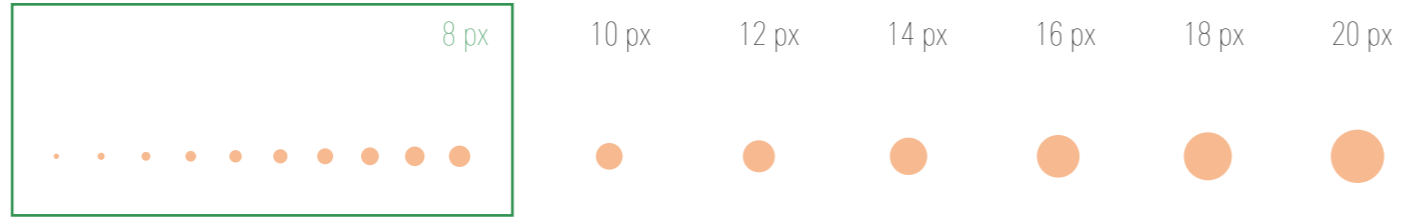
14 – 28px

Univers For MORN Con Lt

Under 14 px.

Don't show the ticker name

Min Circle size:



Show all as 8x8 px

Correlation Matrix

A correlation matrix is a table showing correlation coefficients between sets of variables. Each variable in the table is correlated with each of the other values in the table. This allows you to see which pairs have the highest correlation.

For all scenarios except foreign exchange rates, the matrix will be symmetrical. You may choose to show the mirrored data if needed.

SQUARES

width: **Dynamic Width w/ 1px padding**
(min-width: 20 x 20px)

blue base: **\$blue (#1F55A5)** [C90 M60 Y0 K0]

blue 2: **#5780BC** [C70 M45 Y2 K0]

blue 3: **#8FAAD2** [C44 M26 Y3 K0]

blue 4: **#C7D5E9** [C20 M10 Y2 K0]

orange base: **\$orange (#EF7622)** [C2 M66 Y100 K0]

orange 2: **#F39859** [C1 M48 Y71 K0]

orange 3: **#F7BB91** [C1 M30 Y44 K0]

orange 4: **#FBDDC8** [C1 M14 Y19 K0]

COEFFICIENTS

color: **\$gs14 (#151515)** [K90]

color: **\$white (#FFF)**

font-size: **14px**

font-weight: **Bold**

X-AXIS LABELS

color: **\$gs14 (#151515)** [K90]

font-size: **14px**

font-weight: **Bold**

Y-AXIS LABEL

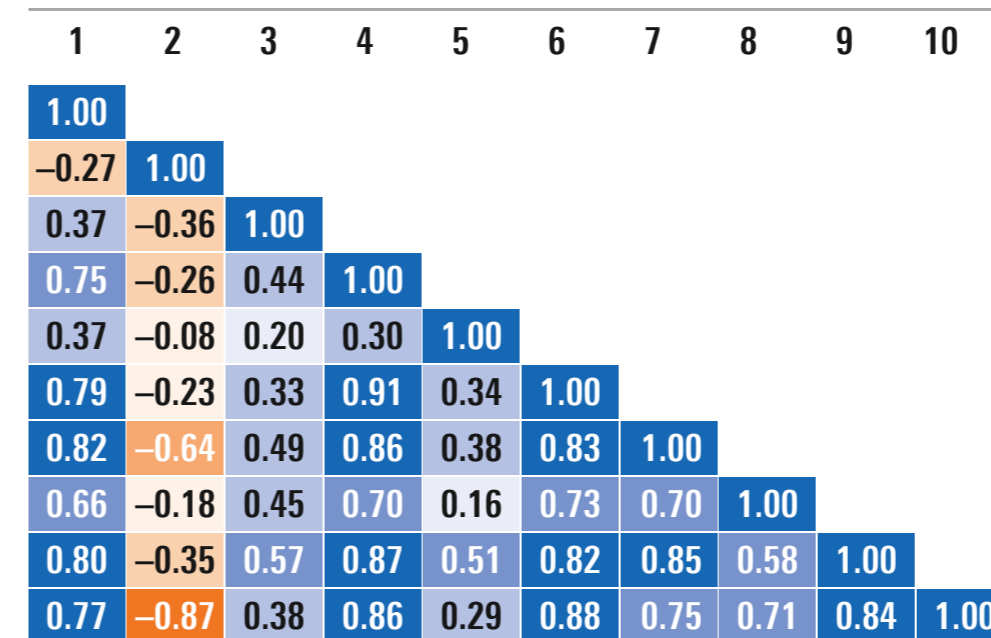
color: **\$gs14 (#151515)** [K90]

font-size: **14px**

line-height: **21px**

font-weight: **Condensed (numbers), Bold (labels)**

- 1 Asia/Pacific Long-Short Equity
- 2 Bear-Market Equity
- 3 China Long-Short Equity
- 4 Convertible Arbitrage
- 5 Currency
- 6 Debt Arbitrage
- 7 Distressed Securities
- 8 Diversified Arbitrage
- 9 Emrg-Mkta Long-Short Equity
- 10 Equity Market Neutral



- 0.76 to 1.00
- 0.51 to 0.75
- 0.26 to 0.50
- 0.01 to 0.25
- 0.00 to -0.24
- 0.25 to -0.49
- 0.50 to -0.74
- 0.75 to -1.00

LEGEND

label font-size: **14px**

label line-height: **19px**

label font-weight: **Condensed**

top and bottom rule length: **longest value + padding-right: 6px**

square icon: **10px by 10px**

padding between icon and text: **5px**

- 1 Asia/Pacific Long-Short Equity
- 2 Bear-Market Equity
- 3 China Long-Short Equity
- 4 Convertible Arbitrage
- 5 Currency
- 6 Debt Arbitrage
- 7 Distressed Securities
- 8 Diversified Arbitrage
- 9 Emrg-Mkta Long-Short Equity
- 10 Equity Market Neutral

