How to create a line graph with vertical lines inserted

I have been using stock exchange data and working on how to predict a turning point. Every so often the stock values change direction, i.e. after a downward trend they suddenly start moving upwards, or the other way round. My idea was that when I spotted this change, I should insert a vertical line at this spot to intersect the line graph representing the shares' movements. Sounds easy, right? Well, it really is, as we will show in the first example. However, Excel sometimes throws a tantrum and you do not know what is happening. This tutorial will hopefully help you navigate a variety of scenarios.

We'll start with the sheet in Fig. 1. Columns A and B come from the stock exchange and column C contains the values from column B at the point where the turning point is taking place.
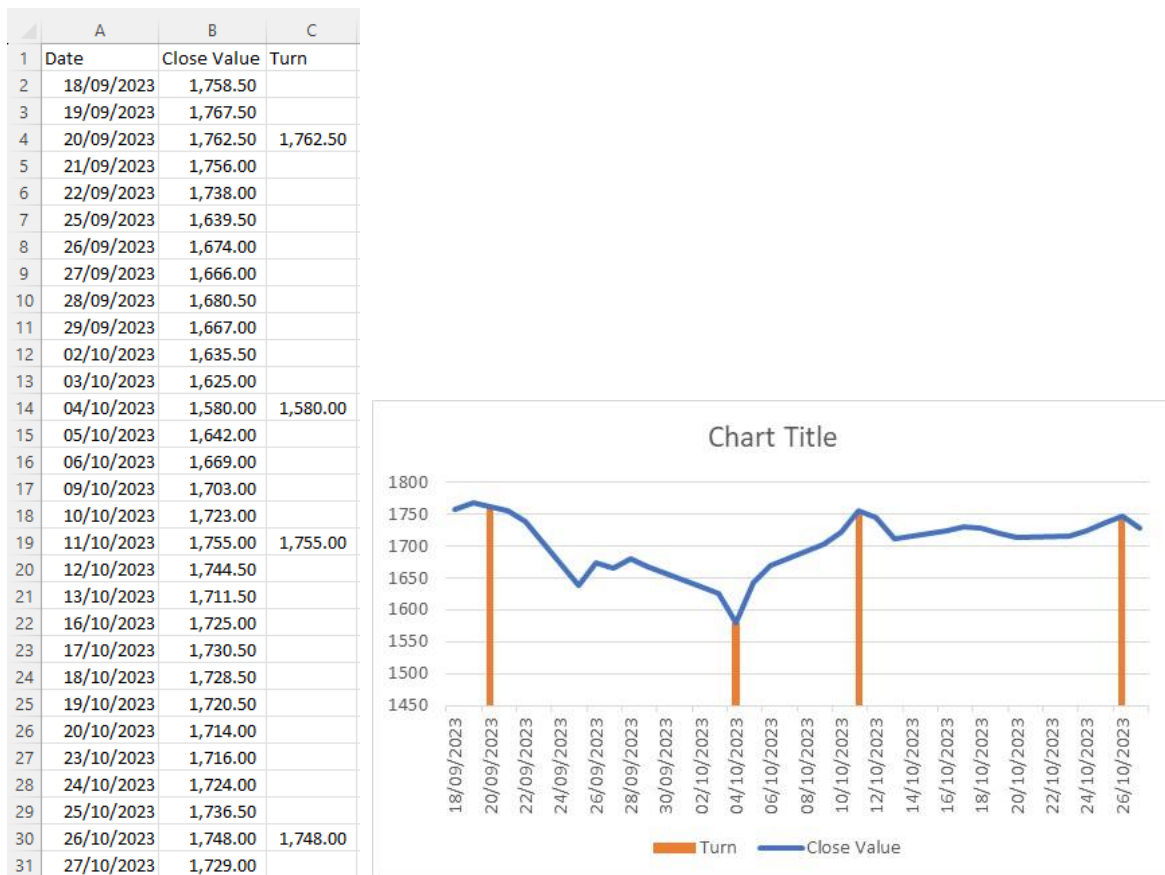

Fig. 1

Our objective is to have a graph that will look like the one on the right of Fig. 1.

This procedure is really trivial as all you have to do is highlight the whole range A1:C31, select Insert from the top of your Excel desktop and then select the Line Graph. What you are going to get is shown in Fig. 2.

As you can see from the Legend in Fig. 2, although the turn line is present, you cannot actually see it. To make it visible, all you have to do is click on the chart and select Change Chart Type.

Fig. 2

Select the Combo chart, change the Close Value dataset into a Line and the Turn dataset into a Clustered Column, as in Fig. 3.
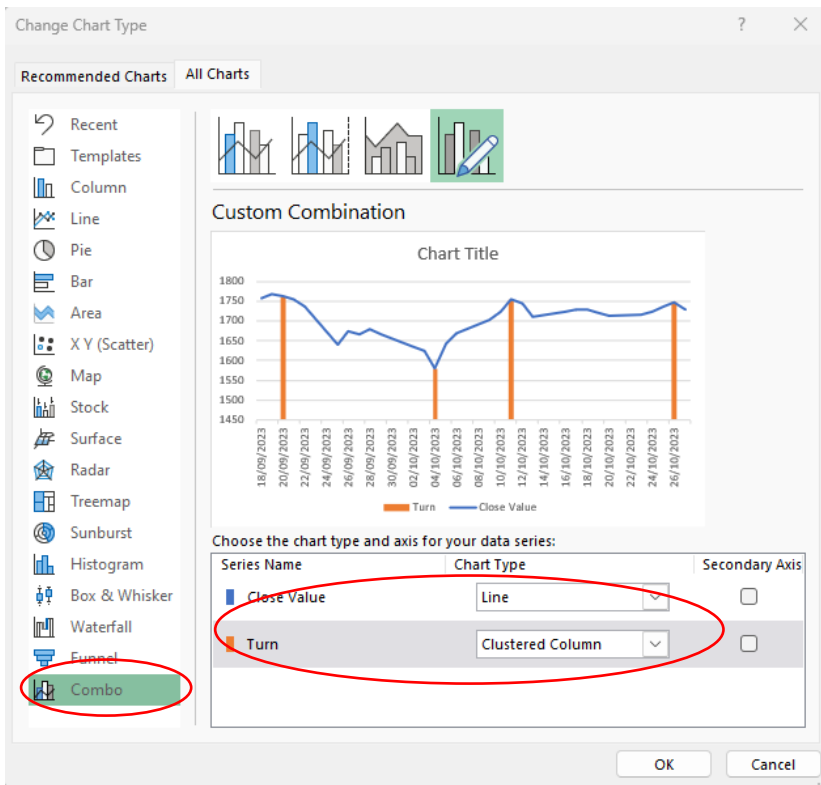

Fig. 3

The last action is, if you think that the vertical bars are too thick, click on one of the vertical bars and then click on the Format Data Series… option from the pop-down menu, as in Fig. 4. Change the Gap Width from 150% to 400%, or whatever number you want.
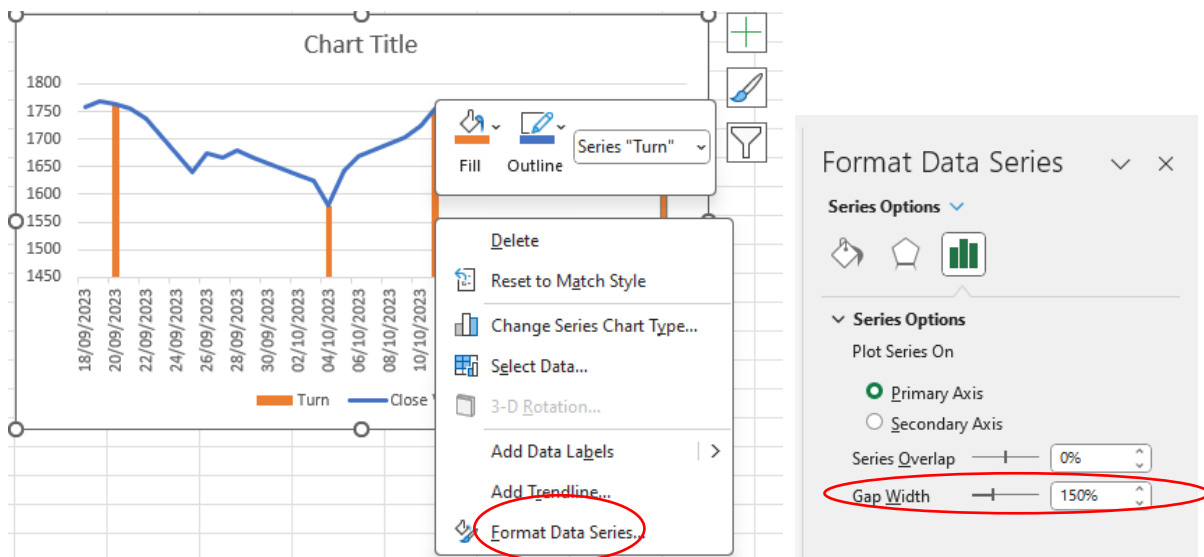
Fig. 4

Now your graph looks like the one in Fig. 5.

Fig. 5

This is it. Very easy. Not worth a tutorial. Unfortunately, the reality can be more complicated.

Now, let's tackle a more complex task. In Fig. 6 we have the same data as in Fig. 1, but with some additional data sets. However, unlike Fig. 1, the column with Close values is now in column E and the Turn data are now in column L. There are other calculations in this sheet, but we'll ignore them as we are only interested in showing the Turn dataset as vertical lines on the line graph representing the Close dataset.

Using the CTRL key, we selected columns A and E to create a line graph in the same way as described above.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Date	Open	High	Low	Close	Volume	Avrg of 5	Diff	UL	LL	IF	Turn		
2	18/09/2023	1,753.50	1,773.50	1,749.50	1,758.50	706,996							mean	-2.276
3	19/09/2023	1,762.00	1,772.50	1,756.50	1,767.50	1,101,295							sd	46.79683
4	20/09/2023	1,770.00	1,780.12	1,760.50	1,762.50	706,595							L	1
5	21/09/2023	1,758.50	1,769.00	1,751.48	1,756.00	1,083,489								
6	22/09/2023	1,750.00	1,757.50	1,737.00	1,738.00	1,126,741								
7	25/09/2023	1,737.50	1,737.50	1,623.00	1,639.50	2,435,022	1756.5	-117	44.52083	-49.0728	Change DOWN	1,639.50		
8	26/09/2023	1,628.50	1,678.50	1,621.50	1,674.00	1,560,557	1732.7	-58.7	44.52083	-49.0728				
9	27/09/2023	1,674.00	1,675.48	1,649.00	1,666.00	1,290,101	1714	-48	44.52083	-49.0728				
10	28/09/2023	1,657.00	1,687.00	1,653.00	1,680.50	2,370,982	1694.7	-14.2	44.52083	-49.0728				
11	29/09/2023	1,681.00	1,694.00	1,667.00	1,667.00	1,987,143	1679.6	-12.6	44.52083	-49.0728				
12	02/10/2023	1,665.00	1,687.00	1,635.50	1,635.50	2,250,262	1665.4	-29.9	44.52083	-49.0728				
13	03/10/2023	1,638.00	1,641.00	1,623.50	1,625.00	2,168,851	1664.6	-39.6	44.52083	-49.0728				
14	04/10/2023	1,623.00	1,625.00	1,553.50	1,580.00	3,995,429	1654.8	-74.8	44.52083	-49.0728	Change DOWN	1,580.00		
15	05/10/2023	1,585.00	1,649.00	1,582.50	1,642.00	2,449,585	1637.6	4.4	44.52083	-49.0728				
16	06/10/2023	1,656.50	1,678.00	1,651.50	1,669.00	2,388,162	1629.9	39.1	44.52083	-49.0728				
17	09/10/2023	1,676.00	1,706.00	1,668.00	1,703.00	1,708,932	1630.3	72.7	44.52083	-49.0728	Change UP	1,703.00		
18	10/10/2023	1,726.50	1,742.00	1,687.00	1,723.00	2,817,914	1643.8	79.2	44.52083	-49.0728				
19	11/10/2023	1,722.00	1,760.00	1,711.50	1,755.00	1,567,840	1663.4	91.6	44.52083	-49.0728	Change UP	1,755.00		
20	12/10/2023	1,758.50	1,770.00	1,738.00	1,744.50	1,529,530	1698.4	46.1	44.52083	-49.0728				
21	13/10/2023	1,735.00	1,760.50	1,703.50	1,711.50	1,927,349	1718.9	-7.4	44.52083	-49.0728				
22	16/10/2023	1,717.00	1,731.00	1,705.00	1,725.00	1,857,794	1727.4	-2.4	44.52083	-49.0728				
23	17/10/2023	1,730.00	1,743.50	1,714.00	1,730.50	2,802,295	1731.8	-1.3	44.52083	-49.0728				
24	18/10/2023	1,733.50	1,748.05	1,720.50	1,728.50	1,188,564	1733.3	-4.8	44.52083	-49.0728				
25	19/10/2023	1,719.00	1,728.50	1,704.00	1,720.50	1,206,699	1728	-7.5	44.52083	-49.0728				
26	20/10/2023	1,719.00	1,731.50	1,703.50	1,714.00	1,853,467	1723.2	-9.2	44.52083	-49.0728				
27	23/10/2023	1,710.50	1,731.00	1,702.00	1,716.00	1,109,379	1723.7	-7.7	44.52083	-49.0728				
28	24/10/2023	1,711.50	1,729.50	1,703.50	1,724.00	1,072,505	1721.9	2.1	44.52083	-49.0728				
29	25/10/2023	1,727.00	1,741.00	1,714.50	1,736.50	1,564,462	1720.6	15.9	44.52083	-49.0728				
30	26/10/2023	1,735.00	1,758.00	1,725.50	1,748.00	1,354,950	1722.2	25.8	44.52083	-49.0728				
31	27/10/2023	1,737.00	1,762.00	1,715.50	1,729.00	1,029,716	1727.7	1.3	44.52083	-49.0728				

Fig. 6

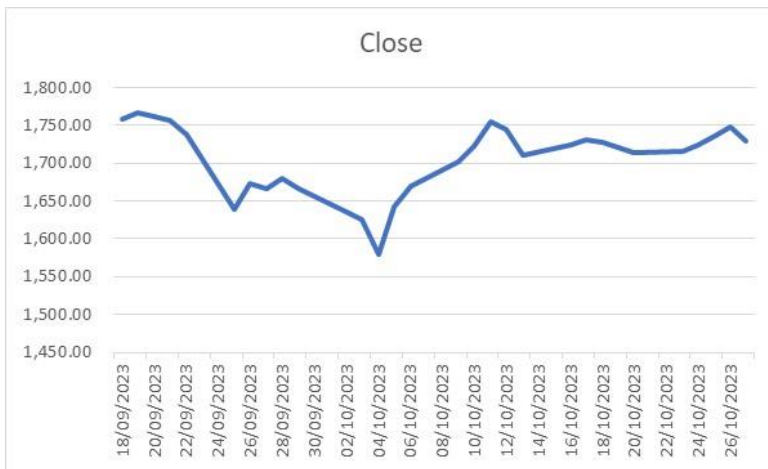We get a pure line graph, as in Fig. 7.

Fig. 7

Now let's highlight the data in column L, which is the Turn dataset in cells L1:L31. Select Copy, then select the chart we just created and click Paste. The result is shown in Fig. 8.

As we can see the scale has changed, the title has disappeared and we can not see the dataset Turn from column L. We need to fix this.
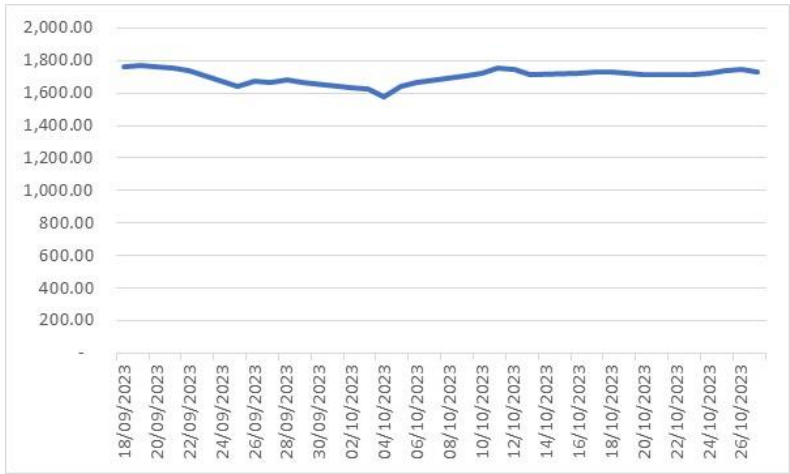
Fig. 8

As before, we select Change Chart Type and change the Close dataset to a Line chart and the Turn dataset into a Clustered Column (see Fig. 9). However, nothing is changing yet.
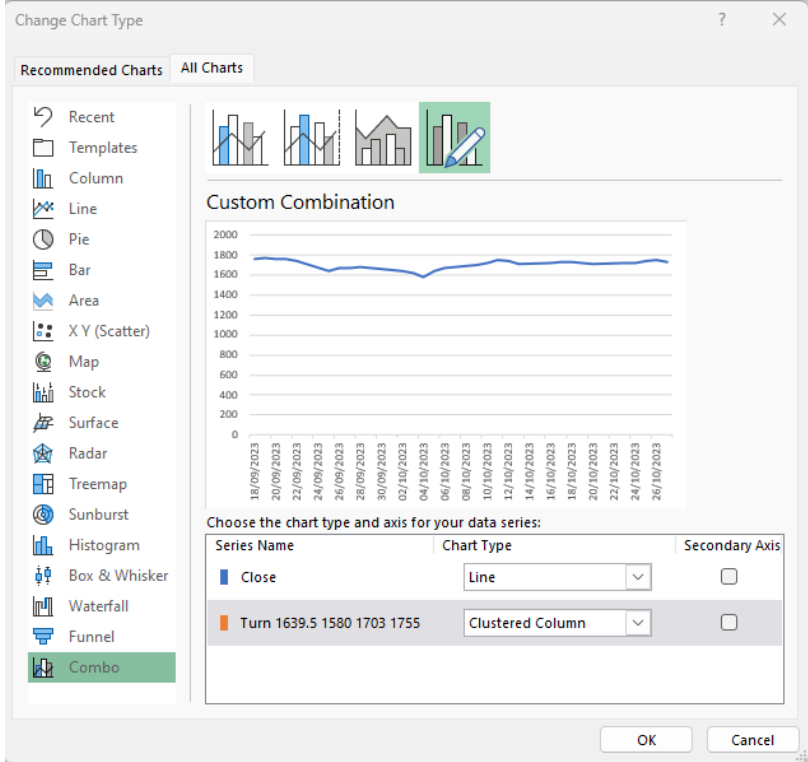

Fig. 9

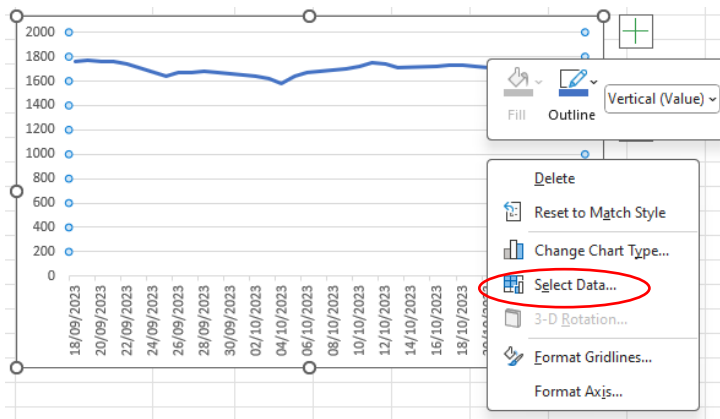We are going to right-click on the chart and select the option called Select Data. See Fig. 10.

Fig. 10

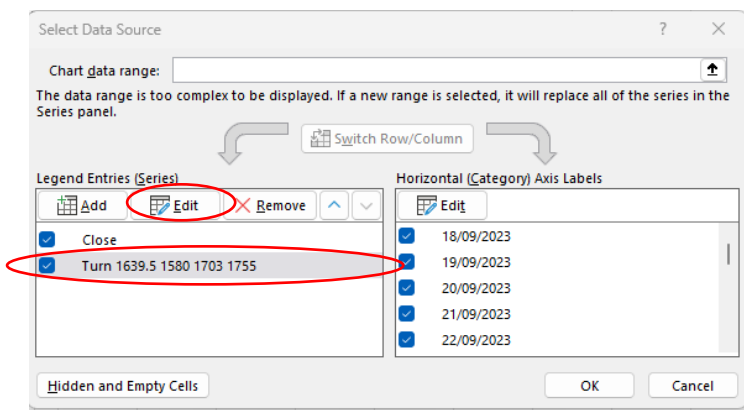As shown in Fig. 11, make sure that the Turn dataset is selected and click on the Edit option.

Fig. 11

In the Edit dialogue box ensure that the Series name has just the first cell reference and that the Series values contain the rest of the column, as in Fig. 12.
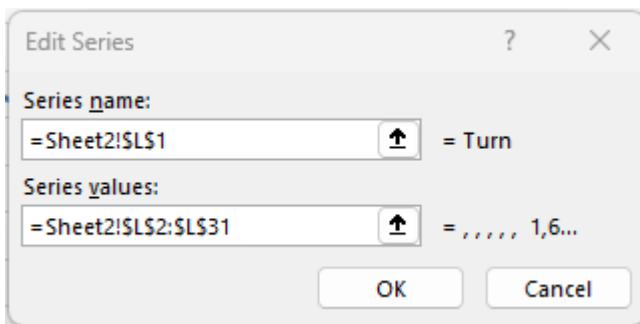

Fig. 12

Sometimes, as we are showing in Fig. 13, Excel will produce a funny-looking graph. If this happens, go again to Change Chart type, select Combo type and make sure that the Close dataset is a Line graph and the Turn dataset is a Clustered Column.
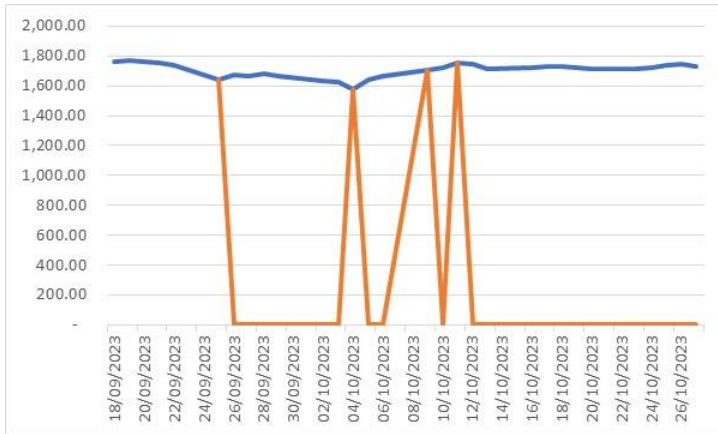
Fig. 13

For some reason, Excel will change the scale, but at least will show exactly what you need. See Fig. 14.
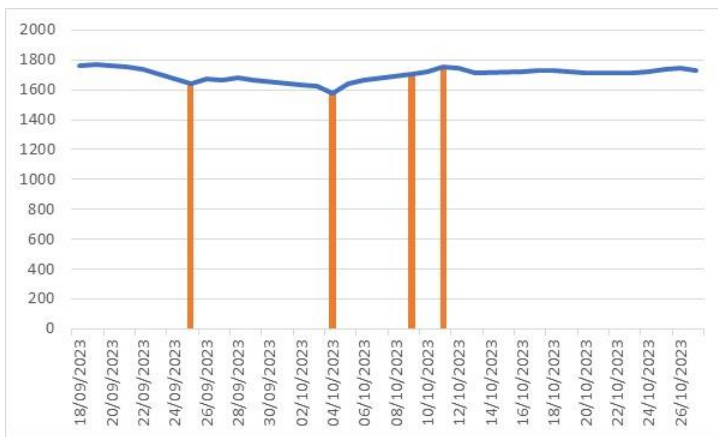

Fig. 14

By formatting the axis, you can fix this easily and get the final results as shown in Fig. 15.

Fig. 15

If, for whatever reason, you have the secondary axis different from the primary axis (see Fig. 16), which does happen if your data in column Turn are of different magnitude, you might have to do some further tidying up.

Fig. 16

If this happens and you are re-scaling the left axis, do not forget to resize the right axis. Also, if after the rescaling you do not want to show the secondary axis, click on it and go to a dialogue box for Formating Axis, as in Fig. 17.
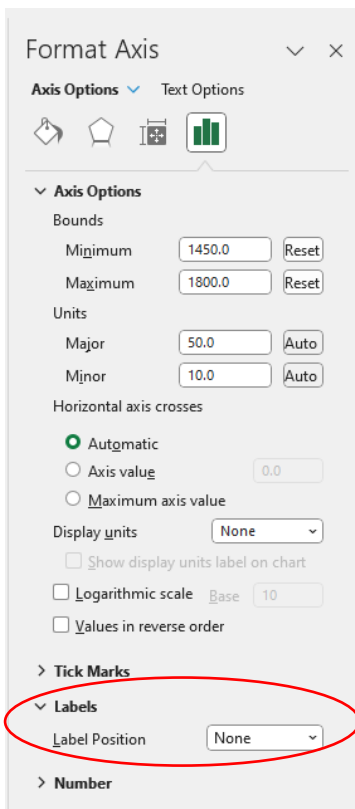

Fig. 17

Under the Label option make sure that you change from Next to Axis to None. The end result should be a perfect chart as in Fig. 18.

If you want, you can change the thickness of the vertical bars, as shown earlier.
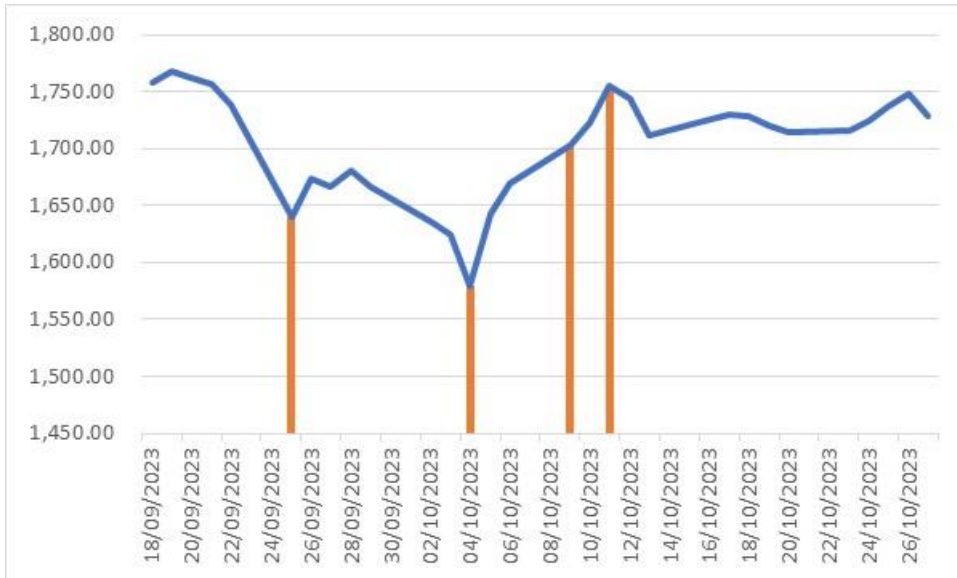
Fig. 18

As you go through this process, Excel might throw at you some other results you did not want, but with the toolbox of tricks shown in this tutorial, you can probably deal with everything and get the results you intended. I have also enclosed on the website the spreadsheet with two examples for you to see the data I used. Hope this helps.

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