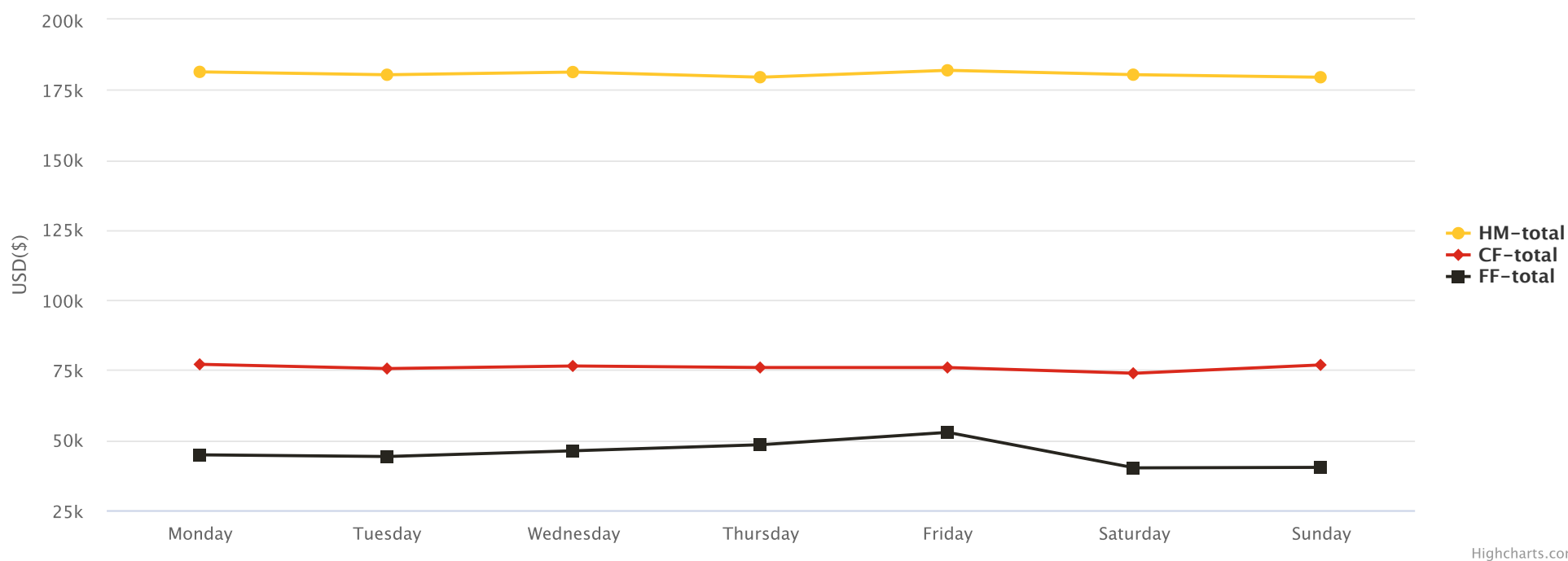




McDonalds Report



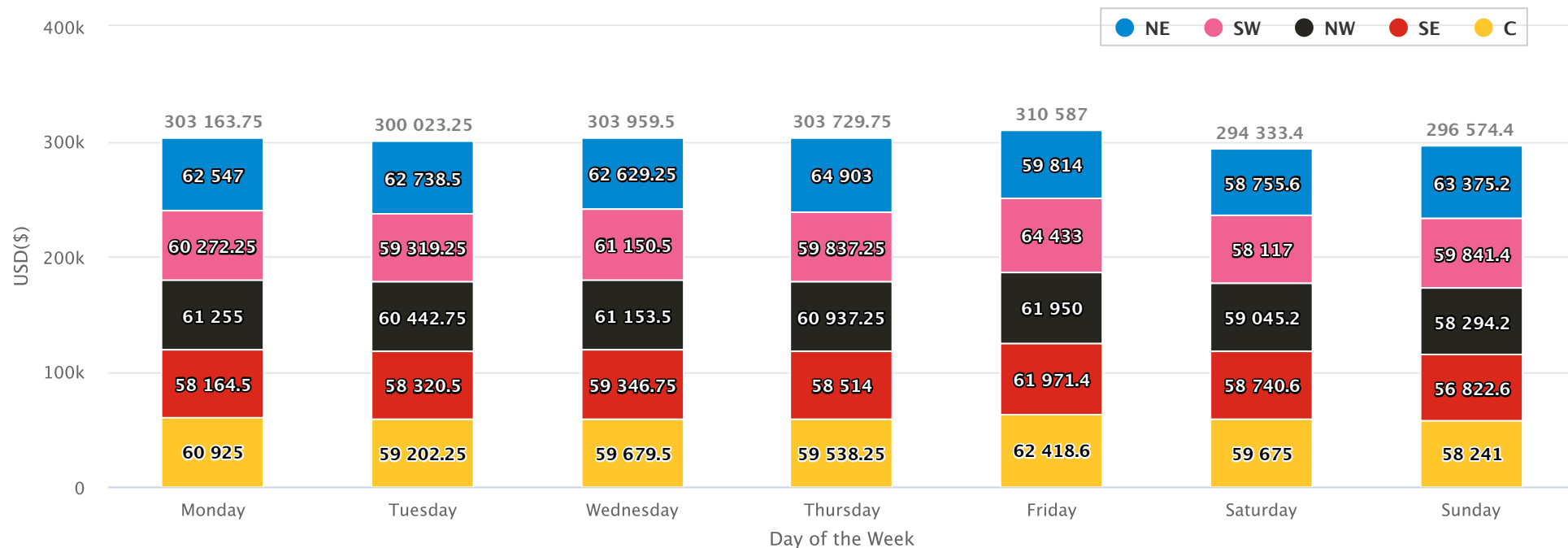
Total Sales of MCD's Three Items by Day on Average



Highcharts.com

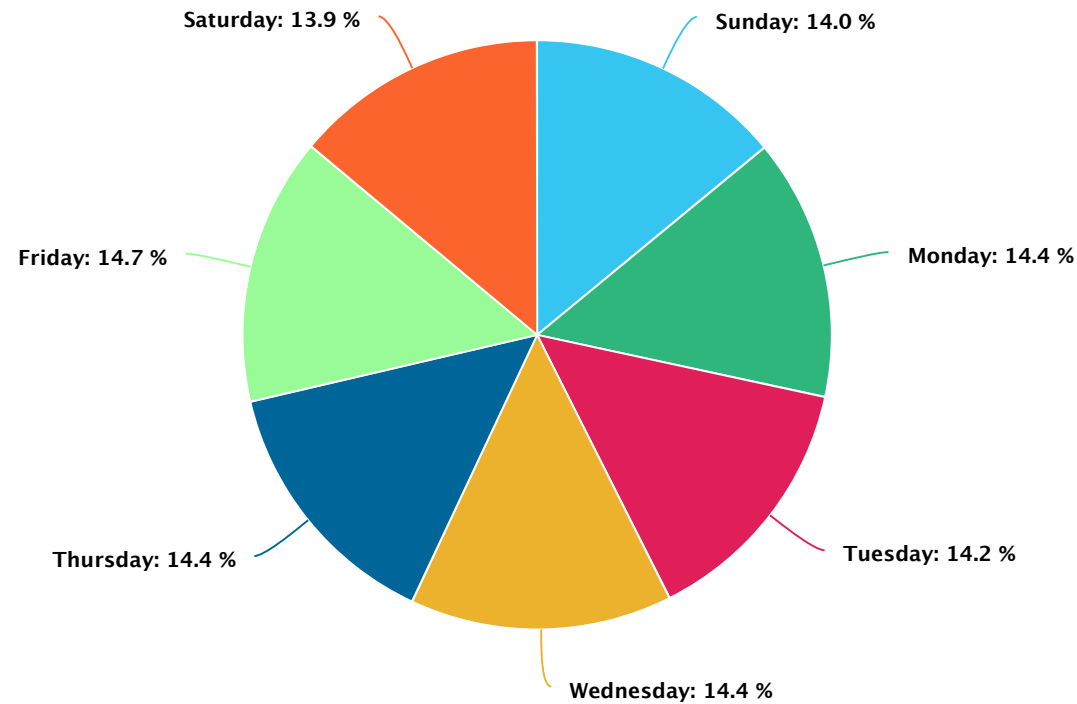
From the above line chart, we can see that on average, we don't see any peak within the week. Therefore, in the later impact season, at least from this specific month, we can't really sure which day we should promote our advertisement. Another important thing is that we can acknowledge that sales of 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.

Three Items Sales by Days in Different Regions



Highcharts.com

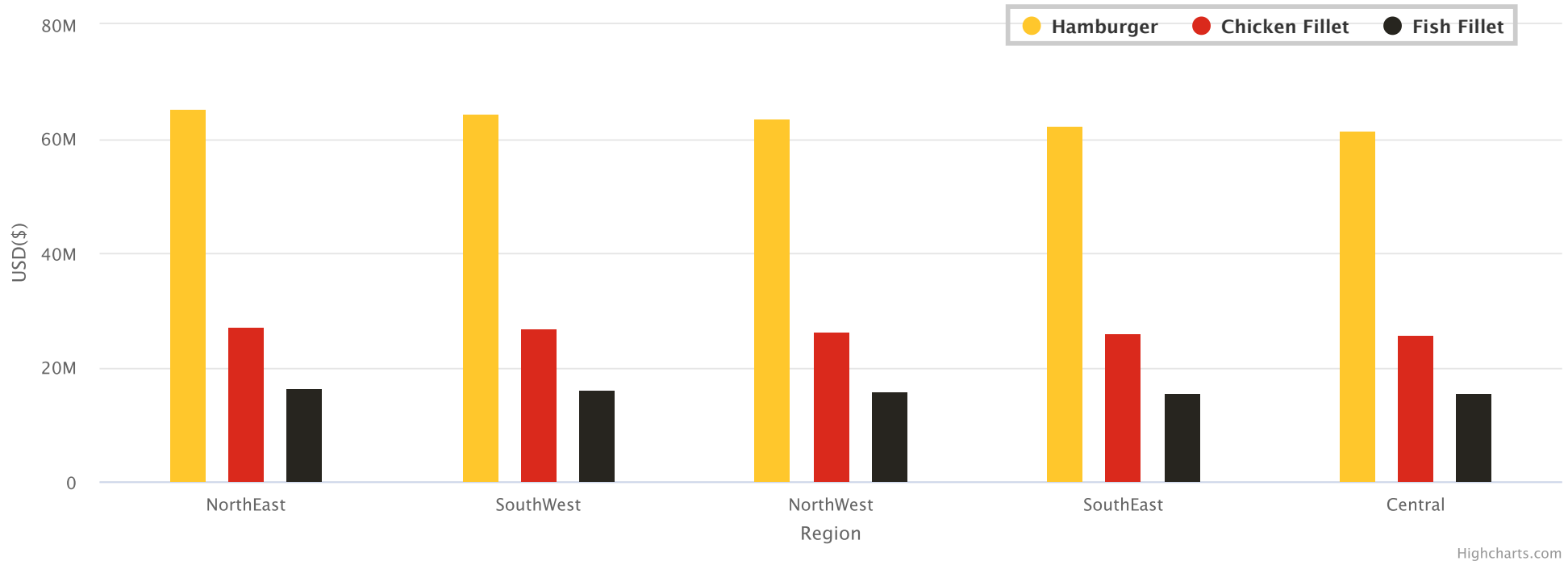
From the above bar plot we surprisingly see that, within one specific month, across all five regions, the combined sales of all three products are almost the same! This finding suggests that the influence of McDonalds is equally distributed across the country, which is great to hear. In addition, we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



Highcharts.com

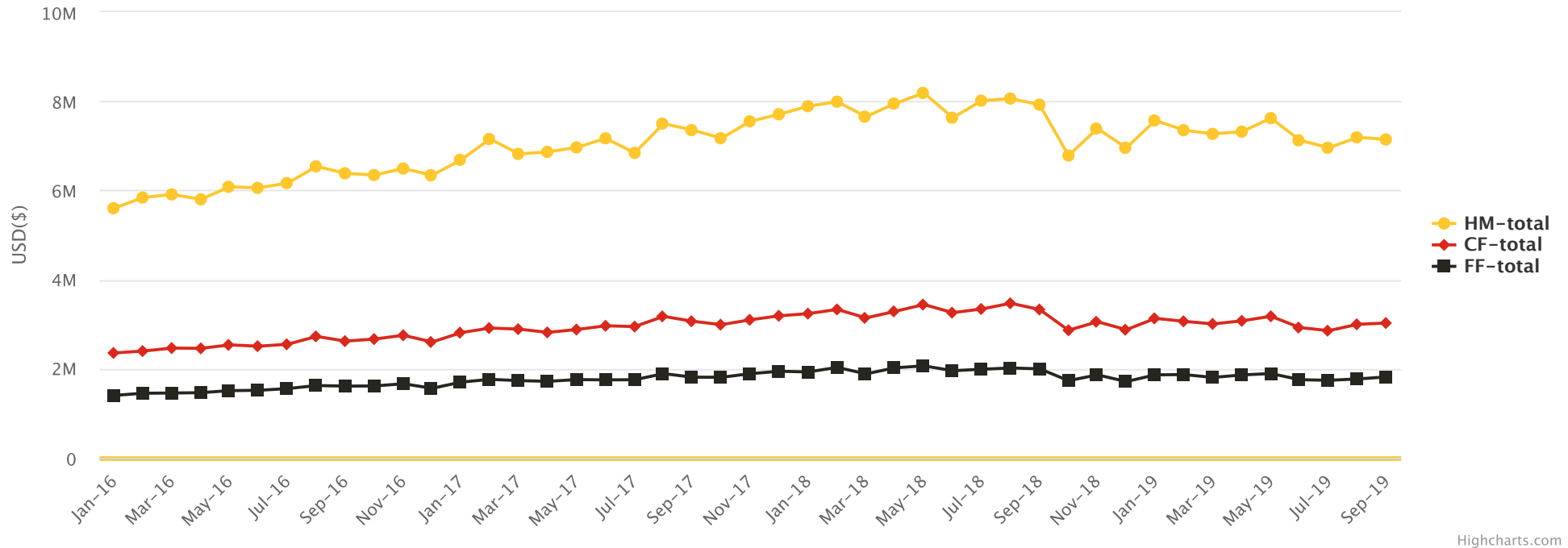
From this bar chart, after aggregating three different products together, we can perceive that on average, each day's sale in proportion to the entire week is almost the same. Therefore, we could say that at least based on the limited data from the single month, we can not make the naive assumption that 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



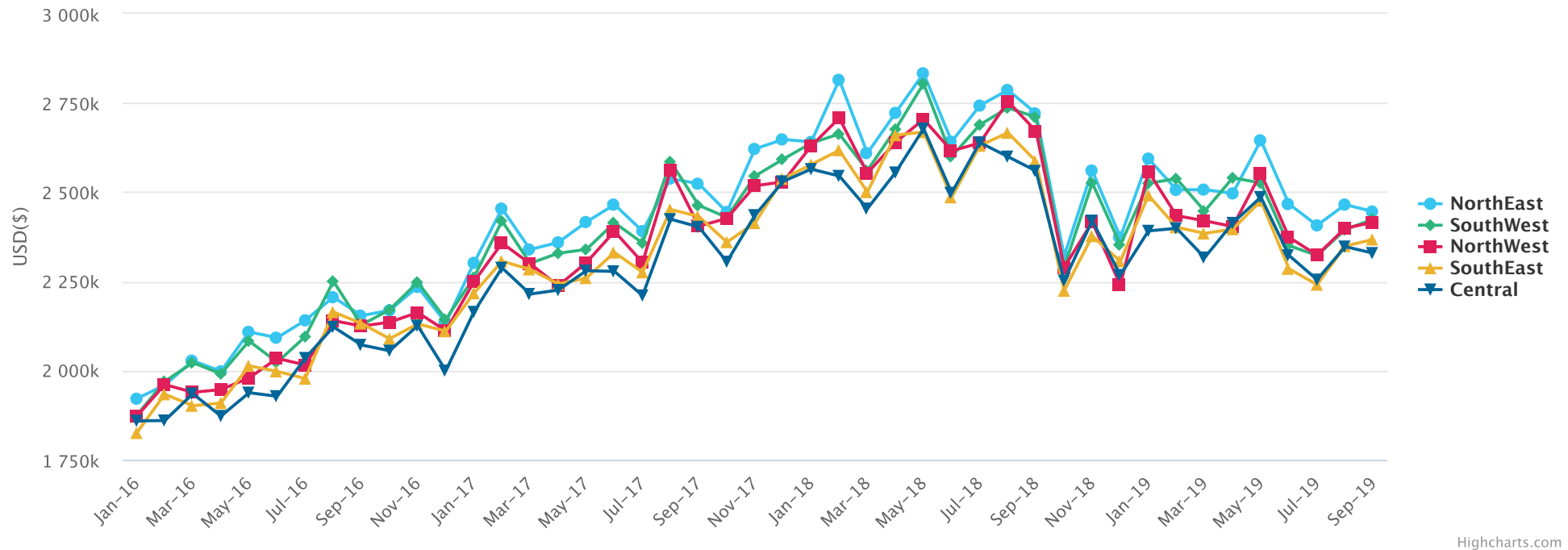
Now we turn to the macro trend and aggregate the sales of all three products by regions. We can easily figure out that the profit we get from burgers is far more than either chicken fillet or fish fillet. Indeed, the combined profit of both fish fillet and chicken fillet is still less than that of burgers. 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



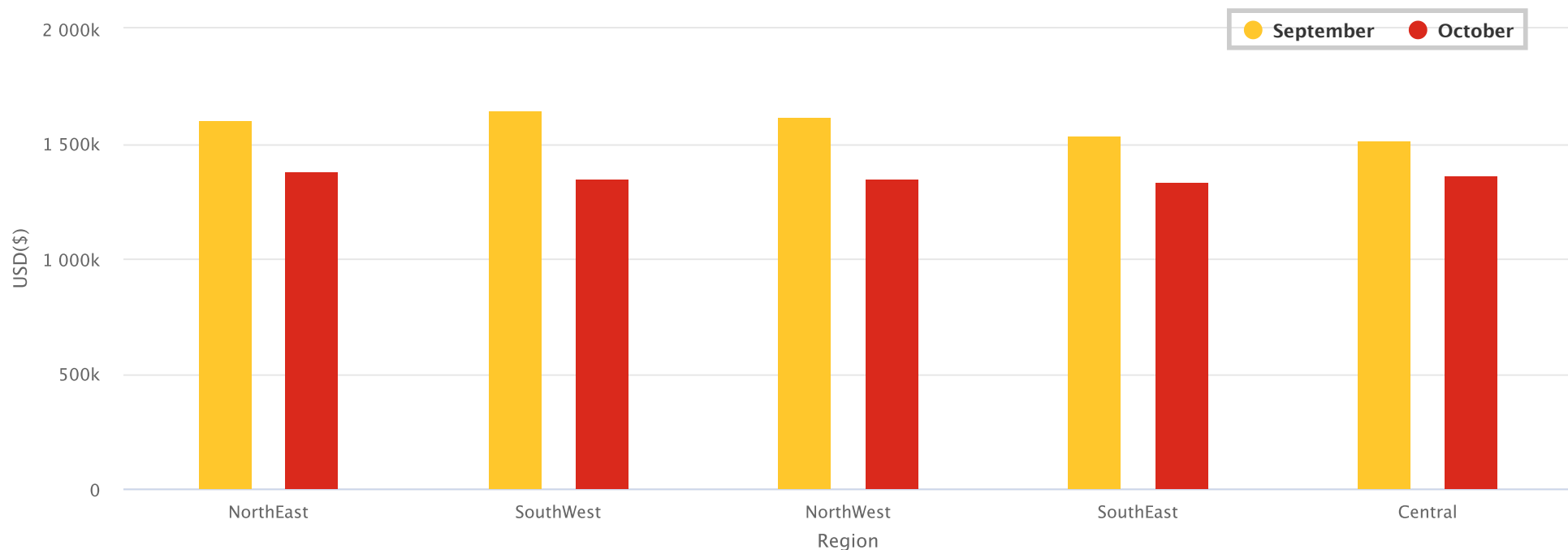
According to the line chart, we see that from year 2016 to the present, the sales of all three products are gradually but surely increasing, which is a good thing. However, if we look closely, around September 2018, there is a significant sharp decrease in the sales of hamburgers. If we look at the news, 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



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 eqaully 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



Highcharts.com

We further delve into the hamburger analysis and can figure that the sharp decrease 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 conclude that there is in fact no significant difference in sales of the products across 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.