**Shawn Kalish**

**Homework #3**

**Time Series Analysis – Sager**



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**Test of L:**

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**Test of H:**

Graphical user interface, table

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**Test of I:**

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1. Original model SS = 38.32066

Augmented model SS = 39.84667

Augmented model MSE = 0.10634

Difference in SS = 1.5260

Divided by added predictors = 1.5260/12 = 0.1272

Wald stat = 0.1272/0.10634 = 1.1959

**1.1959 > 0.05 therefore the 12 seasonal indicators add significant explanatory power.**

1. Original model SS = 13.29028

Augmented model SS = 14.87727

Augmented model MSE = 0.06673

Difference in SS = 1.5870

Divided by added predictors = 1.5870/12 = 0.1322

Wald stat = 0.1322/0.06673 = 1.9819

**1.9819 > 0.05 therefore the 12 lag predictors add significant explanatory power**.

1. **a)** y = 4.71716 + 0.00688(Month\_seq) + 0.30824(lagLSales1) + 0.30290(lagLSales12)

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**b)** Increase in SS = 14.37113 - 13.29028 = 1.0809

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**c)** Proportion = 14.37113 / 14.87727 = 0.966 = 96.6%

**6.5) y = 2597.16 + 91.82(M\_seq) - 684.44(M2) + 885.04(M4) + 780.98(LagLSales1) - 1062.01(LagLSales5)**



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1. There are **5** predictors: M\_seq, M2, M4, lagLSales1, and lagLSales5

1. **a)**

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**b)**

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**c)**

Calendar

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**d)**

**Graphical user interface

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Description automatically generated with low confidence

