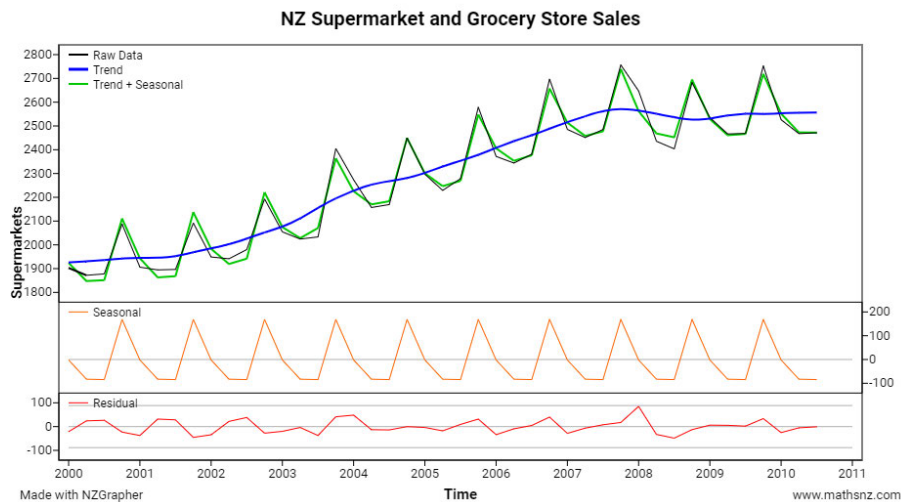


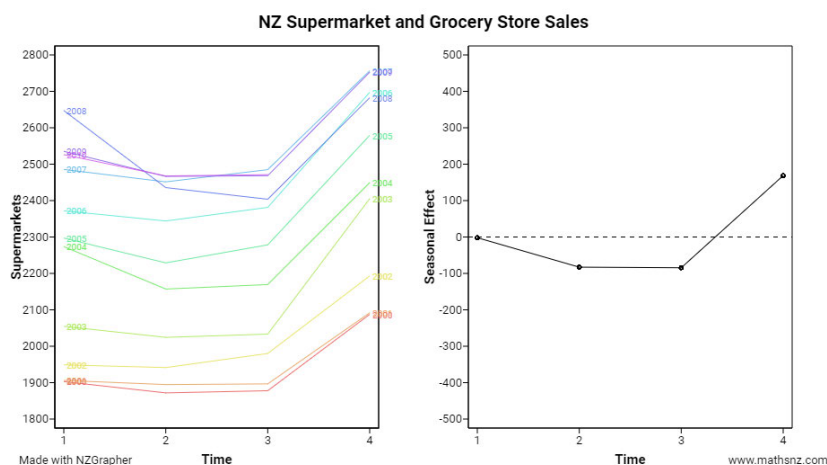
There has been a lot of talk in the media in recent times that even though we have been through tough economic times in NZ we still continue to spend money at an increasing rate. Therefore I am going to investigate whether the amount of money spent in NZ supermarket and grocery stores is in fact on the increase over time. Even when money is tight we still need to buy food etc. so I would expect that the pattern in the data will be increasing as has been broadcasted. However from researching on the internet, NZ did recently experience a global financial crisis (GFC) so it will be interesting to see if this affected the amount of spending.

1



Overall the amount of money spent in NZ at supermarket and grocery stores has increased over the whole 11 years. The trend suggests that the average increase in the amount of money spent per quarter is around \$20.024 million over the whole period. It starts off at around \$1930 million in 2000 and ends up at \$2560 million in the third quarter of 2010 which is an average increase of \$14.65 million per quarter. The trend shows sales increasing from the third quarter 2000 up to quarter four 007. At this point the trend decreases until quarter four 2008 where it levels off.

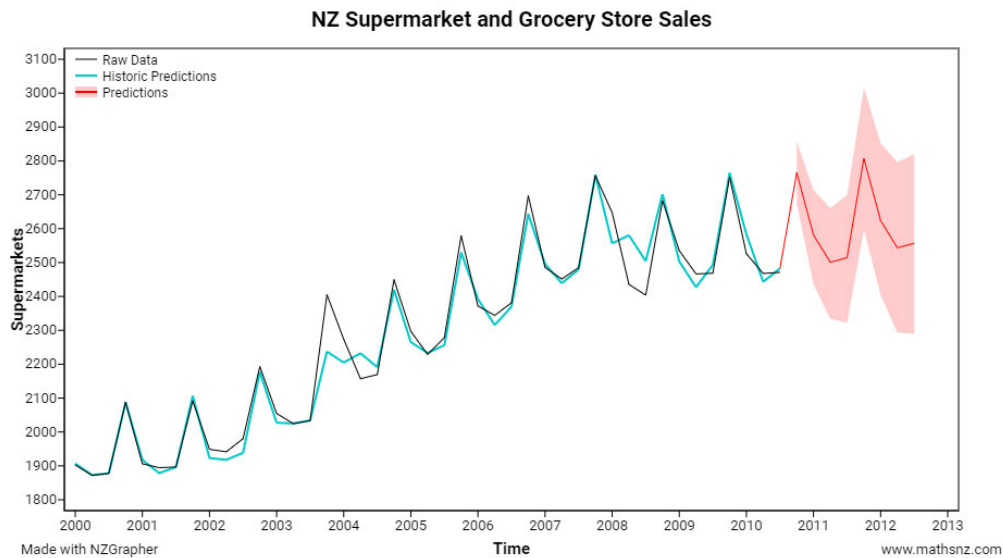
2



There is an obvious seasonal pattern with the largest amount of money spent in NZ on food in supermarket and grocery stores in the fourth quarter which are the months from October-December and lows in the second quarter each year which are the months April-June. The fourth quarter being

3

the highest can be explained by the fact that this quarter corresponds to the Christmas and holiday period when spending on food and drinks always high. People at this time of the year tend to have more social outings e.g end of year work parties, people over for BBQs since it is the holidays etc so therefore the need for food and drink at these sort of events increases.



Time	Min	Prediction	Max
2010Q4	2668.9	2764.7	2861.8
2011Q1	2454.1	2581.4	2718
2011Q2	2340.8	2500.9	2664.3
2011Q3	2333	2514.4	2702.7
2011Q4	2599.1	2807.3	3020
2012Q1	2400.3	2624	2842.6
2012Q2	2279.6	2543.5	2788.2
2012Q3	2289.8	2557	2833

An estimate for the amount of money spent in NZ on food in supermarket and grocery stores in the third quarter 2012 is \$2557 million.

4

Generally the model is a reasonably good fit for the raw data. On the graph, the fitted model remains close to the raw data until near the end of 2007. At the end of the graph, the trend is levelling out and the prediction interval is getting quite wide therefore I cannot be too sure whether my prediction for the third quarter 2012 is entirely accurate.

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