UNDERSTANDING ZIMBABWE'S CURRENT INFLATION DYNAMICS

BY

RESERVE BANK OF ZIMBABWE

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INTRODUCTION

In February 2017, Zimbabwe's inflation moved from being negative to positive for the first time since the deflation period, which had lasted for more than two years. While high inflation is undesirable, moderate level of inflation is required to generate domestic demand necessary for sustainable economic growth.

Annual inflation for Zimbabwe, which stood at 2.24% for October 2017, is below the SADC inflation convergence target range of 3% to 7%. There are some inflation methodologies being thrown around in the media which are based on ad hoc estimation and/or calculation methods that are not in line with international best practice. Such methodologies are designed to cause panic and despondency with the national economy through fomenting negative inflation expectations in the country.

Zimbabwe's inflation is compiled according to international and regional standards and at no point has it been understated.

COMPILATION OF THE CONSUMER PRICE INDEX (CPI)
International and Regional Standards

The Zimbabwe National Statistics Agency (ZIMSTAT) is the sole and official statistics agent in Zimbabwe. In compiling the Consumer Price Index, ZIMSTAT like all other National Statistical Offices in the world, uses the United Nations guidelines and manuals which are;
   i.   United Nations' Practical Guide to Producing Consumer Price Indices; and
   ii. United Nations' Consumer Price Index Manual, Theory and Practice.

ZIMSTAT uses the Modified Laspeyres method, which is recommended by the United Nations in compiling the Consumer Price Index. The modified Laspeyres index compares prices of commodities in the current period compared to prices in the previous periods. In calculating average prices, the arithmetic mean is not used and instead the geometric mean is used as recommended by the United Nations.

National Statistical Offices in SADC and COMESA countries are compelled to use the United Nations guidelines and manuals. In addition to the above manuals, SADC and COMESA produced Technical Guidance notes on Consumer Price Index compilation.

All the countries in the SADC and COMESA regions use the Modified Laspeyres method which is recommended by the United Nations in compiling the Consumer Price Index. All the countries in the two regional blocs are compelled to use the geometric mean which is recommended by the United Nations in calculating price averages.

The statistical divisions in SADC and COMESA also monitor and supervise the implementation of the international recommendations on the computation of Consumer Price Index by the member countries. Zimbabwe has always met the requirements of the SADC and COMESA regions in compiling the Consumer Price Index.

Harmonised Consumer Price Index
Countries in the SADC and COMESA regions including Zimbabwe collect prices using the same methodologies to compile the SADC Harmonised Consumer Price Index and the COMESA Harmonised Consumer Price Index as part of their macro-economic convergence programmes.

Apart from the United Nations, COMESA and SADC, countries in Africa including Zimbabwe work together with other international organisations including the African Development Bank, the Economic Commission for Africa, and the African Union in ensuring that consumer price surveys data produced by member countries is internationally comparable.

Weights for the Consumer Price Index (CPI) in Zimbabwe

In calculating the Consumer Price Index, weights are used. The current weights were derived from the 2011/12 Poverty, Income, Consumption and Expenditure Survey carried out every five years as per international best practice.

ZIMSTAT is currently conducting the 2017 Poverty, Income, Consumption and Expenditure Survey (PICES) whose objectives are to provide new weights for the Consumer Price Index among others. A Consumer Price index is calculated using price observations and weights.

The Structure of the Consumer Price Index basket

The CPI basket is based on the internationally agreed Classification of Individual Consumption according to Purpose (COICOP), with 12 divisions, 41 groups, 83 classes and 117 sub classes. Table 1 shows CPI divisions and weights for Zimbabwe.

Table 1: Consumer Price Index Basket (2012=100)

Category	Weights
Food and non-alcoholic beverages	*33.5*
Alcoholic beverages and tobacco	*4.4*
Clothing and footwear	*6.0*
Housing water electricity gas and other fuels	*17.7*
Furniture, household equipment and maintenance	*9.9*
Health	*2.2*
Transport	*9.8*
Communication	*3.4*
Recreation and culture	*2.1*
Education	*5.7*
Restaurants and hotels	*1.4*
Miscellaneous goods and services	*3.9*
All Items	***100.0***

Source: ZIMSTAT, 2017

In Zimbabwe, there are 495 products which are distributed among the sub-classes within the classes and divisions mentioned above. Prices for the 495 products are observed every month in all the districts throughout the country. About 35 000 individual price observations are made every month in all the districts for the 495 products.

Consumer Price Survey and Time Table for Data Collection

The Consumer Price Survey is done for a period of five working days normally around the 15th of every month. The data collection time table is set in December every year for the coming year as well as the dates to release the CPI numbers.

A total number of 3 932 outlets are covered every month for the computation of the Consumer Price Index. The outlets are distributed in every district. The size and distribution of the sample for the Consumer Price Survey is designed to produce representative estimates at national and provincial level.

It is important to note that the CPI measures changes in prices between two months. It does not measure changes in prices between days in a month. For instance, price increases which occurred between the 21st and 23rd of September 2017, were not captured in the Consumer Price Index of 2.24% for October 2017. What is produced is the average price for the month.

The foregoing, shows that ZIMSTAT's inflation calculation is detailed and meets international standards. By the same token, it is clear that most inflation estimates by independent analysts are guesstimates designed for other purposes which are outside international best practice.

Some analysts are using model based estimation techniques such as the Purchasing Power Parity theory (PPP) and the Old Mutual Implied Exchange rate for Zimbabwe to estimate Zimbabwe's inflation rate, consequently coming up with inaccurate inflation figures.

Weaknesses of Purchasing Power Parity Theory

The Purchasing Power Parity (PPP) theory notes that the nominal exchange rate between two currencies should be equal to the ratio of prices between the two countries in such a way that a unit of currency of one country has the same purchasing power in the other country.

In this regard, the PPP exchange rate between two countries equates to the price ratio of similar commodities or a basket of commodities in the two countries[1]. While the PPP theory may be a plausible approach, it has a number of flaws,

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[1] The Purchasing Power Parity exchange rates across countries are computed by the Economist bulletin using the prices of McDonald's Big Mac hamburgers across countries, for example to estimate currency over and under valuations in different countries.

including differences in product quality and existence of trade barriers across countries.

The composition of the basket of goods used for calculating the consumer price indices differs in different countries which renders the use of the PPP methodology to be fundamentally flawed. For instance, the composition of food and housing in the United States of America (USA) CPI basket is 14%-15% and 42%, respectively. On the other hand, food and housing constitute 33% and 6% of the Zimbabwe CPI basket, respectively.

Coming closer to home, the composition of food, housing and transport in South Africa is different from Zimbabwe as shown in Table 2. Food for South Africa constitutes 19%, compared to 33% for Zimbabwe. In addition, the presence of non-tradable goods and services and arbitrage opportunities casts doubts about the plausibility of the PPP theory in the Zimbabwean context.

Table 2: Composition of CPI baskets (%)

	USA	UK	South Africa	Zimbabwe
Food	14.65	10.3	19.15	33.53
Housing	42.63	12.0	22.55	5.88
Transport	15.32	15.3	14.72	9.76

Sources: Various Central Bank Websites and Bureau of Labour Statistics (USA)

Another immediate challenge with the use of the PPP theory to estimate inflation pertains to the assumption of a similar base period in estimating inflation differentials between Zimbabwe and the USA. Alba and Papell (2005), for example, argue that the PPP assumes that price indices are the same at an arbitrary base year, the choice of the base year becomes very relevant.

In addition, the PPP relationship between Zimbabwe, UK, USA and South Africa, for example, does not hold due to systematic country differences in production technologies and consumer preferences. The differences prevent nominal exchange rates to adjust to parity.

Another challenge of using the PPP approach to estimate inflation differentials across countries is the failure by the approach to account for non-tradables, which constitute part of the Consumer Price Index basket. Inflation estimates linked to PPP only deal with the tradable goods and services. The composition of imports in the Gross Domestic Product (GDP) and CPI basket in Zimbabwe is around 47%. This implies that the method ignores the remaining 53% of the CPI basket in the country.

Furthermore, empirical evidence from PPP hypothesis has also shown that PPP tends to hold better for countries that are geographically closer to each other, which reduces the challenges of higher transportation costs. Arbitrage costs can be amplified by high transaction costs in the tradable goods sector, existence of non-tariff barriers and significant transportation costs.

Challenges in Using the Old Mutual Implied Rate

Fundamentally, the price of a share is reflective of at least four factors; namely the underlying profitability of the share's company, externalisation propensity, speculative price movements that are specific to the counter and the effect of economy- wide price bubbles.

On the other hand, inflation defines the underlying changes in the general price level. Thus, while there can be common factors driving both inflation and the Old Mutual share price, there are other exogenous factors that affect the share price which do not affect changes in the general price level.

In addition, Old Mutual is only one share among many on the Zimbabwe Stock Exchange (ZSE) and to exclusively tie movements in its price to the general changes in prices is misleading. The decline of more than 48% of the Old Mutual share price during the period 16 November to 21 November 2017, for instance, does not mean that the general price level of goods and services will go down as well.

A geographical breakdown of Old Mutual issued shares as at 31st December 2016, showed that Zimbabwe held about 1.1% of the total capital in issue. The UK and South Africa held 36.9% and 61.7%, respectively, while the balance of 0.33% was shared between Namibia and Malawi.

Table 3: Old Mutual Issued Share Capital Geographical Breakdown as at 31st December 2016

Register	Total shares	Number of holders	Percentage to Total Shareholding
UK	1,817,169,392	9,374	36.86%
South Africa	3,043,119,821	26,559	61.73%
Zimbabwe	53,245,276	26,690	1.08%
Namibia	11,748,906	497	0.24%
Malawi	4,652,783	4,459	0.09%
Total	**4,929,936,178**	**67,579**	**100.00%**

Source: www. Oldmutualplc.com

Given the paltry shareholding of Zimbabwe, the movement of Old Mutual share prices between Zimbabwe and UK, cannot be used to infer on inflation levels in the country.

Given that Old Mutual is a dually listed counter, local investors may be buying the share as a strategy to externalise foreign currency. Investors buy Zimbabwe OM shares and dispose them at the London Stock Exchange or Johannesburg

Stock Exchange, thereby, getting foreign currency outside the country because of its fungibility. As a result, demand for the OM counter rises exponentially because of limited foreign currency availability in the country, and does not necessarily results in prices of goods and services. In this regard, the OM share price also includes the externalisation premium.

There are also a multiplicity of factors that influence the price of a share which may not necessarily influence general prices and these include counter specific demand and supply shocks, company specific productivity or profitability shocks, the effect of perceptions about country risks and foreign shocks that influence the price of the counter abroad.

A cursory analysis of the Zimbabwe CPI basket, reveals that about 70% of the CPI basket are necessities such as food and non-alcoholic beverages, housing, water, electricity, gas and other fuels, health, transport and communication. The prices of these products have been fairly stable since 2012, if not declining.

Due to the improved agriculture output in 2017, prices of food stuffs, particularly cereals which had risen in the first quarter of 2017, have been decelerating. In addition, the Reserve Bank of Zimbabwe, has been supplying adequate foreign currency for the procurement of electricity, fuel and raw materials used in the production of basic food stuffs such as cooking oil.

INFLATION OUTLOOK

Despite the recent increase in the price of some items, annual average inflation is expected to close the year at between 3 to 5%.

The outlook takes into account broad assumptions on the domestic and external factors. Similarly, the improved domestic aggregate demand emanating from improved output, is expected to continue underpinning positive inflation in 2017.

The impact of international food prices is assumed to be minimal, given the favourable 2016/2017 agricultural season, which is expected to dampen food prices in the domestic economy, and thereby moderate inflation in the outlook period.

CONCLUSION

The methodology being used to calculate inflation in Zimbabwe by ZIMSTAT is in line with international best practice. In this regard, the inflation calculations based on the methodology can be relied upon, rather than the model based methodologies not comparable across countries, Zimbabwe does not exist in a vacuum. The annual inflation rate of 2.24% for October 2017, is thus a reflection of the overall inflation developments in the country during the 12 month period between October 2016 and October 2017.

In the outlook period, overall inflation is expected to remain mild. On its part, the Reserve Bank of Zimbabwe has increased foreign currency allocation for the importation of fuel, electricity and raw materials used in the production of cooking oil, with a view to dampen inflationary pressures in the economy.

Broadly, the US$600 million Nostro stabilisation facility will go a long way in ensuring availability of foreign currency to prioritised imports into the country.

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