



An Analysis Of Relationship Between Food Inflation And Maternal Mortality Rate (MMR), Economic Growth Rate And Consumers Spending Growth Rate Of India In The Post Millennium Era

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Abstract

India suffers from severe impact of food inflation as nearly fifty percent of its earnings, an average household spends on food and more than sixty percent is spent by a poor on food. Thus, with the increase in food inflation the poverty level in India may sharply increase as the poor will be forced to spend more on food. Although India declared food as a legal right to its people by passing National Food Security Act (NFSA) on 5th of July, 2013 still its position in the Global Hunger Index 2021 was 101st out of 116 countries which is really poor. India's economic growth rate stood at 8.9% in 2021 as per World Bank national accounts data.

Here we study the short run and long run relationship of India's food inflation in the post millennium era, with its Maternal Mortality Rate (MMR), Economic Growth Rate and Consumers Spending Growth Rate. Thus, the study is based on the time data series from 2001 to 2021. With the help of the Augmented Dickey-Fuller Test, the unit root test of the time series data used for the ARDL method has been done followed by CUSUM test for testing the stability of the ARDL long run form and bounds test.

Keywords: Food Inflation, MMR, Economic Growth Rate, Consumer Spending Growth Rate, Poverty.

Introduction

India suffers from severe impact of food inflation as nearly fifty percent of its earnings, an average household spends on food and more than sixty percent is spent by a poor on food. Thus, with the increase in food inflation the poverty level in India may sharply increase as the poor will be forced to spend more on food, further deteriorating their health. Since 2006, food prices have been rising. The food price inflation doubled in March 2022 (8.04%) from March 2021 (3.94%) in the rural areas. Food inflation averaged 10% per year during 2008-2012 and today it is impacting the health of poor the most. Although India declared food as a legal right to its people by passing National Food Security Act (NFSA) on 5th of July, 2013 still its position in the Global Hunger Index 2021 was 101st out of 116 countries which is really poor. According to the report of United Nations Development Programme Multidimensional Poverty Index (UNDP MPI, 2021), 27.91 percent of India's combined population lives below the poverty line and many of them are unable to manage the adequate quantity of food for a day sufficiently. The problem of hunger in India can be solved if only the people have enough food articles purchasing capacity. Either by reducing the prices or increasing the income or both, a person's purchasing capacity can be increased.

Objectives

The main objectives of the study are mentioned below:

1. To study the relationship between India's Food Inflation and Maternal Mortality Rate (MMR) in the long run in the post millennium era (2001 - 2021).
2. To study the relationship between India's Food Inflation and Consumers Spending Growth Rate in the long run in the post millennium era (2001 - 2021).
3. To study the relationship between India's Food Inflation and Economic Growth Rate in the long run in the post millennium era (2001 - 2021).

Review of Literature

In its extensive survey of the impact on health of food price rise, the Asian Development Bank (ADB) covered sixty-three developing countries measuring the impacts of food inflation during 2001-2010 on infant and child mortality and undernourishment. It was found in the survey that with an increase of one percent in food inflation, there was an increase of 0.3 percent in infant and child mortality both and 0.5 percent increase in malnourishment. Increased infant and child mortality was the impact of food inflation in the earlier years but increasing malnourishment and decreasing economic growth has been in the recent years because the countries having higher contribution of agriculture to GDP have lesser impacts. India's economic growth rate stood at 8.9% in 2021 as per World Bank national accounts data.

According to NSSO 68th Round, Poor class people of India spent more on food items than on non-food items in both Rural (53.4%) and Urban (52.6%) areas respectively. While the Rich class people on India spent more on non-food items than on food items in both Rural (64.0%) and Urban (66.6%) areas

respectively. The Middle-class people of India too spent more on non-food items than on food items in both Rural (51.7%) and Urban (53.4%) areas respectively.

Data Nature and Sources

Here we study the relationship of India's food inflation in the post millennium era, with its Maternal Mortality Rate (MMR), Economic Growth Rate and Consumers Spending Growth Rate. Thus, the study is based on the data series from 2001 to 2021 with 2012 serving as the base year. This is basically an empirical study and the various secondary data sources have been utilized for the purpose of data collection. The Wholesale Price Index (WPI) based Food Articles have been taken into consideration for analysis purpose as the new CPI series data is available for a lesser period. The WPI Food has been taken as a proxy of food price inflation in this study and is an independent variable. The data pertaining to it has been sourced from the Ministry of Commerce and Industry, Government of India. While the MMR, Economic Growth Rate and Consumer Spending Growth Rate have been taken as dependent variables to analyze the relationship in the study. The data pertaining to MMR, Economic Growth Rate and Consumers Spending Growth Rate has been sourced from World Bank.

Research Methodology

To suit the analytical purposes, the collected data is tabulated and as per requirement is then subjected to various statistical tools and techniques available on the E-Views software for checking the stationarity and hypothesis testing. With the help of the Augmented Dickey-Fuller Test, the unit root test of the time series data used for the ARDL method has been done.

- ❖ **Augmented Dickey-Fuller Test:** It is a commonly used test to check whether a given time-series is stationary or not. The Augmented Dickey-Fuller (ADF) statistic is a negative number which is used in the test. The more negative it is leads to a stronger rejection of the hypothesis proving that there is a unit root at some level of confidence.
- ❖ **Auto-Regressive Distributed Lag (ARDL) Model:** It is a cointegration technique which is used to identify the long-run relationship between economic time-series having different order of integration. The re-parameterized result of the considered variable gives the short-run dynamics along with the long-run relationship.

With the help of CUSUM Test, stability of each model has been tested. CUSUM test is an advanced technique which is widely used to verify the reliability of the analysis.

Maternal Mortality Rate (MMR)

Maternal Mortality Rate (MMR) is defined as “the number of maternal deaths during a given time per 1,00,000 live births during the same time”. The death of a woman within forty-two days of pregnancy termination or while being pregnant, from any cause related to pregnancy aggravation or its management is known as maternal death as per World Health Organization (WHO). United Nations Sustainable Development Goals (UN SDG) target 70 MMR (per 1,00,000 live births) by 2030 while India under

National Health Policy (NHP) targeted of 100 MMR (per 1,00,000 live births) by 2020 which we are on a verge to achieve soon as India has been witnessing a progressive reduction in MMR with it being 103 in 2017-19 (8.8 percent decline) from 113 in 2016-18 (10 points decline). Kerala state recorded the lowest MMR of 30 while Assam state reported the highest MMR of 205 respectively. For correcting the MMR situation in India, the Government introduced many initiatives like that of National Health Mission (NHM), Pradhan Mantri Matru Vandana Yojana (PMMVY), POSHAN Abhiyaan, Janani Suraksha Yojana (JSY) and Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), etc.

Economic Growth Rate

Economic Growth Rate is over a time process by which a nation's wealth increases. It is also known as the GDP growth rate at market price. To measure the comparative health of the economy over time, economic growth rate is used. It is the percentage change in the value of all services and goods produced in a country during a specific period of time when compared with an earlier period. Increasing economic growth rate has been seen as a positive sign. The country is officially in recession if that nation's economy shows two consecutive quarters of negative economic growth rates. Economic growth increases with an increase in demand for products leading to corresponding increase in production which in turn results in increase in income. Thus, this vicious cycle continues which often lead to increase in inflationary situation of the country. Therefore, it is said that economic growth has a positive relationship with the country's inflation that is if one increases then the other too increases. New product development with technical advancements exerts a positive influence on economic growth as it may lead to increase in exports. For this government launched Make in India scheme, Special Economic Zones (SEZs) were created for the same too.

Consumers Spending Growth Rate

The market value of all the goods and services purchased by the households comprises the household final consumption expenditure (formerly known as private consumption) which is termed as Consumers Spending in the study by taking its growth rate into consideration. We all know that consumers spending increases or decreases mostly due to increase or decrease in income leading to changes in product demand. An increase in demand may not always lead to proportionate increase in supply of the product leading to inflation. As per Engel's Law (Engel, E., 1857) as income rises, the additional income's share spent on food tends to decline. Whereas, Bennett's Law (Bennett, M.K., 1941) states that as income rises, the consumers allocate more of their income to non-cereals which are expensive and are low in calories (example: meat and fish, eggs, milk, fruits and vegetables, etc.).

Augmented Dickey-Fuller test has been used for checking the Stationarity of WPI Food, MMR, Economic Growth Rate and Consumer Spending Growth Rate respectively. The optimum lag selected for fitting the model is 4, which has been fixed on the basis of Schwarz Bayesian Information Criterion (SIC) lag selection criterion. The results of the same have been given in the tables below.

Table 1: Unit root test result for WPI Food Articles

Null Hypothesis: D(WPIFOOD) has a unit root Exogenous: Constant Lag Length: 0 (Automatic - based on SIC, maxlag=4)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.085420	0.0449
Test critical values:	1% level	-3.831511
	5% level	-3.029970
	10% level	-2.655194
*MacKinnon (1996) one-sided p-values.		

Source: Author's own calculation

Table 2: Unit root test result for Maternal Mortality Rate (MMR)

Null Hypothesis: MMR has a unit root Exogenous: None Lag Length: 0 (Automatic - based on SIC, maxlag=4)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-9.864505	0.0000
Test critical values:	1% level	-2.685718
	5% level	-1.959071
	10% level	-1.607456
*MacKinnon (1996) one-sided p-values.		

Source: Author's own calculation

Table 3: Unit root test result for Economic Growth Rate

Null Hypothesis: ECOGROWTH has a unit root Exogenous: Constant Lag Length: 0 (Automatic - based on SIC, maxlag=4)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.059557	0.0059
Test critical values:	1% level	-3.808546
	5% level	-3.020686
	10% level	-2.650413
*MacKinnon (1996) one-sided p-values.		

Source: Author's own calculation

Table 4: Unit root test result for Consumers Spending

Null Hypothesis: SPENDING has a unit root		
Exogeneous: Constant		
Lag Length: 0 (Automatic - based on SIC, maxlag=4)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.531782	0.0021
Test critical values:	1% level	-3.808546
	5% level	-3.020686
	10% level	-2.650413
*MacKinnon (1996) one-sided p-values.		

Source: Author's own calculation

To summarize the results of the unit root test of variables gives in the above tables, we have three variables stationary at level that is I (0), namely: MMR, Economic Growth Rate and Consumers Spending Growth Rate. While WPI Food is found to be stationary at its first difference form that is I (1) level.

Auto-Regressive Distributed Lag (ARDL) model can be used for checking the short-run and long-run relationship as the variables are a combination of I (0) and I (1) stationarity. It is essential to check the long-term relationship of the mentioned dependent variables and food inflation along with the short-run association. The ARDL model examines the long-run effect of these variables with the help of bounds test for checking the existence of relationship in the long-run.

By using the F Test, the null hypothesis is tested. If it is rejected then there is a long-term relationship between the independent variable that is food inflation and the dependent variables (three). In the following parts the results of long run form and bounds test has been displayed.

Significance Test for the Relationship between India's Food Inflation and Maternal Mortality Rate (MMR) in the long run.

H₀: There is no significant relationship between India's Food Inflation and Maternal Mortality Rate (MMR) in the long run in the post millennium era.

H₁: There is a significant relationship between India's Food Inflation and Maternal Mortality Rate (MMR) in the long run in the post millennium era.

Table 5: ARDL Long Run Form and Bounds Test for MMR and WPI Food

ARDL Long Run Form and Bounds Test				
Dependent Variable: D(MMR)				
Selected Model: ARDL(4, 4)				
Case 5: Unrestricted Constant and Unrestricted Trend				
Date: 10/19/22 Time: 03:04				
Sample: 2001 2021				
Included observations: 17				
Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1603.779	208.3897	7.696057	0.0003
@TREND	-72.84932	8.914033	-8.172431	0.0002
MMR(-1)*	-4.480140	0.567048	-7.900814	0.0002
WPIFOOD(-1)	2.161534	0.254706	8.486388	0.0001
D(MMR(-1))	2.334264	0.378690	6.164048	0.0008
D(MMR(-2))	1.331812	0.237262	5.613263	0.0014
D(MMR(-3))	0.532769	0.148145	3.596254	0.0114
D(WPIFOOD)	-0.618726	0.183396	-3.373716	0.0150
D(WPIFOOD(-1))	-2.914380	0.417638	-6.978246	0.0004
D(WPIFOOD(-2))	-2.430596	0.344351	-7.058485	0.0004
D(WPIFOOD(-3))	-1.409456	0.295877	-4.763657	0.0031
* p-value incompatible with t-Bounds distribution.				
Levels Equation				
Case 5: Unrestricted Constant and Unrestricted Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
WPIFOOD	0.482470	0.028571	16.88663	0.0000
EC = MMR - (0.4825*WPIFOOD)				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic k	36.36097 1	Asymptotic: n=1000		
		10%	5.59	6.26
		5%	6.56	7.3
		2.5%	7.46	8.27
		1%	8.74	9.63
Actual Sample Size	17	Finite Sample: n=35		
		10%	5.95	6.68
		5%	7.21	8.055
		1%	10.365	11.295
		Finite Sample: n=30		
10%	6.01	6.78		
5%	7.36	8.265		
1%	10.605	11.65		
t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
t-statistic	-7.900814	10%	-3.13	-3.4
		5%	-3.41	-3.69
		2.5%	-3.65	-3.96
		1%	-3.96	-4.26

Source: Author's own calculation

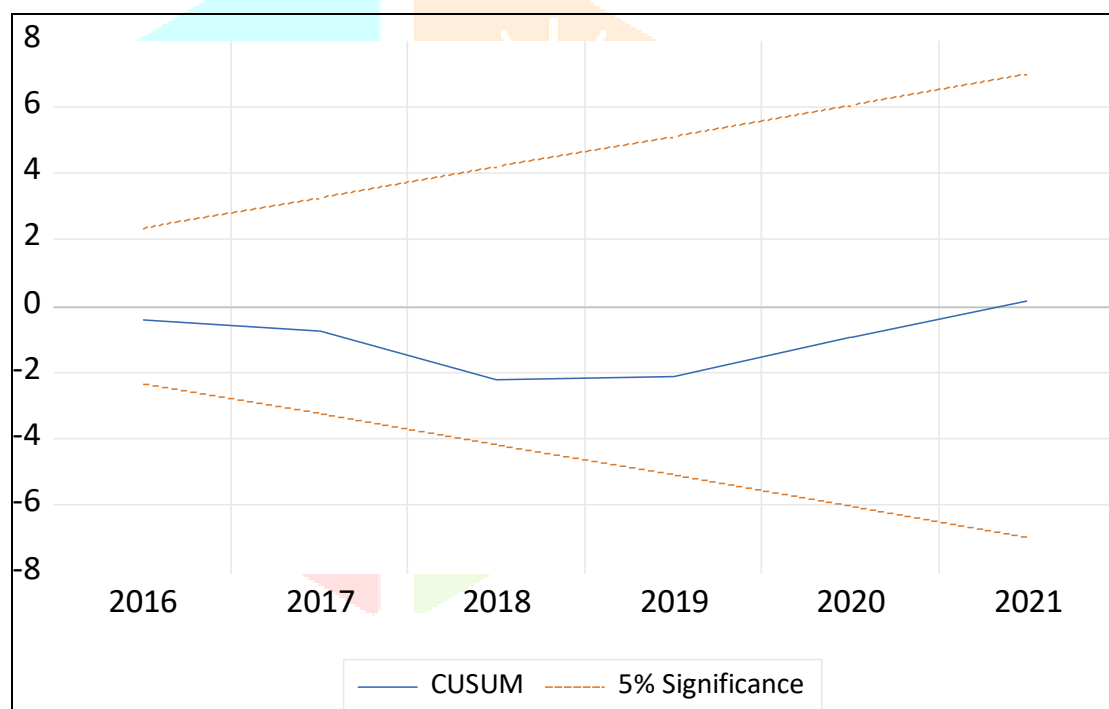
The above calculation is based on the data of Maternal Mortality Rate (MMR) and WPI Food (food price inflation) from the year 2001 to 2021. It has been found that from 2001 to 2021, the MMR and Food Price Inflation averaged at 207.2 (per 1,00,000 live births) and 97.7 respectively. Table 5 shows the result for

ARDL long run form and bounds test for MMR and WPI Food where MMR is a dependent variable and WPI Food is an independent variable. In the short run, when there is one unit increase in food price inflation, it leads to a decrease of 0.618 unit of India's MMR at '0.0150' p-value which is statistically significant as its less than 0.05. Thus, India's MMR shows a significant short run relationship with food price inflation. In the long run, if food price inflation increases by one unit then MMR increases by 0.482 unit.

ARDL long run form and bounds test has been used to test if there is a significant impact of WPI Food on India's MMR in the long run. As the value of F-statistic (36.36) is larger than Lower bound denoted by I (0) and Upper bound denoted by I (1) at 10%, 5%, 2.5% and 1% levels respectively, the null hypothesis is rejected. Thus, there is a positive long run relationship between food price inflation and MMR.

The result rejects the null hypothesis (H_0) and accepts the alternate hypothesis (H_1) stating that there is a significant relationship between India's Food Inflation and Maternal Mortality Rate (MMR) in the long run in the post millennium era.

Figure 1: Test for the stability of the ARDL model (WPI FOOD and MMR)



Source: Author's own calculation

With the help of CUSUM Test, stability of the model has been tested which is depicted in Figure 1 given above. The result of CUSUM test indicates the strength and reliability of the above analytical models as the blue line of the analysis lies between the red lined upper and lower boundaries showing the desired stability of the long run form and bounds test for India's Maternal Mortality Rate (MMR) and food price inflation.

Significance Test for the Relationship between India's Food Inflation and Economic Growth Rate in the long run.

H₀: There is no significant relationship between India's Food Inflation and Economic Growth Rate in the long run in the post millennium era.

H₁: There is a significant relationship between India's Food Inflation and Economic Growth Rate in the long run in the post millennium era.

Table 6: ARDL Long Run Form and Bounds Test for Economic Growth Rate and WPI Food

ARDL Long Run Form and Bounds Test					
Dependent Variable: D(ECOGROWTH)					
Selected Model: ARDL(2, 4)					
Case 3: Unrestricted Constant and No Trend					
Date: 10/19/22 Time: 02:05					
Sample: 2001 2021					
Included observations: 17					
Conditional Error Correction Regression					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	22.53607	7.282815	3.094417	0.0128	
ECOGROWTH(-1)*	-2.353807	0.699255	-3.366163	0.0083	
WPIFOOD(-1)	-0.067560	0.028833	-2.343161	0.0438	
D(ECOGROWTH(-1))	1.244951	0.742442	1.676832	0.1279	
D(WPIFOOD)	-0.387757	0.227258	-1.706239	0.1221	
D(WPIFOOD(-1))	-0.152644	0.177534	-0.859806	0.4122	
D(WPIFOOD(-2))	0.233308	0.176236	1.323839	0.2182	
D(WPIFOOD(-3))	0.332722	0.222304	1.496697	0.1687	
* p-value incompatible with t-Bounds distribution.					
Levels Equation					
Case 3: Unrestricted Constant and No Trend					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
WPIFOOD	-0.028703	0.011802	-2.431936	0.0379	
EC = ECOGROWTH - (-0.0287*WPIFOOD)					
F-Bounds Test					
Null Hypothesis: No levels relationship					
Test Statistic	Value	Signif.	I(0)	I(1)	
F-statistic k	6.258452 1	10%	4.04	4.78	
		5%	4.94	5.73	
		2.5%	5.77	6.68	
		1%	6.84	7.84	
		Asymptotic: n=1000			
Actual Sample Size	17	10%	4.225	5.05	
		5%	5.29	6.175	
		1%	7.87	8.96	
		Finite Sample: n=35			
		Finite Sample: n=30			
10%	4.29	5.08			
5%	5.395	6.35			
1%	8.17	9.285			
t-Bounds Test					
Null Hypothesis: No levels relationship					
Test Statistic	Value	Signif.	I(0)	I(1)	
t-statistic	-3.366163	10%	-2.57	-2.91	
		5%	-2.86	-3.22	
		2.5%	-3.13	-3.5	
		1%	-3.43	-3.82	

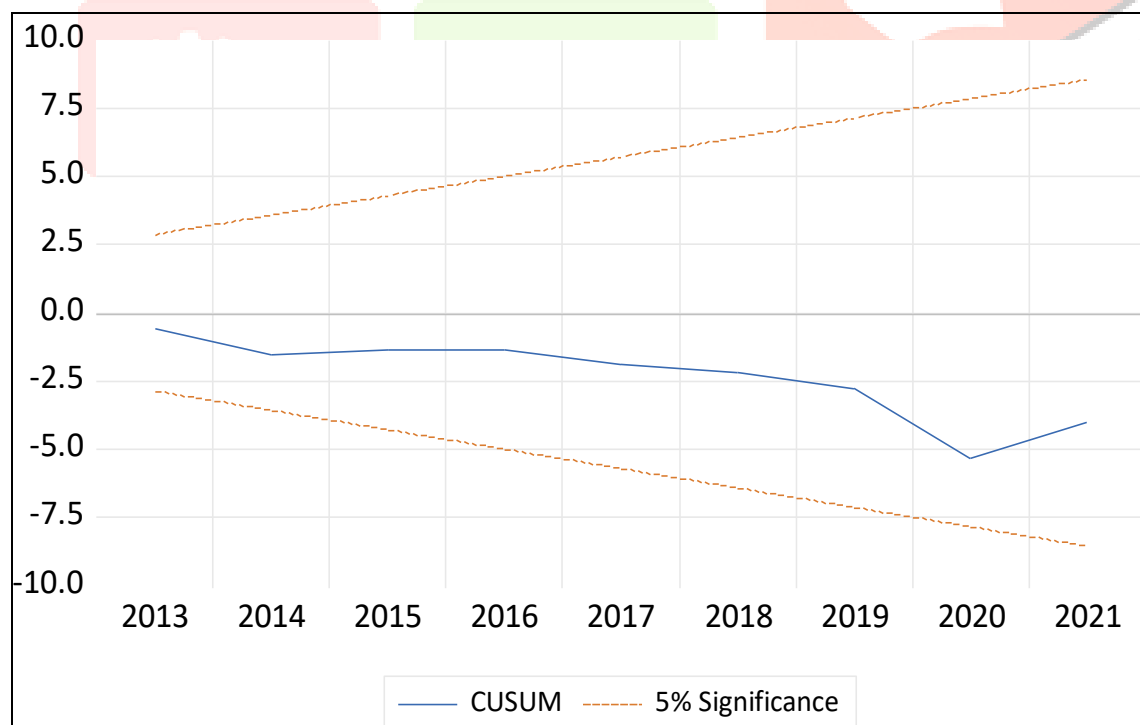
Source: Author's own calculation

The above calculation is based on the data of India's Economic Growth Rate and WPI Food (food price inflation) from the year 2001 to 2021. It has been found that from 2001 to 2021, the Economic Growth Rate and Food Price Inflation averaged at 6.1% and 97.7 respectively. Table 6 shows the result for ARDL long run form and bounds test for Economic Growth Rate and WPI Food where Economic Growth Rate is a dependent variable and WPI Food is an independent variable. In case of India's Economic Growth Rate, with one unit increase in food price inflation there is 0.387 unit decrease in the economic growth rate of India in the short run at '0.1221' p-value which is more than 0.05, making it statistically insignificant. Thus, India's Economic Growth Rate does not show a significant short run relationship with food price inflation. With one unit increase in food price inflation in the long run, there is 0.028 unit decrease in Economic Growth Rate.

ARDL long run form and bounds test has been used to test if there is a significant impact of WPI Food on India's Economic Growth Rate in the long run. As the value of F-statistic (6.25) is larger than Lower bound denoted by $I(0)$ and Upper bound denoted by $I(1)$ at 10% and 5% levels, the null hypothesis is rejected. Thus, there is an inverse long run relationship between food price inflation and Economic Growth Rate.

The result rejects the null hypothesis (H_0) and accepts the alternate hypothesis (H_1) stating that there is a significant relationship between India's Food Inflation and Economic Growth Rate in the long run in the post millennium era.

Figure 2: Test for the stability of the ARDL model (WPI FOOD and Economic Growth)



Source: Author's own calculation

With the help of CUSUM Test, stability of the model has been tested which is depicted in Figure 2 given above. The result of CUSUM test indicates the strength and reliability of the above analytical models as the

blue line of the analysis lies between the red lined upper and lower boundaries showing the desired stability of the long run form and bounds test for India's Economic Growth Rate and food price inflation.

Significance Test for the Relationship between India's Food Inflation and Consumers Spending Growth Rate in the long run.

H₀: There is no significant relationship between India's Food Inflation and Consumers Spending Growth Rate in the long run in the post millennium era.

H₁: There is a significant relationship between India's Food Inflation and Consumers Spending Growth Rate in the long run in the post millennium era.

Table 7: ARDL Long Run Form and Bounds Test for Consumer Spending Growth Rate and WPI Food

ARDL Long Run Form and Bounds Test				
Dependent Variable: D(SPENDING)				
Selected Model: ARDL(1, 4)				
Case 3: Unrestricted Constant and No Trend				
Date: 10/19/22 Time: 02:55				
Sample: 2001 2021				
Included observations: 17				
Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.45882	3.498619	2.989414	0.0136
SPENDING(-1)*	-1.332412	0.301852	-4.414119	0.0013
WPIFOOD(-1)	-0.044362	0.023987	-1.849407	0.0941
D(WPIFOOD)	-0.138665	0.176263	-0.786692	0.4497
D(WPIFOOD(-1))	-0.079040	0.159498	-0.495552	0.6309
D(WPIFOOD(-2))	0.257073	0.162334	1.583606	0.1444
D(WPIFOOD(-3))	0.289267	0.207288	1.395483	0.1931
* p-value incompatible with t-Bounds distribution.				
Levels Equation				
Case 3: Unrestricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
WPIFOOD	-0.033294	0.016266	-2.046831	0.0679
EC = SPENDING - (-0.0333*WPIFOOD)				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic k	9.743329 1	Asymptotic: n=1000		
		10%	4.04	4.78
		5%	4.94	5.73
		2.5%	5.77	6.68
Actual Sample Size	17	Finite Sample: n=35		
		10%	4.225	5.05
		5%	5.29	6.175
		1%	7.87	8.96
		Finite Sample: n=30		
		10%	4.29	5.08
		5%	5.395	6.35
		1%	8.17	9.285
t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
t-statistic	-4.414119	10%	-2.57	-2.91
		5%	-2.86	-3.22
		2.5%	-3.13	-3.5
		1%	-3.43	-3.82

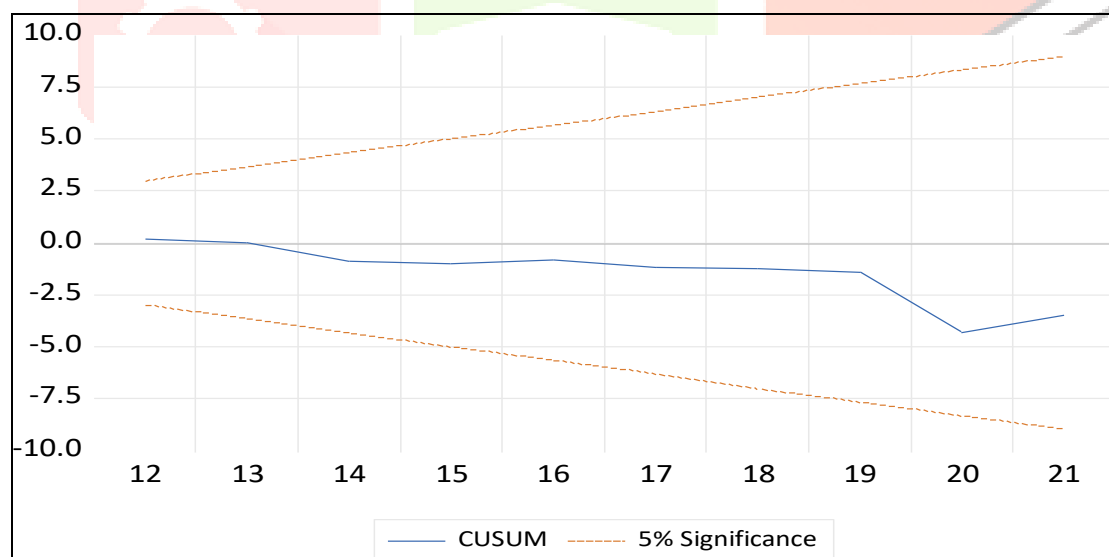
Source: Author's own calculation

The above calculation is based on the data of India's Consumers Spending Growth Rate and WPI Food (food price inflation) from the year 2001 to 2021. It has been found that from 2001 to 2021, the Consumers Spending Growth Rate and Food Price Inflation averaged at 5.6% and 97.7 respectively. Table 7 shows the result for ARDL long run form and bounds test for Consumers Spending Growth Rate and WPI Food where Consumers Spending Growth Rate is a dependent variable and WPI Food is an independent variable. If there is one unit increase in the food price inflation then it leads to 0.138 unit decrease in the Consumers Spending Growth Rate of India in the short run at '0.4497' p-value which is statistically insignificant as it is more than 0.05. Thus, India's Consumers Spending Growth Rate does not show a significant short run relationship with food price inflation. Consumers Spending Growth Rate decreases by 0.33 unit with one unit increase in food price inflation in the long run.

ARDL long run form and bounds test has been used to test if there is a significant impact of WPI Food on India's Consumers Spending Growth Rate in the long run. As the value of F-statistic (9.74) is larger than Lower bound denoted by $I(0)$ and Upper bound denoted by $I(1)$ at 10%, 5%, 2.5% and 1% levels respectively, the null hypothesis is rejected. Thus, there is an inverse long run relationship between food price inflation and Consumers Spending Growth Rate.

The result rejects the null hypothesis (H_0) and accepts the alternate hypothesis (H_1) stating that there is a significant relationship between India's Food Inflation and Consumers Spending Growth Rate in the long run in the post millennium era.

Figure 3: Test for the stability of the ARDL model (WPI FOOD and Consumer Spending)



Source: Author's own calculation

With the help of CUSUM Test, stability of the model has been tested which is depicted in Figure 3 given above. The result of CUSUM test indicates the strength and reliability of the above analytical models as the blue line of the analysis lies between the red lined upper and lower boundaries showing the desired stability of the long run form and bounds test for India's Consumers Spending Growth Rate and food price inflation.

Conclusion

To summarize in the short run there is a significant relationship between India's Food price Inflation and India's Maternal Mortality Rate (MMR). While the relationship between India's food price inflation and India's Economic Growth Rate and Consumers Spending Growth Rate in the short run is insignificant as they are considered to be a long run concept. In the long run there is a significant relationship between India's Food Price Inflation and India's Maternal Mortality Rate (MMR), Economic Growth Rate and Consumers Spending Growth Rate at both 10% and 5% significance levels. The desired stability of the ARDL model has been verified with significant CUSUM test results.

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