The Impact of Exchange Rate Volatility on Hospitality Industry –
A Study in Lusaka Province of Zambia

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Abstract: The purpose of this study was to find out the impact of exchange rate volatility on hospitality industry in the Lusaka Province of Zambia. This research aimed to find out the impact of exchange rate volatility on profitability, capacity utilization and the impact of GDP and inflation on profitability of hospitality industry. The study used quarterly secondary data from 2005 to 2015 with respect to three big hotels which had international branding and received over fifty percent revenue in forex. The multiple regression model was used to measure the impact of independent variables on the dependent variable. The study revealed that volatility in exchange rate had significant effect on profitability. But inflation had negative effect on profitability. The GDP growth rate had positive effect on the capacity utilization. The study concluded that the Central Bank of Zambia should take necessary steps to increase the value of domestic currency, i.e., Kwacha, and stop fluctuations in it to safeguard the profitability in the hospitality industry. The study also concluded that through appropriate monetary policy, i.e., increasing the bank rate and reserve ratio and selling the bonds in the market, the inflation could be reduced by controlling money supply.

Keywords: Exchange rate; Inflation; GDP; Profit per available room; Capacity utilization; Hospitality.

1. Introduction

Global economic activity is picking up with a long awaited cyclical recovery in investment, manufacturing and trade. Global growth is projected to increase from an estimated 3.1 percent in 2016 to 3.5 percent in 2017 and 3.6 percent in 2018. But in sub-Saharan Africa growth is projected to rise to 2.6 percent in 2017 and 3.5 percent in 2018 (International Monetary Fund, 2017). The total contribution of Travel and Tourism to global GDP was USD 7,613.3 billion in 2016 (10.2% of GDP) and is expected to grow by 3.6 percent to USD 7,884.7 billion (10.2% of GDP) in 2017. It is forecast to rise by 3.9 percent to USD 11,512.9 billion by 2027 (11.4% of GDP). In 2016, the total contribution of Travel and Tourism to global employment, including jobs indirectly supported by the industry, was 9.6% of total employment. This is expected to rise by 1.9% in 2017 and rise by 2.5% per annum in 2027 (11.1% of total employment). The investment in this industry was USD 806.5 billion or 4.4% of total global investment in 2016 and expected to rise by 4.1% in 2017 and rise by 4.5% per annum over the next 10 years to USD 1,307.1 billion in 2027, i.e., 5% of total global investments (World Travel and Tourism Council, 2017).

Whereas, in Zambia, the total contribution of Travel and Tourism to GDP was ZMK 9.2 billion in 2014 (6.1% of GDP) and is expected to grow by 5.2% to ZMK 9.7 billion (6% of GDP) in 2015. It is forecast to rise by 8.1% per annum to ZMK 21.2 billion by 2025 (6.6% of GDP). Its contribution to employment was 83,500 jobs in 2015 (4.2% of total employment) and by 2025 it is forecast to create 118,000 jobs (5% of total employment), an increase of 3.5% per annum over the period. This includes employment by hotels, travel agents, airlines and other passenger transportation services (excluding consumer services). It also includes the activities of the restaurants and leisure industries directly supported by tourists. (World Travel and Tourism Council, 2015).

1.1. What is Hospitality Industry

The hospitality industry is a service industry which includes hotels, lodging, event planning, theme parks, transportation, cruise line and additional fields within the tourism industry. Hospitality industry is important in those countries where tourism is the major export industry. It is the main source of foreign currency exchange and largest provider of employment. This industry brings the different cultures together in global community. It helps the countries suffering from trade imbalances through foreign exchange earnings.

The hospitality industry consists of three segments, i.e., food and beverage, accommodation and travel & tourism. Each segment focuses on delivering service which gives entrepreneurs a source to get profits.

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In providing guest satisfaction for luxury or leisure, the size and complexity of the hotel business grows and the level of investment different countries use different goods to determine their price level. According to the Zambian kwacha, which trades in United States dollars. According to the Bank of Zambia (2015), the Zambian kwacha depreciated by almost 200% from K 64.63 per US$ in 1991 to K 1218.61 per US$ in April 1996. Recently, with little warning, the kwacha quickly depreciated by about 120% from K5.53 per dollar in January, 2014 to a record high of K12.19 in November, 2015.

It is with this background that this study wishes to assess the impact of the exchange rate volatility on profitability and capacity utilization in the hospitality industry in Zambia. The hospitality industry is facing many challenges, including volatility in exchange rate. Hence it is need of the hour to find out the impact of exchange rate volatility on profitability and capacity utilization in hospitality industry in Zambia.

1.3. Objectives of Study

The objectives of study are to:
1. Know the impact of exchange rate volatility on profitability.
2. Find out the impact of economic growth (GDP) on profitability.
3. Ascertain the relationship between inflation and profitability.
4. Examine the impact of exchange rate, inflation and GDP on capacity utilization.

1.4. Review of Literature

1.4.1. Theoretical Literature Review

(a) Otus Theory of Hotel Demand and Supply

The Otus theory of hotel demand and supply is designed to make sense of developments in the size and structure of the hotel business and its medium to long-term prospects. The theory predicts that within an economy, the greater the contribution of service businesses to gross domestic product (GDP) then the greater the domestic business demand for hotels, the greater the domestic leisure demand for hotels, the greater the supply of hotels, the greater the number of hotels in brands and the greater the diversity of branded hotels. The Otus theory provides a glimpse of the relationships between economic structure, hotel demand and hotel supply (Slattery, 2008).

It is an approach that tackles the large-scale issues that are fundamental to the strategic direction of hotel companies and online travel agencies as well as the hotel investment decisions of real estate companies and institutional capital providers. As the size and complexity of the hotel business grows and the level of investment escalates such strategic decisions carry increasing risk, which the Otus theory is designed to reduce (Slattery, 2008).

(b) Purchasing Power Parity Theory

Purchasing Power Parity (PPP) theory was proposed by Gustav Cassel in 1918. It is a hypothesis of conversion standard assurance and proposes an approach to examination of exchange rates between nations (Reid and Joshua, 2005). The theory states that homogeneous goods in different states cost the same in the very same state when measured in terms of the same currency.

The theory is linked to the arbitrage hypothesis that states that if two homogeneous goods are purchased at different prices in different countries, it leads to Purchase Power Parity (Majok, 2015).

The theory assumes that there are no transactional costs, no barriers to trade and the commodities being traded are homogeneous. However, the main limitation of this belief is in measuring Purchasing Power Parity constructed from price indexes given that different countries use different goods to determine their price level (Reid and Joshua, 2005). The hypothesis’ suggestion to the study is that exchanges on a nation’s present record influence the estimation of the swapping scale on the remote trade (Forex) advertise. This suggests trade rates between monetary forms are in balance when their buying force is the same in each of the two nations. The theory suggests use of price indexes to determine the exact price of a homogenous commodity between countries.
(c) The International Fisher Effect

The international Fisher effect was introduced by the economist Irving Fisher in the 1930s. It holds that the difference in returns between two countries is just equal to the difference in inflation rates (Feldstein, 2007). As indicated by International Fisher Effect, ostensible hazard free loan costs contain a genuine rate of return and expected swelling.

The International Fisher Effect hypothesis recommends that remote monetary forms with moderately high loan costs will have a tendency to deteriorate in light of the fact that the high ostensible financing costs reflect expected rate of expansion (Madura, 2000). Along these lines, this hypothesis recommends that adjustments in the swapping scale between two nations will likewise have a tendency to liken the distinctions to their greatest advantage rates (Demirag and Goddard, 1994).

This theory is relevant for this study as it explains the purchasing power of each currency which captures the inflation across countries to ensure that at equilibrium exchange rates, the basket of goods and services purchased by one unit of a country’s currency equals to those purchased in the second country.

(d) Flow Oriented Model

The Flow Oriented Model was at first created by Dornbusch and Fisher in 1980. According to the model, exchange rates determine greatly the international competitiveness of a firm as well as the balance of trade position. Therefore, the exchange rate changes affect real income and output in a country. This takes after subsequently that if swapping scale acknowledges, exporters are probably going to be influenced adversely.

In a similar respect a valuation for the cash is probably going to bring about merchandise and ventures to be dearer on the global market. This will consequently realize a decrease in fares, as they will be viewed as costly by purchasers on the worldwide market. It implies in this manner that such products will lose their aggressiveness globally.

Stream situated models accept that a nation's present record and exchange adjust execution are two vital elements of conversion standard assurance, subsequently, stock costs and trade rates are decidedly related. It additionally accepts that conversion scale gratefulness would be required to bring about stock costs to fall (Dornbusch et al., 1980).

This theory proposes that the performance of the hotels are influenced by exchange rate changes and future cash flows of firms. This implies that exchange rate changes lead to returns, and that they are positively correlated. Thus higher exchange rates are theorized to impact negatively on the performance of the hotels.

Unstable exchange rates may affect business differently. The Hospitality industry was chosen for this study as it depends of Tourist and forex in most of the transactions. In some countries, some industries have used the fluctuation of the exchange rate to either generate more profits or help companies import goods cheaper from outside the country. Such currency fluctuations may cause depreciation or appreciation of the local currency.

Depreciation of the exchange rate is a fall in international value of a currency (Begg et al., 2008).

1.4.2. Empirical Literature Review

Kariuki (2016) study sought to establish the relationship that exists between foreign exchange currency rates on the financial performance of hotels in Nairobi. Other variables included the study were inflation rate and GDP growth. Based on monthly data collected for 10 five star hotels in Nairobi for the period (2012 – 2016), the study made a number of conclusions. First, the study found that exchange rate fluctuations and GDP had a positive relationship with the performance of the hotel. Secondly, the study obtained a negative relationship between inflation and hotel financial performance. And lastly the study concluded that performance of the hotels is highly influenced by the foreign exchange rate fluctuations, inflation and GDP growth.

Raymond (2001) study examined issues relating to the impact of economic factors on tourist expenditure and hotel room occupancy rate. The study used an expectations model and found that real tourism expenditure depends on expected income, expected exchange rate and price level. The results also revealed that the equilibrium hotel occupancy rate is a function of tourist flows, exchange rates, price level and length of stay.

Corgel et al. (2013) conducted a study on how Currency Exchange Rates affect the demand for U.S. hotel rooms. Analyses using chain scale and gateway city data, however, reveal that exchange rates strongly influence hotel demand in luxury, upper upscale, and upscale segments, with a much weaker relationship among lower-price hotels. Exchange rates had a significant, although minor, influence on U.S. hotel demand from 1992 Q1 - 2012 Q1.

Anna et al. (2003) study examined the relationship between hotel room prices, occupancy percentage, and guest satisfaction. They found that price was a significant predictor of overall guest satisfaction while occupancy percentage failed to be a significant predictor of guest satisfaction.

Hong (2010) study examined the hotel characteristics and their influence on the hotel room occupancy rate among super deluxe 1st class hotels in Seoul, Korea. The study used hedonic pricing method, the results indicated that the price of the room, conglomerate connection and casino facility have negative relationship with the occupancy rate, while location positively affect hotel occupancy rate. Moreover, the study also found that the hotel’s size has a relationship with the occupancy rate.

John and O’Neill. (2011) study analyzed the actual occupancy rates of 3,699 hotels that opened during the seven-year economic cycle of 2002 through 2008. The study evaluated the stabilization period based on hotel type, location, size, and service level. The study concluded that certain hotel types and locations stabilize more slowly or
more quickly, whereas hotel size and service level are not significant determinants of the stabilization period. Also, the study found that certain hotel types stabilize at significantly higher occupancy rates than others.

Marianna (2010) study aimed to explore how direct online booking affects the variation in hotel bed-places occupancy rate between peak and off-peak periods. The empirical analysis included 18 countries during the 1997-2007 periods, for investigating the impact of an increase in the use of the internet by consumers on the seasonal variation in the occupancy rate. The study found that the Internet actually increases the variation in occupancy.

Abdullah and Hamdan (2012) study aimed to determine the internal success factors that have the greatest impact on the hotel occupancy rate, and to suggest recommendation to improve the occupancy rate. The study sample consisted of 135. The study finding suggests that the success of hotel operation depends on how well hotels are able to fulfil and meet customers’ expectation. The study provides some insights and invaluable information in the management of the hotel industry.

Farah (2014) revealed that the fluctuations in exchange rate among major currencies raise concern about how exactly the fluctuations affect organizations’ operations and performance. Empirically, studies have confirmed the positive associations between fluctuations in foreign exchange rates on financial performance. This is evidenced by the studies conducted by Otuori (2013), Opati (2009) on inflation and exchange rates. Maina (2010) stated that there was impact of fluctuations in foreign exchange on investment decisions but the study by Nyam Wange (2009) found that there was no significant relationship between volatility in exchange rate and the investment decisions.

1.4.3. Distinction of Study from Existing Literature

From the above studies, there exists an empirical gap on the effects of exchange rate and other macro-economic variables on the profitability and capacity utilization of the hospitality industry in Zambia. The studies conducted in other countries may not be applicable in Zambia due to the different economic environment. Equally, effects of exchange rate, interest rate, inflation rate and GDP fluctuation factors are unique to each industry and it cannot be generalized. While macro-economic factors affect all industries in the economy, the nature and extent of such effects differs from one industry to another. Therefore the findings obtained from a research targeting the banking industry cannot be generalized to apply to the hotel industry. This research will therefore seek to find out the effects of exchange rate and other macro-economic variables targeting the hospitality industry in Zambia.

2. Materials and Methods

The study used random sampling technique for selecting the hotels in Lusaka province, which were accepting foreign exchange. Since the numbers of hotels dealing with foreign exchange are limited, three major hotels in Lusaka were selected for the study. The study used secondary data for a period of 11 years, i.e., 2005 to 2015. The sources of data were the monthly management reports of the hotels which were analysed on quarterly basis. The data obtained related to profit per available room as measured by their quarterly net profits. The data relating to exchange rates, inflation and economic growth (GDP) was collected from the Bank of Zambia and the Central Statistical Office.

Using E-views statistical package, multiple regression model was fitted to know the impact of exchange rate, inflation and GDP on profit per available room and their impact on capacity utilization. Capacity utilization was measured in terms of occupancy of available rooms. The capacity utilization and profit per available room was measured by the following formula.

\[
\text{Capacity Utilization} = \frac{\text{Rooms occupied}}{\text{Available rooms}} \times 100
\]

\[
\text{Profit per Available room} = \frac{\text{Net Profit}}{\text{Available rooms}}
\]

The following econometric models were used to measure the relationship between the dependent and independent variables.

Model 1:

\[
PPAR = \beta_0 + \beta_1 FX + \beta_2 INF + \beta_3 GDP + \epsilon
\]

Model 2:

\[
OCC = \beta_0 + \beta_1 FX + \beta_2 INF + \beta_3 GDP + \epsilon
\]

\[
PPAR = \text{Hotel Profitability (i.e. profit per available room)}
\]

\[
OCC = \text{Hotel capacity utilization (Average occupancy)}
\]

\[
\beta_0 = \text{Regression constant (y – intercept)}
\]

\[
FX = \text{Foreign Exchange rate fluctuations (ZMW/USD)}
\]

\[
INF = \text{Inflation (as measured by Consumer Price Index)}
\]

\[
GDP = \text{Economic Performance (as measured by GDP growth rate)}
\]

\[
\epsilon = \text{Random Error Term}
\]

2.1. Conceptual Framework

The relationship between the study variables is presented in conceptual framework presented in figure 1. Exchange rate fluctuations will be the independent variable while dependent variable will be hotel performance based on Profitability. The control variables were inflation rate and economic performance.
Figure-1. Conceptual Framework

Independent Variable | Control Variables | Dependent Variables
--- | --- | ---
Exchange Rate Fluctuations | Hotel Profitability | Profitability
ZMW / USD Exchange Rate | Capacity Utilization

Figure-2. Operationalization of Variables

<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Indicator</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variables</td>
<td>Profitability</td>
<td>Quarterly profits</td>
<td>Average Quarterly Profit per available room</td>
</tr>
<tr>
<td></td>
<td>Capacity Utilization</td>
<td>Occupancy rate</td>
<td>Average Occupancy (total paid rooms occupied divided by total available rooms)</td>
</tr>
<tr>
<td>Independent Variables</td>
<td>Exchange rate</td>
<td>Quarterly exchange rate fluctuation (ZMW/ $)</td>
<td>Average quarterly exchange rate (ZMW/ $)</td>
</tr>
<tr>
<td></td>
<td>Inflation rate</td>
<td>Quarterly inflation rate fluctuation</td>
<td>Inflation rate</td>
</tr>
<tr>
<td></td>
<td>Economic growth</td>
<td>GDP growth rate</td>
<td>Quarterly GDP rate</td>
</tr>
</tbody>
</table>

3. Results and Discussion

3.1. Impact of Exchange Rate, Inflation and GDP on Profitability

The Table (1) shows the impact of exchange rate, inflation and GDP on profitability.

Table-1. Impact of Exchange Rate, Inflation and GDP on Profitability

<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>-202.2218</td>
<td>75.82240</td>
<td>-2.667046</td>
<td>0.0110</td>
</tr>
<tr>
<td>FX</td>
<td>33.98682</td>
<td>7.905355</td>
<td>4.299215</td>
<td>0.0001</td>
</tr>
<tr>
<td>INF</td>
<td>-2.443476</td>
<td>2.067464</td>
<td>-1.181871</td>
<td>0.2442</td>
</tr>
<tr>
<td>GDP</td>
<td>14.56397</td>
<td>5.800821</td>
<td>2.510673</td>
<td>0.0162</td>
</tr>
</tbody>
</table>

R-squared: 0.329355
Adjusted R-squared: 0.279056
S.E. of regression: 10.99862
Akaike info criterion: 10.98962
Schwarz criterion: 11.15181
Hannan-Quinn criter.: 11.04977

F-statistic: 6.548011
Durbin-Watson stat: 1.898029
Prob(F-statistic): 0.001046

Thus the regression equation for model 1 is

\[
\]

\[
t = (-2.667046) (4.299215) (-1.181871) (2.510673)
\]

\[
p value = (0.0110)^* (0.0001)^* (0.2442) (0.0162)^*
\]

\[
R^2 = 0.329355
\]

F – Statistic = 6.548011, p value = (0.001046)^*^*

Note: **, *: statistically significant at 1%, 5% respectively.
The table (1) shows that the independent variables of foreign exchange, inflation and GDP jointly had a significant impact on profitability. This confirms the results of the study by Kariuki (2016) which states that the combined effect of the independent variables, i.e., exchange rate, inflation rate and GDP, has significant positive impact on financial performance of hotels in Nairobi.

The fluctuations in exchange rate had a significant positive relationship with the profitability. An appreciation of Kwacha against the USD led to increase profit. Whenever the exchange rate improved by one Kwacha, profitability increased by 33 Kwacha per available room. This finding supports the result of the study by Kariuki (2016) which finds that the exchange rate fluctuation has a positive impact on the financial performance of hotels in Nairobi. This also confirms the results of the study by Majok (2015).

There was insignificant negative relationship between inflation and profitability. The negative relationship was due to increase in hotels’ operational costs as a result of rise in inflation. One percentage point increase in inflation rate led to decrease 2 Kwacha profit per room. These results support the results of the study by Kariuki (2016) which reveals that inflation rate has a significant negative impact on financial performance of hotels. These results were also in conformity with the results of the study by Biller (2007) which states that the inflation has more negative impact than the positive effects.

There was significant positive relationship between GDP and profitability. One percent increase in GDP growth rate led to increase 14 Kwacha profit per room. These results confirmed with the results of the study by Kariuki (2016) and Majok (2015).

3.2. Impact of Exchange Rate, Inflation and GDP on Capacity Utilization

Table (2) shows the impact of exchange rate, inflation and GDP on capacity utilization:

Thus the regression equation for model 1 is

\[
OCC = 60.44705 - 0.885087FX + 0.087238INF - 0.230284GDP
\]

\[
t = (7.982694) (-1.121080) (0.422511) (-0.397508)
\]

\[
p value = (0.0000)** (0.2689) (0.6749) (0.6931)
\]

Thus the regression equation for model 1 is

\[
R^2 = 0.040040
\]

\[
F = Statistic = 0.556136
\]

The table (2) shows that the study found insignificant impact of exchange rate, inflation and GDP growth rate on capacity utilization. There was positive relationship between GDP growth rate and capacity utilization. There was insignificant negative relationship between exchange rate and capacity utilization. Whenever Zambian Kwacha against USD appreciated, the capacity utilization of the hospitality industry increased. This finding was contrary to the results of the study by Corgel et al. (2013) and Raymond (2001).

The study found that inflation had insignificant negative impact on capacity utilization. This finding did not concur with Hong (2010) whose results indicate that the price of room, conglomerate connection and casino facility has negative relationship with the occupancy rate.

4. Conclusion

Since the appreciation of Zambian Kwacha against USD increased profitability and capacity utilization, the Bank of Zambia should take all the measures to improve the exchange rate of Kwacha against USD. GDP growth
rate could be increased through increasing investments in different sectors of the economy. There was negative relationship between inflation and capacity utilization. Hence, the central bank should reduce inflation and ensure price stability through relevant monetary policy, i.e., increasing the bank rate and reserve ratio and selling bonds in the open market, to reduce the money supply.

References


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