

# TREATMENT OF HOUSING IN THE CPI INCLUDING RENT, OWNER-OCCUPIED HOUSING AND UTILITIES

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## Introduction

The **Consumer Price Index (CPI)** is mainly used to calculate the inflation rate and this is one of the most used micro economic and social indicators. The Consumer price index (CPI) is defined as measure in changes overtime in the general level of prices of goods and services consumed by households. Weights are an integral part of CPI computation as the CPI is calculated as a weighted average of the price relative of goods and services covered by the index. The weights attached to each good or service reflect their relative importance as measured by their shares in the total household consumption expenditure. Weights determines the impact of the price change of a particular good or service on the overall index.

The **Owner occupied housing (OOH)** and rental forms a large part of the consumer expenditure across then world as shelter is a necessity for every household. The paper will be focusing on the impact of OOH in the CPI for Botswana if it was to be included.

Botswana is a landlocked country in the southern Africa region. Its estimated total households is 550914 according to the 2011 Population and housing census. Among these households, approximately 57.2 percent reside their own houses, approximately 34.4 percent are rentals and about 8.4 percent is free accommodation.

## Objectives

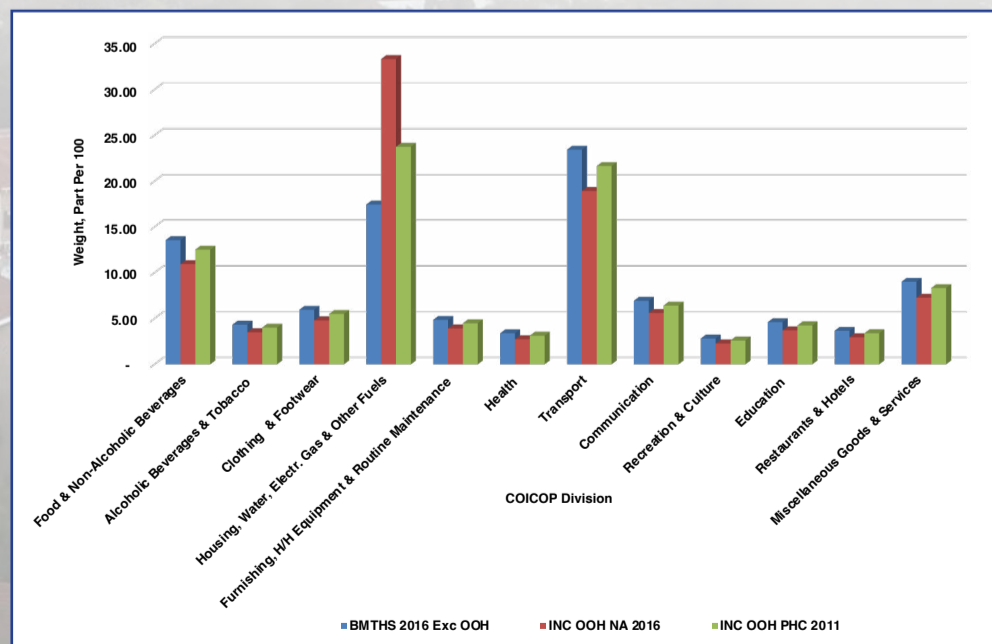
- The paper will focus on the impact of Owner Occupied Housing (OOH) in Botswana Consumer Price Index
- Different sources of OOH weights (National Accounts and Population and Housing Census)
- The method used to Estimate the OOH prices

## Methods

The Owner Occupied Housing weights were computed using two different sources of data. The first data source was the National Accounts (NA) data, which is imputed expenditure for owner occupied housing, The data is updated on annual basis and the Estimated Expenditure of the year 2016 was used as to be in line with the Botswana Multi-topic House hold Survey (BMTHS 2016) data which was used to calculate the weights of Consumer Price Index (CPI) in December 2018. The second data was the 2011 Population and Housing Census (PHC), housing units section. The Expenditures was obtained by multiplying the number of housing units by the annual average price of rentals in the year 2016.

The Rent Equivalent method was used to estimate the prices for OOH different structures, the OOH structures followed those used in CPI rentals. Then rental prices are collected on quarterly basis for Botswana CPI.

Figure 1: Expenditure weights for different data sources for OOH

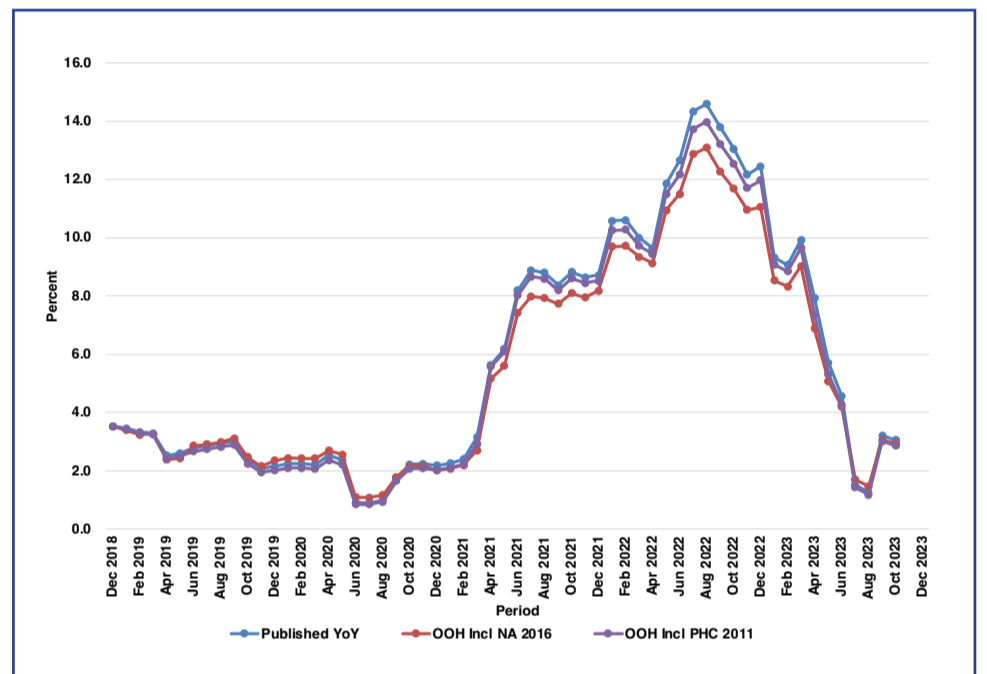


Note: Both the NA and PHC Data were incorporated into the BMTHS data to calculate the overall basket weights.

## Analyses

The Expenditure from National Accounts showed a higher expenditure on Owner Occupied Housing compared to the Expenditure from 2011 Population and Housing Census. This is shown by the graph in **Figure 1**, the weights for Housing, water, Electricity, Gas and other fuels went up to 33.3 percent compared to 17.5 from BMTHS excluding OOH and 23.8 percent including OOH from the 2011 PHC data.

Figure 2: Annual Inflation rates



This figure shows the different inflations calculated from CPI's using different weights, i.e. published inflation which excludes OOH and the CPI with OOH weights for both NA and PHC data.

The inflations rates moved in the same direction and pattern from December 2018 to December 2023. The CPI including OOH using NA data rose slightly above the published CPI (Excluding OOH) and CPI including OOH using PHC data from June 2019 to August 2020. From April 2021 to July 2023 the CPI including OOH using NA data started to slowdown and moved below the PHC CPI and the published CPI. The three inflation rates moved closely to each other for the entire period with PHC CPI moving more closely to the published CPI, this was due to the weights in the three different basket.

## Conclusion and Recommendations

The inclusion of OOH in CPI will not 'change the direction or the movement of the Botswana inflations, but it will reduce the level of inflation compared to the CPI excluding OOH, this is also due to the stable movement of prices for private rentals in Botswana.

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