UNDERSTANDING ZIMBABWE'S CURRENT INFLATION DYNAMICS

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INTRODUCTION

1. 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, some minimum level of inflation is required to generate domestic demand necessary for sustainable economic growth.

2. Annual inflation for Zimbabwe, which stood at 0.8% for September 2017, is below the SADC inflation convergence target range of 3% to 7%. Despite, the low inflation, there have been several reports from independent analysts in the print and on social media erroneously suggesting that Zimbabwe's inflation has gotten out of hand.

3. The inflation numbers being thrown around are based on ad hoc estimation and or calculation methods. As a result, they insinuate that Zimbabwe's inflation is understated or is incorrectly measured. This has fomented negative inflation expectations in the country, with the risk of leading into self-fulfilling inflation spirals.

4. 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

5. 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.

6. 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.

7. 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.

8. All the countries in 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.

9. 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

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

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

Weights for the Consumer Price Index (CPI) in Zimbabwe

12. 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.

13. 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

14. 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

15. 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

16. 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.

17. 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.

18. In September 2017, the Consumer Price Survey was carried out from 13 September to 19 September 2017 for a period of five working days. The results of the survey were published together on the 16 October 2017. The September 2017 survey did not include the notable wave of price increases which occurred around 21 and 23 September 2017.

19. These price increases will be reflected in the October 2017 survey and released in the October 2017 CPI inflation figures on 15 November 2017.

20. 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 on the 21st and 23rd of September 2017, and were reversed as most prices did on the 27th September 2017, this is not captured in the Consumer Price Index for the month. What is produced is the average price for the month.

21. 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 not only rudimentary and ad hoc but are at best mere guesstimates.

22. 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 weird inflation figures.

Weaknesses of Purchasing Power Parity Theory

23. The Purchasing Power Parity 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.

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

25. The composition of the basket of goods used for calculating the consumer prices 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 US CPI basket is 14%-15% and 42%, respectively. On the other hand, food and housing constitute about 33% and 6% of the Zimbabwe CPI basket, respectively.

[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.

26. Coming closer to home, the composition of food, housing and transport in South Africa is very different from Zimbabwe as shown 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)

27. 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.

28. 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.

29. 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 about 47%. This implies that the method ignores the remaining of 53% of the CPI basket in the country.

30. 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. Thus, assuming strong arbitrage between Zimbabwe and the UK is far-fetched.

Challenges in Using the Old Mutual Implied Rate

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

32. 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 factors that affect the share price which do not necessarily affect changes in the general price level.

33. 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.

34. A geographical breakdown of Old Mutual issued share 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

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

36. 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. In this regard, the OM share price also includes externalisation premium.

37. There are also a multiple of factors that influence the price of a share which do 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 governance and politics and foreign shocks that influence the price of the counter abroad. Thus as long as there are frictions internationally with regard to arbitraging on the Old Mutual share to correct for international price disparities, the

company's share price may not necessarily equilibrate between the London Stock Exchange and the ZSE.

38. 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 the products have been fairly stable since 2012, if not declining. In addition, most of these products have been found on the official market where the prices in US$ cash, Bond Note and electronic payment platforms have been the same.

39. Due to the improved agriculture output in 2017, prices of food stuffs, particularly cereals which had picked 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

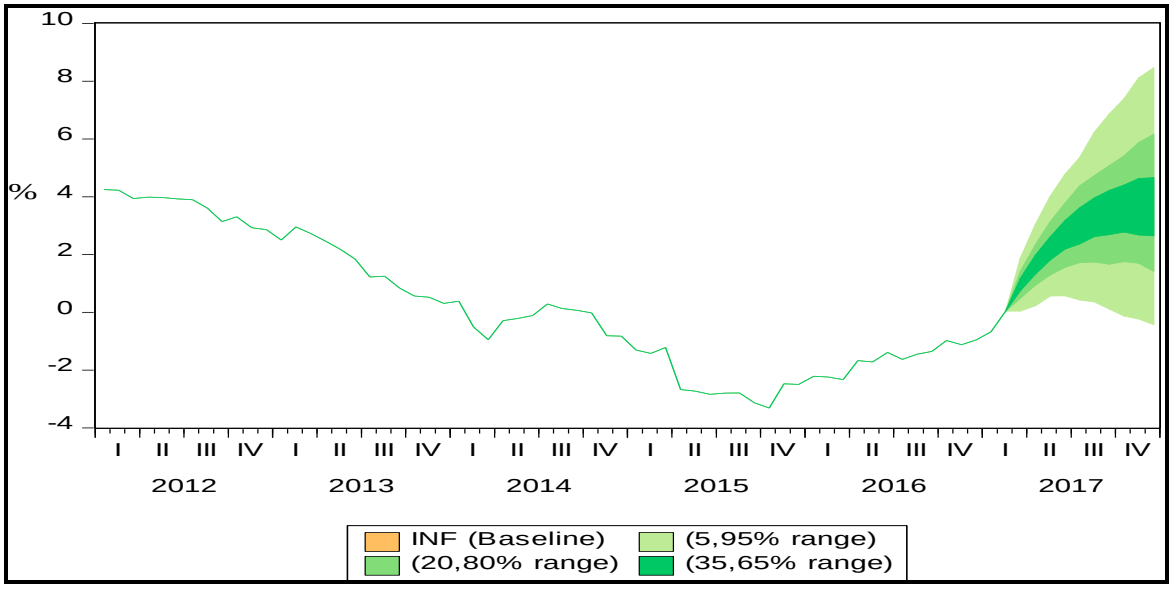
40. Despite the recent increase in the price of some items, annual average inflation is expected at 2 to 3%, while end 2017 inflation is expected at between 4 to 5% in 2017.

41. 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.

42. 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.

43. As shown in Figure 2, the inflation fan chart shows the central path that inflation is likely to follow which is the darkest band.

Figure 1: Annual Inflation Fan Chart



CONCLUSION

44. 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 model based methodologies not comparable across countries. The annual inflation rate of 0.8% for September 2017, is thus a reflection of the overall inflation developments in the country.

45. 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 inflation pressures in the economy.

46. 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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