

# Analysis of Inflatory Mitigation Measures Adopted by Households in Mbita Division of Mbita Sub-County, Kenya

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# Article's History

Submitted: 12<sup>th</sup> December 2022 Accepted: 26<sup>th</sup> December 2022 Published: 30<sup>th</sup> December 2022

#### Abstract

**Aim:** The purpose of this study was to establish mitigation measures adopted by the government of Kenya for the households in the current inflationary conditions of the market.

**Methods:** The study adopted descriptive and correlational research designs. The study was pegged on the quantity theory of money. A sample size of 374 heads of households was selected from a total of 13,789 households in the Division. The individual respondents were drawn using simple random sampling technique. Primary data was gathered with the help of questionnaires, key informant interviews, focused group discussions and observation. Secondary data was collected from government statistical abstracts, household's records and relevant text books. Regression as a tool of analysis was utilized to reveal the existing relationship among the variables and coefficient of determination to show the strength of the established model. The reliability of the data collection instrument was tested using the internal consistency technique. The Cranbach's Coefficient Alpha was computed to determine the correlation among the items.

**Results:** Most of the households started consumption tradeoffs by having one meal a day and went on with one meal a day, treated themselves locally without attending the hospitals, resulted to walking on foot and most people used up their savings. The research was self-funded and there was no conflict of interest.

**Conclusion:** The study has revealed that most of the households in Mbita Division of Homa County reduced their expenditures due to inflation rates increase.

**Recommendations:** Policy makers should adopt training programs targeting Mbita residents on the saving culture and diversifying source of income as intervention measues during inflation periods. The study also recommended further research to be done on other mitigation measure in adopted in other regions.

**Keywords:** *Inflation, general price level, relative price, household, expenditure, consumption, price, consumer price index.* 



#### 1.0 INTRODUCTION

# 1.1 Background of the Study

Inflation is a concern to both developed and developing countries as it leads to fall in profit margins of many companies. It also plunges countries into long periods of instability. Central bankers often aspire to be known as "inflation hawks." Politicians have won elections with promises to combat inflation only to lose power after failing to do so. Inflation was even declared public enemy number one in the United States by President Gerald Ford in 1974 (Hanke, 2008). Many countries have grappled with high inflation and in some cases hyperinflation, 1,000 percent or higher inflation a year (Hanke, 2008). In 2008, Zimbabwe experienced one of the worst cases of hyperinflation ever, with estimated annual inflation at one point of 500 billion percent (Abbott & Adeline, 2011). Such high levels of inflation have been disastrous and countries have had to take difficult and painful policy measures to bring inflation back to reasonable levels. Hyperinflation sometimes forces affected countries to give up their national currency as Zimbabwe had to lower their currency value against the dollar (Hanke, 2008).

In 2000, the inflation rate in Kenya was 8.07 and it rose to 11.8 in 2011 (IMF, 2012). Kenya was not only hit by the commodity-price hike and the financial crisis, but also post-election violence in 2008. As a result, real GDP growth dropped from over 7% in 2007 to below 1.5% in 2008 while inflation increased by over 30% (IMF, 2012). The monetary policy response was to reduce interest rates to stimulate economic growth (Hanke, 2008). In spite of lax monetary policy, inflation declined from 2009 until late 2010; a decline which could also be observed in Ethiopia. Inflation then rose again but the authorities continued to maintain loose monetary conditions (IMF, 2012). This resulted in rapid depreciation of the Kenyan shilling (KES); its value dropped from about 80 shilling per US dollar in early 2011 to over 100 shilling per US dollar in October 2011 (IMF, 2012). To prevent further deprecation of KES and rise in inflation, the monetary authorities increased the central bank rate sharply, pushing up the interbank rate to about 17%, from less than 2% in January 2011 (IMF, 2012). The response brought about an appreciation of the KES and decline in inflation. The tight monetary policy stance was maintained during the first half of 2012 (IMF, 2012).

Inflation is commonly measured by a Laspeyres-type Consumer Price Index (Astin, 1999). It might have different effects on households with different consumption structure for two main reasons. First, there are differences in the basket of goods and services consumed. In turn, those differences may consist of (i) a different composition of consumption at a certain level of classification and of (ii) different specific items bought by various types of households within any given category (AFDB, 2011). To exemplify, households in the upper tail of the per capita equivalent consumption expenditure distribution devoted a lower fraction of their expenses to basic goods – such as food – with respect to households in the lower tail of the distribution (Ajuzie et al., 2008). Moreover, the specific goods and services bought by high-consumption households within a certain category would generally differ from the ones bought by lowconsumption households. Second, the prices at which various types households buy the very same products may differ, largely as the consequence of the different stores where purchases take place (Amour, 2002). The identification and estimation of the impact of all these factors on the dynamics of a fixed-basket expenditure of households with different consumption structure



is, patently, problematic. It would require fresh data collected by means of ad hoc surveys (Istat, 2003). Inflation not only affects the macroeconomic indicators but also affects the living standards of the people (Blanchard & Oliver, 2000). As the percentage of inflation increases, the cost of all commodities also increases (Friedman & Milton, 1963). However, the same is not true for the salaries or the wages (Ball & Laurence, 1999). It results in a mismatch of income and expenses (Canberra Group, 2001). As a result, the people are immensely impacted by these changes (Friedman, 1987). The exchange rates of all currencies also change. This in turn influences trade. When exchange rates are affected, the interest rates cannot be far behind.

Mainstream economists' views can be broadly divided into two camps: The "monetarists" who believe that monetary effects dominate all others in setting the rate of inflation, and the "Keynesians" who believe that the interaction of money, interest and output dominate over other effects. Other theories, such as those of the Austrian school of economics, believe that an inflation of overall prices is a result from an increase in the supply of money by central banking (Cahen & Land, 1997). Inflation's effects on an economy are various and can be simultaneously positive and negative. Negative effects of inflation include an increase in the opportunity cost of holding money, uncertainty over future inflation which may discourage investment and savings, and if inflation is rapid enough, shortages of goods as consumers begin hoarding out of concern that price increased in the future. Positive effects include ensuring that central banks can adjust real interest rates (intended to mitigate recessions).

Economists generally agree that high rates of inflation are caused by an excessive growth of the money supply (Abel & Bernanke, 2005). Views on which factors determine low to moderate rates of inflation are more varied. Low or moderate inflation may be attributed to fluctuations in real demand for goods and services, or changes in available supplies such as during scarcities, as well as to growth in the money supply (David, 1978). However, the consensus view is that a long-sustained period of inflation is caused by money supply growing faster than the rate of economic growth (Abel et al., 2005).

Today, most economists favor a low and steady rate of inflation. Low (as opposed to zero or negative) inflation reduces the severity of economic recessions by enabling the labor market to adjust more quickly in a downturn, and reduces the risk that a liquidity trap prevents monetary policy from stabilizing the economy (Kiptui, 2009). Escaping from a Liquidity Trap and Deflation: "The Foolproof Way and Others". The task of keeping the rate of inflation low and stable is usually given to monetary authorities.

## **1.2 Problem Statement**

Inflation is a concern in Kenya and has led to a fall of many company's profit margins and household purchasing patterns. High inflation discourages saving and investments, decrease in purchasing power of the currency and the value of a shilling, a value of money can only purchase a few goods and services.

Although studies increasingly focused on the effects of inflation, the mitigation measures adopted by the households have not been documented. No specific study in Kenya and more importantly in Mbita Division of Homabay County has been keen on the mitigation measures adopted by the households to encounter the inflation pressures in order to sustain their expenditure patterns. This study bridged the literature gap and assists in setting a background for



other investigations on the account of the foregoing; the study intended to fill the information gap on the effects of identifying and documenting the mitigation measures adopted by the inflation on households in Mbita division.

## 1.3 Research Objective

To establish the mitigation measures adopted by residents of Mbita Division to survive the inflationary conditions prevailing in the markets.

# 1.4 Research Hypothesis

H0; There are mitigation measures to control the inflationary conditions prevailing in the markets in Mbita Division.

H1; There are no mitigation measures to control the inflationary conditions prevailing in the markets in Mbita Division.

## 1.5 Justification for the Study

Hunger in Kenya continues to rise from time to time, the situation is worse in the rural areas where poverty affects more than a third of the population. Inflation attributes to several challenges causing hunger. Despite the measures put in place by both the Kenyan government and other financial institution to control inflation, the household in Mbita Division have continued to adversely experience the effects of inflation in their day to day expenditure patterns. Most parents are unable to buy uniforms for their children in schools besides providing three meals a day for their families. Many pupils are going to school bare footed and with torn clothes. In view of the mentioned situations, it has become necessary to conduct a study on the mitigation measures adopted by Mbita Division residents to counter the inflation effects. The findings of this study could assist policy makers in advising producers and consumers on thetheir produ.....ction levels and consumption patterns respectively in order to respond to inflationary trends and also assist the fields of academia in laying a base for further relevant studies.

#### 1.6 Scope of the Study

The study focused on the effects of inflation and mitigation measures on household expenditures of residents of Mbita Division of Homa Bay County. The study did not go beyond the division because of its big size and the huge financial resources besides more time it would require to be completed.

## 2.0 LITERATURE REVIEW

#### 2.1 Theoretical Literature Review

Modern classical economics school of thought, which has come to be known as the monetarists, continues in the same light as the early economists and is often concerned with explanations for changes in price level (Friedman, 1987). To them, a stable and equilibrating relation exists between the adjustments in the quantity of money and the price level 
The more orthodox monetarist assumes that a rise in the quantum or variation in money supply determines the value of money, but not necessarily changes in output (Friedman, 1987). In other words, they refute any form of monetary influence on real output both in the short-and long-run. This led to the popular paradigm that, "Inflation is always and everywhere a monetary phenomenon for the less stringent monetarist; they agree that money influences output in the short-run, but only prices in



the long-run (Friedman, 1987). Nevertheless, irrespective of the path of adjustment, the monetarist all seem to concur that in order to reduce or curtail inflationary growth, money growth should be less than or equal to the growth in output. This is based in the quantity theory of money. The "equation of exchange" relating the supply of money to the value of money transactions was stated by John Stuart Mill (1848), who expanded on the ideas of David Hume (1978). The quantity theory was developed by Simon Newcomb (1885) and Irving Fisher (1911) in the late 19<sup>th</sup> and early 20<sup>th</sup> century.

## 2.2 Empirical Literature Review

Some of the earlier works conducting an empirical testing of the quantity theory of money include those of Friedman and Schwartz (1982), Sims (1972), Bhattacharya (1972), and Brahmananda (1977). Sims (1972) introduced the concept of Granger causality into the testing procedure. In his study, Bhattacharya (1972) specified a linear regression model to examine the relative performance of reduced form versions of the basic Keynesian model and the Quantity Theory model. He concluded that the Keynesian model explains monetized income better than the QTM. Brahmananda (1977) employing single equation econometric methods investigated the link between real national income and price level in India. He reached the conclusion that the QTM explains the developments in the price level. Modern research on the QTM such as that of Ahmed (2003) which adopted a block causality test showed that there was a unidirectional causality from output and prices to money. That is, interest rate and money as a block do not cause output and prices, but output and price cause interest rate and money. Miyao (1996) used quarterly data for the period 1959 to 1993 to investigate the long-run relationship between money, price level, output, and interest rates in the United States and found that there was mixed evidence of a long-run relationship prior to 1990 and little or no evidence of a long-run cointegration relationship for the entire sample.

## 2.2.1 Mitigation measures to control the inflationary situations

In the academic literature and now increasingly among central banks, monetary policy is popularly discussed and evaluated in the context of a fully-specified reaction function or policy rule, linking the central bank's policy instrument to observable variables. The Taylor rule, played a central role in the theory and evaluation of inflation targeting (Taylor, 1993).

Other researchers have suggested that in an open economy, the central bank could use a weighted average of the nominal interest rate and the exchange rate as an inflation control instruments (Ball, 1999). Ball states that given the specific nature of markets in developing countries, shortterm interest rate, monetary base or some other monetary aggregate could be used as policy instruments (Ball, 1999). He further stresses the importance of exchange rates in monetary policy rule setting in developing countries and argues that the inclusion of the exchange rate in the central bank reaction function does not contradict the objectives of central banks, since in emerging economies sometimes exchange rate stabilization is a precondition for output stabilization and bringing down inflation to a targeted level.

Taylor (1993) further argues that even though the effect of monetary policy on real variables through the financial markets is limited, monetary policy could still have significant impacts through changes in wages and property prices. Some researchers concluded that central banks in emerging economies often change short-term interest rate in response to deviations in inflation



and exchange rate movements (Lagasse & Paul, 2000). They also note that although price stabilization remains a main objective of the central banks in emerging countries, other objectives such as output stabilization, stability of the exchange rate and in few cases, stability of asset prices and current account deficit have been highlighted as central bank objectives. The current spike in food prices is attracting attention globally and alleviating the negative impacts at the household and national level. Poor households are particularly vulnerable to the higher costs of food and governments of low-income food importing countries face higher import bills and higher energy prices (Michael, 1997). However, there has been little attention thus far to the effects of higher food prices at the intra-household level, and specifically the impacts on children and child wellbeing. Rebecca H. et al, (2008) explored that households experienced high food prices as a shock. Most households have tried to cope with the high food prices by reducing nonfood expenditures. Food price hike has severely battered their purchasing power. The poorest households now need to spend 70% or more of their income on food and their ability to meet most essential expenditures for health and education is severely compromised. In addition, the diminished purchasing power has severely impaired the capacity of the poor households to seek health care, and children education.

#### 3.0 RESEARCH METHODOLOGY

The study adopted descriptive survey design and correlational research designs. The study was pegged on the quantity theory of money. This study was limited to Mbita Division area which is a rural community on the shores of Lake Victoria in Homabay County, Kenya. A sample size of 374 heads of households was selected from a total of 13,789 households in the Division. The individual respondents were drawn using simple random sampling technique. Primary data was gathered with the help of questionnaires, key informant interviews, focused group discussions and observation. Secondary data was collected from government statistical abstracts, household's records and relevant text books. Regression as a tool of analysis was utilized to reveal the existing relationship among the variables and coefficient of determination to show the strength of the established model. The reliability of the data collection instrument was tested using the internal consistency technique. The Cranbach's Coefficient Alpha was computed to determine the correlation among the items.

## 4.0 RESULTS ANALYSIS, DISCUSSION AND INTERPRETATION

# 4.1 Demographic Characteristics of the Sampled Respondents

The table below shows the gender of the respondents.

**Table 1: Gender of the respondents** 

Gender	Frequency	Percentage
Male	177	49.9
Female	178	50.1
Total	355	100



Table 2 shows the household total expenditure in the current period and six months ago. As shown on table 1, 135(38%) spent more than Ksh 4000 per month six months ago compared to 159(44.8%) of the total respondents who spent more than the same amount currently.

**Table 2: Household expenditure** 

Monthly expense category	Total monthly expense 6 months ago		Total curren	t monthly
	Frequency	Percent	Frequency	Percent
Less than Ksh 1000	12	3.4	0	0
Ksh 1001-2000	58	16.3	19	5.4
Ksh 2001-3000	58	16.3	80	22.5
Ksh 3001-4000	92	25.9	97	27.3
Above Ksh 4000	135	38.0	159	44.8
Total	355	100	355	100

Table 3: Expenditure on food per month six months ago and currently

Monthly expense category	Expenditure on food per month 6 months ago		Current expenditure on food per month		
	Frequency	Percent	Frequency	Percent	
Less than Ksh 1000	9	2.5	0	0	
Ksh 1001-2000	60	16.9	30	8.5	
Ksh 2001-3000	80	22.5	88	24.8	
Ksh 3001-4000	74	20.8	99	27.9	
Above Ksh 4000	132	37.2	138	38.9	
Total	355	100	355	100	

Table 4: Number of meals taken per day six months ago and currently

	Number of mea	ls 6 months ago	<b>Current number of meals taken</b>	
Number of meals category	Frequency	Percent	Frequency	Percent
Four Times a day	16	4.5	20	5.6
Thrice a day	240	67.6	256	72.1
Twice a day	95	26.8	79	22.3
None of the above	4	1.1	0	0
Total	355	100	355	100



Table 5: Mitigation measures adopted households during the current inflationary conditions

Measure undertaken	Frequency	Percent	<b>Cumulative Percent</b>
Resorted to Moonlighting	45	12.7	12.7
Took a loan	86	24.2	36.9
Sold valuables in the House	48	13.5	50.4
Used savings	145	40.8	91.3
Other measures specified	31	8.7	100
Total	355	100	

Table 6: Responses of the respondents on different opinions

Opini	ion	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Total
1	Frequency	16	16	53	72	198	355
	Percent	4.5	4.5	14.9	20.3	55.8	100
2	Frequency	111	146	37	26	35	355
	Percent	31.3	41.1	10.4	7.3	9.9	100
3	Frequency	93	110	65	59	28	355
	Percent	26.2	31.0	18.3	16.6	7.9	<u> </u>

## Key:

- 1. Opinion that the spouse should get involved in household chores
- 2. Opinion that the spouse should get involved in self-employment
- 3. Opinion that the spouse should get involved in salaried employment

**Table 7: The model summary** 

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.791a	.625	.623	.74206

a. Predictors: (Constant), Total Expenditure on education in a private school 6 months ago, Expenditure on Food per Month 6 Months ago.



**Table 8: ANOVA analysis** 

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	323.324	2	161.662	293.581	$.000^{a}$
	Residual	193.831	352	.551		
	Total	517.155	354			

a. Predictors: (constant), Total expenditure on education in a private school 6 months ago, expenditure on food per month 6 months ago

**Table 9: Coefficients analysis** 

Model		<b>Unstandardized Coefficients</b>		Standa	<b>Standardized Coefficients</b>		
		В	Std. Error	Beta	t	Sig.	
1	(Constant)	.791	.132		5.990	.000	
	Expenditure on Food per Month 6 Months ago	.806	.035	.798	23.186	.000	
	Total Expenditure on education in a private school 6 months ago	-7.571E-6	.000	025	718	.473	
	Current monthly expenses	.896	.043	.694	20.959	.000	
	Expenditure on hospital visits per month 6 months ago	.024	.051	.013	.462	.645	
	Expenditure on hospital visits per month now	156	.048	088	-3.232	.001	

a. Dependent Variable: Total monthly expenses 6 months ago

## 5.0 SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

## 5.1 Conclusion and Policy Recommendations

The study has revealed that most of the households in Mbita Division of Homa County, Kenya reduced their expenditures due to inflation rates increase. Most of the households started consumption tradeoffs by having one meal a day and went on with one meal a day, treated themselves locally without attending the hospitals, resulted to walking on foot and most people used up their savings.

The study recommends policy makers to adopt training programs targeting Mbita residents on the saving culture and diversifying source of income as intervention measures during inflation

b. Dependent variable: Total monthly expenses 6 months ago



periods. The study also recommended further research to be done on other mitigation measure in adopted in other regions.

The study recommends the policy makers to adopt training programs to the respondents on the saving culture and diversify other source of income as intervention measures during inflation periods to continue with their consumptions patterns. The researcher further recommended more studies by academicians to assess other mitigation measure in Mbita Division.

## **Funding Sources**

Authors received no financial support for the research, authorship, and publication of this article.

#### **Conflict of Interest**

Authors declares no conflict of interest.

## **REFERENCES**

Abbott, P., Adeline, B. (2011). Recent Global Food Price Shocks: Causes, Consequences and Lessons for African Governments and Donors. *Journal of African Economies*, 20(suppl 1): i12-i62.

Abel, A., Bernanke, B. (2005). *Macroeconomics* (5th Ed.). Pearson

AfDB. (2011). Inflation Dynamics in Selected East African Countries: Ethiopia, Kenya, Tanzania and Uganda. AfDB Brief. African Development Bank, Tunisia

Ajuzie. E.I.S; F.M. Edoho; M.N.Uwakonye; G.Y. Keleta. (2008). *Import Response and Credit in the Latter 19<sup>th</sup> and early 20<sup>th</sup> century.* 

Amour, E. (2002). Stability of the Nigerian M2 Money Demand Function in the SAP

Astin J. (1999). The European Union Harmonized Indices of Consumer Prices (HICP)

Ball, Laurence. (1999). Policy Rules for Open Economies" in John B. Taylor (end)

Bhattacharya, B. (1972) Some Direct Tests of the Keynesian and Quantity

Blanchard, Olivier. (2000). *Macroeconomics* (2nd Ed.). Englewood Cliffs, N.J: Prentice Hall. ISBN0-13-013306-X Bombay University Press, Bombay

Brahmananda, P. (1977). Determinants of Real National Income and Price LeveL

Canberra Group. (2001). Expert group on household income statistics: Final report and recommendations (Ottawa) Central Bank of Iceland, Accessed on September 11, 2008

Cohen, L, and Manion L. (1997.) Research Methods in Education.

David Hume. (1978). Interest," "Of Interest" in Essays Moral and Political the Quantity Theory Demand Function in Nigeria. *Economics Bulletin* Vol.5, No. 2 pp. 1–6.

Emerson, J. (2006). The Quantity Theory of Money: Evidence from the United States Facility and Request for Modification of Performance Criteria—Staff Report; Press Release" Country Report No. 12/97, Washington DC: International Monetary Fund

Friedman, Milton. (1963). A Monetary History of the United States 1867–1960.



- Friedman. (1987). Quantity Theory of Money.
- Hall, Robert E., Taylor, John B. (1993). *Macroeconomics*. New York: W.W. Norton. p. 637. ISBN0-393-96307-1
- Hanke, Steve H; Alex KF Kwok. (Spring/Summer 2008r). "On the Measurement of Zimbabwe's Hyperinflation BBC. 29 January 2009.
- Hummel, Jeffrey R. (2007). *Death and Taxes, Including Inflation: the Public versus Economists*" (January 2007). p.56
- IMF. (2012b). Kenya: Third Review Under the Three-Year Arrangement Under the Extended Credit Inflationary Pressures In The New Economy: The Quantity Theory Of Money
- Irving Fisher. (1911). the Purchasing Power of Money and 12 s, Ludwig Von Mises, 1912.
- Isevier. (2010). Monetary and Exchange Rate Policies. Handbook of Development Economics
- Istat. (2003b). Peruzzi al Consumo: Informazioni. Dati e Analisi. www.istat.it.
- John Stuart Mill. (1848). Principles of Political Economy.
- Kiptui, M. (2009). *Oil Price Pass-Through into Inflation in Kenya*. Kenya School of Monetary Studies Research Centre, Nairobi.
- Lagassé, Paul. (2000). "Monetarism". *The Columbia Encyclopedia* (6th Ed.). New York: Columbia University Press. ISBN<u>0-7876-5015-3</u>.
- Ludwing Von Mises. (1912). Theory des Geldes und der Umlaufsmittel\_The Theory of Money.
- Mankiw, N. Gregory. (2002). *Macroeconomics* (5th Ed.). Worth and Encouraging Investment in Non-monetary Capital Projects.
- Milton Friedman, and Anna J. Schwartz. (1965). The Great Contraction 1929–1933, Princeton:
- Misati, R. N., E. Nyamongo, L. Njoroge, S. Kaminchia. (2012). Feasibility of inflation Targeting in an Emerging Market: Evidence from Kenya", *Journal of Financial Economic Policy*, 4(2): 3 19.
- Miyao, R. (1996).Does a Cointegrating M2 Demand Relation Really Exist in the *Monetary Policy Rules*, NBER, pp. 127-56
- Paul H. Walgenbach, Norman E. Dittrich and Ernest I. Hanson. (1973). *Financial Accounting*, New York: Harcourt Brace Javonovich, Inc. Page 429. "The Measuring Unit principle Period. *Economics Bulletin* 14: 1-9. Princeton University Press, ISBN 0-691-00350-5;
- Rebecca H. et al. (2008). Understanding the impact of Food Prices on Children", Children in Focus Plan UK Revisited" *Journal of Business & Economics Research*, Volume 6, Number 5
- Robert J. Gordon. (1988). *Macroeconomics: Theory and Policy*, 2nd ed., Chap. 22.4, 'Modern theories of inflation'. McGraw-Routeledge, 11 New Fetter Lane, London
- Simon Newcomb. (1885). Principles of Political Economy. Alfred de Foville.
- Sims, C.A. (1972). Money, Income and Causality. *The American Economic Review*.