Nested Logit Demand Graphs - All Purpose Flour

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3/9/2017

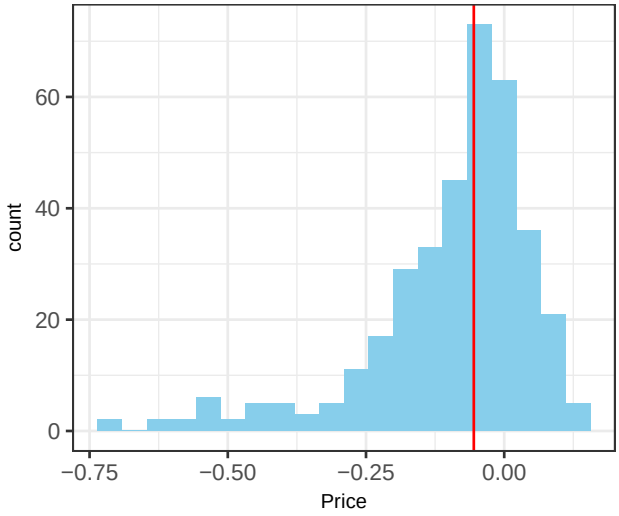
Demand Specification

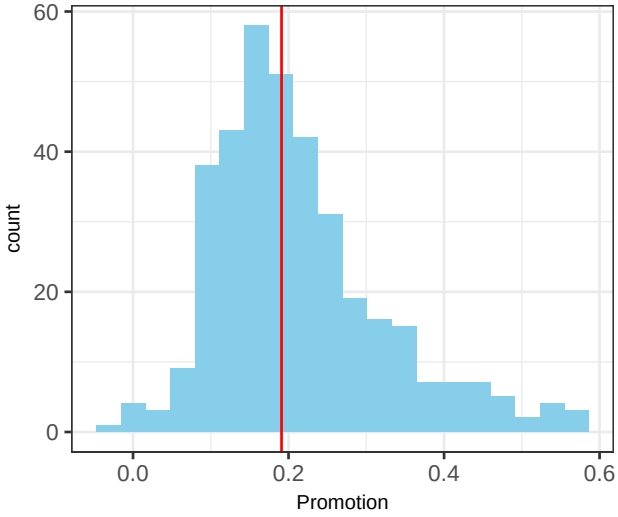
In this excercise, I estimate demand based on a panel specification. The demand is estimated at market level with defined as the combination of DMA and Chain. We restrict to market with at least 3 stores in the top 90 percent of stores in terms of sales in the category. For each market and brand k, we run the regression

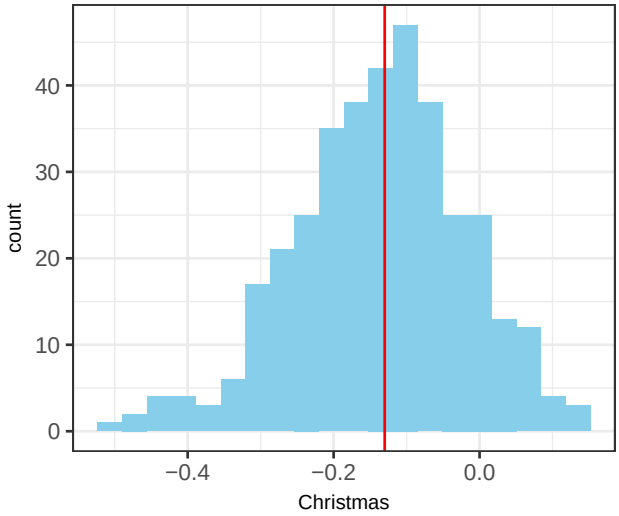
$$\begin{aligned} u_{ijt} =& \alpha_j + \beta_1 \ln p_{ijt} + \beta_2 \mathbb{I}_{p_{ijt} \geq p_{sj,t-1}} (\ln p_{ijt} - \ln p_{sj,t-1}) + \beta_3 \mathbb{I}_{p_{ijt} < p_{sj,t-1}} (\ln p_{ijt} - \ln p_{sj,t-1}) \\ &+ \beta_4 \text{promotion} + \xi_{jt} + \varepsilon_{ijt} \end{aligned}$$

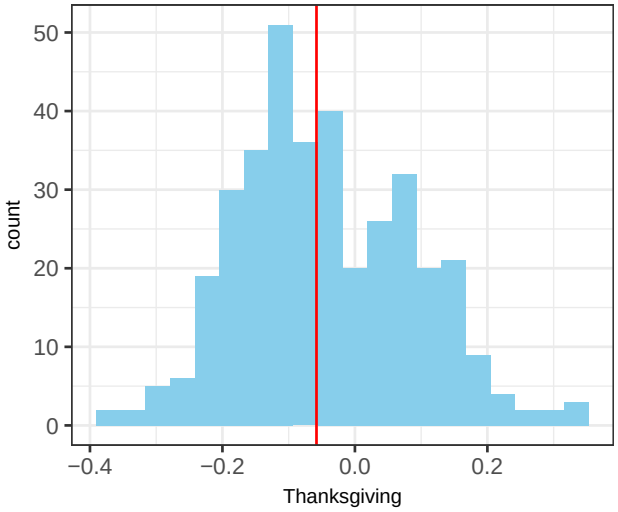
Demand Estimates Using Prices - No Instrumental Variables

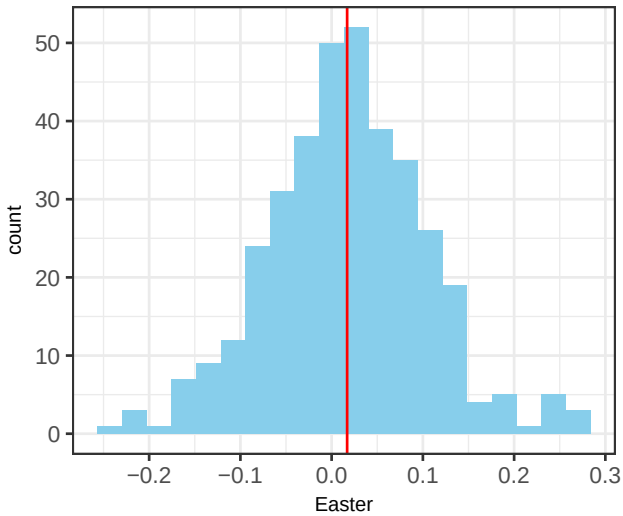
Plot the estimates regardless of statistical significance. Results are shown below:


count
Price
−0.75
−0.50
−0.25
0.00
0
20
40
60


count
Promotion
0.0
0.2
0.4
0.6
0
20
40
60

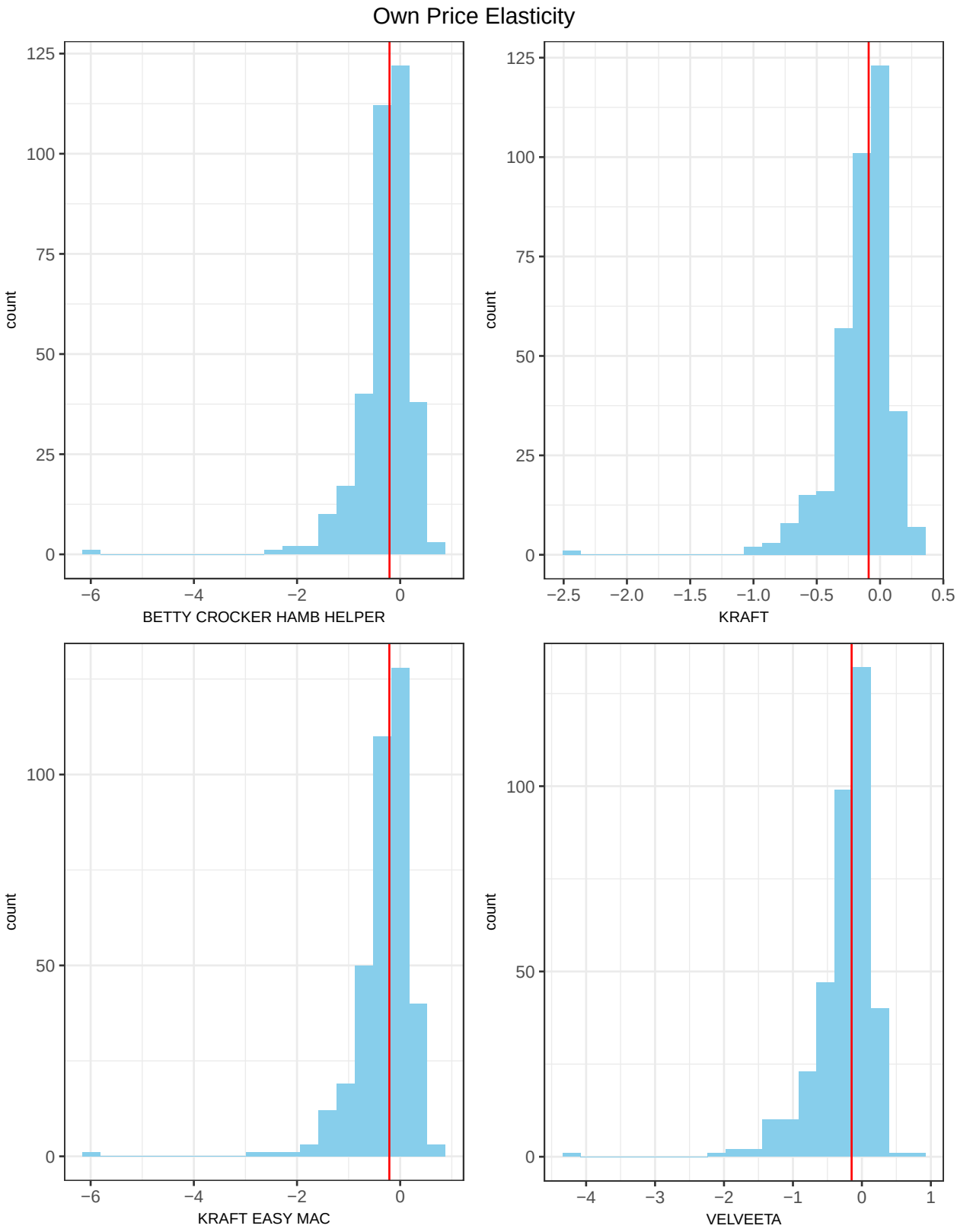

count
Christmas
−0.4
−0.2
0.0
0
10
20
30
40


count
Thanksgiving
−0.4
−0.2
0.0
0.2
0
10
20
30
40
50


count
Easter
−0.2
−0.1
0.0
0.1
0.2
0.3
0
10
20
30
40
50

```
[[1]]
NULL
```

Elasticity Estimates:

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[[1]]
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NULL
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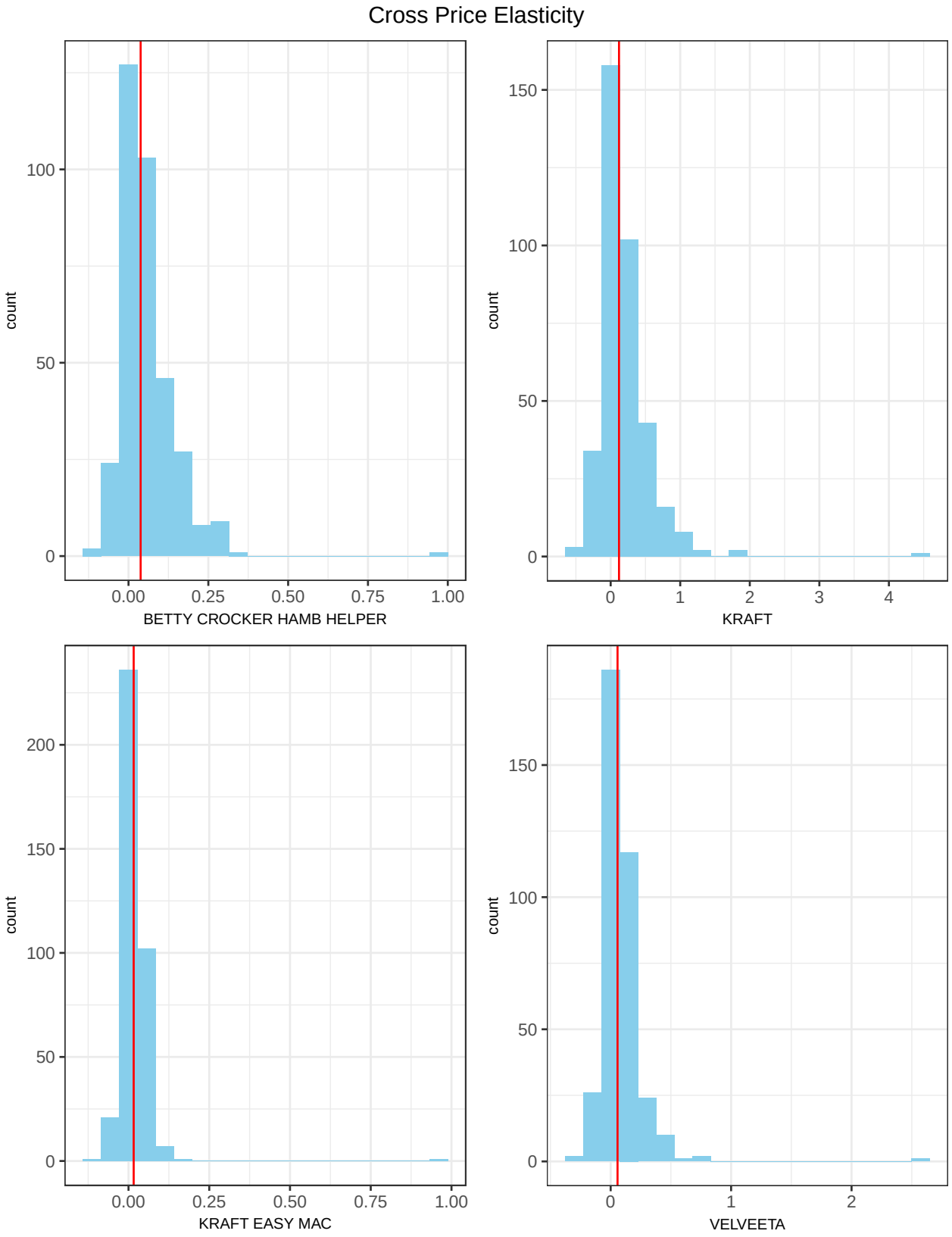
Cross Price Elasticity
count
BETTY CROCKER HAMB HELPER
KRAFT
KRAFT EASY MAC
VELVEETA

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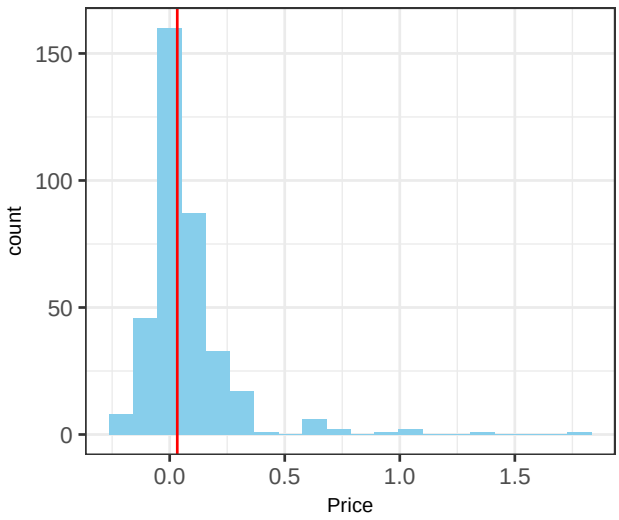
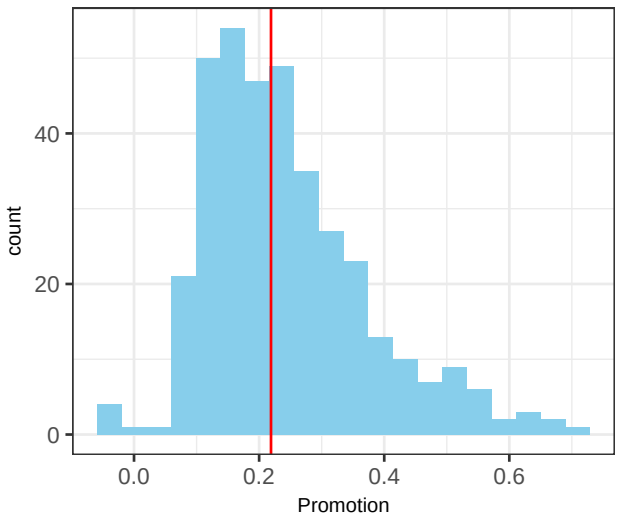
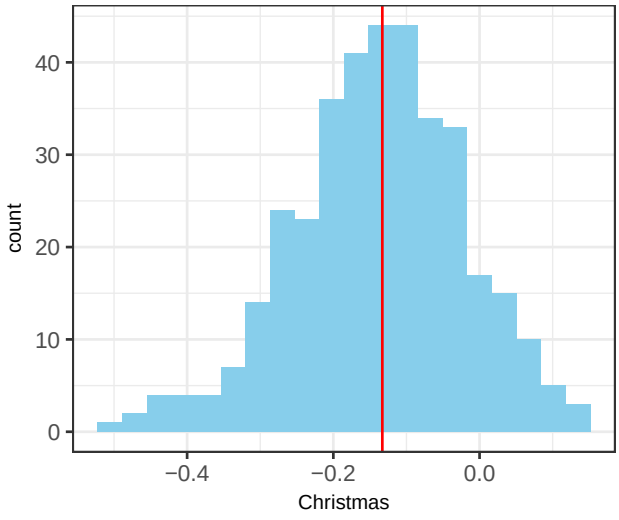
[[1]]
```

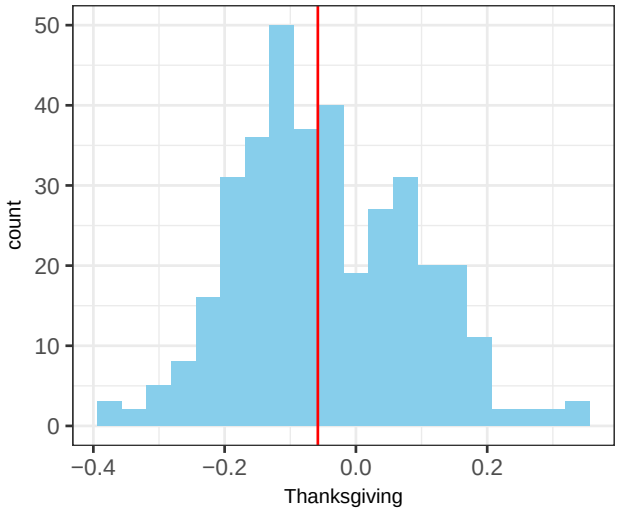
```
NULL
```

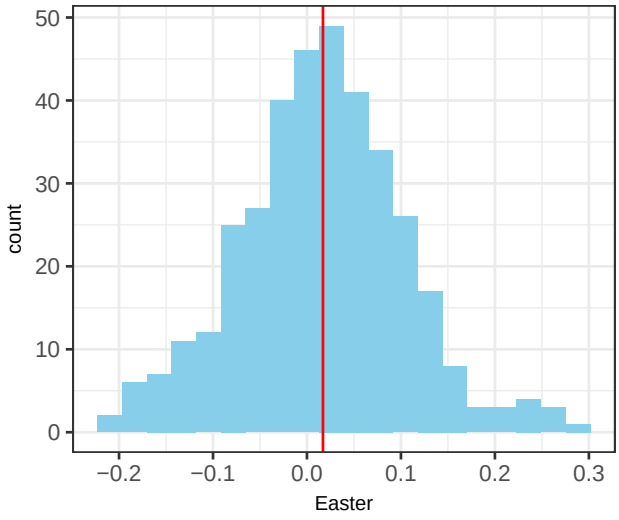
Demand Estimates Using Prices - Hausman Instruments











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[[1]]
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```
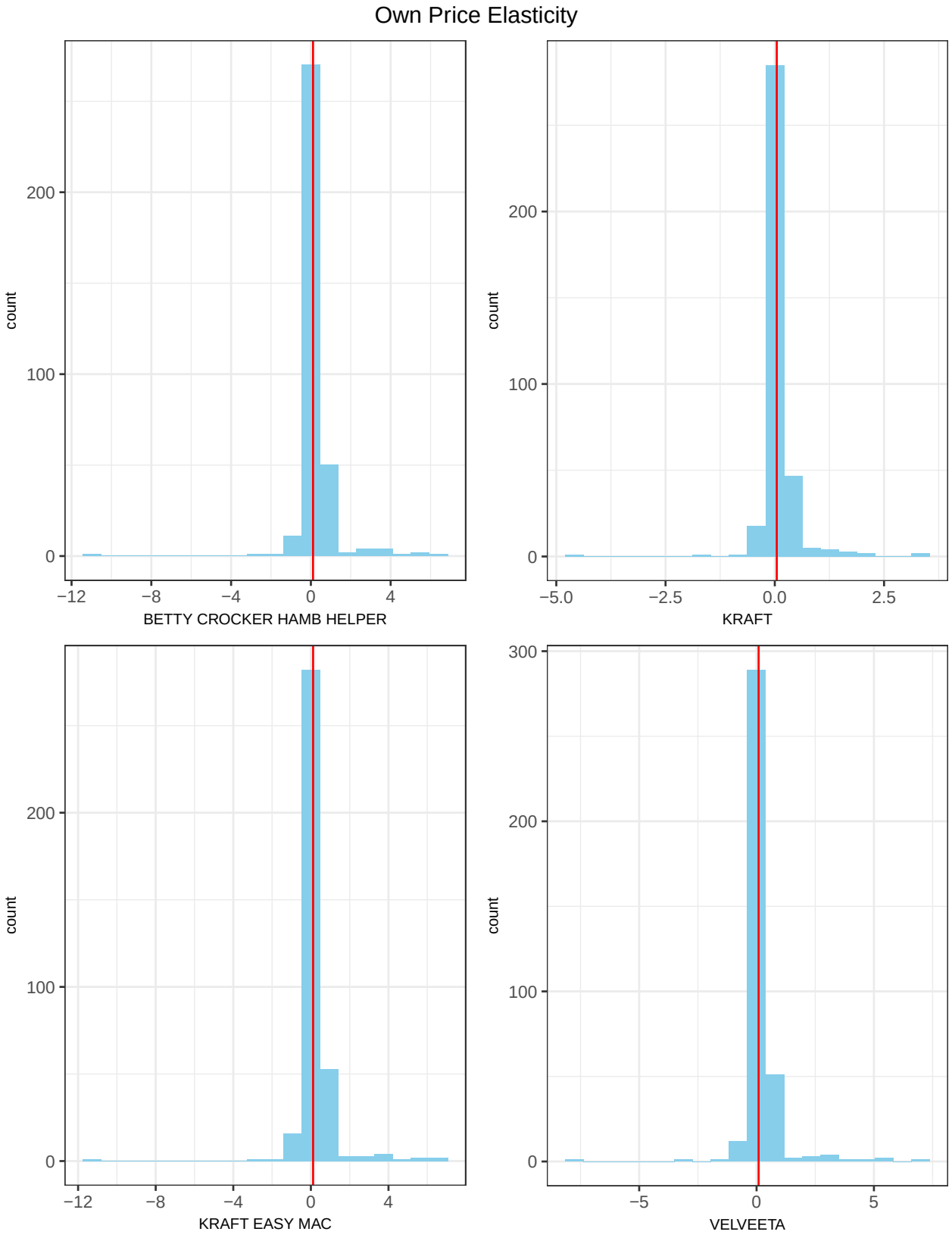
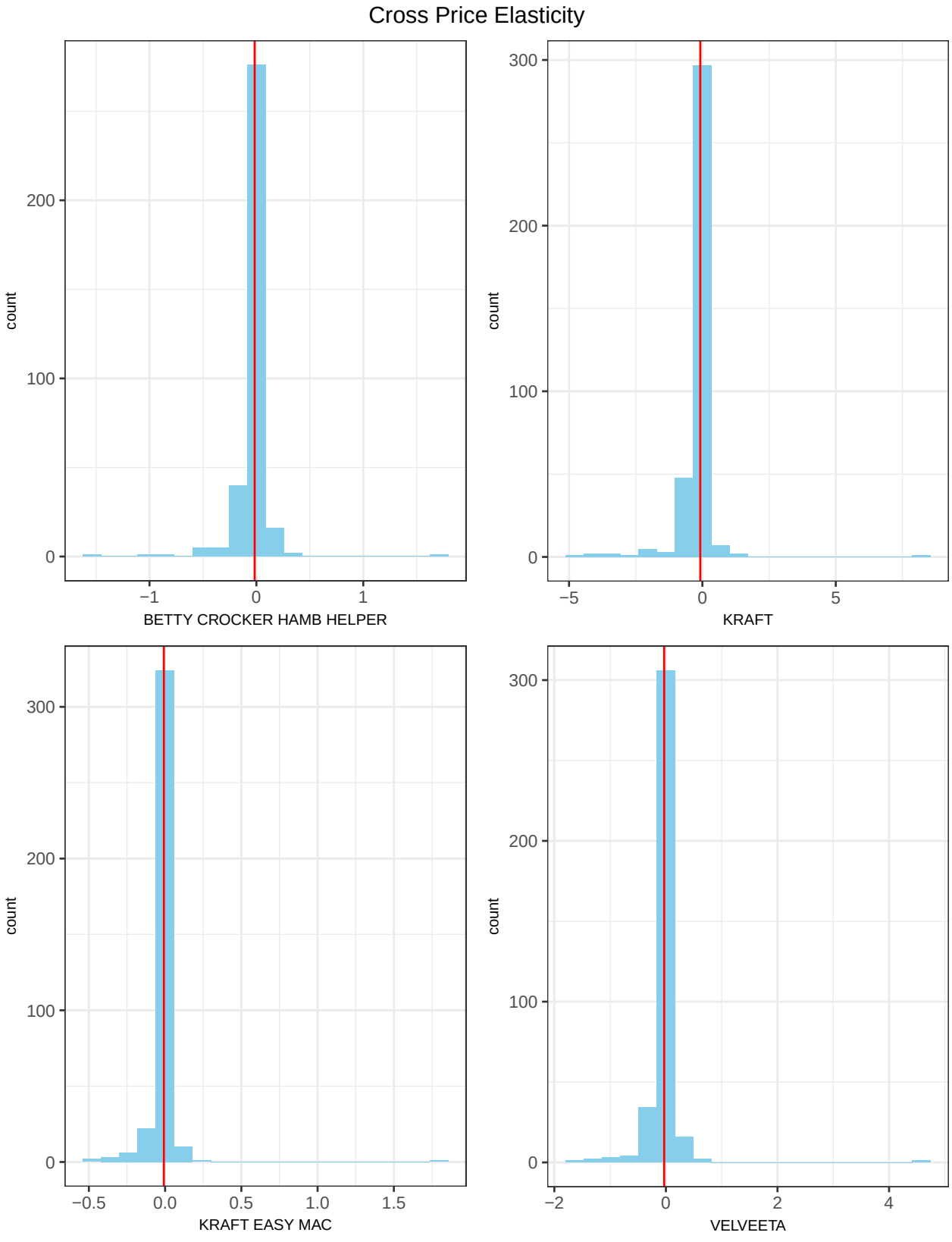

Elasticities


Own Price Elasticity
count
BETTY CROCKER HAMB HELPER
KRAFT
KRAFT EASY MAC
VELVEETA

```
[[1]]
NULL
```


Cross Price Elasticity
count
BETTY CROCKER HAMB HELPER
KRAFT
KRAFT EASY MAC
VELVEETA

```
[[1]]
NULL
```