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**Co-movements of consumption patterns of High and Low Involvement
Products**

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Abstract

This study examines the co-movement of the buying patterns of the high and low involvement products in Pakistan in the presence of various economic players. Yearly data is collected from 1991 to 2010 containing unemployment rate, inflation rate, per capita income (MP) and interest rate (average) and the consumptions of High and low involvement products. Results reveal that there are the fluctuating trends in unemployment rate, inflation rate, per capita income and interest rate for the different time intervals while the consumptions of high and low involvement product is found to be co integrated for the outlined years during the fluctuating trends of outlined economical players.

Keywords: High involvement product, Low involvement products, economical players, co-integration.

1. Introduction

The economies of the world highly depend on the environment and surrounding. These include various economic factors which affected the businesses. Generally the purchase of any product depends on variables beside a company's own profitability and performances which are so to speak as external environments. In past analyses, it has been observed that the rate of inflation was inversely proportional to the purchase of products in developing countries, while per capita income and interest also affect the expenditure pattern. Inconsistent behaviors of economic factors have been observed in different countries with respect to the buying of low and high involvement goods. This study analyzes the trends of unemployment rate, inflation rate, per capita income (MP), and interest rate, along with the co-movements of consumption/ purchase of low involvement and high involvement products in Pakistan.

2. Literature Review

Several authors had previously analyzed the trends of economic players which include un-employment rates, inflation rate, per-capita income, interest rates and the trends in the buying of high and low involvement goods. The consumptions in Rupees have been taken as the proxy to reflect the trends of buying high and low involvement products.

2.1 Unemployment Rate

Unemployment is the condition of individuals of being un-hired. It is also meant as the number of men and women in the total available work force. Similarly, a person who expresses the intentions in having a job is considered as unemployed. Whereas the unemployment rate is actually the work force that had been unemployed, the unemployment rate represents the percentage of labor force that is unemployed.

2.2 Inflation Rate

Inflation refers to the increase in prices of goods and services. Each year the price is increased or decreased each year and its percentage increase or percentage decrease is known as inflation rate.

2.3 Per Capita Income (MP)

Income per person in a population is known as per capita income. Per capita income is frequently used to calculate a country's standard of living. It is calculated by total national income (GDP) divided by total population. In other words it is the average income for each person in a particular group.

2.4 Interest Rate

Interest rate is the percent charged on the amount borrowed from the central bank. It is also known as an interest rate charged from the depository institutions that borrow reserves from central bank.

2.5 High Involvement Products

There are several products that are high priced or high tech goods with high capital value services or goods and are psychologically imperative to the buyer because those products deal with social or ego necessities and for that reason carry social and psychological risk. The buyer is all set to spend cautiously, extensive time and efforts in inquiring for the right and most appropriate product. High involvement products are all costly products, and have a propensity to be associated to high price tag for providing extensive features for instance for green products (eco-friendly cars) (Subhani, Hasan, Osman, & Rudhani, 2012).

2.6 Low Involvement Products

There are relatively low priced goods which are bought repeatedly and with a least amount of contemplation and endeavor because low involvement products are neither of very important concern nor have any huge impact on the consumer's way of life (Subhani & Osman, 2011). Associated risk is very less while buying these goods as it is frequently habit buying products. The prices are comparatively low, and have a propensity to be associated to low price tag.

Juster, Wachtel, Hymans, and Duesenberry (1972) found that the price inflation variables had no co-integration with a purchase of automobiles and other durable goods. Since fully developed demand models for automobiles and other durable goods get moderately influenced by price inflation variables. There was some inflation effect found in the automobile unit purchase, but the effect was quite weak. In simpler words if inflation had a rising trend the purchase or the demand trend can also be rising but most of the time the trend is decreasing. Normally, the most consistent effect on real expenditures, for both auto- mobiles and non auto durables was of a negative influence of expected price change. Consequently, a fully anticipated inflation seems to leave a negative effect on real expenditures for durables; however, unanticipated inflation had very little impact on the purchase of goods include low and high involvement products. In simpler words, the results suggest that consumer expenditures on nondurables and services and on both the high and low involvement products will be with fluctuating mode by a fully anticipated inflation as Subhani, Lakhiya and Osman (2011) also suggested. Weber (1975) found in his study that nominal relative prices, interest rates and inflation rates were statistically significant determinants of consumer expenditures but their trends can be different from each other. The model derived by the author over the period 1930-70, omitting 1941-46 and

the aggregate data for the U.S. ascertained that relative prices and nominal interest rates statistically significant determinants of consumer expenditures but were all with the different trends. It was found that consumers would reduce spending on durables as there is a rise in the comparative price of durables, which mean if the relative price was on rising trend then expenditure on durables was on declining trend. Also, raise in the comparative price of durables would drive consumers to raise their expenditures on nondurables, i.e. the trends were co-integrated. Lindenberg and Westermann (2009) re-inquire the co-movements of low involvement products in the G7-countries. A controlled MO(modus operandi) was recommended to investigate the time series distinctiveness of low involvement products and to assess for familiar characteristics. Co-integration, serial correlation common feature and co-dependence tests were conducted for high and low involvement products by means of quarterly data from 1975 to 2007. Overall, slight indication of co-movements was found. Common trends were infrequently experimental, but the majorly of the low involvement products were not co-integrated with the consumptions of high involvement goods. Although some indication for co-dependence of higher order was found among European countries, only in rare cases common cycles appear to exist and cannot be widespread for all low involvement products. The purpose of this research was to analyze co-movements in low involvement products in a planned frame. Hence, the study used the post Bretton-Woods sample i.e. with distinctive low involvement products (butter, sugar, pen etc) it was initiated and maintained with real interest rates. Slight proof of co-movement can be noticed in the data set during the introductory analysis of portraying the lag configuration and the motionless of the low involvement products. Generally, only weak evidence for co-integration was found. The vitality of the findings wasn't found regarding the concept of the country threat by observing Euro-Market neither the dissimilarity among real rates and nominal rates was imperative for pronouncing the co-movements for the longer period.

Kitov (2006) analyzed per capita growth rate of low involvement products by representing it because of a summation of deuce mechanism, a monotonic declining monetary trend and variation associated in the direction of a particular period. The model for monetary trend was an opposite purpose of low involvement products with dividend potentially steady intended for the biggest urbanized economic system. During the period between 1950 and 2004 statistical analysis of 19 selected OECD countries displayed a extremely feeble linear drift in the yearly low involvement products boost, namely France, USA, Japan and Spain. On the contrary Canada, Australia and UK demonstrate a bigger constructive linear drift. Emerging nations revealed the addition of values way less than the average increase meant for mainly urbanized economies, leading this point towards a lower performance irrespective of large relative growth of low involvement products. The model portrays that low involvement products had a continual increase and the population component change explains the observed fluctuations. In developed countries, it was observed that there was nominal change. For developed economies relative growth rate of low involvement

products had to exist an inverse meaning of the achieved level with a potentially steady numerator of its consumption.

3. Methodology

3.1 Description of Data and Sample Size

Secondary data is used for interrogating the proposition of this paper. Secondary data of yearly unemployment rate, inflation rate, per capita income and consumptions of high & low involvement products are collected for 20 years from 1991 to 2010, from economic survey of Pakistan and trading economics web portal.

3.2 Statistical Technique

Firstly the trend analysis has been carried out in order to know the trends of economic players and the buying of high and low involvement goods. Secondly, Johansen Co-integration test is also applied to know that whether or not there is a co-integration between the buying of high and low involvement goods.

4. Findings and results

4.1 Findings of Trend Analysis

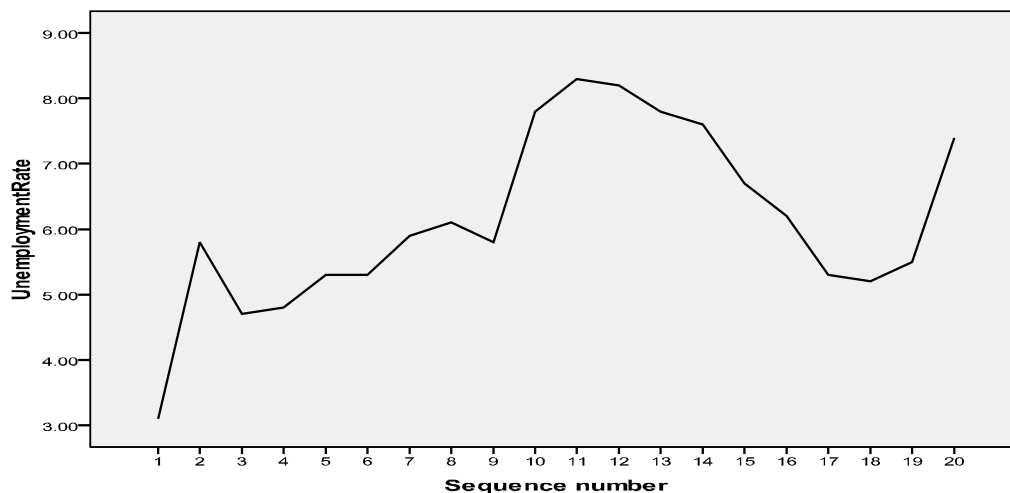


Figure 1: Trend Analysis for Unemployment

The figure 1 shows that rates of unemployment are kept on fluctuating throughout the 20 years period. From 1991-1992 it is increased with an increasing rate and then kept on increasing with decreasing rates till 1998-1999 while it is increased again at increasing rate for a very short period i.e. 2000-01 and finally found and observed with falling

trend on annual basis from 2001 to 2008, but again for the last 2 years the increasing trend is revealed.

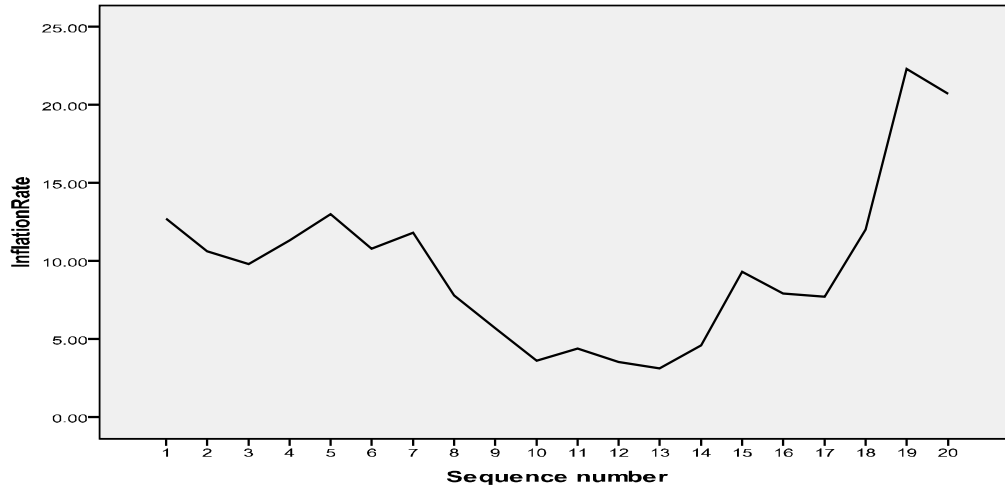


Figure 2: Trend Analysis for Inflation

The figure 2 shows that how inflation is kept on fluctuating throughout the 20 years period. From 2003 it is increased with a decreasing rate while then kept on increasing with an increasing rate on annual basis thereafter as the whole.

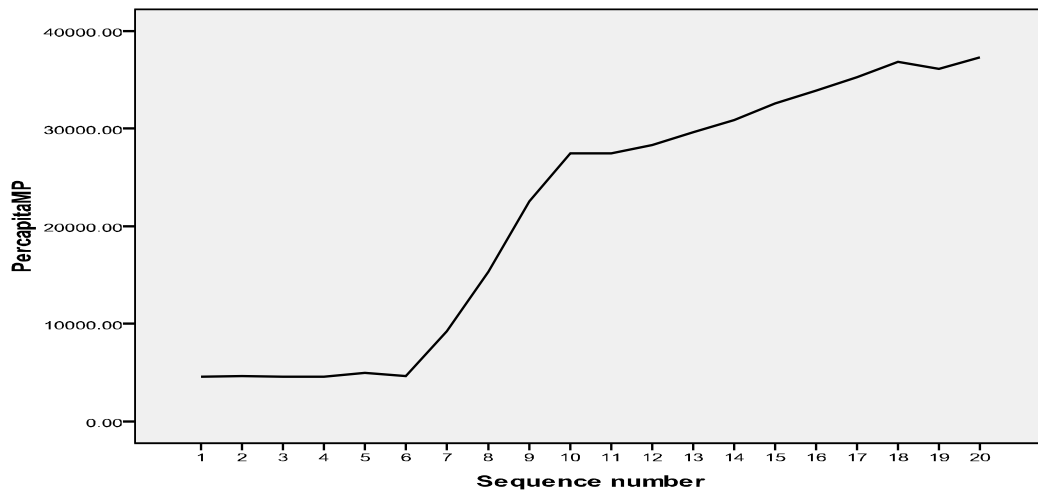


Figure 3: Trend Analysis for Per capita Income

The figure 3 shows that per capita income is remained same and stagnant from 1991 to 1996. But from then to onwards it is kept on increasing rapidly till the year 2000. After year 2000 the growth in per capita income became a bit slow but kept on moving with an increasing trend.

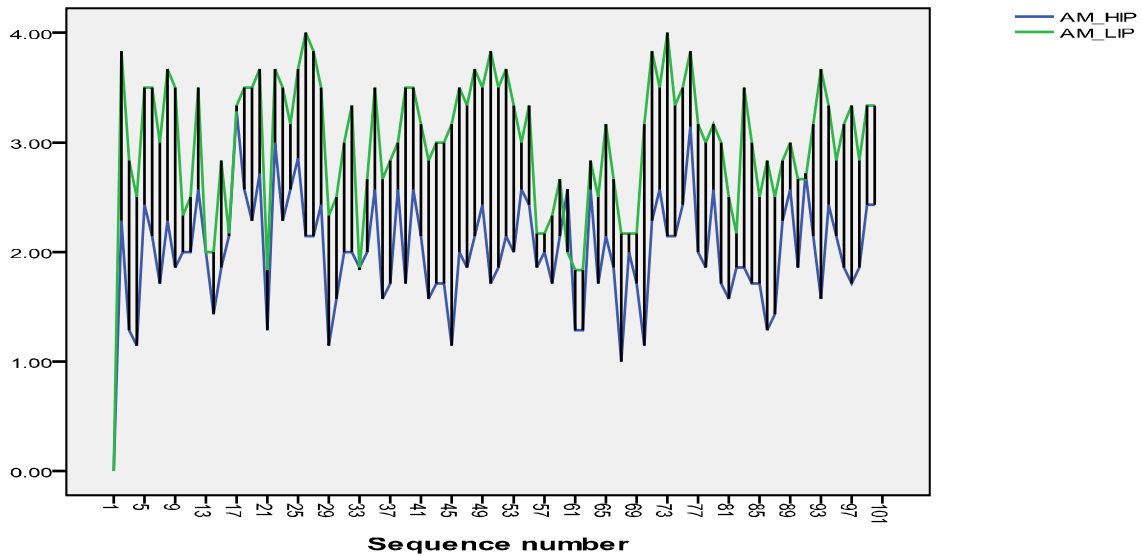


Figure 4: Trend Analysis and Co movements for Buying of HIP & LIP

The figure 4 shows the buying trends of high involvement and low involvement products by the buyers while, the similarity between these two trends can easily be observed. In the presence of fluctuating trends of major economic players, consumptions of high involvement and low involvement goods are showing the same trends for the all outlined years ranged from 1991 to 2010.

4.2 Findings of Johanson Co-integrations

Table 1: Johanson Co-integration for Buying of HIP & LIP

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.227746	110.3031	15.49471	0.0001
At most 1 *	0.186958	49.05234	3.841466	0.0000

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co-integration as shown in Table 1 confirmed that there is a relationship between the trends of the buying/ consumptions of high and low involvement goods. Trace Statistics are found greater than Critical Value, which explains that the co-integration exists between both the trends (i.e. consumption patterns of High and Low involvement products) for the all outlined years.

5. Discussions and Conclusion

Various studies analyzed and it is generally believed that the external factors such as economic players matter for the buying patterns of low and high involvement goods. This study is an effort to find the co movements in the buying patterns of both outlined categories of good during the uneven and fluctuating economic conditions of Pakistan. This paper confirms that unemployment rate, inflation rate and percapita income they all have the uneven trends and they are kept on increasing and decreasing during the outlined 20 years. Similarly the buying of low and high involvement goods are also observed with fluctuating trends in 20 years. This study further concludes that in outlined 20 years, the buying patterns of high involvement and low involvement goods though seemingly noticed with fluctuating trends but they both share approximately the same intensity and have the significant co-integrations with one another.

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