A Quantitative Study on How Consumer Confidence is affected by High Prices in Pakistan

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ABSTRACT

The proposed study aims to analyze about the consumer confidence and its response by high prices in Pakistan. For the purpose of this study used annually secondary time series data for the period of 2000-2023. An Econometric technique “Ordinary Least Square Method” used for the data analysis. Moreover, a simple regression model is used for the estimation where descriptive statistics shows the general summary of data while unit root test indicates that the variables are stationary at first difference. Ramsey RESET conducted to check specification error; it is clear from the result of Ramsey test there is no specification error in the model. The results of model estimation reveal negative effect of high prices on consumer confidence in Pakistan.

Key Words: Prices, Consumer, Purchasing behaviour, Consumer Decisions, Choices, Inflation, Unemployment, Consumer Confidence.

1 Introduction

The consumer purchasing behavior is a very crucial study for understanding the elements that influence the consumer behavior about their purchasing decisions. While the daily life consumer attitude required several decisions, among these purchasing is important one. Moreover, there are many motives behind the purchasing decisions sometimes it is trying something new, while other time it is recommendation of society to buy certain goods for some specific attributes or sometimes for giving up one selecting the other.

Consumer confidence is a crucial factor which provide or include/contain information about economic-agent expectations. Both monetary & fiscal policies work well in the economy, if policy makers understand the expectation of representatives.

Due to the globalization of business and the increasing use of electronic websites and social media to enable Consumers to make comparison of products and services with respect to their price. The rising trends of global inflation creates issue of Economies of scale. This issue has a greater impact on purchasing decisions of consumer world widely.

Consumer behaviour is all feeling, thoughts & action that a consumer has or uses before while purchasing of certain good or services. Where, behavior of buyers reveals the decision of buyers like what, when, why and how to buy. These decisions are an outcome of consumer behavior about decision making. Here, prices again influence that.

Price is undoubtedly very important market indicators. Price effect is partly price because which are present on purchases and at representing amount of economic outlay of consumers that must be given up to participate in the purchase.

According to this strictly understood method, so a higher price may affect the probability of the purchase. However, some researchers have pointed out that price is a difficult incentive, and many consumers view it as a "negative impact" on the budget rather than being precise.

In 2023, the inflation rate of Pakistan jumped to 35.4%. Pakistan Inflation rates have substantially fluctuated in recent times. The unemployment rate increases to 6.40 percent in 2023 from 6.20 percent recorded in 2022.
2 Research Objectives

The proposed study aims to address some of the questions that may have the positive or negative relationship with the high prices and its impact on consumer decision. Relevant to this, this study aims to access the following objectives.

• To determine the effect of inflation (High-Prices) on the confidence of consumer in Pakistan.
• To determine the effect of unemployment rate on the confidence of consumer in Pakistan.
• To perform an in-depth analysis of the prices and consumer confidence in Pakistan.
• To provide recommendations to the policy makers on how minimum prices can be beneficial for the consumers of Pakistan and how policy makers can make better policies for proper price settlement and increasing consumer confidence for purchasing goods and services.

3 Outline Of Study

The structure of the study is followed as; In the section 1 introduction presented, section 2 & 3 presents theoretical literature review and empirical literature review, section 4 presents methodology and data source, section 5 explain primary data analysis, section 6 consist of model estimation results and last section 7 presents conclusion, policy implication and direction for future.

4 Literature Review:

The study finds a very healthy literature describing the impact of high prices in an economy influencing the purchasing decisions of consumer. Purchase and decision of consumer may get influence from many other factors. As in the history of economics law of demand describes the price of a commodity as a premium element influencing the quantity demanded in agony. More the price rises lesser will be the quantity demanded for that specific commodity. Other than the price there are some other factors likewise income of the consumers, fashion trend in economy, population of economy, prices of substitute goods and introduction of new brands. All these elements contribute towards the purchasing decision of a commodity of consumer. In this regard here are some studies that finds the association shape of different elements that influence the purchasing behaviour of consumer. Here A.A.S Syed et al (2022), research analyzed the economic policy uncourtainnty’s impact on the confidence index of consumer in Pakistan. Results of study reveals that consumer confidence index is negatively and significantly affected by shocks in economic policy uncertainty in Pakistan.

While, J.A Bayad and A Govand (2021), study explain that to determine influence on consumer behaviour, pricing strategies is an important factor to be considered. Study results indicate that consumer behaviour is positively influenced by prices.

Then, G. Sudeshna (2021), study explores role of consumer-confidence in the policy uncertainty in Japan. The Results of the study suggest that consumers are greatly affected by the global financial crisis. It means the global financial crisis hugely impacts consumer confidence.

While, Vanlaer et al (2020), study result shows that uncertainty impacts level of consumer confidence. The uncertainty has negative impact on consumer behavior and household savings.

Moreover, Bergman and Worm (2020), research study investigates how consumer confidence is impacted by economic policy uncertainty. Study also examines the householders expectations and their financial situation. The study results reveal that economic uncertainty policy has a huge impact on expectations of the household level and consumer confidence.

Whereas, Nowzohour and Stracca (2020), study how consumer-confidence is correlated with economic policy uncertainty and stock market volatility. The finding of the study shows that economic uncertainty and stock market volatility is closely correlated with consumer-confidence at world level.

And, L.De and Almeida (2019), study evaluate uncertainty and macroeconomic variables at policy levels and how these reduce business confidence levels. Macroeconomic variables and uncertainty have adverse implications on the level of consumer confidence. Result of the study shows that low level of credibility and high policy uncertainty significantly reduce consumer confidence levels.

Further, Kotler and Keller (2016), study shows that decision of consumers to purchase a good & service is mainly affected by price perceptions. Price perception explains information about a product.

And, Al-Mamun and Rehman (2014), study explains that consumers are very rational in decision making about how much benefits they get from payment they used to give for buying products and services.
Moreover, Komaladevi & Indika (2017), research paper reveals that mostly price as an important influencing factor for their decision making about purchase. Albari and S. Indah (2015), study result reveals that price variables are considered as important for consumer decision making for purchasing. M. Michael and P. Evgenia (2006), study finding suggests that consumer confidence exhibits power of forecasting for future macroeconomic activity and the return on small stock over the last two decades. Scott and Acemoglu (1994), study found that the important indicator for consumption is CCI (Consumer-confidence Index). Results reveal that consumption can be measure by inflation, CCI, real interest-rates and housing wealth. Benhabib, J Wang et al (2015), study reveals that real wages, productivity decisions & aggregate demand of the economy usually affects consumer confidence. The study results indicate that shocks in the confidence effect employment and output, even if no externalities are found & expectations are fully rationalized. Here, Mamtaz & Surico (2018), study indicate shocks which is originating from uncertainty of economic-policy and have negatively impact on the consumer confidence levels & business. Results of study suggest that consumer confidence levels are negatively affected by uncertainties in the position of public debt. These uncertainties position public debt unfavorably impact on overall output levels. Eva Mueller (1996), research study indicates that the major reason for decline in consumer optimism is the unemployment rate. Akhtar and Shahnaz, (2005). Study elaborates that in Pakistan unemployment increasing over the time. In the 1990s, Fiscal tightening, low rates of economic growth and other factors are the major factors that leads towards rise in unemployment rate. Moreover, Matsusaka and Sbordone (1995), research paper investigated the relation between Michigan Index of Consumer Sentiment (MICS) & Gross Domestic Product (GDP) growth. Study suggests that MICS is the variation in the unemployment, inflation, national income and real interest rates. Whereas, S.C Ludvigson (2005), research survey results suggest that consumer confidence reflects the non-stock market wealth growth and expectations of income. Study evidence is generated on the basis of mixed connection between precautionary saving motives and surveys. According to M Sata (2013), a research paper found positive affiliation between inflation and consumer buying decisions. While, Murro and R Muhammed (2019), research paper investigated Yogurt market in the US and their finding suggests direct relationship between consumer analysis about buying & prices of basket of goods. And, S Afshen and S Khan (2012), study conclude that there is greater influence of prices on consumers spending as compared to other factors Feltovich and N Anbarci, 2017, research paper investigated how prices are affected by information of price to the level of buyers. From the finding they conclude that prices affect the buyer and seller perception. B Lester (2011) study of prices information with constraints capacity conclude that those buyers who have more proper knowledge of goods prices lead to purchasing with higher prices. Engelmann and Tyran (2005), paper conclude that demand withholding and buyers boycott both are evidence of efficiency reduction and has an effect on prices. Linked to this, M. Khan (2015) article analyzes the relationship between behavior of consumers & the characteristics that effect purchasing decisions of consumers and consumers purchasing process. From the research results, we can conclude that consumer's external and internal factors affect the consumer buying behavior. Along this, Salamin et al. (2015), study concluded negative relationship between brand product price & purchase process, but young generations have more intention towards brand products purchasing. And, S Afzal, A Chando et al. (2013), study concluded that prices are the main factor behind consumer spending, if there is fluctuation in the price's customers will switch to other service providers.

5 Research Methods and Data Sources:

This research is conducted by using annual secondary and time series data from 2000 to 2023 in Pakistan. This data is sourced from World Development Indicators (WDI) and Trading Economics websites. The collected data analyzed by using econometric analysis “Ordinary Least Square Method” (OLS), where the dependent variable is the Consumer Choice and Prices is an independent variable in the study.

\[ Y_t = \beta_0 + \beta_1 X_i + \beta_2 X_i + \mu_t \]

Economics equation:

\[ CC = \beta_0 + \beta_1 PR + \beta_2 UR + \mu_t \]

Where,

\( Y = CC \) (Consumer Confidence), \( \beta_0 = \) Intercept/slope, \( \beta_1 = \) Coefficient of PR (Prices), \( \beta_2 = \) Coefficient of UR (Unemployment Rate).
By using time series data, we find the results of Normality test (With EViews). The Null hypothesis of Jarque Test is accepted because probability value is greater than 0.05. Accepted hypothesis indicates that residuals are from normally distributed populations. Furthermore, we checked that skewness of residual is perfectly positive because the value skewness coefficient is positive. The value of Kurtosis is less than 3 it means the distribution of residual is platykurtic.

4.2. Descriptive Statistics:

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>PR</th>
<th>UR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>33.10417</td>
<td>8.61078</td>
<td>2.235292</td>
</tr>
<tr>
<td>Median</td>
<td>34.5</td>
<td>7.80662</td>
<td>1.315</td>
</tr>
<tr>
<td>Maximum</td>
<td>51</td>
<td>20.28612</td>
<td>6.4</td>
</tr>
<tr>
<td>Minimum</td>
<td>15</td>
<td>2.529328</td>
<td>0.4</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>9.762371</td>
<td>4.835594</td>
<td>1.956172</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.104991</td>
<td>0.835594</td>
<td>0.692774</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.154891</td>
<td>3.234572</td>
<td>2.204128</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>0.758302</td>
<td>2.847894</td>
<td>2.553156</td>
</tr>
<tr>
<td>Probability</td>
<td>0.684442</td>
<td>0.240762</td>
<td>0.27899</td>
</tr>
<tr>
<td>Sum</td>
<td>842.5</td>
<td>206.6587</td>
<td>53.647</td>
</tr>
<tr>
<td>Sum Sq. Dev</td>
<td>2191.99</td>
<td>542.3952</td>
<td>88.01198</td>
</tr>
</tbody>
</table>

By using time series data files, we generate descriptive statistics. In descriptive statistics, Jarque-Bera Test results (with EViews) for CC, PR and UR, the probability value of CC, PR and UR is greater than 0.05, it means data series for CC, PR and UR is from normally distributed population.

Now we check the shape distribution (Skewness) by using a time series data file (Descriptive Statistics). The value of coefficient of skewness shows that CC, PR and UR are positively skewness distributions because mean is greater than median.

The value of CC Kurtosis's coefficient is less than 3, which means CC distribution is platykurtic. The value of PR Kurtosis coefficient is greater than 3, which means distributions of these variables are leptokurtic. The value of the Kurtosis coefficient of UR is less than 3, which means UR is platykurtic.
4.4. Regression Estimation:

Table 4.4.1: Simple Regression Model Estimation:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>43.21337</td>
<td>1.650167</td>
<td>26.18727</td>
<td>0.000C</td>
</tr>
<tr>
<td>PR</td>
<td>-1.686459</td>
<td>0.156429</td>
<td>-10.78099</td>
<td>0.000C</td>
</tr>
<tr>
<td>UR</td>
<td>2.868760</td>
<td>0.388333</td>
<td>7.387376</td>
<td>0.000C</td>
</tr>
</tbody>
</table>

R-squared: 0.876256
Adjusted R-squared: 0.864471
S.E. of regression: 3.593946
Sum squared resid: 271.2454
Log likelihood: -63.15416
F-statistic: 74.35266
Prob(F-statistic): 0.000000

Graph 4.4.1 Actual Residual Fitted Line Graph:

Table 4.4.1 shows that the null hypothesis is rejected at less than 0.05 probability value, which means the model is statistically significant. R-squared value is 0.87, which means 87% of change in consumer-confidence explained by the model's independent variables.

4.5. Correlation Matrix:

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>PR</th>
<th>UR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>1</td>
<td>-0.744</td>
<td>0.4374</td>
</tr>
<tr>
<td>PR</td>
<td>-0.744</td>
<td>1</td>
<td>0.1637</td>
</tr>
<tr>
<td>UR</td>
<td>0.4374</td>
<td>0.1637</td>
<td>1</td>
</tr>
</tbody>
</table>

Table shows that consumer-confidence and inflation is negatively correlated and unemployment rate show positive correlation.

4.6. Stationary Check by using ADF Unit Root test:

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>PR</th>
<th>UR</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Level</td>
<td>C &amp; T</td>
<td>1st Difference</td>
<td>C &amp; T</td>
</tr>
<tr>
<td>CC</td>
<td>t-statistics</td>
<td>-3.157</td>
<td>P-Value</td>
</tr>
<tr>
<td>PR</td>
<td>t-statistics</td>
<td>-2.101</td>
<td>P-Value</td>
</tr>
<tr>
<td>UR</td>
<td>t-statistics</td>
<td>-2.005</td>
<td>P-Value</td>
</tr>
</tbody>
</table>

Table shows that consumer-confidence and inflation is negatively correlated and unemployment rate show positive correlation.
Above table show Unit Root Test based results by using computer software "EViews." It is clear from the results that (at level), P-values are greater than 0.5; therefore, variables are non-stationary at the level. At 1st difference; p-value is less than 0.05 therefore variables are become stationary at the 1st difference and integrated of order I (1).

4.7. Ramsey RESET:

Table 4.7.1: Ramsey RESET of Model:

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>df</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-statistic</td>
<td>1.686587</td>
<td>20</td>
<td>0.1072</td>
</tr>
<tr>
<td>F-statistic</td>
<td>2.844574</td>
<td>(1,20)</td>
<td>0.1072</td>
</tr>
<tr>
<td>Likelihood ratio</td>
<td>3.191553</td>
<td>1</td>
<td>0.0741</td>
</tr>
</tbody>
</table>

P-value under Ramsey RESET is greater than 0.05 which shows that there is no specification error in the model.

4.8. Test for Forecast Ability of Model:

The forecasting for this regression model is an in-simple forecast because actual values of independent variables are used for forecasting. It is clear from Table 4.8.1 results that the Theil's inequality coefficient value is closer to zero, which indicates the better forecasting ability of the model.

7 Model Estimation Result:

Estimation Equation:

\[
CC = \beta_0 + \beta_1 PR + \beta_2 UR + \mu t
\]

Substituted Coefficients:

\[CC = 43.213739978 - 1.6864586046*PR + 2.8687603431*UR\]

Above results show that if we increase prices by 1 then consumer confidence will decrease by -1.68. Hypothesis of the model is tested at the probability value of 0.05. In the model estimation results, P-values are less than 0.05, which means model is significant and increase in inflation (high prices) significantly impact the consumer confidence in Pakistan. The assumption of expected sign of \(\beta\)'s negative is true, the independent variable's coefficient value indicates the negative impact on the dependent variable (Consumer Confidence).

8 Conclusion and Policy Implication:

Model results found inverse relationship between high prices (inflation) and consumer confidence, high prices have a significantly negative effect on consumer confidence.

People of Pakistan are facing severe issues due to the high prices, from the model results we can conclude that if government set minimum prices or according to purchasing power parity and reduce black marketing, corruption and reduce unusual stock of goods and services; than consumers gain confidence and making better choices according to their satisfaction and issues of lack of confidence in the consumer will be solved.
9 Limitation and Direction for further research:

Limitation of the research is that this study used annual secondary time series data for analysis of variables for specific periods from 2000 to 2022, due to unavailability of the data. Study only used the ordinary least square method for estimation for the estimation, there might be other econometric techniques which can be used for estimation of the model. The gap of the research is that this research analysis impact of high prices for limited period, future research could be done by using long term data for better estimation, as we know that if we use large number of sample than our results are coming accurate and there is small margin of error and biases in the model. Also, further research should be done by using quarterly or monthly basis data for finding accurate effects of high prices on consumer confidence.

References: