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COMPARATIVE REVIEW OF COST OF LIVING BETWEEN LUSAKA AND COPPER BELT PROVINCES: BUSINESS MODELS FOR ECONOMIC GROWTH

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Abstract

This study was conducted on "*a comparative review of the determinants of the cost of living in Lusaka and Copper-belt provinces.*" The study reviewed the determinants to the cost of living in Zambia as; Climate change, employment freeze, wage freeze, load shading, the price of fuel, exchange rate between kwacha and the US dollar. The study reviewed that the cost of basic food item is low in Lusaka than in Copper-belt province. The study also showed that the cost of non-food items is high in Lusaka than Copper-belt province. In general, the cost of basic food items and the non-food items is high in Lusaka than Copper-belt province. The cost of living in Lusaka and Copper-belt provinces are generally abnormal and high as determined by the identified cost of living risk mode. The identified cost of living risk model is savings S = Household income – Household Expenditure E. The pilot study identified the solutions that will help to reduce and make the cost of living normal and better the living standards of Zambians.

Key words*: Cost of living, Savings, House hold income, and Expenditure*

Back ground

For the past four to five years ago, Zambia has experienced a monotonic increase in the cost of living. Probably, the increase in the cost of living is caused by a number of factors of which some of them among are; employment freeze, wage freeze, load shading, climate change, time in the distribution of famers input support program (FISP) to mention but a few. Therefore, this study seeks to analyze the cost of living in Zambia, Lusaka and Copper-belt provinces. To find the solutions that can help moderate the cost of living in the country.

Among the listed causing factors of the increase in the cost of living, Employment freeze has led to the increase in the unemployment rate more especially among the youths. Each and every year people are graduating, but they are not deployed. They do not have any source of capital to start even a small business for them to make up their living.

A district-to-district *comparative review of the determinants of the cost of living in Lusaka and Copper-belt provinces* pilot survey was carried out by Zambia Research and Development Centre (ZRDC) for making and implement pro-poor policy for poverty reduction purposes. The pilot survey covered data collection of prices of goods and services, housing, domestic service, and transport costs of residents necessary for survival of humanity.

As part of the exercise, a price collection was carried out in all districts of Lusaka and Copper-belt. The residents of various districts of Lusaka and Copper-belt were requested to provide information on their main source of income, main activities, household expenditures, as well as on housing and domestic service.

Expenditure data collection covering monthly and less frequent expenditures on food, clothing and footwear, housing, transportation, health, recreation, education, miscellaneous goods and agriculture input and output was undertaken in August, 2016 in eight districts of Lusaka province and ten districts of Copper-belt province.

According to Sinyenga (2016) much of the development policies and programs for the country are articulated in terms of poverty reduction strategies. Government has been undertaking poverty assessments using the Living Conditions Monitoring Surveys (LCMS). So far seven surveys have been undertaken. The main objective of the LCMS is to monitor and highlight the living conditions of the population of Zambia. Mostly LCMS includes the following specific objectives are among others: Monitor the impact of government policies on the wellbeing of the Zambian population, Monitor the level of poverty and its distribution in Zambia, provide various users with a set of reliable indicators against which to monitor development, and Identify vulnerable groups in society and enhance targeting in policy implementation.

1.13 Problem Statement

The Climate change, Employment freeze, Wage freeze, Retirement age, Road shading, exchange rate between kwacha and the US dollar and the price of fuel have are the key determinants among others to the cost of living direct and indirect in Zambia. The essentials of the human beings which includes, food staffs and shelter have become expensive. Life has become very expensive especially in the urban areas of Zambia such as Lusaka and Copper-belt provinces. Therefore, the pilot study seeks to review the effects of the key determinants of the cost of living in order to find solutions to improve the living standards of the Zambians.

1.2. Aim/purpose

The main aim of the study is to review the effects of Climate change, the employment freeze, wage

freeze, retirement age, road shading, the price of fuel, exchange rate between kwacha and the US dollar on the cost of living to improve the living standards of the Zambian people

The Specific Objectives

1. To establish the factors that affects the cost of living in Zambia.
2. To analyze the cost of living in Lusaka and copper belt provinces.
3. To suggest the solutions that can help to moderate or make the cost of living normal in Zambia.

Significance of the study

This study will help the policy makers, the government and other stake holders to have a clear picture on the effects of Climate change, the employment freeze, wage freeze, retirement age, road shading, the price of fuel, exchange rate between kwacha and the US dollar on the cost of living.

Methodology

The study was a case study design which was conducted in all districts of Lusaka province and the districts of Copper-belt province with 110 and 88 sample sizes respectively. The study took both qualitative and quantitative approaches from the data collection up to the final report.

3.12. Data collection and treatments

Primary data collection was carried out by researchers and research assistants that were selected by the researchers of the pilot survey. The data collection covered the randomly households located in eight districts of Lusaka province and ten districts of Copper-belt province. As a general rule, only prices of goods and services available in the outlets at the time of the visit by the research assistants were collected. The researchers also collect data on public transportation fares, heath charges and tuition fees.

The Data was collected from both the rural areas and urban areas of the districts of Lusaka and Copper-belt provinces. Specifically, data was collected from the households and some institutions and firms such as Central Statistical Office (CSO), Jesuits Centre for Theological Reflection (JCTR). Qualitative and quantitative data was collected using questionnaires.

3.13. Sample size

Each district of Lusaka province was sampled 11 questionnaires, making it 88 questionnaires for Lusaka province and 106 with 0.003% and 0.005% sampling intensities for Copper-belt province respectively. Stratified random sampling was employed to come up with the sample size since the pilot study followed the districts and their townships of Lusaka and Copper-belt provinces. Each district had a sample size of 11 households which was sample randomly. Since we have 8 districts in Lusaka and 10 districts from Copper-belt provinces as shown on the map below, then, the sample size for the pilot study was be 198 households for entire Lusaka and Copper-belt provinces. 88 questionnaires were answered for Lusaka province and 106 for Copper-belt provinces making it 194 sample size used in the analysis.

3.14. Data Processing

Data was processed and analyzed in both qualitative and quantitative approaches. Statistics techniques were employed in data processing and analysis.

3.15. Data Validation

Data validation started with ethical issues in the process of data collection. This is to assure the respondents that the information they gave out was used only for research purposes.

3.16. Dissemination and Publication Strategy

The final report will be presented in Workshops/Conferences for criticism and publication.

3.17. Average prices

Average prices were calculated for each item as simple arithmetic averages.

3.18. Surveys

The data collection process for housing and domestic service costs and household expenditures involved the use of questionnaires in Lusaka and Copper-belt provinces.

3.19. Survey results

A summary of the relationship between the cost-of-living in Lusaka and Copper-belt was derived and shown.

3.20. Implementation

The implementation will be undertaken based on the survey results.

Results

	Lusaka		Coper-Belt	
Factors	**Yes**	**No**	**Yes**	**No**
US dollar exchange rate	81.82 %	18.18 %	90.57 %	9.43 %
Wage freeze	34.09 %	65.91 %	68.87 %	31.13 %
Employment freeze	48.86 %	51.14 %	66.98	33.02 %
Climate Change	60.23 %	39.77 %	12.26 %	87.74 %
Load-shading	59.09 %	40.91 %	56.60 %	43.4
Total	100%	100%	100%	100%

4.11. US dollar exchange rate in Lusaka and Copper-belt province

According to the respondents of the two provinces, US dollar exchange rate is one of the main factors which have affected cost of living in the two provinces as shown in the table above. The majority of the respondents from both provinces said that the US dollar exchange rate has led to the increase of prices of goods and commodities necessary for the survival of humanity. The prices of the commodities have increased while the wages and salaries have of the residents working remains constant.

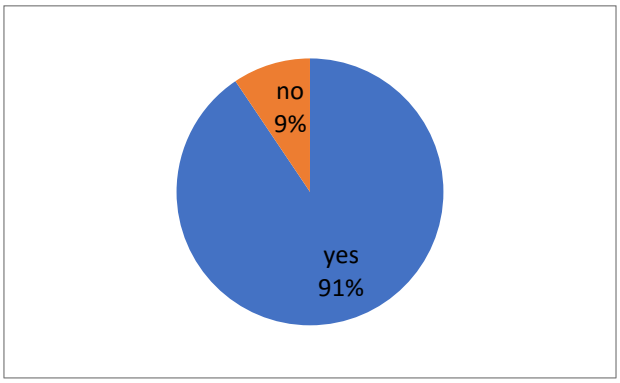
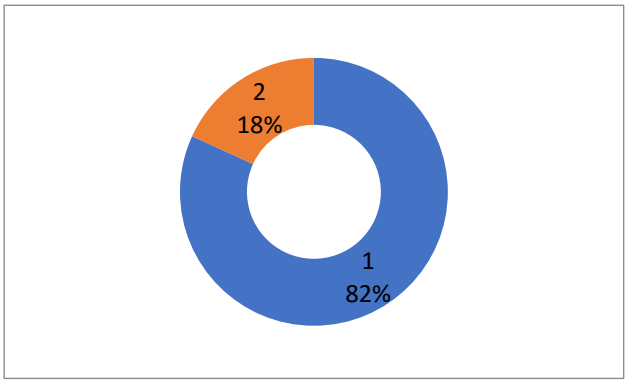


Figure C4.1: US dollar exchange rate in Lusaka Copper-belt

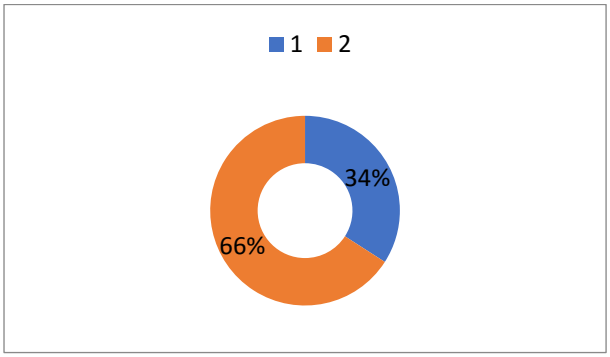
Figures L4.1 shows the responses in the table and the chats on Lusaka province respondents about the US dollar exchange rate. Out of 88 respondents, 72 representing 81.82% respondents said US dollar exchange rate have led to high cost of living in Lusaka province. Respondents argued that, the prices of the commodities necessary to human survival are too high. This has increased the cost of living and poverty levels in the province. And out of 88 respondents, only 16 representing 18.18% said they are not affected by the US dollar exchange rate. The respondents said they depend much on their own crops they produce for food. This also showed lack of understanding what it means US dollar exchange rate by the typical rural area residents.



Figures C4.1 above shows the summary tabulation of the responses on whether US dollar exchange rate have influenced cost of living in Copper-belt province. The table above shows that 96 out of 106 respondents representing 90.57% said US dollar exchange rate have led to high cost of living in the province. 90.57% respondents said that the prices of the commodities necessary for making a living of human being are too high. A 25killogram of breakfast mile meal was reported to be in a range of k85 to k95. Only 10 out of 106 respondents representing 9.43% said US dollar exchange rate is not affecting the cost of living at all.

4.13. Wage freeze in Lusaka Province

Wage freeze has highly contributed to the uplifting of the cost of living in almost all the districts of Lusaka and Copper-belt province. The respondents viewed that the wage freeze hardly affected them with the increase of the prices due to the exchange rate of the US dollar of the commodities necessary for the survival of humanity.



Figures L4.2: Wage freeze in Lusaka

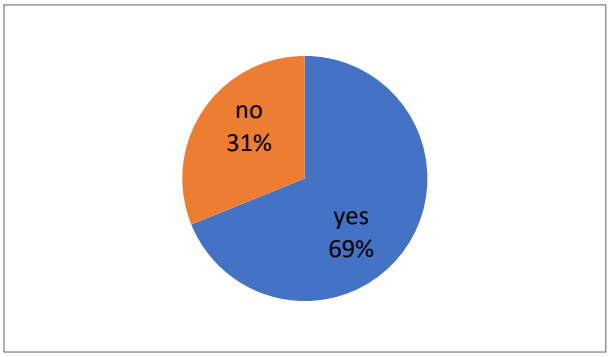


Figure C4.2: Wage freeze in Copper-belt

Figures L4.2 above shows the table and the doughnut with summary responses about how wage freeze in Lusaka province has affected the cost of living and poverty levels. Out of 88 respondents, only 30 respondents representing 34.09% said wage freeze affected the cost of living. Most of these respondents are civil servants. About 58 out of 88 respondents represented by 65.91% said wage freeze has not affected their cost of living. This is because these respondents are not civil servants and they are not affected by the wage freeze.

4.14. Wage freeze in Copper-belt province

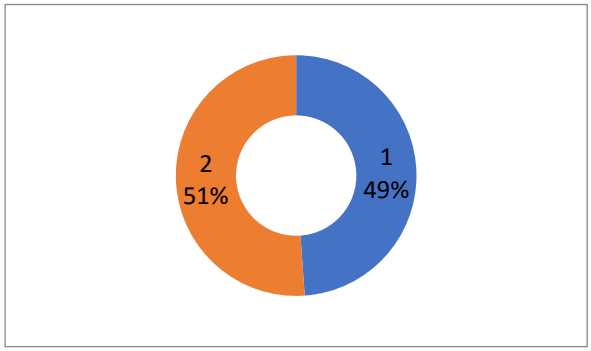
Figure C4.2 above shows the pie of the tabulation of the responses and views of the Copper-belt residents about the effect of wage freeze to the cost of living.

The table and the pie chart above shows the responses of the Copper-belt residents about the how wage freeze hove affected their cost of living in the province. 73 out of 106 respondents represented by 68.87% said wage freeze has affected their cost of living. The majority said their wages, salaries as well as incomes are constant while the prices of the necessary commodities for the survival of human beings are very high. They said they are finding it difficult to survive because the prices of the necessary commodities such as mile meal, sugar, kapenta,

milk, clothes, charcoal to mention but a few. 33 out of 106 respondents represented by 31.13% wage freeze have not affected their cost of living. The agued based on what they do for them to make a living which is farming. According to them, the only thing that affects their cost of living is insufficient of the agricultural inputs due to the high prices.

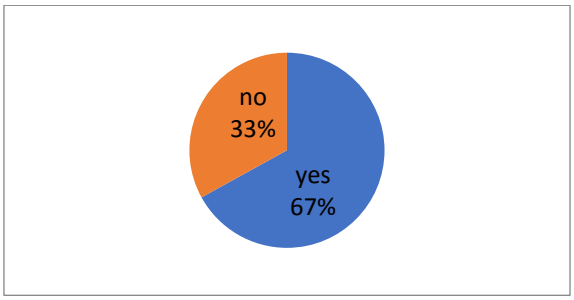
4.15. Employment freeze in Lusaka province

Lack of employment is a major challenge in Zambia, especially among Zambian yours. Lack of employment has contributed the increase of cost of living in Zambia as shown in the table and doughnut below.



Figures L4.3: Employment Freeze in Lusaka

Figures L4.3 shows the responses of responses on how Employment Freeze has affected the cost of living in the districts of Lusaka province. 43 out of 88 respondents represented by 48.86% said employment freeze has affected the cost of living in the province. They said each and every year, students are graduating from various institutions, but they can't find employment. Respondents also said that retirement age have contributed a lot to poverty and high cost of living. 45 out 88 respondents representing 51.14% said they are not affected with employment freeze. The respondents argued that, they depend of farming and others are in employment.



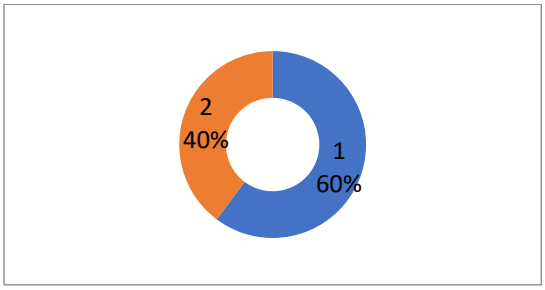
Figures C4.3: Employment Freeze in Copper-belt

An employment freeze is one of the main factors that have affected the cost of living on in Copper-belt province as shown in the table and pie-Chart above.

The table and the pie chart above show that 71 out of 106 respondents representing 66.98% of the respondents said employment freeze has affected the cost of living in Copper-belt province. The respondents argued that people are graduating each and every year but they are not deployed to the labor force. This has increased a high number of dependents in the house holds and the high number of the unemployed youths. Only 35 out of 106 respondents represented by 32.02% said employment freeze has not affected the cost of living. They argued based on lack of knowledge or not being leaned for them to be employed. Their main desire is to produce more in farming but they are un-able due to lack of inputs and equipment.

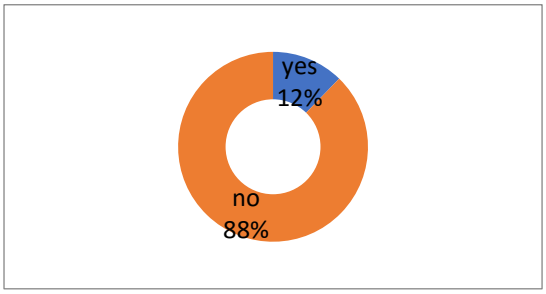
4.17. Climate Change in Lusaka province

Climate change has brought more harm than good in Zambia; poor yields in by the small-scale farmers were recorded. Lack of water in some parts of the country has persisted which has leady to poor production of fruits and vegetables.



Figures L4.4: Climate change in Lusaka

Figures C4.4 above, shows how climate change have affected cost of living in the Districts of Lusaka province. 55 out 88 respondents representing 60.23% said climate change have led to the high cost of living in Lusaka province. The power supply by ZESCO was disturbed which has affected the production by the manufacturer companies, hence high prices of the commodities necessary for humanity survival.



Figures C4.4: Climate change in Copper-belt

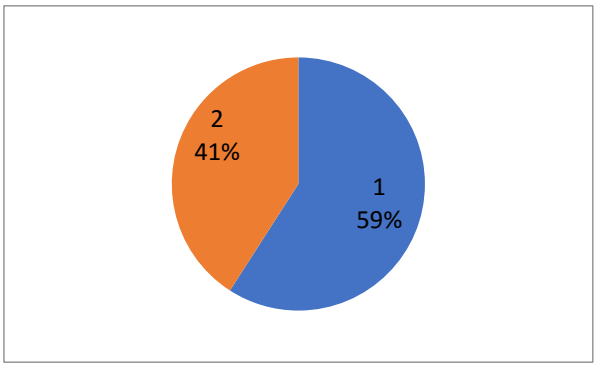
4.18. Climate change in Copper-belt province

Among the factors that have affected cost of living in Zambia, climate change is one of them. It was found that, in Copper-belt climate change have not affected the cost of living very much as shown in the table and the Doughnut below.

The table and the doughnut above shows that 13 out of 106 respondents represented by 12.26% said they are affected by the climate change in Copper-belt provinces. And 93 out of 106 respondents represented by 87.74% were not affected by the climate change in Copper-belt provinces. The explanation is that Copper-belt is said to be near the equatorial forest were rains are all year round. The other reason is that agriculture is not highly practiced in Copper-belt province and only a small population of the province depends on agriculture.

4.19. Load-shading in Lusaka Province

Load shading has highly contributed to the cost of ling in the urban areas of Lusaka province. The productions by the small entrepreneurs such as welders and so on have been affected.

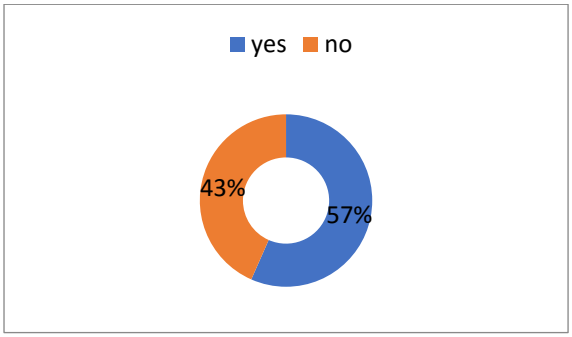


Figures L4.5: Load-shading in Lusaka

Figures L4.5 above shows how load shading has affected the cost of living in the district of Lusaka province. 52 out 88 respondents representing 59.09% said load shading have increased the cost of living in the province. The respondents argued that, production has been really disturbed which has led to high prices of the goods. Only 36 respondents said they are not affected by load shading. They argued based on lack of electricity the rural area. Some of them use solar, generators and so on to generate power.

Load-shading in Copper-belt Province

Load-shading has been a challenge for the past two years now in Zambia. The table and the doughnut below show the summary responses of the household's load-shading experience in Copper-belt province.



Figures C4.5: Load-shading in Copper-belt

The figures 4.5 above shows the household load-shading experience in Copper-belt province. 60 out of 106 household representing 56.60% respondents said they experience loading for four hours every day. Some small entrepreneurs said their production was highly affected. Those entrepreneurs that are into metal fabrication are the ones that are highly affected with the load-shading. 46 out of 106 households representing 43.40% respondent I Copper-belt province does not experience load-shading. These are households that are close to the mining company pits and other manufacturing industries that always need the presence power for them to operate.

4.20. Analyze the cost of living in Lusaka and copper belt provinces

4.21 Some other additional costs on non-food items

	Lusaka Province		Copper-belt province	
Items	**Costs**	**Average Costs/Month**	**Costs**	**average Costs/Month**
Clothing	K250-K500	K375	150-k200	K175
Transport	k5-k60	K975	k25-k30	K825
Electricity	100-300	K200	k50-k300	K175
Water	k50-k300	K175	k50-k500	K275
Charcoal	k50-k250	K150	k100-k300	K200
Rent	k500-k5 000	K2 750	k500-k2 000	K1 250
Private school fees 1-7	k500-k5 000	K916.67	k500-k2 000	K416.67
Public school fees 1-7	k0	K0	k0	K0
private school fees 8-12	k600-k5 000	K933.33	k500-k3 000	K583.33
public school fees 8-12	k500-k3 000	K583.33	k500-k1 500	K333.33
private tetially fees	k1000-k5 000	K1000	k1 000-k2 000	K500
public tetially fees	k1000-k5 000	K1000	k2 000-k4 000	K1 000
Total expense		**K6 308.33**		**K5 733.33**

Figure 4.22: costs on non-food items

Figure 4.22 above shows the results of the costs on non-food items in Lusaka and Copper-belt provinces. The analytical results in the table above shows that the averages costs of non-food items in Lusaka province are high recorded at **K6 308.33** as compared to **K5 733.33** in Copper-belt province.

4.22. *Total averages Comparison costs of basic food items and non-food items in Lusaka and copper-belt provinces*

	Lusaka Province	Copper-belt province
Cost of basic food items for a family of five	K1 102.57	K1 429.69
costs on non-food items	K6 308.33	K5733.33
Total Average costs/expense	**K7 410.90**	**K7 163.02**

Figure 4.23: Comparison costs of basic food items and non-food items

Figure 4.23: Comparison costs of basic food items and non-food items

Figure 4.23 above shows the monthly Comparison costs of basic food items and non-food items in Lusaka and copper-belt provinces. The statistics results shows that Cost of basic food items for a family of five in Lusaka province is K1 102.57 and it is low compared to Copper-belt province recorded K1 429.69. The statistics results also shows that the costs on non-food items in Lusaka province is K6 308.33and it is high compared to Copper-belt province recorded at K5733.33. Adding the costs of basic food items for a family of five and non-food items, the cost of living in Lusaka province is high recorded at **K7 410.90** as compared to Copper-belt province recorded at **K7 163.02.**

4.23. Identification of the cost of living risk model

The risk reserve model is given by

$$S = \mu + Y - E$$

Where S is the surplus or reserves, μ is the initial capital of the household, Y is the income of the households, and E is the expenditure of the household. The risk reserve model is called the Cramer-Lundberg model if the claim number process is specified as the homogeneous Poisson process which combines the claim sizes and the arrival times in the insurance context.

If the initial capital μ is not considered then the risk model is called the General risk model written as;

$$S = Y - E$$

Since the households depends on the household's income Y as the main income, and it meets all the household expenditure, then the difference between the Household income and the household expenditure is called the surplus or reserves. It can be written as

$$S = Y–E$$

The higher the surplus or reserves of household, the normal the cost of living of the households in the country. But surplus S depends on the household income Y and the household expenditure E, Cost of living C can be measured or determined by the surplus or reserves S of the households.

Let cost of living C be equal to surplus S of the households, then we can say that cost of living is equal to income Y minus Expenditure of the household and it can be written as;

$$\text{Cost of living} = \text{Income} - \text{Expenditure}$$

$$C = Y - E$$

Therefore, the higher the reserves or surplus, the normal the cost of living of the households in the country. And if the surplus S/reserves of the household monotonically increasing over time, then the household's cost of living will be highly normal and attract more new investiments. That is,

$$S = Y –E$$

In other words, the model above tells us that the cost of living of the households in a country can be measured or determined by the level of risks the households in the country are incurring. Now that the risk model has been developed, it will be applied to Lusaka and Copper-belt provinces.

Application and statistical analysis of the developed cost of living risk model

The cost of living risk model was used to determine and compare the surplus S using the primary monthly data collected from Lusaka and Copper-belt province. The table below was produced by the developed cost of living risk model;

	Average household Income Y	Average Household Expenditure E	Surplus/reserves S/C
Lusaka province	K2 076.70	K7 410.90	-K5 334.20
Copper-belt Province	K1 865.57	K7 163.02	-K5 297.45

Figure 4.24: results of Cost of living risk Model

Figure 4.24 above shows the results obtained from the cost of living risk model. The results shows that on average, the households of Lusaka province generates K2 076.70 household income and spends K7 410.90 on basic food items and non-food items. The difference between the household income and the household expenditure for Lusaka province is -K5 334.20 which means the cost of living is high and abnormal. It always leads into debts, borrowing and no saving. Further, the results show that on average, the households of Copper-belt province generate K1 865.57 household income and spend K7 163.02on basic food items and non-food items. The difference between the household income and the household expenditure for Copper-belt province is -K5 297.45which means the cost of living is high and abnormal in the province. It always leads into debts, borrowing and no saving as well.

Solutions to moderate or making the cost of living normal in Zambia

Support and sensitization of entrepreneurship projects to the communities. Give full support to the small-scale farmers in the country. Support the use of technology to improve production of entrepreneurs. Distribute the faming inputs by the farming input support program early to the small-scale farmers. Drill boholes in areas where there is water challenges in order to support small entrepreneurship projects such as garden, chicken run, poetry, and so own. Change the mind set of learners from learn to acquire knowledge and be employed to lean and acquire knowledge to be an entrepreneur in society.

Main Learning outcome

Cost of living in Zambia is abnormal or to high as shown in figure 4.24 above. From the analysis above, the costs or expenditures on the basic food items for a family of 5 in low in Lusaka than in copper-belt provinces. And the costs of non-food items are high in Lusaka than in copper-belt provinces.

For a given household to manage its cost of living, its reserves should always positive and monotonically increasing. Whenever the household reserves are negative, then, the cost of living to that house hold is abnormal or high. No savings or investments can be done in that household.

The high the surplus of household, the normal the cost of living in that household. This means the household can save and invest more in various projects. When surplus is increasing, savings and investments increases as well. But, when the surplus decreases to the negative, then the cost of living is abnormal and no savings or investing can be done by that house hold but just debts.

On average, the cost of living is high and abnormal in Zambia since the results from the

cost of living risk model shows that the reserves are always negative.

5.3 Challenges Encountered

During data collection, the following challenges were encountered:

1. It was difficult to collect data from the households because of un-civilization on various individuals in rural areas.
2. The researcher also experienced financial insufficient during data collection due to distances across the districts but, thankfully, this was the main challenge that was faced during data collection for this research to be successful.
3. It was a challenge to finish in time during the data processing, analysis and report writing due to other organizational programs such as residential.

5.4 Conclusion

In conclusion, the model to determine and compare the cost of living between Lusaka and Copper-belt was identified. The model was formulated based on the classical risk model or surplus model and the general risk model. The model can help various households and the county to monitor its financial status in terms of cost of living. It can also help to determine the level at which the household can begin to save and invest. The identified model is stated as surplus = household income – expenditure. The model shows that household income plays a very important role in cost of living modeling. This model does not care about the initial capital of the household. In other words, it is a memory less model on the initial capital of the household.

5.5 Recommendations

1. The government should support entrepreneurship mind set in society
2. Agriculture should be highly supported and appreciated in Zambia
3. Creation of employment should be high looked at in Zambia
4. The removal of subsidies on agriculture should be revisited.
5. Entrepreneurship should be supported and encourage in Zambia.

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