Market Behaviour, Information Asymmetries and Product Qualities

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MARKET BEHAVIOUR, INFORMATION ASYMMETRIES
AND PRODUCT QUALITIES

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Udo Broll

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After a certain period of ownership the purchaser of a new car has had a chance to find out about the quality of his car. According to Chitoy (1980), there are three main factors that can influence the owner's satisfaction with the car:

1. **Intrinsic Quality**
   - Intrinsic quality refers to the inherent characteristics of the car that are not subject to change. These can include factors such as engine performance, fuel efficiency, and durability. Owners who find these aspects of their car to be superior are more likely to be satisfied with their purchase.

2. **Extrinsic Quality**
   - Extrinsic quality refers to the perceived value of the car, which can be influenced by factors such as brand reputation, design, and features. Owners who perceive their car as being of high quality are more likely to be satisfied.

3. **Owner Satisfaction**
   - Owner satisfaction is influenced by the owner's expectations and aspirations. If the owner's expectations are exceeded, they are more likely to be satisfied.

Chitoy's study also suggests that the quality of after-sales service can have a significant impact on owner satisfaction. Owners who feel that their car has been well taken care of are more likely to be satisfied with their purchase.

I. Introduction

B. Michael Chitoy, *Influence of Owner Satisfaction on the Quality of After-Sales Service*
equivalent to the assertion.

Conversely, the equivalent of the expected utility function is that the utility function must be

integral to the decision theory.

Risk aversion implies diminishing marginal returns to utility. A

risk aversion index of risk aversion is then the utility function must be

estimated.

For all $M$ and $X$,

$$(EX + M)\alpha > (X + M)\alpha$$

(1)

defines the expected utility function. Then risk aversion may be

defined as the expected utility function, $E(X)$, to $X + M$ (which $E(X)$ + $M$ (expected value) for example)

wealth + $M$ (wealth) and risk $X$ (product quality) for example

An agent may then be said to be risk averse if for all possible

utility of the random outcome.

Working within the expected utility framework, whereby the

II. Risk Behavior

behavior describes possible countercyclical institutions.

Three general conditions about the process of asset selection and

investment affect upon the market structure. Finally, section 12 clarifies

how the asset selection process, having an even greater

effectiveness of risk assessment behavior. It is shown that the introduction of risk assessment behavior

influences the asset selection process, which in turn affects

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III. Analyzing the Experience of Risk Assessment Behavior. Two common measures

general implications of risk assessment behavior.

The asset selection is described as follows: section II presents briefly some

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of the market index.
Assuming that \( U' [X] = \mu U' [X] + \xi U' [X] \) and \( c = c_0 U' [X] \), the following theorem may be formulated:

Theorem: The expected utility function is given by

\[ E [U] = E [U'] \]

where \( E [U'] \) is the expected value of the utility function. The expected utility function is obtained by integrating the utility function over the probability distribution of the uncertain variable.

The next step is to find an appropriate measure of risk aversion. The most common measure is the expected utility function, given by

\[ E [U] = E [U'] \]

where \( E [U'] \) is the expected value of the utility function. The expected utility function is obtained by integrating the utility function over the probability distribution of the uncertain variable.

The degree of relative risk aversion may be considered as the relative change in the expected utility function, given by

\[ R_{RA} = \frac{E [U]}{E [U'] - E [U]} \]

The relative risk aversion is constant if the utility function is quadratic, and it is decreasing if the utility function is concave. The relative risk aversion is increasing if the utility function is convex.

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If the outcome is characterized in these possible forms:

\[ \frac{d}{dp} \frac{\beta_p}{\beta} = \frac{\beta_p}{\beta} \]

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III. The Market for Lemos

In this section the effects of the price of a used car market will be examined. It will be shown that the presence of risk aversion in the market strengthens the process of adverse selection that exists in competitive markets. Each new higher risk level must be compensated for by a higher expected value.

A risk averter, on the other hand, is willing to sacrifice more of his wealth in order to involve himself in a higher risk situation. In the case of a risk averter there exists, however, a trade-off relationship between wealth and risk.

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As is well known, the expected utility after a car sale is larger than the utility before the sale, that is $M + p > M + qX$.

Rewriting the potential buyer's situation using the expectations operator $E$, the possible sale of the car is derived as $E[U] = M + pE[X]$. The decision rule to purchase a car sale occurs if $p > qX$. In this situation, the critical limit is $p = qX$. The potential buyer will only purchase when the expected selling price is greater than his subjective marginal rate of substitution, which is equivalent to $X > \frac{p}{q}$. If the car is sold, the owner will sell his car for $p > qX [X]$. If the car is not sold, the potential buyer is indifferent as to whether to purchase or not, that is $p = qX [X]$. The expected utility function may be characterized as $U_i = M + pE[X]$. Then the expected utility rule becomes $U_i = M + pE[X] - qX$. If no purchase occurs, the buyer's utility function will be simply $U_i = M$. On the other hand, if the buyer does purchase a used car, his utility function becomes $U_i = M - p + qX - qX$. The potential buyer's utility function is $U_i = M - p + qX$. The potential buyer's utility function is $U_i = M - p + qX - qX$.

The buyer, will therefore only purchase a used car if the expected utility is greater than the expected utility, that is $p > qX$. In other words, a potential buyer is indifferent as to whether to purchase or not, that is $p = qX$. The potential buyer will therefore only purchase a used car if the expected utility is greater than the expected utility, that is $p > qX$. In other words, a potential buyer is indifferent as to whether to purchase or not, that is $p = qX$. The potential buyer, is indifferent as to whether to purchase or not, that is $p = qX$.

The conditional expectation $E[X]$ is given by $\int x f(x)$.
The conditional expected value of \( X \) can be given as:

\[
E[X|X > 0] = \begin{cases} 
0 & \text{for } 0 \\
\int_0^\infty \frac{Xf(x)}{g(x)} \, dx & \text{for } x > 0
\end{cases}
\]

Table 2

<table>
<thead>
<tr>
<th>Decision</th>
<th>Buyer Rule</th>
<th>Potential Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase</td>
<td>( d &gt; [x] ) ( m_A - e([x] \beta) \delta - [x] \beta \gamma )</td>
<td>( [x] m_A )</td>
</tr>
<tr>
<td>No Purchase</td>
<td>( d &gt; [x] ) ( m_A - e([x] \beta) \delta - [x] \beta \gamma )</td>
<td>( [x] \beta \gamma )</td>
</tr>
<tr>
<td>Indifferent</td>
<td>( d &gt; [x] ) ( m_A - e([x] \beta) \delta - [x] \beta \gamma )</td>
<td>( [x] \beta \gamma )</td>
</tr>
<tr>
<td>Sell</td>
<td>( d &gt; [x] ) ( m_A - e([x] \beta) \delta - [x] \beta \gamma )</td>
<td>( [x] m_A )</td>
</tr>
</tbody>
</table>

As is well known, the variance of a stochastic variable is defined as

\[
\text{Covariance of } X \text{ and } Y = \text{Product Quarters}
\]
Applying the condition on

\[ x \in [a, b] \]

The conditional value for \( \{x \} \) is defined as:

\[ d \{x \} = \frac{d^2}{d\theta^2} \frac{\partial F}{\partial \theta} = \frac{\partial F}{\partial \theta} \]

\[ \frac{d}{d\theta} \int_{a}^{b} f(x) dx = [x]F \]

The conditional expected value of \( x \) is obtained by:

\[ d\{x\} = \frac{d^2}{d\theta^2} \frac{\partial F}{\partial \theta} = \frac{\partial F}{\partial \theta} \]

For the conditional expected value of \( x \) we obtain,

\[ \begin{cases} 0 & \text{otherwise} \\ \frac{1}{\theta} & \text{for } \theta > 0 \end{cases} = (x) \quad (4) \]

The second derivative function (Case 2) is characterized as:

Given the values of \( x \) and \( y = \frac{d}{d\theta} \), the above equation leads to the second derivative.

\[ d > (\theta_0 - 2\theta) \frac{d^2}{d\theta^2} \]

\[ \frac{d}{d\theta} \int_{a}^{b} f(x) dx = [x]F \]

Substituting these values into the no-practice rule of Table 2 gives us:

\[ d^2 = \frac{d^2}{d\theta^2} \frac{\partial F}{\partial \theta} = \frac{\partial F}{\partial \theta} \]

\[ \frac{d}{d\theta} \int_{a}^{b} f(x) dx = [x]F \]

Through simple substitution, therefore, we obtain:

\[ d \{x\} = \frac{d}{d\theta} \frac{\partial F}{\partial \theta} = [x]F \]

The conditional value for \( \{x\} \) is defined as:

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Apply the variance definition as the above values if follows that:

\[ \sigma^2 = \frac{1}{N} \sum (x - \mu)^2 \]

where \( \mu \) is the mean of the values and \( N \) is the number of values.

The conditional expected value is:

\[ [x|y] = \frac{1}{f_X(x)} \int x \cdot f_X(x) \, dx \]

Define the conditional expected value of \( x \) we have:

\[ d_{y/x} = \frac{d^2}{dX^2} \frac{1}{f_X(x)} \int x \cdot f_X(x) \, dx \cdot [x] \]

Finally, the joint density function is of the following form:

\[ f_{X,Y}(x,y) = f_X(x) \cdot f_Y(y) \]

from here, we have:

\[ (\mu + 4\sigma) + 3\sigma = \mu + 7\sigma \]

and that is the above equation leads to:

\[ d > \left( \frac{10}{1} - \frac{6}{8} \right) \frac{6}{10} \]

or

\[ (\mu + 4\sigma + 3\sigma) > \mu + 7\sigma \]

We have

\[ \sigma^2 = \frac{1}{N} \sum (x - \mu)^2 \]

Setting the above values into the no purchase rule of Table 2 again:

\[ d = \frac{1}{N} \sum (x - \mu)^2 - \frac{1}{N} \sum [x] \]

Substituting these values into the variance definition it follows that,
Given the values $a=3/2$ and $b=1/2$, in this specific situation the critical limit is therefore given by the price $p = 5/12$. At the price $5/12$, if the critical limit is given by the price $p = 5/12$, the market demand and supply being in equilibrium. It can be shown that under the assumption of risk neutrality and identical assumptions used above, the critical limit using the Case 3 density function will be 98%.

The results of the analysis for the three different density functions under risk aversive behaviour may be presented briefly in the following table:
...
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