Price Differentials in the Ontarian Organic Market
By: Alexei Porturas

Introduction and Objectives
The organic market is growing at an unbelievable rate year after year and has been generating high returns and has increased in market size value. However, the true factors underlying the significant growth in the organic sector market are largely responsible to the consumers’ perception towards organic products.

The initial steps of this project involved analyzing the pricing strategies and differentials for organic food in Ontario. This includes a combination of certified organic products and non-certified organic products in various stores located in Ontario. The analysis of these products would involve using SPSS, a marketing analysis tool, to uncover trends related to pricing in the organic market from the data observed. In order to begin the analysis, it was necessary to have a firm understanding of the organic market as well as an understanding on how to use SPSS. A good portion of the initial work involved research about the organic market and its development as well as how to properly use SPSS.

The two main objectives were the following:
1. To determine the pricing strategies and price differentials for organic food in Ontario.
2. Look for new organic food price trends by channel of distribution and by product.

Population Studied
The Ontarian region was surveyed with a total of 195 random products with various certifications, food mileage, processing and stores.

Sample Distribution

| Food Category | Organic Foods | Non-Organic Foods | Total
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>50</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>Vegetables</td>
<td>25</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Meat</td>
<td>30</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td>Breads &amp; Grains</td>
<td>20</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>95</td>
<td>100</td>
</tr>
</tbody>
</table>

Organic Food Prices and Influencing Factors
Factors such as organic certification and food mileage were analyzed to determine whether they influenced organic food prices.

<table>
<thead>
<tr>
<th>Organic State of Product</th>
<th>Price of Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic</td>
<td>$5.7058</td>
</tr>
<tr>
<td>Non-Organic</td>
<td>$3.1411</td>
</tr>
</tbody>
</table>

The Effects of Organic Certification
Interestingly enough, fruits contained a high level of certified organic products, almost double that of non-organic. Furthermore, the chi square test (a statistical test) shows that there is a significant difference between the levels of organic certification and the type of product which demonstrates that certain products do tend to have more of a certain level of certification.

The Effects of Food Mileage on Products
The results of the cross-tabulation demonstrate that the majority of fruits are in fact transported from distant locations. The chi square test revealed that there is a significant difference between the variety of products and their food mileage which allows us to believe that certain products had more of a certain level of organic certification. Also, as previously analyzed, imported products tend to be organic certified which typically yield the lowest price.

Conclusion for Objective 1
Through the analysis conducted and the various tests done, we can believe that due to a combination of factors the average price of a product can be explained. For example, throughout the analysis the focus was to explain why fruits tended to have an average a lower price than any other product. It was concluded that fruits were primarily imported. Furthermore, imported products tended to be mostly certified organic products which tended to be cheaper. Thus, because most fruits were imported certified organic products contributed to it yielding a lower price.

Thus, the average price of any product can be explained due to the combination of factors such as its level of organic certification and its food mileage. On average products that are imported and certified organic tended to be cheaper than any level of food mileage and level of organic certification.

Comparing Specialty and Retail Stores
Stores were grouped based on whether they were considered specialty or retail stores. The second objective aimed to explain the difference in price between specialty and retail stores.

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Specialty Stores</th>
<th>Retail Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>$3.2679</td>
<td>$7.9717</td>
</tr>
<tr>
<td>Vegetables</td>
<td>$3.2230</td>
<td>$7.2655</td>
</tr>
<tr>
<td>Meat</td>
<td>$4.7266</td>
<td>$5.3214</td>
</tr>
<tr>
<td>Breads &amp; Grains</td>
<td>$4.1014</td>
<td>$5.0000</td>
</tr>
<tr>
<td>Other</td>
<td>$4.2942</td>
<td>$5.3629</td>
</tr>
</tbody>
</table>

Retail vs. Specialty (Food Mileage)
When investigating the distribution there is a higher concentration of fruits and vegetables in retail stores rather than specialty stores. Moreover, there is sufficient evidence to believe that there is a difference between the varieties of products offered in each category of store. Due to the unequal distribution of products within retail and specialty stores we can conclude that the variety of products offered at stores has an impact on the average price of retail and specialty stores. Also, the average price of each product allows us to believe that the higher concentration of fruits in retail stores contributes to its average being twice as high as specialty stores.

Thus, a conclusion can be drawn because that there is an unequal distribution of variety of products between retail and specialty stores that consequently affects the average price of the store. For example, specialty stores have a higher concentration of processed foods which tend to be more expensive while retail stores offer more fruits and vegetables which are generally cheaper. Up to this point the following factors have been analyzed, degree of organic certification, food mileage and the variety of products. The next analysis will determine whether the degree of processing affects the price of retail or specialty stores.

Retail vs. Specialty (Degree of Processing)
Analyzing the frequency chart we see that retail stores offer a lot more imported products than any type of product while specialty stores offer a lot more local products. Furthermore, the respective chi square test shows that there is a significant difference between the amount of products and their food mileage in comparison to the category of store. If we refer to table 18 we see that local products are on average more expensive which contributes to the increase in average price of specialty stores being higher. More evidence is provided by the results of the one-way ANOVA which demonstrate that there is a significant difference between food mileage and price.

Conclusion for Objective 2
Therefore, from the analysis conducted in part two we can see that retail stores tend to offer more imported and organic products in comparison with specialty stores. From the analysis we concluded that on average imported products tend to be much cheaper than any other level of average food mileage. This contributed to retail stores having a cheaper average price than specialty stores. In addition, retail stores had a higher concentration of fruits and unprocessed products which also contributed to their lower average price.

On the other hand, specialty stores offer more local products which are on average more expensive than any other food mileage. Also, there was a higher concentration of processed foods in specialty stores which contributed to specialty stores having a higher average price.

Discussions
What other factors may influence the price of products? Why would certain consumers prefer to pay the price premium for local products? Why do local products cost more?

Ideas for Further Research
- Other factors that influence the price of organic products
- Other factors that affect the price of retail and specialty stores
- Organic product pricing differences between provinces
- Organic distributor price differences between provinces
- Organic product pricing differences between countries
- Distributor price differences between countries

Thank you to Professor Mehdi Zahid for His Guidance and Work. Alexei Porturas
Second Year Student at the Telfer School of Management