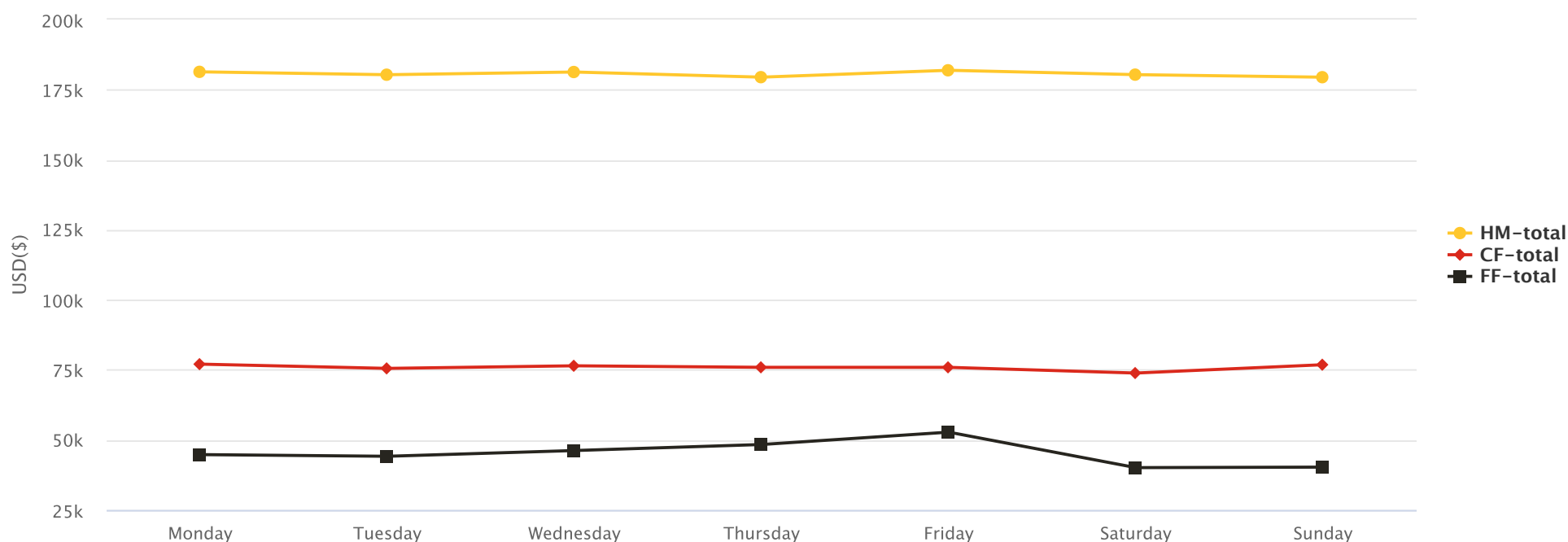# McDonalds Report

Average Sales of MCD's Three Items by Day


From the above line chart, we can see that on average, we barely see big peaks within the week. Therefore, in the later impact season, at least from this specific month, we can't really besure which day we should promote our advertisement. Another important thing is that we can acknowledge that sales of hamburgers is significantly higher than chicken fillet and fish fillet. This trend shows that costumers generally choose burgers as their main food at McDonalds. Later on, we should further explore wether the Impossible Burger has an impact on burgers. However, one interesting thing we see, at least from
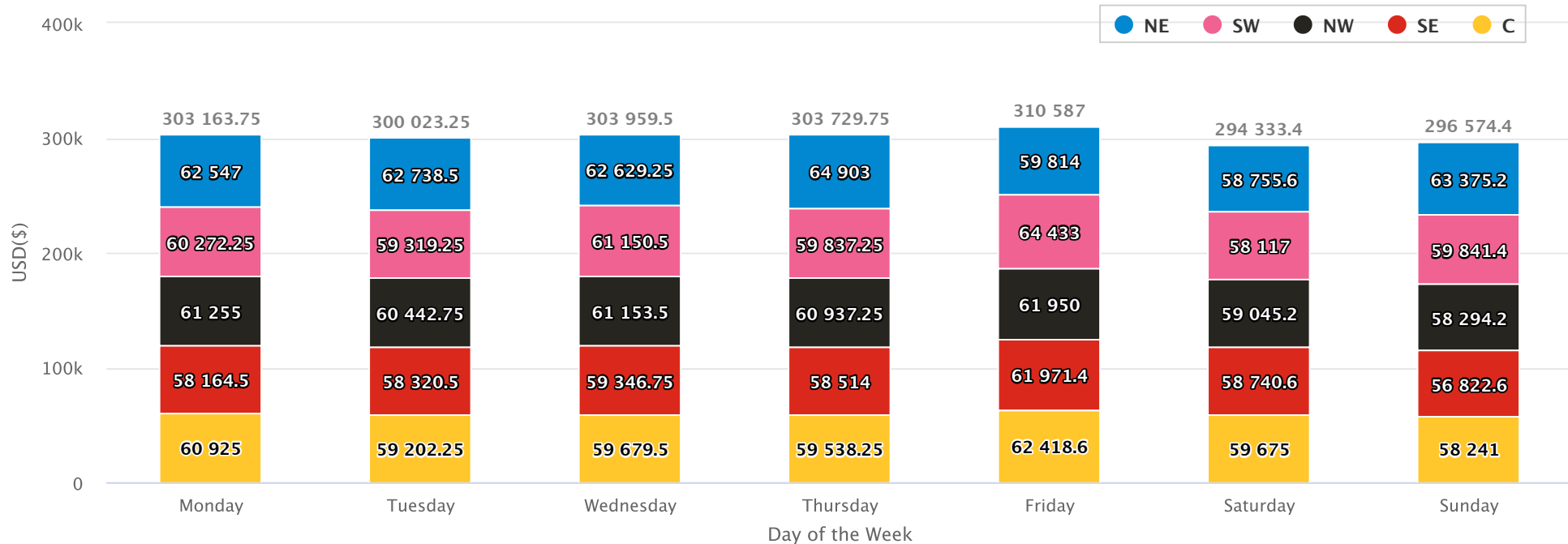
this specific month is that we see a little increase in the sales of fish fillets on Fridays. Then the sales go down on the weekends. Therefore, we should further analyze wether this pattern happens across all the regions.

Average Sales of MCD's Fish Fillet by Day
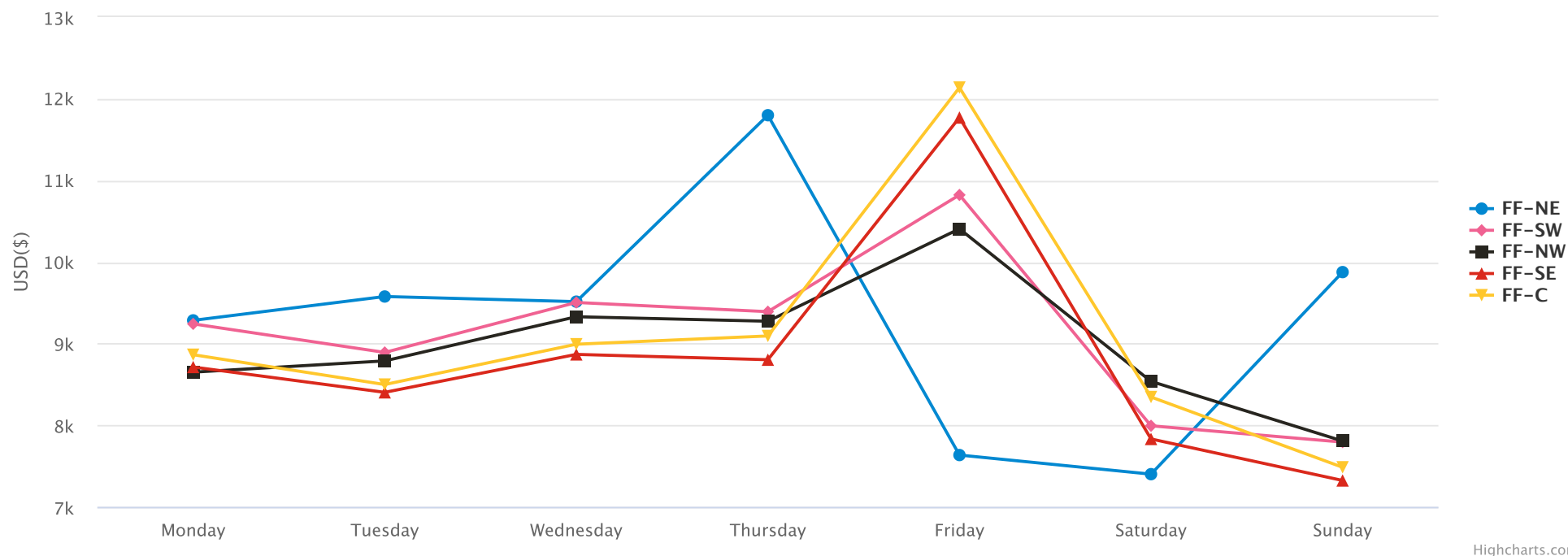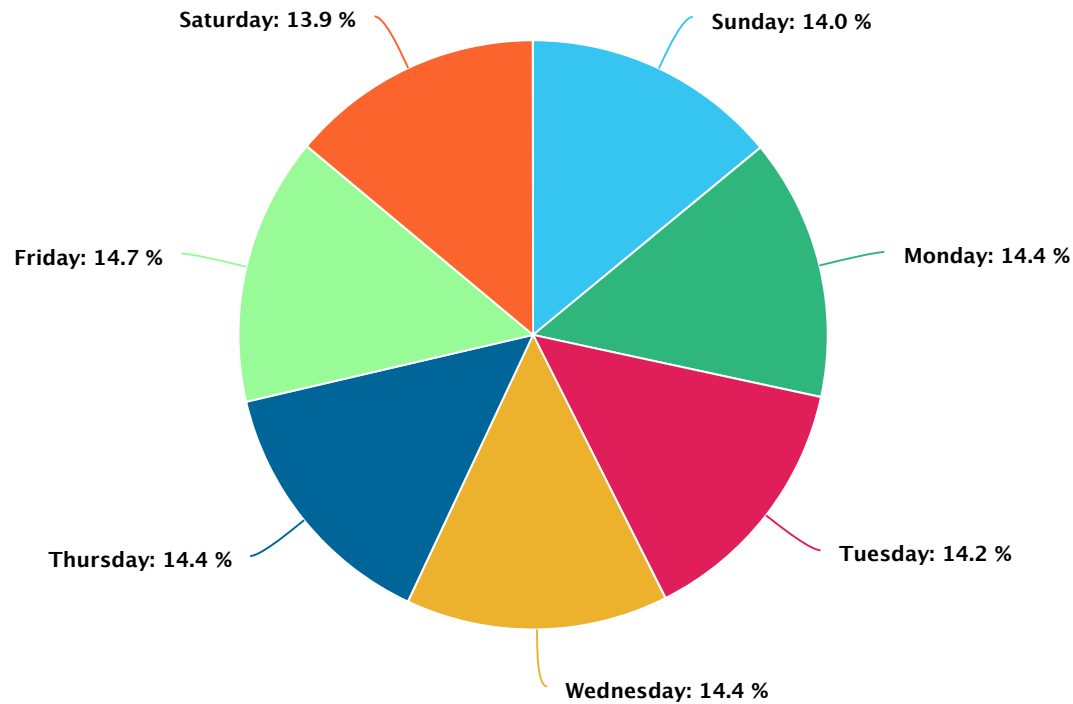

After seprating the sales of fish fillet into five different regions, we see that except NorthEast, all other four regions have a peak on Fridays. Therefore, we should increase the number of fish fillets products on Fridays in those regions. In NorthEast, since we see a peak on Thursdays, maybe we should increase the number of fish fillet products on day specific day.

Three Items Sales by Days in Different Regions

Legend: ● NE ● SW ● NW ● SE ● C

USD($)

|	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Total	303 163.75	300 023.25	303 959.5	303 729.75	310 587	294 333.4	296 574.4
NE	62 547	62 738.5	62 629.25	64 903	59 814	58 755.6	63 375.2
SW	60 272.25	59 319.25	61 150.5	59 837.25	64 433	58 117	59 841.4
NW	61 255	60 442.75	61 153.5	60 937.25	61 950	59 045.2	58 294.2
SE	58 164.5	58 320.5	59 346.75	58 514	61 971.4	58 740.6	56 822.6
C	60 925	59 202.25	59 679.5	59 538.25	62 418.6	59 675	58 241

Day of the Week

Highcharts.com

From the above bar plot we surprisingly see that, within one specific month, across all five regions, the combined sales of all three products are almost the same! This finding suggests that the influence of McDonalds is eqaully distributed across the country, which is great to hear. In addition, we could say that overall customers don't prefer a specific day to go to McDonalds since the data across the week is also very similar.

Saturday: 13.9 %

Sunday: 14.0 %

Monday: 14.4 %

Friday: 14.7 %

Tuesday: 14.2 %

Thursday: 14.4 %

Wednesday: 14.4 %

Highcharts.com

From this bar chart, after aggregating three different products together, we can perceive that on average, each day's sale in proportion to the entire week is almost the same. Therefore, we could say that at least based on the limited data from the single month, we can not make the naive assumption that weekends' sales will be higher than the ones on weekdays. Different from the bar chart, this pie chart can further provides us the detail of each day's sales.

Three Items Total Sales by Region
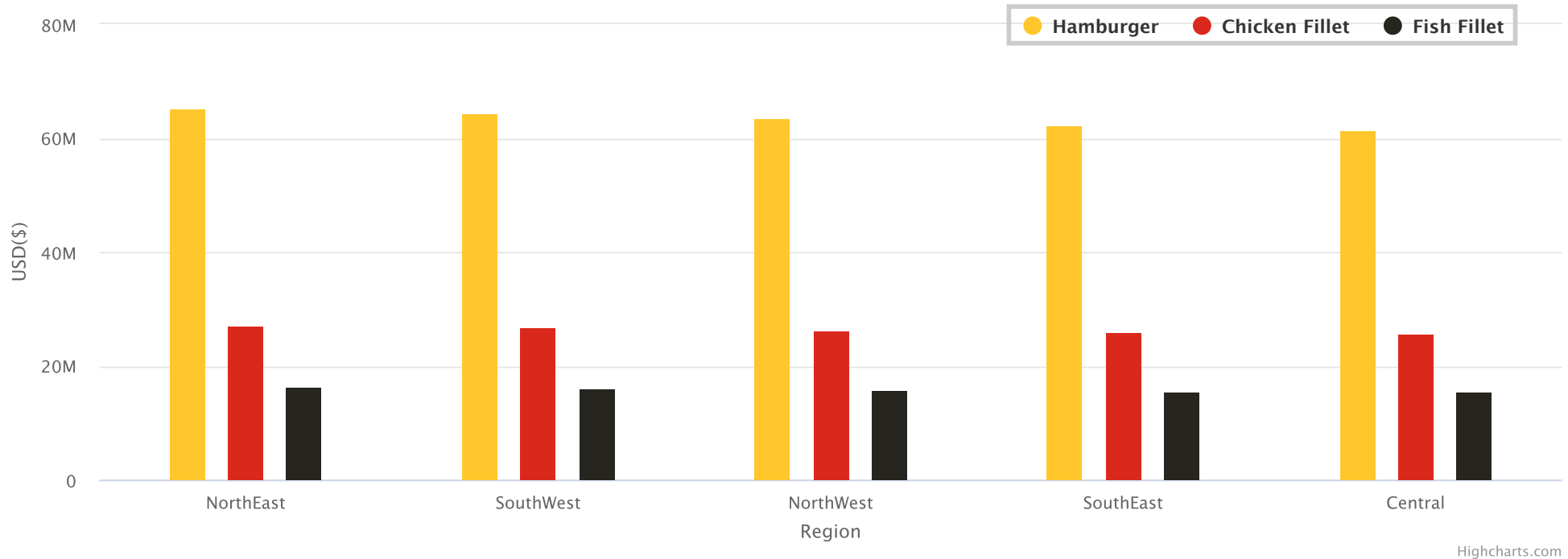
Now we turn to the macro trend and aggregate the sales of all three products by regions. We can easily figure out that the profit we get from burgers is far more than either chicken fillet or fish fillet. Indeed, the combined profit of both fish fillet and chicken fillet is still less than that of burgers. Therefore, we could conclude that from year 2016 to year 2019, hamburgers is at least one of the most popular products sold by McDonald. Across all five regions, the sales of burgers is way more popular. As a result, burgers is a popular product across the whole nation.

Total Sales of MCD's Three Items Monthly Trend
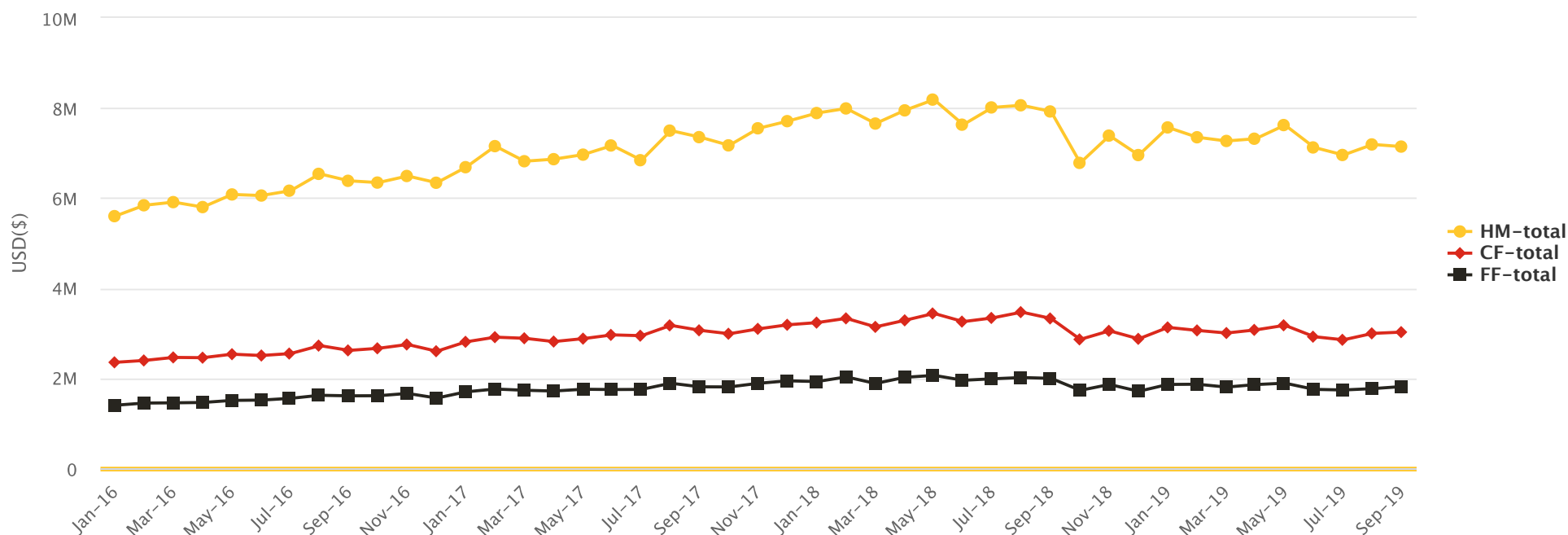
According to the line chart, we see that from year 2016 to the present, the sales of all three products are gradually but surely increasing, which is a good thing. However, if we look closely, around September 2018, there is a significant sharp decrease in the sales of hamburgers. If we look at the news, it is not hard for us to realize that it is because of the introduction of Burger King's Impossible Burger. Overall, there is an increase in all three products. Later on, we will further analyze the affect on burgers in the following graphs.

Total Sales of MCD's Three Items Monthly Trend
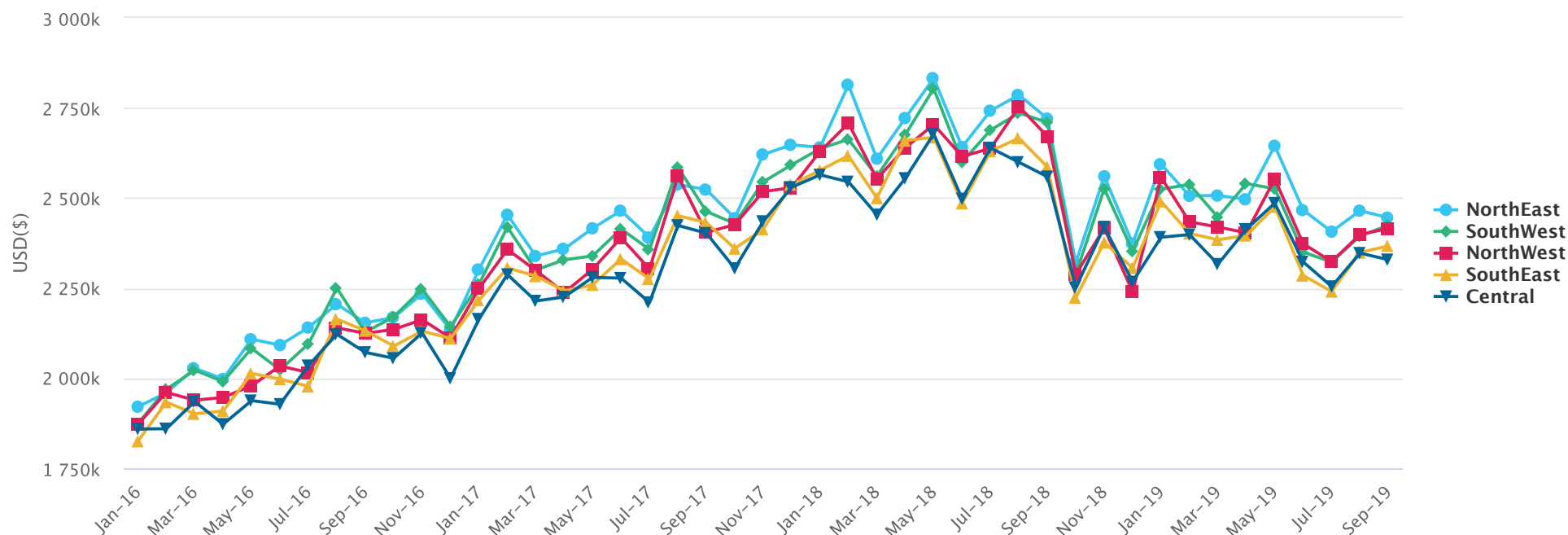
Highcharts.com

The affect is pretty big; however, compared to burgers, we actually don't quite see a big decrease in chicken fillet or fish fillet. In addition to the previous graph, which we see that the impact on burgers is the biggest. Now, we seperate them into five regions, and we see that every region is eaqually affected by the Impossible Burger. And we can also observe that the sales of burgers, even after another entire year, the sales of burgers still haven't equalized that before the impact. Therefore, I would kindly suggest that McDonalds should introduce some new product such as Incredible Chicken Fillet or Perfect Fish Fillet to counter the deficit of the sales of burgers.

Hamburgers Sales by Regions in Sep and Oct
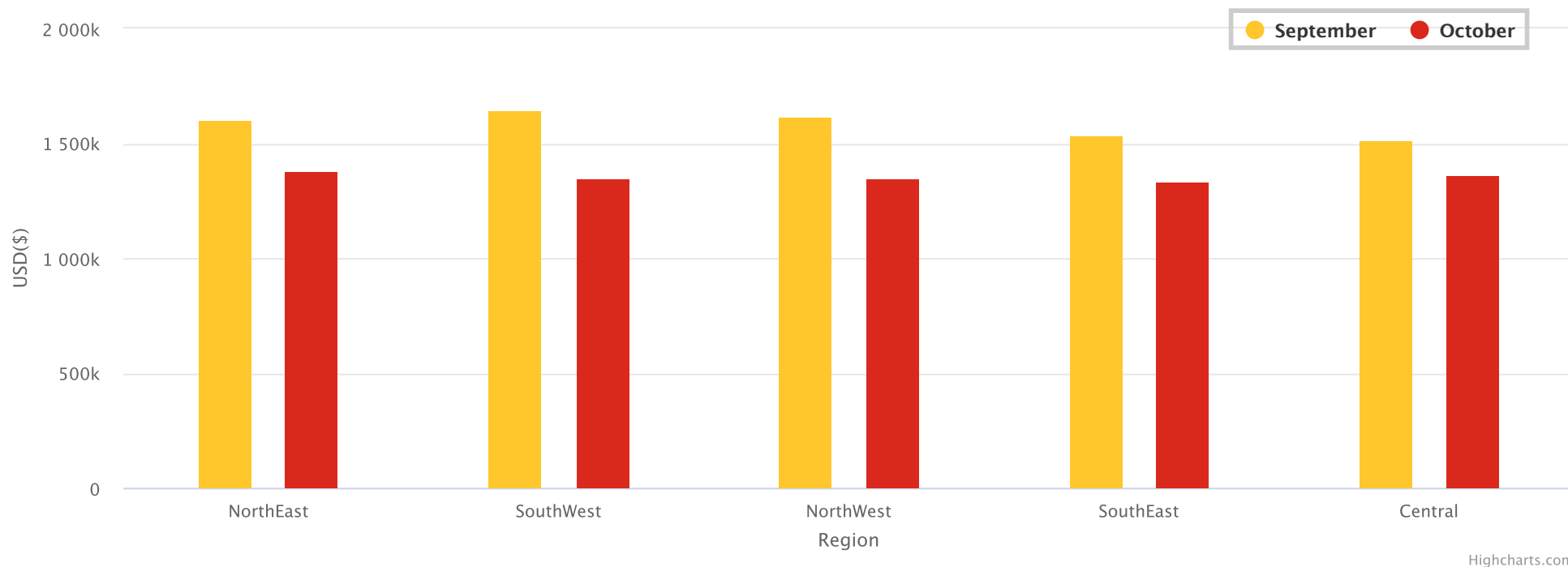
We further delve into the hamburger analysis and can figure that the sharp decease indeed happens around September and October 2018. Across all five regions, we see very similar patterns. Moreover, it seems like that the decrease in SouthWest is the most, but the difference is not that much. The reason could be that customers are curious about the new Impossible burgers so they want to try it out.

Conclusions:

- From the micro data, we could encourage McDonalds to increase the sales of fish fillet products on Thursdays and Friday in specific regions.
- Also from the micro data, we conclude that there is in fact no significant difference in sales of the products acoss different days of a week.
- The introduction of the Impossible Burger does have a major impact on all the regions of the United States.
- Compared to the impacts on chicken fillet and fish fillet, that of hamburgers is the most visible.
- In order to decrease the effect, McDonalds could consider its own premium type of chicken fillet or fish fillet to take the advantage of the market.