Market Forecasting using Market Share Model

The file 'Butter.xls' contains sales, price, advertising and display data for 5 brands across 52 weeks.
Butter.xls

1. Compute the total market size, m, in each week.

2. Consider only weeks 640 through 670 for your model calibration sample. Use weeks 671 through 691 for forecasting.

3. MODEL 1: Estimate a market share model with baseline effects only. In other words, assume that price, advertising and display activity has no effect on sales and market share.

4. MODEL 2: Estimate a market share model assuming that all brands respond equally to price, advertising and display activity. In other words, estimate a single price coefficient, a single advertising coefficient and a single display coefficient.

5. MODEL 3: Estimate a market share model that allows each brand to respond differentially to price, advertising and display by estimating a separate set of coefficients for each brand.

6. Which brand is most sensitive to price? Least sensitive?

7. Which brand is most sensitive to advertising? Least sensitive?

8. Which brand is most sensitive to display activity? Least sensitive?

9. Forecast both sales and market share in weeks 671-691 using each of the three models. Compare your forecasting error using MAPE in each case. NOTE: for market size, consider both the approach of using actual market size and predicting market size.

10. What might be causing the observed forecasting error?