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Abstract

To achieve the price stability objective, most central banks consider measures of inflation that provide a stable and long-term view of underlying price pressures. This helps monetary authorities in assessing the "true" state of inflation and its future path. Using monthly data on CPI inflation from January 2011 to March 2025, this study employs three variants of the traditional exclusion method in which some items are precluded from the CPI before inflation is computed. An additional measure based on the trimmed mean method is considered and an evaluation of all the measures conducted. The measure excluding food, electricity, and petroleum prices is found to best capture underlying inflationary pressures and consistently tracks trend inflation with the lowest bias, particularly during the COVID-19 and 2023/24 drought shock periods. In addition, the trimmed mean method offers a useful secondary benchmark despite its lag in shock recognition. Measures based solely on item volatility exclusion tend to overestimate trend inflation. Causality tests reveal limited direct transmission from the policy rate to most core measures except for the measure that only excludes highly volatile prices.

JEL E30, E31

Keywords: *Inflation, Core Inflation, CPI, Exclusion Method, Trimmed Mean Method*

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1.0 Introduction

Inflation is an important metric regularly monitored by central banks in the quest to achieve and maintain price stability in the economy. This is usually measured as headline inflation based on the aggregate consumer price index (CPI) that includes all items considered as part of a typical food basket or as core inflation, which excludes selected items from the CPI to primarily focus on underlying price pressures. However, Carlomagno et al. (2023) argue that headline inflation can be too volatile to be used as a reference for short-term monetary policy decisions. Volatility in inflation could stem from multiple factors, including temporary supply shocks in specific sectors and measurement errors. Thus, it is imperative for monetary authorities to consider core or underlying inflation that filters out part of the noise that obscures the stable inflation signal pursued by monetary policy.

Core inflation helps policymakers and economists understand underlying inflationary pressures by filtering out temporary price changes often caused by external factors such as seasonal fluctuations or supply shocks, which can distort headline inflation. By excluding volatile components of the CPI, policymakers can assess the long-term trend of inflation, which is primarily affected by demand conditions, and can thus be influenced by monetary policy. In this case, policymakers can formulate and implement appropriate monetary policy by ascertaining whether the current movements in consumer prices are short-term fluctuations or part of a persistent trend. As a measure of the underlying trend in inflation, core inflation is a useful tool for policymakers in three ways: (a) as an indicator of current and future trends in inflation; (b) as a better measure of inflation for empirical work; and (c) as an intermediate target for monetary policy. Thus, core inflation implicitly estimates the source of inflationary pressures.

Traditionally, core inflation has mostly been constructed by excluding the contribution of food and energy price changes from headline inflation (Rich and Steindel, 2005). However, alternative concepts have been proposed overtime. For instance, Stock and Watson (2007) and Conflitti (2020) suggest measures based on applying statistical methods for time series smoothing to extract a stable signal of inflation while other scholars emphasise core inflation measures based on indicators from economic fundamentals (Cogley, 2002). More recent studies focus on how to deal with the COVID-19 pandemic period in the construction and evaluation of core inflation measures (see for example, Giri, 2022). Nonetheless, fixed exclusion methods have remained among the most popularly used measures of core inflation for four main reasons: (a) they yield statistics that are easier to communicate to the general public; (b) past records of core inflation are not subject to revisions; (c) international comparisons are direct, especially when excluded items are subject to international trade with similar behaviour across countries; and (d) they are also useful as objective benchmarks when other measures are available.

In its quest to achieve price stability, the Bank of Zambia targets headline CPI with the current target band set at 6-8 percent. The headline inflation measure is computed as a weighted average of food and non-food inflation. However, given the primary reliance on rain-fed agriculture to produce food, particularly maize (staple food), food inflation is mostly susceptible to climate related shocks which could be transitory. Further, energy prices—

being prices of electricity and petroleum products—are administered by the Energy Regulation Board (a government regulatory body), essentially placing them out of the direct control of monetary policy. In view of this, a measure of underlying inflation mostly capturing aggregate demand pressures that can be directly influenced by monetary policy is an important consideration in the monetary policy reaction function. Thus, filtering out these items from headline inflation could provide a clearer picture of underlying inflation trends and serve as an insightful guide to changes in the monetary policy stance. Moreover, given the dependence on imported petroleum products, Zambia is highly vulnerable to external shocks precipitated by changes in global oil prices. When oil prices spike, transportation and production costs tend to be adversely impacted leading to the rise in headline inflation. In such cases, core inflation may offer a more stable measurement for decision-makers to implement appropriate policy measures. In other words, core inflation provides a vital tool for effective policy design.

This study, therefore, constructs core inflation using different approaches and provides an evaluation of the constructed measures based on Rich and Steindel (2005). The study builds up on earlier work by Musongole (2011) who estimated core inflation for Zambia by employing exclusion and limited influence estimator methods (trimmed mean and weighted median) over the period 1986-2008 using annual data. Similar to the study by Musongole (2011), this study establishes that the computed core inflation measures exhibit lower inflation than the headline CPI inflation rate. However, a point of departure in our current work is in the use of high frequency data (monthly), which allows us to filter out short-term noise in the data. We also extend the sample size to capture the most recent inflation dynamics as well as provide an evaluation and ranking of candidate core inflation measures.

As argued by Rich and Steindel (2005), a useful core inflation measure could have several desirable attributes, which mostly include the ease of design as depicted in a similar mean to the headline inflation series and the ability to track the underlying trend in the headline inflation series. Our evaluation criteria for the candidate measures considered in this study follow this framework. Accordingly, we find the core inflation measure that excludes food and energy (electricity and petroleum) to be the most appropriate.

The rest of the paper is organised as follows. Section 2 presents the reviewed literature while the methodology is in section 3. The results and discussion are presented in section 4. Section 5 concludes.

2.0 Literature Review

Several studies have been conducted on core inflation in advanced economies as well as emerging markets and developing economies based on different methodologies. Findings suggest that core inflation computed using the traditional exclusion method (excluding food and energy) is widely used by central banks as a benchmark against which other measures are compared (Cogley, 2002; Ball et al. 2021; Carlomgno et al. 2023). Other approaches highlighted in literature include trimmed mean, weighted median, vector autoregressive (VAR) and dynamic factor models. While some studies only focus on computing core

inflation, others calculate and evaluate the performance of such indicators based on the criteria indicated earlier.

Bermingham (2010), using quarterly data spanning from 1960Q1 to 2008Q4 employed a structural VAR, dynamic factor model (DFM) and trimmed mean (benchmark) to compute core inflation for 206 items in the consumer expenditure basket for the United States. Findings showed that all the measures were able to track and forecast inflation in a similar manner with no significant difference from the benchmark measure. It was thus concluded that the practical use of core inflation measures could be overstated in literature. Other studies conducted in the United States, with similar findings include Detmeister (2012) as well as Dolmas and Koenig (2019). Both studies, however, concluded that the trimmed mean performed better than all the other indicators and hence, was a preferred tool for communication and policy decision-making. To assess inflation dynamics during the COVID-19 period, Ball et al. (2021) constructed different core inflation measures for the United States over the period January 2020-November 2021. The exclusion method (fixed items excluded), non-fixed exclusion approach, trimmed mean and weighted median approaches were employed. Their findings suggested that the trimmed mean and weighted median were the least volatile while the exclusion-based indicators were just as volatile as headline inflation. Cogley (2002) also proposed a measure of core inflation for the United States that was adaptive and accounted for changes in monetary policy. Performance evaluation of such an indicator pointed to it being a better forecasting tool than the exclusion and trimmed mean generated measures, particularly in the medium-term (one to three years).

For the UK, a core measure of inflation was developed by Andrade and O'Brien (1999) using the trimmed method approach and monthly data over the period January 1987-December 1998. Compared to the exclusion method indicator used by the Bank of England to target inflation, results showed that the trimmed measure was more robust than the exclusion-based one. Mankikar and Paisley (2004) also examined a range of core inflation measures (exclusion-based methods, trimmed mean, weighted median, and persistence-weighted) for the UK with an extended sample size from January 1975 to February 2000. In this case, no measure outperformed the other and it was concluded that each indicator provided unique information about inflation dynamics relevant for policy formulation. Therefore, the authors posited that it was imperative for policymakers to understand the type of information each measure provided regarding inflationary pressures and respond accordingly. Cutler (2001) used highly disaggregated monthly data from January 1976 to December 2000 across 80 product categories and computed a persistence-weighted core inflation measure for the UK. His approach employed past persistence of price changes as weights. Relative to other measures of core inflation, the persistence-weighted indicator was able to forecast inflation better over a 6 to 12-month horizon.

In Japan, Bryan and Cecchetti (1999) employed the trimmed mean method using disaggregated monthly data for 88 components of the Japanese CPI basket over the period January 1970-December 1996 to compute core inflation. This measure was compared to two exclusion-based indicators (one that excluded only fresh food, and that which removed both fresh food and energy). Findings indicated that the trimmed mean outperformed the other

two measures, particularly at time horizons beyond 12 months. However, in the short term, inflation derived from all the three measures was nearly the same.

For New Zealand, Giannone and Matheson (2007) employed a dynamic factor model (DFM) over the period 1991Q1-2006Q2 to estimate core inflation and conducted a comparative analysis against the weighted median and trimmed mean indicators. Findings indicated that the DFM-computed measure was a better estimate than the other measures. Using data monthly data from January 1985 to December 1995, and four approaches (exclusion, limited influence factors: trimmed mean and weighted median, SVAR and Dynamic Factor Index), a core inflation measure was computed for France by Bihan and Se´dillot (2000). Although the study revealed that almost all indicators Granger-caused inflation over the sample period, the trimmed mean had more predictive power than the others especially at longer time horizons (12 months and beyond).

Carlomagno et al. (2023) constructed, evaluated and ranked core inflation measures for Chile, Columbia, Peru, euro area and the United States. This was based on disaggregated monthly data of consumer price indices over different sample periods ranging from 2002 to 2018. The study employed the exclusion approach and found that the performance of this measure in terms of predictive power across all the countries was poor. The authors suggested that optimal selection of items to be excluded from the consumer basket could improve the properties of this measure.

In Canada, an evaluation of different indicators of core inflation ranging from exclusion, trimmed mean, weighted median to common component CPI yielded different results. For instance, Hogan et al. (2001) found no specific measure that was superior to the others as each indicator performed well against different criteria. This was similar to the findings by Khan et al. (2015) who also concluded that none of the indicators was dominant across all evaluation dimensions. However, in their case, the trimmed mean measure and common component CPI performed better than exclusion-based ones in terms of tracking trend inflation. On the other hand, Armour (2006) suggested that headline inflation projections generated from the weighted median core inflation indicator were slightly better than those from other measures.

Tekath (2010) employed a factor model to construct core inflation (F-core) for Turkey over the period April 2003-April 2010. The performance of this measure was compared to two exclusion-based indicators: one which strips out unprocessed food products, energy, alcoholic beverages, tobacco and gold (H-core) from the consumer price index and the other that removes food, energy, beverages (both alcoholic and non-alcoholic), tobacco products and gold (I-core). The results suggested that all the three measures tracked and forecasted headline inflation relatively well within a two-year period. In addition, it was revealed that headline inflation converged back to core inflation whenever deviations occurred, but the converse was not true. Further, the F-core indicator performed better than the other two indicators.

Vega and Wynne (2001) examined the performance of core inflation computed using the trimmed mean, exclusion and variance-weighted index approaches for the euro area over

the period January 1990-December 2000. The findings suggested that the trimmed mean indicator was a better input into monetary policy analysis than the other two methods. In addition, Conflitti (2020) developed two measures of core inflation for the euro area: one based on the Phillips curve, tracking the impact of changes in business cycles on inflation and another that excluded items affected by unusual price changes based on a factor model. The findings suggested that both measures provided useful information in inflation dynamics, placing emphasis on the need for the European Central Bank to continue monitoring a range of inflation measures. Ball et al. (2024) computed core inflation for 38 advanced and emerging economies on monthly, quarterly and annual frequency. Compared to the exclusion-based measure, the findings indicated that the weighted median performed better in terms of volatility, link to economic slack and predictive power on a quarterly basis. However, for most countries, average headline inflation was above this measure.

Partachi and Motelica (2015) assessed the performance of core inflation computed based on exclusion, trimmed mean and weighted median methods for Moldova and other inflation targeting countries (Czech Republic, England, Poland and Romania). Monthly data for the period from January 2009 to September 2014 was used. The study revealed that the trimmed mean and weighted median provided more relevant information for monetary policy analysis than the exclusion method. This was on account of removal of different items from the consumer basket in each period based on some statistical properties unlike the exclusion of predetermined and fixed volatile components.

In Pakistan, Tahir (2006) computed core inflation using the trimmed mean and exclusion methods based on disaggregated monthly data from July 1991 to June 2000. The findings pointed to the trimmed mean being a better measure of core inflation than the exclusion-based indicator as it tracked headline inflation closely in the long term. Pincheira-Brown et al. (2019) employed the traditional exclusion method (excluding food and energy) to measure core inflation for eight developing economies (Chile, Columbia, Costa Rica, the Dominican Republic, Guatemala, Mexico, Paraguay and Peru) in Latin America over the period January 1995 - May 2017. The measure was then evaluated in terms of its ability to predict headline CPI inflation. Core inflation predicted headline inflation well in four countries with most of the out-of-sample findings suggesting consistent predictive power at shorter periods (one and six months). Over a 24-month horizon, the ability of core inflation to forecast inflation out-of-sample was only significant for two countries (Chile and Columbia) but only robust for Columbia.

In South Africa, Ruch et al. (2015) employed time-varying parameter vector autoregressive models (TVP-VARs), factor augmented VAR and structural break models to estimate and forecast core inflation using quarterly data from 1981Q1 to 2013Q4. The findings suggested that small TVP-VARs consistently performed better than all the other models and the structural break made no difference with regard to forecasting inflation. For Nigeria, Bala-Keffi et al. (2020) used monthly data for the period July 2011-December 2018 and employed the trimmed mean and exclusion methods to compute core inflation. The trimmed mean indicator was found to be highly correlated with headline inflation relative to the other measures. Asemota and Erhi (2022) also conducted a study on headline and core inflation in Nigeria based on monthly data from January 1995 to September 2021. Univariate GARCH

and VAR models were employed to examine the relative volatility and persistence of shocks to these variables. The findings suggested that core inflation was more volatile and less persistent than headline inflation. In addition, it was noted that core inflation tended to revert to headline CPI following deviations and was more useful for economic transactions based on its high impact on exchange rate dynamics.

For Zambia, Musongole (2011) estimated core inflation by employing the exclusion and limited influence estimator methods (trimmed mean and weighted median) over the period 1986-2008. The results showed that core inflation was lower than headline CPI inflation throughout the sample period. However, the study did not conduct a comparative analysis of the three measures to evaluate their performance in terms of the ability to track trend inflation and forecast headline inflation. Thus, our study builds on Musongole's work by using high frequency data (monthly) which allows us to tease out short-term noise in the data. We further extend Rich and Steindel's work by providing an evaluation and ranking of candidate core inflation measures as well as extending the sample size to capture the most recent inflation dynamics.

3.0 Methodology

The approach adopted in this study follows Vega and Wynne (2001), Cogley (2002), Ball et al. (2021) and Carlomagno et al. (2023). Core inflation is computed using three variants of the traditional exclusion method and the trimmed mean approach. The analysis employs monthly data on CPI inflation from January 2011 to March 2025 based on available data.

a) Exclusion Method

The exclusion method involves removing items whose prices are considered volatile in nature from the CPI basket. The price changes of such items are perceived to be transitory and not to have a lasting impact on inflation. The commonly excluded items from the CPI basket are food and energy since they are traditionally considered to be volatile components of the CPI basket.[2] Core inflation is computed as:

$$\bar{x}_g = \frac{1}{\sum_{j=1}^{n_g} w_j} \sum_{j=1}^{n_g} x_j w_j \quad \ldots\ldots (1)$$

where $\bar{x}_g$ is the average price change for the remaining items in group g (CPI basket), x_j is the j-th item in the group with corresponding weight w_j and n_g is the total number of remaining items in group g.

To determine the items to be excluded, three approaches are employed:

[2] Countries like Canada, for example, exclude food and energy products and the effects of indirect tax. The US excludes food and energy, Thailand excludes raw food and energy prices, and Peru excludes among other items food, fruits and vegetables in the computation of core inflation. In Africa, Ghana excludes energy, utilities, and all food items; Kenya excludes volatile food and energy prices; South Africa excludes food, non-alcoholic beverages, petrol and energy prices; and Botswana excludes administered prices.

i) Core inflation measure 1: Excludes the most volatile items based on the standard deviation, as well as administered (petroleum, electricity and mini bus fare) prices;
ii) Core inflation measure 2: Excludes food and energy (electricity and petroleum) products; and
iii) Core inflation measure 3: Excludes only the most volatile items based on the standard deviation.

b) Trimmed Mean

The trimmed mean consists of the computation of the mean of a distribution where tails portions are removed. To calculate the trimmed mean with $\alpha\%$, the sample of the CPI components is ordered $\{x, \dots \dots \dots . x_n\}$ with respective weights $\{w_1, \dots \dots \dots . w_n\}$. The symmetric 1 trimmed mean is obtained from:

$$\bar{x}_\alpha = \frac{1}{1-2\frac{\alpha}{100}} \sum_{i \in I_\alpha} w_i x_i \dots\dots(2)$$

$$I_\alpha = \left\{ i \,|\, \frac{\alpha}{100} < w_i < \left(1 - \frac{\alpha}{100}\right) \right\} \dots\dots(3)$$

where I_α is a set of the components to be considered in the computation of the trimmed mean, $\alpha\%$ is the percentage of the trimmed items and w is the actual weight up to the *ith* component.

The exclusion and trimmed mean methods are employed in this study due to the simplicity and ease involved in their construction and computation. Further, these two measures are easy for the public and policymakers to understand and replicate as it is easy to establish the items removed (exclusion) or how the extreme values are handled (trimmed mean). In contrast, methods like principal component analysis and the Kalman Filter rely on advanced statistical modelling and assumptions and their inner workings are less intuitive, making it difficult to communicate policy decisions.

The four measures of core inflation are evaluated based on two criteria. Firstly, we follow Vega and Wynne (2001) by basing our evaluation on how closely core inflation tracks trend inflation. In the second case, we base our evaluation on causality tests between the computed measures of core inflation and the monetary policy rate. Based on the first criterion, a good measure of underlying inflationary pressures is one that is mostly close to trend inflation estimated using the Hodrick-Prescott (HP) filter. Deviations of each measure of core inflation are calculated and a measure of bias is computed. The bias is defined as the mean deviation of the various core measures from trend given by:

$$Bias = \frac{1}{T} \sum_{t=1}^{T} (\pi_t^* - \tilde{\pi}_t) \dots\dots (4)$$

where π_t^* and $\tilde{\pi}_t$ denote actual and trend inflation at time t, respectively.

4.0 Results and Discussion

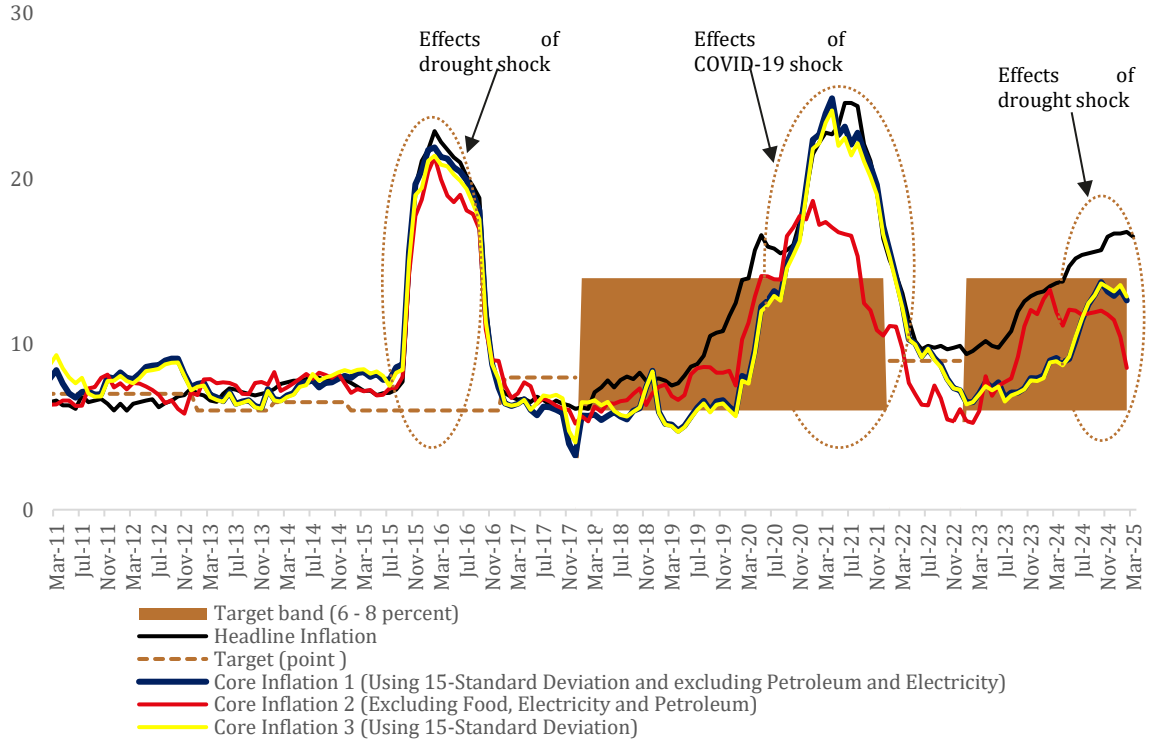
a) Exclusion Method

In the first exclusion method, the volatility of prices using standard deviation was computed. Items with a standard deviation value of greater than 15[3] were considered volatile and removed from the CPI basket as they represented a relatively smaller share of the basket. Exclusion of many items may pose a risk of information loss thus render the core inflation measure inadequate as the excluded items may also contain important signals about underlying inflation. This is in contrast with Musongole (2011) whose threshold for volatility and basis of exclusion was a standard deviation of 10. In addition, administered prices (petroleum, electricity and mini bus fares) were excluded from the basket in this approach.

A total of 438 items were considered. Out of these, 261 had standard deviation between 0 and 15 implying that 177 items were initially excluded with the majority being food items. The highest standard deviation of 13,514.33 was for mangoes followed by lumanda (702.16), spinach (681.42), DVD player (335.94), mushrooms (206.02), fresh cream (199.20) and maize cobs (182.35) as indicated in Appendix 1. Additional five products (lubricants, engine oil, petrol, mini bus fare and electricity) with administered prices were excluded (Appendix 1) and core inflation computed for the remaining 256 items based on equation (1). This measure of core inflation (1) mimics Headline CPI inflation as shown in Chart 1.

[3] Literature has not established any rule of thumb or threshold of the standard deviation upon which goods can be considered volatile.

Chart 1: Core and Headline Inflation



Source: Author Computations using data from Zambia Statistics Agency

In the second variant of the exclusion approach, food and energy (electricity and petroleum products) were excluded from the CPI basket. In this case, out of a total 438 items, 138 items were excluded as shown in appendix 2. The results show that core inflation was close to Headline inflation for most part of the period except during the COVID-19 pandemic and the 2023/24 drought shocks when it was substantially lower. However, it is worth noting that following the dissipation of the COVID-19 shock, this measure of core inflation tracks Headline inflation closely again, until the impact of the drought shock kicks in. This underscores the significance of filtering out such noise, which could be transitory in nature, from the data to inform appropriate monetary policy decisions. These findings are similar to Tekath (2010) and Brown et al. (2019) for Turkey and eight developing economies in Latin America, respectively. In both cases, the exclusion method computed core inflation tracked headline inflation relatively well, particularly at shorter horizons. This implies that over longer periods, the exclusion method may not have as much predictive power and could be inappropriate as a measure on which monetary policy decisions are based.

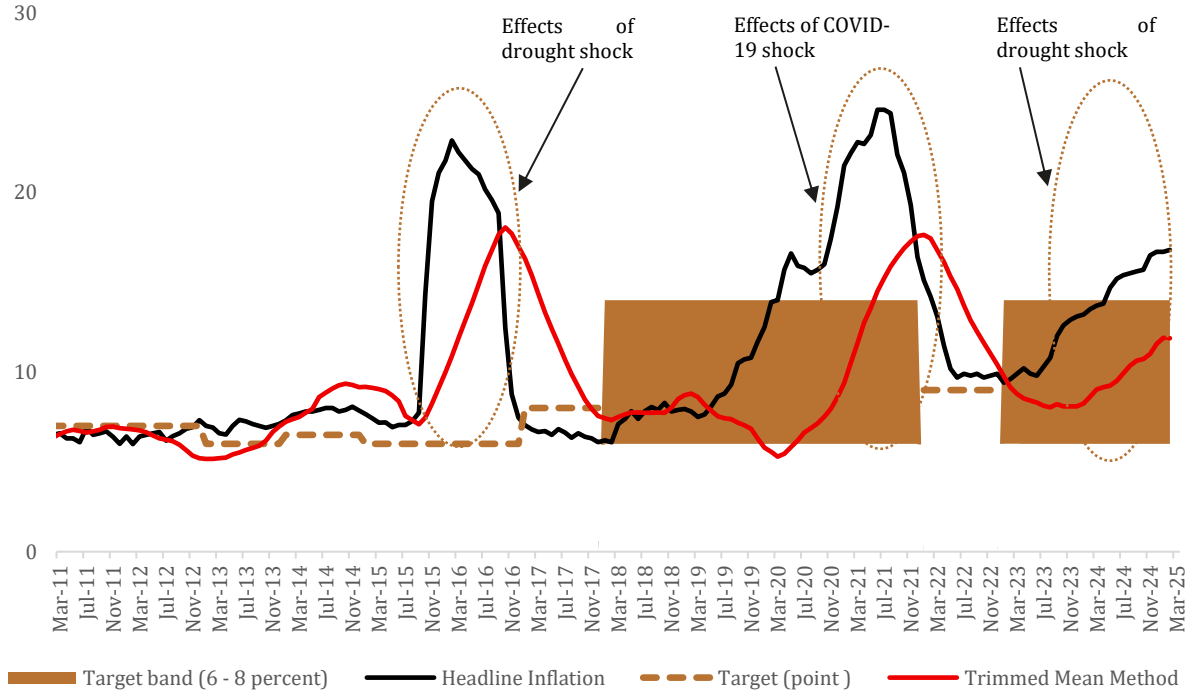
Finally, the third exclusion indicator strips out the most volatile items from the CPI basket based solely on the standard deviation. In this regard, 177 items out of the total 438 items were excluded from the basket (Appendix 1). As shown in Chart 1, this measure was below the headline inflation similar to the findings by Musongole (2011), and within the inflation target particularly from the latter parts of the period under review as shown in Chart 1. During periods of economic shocks, the core inflation measure has shown to be quite explosive.

b) Trimmed Mean Method

The trimmed mean was computed based on equation (2). An α of 20 percent was chosen and a 24-month moving average for the CPI headline inflation was computed as it provides greater smoothing and noise reduction. Figueiredo and Staub (2002) used α of 50 percent and a 13-month centred moving average to minimize the root mean square error relative to a benchmark measure of core inflation. Brian and Cecchetti (2001) used an α of 30 percent and a 24-month moving average while Musongole (2011) arbitrarily used an α of 15 percent and a 13-month centered moving average of headline inflation as core inflation benchmark. The 20 percent trim point used in this study implies that inflation is computed with 80 percent of the central section of the price changes distribution for the period under consideration. Thus, 20 percent trim point entails that approximately 88 items were removed (out of 438 items) from the computation: 44 from the lower tail portion and 44 from the upper tail portion of the price changes distribution (Appendix 3).

The results indicate that the 20 percent trimmed mean for the CPI was below the headline inflation for most part of the period under consideration as shown in Chart 2. This signals positive asymmetry in the distribution of the changes of the price components indicating that the trimmed items suffer price changes over time. Thus, their removal causes a downward bias in the core inflation measure.

Chart 2: Core (Trimmed Mean) and Headline Inflation



Source: Author Computations using data from Zambia Statistics Agency

The analysis reveals that the inflation objective of 6-8 percent has consistently been achieved when volatile items which create part of the noise that obscures the stable inflation signal

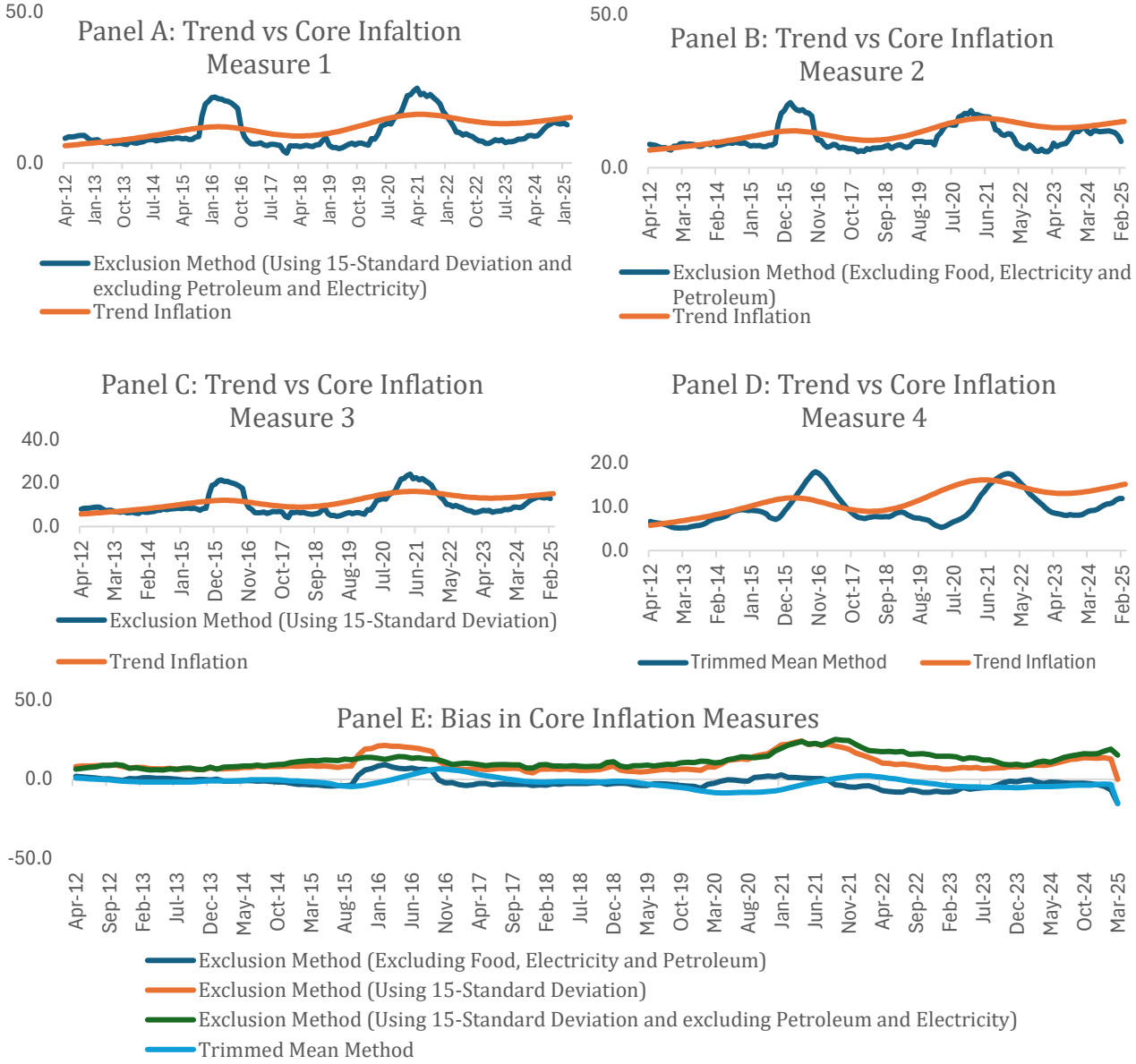
are removed, save for periods of economic shocks (Chart 1 and Chart 2). Thus, filtering out temporary price changes that are often caused by external factors, like seasonal fluctuations or supply shocks, which seemingly distort headline inflation figures can help policymakers and economists understand underlying inflationary pressures. It is, therefore, imperative for monetary authorities to ascertain whether the current movements in consumer prices are short-term fluctuations or part of a persistent trend as they formulate and implement monetary policy.

c) Evaluation of Core Inflation Measures

Chart 3 shows relations between each core inflation measure and trend inflation. Panel A shows the relation between trend inflation and the core inflation measure based on exclusion of highly volatile prices as well as petroleum and electricity prices (core inflation measure 1). Panel B relates trend inflation to core inflation based on exclusion of food, electricity and petroleum prices (core inflation measure 2). Panel C shows how core inflation based on exclusion of highly volatile prices only (core inflation measure 3) tracks trend inflation and Panel D depicts the relation between core inflation based on the trimmed mean method (core Inflation measure 4) and trend inflation.

Notably, trend inflation exhibits two episodes of level shift in the series, representing the shocks identified in Chart 2. For the period 2012-2019, the performance of all the four measures appears to be similar. They all overstate trend inflation during the 2015-16 shock and understate trend inflation over the 2017-2019 period when the shock dissipated. The COVID-19 shock over the 2020-2022 period, however, provides a distinction in the performance of the core inflation measures. The core inflation measure that excludes food, electricity and petroleum prices in Panel B outperforms the other three measures at tracking trend inflation during the COVID-19 shock. Hence, this measure of core inflation appears to provide a better indicator of underlying inflationary pressures among the measures considered. This aligns with Pincheira-Brown et al. (2019) who found evidence of consistent predictive power for the traditional exclusion method (excluding food and energy) across eight developing economies. The trimmed mean method (Panel D) comes close but appears to estimate the shocks to trend inflation with a lag.

Chart 3: Core Inflation Measures and Trend Inflation



Source: Author Compilations

As explained earlier, we compute the average bias for each measure of core inflation to obtain a clearer picture of their performance in tracking trend inflation. Panel E of Chart 3 plots the deviation of core from trend inflation (the bias) overtime. For the entire horizon, the core inflation measure that excludes food, electricity and petroleum prices as well as the one computed by the trimmed mean method consistently exhibit lower bias. This closely compares with Mankikar and Paisley (2004) who generally found no distinct best performer between exclusion methods and the trimmed mean approach. However, the core inflation measure that excludes food, electricity and petroleum prices captures shocks to trend inflation much earlier than the one computed using the trimmed mean method. Similarly, there seems to be an identical bias in the core inflation measure which excludes highly

volatile prices, petroleum and electricity prices as well as the one excluding highly volatile prices only although the latter performs slightly better. The average bias for each measure is presented in Table 1. The core inflation with exclusion of food, electricity and petroleum has the lowest average bias (in absolute terms), at -1.8. The bias is negative, implying that this measure underestimates trend inflation, on average, but is very close. The trimmed mean method is second, with a positive bias of 2.0. The other two measures have larger positive biases of 10.1 and 12.0. The positive biases suggest that the respective core inflation measure overestimates trend inflation on average.

Table 1: Average Bias in Core Inflation Measures

Rank	Core Inflation Measure	Average Bias
1	Excluding food, electricity and petroleum	-1.8
2	Trimmed Mean Method	2.0
3	Excluding highly volatile prices only	10.1
4	Excluding highly volatile prices plus petroleum and electricity prices	12.0

Source: Authors' Computation

The second evaluation criterion seeks to examine the measures of core inflation directly impacted by changes in the monetary policy rate (MPR). This is based on the notion that the central bank should ideally only react to changes in underlying inflationary pressures mostly stemming from demand pressures that are under the control of monetary policy. To ascertain this, we conduct granger causality tests of the MPR and the four measures of core inflation. The lags in each test are deliberately kept at 24 to align with the conventionally used forecasting horizon in most inflation targeting regimes (8 quarters). As shown in Table 2, the null hypothesis in each case is that the MPR does not granger cause the respective core inflation measure. This would effectively mean that lags in the MPR do not enhance the prediction of core inflation. Based on the p-values in the last column of Table 2, we find no evidence of direct transmission from the policy rate to the core measures except for the measure that excludes highly volatile prices only that reveals evidence of causality but at 10 percent significance level.

Table 2: Granger Causality Test Results, Monetary Policy vs Core Inflation

Null Hypothesis	No. of obs	F- statistic	P-value
MPR does not granger cause Core Inflation Measure 1	131	1.06913	0.3960
MPR does not granger cause Core Inflation Measure 2	131	0.71493	0.1107
MPR does not granger cause Core Inflation Measure 3	131	0.74581	0.0869
MPR does not granger cause Core Inflation Measure 4	131	0.78173	0.7483

Source: Authors' computation

5.0 Conclusion

This study computes a core inflation measure for Zambia using monthly data on CPI inflation from January 2011 to March 2025. The empirical approach employed three variants of the traditional exclusion method in which some items are excluded from the CPI as inflation is computed. The variants involve exclusion of the most volatile and administered prices, food and energy prices, as well as most volatile prices only. A measure based on the trimmed mean method is also considered.

The study demonstrates that headline inflation in Zambia is highly susceptible to transitory shocks from food and energy prices. By constructing and evaluating four core inflation measures, the analysis established that the exclusion of food, electricity, and petroleum prices best captures underlying inflationary pressures. This measure consistently tracks trend inflation with the lowest bias, particularly during major shocks, such as, COVID-19 and the 2023/24 drought. The trimmed mean method offers a useful secondary benchmark despite its lag in shock recognition. Measures based solely on the exclusion of volatile items tend to overestimate trend inflation. Causality tests reveal limited direct transmission from the policy rate to the core measures considered except for the measure that excludes highly volatile prices.

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Appendices

Appendix I

Product code	Description	Product Weight	Standard Dev
07.1211	Motor cycle	0	0
08.3112	Phone call land line to cell	1.1288	2.104202282
08.3114	Phone call cell to cell	6.8865	2.940800197
08.1111	Postal letter local	0.095	2.943216543
11.2113	Bed (Single room in guest house)	0.2377	3.0847051
08.3113	Phone call cell toland line	1.4878	3.100608969
06.2111	Registration fee govt.hospital	2.4906	3.901856208
10.1111	Primary school fees private	10.8287	4.154006591
08.3116	E-Post (Telegraph)	0.0608	4.360920827
11.1121	Nshima with Beef Hotel	0.0414	4.52282937
08.2111	Cell phone hand set	2.2197	4.527242756
11.1111	Nshima with Beef Rest.	1.7269	4.72391279
12.1113	Hair Cuts	0.3674	4.794130685
10.2111	Secondary school fees private	9.9677	5.214349918
12.1311	Razor Blade	0.5749	5.3225584
07.3111	Train Fare Lusaka/Kitwe	0.631	5.430375133
03.2211	Repair of mens shoes -imported	0.1705	5.454562234
06.2211	Fees Dentist(govt hosp)	0.0681	5.46267788
08.1114	Parcel delivery	0.4497	5.555561875
10.4112	College fees	2.0625	5.626809567
03.1413	Dry cleaning of ladies suit	0.0862	5.737154129
12.5411	Vehicle insurance- Car Insurance	5.9279	5.86300961
12.1341	Vaseline petroleum jelly	3.8756	5.902024483
06.2112	Private Hosp.Consultation fee	0.8635	6.017576066
06.2114	Doctors consultation fee	1.1348	6.033143186
03.1412	Dry cleaning gents suit	0.0862	6.093794869
04.1111	Council house rent	11.9437	6.149229285
01.1821	Strawberry/ Pinaapple Jam	0.1657	6.328839508
03.1414	Tailoring charges	1.0837	6.358935246
05.6211	Domestic services	9.3784	6.383768923
05.2111	Bed sheets	3.5635	6.409185806
11.1113	Cold beer restaurant	0.6444	6.423557297
12.7115	Hammer milling charge	9.0442	6.429351935
05.5211	Claw hammer	0.1106	6.451439349
06.2311	Chest X-ray	0.1914	6.582942857
03.1211	Mens shirt imported	5.3754	6.590768198
03.1111	Chitenge material local	2.3872	6.672762017
02.1311	Mosi	2.1777	6.77258348
12.1322	Lifebouy	5.264	6.85407708
05.4135	Charcoal Brazier (Mbaulas)	0.5224	6.996608303

Product code	Description	Product Weight	Standard Dev
02.2111	Peter Stuvysant	0.5143	7.024497867
03.1212	Mens trousers Imported	7.9389	7.056271659
11.1122	Cold beer Hotel	0.0153	7.115557772
11.2112	Bed and Continental Breakfast	0.2377	7.157402199
02.1313	Castle Lager	1.7737	7.160529795
05.1115	Coffee table	0.9544	7.189334326
12.3222	Coffin for an adult	1.4761	7.247718822
02.1321	Shake Shake	1.1337	7.359453276
01.1422	Sour milk	2.0536	7.374582917
08.3115	Cost of internet service	0.0718	7.40569775
04.1112	Private house rent	20.0885	7.405915043
03.1221	Ladies Dress Imported	1.1737	7.477579663
02.2112	Consulate	0.5041	7.483857531
01.1912	Curry Powder	0.4498	7.564941529
02.1211	Fortified wine	0.1421	7.625421422
03.1227	Ladies pants	1.6039	7.637258846
01.1921	Tomato Ketchup	0.2795	7.647415382
05.1112	Wooden bed frame	1.1125	7.740128259
03.1415	Tailoring charges - dress	1.0837	7.752644509
10.2112	Secondary Boarding	1.4869	7.758021383
03.2212	Repair of Ladies shoes	0.1705	7.759914997
12.3221	Umbrellas	1.0808	7.842491959
11.1114	Soft Drink restaurant	0.0686	7.856757979
03.1252	Girls School Uniform	0.3778	7.866133601
03.1416	Hire of wedding gown	0.4625	7.939496438
05.2115	Pillows	0.1928	7.963888677
05.3215	Hotplate (2 plate)	0.3581	8.01158434
01.2211	Mineral water-750ml-Stick to a particular brand	0.0858	8.016108005
07.2214	Lubricants (brake fluids)	1.4491	8.027810119
12.7112	Photocopying	0.0443	8.054087295
08.1113	Postal letter International	0.1369	8.159754738
02.1323	Maheu	2.8362	8.174882007
01.1411	Fresh Milk	11.131	8.294911288
12.1332	Dettol	0.1751	8.31134319
12.1343	Skin Lotion Intensive care	2.1981	8.3390544
02.1312	Eagle Lager	2.0497	8.405270403
09.5111	Dictionary	1.1393	8.418719875
12.1344	Baby Powder Johnsons	0.2628	8.482252339
05.5212	Spades	0.6635	8.506811824
05.5213	Hoe blade	0.1521	8.508597053
12.1324	Toothpaste	1.1519	8.527921606
01.1822	Marmalade	0.2018	8.609347913
07.3212	Coach Fare	6.2212	8.641599592

Product code	Description	Product Weight	Standard Dev
03.1313	Mens polyster tie	0.3779	8.64795027
06.3111	Cost of hospitalization	0.2149	8.668839425
12.1323	Butone	2.2003	8.714177615
02.1222	Ciders	0.6817	8.74557606
03.2121	Ladies leather shoes	2.0172	8.813530223
06.1124	Eye ointment (Tetracycline)	0.1216	8.82202556
05.5216	Mortice lock	0.0841	8.844149816
10.4111	University fees (UNZA /CBU)	2.2754	8.850308463
01.1211	Fillet Steak	9.6857	8.873385468
01.2231	Orange Crush Local	0.4049	8.876477497
03.1253	Girls school Sweater	0.571	8.889280329
03.1312	Cotton Thread	0.2931	8.946717665
05.6114	Ajax(Scouring powder)	0.4309	8.967583889
05.6122	Candles	3.5107	9.004400546
03.1222	Ladies skirt imported	4.0969	9.042391361
05.6111	Bar soap (Chik)	9.6372	9.059326765
05.6115	Jik ordinary (Bleach)	0.5559	9.065508927
03.1225	Ladies Bra	5.9708	9.086305032
01.1142	Biscuits With Cream	0.8313	9.095080568
01.1935	Custard Powder - 250gm	0.3059	9.099561276
09.3211	Football	0.8269	9.138188768
01.1272	Tinned Meat	0.1225	9.20042413
01.1311	Frozen Fish	11.5188	9.354839531
03.1114	Suiting material	0.7588	9.372626006
12.1321	Geisha	4.1391	9.382759882
07.2213	Engine oil	0.5225	9.413485569
05.5215	Wheelbarows	0.4552	9.451554087
03.1112	Chitenge material imported	4.3972	9.460728158
03.1251	Girls Dress	1.4144	9.523981564
01.2232	Orange Squash 2 Ltrs	0.7262	9.579643165
06.1118	Magnesium Trisilicate	0.0083	9.642854561
01.1152	Bun	27.7425	9.748897884
05.6118	Target	0.5128	9.762250441
08.1112	Postal letter Regional	0.095	9.769950667
02.1322	Chibuku at Tarven	1.8014	9.789790273
12.1351	Sanitary Towels	0.1392	9.827876597
03.1315	Zip fastener	0.0819	10.01249822
01.2221	Coke/Sprite/Fanta bottled	5.1061	10.12391952
03.1224	Ladies shirts (blouse)	3.0853	10.16412336
01.1774	Potato Crisps	0.6691	10.20446127
09.5413	Pencil with rubber	0.136	10.22060412
01.1811	Sugar	18.4788	10.22568988
04.4312	Sewerage high cost	0.9036	10.24388742

Product code	Description	Product Weight	Standard Dev
06.1213	Syringes	0.1727	10.30037847
12.1112	Ladies Shampoo and set	0.337	10.31017397
01.1131	Rice Local	5.0422	10.35053989
03.1246	Boys School Socks Grey	0.3237	10.36666355
06.1113	Paracetamol	0.1425	10.3906752
12.3211	Suitcases	2.5152	10.41404542
01.1218	Ox-liver	0.4863	10.45573097
12.1352	Toilet paper	1.4841	10.47728277
05.4132	Cooking pot	1.0568	10.52806026
07.2116	Cv joints	0.4317	10.62511445
03.2122	Ladies synthetic shoes	0.8252	10.6333606
05.2113	Face towel	0.5443	10.65736151
05.6212	Gardener, full time monthly	2.0376	10.66577315
09.5411	School Exercise Book	0.9842	10.67177922
01.1212	Rump Steak	9.6759	10.69117342
11.1123	Soft Drink Hotel	0.0268	10.73917263
12.1346	Deodorant spray	0.7134	10.85824951
12.1312	Toothbrushes	0.1115	10.85891078
03.1241	Boys shorts	3.2004	10.87696319
09.1415	CD blank	0.0855	10.8966377
05.6121	Kiwi Shoe Polish	1.261	10.97100508
01.1153	Fritters	1.8985	11.03756596
03.1232	Baby nappies/Terry nappy	1.0579	11.04565585
05.6123	Matches	1.449	11.12723789
09.5412	Pen	0.0611	11.16709128
02.1112	Vodika	0.2471	11.23076686
01.2112	Instant Coffee Prima	0.0883	11.29651657
05.3213	Electric Kettle	0.1364	11.29815207
03.2112	Men Shoes imported	2.2433	11.35665906
05.2112	Blanket	6.6152	11.35803673
03.1247	Boys School Sweater	0.6402	11.38018974
05.2114	Foam Matress	3.2076	11.39030909
01.1162	Spaghetti	0.2715	11.45773885
03.1213	Men's socks	1.4357	11.46255119
01.1331	Pilchards Lucky Star	0.8533	11.47016767
06.2212	Fees Dentist(surgery)	0.0188	11.54872607
01.1321	Dried Bream	25.443	11.56262714
03.2111	Men Leather Shoes local	3.4216	11.58327594
07.2117	Breakepads	0.2666	11.59978636
01.1812	Sugar	14.6439	11.60247095
01.1215	T-bone	9.8384	11.6541491
07.3213	Taxi Fare	3.5126	11.65574198
05.4133	Frying Pan	0.595	11.71691051

Product code	Description	Product Weight	Standard Dev
05.6113	Zamwasher	1.8099	11.73661047
09.4231	DSTV monthly subscription	0.2424	11.76883887
03.1255	Girls school socks	0.4379	11.83475685
07.2312	Repair Charges	0.8971	11.8680912
01.1313	Fresh Kapenta	1.2553	11.93599905
07.2411	Driving lessons	0.1924	12.01740581
01.1221	Offals	1.8428	12.04829877
01.1214	Mixed Cut	8.8322	12.09389799
01.1141	Biscuits Plain	0.8313	12.14329691
07.2111	Spark plugs	0.0284	12.20199505
		0.1474	12.24996061
06.1122	Asthma Cure (Salbutamol)	0.1607	12.26299011
05.4111	Ceramicware -plate	0.4864	12.31168944
01.1631	Apples	0.1592	12.33530536
04.5411	Charcoal	19.1505	12.34418989
01.1323	Dried Kapenta Siavonga	13.0551	12.40228068
05.1212	Plastic mat	0.3371	12.41172805
03.1113	Silk / Satin material	0.8843	12.44878562
01.1911	Table Salt	15.3757	12.47814834
01.2132	Cocoa	0.2547	12.4925671
01.1461	Eggs	6.6429	12.50244166
01.1931	Yeast-Clover	0.1799	12.5159924
05.6124	Shoe brush	0.2805	12.58710016
06.1112	Aspirin	0.2516	12.5946475
07.2118	Shockabsorbers	0.1486	12.62518115
01.1213	Brisket	8.8628	12.62541899
01.1431	Yorghurt	0.0828	12.68410434
03.1314	Belt leather	0.8317	12.70948222
04.3119	Steel Door frame - Ordinary	0.6072	12.7854827
03.1242	Boys Under pants	1.4482	12.79002967
01.1151	Bread	16.7469	12.88572908
05.3131	Stove/cooker	1.4654	12.89735127
12.1345	Baby Lotion Johnsons	0.4957	12.92981096
09.3311	Flowers bunch	0.1085	12.95879129
05.1116	Wardrobe	0.8209	12.96206074
06.1115	No cough	0.2745	12.97049816
03.1244	Boys' jeans	0.5981	13.04895011
01.1163	Cornflakes	0.3989	13.05764357
04.4111	Water charges	1.5281	13.06341454
01.1932	Soups	0.1485	13.09676087
03.1216	Men's Underpants	1.0198	13.09863588
08.3111	Phone Call local	0.2229	13.18833301
07.3211	Mini Bus Fare	10.454	13.1922466

Product code	Description	Product Weight	Standard Dev
12.1111	Hair plaiting	2.2429	13.23789979
03.2141	Girls School Shoes	2.4044	13.23976985
05.1117	Dining Suite	0.5778	13.25056422
05.3214	Fan	0.3187	13.27727653
03.1223	Ladies Half slip	1.3367	13.29394804
01.1217	Mince Meat	2.2208	13.31536596
04.5111	Electricity Tariff R1	15.7672	13.31848913
06.1121	Tetracycline	0.1801	13.33902915
12.1211	Electric shaver	0.0575	13.39366756
04.4311	Sewerage cost	0.5632	13.42519408
01.1412	Fresh Milk Super Milk	2.4908	13.44084353
04.3116	Paint	0.2009	13.45777541
03.1254	Girls Pants	1.3412	13.56876464
12.7113	Advertisement in a local newspaper	0.0528	13.59374763
01.1324	Dried Kapenta Chisense	13.8923	13.59734966
07.2114	Bicycle Tube	1.1832	13.60079505
01.1161	Macaroni	0.2647	13.63796786
01.1933	Baking Powder	0.2305	13.64913994
01.1934	Baby Cereals	0.3926	13.70589117
03.1311	Knitting Wool	0.4715	13.76420543
01.1922	Vinegar	0.0243	13.80437198
01.2122	Tea bags	0.0408	13.8459073
01.2113	Instant Coffee	0.1068	13.98683081
05.3212	Electric Iron	0.1896	13.99076574
03.2131	Boys School Shoes	2.4348	14.03348357
06.1111	Cafenol	0.1774	14.08230418
09.1121	Television Colour	2.1206	14.09034942
05.6117	Cobra	0.9409	14.11328074
01.1713	Sweet Potato Leaves	0.85	14.13850104
04.3118	Clear glass	0.5331	14.24513719
07.2115	Car battery	0.4553	14.25264968
01.1171	Wheat Plain Household Flour	2.1091	14.27109552
06.3112	Maternity fees	0.1074	14.2731369
05.4112	Glassware (Mug)	0.1592	14.29550077
06.1125	Multivitamin	0.0752	14.44618757
01.1261	Chicken Frozen	9.5566	14.45831554
01.1751	Dried beans	14.7545	14.48476483
01.1216	Sausages	2.1612	14.50076914
01.2131	Milo	0.2312	14.52202914
05.6112	Boom	9.9656	14.553489
01.1841	Sweets - Lolly Pop	0.791	14.62424308
06.1117	Andrews liver salt	0.008	14.71504425
03.2123	Tropicals	1.5204	14.75274074

Product code	Description	Product Weight	Standard Dev
07.2412	Car License	0.6782	14.82770725
01.1736	Impwa	0.8882	14.8596037
07.2212	Petrol	3.9975	14.86202069
05.3111	Refrigerator	1.9091	14.89697446
04.3114	Cement	3.3408	14.93769905
06.1116	Kaolin/Anti Diarrhoea	0.3039	14.94888465
12.1114	Ladies full cream	0.5261	14.98641992
06.1123	Throat lozenges (Vicks kingo)	0.0256	15.23878272
01.1621	Bananas	2.9082	15.39647187
02.1113	Brandy	0.2097	15.60738834
06.1212	Contraceptives condoms	0.1953	15.64470095
01.1711	Rape	13.1951	15.66906192
01.1531	Cooking oil Imported	15.6561	15.712647
03.1411	Laudry pair of trousers	0.0784	15.76295887
01.1172	Bread Flour Imported	2.9467	15.86862299
01.1752	Baked beans	0.1049	16.03172874
01.1716	Chinese Cabbage	0.9965	16.16530613
01.1122	Samp	0.3277	16.17867143
09.1312	Personal computer - Pentium 4	1.2302	16.19373271
12.7111	Funeral service only	0.3881	16.20175232
01.1651	Groundnuts	11.5642	16.2692536
05.1111	Bed and Matress	1.4529	16.31147769
07.3112	Train Fare Kapiri/Dar	1.0716	16.33865468
01.1761	Irish potatoes	4.1655	16.34781634
04.5211	Gas (Propane)	1.5847	16.51087251
01.1132	Rice Imported	13.9658	16.51306169
01.1424	Powdered Milk for Babies	0.2503	16.61486287
03.1215	Menssweater local	0.271	16.61504922
04.4112	Water charges	2.4517	16.65879524
01.1421	Condensed Milk	0.1482	16.66942197
03.1226	Ladies sweater	0.89	16.6873113
01.1231	Plain Pork Sausages	2.4203	16.72583163
05.1211	Carpet	0.7111	16.73979751
12.1331	Shampoo vitafro	0.3494	16.80223286
03.1243	Boys shirt	1.127	16.80989809
04.3113	Iron sheets	1.1538	16.92660665
06.1119	Fansider	0.3464	16.98975688
04.3115	Building Sand	0.3843	16.99985192
02.1212	Red Wine	0.1421	17.13681202
05.3121	Washing machine	0.0102	17.23204699
01.1712	Pumpkin Leaves	3.5789	17.28790077
09.1311	Scientific calculator	0.0679	17.2971973
03.1214	Gents two piece suit	2.3314	17.40817291

Product code	Description	Product Weight	Standard Dev
11.1112	Chicken & chips takeaway	0.2965	17.43650762
01.1522	Peanut butter	0.3256	17.5012207
07.1311	Bicycle	0.8469	17.58693663
03.1231	Baby Suit	1.9553	17.60147722
01.1271	Bacon	1.9238	17.69079654
05.6125	Broom	0.9167	17.70767863
04.3117	Floor tiles	0.2884	17.75983183
01.1241	Goat Meat	2.2377	17.76371752
05.5217	Batteries radio	1.24	17.77093679
01.1532	Cooking oil Local	19.4967	17.85706988
01.1521	Margarine	1.9107	17.86019268
01.2111	Coffee	0.3367	17.89712764
04.5311	Parafin purchases	5.994	17.97869099
01.1718	Okra	0.7036	18.04584946
09.4111	Foot ball game	0.4945	18.23671406
01.1741	Onion	4.7273	18.29526143
01.1262	Chicken Live	9.5566	18.30983961
05.4121	Cutlery (knife/spoon)	0.8102	18.46257191
12.6212	Postal order	0.0078	18.46796659
01.1423	Powdered milk	0.6008	18.69885869
01.1737	Green pepper	0.1393	18.72218112
09.1414	DVD Blank	0.0338	18.76161267
09.4212	Disco/night club	0.1546	18.85149103
01.1913	Soda Bicarbonate	0.0711	18.9974354
02.1111	Scotch Whisky imported	0.2106	19.00401216
12.3111	Mens wrist watch	0.8628	19.00653479
05.5219	Plugs	0.0656	19.26987763
01.1183	Sorghum	2.3013	19.27974555
07.2211	Diesel	4.7573	19.28934857
05.3211	Heater 2 bar	0.2646	19.3776302
09.5311	Birthday/wedding post cards	0.1159	19.39302773
01.1251	Kidneys	0.1367	19.40700826
09.1111	Radio without cassette player	1.5774	19.53740639
02.2121	Dunhill	0.469	19.5553036
04.3111	Concrete block	0.6491	19.5930377
05.4134	Ironing board	0.1886	19.8280452
06.1211	Bandages	0.0639	19.86460844
05.3132	Microwave oven	0.1469	19.86985333
05.1114	3 piece lounge suit	1.1416	20.04140602
01.1232	Pork Chops	3.1387	20.12650967
07.2311	General service	1.0898	20.21104633
09.5211	Magazine	0.296	20.47546593
05.4122	Silver plate	1.8095	20.72629878

Product code	Description	Product Weight	Standard Dev
07.2112	Car Tyre-Radial	0.3607	21.02777558
01.1721	Cabbage	5.8601	21.08818076
01.1842	Chewing gum	0.0756	21.14890427
07.2113	Bicycle Tyre	0.9534	21.34525608
12.6211	Bank Account Maintenance Fees	0.5155	21.35698528
05.6116	Disifectants Sanpic	0.4175	21.53048437
01.1735	Cucumber	0.1163	21.88661138
09.4241	Film Development	0.0911	21.99771257
01.1322	Dried Kapenta Mpulungu	11.6497	22.40843311
01.1312	Buka Buka	11.5514	22.7554174
12.1212	Hair dryer	0.0494	22.7719414
01.1717	Cassava Leaves	0.412	22.86183018
09.1413	Audio Cassette - blank	0.0338	23.27538169
01.1773	Chikanda Tubers	0.5649	23.42961934
06.1114	Medix cough syrup	0.2737	23.63630557
01.2121	Tea Leaves Silver	1.1254	23.65417473
09.5212	Newspaper(Times)	0.2689	23.72947419
07.1111	Toyota hilux	2.0936	24.54820604
01.1182	Millet	1.029	24.93947412
01.1731	Tomatoes	12.5589	24.98706272
05.1113	Lounge suit low price	3.1979	25.32024431
04.5112	Electricity Tariff R2	9.3745	25.34908212
03.1245	Boys school uniform	0.4223	25.50864328
01.1732	Green Beans	0.5265	25.54763962
05.5218	Bulbs	0.3787	25.58403503
01.1181	Cassava meal	4.1449	25.58684236
04.4212	Refuse collection high cost	0.3281	25.70658147
01.1111	Breakfast Mealie Meal	32.2623	25.75321972
03.2113	Sports shoes	0.7577	25.87932217
05.5214	Hosepipes	0.5729	26.02726311
09.1313	Printer	0.0822	26.64832614
02.1221	Sparkling Wine	0.3183	26.67269507
01.1612	Lemons	0.5619	26.93687404
01.1734	Egg plant	0.3737	28.17469645
07.1121	Purchase of Second hand	3.3029	28.31482631
11.2111	Single room 3 & 5 star	0.0753	28.71337105
01.1851	Icecream	0.1242	28.71450516
09.3212	Tennis Balls	0.5093	28.95037922
01.1112	Roller Mealie Meal	16.7726	29.76611656
09.4211	Cinema Charges	0.2235	29.81950159
01.1121	Maize grain	15.9485	29.86967715
09.1112	Radio cassette player/recorder	0.192	30.10578776
08.2112	Telephone land line hand set	0.0843	30.56951293

Product code	Description	Product Weight	Standard Dev
01.1511	Butter	2.6711	30.75558141
09.1416	Colour Film	0.0291	32.50535903
12.5311	Medical aid contribution	0.1199	32.59624652
07.1113	Nissan sunny	4.3382	33.49468686
05.4131	Kettle non electrical	0.1358	33.59976551
04.3112	Asbestos	4.0708	34.39257548
01.1611	Oranges	0.6596	36.19003508
07.1112	Toyota corolla	3.223	36.27449091
09.4311	State lottery ticket	0.023	36.27491003
01.1823	Golden Syrup	0.289	36.5578464
07.2413	Parking fee	0.5336	36.58872407
04.4211	Refuse collection low cost	0.2045	37.58476828
09.3411	Pet food in a paper bag	0.3357	38.94614702
01.1771	Sweet potatoes	4.1566	38.95084602
07.2313	Wheel Balancing	0.4478	39.67241512
09.5112	Economics text book	0.5852	39.67996454
09.4232	Video rental	0.2	40.57797279
01.1831	Plain Chocolate bar	0.1395	41.05242424
09.1211	Still camera	0.0308	41.11774542
07.1114	Nissan Pick Up	2.7647	41.29420147
01.1738	Pumpkin	1.0184	42.28418339
09.1212	Video camera	0.0465	43.85762519
12.1342	Haircream tonic	0.6682	43.96503095
01.2222	Lemonade Tonic Soda	0.0586	45.37461369
05.3141	Sewing machine singer	0.5358	45.87894888
09.5213	Newspaper(The Post)	0.2177	46.43244251
12.3112	Neck lace	0.0708	47.81531416
01.1644	Water Melon	0.1051	47.9712233
04.1113	Rent low density	7.4681	48.04841288
01.1652	Raisins	0.0289	49.15771875
12.7114	Private security services	0.2	51.10558573
01.1451	Cheese	0.1592	51.50077232
04.5412	Firewood	5.5315	51.87281072
06.2113	Medical scheme	0.2616	54.18018144
09.1122	Video cassette player	0.6015	54.68505315
09.1411	VCD international movie	0.4557	56.84183049
01.1641	Pineapples	0.1388	57.55489674
06.1126	Oral contraceptives (Safe plan)	0.0219	59.10620869
01.1742	Carrots	0.2031	59.78973304
07.3313	Air fare Lusaka/London	0.4151	63.28370114
01.1642	Pawpaw	0.1767	70.2716425
01.1645	Avocadoes	0.2738	71.90227947
01.1772	Cassava roots	0.4012	77.79796098

Product code	Description	Product Weight	Standard Dev
07.3311	Air Fare Domestic	0.3325	78.75964331
01.1733	Tinned Peas 400gm	0.3599	84.17801441
09.1412	Audio Cassette - Recorded	0.1886	96.834792
01.1184	Millet Meal		103.7096492
07.3312	Air Fare Regional	0.3325	109.9033537
01.1739	Maize cobs	1.458	182.3471606
01.1441	Fresh Cream	0.0833	199.2029811
01.1743	Mushrooms	1.4496	206.0195568
09.1123	DVD Player	0.0477	335.9440845
01.1715	Spinach	0.0986	681.4181811
01.1714	Lumanda	0.0372	702.1615205
01.1643	Mangoes	1.3276	13514.32994

Excluded items
Additional Excluded items

Appendix 2

Product code	Description	Product Weight
01.1111	Breakfast Mealie Meal	32.2623
01.1112	Roller Mealie Meal	16.7726
01.1121	Maize grain	15.9485
01.1122	Samp	0.3277
01.1131	Rice Local	5.0422
01.1132	Rice Imported	13.9658
01.1141	Biscuits Plain	0.8313
01.1142	Biscuits With Cream	0.8313
01.1151	Bread	16.7469
01.1152	Bun	27.7425
01.1153	Fritters	1.8985
01.1161	Macaroni	0.2647
01.1162	Spaghetti	0.2715
01.1163	Cornflakes	0.3989
01.1171	Wheat Plain Household Flour	2.1091
01.1172	Bread Flour Imported	2.9467
01.1181	Cassava meal	4.1449
01.1182	Millet	1.029
01.1183	Sorghum	2.3013
01.1184	Millet Meal	
01.1211	Fillet Steak	9.6857
01.1212	Rump Steak	9.6759
01.1213	Brisket	8.8628
01.1214	Mixed Cut	8.8322
01.1215	T-bone	9.8384

Product code	Description	Product Weight
01.1217	Mince Meat	2.2208
01.1218	Ox-liver	0.4863
01.1221	Offals	1.8428
01.1231	Plain Pork Sausages	2.4203
01.1232	Pork Chops	3.1387
01.1241	Goat Meat	2.2377
01.1251	Kidneys	0.1367
01.1261	Chicken Frozen	9.5566
01.1262	Chicken Live	9.5566
01.1271	Bacon	1.9238
01.1272	Tinned Meat	0.1225
01.1311	Frozen Fish	11.5188
01.1312	Buka Buka	11.5514
01.1313	Fresh Kapenta	1.2553
01.1321	Dried Bream	25.443
01.1322	Dried Kapenta Mpulungu	11.6497
01.1323	Dried Kapenta Siavonga	13.0551
01.1324	Dried Kapenta Chisense	13.8923
01.1331	Pilchards Lucky Star	0.8533
01.1411	Fresh Milk	11.131
01.1412	Fresh Milk Super Milk	2.4908
01.1421	Condensed Milk	0.1482
01.1422	Sour milk	2.0536
01.1423	Powdered milk	0.6008
01.1424	Powdered Milk for Babies	0.2503
01.1431	Yorghurt	0.0828
01.1441	Fresh Cream	0.0833
01.1451	Cheese	0.1592
01.1461	Eggs	6.6429
01.1511	Butter	2.6711
01.1521	Margarine	1.9107
01.1522	Peanut butter	0.3256
01.1531	Cooking oil Imported	15.6561
01.1532	Cooking oil Local	19.4967
01.1611	Oranges	0.6596
01.1612	Lemons	0.5619
01.1621	Bananas	2.9082
01.1631	Apples	0.1592
01.1641	Pineapples	0.1388
01.1642	Pawpaw	0.1767
01.1643	Mangoes	1.3276
01.1644	Water Melon	0.1051
01.1645	Avocadoes	0.2738

Product code	Description	Product Weight
01.1651	Groundnuts	11.5642
01.1652	Raisins	0.0289
01.1711	Rape	13.1951
01.1712	Pumpkin Leaves	3.5789
01.1713	Sweet Potato Leaves	0.85
01.1714	Lumanda	0.0372
01.1715	Spinach	0.0986
01.1716	Chinese Cabbage	0.9965
01.1717	Cassava Leaves	0.412
01.1718	Okra	0.7036
01.1721	Cabbage	5.8601
01.1731	Tomatoes	12.5589
01.1732	Green Beans	0.5265
01.1733	Tinned Peas 400gm	0.3599
01.1734	Egg plant	0.3737
01.1735	Cucumber	0.1163
01.1736	Impwa	0.8882
01.1737	Green pepper	0.1393
01.1738	Pumpkin	1.0184
01.1739	Maize cobs	1.458
01.1741	Onion	4.7273
01.1742	Carrots	0.2031
01.1743	Mushrooms	1.4496
01.1751	Dried beans	14.7545
01.1752	Baked beans	0.1049
01.1761	Irish potatoes	4.1655
01.1771	Sweet potatoes	4.1566
01.1772	Cassava roots	0.4012
01.1773	Chikanda Tubers	0.5649
01.1774	Potato Crisps	0.6691
01.1811	Sugar	18.4788
01.1812	Sugar	14.6439
01.1821	Strawberry/ Pinaapple Jam	0.1657
01.1822	Marmalade	0.2018
01.1823	Golden Syrup	0.289
01.1831	Plain Chocolate bar	0.1395
01.1841	Sweets - Lolly Pop	0.791
01.1842	Chewing gum	0.0756
01.1851	Icecream	0.1242
01.1911	Table Salt	15.3757
01.1912	Curry Powder	0.4498
01.1913	Soda Bicarbonate	0.0711
01.1921	Tomato Ketchup	0.2795

Product code	Description	Product Weight
01.1922	Vinegar	0.0243
01.1931	Yeast-Clover	0.1799
01.1932	Soups	0.1485
01.1933	Baking Powder	0.2305
01.1934	Baby Cereals	0.3926
01.1935	Custard Powder - 250gm	0.3059
01.2111	Coffee	0.3367
01.2112	Instant Coffee Prima	0.0883
01.2113	Instant Coffee	0.1068
01.2121	Tea Leaves Silver	1.1254
01.2122	Tea bags	0.0408
01.2131	Milo	0.2312
01.2132	Cocoa	0.2547
01.2211	Mineral water-750ml-Stick to a particular brand	0.0858
01.2221	Coke/Sprite/Fanta bottled	5.1061
01.2222	Lemonade Tonic Soda	0.0586
01.2231	Orange Crush Local	0.4049
01.2232	Orange Squash 2 Ltrs	0.7262
02.1111	Scotch Whisky imported	0.2106
02.1112	Vodika	0.2471
02.1113	Brandy	0.2097
02.1211	Fortified wine	0.1421
02.1212	Red Wine	0.1421
02.1221	Sparkling Wine	0.3183
02.1222	Ciders	0.6817
02.1311	Mosi	2.1777
02.1312	Eagle Lager	2.0497
02.1313	Castle Lager	1.7737
02.1321	Shake Shake	1.1337
02.1322	Chibuku at Tarven	1.8014
02.1323	Maheu	2.8362
02.2111	Peter Stuvysant	0.5143
02.2112	Consulate	0.5041
02.2121	Dunhill	0.469
03.1111	Chitenge material local	2.3872
03.1112	Chitenge material imported	4.3972
03.1113	Silk / Satin material	0.8843
03.1114	Suiting material	0.7588
03.1211	Mens shirt imported	5.3754
03.1212	Mens trousers Imported	7.9389
03.1213	Men's socks	1.4357
03.1214	Gents two piece suit	2.3314
03.1215	Menssweater local	0.271

Product code	Description	Product Weight
03.1216	Men's Underpants	1.0198
03.1221	Ladies Dress Imported	1.1737
03.1222	Ladies skirt imported	4.0969
03.1223	Ladies Half slip	1.3367
03.1224	Ladies shirts (blouse)	3.0853
03.1225	Ladies Bra	5.9708
03.1226	Ladies sweater	0.89
03.1227	Ladies pants	1.6039
03.1231	Baby Suit	1.9553
03.1232	Baby nappies/Terry nappy	1.0579
03.1241	Boys shorts	3.2004
03.1242	Boys Under pants	1.4482
03.1243	Boys shirt	1.127
03.1244	Boys' jeans	0.5981
03.1245	Boys school uniform	0.4223
03.1246	Boys School Socks Grey	0.3237
03.1247	Boys School Sweater	0.6402
03.1251	Girls Dress	1.4144
03.1252	Girls School Uniform	0.3778
03.1253	Girls school Sweater	0.571
03.1254	Girls Pants	1.3412
03.1255	Girls school socks	0.4379
03.1311	Knitting Wool	0.4715
03.1312	Cotton Thread	0.2931
03.1313	Mens polyster tie	0.3779
03.1314	Belt leather	0.8317
03.1315	Zip fastener	0.0819
03.1411	Laudry pair of trousers	0.0784
03.1412	Dry cleaning gents suit	0.0862
03.1413	Dry cleaning of ladies suit	0.0862
03.1414	Tailoring charges	1.0837
03.1415	Tailoring charges - dress	1.0837
03.1416	Hire of wedding gown	0.4625
03.2111	Men Leather Shoes local	3.4216
03.2112	Men Shoes imported	2.2433
03.2113	Sports shoes	0.7577
03.2121	Ladies leather shoes	2.0172
03.2122	Ladies synthetic shoes	0.8252
03.2123	Tropicals	1.5204
03.2131	Boys School Shoes	2.4348
03.2141	Girls School Shoes	2.4044
03.2211	Repair of mens shoes -imported	0.1705
03.2212	Repair of Ladies shoes	0.1705

Product code	Description	Product Weight
04.1111	Council house rent	11.9437
04.1112	Private house rent	20.0885
04.1113	Rent low density	7.4681
04.3111	Concrete block	0.6491
04.3112	Asbestos	4.0708
04.3113	Iron sheets	1.1538
04.3114	Cement	3.3408
04.3115	Building Sand	0.3843
04.3116	Paint	0.2009
04.3117	Floor tiles	0.2884
04.3118	Clear glass	0.5331
04.3119	Steel Door frame - Ordinary	0.6072
04.4111	Water charges	1.5281
04.4112	Water charges	2.4517
04.4211	Refuse collection low cost	0.2045
04.4212	Refuse collection high cost	0.3281
04.4311	Sewerage cost	0.5632
04.4312	Sewerage high cost	0.9036
04.5111	Electricity Tariff R1	15.7672
04.5112	Electricity Tariff R2	9.3745
04.5211	Gas (Propane)	1.5847
04.5311	Parafin purchases	5.994
04.5411	Charcoal	19.1505
04.5412	Firewood	5.5315
05.1111	Bed and Matress	1.4529
05.1112	Wooden bed frame	1.1125
05.1113	Lounge suit low price	3.1979
05.1114	3 piece lounge suit	1.1416
05.1115	Coffee table	0.9544
05.1116	Wardrobe	0.8209
05.1117	Dining Suite	0.5778
05.1211	Carpet	0.7111
05.1212	Plastic mat	0.3371
05.2111	Bed sheets	3.5635
05.2112	Blanket	6.6152
05.2113	Face towel	0.5443
05.2114	Foam Matress	3.2076
05.2115	Pillows	0.1928
05.3111	Refrigerator	1.9091
05.3121	Washing machine	0.0102
05.3131	Stove/cooker	1.4654
05.3132	Microwave oven	0.1469
05.3141	Sewing machine singer	0.5358

Product code	Description	Product Weight
05.3211	Heater 2 bar	0.2646
05.3212	Electric Iron	0.1896
05.3213	Electric Kettle	0.1364
05.3214	Fan	0.3187
05.3215	Hotplate (2 plate)	0.3581
05.4111	Ceramicware -plate	0.4864
05.4112	Glassware (Mug)	0.1592
05.4121	Cutlery (knife/spoon)	0.8102
05.4122	Silver plate	1.8095
05.4131	Kettle non electrical	0.1358
05.4132	Cooking pot	1.0568
05.4133	Frying Pan	0.595
05.4134	Ironing board	0.1886
05.4135	Charcoal Brazier (Mbaulas)	0.5224
05.5211	Claw hammer	0.1106
05.5212	Spades	0.6635
05.5213	Hoe blade	0.1521
05.5214	Hosepipes	0.5729
05.5215	Wheelbarows	0.4552
05.5216	Mortice lock	0.0841
05.5217	Batteries radio	1.24
05.5218	Bulbs	0.3787
05.5219	Plugs	0.0656
05.6111	Bar soap (Chik)	9.6372
05.6112	Boom	9.9656
05.6113	Zamwasher	1.8099
05.6114	Ajax(Scouring powder)	0.4309
05.6115	Jik ordinary (Bleach)	0.5559
05.6116	Disifectants Sanpic	0.4175
05.6117	Cobra	0.9409
05.6118	Target	0.5128
05.6121	Kiwi Shoe Polish	1.261
05.6122	Candles	3.5107
05.6123	Matches	1.449
05.6124	Shoe brush	0.2805
05.6125	Broom	0.9167
05.6211	Domestic services	9.3784
05.6212	Gardener, full time monthly	2.0376
06.1111	Cafenol	0.1774
06.1112	Aspirin	0.2516
06.1113	Paracetamol	0.1425
06.1114	Medix cough syrup	0.2737
06.1115	No cough	0.2745

Product code	Description	Product Weight
06.1116	Kaolin/Anti Diarrhoea	0.3039
06.1117	Andrews liver salt	0.008
06.1118	Magnesium Trisilicate	0.0083
06.1119	Fansider	0.3464
06.1121	Tetracycline	0.1801
06.1122	Asthma Cure (Salbutamol)	0.1607
06.1123	Throat lozenges (Vicks kingo)	0.0256
06.1124	Eye ointment (Tetracycline)	0.1216
06.1125	Multivitamin	0.0752
06.1126	Oral contraceptives (Safe plan)	0.0219
06.1211	Bandages	0.0639
06.1212	Contraceptives condoms	0.1953
06.1213	Syringes	0.1727
06.2111	Registration fee govt.hospital	2.4906
06.2112	Private Hosp.Consultation fee	0.8635
06.2113	Medical scheme	0.2616
06.2114	Doctors consultation fee	1.1348
06.2211	Fees Dentist(govt hosp)	0.0681
06.2212	Fees Dentist(surgery)	0.0188
06.2311	Chest X-ray	0.1914
06.3111	Cost of hospitalization	0.2149
06.3112	Maternity fees	0.1074
07.1111	Toyota hilux	2.0936
07.1112	Toyota corolla	3.223
07.1113	Nissan sunny	4.3382
07.1114	Nissan Pick Up	2.7647
07.1121	Purchase of Second hand	3.3029
07.1211	Motor cycle	0
07.1311	Bicycle	0.8469
07.2111	Spark plugs	0.0284
07.2112	Car Tyre-Radial	0.3607
07.2113	Bicycle Tyre	0.9534
07.2114	Bicycle Tube	1.1832
07.2115	Car battery	0.4553
07.2116	Cv joints	0.4317
07.2117	Breakepads	0.2666
07.2118	Shockabsorbers	0.1486
07.2211	Diesel	4.7573
07.2212	Petrol	3.9975
07.2213	Engine oil	0.5225
07.2214	Lubricants (brake fluids)	1.4491
07.2311	General service	1.0898
07.2312	Repair Charges	0.8971

Product code	Description	Product Weight
07.2313	Wheel Balancing	0.4478
		0.1474
07.2411	Driving lessons	0.1924
07.2412	Car License	0.6782
07.2413	Parking fee	0.5336
07.3111	Train Fare Lusaka/Kitwe	0.631
07.3112	Train Fare Kapiri/Dar	1.0716
07.3211	Mini Bus Fare	10.454
07.3212	Coach Fare	6.2212
07.3213	Taxi Fare	3.5126
07.3311	Air Fare Domestic	0.3325
07.3312	Air Fare Regional	0.3325
07.3313	Air fare Lusaka/London	0.4151
08.1111	Postal letter local	0.095
08.1112	Postal letter Regional	0.095
08.1113	Postal letter Intertanational	0.1369
08.1114	Parcel delivery	0.4497
08.2111	Cell phone hand set	2.2197
08.2112	Telephone land line hand set	0.0843
08.3111	Phone Call local	0.2229
08.3112	Phone call land line to cell	1.1288
08.3113	Phone call cell toland line	1.4878
08.3114	Phone call cell to cell	6.8865
08.3115	Cost of internet service	0.0718
08.3116	E-Post (Telegraph)	0.0608
09.1111	Radio without cassette player	1.5774
09.1112	Radio cassette player/recorder	0.192
09.1121	Television Colour	2.1206
09.1122	Video cassette player	0.6015
09.1123	DVD Player	0.0477
09.1211	Still camera	0.0308
09.1212	Video camera	0.0465
09.1311	Scientific calculator	0.0679
09.1312	Personal computer - Pentium 4	1.2302
09.1313	Printer	0.0822
09.1411	VCD international movie	0.4557
09.1412	Audio Cassette - Recorded	0.1886
09.1413	Audio Cassette - blank	0.0338
09.1414	DVD Blank	0.0338
09.1415	CD blank	0.0855
09.1416	Colour Film	0.0291
09.3211	Football	0.8269
09.3212	Tennis Balls	0.5093

Product code	Description	Product Weight
09.3311	Flowers bunch	0.1085
09.3411	Pet food in a paper bag	0.3357
09.4111	Foot ball game	0.4945
09.4211	Cinema Charges	0.2235
09.4212	Disco/night club	0.1546
09.4231	DSTV monthly subscription	0.2424
09.4232	Video rental	0.2
09.4241	Film Development	0.0911
09.4311	State lottery ticket	0.023
09.5111	Dictionary	1.1393
09.5112	Economics text book	0.5852
09.5211	Magazine	0.296
09.5212	Newspaper(Times)	0.2689
09.5213	Newspaper(The Post)	0.2177
09.5311	Birthday/wedding post cards	0.1159
09.5411	School Exercise Book	0.9842
09.5412	Pen	0.0611
09.5413	Pencil with rubber	0.136
10.1111	Primary school fees private	10.8287
10.2111	Secondary school fees private	9.9677
10.2112	Secondary Boarding	1.4869
10.4111	University fees (UNZA /CBU)	2.2754
10.4112	College fees	2.0625
11.1111	Nshima with Beef Rest.	1.7269
11.1112	Chicken & chips takeaway	0.2965
11.1113	Cold beer restaurant	0.6444
11.1114	Soft Drink restaurant	0.0686
11.1121	Nshima with Beef Hotel	0.0414
11.1122	Cold beer Hotel	0.0153
11.1123	Soft Drink Hotel	0.0268
11.2111	Single room 3 & 5 star	0.0753
11.2112	Bed and Continental Breakfast	0.2377
11.2113	Bed (Single room in guest house)	0.2377
12.1111	Hair plaiting	2.2429
12.1112	Ladies Shampoo and set	0.337
12.1113	Hair Cuts	0.3674
12.1114	Ladies full cream	0.5261
12.1211	Electric shaver	0.0575
12.1212	Hair dryer	0.0494
12.1311	Razor Blade	0.5749
12.1312	Toothbrushes	0.1115
12.1321	Geisha	4.1391
12.1322	Lifebouy	5.264

Product code	Description	Product Weight
12.1323	Butone	2.2003
12.1324	Toothpaste	1.1519
12.1331	Shampoo vitafro	0.3494
12.1332	Dettol	0.1751
12.1341	Vaseline petroleum jelly	3.8756
12.1342	Haircream tonic	0.6682
12.1343	Skin Lotion Intensive care	2.1981
12.1344	Baby Powder Johnsons	0.2628
12.1345	Baby Lotion Johnsons	0.4957
12.1346	Deodorant spray	0.7134
12.1351	Sanitary Towels	0.1392
12.1352	Toilet paper	1.4841
12.3111	Mens wrist watch	0.8628
12.3112	Neck lace	0.0708
12.3211	Suitcases	2.5152
12.3221	Umbrellas	1.0808
12.3222	Coffin for an adult	1.4761
12.5311	Medical aid contribution	0.1199
12.5411	Vehicle insurance- Car Insurance	5.9279
12.6211	Bank Account Maintenance Fees	0.5155
12.6212	Postal order	0.0078
12.7111	Funeral service only	0.3881
12.7112	Photocopying	0.0443
12.7113	Advertisement in a local newspaper	0.0528
12.7114	Private security services	0.2
12.7115	Hammer milling charge	9.0442

Excluded items

Appendix 3

Product code	Description	Product	Weight	Standard Dev
04.3112	Asbestos		4.0708	-9.367028408
09.1122	Video cassette player		0.6015	-3.48379894
09.4232	Video rental		0.2	-2.599469551
12.5311	Medical aid contribution		0.1199	-1.092783672
12.7114	Private security services		0.2	-0.756745075
09.4211	Cinema Charges		0.2235	-0.46814232
09.1212	Video camera		0.0465	-0.378791522
08.3116	E-Post (Telegraph)		0.0608	-0.123424064
09.1211	Still camera		0.0308	-0.122665136
12.6212	Postal order		0.0078	-0.027507562
09.4311	State lottery ticket		0.023	-0.02598984
08.3112	Phone call land line to cell		1.1288	-0.002849743

Product code	Description	Product	Weight	Standard Dev
08.1111	Postal letter local		0.095	0.065703316
06.1118	Magnesium Trisilicate		0.0083	0.077043935
06.2212	Fees Dentist(surgery)		0.0188	0.079791784
06.1117	Andrews liver salt		0.008	0.090975247
05.3121	Washing machine		0.0102	0.09490905
11.1122	Cold beer Hotel		0.0153	0.135240641
12.1211	Electric shaver		0.0575	0.137107395
12.1212	Hair dryer		0.0494	0.156448744
06.2211	Fees Dentist(govt hosp)		0.0681	0.180869555
01.1922	Vinegar		0.0243	0.191593
11.1123	Soft Drink Hotel		0.0268	0.222236224
12.7112	Photocopying		0.0443	0.259941442
11.1121	Nshima with Beef Hotel		0.0414	0.274750176
08.1112	Postal letter Regional		0.095	0.298472365
08.1113	Postal letter Intertanational		0.1369	0.304079347
09.1413	Audio Cassette - blank		0.0338	0.307819942
03.1411	Laudry pair of trousers		0.0784	0.338245742
09.1416	Colour Film		0.0291	0.356686737
06.1123	Throat lozenges (Vicks kingo)		0.0256	0.359910046
07.2111	Spark plugs		0.0284	0.36878497
09.1414	DVD Blank		0.0338	0.399884809
08.3115	Cost of internet service		0.0718	0.404669009
01.1652	Raisins		0.0289	0.429888875
09.1311	Scientific calculator		0.0679	0.464717834
12.7113	Advertisement in a local newspaper		0.0528	0.472606406
05.5211	Claw hammer		0.1106	0.475744715
01.2122	Tea bags		0.0408	0.546615548
03.1413	Dry cleaning of ladies suit		0.0862	0.558601064
06.1126	Oral contraceptives (Safe plan)		0.0219	0.573978999
09.3311	Flowers bunch		0.1085	0.582743046
01.1913	Soda Bicarbonate		0.0711	0.603679831
11.1114	Soft Drink restaurant		0.0686	0.622412465
11.2111	Single room 3 & 5 star		0.0753	0.630221984
05.5219	Plugs		0.0656	0.635161308
06.1125	Multivitamin		0.0752	0.64422466
03.1412	Dry cleaning gents suit		0.0862	0.662608996
03.1315	Zip fastener		0.0819	0.665387744
05.5216	Mortice lock		0.0841	0.672257347
01.2211	Mineral water-750ml-Stick to a particular brand		0.0858	0.702241465
09.5311	Birthday/wedding post cards		0.1159	0.740962715
08.3113	Phone call cell toland line		1.4878	0.742025232
09.4241	Film Development		0.0911	0.811287321
12.1332	Dettol		0.1751	0.85257848

Product code	Description	Product	Weight	Standard Dev
01.2112	Instant Coffee Prima		0.0883	0.89462045
12.1312	Toothbrushes		0.1115	0.89605044
06.1113	Paracetamol		0.1425	0.897339915
01.1842	Chewing gum		0.0756	0.922283591
01.1431	Yorghurt		0.0828	0.926298123
08.1114	Parcel delivery		0.4497	0.927440508
09.5412	Pen		0.0611	0.955297036
06.1211	Bandages		0.0639	0.964038763
09.1415	CD blank		0.0855	0.980980974
01.2113	Instant Coffee		0.1068	0.985529094
06.3112	Maternity fees		0.1074	0.998603592
01.2222	Lemonade Tonic Soda		0.0586	1.067653326
01.1272	Tinned Meat		0.1225	1.082792462
01.1421	Condensed Milk		0.1482	1.13019486
03.2211	Repair of mens shoes -imported		0.1705	1.132124984
02.1112	Vodika		0.2471	1.13321445
07.3111	Train Fare Lusaka/Kitwe		0.631	1.156128208
05.4134	Ironing board		0.1886	1.177888709
02.1212	Red Wine		0.1421	1.201689869
08.3111	Phone Call local		0.2229	1.221049972
12.3112	Neck lace		0.0708	1.24527936
05.3213	Electric Kettle		0.1364	1.246087817
06.2311	Chest X-ray		0.1914	1.247068007
09.4212	Disco/night club		0.1546	1.273762309
02.1113	Brandy		0.2097	1.295777842
08.2112	Telephone land line hand set		0.0843	1.319074174
01.1752	Baked beans		0.1049	1.336734123
05.2115	Pillows		0.1928	1.383565554
05.5213	Hoe blade		0.1521	1.390377985
01.1933	Baking Powder		0.2305	1.395447976
06.3111	Cost of hospitalization		0.2149	1.405650413
02.1211	Fortified wine		0.1421	1.413257454
06.1124	Eye ointment (Tetracycline)		0.1216	1.414251706
09.1313	Printer		0.0822	1.463785287
07.2118	Shockabsorbers		0.1486	1.500482671
01.1822	Marmalade		0.2018	1.50552
05.3132	Microwave oven		0.1469	1.537874874
04.3117	Floor tiles		0.2884	1.542537145
01.1737	Green pepper		0.1393	1.547504236
01.1735	Cucumber		0.1163	1.54900899
03.2212	Repair of Ladies shoes		0.1705	1.550768258
			0.1474	1.562143027
11.2113	Bed (Single room in guest house)		0.2377	1.591671644

Product code	Description	Product	Weight	Standard Dev
11.2112	Bed and Continental Breakfast		0.2377	1.607805206
07.2411	Driving lessons		0.1924	1.635865779
05.4112	Glassware (Mug)		0.1592	1.639306219
01.1631	Apples		0.1592	1.652767108
12.1311	Razor Blade		0.5749	1.659267864
05.3215	Hotplate (2 plate)		0.3581	1.675193043
01.1931	Yeast-Clover		0.1799	1.675872216
06.1121	Tetracycline		0.1801	1.687031958
01.1251	Kidneys		0.1367	1.752779431
04.4211	Refuse collection low cost		0.2045	1.757299413
01.1821	Strawberry/ Pinaapple Jam		0.1657	1.794147782
01.1932	Soups		0.1485	1.79450972
05.3211	Heater 2 bar		0.2646	1.874664434
06.1122	Asthma Cure (Salbutamol)		0.1607	1.875497028
05.5218	Bulbs		0.3787	1.911953943
09.1123	DVD Player		0.0477	1.926055931
06.1212	Contraceptives condoms		0.1953	1.926470173
12.7111	Funeral service only		0.3881	1.934765136
09.1112	Radio cassette player/recorder		0.192	1.962968775
03.1416	Hire of wedding gown		0.4625	2.034976297
09.5413	Pencil with rubber		0.136	2.043119675
01.1851	Icecream		0.1242	2.074466547
01.1451	Cheese		0.1592	2.120068146
09.5211	Magazine		0.296	2.139100643
12.1112	Ladies Shampoo and set		0.337	2.17082142
01.2132	Cocoa		0.2547	2.231737837
09.4231	DSTV monthly subscription		0.2424	2.24841762
05.3212	Electric Iron		0.1896	2.269810388
05.1212	Plastic mat		0.3371	2.307689291
06.1213	Syringes		0.1727	2.313952754
01.2131	Milo		0.2312	2.32098691
06.1111	Cafenol		0.1774	2.350019407
05.4131	Kettle non electrical		0.1358	2.352472256
07.2112	Car Tyre-Radial		0.3607	2.388959219
01.1921	Tomato Ketchup		0.2795	2.413300458
04.3115	Building Sand		0.3843	2.430311267
05.1211	Carpet		0.7111	2.472751569
12.1344	Baby Powder Johnsons		0.2628	2.487595746
01.1831	Plain Chocolate bar		0.1395	2.492905948
07.3312	Air Fare Regional		0.3325	2.508279247
03.1246	Boys School Socks Grey		0.3237	2.597748216
03.1215	Menssweater local		0.271	2.600654433
04.3116	Paint		0.2009	2.608966569

Product code	Description	Product	Weight	Standard Dev
02.1111	Scotch Whisky imported		0.2106	2.632093532
01.1162	Spaghetti		0.2715	2.640700067
01.1424	Powdered Milk for Babies		0.2503	2.654214921
01.1644	Water Melon		0.1051	2.659440947
03.1313	Mens polyster tie		0.3779	2.730274608
06.1112	Aspirin		0.2516	2.741466262
05.5215	Wheelbarows		0.4552	2.80771805
03.1312	Cotton Thread		0.2931	2.832341815
05.1114	3 piece lounge suit		1.1416	2.855434523
02.2112	Consulate		0.5041	2.897361716
01.1441	Fresh Cream		0.0833	2.929877167
07.2117	Breakepads		0.2666	2.955988732
09.1412	Audio Cassette - Recorded		0.1886	2.973935979
11.1112	Chicken & chips takeaway		0.2965	2.994957881
05.3214	Fan		0.3187	3.000819426
01.1161	Macaroni		0.2647	3.007498081
04.4212	Refuse collection high cost		0.3281	3.03518356
02.2111	Peter Stuvysant		0.5143	3.130914387
03.1252	Girls School Uniform		0.3778	3.146623697
09.3411	Pet food in a paper bag		0.3357	3.225302496
05.4111	Ceramicware -plate		0.4864	3.28730968
01.1912	Curry Powder		0.4498	3.296165477
03.1114	Suiting material		0.7588	3.365035839
01.1122	Samp		0.3277	3.415147427
01.1935	Custard Powder - 250gm		0.3059	3.428215022
12.6211	Bank Account Maintenance Fees		0.5155	3.438136704
01.1522	Peanut butter		0.3256	3.446487103
01.1717	Cassava Leaves		0.412	3.485790356
01.1641	Pineapples		0.1388	3.545198941
07.2413	Parking fee		0.5336	3.601956748
06.1115	No cough		0.2745	3.64645372
06.1114	Medix cough syrup		0.2737	3.669926987
06.2113	Medical scheme		0.2616	3.678755212
09.5213	Newspaper(The Post)		0.2177	3.724191533
01.2231	Orange Crush Local		0.4049	3.724309711
05.2113	Face towel		0.5443	3.764643812
11.1113	Cold beer restaurant		0.6444	3.805643834
05.6124	Shoe brush		0.2805	3.85240638
05.1116	Wardrobe		0.8209	3.866103658
02.1221	Sparkling Wine		0.3183	3.917849567
05.4135	Charcoal Brazier (Mbaulas)		0.5224	3.921522329
12.1113	Hair Cuts		0.3674	3.923708879
03.1255	Girls school socks		0.4379	3.973079086

Product code	Description	Product	Weight	Standard Dev
03.1244	Boys' jeans		0.5981	3.97760977
04.3118	Clear glass		0.5331	4.029487902
05.3141	Sewing machine singer		0.5358	4.047260835
01.1934	Baby Cereals		0.3926	4.049155562
05.1117	Dining Suite		0.5778	4.08703907
05.6118	Target		0.5128	4.096054789
07.2116	Cv joints		0.4317	4.134019398
01.1734	Egg plant		0.3737	4.178740741
09.5212	Newspaper(Times)		0.2689	4.180324325
12.1342	Haircream tonic		0.6682	4.305750105
06.1116	Kaolin/Anti Diarrhoea		0.3039	4.38533803
03.1253	Girls school Sweater		0.571	4.387646263
01.1163	Cornflakes		0.3989	4.397725019
06.1119	Fansider		0.3464	4.555208687
01.1841	Sweets - Lolly Pop		0.791	4.585943282
12.1114	Ladies full cream		0.5261	4.650860369
01.2111	Coffee		0.3367	4.675218739
01.1642	Pawpaw		0.1767	4.737803571
02.2121	Dunhill		0.469	4.837588085
07.2313	Wheel Balancing		0.4478	4.909933612
07.2115	Car battery		0.4553	4.963483319
07.2213	Engine oil		0.5225	5.024979486
09.3211	Football		0.8269	5.032109646
05.6114	Ajax(Scouring powder)		0.4309	5.131991076
05.6115	Jik ordinary (Bleach)		0.5559	5.25896588
05.4133	Frying Pan		0.595	5.333864124
06.2112	Private Hosp.Consultation fee		0.8635	5.437839548
12.1345	Baby Lotion Johnsons		0.4957	5.498470769
07.2412	Car License		0.6782	5.519012026
05.6125	Broom		0.9167	5.598345916
01.1218	Ox-liver		0.4863	5.669040282
01.1742	Carrots		0.2031	5.72148129
05.1115	Coffee table		0.9544	5.724602758
05.5212	Spades		0.6635	5.72835212
03.1113	Silk / Satin material		0.8843	5.778826207
01.1732	Green Beans		0.5265	5.806310715
06.2111	Registration fee govt.hospital		2.4906	5.814442944
03.1311	Knitting Wool		0.4715	5.816527033
08.3114	Phone call cell to cell		6.8865	5.878659
01.2232	Orange Squash 2 Ltrs		0.7262	5.984314434
02.1222	Ciders		0.6817	5.988401441
12.1331	Shampoo vitafro		0.3494	6.073085027
09.4111	Foot ball game		0.4945	6.312490161

Product code	Description	Product	Weight	Standard Dev
03.1314	Belt leather		0.8317	6.35306983
03.1247	Boys School Sweater		0.6402	6.363953453
03.2122	Ladies synthetic shoes		0.8252	6.385791405
01.1823	Golden Syrup		0.289	6.400722561
05.6116	Disifectants Sanpic		0.4175	6.598629998
03.1414	Tailoring charges		1.0837	6.609581906
04.3111	Concrete block		0.6491	6.783355022
01.1271	Bacon		1.9238	6.850456376
12.1346	Deodorant spray		0.7134	6.871675616
04.4311	Sewerage cost		0.5632	6.940973111
10.4112	College fees		2.0625	6.978161456
07.2312	Repair Charges		0.8971	7.1183171
01.1774	Potato Crisps		0.6691	7.140836913
01.1716	Chinese Cabbage		0.9965	7.180450242
01.1736	Impwa		0.8882	7.32102512
05.4121	Cutlery (knife/spoon)		0.8102	7.336286885
03.1245	Boys school uniform		0.4223	7.424949938
04.4312	Sewerage high cost		0.9036	7.43430494
01.1718	Okra		0.7036	7.434313071
01.1142	Biscuits With Cream		0.8313	7.548683844
09.1411	VCD international movie		0.4557	7.657876561
01.1713	Sweet Potato Leaves		0.85	7.678444992
09.5112	Economics text book		0.5852	7.751020689
01.1714	Lumanda		0.0372	7.884073852
06.2114	Doctors consultation fee		1.1348	7.944277552
04.3119	Steel Door frame - Ordinary		0.6072	7.967573503
09.1312	Personal computer - Pentium 4		1.2302	8.056335493
03.1415	Tailoring charges - dress		1.0837	8.407932169
01.1645	Avocadoes		0.2738	8.432662989
09.3212	Tennis Balls		0.5093	8.571006976
05.6117	Cobra		0.9409	8.5866085
03.2112	Men Shoes imported		2.2433	8.652298812
01.1612	Lemons		0.5619	8.812219568
01.1141	Biscuits Plain		0.8313	8.859374489
05.4132	Cooking pot		1.0568	8.868415358
07.3112	Train Fare Kapiri/Dar		1.0716	8.93626578
09.5111	Dictionary		1.1393	9.050180819
03.2113	Sports shoes		0.7577	9.078983113
01.1733	Tinned Peas 400gm		0.3599	9.270796231
12.5411	Vehicle insurance- Car Insurance		5.9279	9.432659498
05.5214	Hosepipes		0.5729	9.497834882
01.1331	Pilchards Lucky Star		0.8533	9.529047666
02.1321	Shake Shake		1.1337	9.531487858

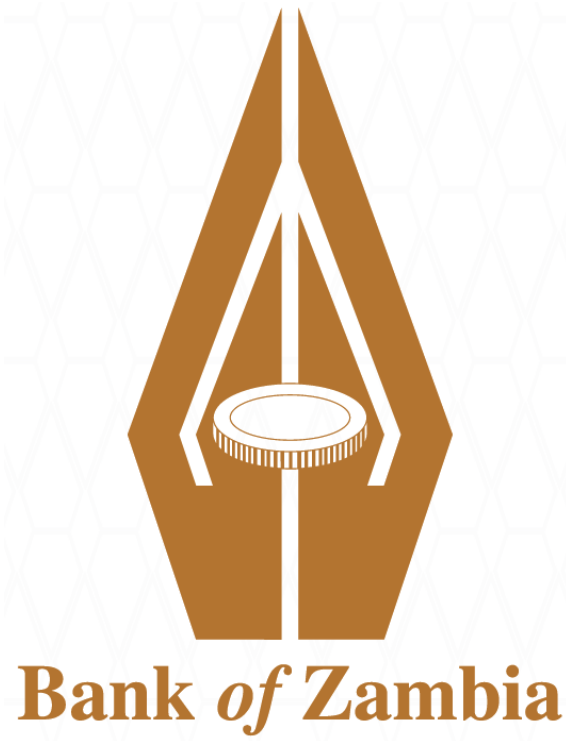
Product code	Description	Product	Weight	Standard Dev
12.3221	Umbrellas		1.0808	9.555983053
07.1121	Purchase of Second hand		3.3029	9.573352919
01.1773	Chikanda Tubers		0.5649	9.611931243
01.1423	Powdered milk		0.6008	9.743888434
12.1324	Toothpaste		1.1519	9.800789738
05.1112	Wooden bed frame		1.1125	9.909160267
03.1221	Ladies Dress Imported		1.1737	10.03422293
03.1251	Girls Dress		1.4144	10.79711697
03.1232	Baby nappies/Terry nappy		1.0579	11.24277063
12.3111	Mens wrist watch		0.8628	11.25517621
07.1311	Bicycle		0.8469	11.39718487
04.5211	Gas (Propane)		1.5847	11.43904315
05.1111	Bed and Matress		1.4529	11.45592879
09.1111	Radio without cassette player		1.5774	11.45689032
03.1213	Men's socks		1.4357	11.57735344
02.1313	Castle Lager		1.7737	11.84988742
01.1521	Margarine		1.9107	11.86109959
03.1243	Boys shirt		1.127	11.94153381
03.1226	Ladies sweater		0.89	11.9868305
05.6123	Matches		1.449	12.01542189
03.1216	Men's Underpants		1.0198	12.05205209
03.2121	Ladies leather shoes		2.0172	12.25419679
10.2112	Secondary Boarding		1.4869	12.33703028
01.1715	Spinach		0.0986	12.36958593
07.2114	Bicycle Tube		1.1832	12.89074243
12.3222	Coffin for an adult		1.4761	13.41704385
05.3131	Stove/cooker		1.4654	13.532627
04.4112	Water charges		2.4517	13.6220553
07.3313	Air fare Lusaka/London		0.4151	13.65127274
01.1611	Oranges		0.6596	13.69776525
09.5411	School Exercise Book		0.9842	13.83749013
05.5217	Batteries radio		1.24	14.03323879
01.1153	Fritters		1.8985	14.05029276
04.3113	Iron sheets		1.1538	14.1385733
07.3311	Air Fare Domestic		0.3325	14.15790705
05.6121	Kiwi Shoe Polish		1.261	14.18847467
02.1322	Chibuku at Tarven		1.8014	14.19546777
02.1311	Mosi		2.1777	14.24794109
07.2113	Bicycle Tyre		0.9534	14.25863337
07.2311	General service		1.0898	14.26832746
11.1111	Nshima with Beef Rest.		1.7269	14.848796
07.2214	Lubricants (brake fluids)		1.4491	14.89561038
01.2121	Tea Leaves Silver		1.1254	14.92626372

Product code	Description	Product	Weight	Standard Dev
03.1231	Baby Suit		1.9553	15.23794937
02.1312	Eagle Lager		2.0497	15.39189391
03.1223	Ladies Half slip		1.3367	15.61677727
10.4111	University fees (UNZA /CBU)		2.2754	15.70154358
01.1772	Cassava roots		0.4012	15.99040138
03.1227	Ladies pants		1.6039	16.04547339
01.1182	Millet		1.029	16.22497377
08.2111	Cell phone hand set		2.2197	16.31355988
09.1121	Television Colour		2.1206	16.32539126
04.4111	Water charges		1.5281	16.37700512
04.1113	Rent low density		7.4681	16.81532033
05.6113	Zamwasher		1.8099	17.03506981
12.1352	Toilet paper		1.4841	17.07075393
01.1313	Fresh Kapenta		1.2553	17.4028703
03.1111	Chitenge material local		2.3872	17.40899946
05.1113	Lounge suit low price		3.1979	17.80661784
05.6212	Gardener, full time monthly		2.0376	18.53347739
03.1254	Girls Pants		1.3412	18.96171966
03.1242	Boys Under pants		1.4482	19.19611657
01.1422	Sour milk		2.0536	20.0261284
01.1221	Offals		1.8428	20.12263943
12.1111	Hair plaiting		2.2429	20.60813777
05.4122	Silver plate		1.8095	20.99309518
03.2123	Tropicals		1.5204	21.36749954
01.1231	Plain Pork Sausages		2.4203	21.61092505
03.1214	Gents two piece suit		2.3314	21.67113028
12.1343	Skin Lotion Intensive care		2.1981	22.02604264
12.3211	Suitcases		2.5152	22.32982031
05.3111	Refrigerator		1.9091	23.18468669
12.1323	Butone		2.2003	23.84216324
03.2141	Girls School Shoes		2.4044	24.00050721
01.1412	Fresh Milk Super Milk		2.4908	24.15736516
01.1171	Wheat Plain Household Flour		2.1091	24.55351268
01.1216	Sausages		2.1612	26.29045004
01.1738	Pumpkin		1.0184	26.55696607
01.1217	Mince Meat		2.2208	26.85583187
03.1241	Boys shorts		3.2004	27.1116927
04.3114	Cement		3.3408	27.13139525
03.1224	Ladies shirts (blouse)		3.0853	27.39286637
05.2114	Foam Matress		3.2076	27.95809792
05.6122	Candles		3.5107	28.04707641
01.1712	Pumpkin Leaves		3.5789	29.40235295
01.1241	Goat Meat		2.2377	30.41945515

Product code	Description	Product	Weight	Standard Dev
01.1181	Cassava meal		4.1449	30.8547233
03.1222	Ladies skirt imported		4.0969	31.60659366
05.2111	Bed sheets		3.5635	31.66424616
02.1323	Maheu		2.8362	31.98154709
01.1183	Sorghum		2.3013	32.23737682
07.1111	Toyota hilux		2.0936	33.00337177
03.2131	Boys School Shoes		2.4348	33.87119154
01.1621	Bananas		2.9082	35.17777137
01.2221	Coke/Sprite/Fanta bottled		5.1061	36.95703554
01.1761	Irish potatoes		4.1655	37.67435843
12.1321	Geisha		4.1391	39.31206941
12.1341	Vaseline petroleum jelly		3.8756	40.71459452
01.1771	Sweet potatoes		4.1566	41.10813197
03.1112	Chitenge material imported		4.3972	41.11864211
01.1232	Pork Chops		3.1387	41.38129183
07.3213	Taxi Fare		3.5126	42.66456815
03.2111	Men Leather Shoes local		3.4216	49.01772959
07.2212	Petrol		3.9975	50.1623148
07.1112	Toyota corolla		3.223	50.20254131
01.1741	Onion		4.7273	50.8058477
01.1172	Bread Flour Imported		2.9467	51.18575524
12.7115	Hammer milling charge		9.0442	51.74781689
03.1211	Mens shirt imported		5.3754	51.90024253
01.1131	Rice Local		5.0422	52.79087038
07.3212	Coach Fare		6.2212	54.26626054
03.1212	Mens trousers Imported		7.9389	54.96801302
03.1225	Ladies Bra		5.9708	55.90634935
05.2112	Blanket		6.6152	57.45290957
01.1511	Butter		2.6711	59.01237376
12.1322	Lifebouy		5.264	63.31683644
07.2211	Diesel		4.7573	63.71718537
01.1461	Eggs		6.6429	64.52456452
01.1739	Maize cobs		1.458	65.35861568
04.1111	Council house rent		11.9437	69.40991815
04.5311	Parafin purchases		5.994	73.22942429
10.2111	Secondary school fees private		9.9677	77.49961879
01.1721	Cabbage		5.8601	79.59225866
10.1111	Primary school fees private		10.8287	80.45807119
07.1114	Nissan Pick Up		2.7647	80.58599365
04.5412	Firewood		5.5315	83.55019626
07.1113	Nissan sunny		4.3382	86.43789494
05.6211	Domestic services		9.3784	90.2365373
01.1211	Fillet Steak		9.6857	91.56299619

Product code	Description	Product	Weight	Standard Dev
01.1214	Mixed Cut		8.8322	98.3661187
01.1743	Mushrooms		1.4496	100.9246407
01.1213	Brisket		8.8628	101.0220176
01.1212	Rump Steak		9.6759	102.7211321
01.1215	T-bone		9.8384	113.8084753
05.6111	Bar soap (Chik)		9.6372	117.9640871
01.1311	Frozen Fish		11.5188	121.4268422
05.6112	Boom		9.9656	121.8956971
01.1324	Dried Kapenta Chisense		13.8923	123.7595246
01.1731	Tomatoes		12.5589	125.8473678
07.3211	Mini Bus Fare		10.454	126.9080353
04.5111	Electricity Tariff R1		15.7672	127.8457034
01.1323	Dried Kapenta Siavonga		13.0551	131.3194413
01.1411	Fresh Milk		11.131	133.6439104
04.5112	Electricity Tariff R2		9.3745	135.2476566
01.1651	Groundnuts		11.5642	139.0663031
01.1261	Chicken Frozen		9.5566	147.8966607
01.1711	Rape		13.1951	149.6226497
01.1911	Table Salt		15.3757	155.0331868
01.1751	Dried beans		14.7545	156.5994655
01.1322	Dried Kapenta Mpulungu		11.6497	174.6132847
01.1151	Bread		16.7469	185.5212401
01.1132	Rice Imported		13.9658	186.1872237
01.1531	Cooking oil Imported		15.6561	187.0696638
01.1312	Buka Buka		11.5514	189.8566211
01.1812	Sugar		14.6439	196.3969548
01.1262	Chicken Live		9.5566	198.3242239
01.1152	Bun		27.7425	214.2569824
01.1811	Sugar		18.4788	220.606575
04.1112	Private house rent		20.0885	222.2390879
01.1532	Cooking oil Local		19.4967	251.6594169
04.5411	Charcoal		19.1505	270.5694284
01.1112	Roller Mealie Meal		16.7726	273.0535001
01.1121	Maize grain		15.9485	279.747001
01.1321	Dried Bream		25.443	330.7256602
01.1111	Breakfast Mealie Meal		32.2623	457.3371866
01.1643	Mangoes		1.3276	2951.703549
04.3112	Asbestos		4.0708	-9.367028408
09.1122	Video cassette player		0.6015	-3.48379894

Excluded items



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