

EvIEWS code for estimating price threshold models

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With 4 brands in the category, an example of a full model that is estimated is

$$\begin{aligned} \log(\text{vol4}) - \log(\text{vol4}(-1)) = & c(1) + c(201) + c(222) / (1 + \exp(100 * ((\log(\text{price4}) - \log(\text{price4}(-1))) - \\ & c(701)))) + c(223) / (1 + \exp(-100 * ((\log(\text{price4}) - \log(\text{price4}(-1))) - c(702)))) + \\ & c(224) / (1 + \exp(100 * (((\text{price4} - (\text{price1} + \text{price2} + \text{price3}) / 3) / ((\text{price1} + \text{price2} + \text{price3}) / 3) - \\ & c(703)))) + c(225) / (1 + \exp(-100 * (((\text{price4} - (\text{price1} + \text{price2} + \text{price3}) / 3) / ((\text{price1} + \text{price2} + \text{price3}) / 3) - \\ & c(704)))) * (\log(\text{price4}) - \log(\text{price4}(-1))) + c(202) * (\log(\text{price1}) - \log(\text{price1}(- \\ & 1))) + c(203) * (\log(\text{price2}) - \log(\text{price2}(-1))) + c(204) * (\log(\text{price3}) - \log(\text{price3}(-1))) + c(3) * \log(\text{vol4}(- \\ & 1)) + c(4) * \log(\text{price4}(- \\ & 1)) + c(5) * \text{promo14} + c(6) * \text{promo24} + c(7) * s2 + c(8) * s3 + c(9) * s4 + c(10) * s5 + c(11) * s6 + c(12) * s7 + c(13) \\ & * s8 + c(14) * s9 + c(15) * s10 + c(16) * s11 + c(17) * s12 + c(18) * s13 + c(19) * d1 + c(20) * d2 + c(21) * d3 + c(22) \\ & * d4 + c(23) * d5 + c(24) * d6 + c(25) * d7 + c(26) * d8 + c(27) * d9 + c(28) * d10 \end{aligned}$$

with vol4 = volume sales brand 4, s2-s13 the 4-weekly dummies, using the first 4 weeks of the year ('s1') as the benchmark, and d1-d10 dummies for the major US holidays (see Pauwels and Srinivasan, Marketing Science 2004 or Chevalier et al. Management Science 2003)

In the notation of equation (5),

$$\text{Alpha}_0 = c(201)$$

$$\text{Alpha}_1, \text{ hbp} = c(222)$$

$$\text{Alpha}_2, \text{ hbp} = c(223)$$

$$\text{Beta}_1, \text{ hbp} = c(702)$$

$$\text{Beta}_2, \text{ hbp} = c(703)$$

$$\text{Alpha}_1, \text{ cbp} = c(224)$$

$$\text{Alpha}_2, \text{ cbp} = c(225)$$

$$\text{Beta}_1, \text{ cbp} = c(704)$$

$$\text{Beta}_2, \text{ cbp} = c(705)$$