

# Single-Measure Butterfly without Dual Axis

by Mohit Kumar – Apr 20, 2025

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A butterfly chart is an effective way to visualize the distribution of data. It typically shows two related data sets side by side, which resembles the wings of a butterfly. Although this chart is often used for two measures, it can also be applied to a **single measure** to compare different categories or groups. Before we start, I highly recommend checking out '[How to Create a Butterfly Chart with One Axis](#)' by **Veronika Varaksina**.

I will share three ways to create a butterfly chart. For this demonstration, I'll be using the Sample Superstore data. We'll keep it simple by building a view to check sales by sub-category. Let's dive into how you can create a butterfly chart in Tableau.

## Approach 1 – Dual Axis

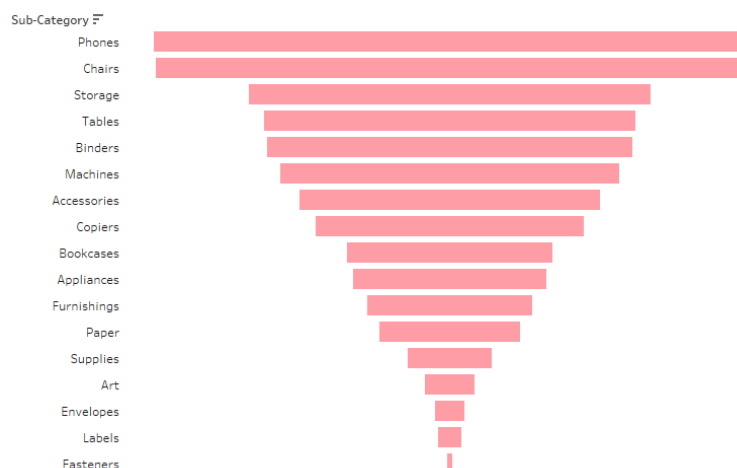
1. Create a calculated field as shown below:

**@Negative Sales**

- [Sales]

2. Add [Sub-Category] to the Rows shelf.
3. Add [Sales] and [@Negative Sales] to the Columns shelf.
4. Right-click on [@Negative Sales] and select 'Dual Axis' to create a dual-axis chart. Make sure the axes are synchronized.
5. Sort the [Sub-Category] by Sales.

Format it as needed, and we're done! How quick and easy was that?



However, there's a problem – we can't place the labels on the zero line. The solution? A combo chart. If you haven't checked out Veronika's blog yet, do so now, as we're going to create one using a similar approach. Let's explore another method.

## Approach 2 – Blended Axis

1. Add [Sub-Category] to the Rows shelf.
2. Add [Sales] and [@Negative Sales] to the Columns shelf.

Your view now should look like this:



3. Drag the [@Negative Sales] field from the Columns shelf and drop it onto the Sales axis to create a blended axis.
4. Remove [Measure Names] from the Rows shelf and sort the [Sub-Category] by Sales.

Since this is a single-measure butterfly chart, we don't need to worry about aligning the axis range.

5. To add a label at the center of the bar, we need to create a dummy axis. You can create one using the calculation below.

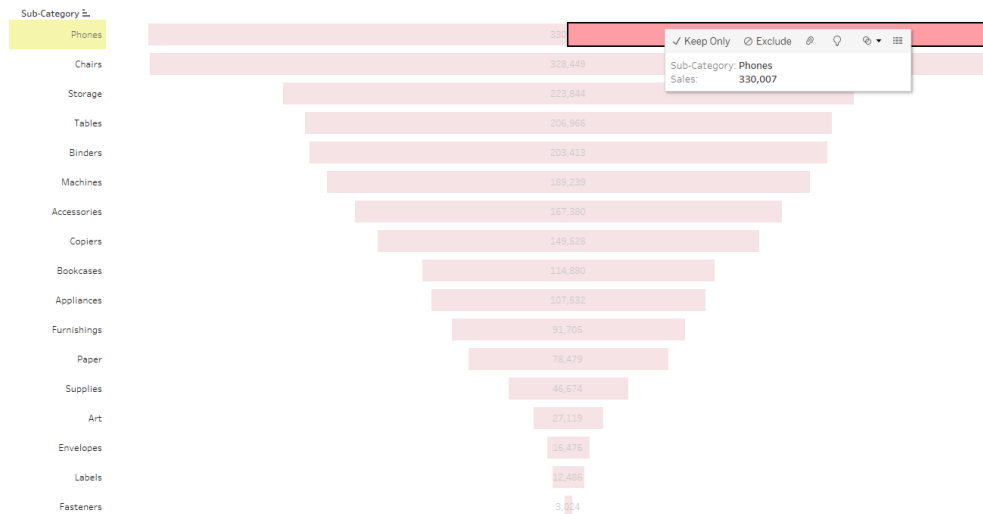
### @Dummy Axis

```
MIN(0)
```

6. Add [@Dummy Axis] to the Columns shelf.
7. Change the mark type of [Measure Values] to 'Bar' and [@Dummy Axis] to 'Shape'.
8. Assign a transparent shape to the [@Dummy Axis]. Add [Sales] to the Text shelf and center-align it.
9. Right-click on [@Dummy Axis] and select 'Dual Axis' to create a dual-axis chart. Make sure the axes are synchronized.

That's it! You can now format the chart, and you're done.

We got what we wanted, but there's something about this that I'm not entirely happy with. There are two separate bars for the negative and positive ends, which you can notice by clicking or hovering over the bars.



How can we resolve this? Let's explore another approach.

### Approach 3 – Single Axis

1. Add [Sub-Category] to the Rows shelf.
2. Add [Sales] to Columns shelf right click and change it to percent of total.
3. Sort the [Sub-Category] by Sales.
4. Ctrl drag the [Sales] field and drop it to Data pane to save the calculation. Rename it to [Sales %].
5. Let's create a few calculations as shown below:

**[@Sales % Negative]**

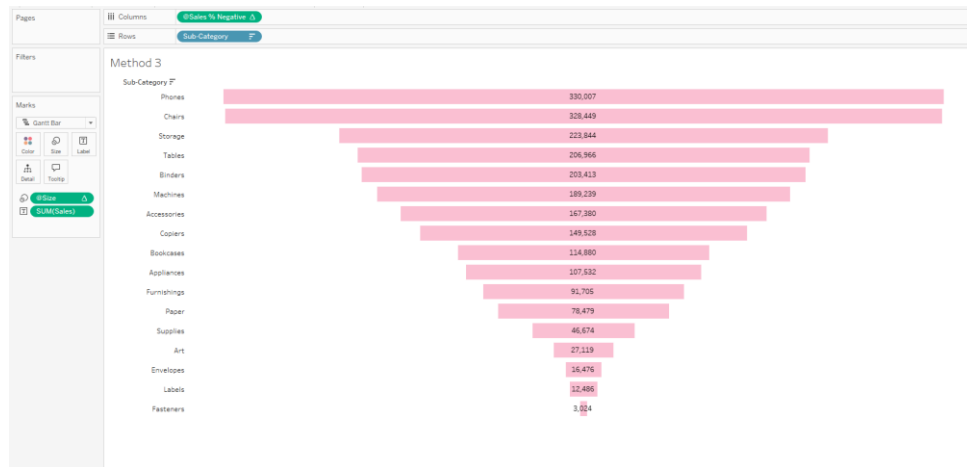
- [Sales %]

**[@Size]**

[Sales %] \* 2

6. Change the mark type to 'Gantt Bar'
7. In the Columns shelf, replace the [Sales %] field with [Sales % Negative].
8. Drag [Size] to the Size.
9. Add [Sales] to the Text and align it to the center.
10. Right-click on [Size] and [Sales % Negative], and uncheck 'Include in Tooltip'.

With a bit of formatting, the output should look like this.



And there you have it! We've successfully created a butterfly chart in Tableau using three different approaches. Remember, Tableau offers a wide range of customization options, so feel free to tweak the formatting, labels, and axes to match your specific needs.

I'd love to hear your thoughts! If you have any feedback or suggestions, feel free to share.

Thanks!

Mohit