

Effect of Covid-19 Lockdown on Household Income in Uganda A Case Study of Kitoro Parish, Entebbe Municipality

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Abstract: *The study investigated how the lockdown affected Ugandan residents' capacity to pay their bills using Kitoro Parish in Entebbe as a case study. The study was designed to answer three questions: what effect the work stoppage had on food security; what effect the lockdown had on the labour force participation of family heads; and what effect the shutdown had on preferred health service providers. A selection of the population sample was used in the study, which used a bridge research approach. Of this survey respondents, 66.67% were men and 33.33% were women. The original study objective research results using a Probit model showed that each and every meal a family was able to purchase during the clampdown was moving that residence away from the undesirable welfare of the general society by 0.06 times; similarly, cutting a family's head of typical household salary and leaving it alone were both moving that family toward the undesirable welfare of the broader society by orders of magnitude of 1.99 and 1.90, respectively. Despite the likelihood of the F-Statistic (0.05) being less than the 0.05 cutoff, the Probit model essentially demonstrated that the fit was statistically relevant. According to the research, authorities should establish national food palaces, and individuals can improve their own food security by pursuing practical training, which is what this article is aiming to do by reducing the likelihood that they will lose their jobs. Last but not least, the government should provide all infrastructure needed in public hospitals because this is where less fortunate individuals who are affected by situations like the clampdown may access healthcare.*

Keywords: covid-19 lockdown and household income

Background of the Study

The term Corona Virus Disease 2019 is referred to as Covid-19.

This new coronavirus strain causes a contagious chest infection that people can catch from each other by sneezing or coughing and releasing airborne particles.

Moreover, it spreads by touch with malicious surfaces (Africa CDC, 2020).

Globally, people's online, economic, political, and intellectual affairs have been impacted by the tremendous changes to how things work today and the extent to which certain activities no longer exist, having an effect on families' income.

People have been compelled to save money as a result of shop and activity restrictions, telecommuting guidance, and other restrictions on where they can spend their money. According to credit and debit card data, individuals in Great Britain reportedly spent 11% less altogether since the pandemic began in March 2020. (Magrini & Sells, 2021).

Recent socioeconomic growth predictions for the second quarter of 2020 have verified the remarkable impact of COVID-19 on economic growth.

The gain (or decrease) in absolute HDI during the second quarter of 2020 was quite diverse, according to results for eight large economies (OECD, 2020).

The pandemic, according to the UN, exposes systemic imbalances in every sector, from health to the economics, security to social protection, as well as society's reliance on women in the home as well as along lines.

Problem Statement

Uganda's economy has been significantly impacted by the COVID-19 outbreak. Governments all over the world, including Uganda, have enacted lockdown restrictions in an effort to stop the virus's transmission, which has had a huge effect on families and their incomes. The lockdown restrictions in Uganda have interfered with individuals' regular economic operations, resulting in a decrease in revenue and a rise in the rate of poverty. This issue statement uses Kitoko Parish in Entebbe Municipality as a case study to examine the impact of the COVID-19 lockout on average earnings in Uganda. The study looked at a number of factors, including as employment losses, market access issues, and rising costs for necessities, that have had an impact on household incomes during the lockdown.

Specific Objectives

The study was guided by the following specific objectives;

1. To determine the effect of the Lockdown on Food Security
2. To investigate the effect of the Lockdown on Employment Status of family heads.
3. To find out the effect the lockdown on choice health service provider

Research Hypothesis.

H_{01} : The lockdown does not have an effect on food security.

H_{02} : The lockdown has no have an impact on employment status of family heads.

H_{03} : The lockdown does not influence the choices of households on health service provider.

Methodology

Research Design

This design has been chosen since this collects data from multiple sources about current affairs in the fields of statistics and economics.

The study used a descriptive research research methodologies in order to particularly gather data concerning the effect of Covid-19 on average earnings.

To answer questions about the current state of the impact on the study, data needed to be gathered.

Study Population

The Entebbe Town Council and Wakiso district were the focus of the study because it is one of the areas where poverty and economic disaster have been felt most acutely.

Notwithstanding, a few community committee members were also picked to serve as crucial sources.

In order to reduce the possibility of bias based on sex or gender, the study made an effort to include both male and female respondents in the survey.

Sample Size

With the population being stratified, and given a sample size, n , probability of success, P , the critical value, Z_{α} , the sample was obtained from the formula for margin of error, ME , given by;

$$ME = Z_{\alpha} \times \sqrt{\frac{p(1-p)}{n}} \Rightarrow$$

$$\left(\frac{ME}{Z_{\alpha}}\right)^2 = \frac{p(1-p)}{n}$$

Where p is the probability of success that the individual selected has experienced a fall in income due to the lockdown?

Noting that the margin of error for a sample between 53 – 61 with a 95% level of confidence is 13% (0.13), so,

$$\left(\frac{ME}{Z_{\alpha}}\right)^2 = \frac{0.13}{1.96} = 0.0042$$

$$= 0.0042, \text{ therefore, } \frac{p(1-p)}{n} = 0.0042$$

$$n = \frac{0.5(1 - 0.5)}{0.0042} = 59.52 \approx 60$$

Therefore, by reversing the formula; Respondents.

Table 1 Showing the target population

Target population	Number of respondents
Male	40
Female	20
Total	60

Source: Primary Data 2022

Sample Techniques

Stratified Random Sampling

Data were gathered by the researcher using questionnaires and interviews. The conversations assisted in gathering information from those who had limited reading and writing skills. Those who responded to self-administered surveys were expected to at least have some schooling and be able to read and write (such as the local council leaders).

Data Management and Analysis

The majority of the data was classified, so descriptive analysis was used to analyze it.

Additionally, a correlation analysis was performed to see if there was a relationship between the categorical data.

The process of carefully analyzing data obtained whilst also they were still inside the indicator is known as data explanation.

This was done to make it easier for the research scientist to spot mistakes and exclusions.

The following were the main steps in both data preparation and analysis.

RESULTS

Demographic Characterization of Respondents

The demographic characteristics are the attributes that define the nature of individuals in society or study population. During the study, some demographic characteristics were captured such as sex, age (and age groups were formed), and level of education of the study participants.

Sex of the Respondents

The study involved both male and female respondents and their proportional representation are depicted below

Table 1 Characterization of the Study Population by Sex

Sex	Frequency	Percentage
Male	40	66.67%
Female	20	33.33%
Total	60	100%

Source; Primary data, (2022)

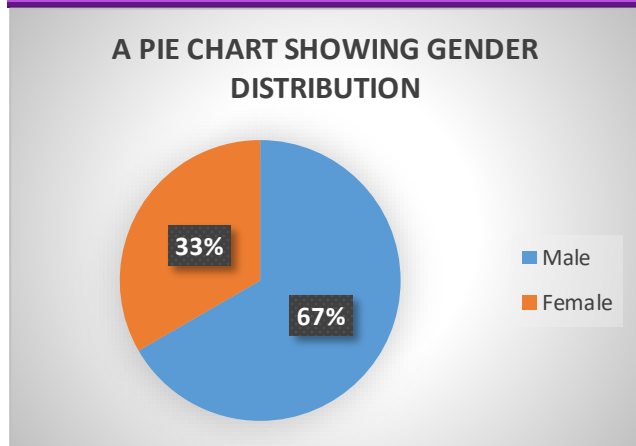


Fig 1 Shows Gender distribution

Table 1 and Fig. 1 show that male respondents (66.67 percent) exceeded the female respondents (33.33 percent). This implies that male respondents were more concerned about this study of the effect of Covid-19 lockdown on household incomes than their counterparts.

Level of Education of Respondents

The respondents were asked to respond to the question of Education level, indicating primary, secondary, tertiary, or none. The findings were presented below;

Table 2: Education Level of Respondents

Education Level	Frequency	Percentage
None	10	16.67%
Primary	15	25.00%
Secondary	20	33.33%
Tertiary	15	25.00%
Total	60	100.00%

Source; primary data, (2022)

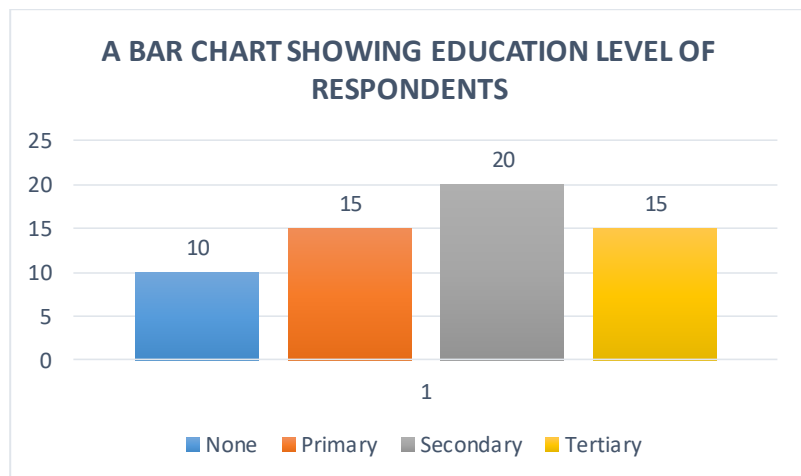


Fig 2 Showing Education level of Respondents.

From Table 2 and Fig 2 above, shows that majority of the respondents had dropped out of school at secondary level (33.33%), followed by tertiary and primary (25%), and then those who had not gone to school completely (16.67%). This implies that the researcher was able to get representative responses since the participants were of varying education background. The fact that 33.33% and another 25.00% of the respondents had attended secondary, or tertiary institutions, these are able to provide more intuitive information about the effect of the lockdown on the income of households.

Age of the Respondents

The study involved categorized age of the respondents and their proportional representation are depicted below.

Table 3: Characterization of the Study Population by Age

Age	Frequency	Percentage (%)
Below 20 Years	5	8.33
Between 21-30 yrs.	30	50
Between 31-40 yrs.	15	25
Above 40 yrs.	10	16.67
Total	60	100

Source; primary data, (2022)

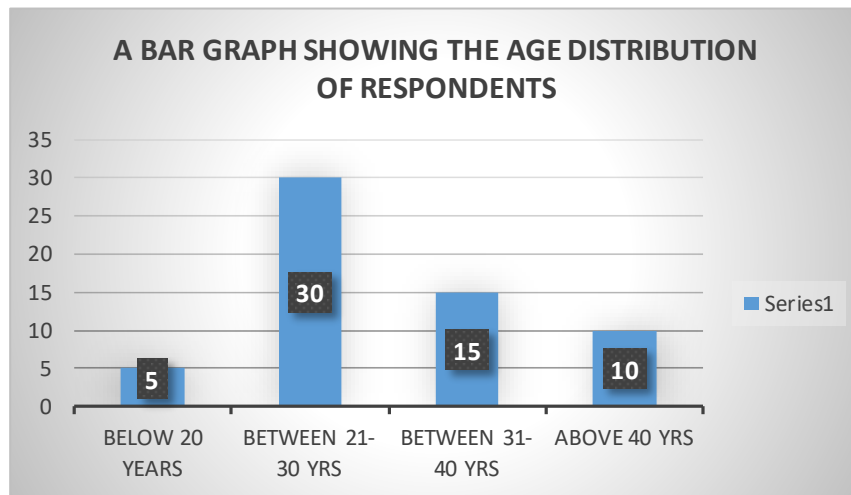


Fig 3 showing age distribution of respondent

Table 3 and Fig 3 show that age of the respondents between 21-30 Years exceeds others by (50 Percent). This implies that those aged between 21–30 Years of respondents were more concerned about this particular study than others. At the same time, there was minimization of possible biases and discrimination based on age during the selection of study participants.

Marital Status of the Respondents

The study involved categorized marital status of the respondents and their proportional representation are depicted below.

Table 4: Characterization of the Study Population by Marital Status

Age	Frequency	Percentage (%)
Single	10	16.67
Married	40	66.67
Divorced	5	8.33
Widowed	5	8.33
Total	60	100

Source; primary data, (2022)

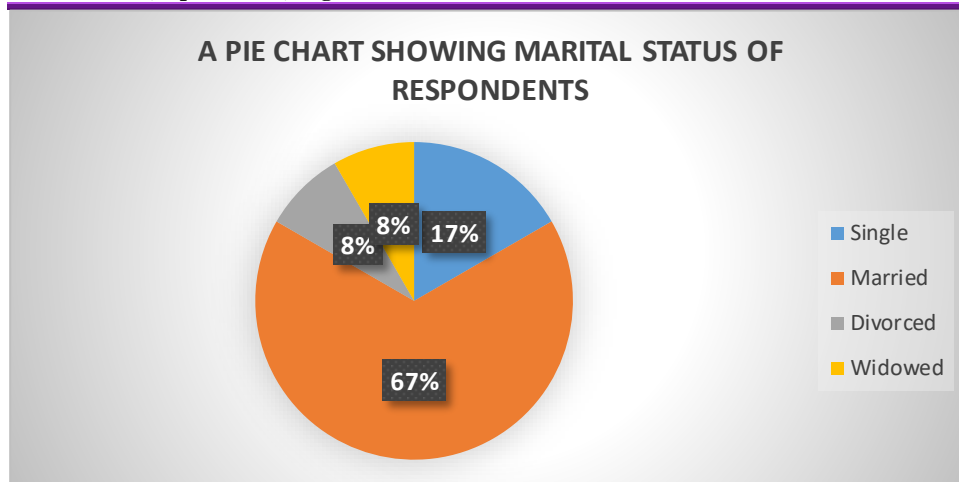


Fig. 4 showing the category of marital status of the respondents

Table 4 and Fig 4 show that those respondents who are married exceed others by (66.67 Percent). This implies that respondents who are married were more concerned about this particular study than others. At the same time, there was minimization of possible biases and discrimination based on marital status during the selection of study participants.

Objective Analysis of the Study Findings

Table 5: Probit Model Summary

Iteration 0: log likelihood = -29.150308						
Iteration 1: log likelihood = -29.140819						
Iteration 3: log likelihood = -29.140818						
Multinomial Probit regression				Number of obs = 60		
Log likelihood = -29.140818				Wald chi2 (5) = 11.02		
				Prob > chi2 = 0.0500		
LYS	Coef.	Std. Err	z	P > z	95% Conf. Interval	
Affected	(base outcome)					
Not Affected						
LFS	-0.0606	0.3799	-0.16	0.873	-0.8053	0.6841
LES						
1	1.9924	0.6886	2.89	0.004	0.6428	3.3420
2	1.9052	0.6958	2.74	0.006	0.5416	3.2689
LMS						
1	0.7438	0.6302	1.18	0.238	-0.4914	1.9790
2	0.3128	0.6866	0.46	0.649	-1.0330	1.6586
Constant	-2.3284	0.9368	-2.49	0.013	-4.1645	-0.4923

Source; primary data, (2022)

General Interpretations

The iteration log likelihood (-29.140818) in Table 5 is a metric that is typically helpful in nested model scenarios. Nevertheless, in our scenario, we only have one model and are not checking for underfitting, so interpreting the iteration log is not necessary. Instead, it demonstrates to us clearly that the researcher employed a Probit model as intended, since it would not have done otherwise.

The number of data points is in agreement with the size of our field sample (60), which indicates that there are no missing data (100 percent response rate).

Our model as a whole is statically important, meaning that it fits considerably better than a model with no predictors, according to the Wald chi-square of 11.02 and a p-value of 0.05.

Effect of the Lockdown on Food Security and Household Income

Table 5 reveals that the Lockdown Food Security (LFS) coefficient is -0.06. This suggests that a significant increase in the amount of breakfasts a family consumes each day lowers the z-score by 0.06 points. The more meals a family was able to afford each day while under lockdown was a sign of wealthier living, and that family's income was less or unaffected, suggesting that any supplemental rise in the amount of meals a family was able to obtain each day during the clampdown was trying to push this relatives away from the overall community's well-being.

Effect of the Lockdown on Employment Status of Family Heads and Household Income

The codes for the Lockdown Labour Force participation (LES) were 0, 1, and 2. Hence, rank 0 served as the reference group for LES (lost job).

Table 5 demonstrates that the correlations for Lockdown Labour Force participation (LES) are both positive, at 1.99 and 1.90, respectively, for salaries that have been reduced by 50% and those that have not. According to these figures, a family head's wage being reduced by 50% (rank 1) rather than fully laid off (rank 0) raises the z-score by 1.99. In other terms, a family like this is propelled toward the general welfare of the community as a whole.

Effect the Lockdown on Choice of Health Service Provider and Household Income

According to Table 5, the coefficients for Quarantine Medical Status (LMS) are 0.74 and 0.31, respectively, depending on whether a family chooses to receive medical treatment at a private hospital or a public health institution. According to the statistics, visiting a private clinic (rank 1) or a public health facility (rank 2) increases the z-score by 0.74 and 0.31 points, respectively, comparing to visiting a private health center III or IV (rank 0). In other words, a family like this is propelled toward the general welfare of the community as a whole.

Conclusions

The study on the lockdown's effects on employment status discovered that both cases—cutting a family head's wage and not reducing salary—pushed that household toward the welfare of the broader group (which was undesirable during the lockdown). The fact that in April 2020, the unemployment rate rose to 14.8 percent, the highest percentage recorded since information gathering began in 1948, is evidence that the epidemic had a substantial impact on labor market measures for every state, economic sector, and core demographic group, according to CRS (2020).

Recommendations

The government should set up national food farmlands to help prevent starvation during times of insurrection and other natural disasters, the researchers suggested in light of the study's findings. In order to ensure that their capacity for surviving hunger is not jeopardized by situations like the lockdown, people need also learn to use their villages and to cultivate adequate food for storage.

- ii. The issue of technical education, which has been raised for a long time by numerous economic players, needs to be put into practice. Parents should promote self-employment and enroll their kids in programs that support it so that more individuals can work from home and avoid getting laid off during uprisings.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

SECTION A: Student Introduction & Statement of Consent

Dear respondent, my name is Otwari Dominic Oromo, a student of Kyambogo University pursuing a Bachelor of Economics. I am conducting a study about the impacts of covid19 on the incomes of households in this parish of Kitoro. The study that I am conducting has been authenticated by the Department of Economics and Statistics of Kyambogo University, the Local Council of Kitoro Parish, as well as the office of the Officer in Charge of Kitoro Police Station.

Your participation in this study will be through giving responses by filling this questionnaire that follows this introduction. Please take note that participation in this study is voluntary (therefore you are free to participate in giving your thoughts or not), and participation is free (no fares will be levied on any participant to take part), but also, participation will not attract any mandatory remuneration (thus, any provision in form of allowance or refreshments to participants will be at free will of the researcher).

Lastly, and very importantly, I promise to keep all the responses provided in the questionnaires; confidential, and they will only be used for analysis and inferential purposes about the topic under study, and the responses will not be used for any form of financial benefit to the researcher, unless the policymakers and other stake holders use the research findings to provide financial support to the people of Kitoro.

Statement of Consent

As a study participant that has been included in the sample to provide responses about the topic, I understand goals of this study and accept that participation in this study is voluntary, and no one has forced me to participate. I remain liable to any response that I provide in this study, and the views and opinions I give do not reflect those of the researcher, rather my personal views.

SECTION B: BIO DATA

(Tick where appropriate)

1. Sex of the respondent.

a) Female

b) Male

2. Highest level of education.

a) None

b) Primary

c) Secondary

d) Tertiary

3. Age bracket.

a) Below 20 yrs.

b) Between 21-30 yrs.

c) Between 31-40 yrs.

d) Above 40 yrs.

4. Marital status

a) Single

- b) Married
- c) Divorced
- d) Widowed

Appendix II: Questionnaire 1; Assessment of the Effect of the Lockdown on Food Security

Please fill this questionnaire according to the provided options (by ticking). For open questions, kindly write your opinion/view.

Item No.	Question	Options (if any)
1	Before the lockdown, how many meals were you having a day?	(Give you answer in figures)
2	When the lockdown started in the country, would you be able to prepare food based on diet?	YES NO (Tick)
3	While work was little during the lockdown, were you able to involve yourself in any agriculture activity	YES NO (Tick)
4	During the lockdown, how often have you been altering the type of meal/food that is served at home?	(Give you answer in figures)
5	Do you agree that the lockdown had effects on your feeding culture?	YES NO (Tick)
6	According to you, to what extent did the lockdown affect your household's feeding/food availability at home?	Larger Moderate Low extent (Tick one)

Survey Questionnaire 1: Impact of the lockdown on household income

Appendix III: Questionnaire 2; Effect of Lockdown on Employment Status of Family Heads

Please fill this questionnaire according to the provided options (by ticking). For open questions, kindly write your opinion/view.

Item No.	Question	Options (if any)
1	Before the lockdown was exercised, where you employed?	YES NO (Tick)
2	What was the average monthly earning level that you had prior to the lockdown exercise?	1). Below Shs.500,000 (Tick any) 2). 150,000 – 750,000 3). Above Shs.750,000
3	After the start of exercising the lockdown, what happened to your employment status	0). I lost the job (Tick any) 1). Salary was cut by 50% 2). I continued working normally
4	If you lost your job or salary was cut, did you find any activity that was quickly generating income to supplement (or act fully) your welfare	YES NO (Tick)
5	After that the lockdown is now passed, have you resumed working?	YES NO (Tick)
6	How easy has it been to resume working after lifting the lockdown	1. I simply went back to my former workstation. 2. I am still waiting for the employer's call 3. I am seeking a new job
7	According to your experience, to what extent has the lockdown affected your working status?	Larger Moderate Low extent (Tick one)

Survey Questionnaire 2: Impact of the lockdown on household income

Appendix IV: Questionnaire 3; Effect of the lockdown on Choice of Health Service Provider

Please fill this questionnaire according to the provided options (by ticking). For open questions, kindly write your opinion/view.

Item No.	Question	Options (if any)
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1	Prior to the enactment of the lockdown policy in the country, what level of health facility was your family using?	0). Private HC III+ (Tick any) 1). Private Clinic 2). Public Facility
2	Prior to the lockdown, how often were you visiting a health facility for un-induced medical check-up?	1). Only when I feel ache 2). When am advised to go for further examination 3). Regularly even without any discomfort
3	After the lockdown coming into practice, how easily did you cope with continued health care with little income?	1. I made sure that I use cheaper Centers like clinics & public 2. I made sure I reduce on the regularity of visiting hospitals 3. My medical program was not altered since I was able to foot any bill
4	The lockdown caused the closure of public transport means. How easily were you reaching your health facility?	1. By walking 2. Using facility ambulance 3. Using my car as an essential worker
5	How congestive was the health facility during the lockdown?	1. Facility was less occupied 2. The number of patients was usually minimum so I never waited for long hours. 3. I always had to wait for long because of covid19 patients.

Survey Questionnaire 3: Impact of the lockdown on household income

Appendix V: The Survey Budget

The following Table indicated the estimated expenditures to be incurred during the conduct of the survey. The budget does not consider lodge/inn fares because the researcher expects to spend the night at his home place, before the day for the survey. The costs are expressed in Uganda shillings.

Item Sr. No.	Particulars/item category	Unit Price (USHS)	Quantity	Total (USHS)
1	Transport from Banda to Kitoro	7,000	1 trip	10,000
2	Questionnaire printing	100	60 × 4 pages = 120 pages	12,000
3	Water for the sampling group	5,000	5 cartons	25,000
4	Lunch cost	10,000	1 plate	10,000
5	Other refreshments	10,000	N/A	10,000
6	Transport from Kitoro back to Banda	10,000	1 trip	10,000
	Total			77,000

Survey budget: Impact of the lockdown on household income