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Determinants of Food Price Inflation in Pakistan

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Abstract:

This study describes the impact on food price inflation in Pakistan due to food export, food import & population. It is quantitative research paper, all the data about variables is taken from 1962 to 2012 from WDI. Due to high rise in prices the poor become poorer & it dishearten them, their 50 % of the earning goes on food. Due to increase in production in PCI (per capita income) & growth, the household expenditure is rising. In Pakistan there is limited marketing for the food that are unpreserved able & a lack of cold storage for food preservation. So prices rise when greater demand for products or less supply. According to Sharif et al. (2000), in Pakistan, there is greater financial loss to State with respect to community revenue that is to be together by the way of excise & duties by the government, when the Pakistan to Afghanistan & Pakistan to Iran unlawfully goods (agriculture & other) are bought and sold. Multiple regression is used to test the variables. There is significant & positive impact of food export, food import & population on Food price inflation. From Correlation analysis there is positive & moderate correlation between FPI & food export, Food import & population have positive but weak correlation with FPI. The results show that both supply & demand

sides are responsible for creating Food price inflation. Research Gap shows that the sample size is 1972-2008 according to Abdullah, M. U. H. A. M. M. A. D., & Kalim, R. (2009), but this study conducted the research for 50 years & also considered the effect of population on FPI according to Naz, A., Chaudhry, H. U. R., Hussain, M., Daraz, U., & Khan, W. (2012).

Key words: Inflation, Food export, Food import, Population per capita, GDP, Food price inflation.

1. Introduction:

This topic describes the impact of food export, food import, population, money supply & per capita income on food price inflation. FPI means there is increase in price of particular food item that is also called consumer price inflation. The total number of people live in a region is called population. Food export means the goods that are required by another country. Food import means the goods are required by home country. Per capita GDP it is an indicator of nation's economic performance, as well as standard of living & sometimes its calculated by adding each other's income in a particular period & sometimes calculated by adding the value of final goods in a nation. Now days in the worldwide the rate of food price inflation is increasing. In the world wide 6th November 2009, the whole inflation & FPI rate is 16.5 % & 30.2 % reported by Commodity Research Bureau (2009). In the world in different nations, the rate of FPI is carry on. The vital obstacle in the way of high demand & food price is due to decrease in poverty & enhance the per capita income. By the rise in income level then the nutritional way of life vary, their expenses towards meat & food get higher. For instance, according to Abhayaratne and Kasturi, (2008), in 1985 the per capita expenditure of meat of 20 kilo gram & in 2007 rise up to 50 kilo gram in China. From 2000 -2005, 17 % rise in morsel expenditure in "oil

producing & exporting nations" for the reason of large earning from selling to other countries (World Bank 2007). The rise in inflation destroys the assessment of private agents towards, outflow of capital, deposits, and salary agreements. Due to rise in inflation level the pace of economic growth decreases. Increase in food rates is due to major requirement of Bio fuel in prosperous nations. According to IFPRI (2007), there is an association between food and as well as power rates from the time when 2000, 3 times increase in wheat & oil rates and 2 times increase in rates of rice & corn. The livelihood rate of the family circle is rise in less developed countries by the rise in food prices. Family circle has to decrease the expenditure on food in some portion by the rise in food prices that bring starvation. According to Alderman (2005), in life span the productivity loss due to starvation that is 10 % & in badly affected nations the Gross domestic product loss is 2 to 3 %. Due to high rise in prices, it eats into the advantages of production & makes the poor inferior (Esterly and Fischer 2001). Due to high rise in prices the poor become poorer & it dishearten them, their 50 % of the earning goes towards food. According to Khan et al. (2007), raise the space in wealthy & deprived, it reallocates profit from the unchanging group of income towards the asset's owner plus business owner. In Pakistan few elements are responsible in the way of food price inflation. Due to increase in production in PCI (per capita income) & growth, the household expenditure is rising. In Pakistan there is limited marketing for the food that are unpreserved able & a lack of cold storage for food preservation. So prices rise when greater demand for a products or less supply. According to Sharif et al. (2000), in Pakistan, there is greater financial loss to State with respect to community revenue that is to be together by the way of excise & duties by the govt., when the Pakistan to Afghanistan & Pakistan to Iran unlawfully goods (agriculture & other) are buy & sell. From 1997 to 2008 & 2003 to 2004, it's less than 10 percent & from

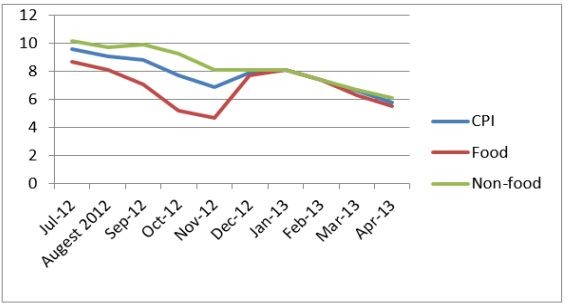
1972-2008, the FPI is 9.9 percent in Pakistan. From the year 2003 to 2004 it's go faster & in 2004 to 2005 its rise up to 12.5 percent. From the year 2007 to 2008 its rate is 17.5 % & from 2008 to 2009 its rate is 26.6 percent. It's reported by the GOP from 2007 to 2009, the increase in food prices is due to increase in foreign food rates & oil rates, due to rise in eatable items like rice, cooking oil, meat, pulses, tea, milk, vegetables, fruits & due to decrease in wheat supply & as well as rise in wheat support prices. Rise in food prices is a point of discussion for planners. The basic aim of this paper is to discover the relation between other factors (food export, food import, per capita GDP, population, money), that rise in food prices. It is necessary to make the policy of income & expenditure for the elements that creates rise in prices. According to Friedman (1963), the rise in price is a monetary event. But according to others supply side expansion is used in defining rise in prices. The rise in price is considered due to wheat support prices in Pakistan. But if the rise in price is considered as monetary event then the SBP & financial system are accountable for balanced price level. When the rise is wheat support prices then there is a prime participation of the "ministry of Agriculture" in creating inflation. The PASSCO (Pakistan agriculture storage & Supplies Corporation) & the provinces acquire the wheat, grip the equipped & planned reserves in order to be able to steady the home wheat market when supply problem occur. The wheat is imported in order to fulfill nation's needs by the TCP (trading corporation of Pakistan). The CPI (consumer price index) contains 0.5 % of the wheat & contains other interrelated products with wheat are 5.1 %. Natural utilization of resources is raised when there is rise in population growth. When population raises then food & material needs raised, they have to be get residence, living needs & nourishment. Natural resources become unproductive by rising consumption of land & resources that result in financial adversity. Particularly, the increase in populace is creating difficulty & requires a lot of

investment in societal infrastructure. Lack of investment, the societal background such as living, transportation, housing, and schooling is declining. The worldwide increase in population rate is 80 percent, at the end of 2011, the 7 billion rises which is more than 2 times from 1956 & expected to be rise in 2050 at 9.3 billion. The worldwide population determines the carrying ability of the earth, choosing the best living style, financial resources to consume resources & technology available. For societal & economic planning the proper data of population is necessary. It's impossible for state to give proper services & infrastructure until it has all information regarding, population age, where they live, their age, occupation, how much they have child, data of married & unmarried, educated & uneducated, migration, birth & death rate etc.

All the data related with food export, food import, money supply, per capita GDP , population & food price inflation is taken from WDI from 1962- 2012. The food price inflation is used in the place of consumer price inflation. All analysis is done through data. All data is only taken from Pakistan that is the limitation of the paper.

Inflation Rate (CPI) Year-On-Year basis in percentage: CPI=consumer price inflation

The relationship of food items, CPI & non food item from June 2012- April 2013 is give below:



Economic Survey of Pakistan

2. Literature Review:

Demand side & as well as supply sides are 2 major elements of rise in price & comes in 2 approaches such as monetarist plus structuralist. According to monetarist point of view, it has its own theoretical base on QTM that is part of classical economic theory that was given by Friedman (1968, 1970 & 1971). The important declaration of this theory is "rise in price is a monetary phenomenon", it is numerically tested by Schwartz (1973). According to monetarist approach that rise in prices due to rise in supply of money by assuming that the balance of real money, rational of economic agent & output do not change. According to Structuralist model of rise in prices that says supply side elements (eatable items rates, salaries, rates of imports & support prices) are responsible for rise in price. Streeten (1962), Olivera (1964), Baumol (1967) and Maynard and Rijckeghem (1976) support the Structuralist approach. In India, the advantages of structuralist approach are favored by Bhattacharia and Lodh (1990). In India, for rise in prices modeling through error correction specification, this structuralist approach is used by Balkrishnan (1992), his opinion is that in industrial region the input cost & workers are the important elements of rise in prices. Prices of food grains are measured by per capita output, per capita income & as well as Govt. procurement in farming region. According to Balkrishnan (1994), the monetarist approach is not good than structural approach. The wide ranging rise in price & food rise in prices is individually considered by Khan and Qasim (1996). According to them, the rise in price is correlated with supply of money (M2), GDP (real) & import prices, there is a positive relationship of M2, import prices on rise in prices, but there is a negative relationship of GDP (real) with rise in prices, they suggest that FPI has a long relationship with M2. The food rise in prices & inflation is observed by Khan and Qasim (1996) separately, according to their research the real gross domestic

product, rate of imports & money supply M2 are co integrated with inflation. There is a positive relationship between money supply & inflation, but there is a negative relationship of gross domestic product with inflation, their study shows that there is a long run relationship of rise in price with M2 (money supply). FPI has positive association with M2 & wheat rates but FDI has negative association with farming output. According to Hasan et al. (2005), from the 5 components of WPI, they observed 3 components such as manufacturing, input (raw material) & food items but the other 2 components are considered as exogenous these 2 components are building material & energy. According to their results, the FPI is negatively affected by supply such as growth of farming items. There is a greater significant & positive effect on FPI by wheat support rates & prediction about future rise in prices, there is insignificant impact of M2 (supply of money) or monetary policy on farming food prices. There is a significant impact of M2 or monetary policy on raw material & manufacturing. Monetary elements show the rise in price in Pakistan, (Khan and Schimimelpfenning 2006). The rise in prices is occurring mainly due to credit production in private region & as well as broad money growth, there is short span rise in prices due to support prices. The monetary distress has a short span effect on farming prices, (Tweeten 1980). According to Devadoss and Meyers (1987) that affect of manufacturing items rates is less than farming rates. According to Saghaian et al. (2002), change in M2 (money supply) in United States of America, to a change in money supply in the U.S.A. the money neutrality does not grip the purpose of farming prices in United States but it is discarded by Xuehua et al. (2004) and Bruno et al. (2005) that the food rates are shown by non neutrality of M2 (money supply). There is a little proving in Pakistan that the farming support prices, international prices & domestic prices have a long run association, (Lorie and Khan, 2006), but it is greater in the wheat's case. The change in exchange rates with respect to

the flexibility in domestic prices is near to harmony for all merchandize. Due to worldwide demand of food items, that creates rise in prices, Johnson, (2008) saving products for potential dealings then greater interest of investors creates FPI. In LDC's of Asia there are many factors like structural plus cyclical are responsible for FPI, reported by Asian Development Bank Report (2008). In many years, the consumption growth had drop down due to production growth. From 2000-07, there is a 43 percent drop down in wheat & rice supply, but in USDA, (2008), due to greater usage of rice, the worldwide market for rice is very low. In Ethiopia, The dynamics of rise in prices & FP is keenly observed by Loening et al (2009), according to their observation that in Ethopia food rates & manufacturer rates brought the home food & non food items rates. FPI is largely affected by rise in prices (inertia) rather than non FPI. The farming supply & inertia affect the rise in prices in short & medium span of time, but it is observed that there is no direct effect on FPI & non FPI by M2 (money supply) & worldwide power rise in prices. According to Dwyer and Hafer (1999), in 2 periods there is relationship in M2 & average inflation from 1987 to 1992 plus 1993 to 1997, in the second period from 1993 to 1997 average rise in price is low. When we move in the direction of zero money growth that might be associated with average money growth of the nation, so the falling relationship between M2 & inflation. A great real cost is imposed by continuously rise in prices (inflation). According to, Fischer, (1981), Feldstein, (1997) and Lucas, (2000), in case of deposit & investment misallocation &loss of real balance, 3 percent loss of real gross national product by 10 percent inflation rate. By incurring expenses on health, education, comfort, security, that's make men to purchase additional eras of utility, there is no reduction in the MU (marginal utility) of living addition. Consequently, Hall and Jones, (2007), most of the spending goes toward health & health is increase by income level. There is approximate effect on

income level by alteration in life expectancy, (Acemoglu and Johnson 2007). Population growth is affected by change in life expectancy. About one percent increase in life expectancy then 1.5 percent increase in population, but there is a little effect of life expectancy (first & the foremost part & 40 periods) on GDP, but on the other way, there is no verification that the per capita rise in economic development is affected by rise in life expectancy. According to Benabou (1992), he adjust in United States trade center the markup & inflation, in this region he stats when the investigation cost is low then empirically it performs credible relationship in inflation & markup, he states the on retail mark up there is worse effect of inflation. The Benabou interpret his findings that for prediction, better-quality price diffusion is guided by pricing theory in the proxy of rise in price. According to Denison (1981), import price index discourage the net export &establish the phrase "command gross domestic product" in order to explain the gross domestic product in united states, in 1993, this is well defined by SNA. In US, when they are developing the command of gross domestic product then the terminology & methodology is utilized by products accounts & as well as national income that is given by Denison (1981). The FPI is considered by M2 (supply of money), Wheat support prices plus additional cost in production process (Khan and Qasim 1996). NFPI (non food price inflation) is considered by M2, import rates, power rates & real gross domestic product. That is surprising that food prices are effected by wheat support rates & it is estimated that the in the catalogue 14 % participation of wheat items. However this does not mean that one specific item overstates the rise in price. Khan and Qasim determine that money supply M2, import rates & real gross domestic product determine the rise in prices (inflation). According to Sherani (2005), consumer price inflation raise when the wheat carry prices rise in Pakistan, he places of interest that the high inflation by building the moveable monetary setup that results in financial fall down in

2005.

3. Methodology and Data Source

Hassan et al., (1995); Khan and Qasim, (1996); Callen and Chang, (1999); Bokil and Schimmelfennig, (2005) and Khan and Schimmelfennig, (2006) state that there are some samples that represent the demand & supply side elements. According to Khan and Schimmelfennig (2006), the demand & supply side elements of FPI are determined by stylized hybrid monetarist's structuralist model.

$$LFPI_t = ß0_+ ß1\ LM_t + ß2LGDP_t + ß3\ LFX_t + ß4\ LFM_t + ß5LPo_{t+}\ E_t \quad (1)$$

Where
t= 1, 2, 3, …., 50. (Time period ranging from 1961-2013)
LFPIt = Food Price Inflation (CPI food as proxy of Food Price Inflation) in annual % in time t
LMt =Money Supply (M in current LCU) in time t
LGDPt = Per Capita GDP (in current LCU) in time t
LPt = Population (total) in time t
LFXt = Food Export (as percentage of merchandise export) in time t
LFMt= Food Import (as percentage of merchandise imports) in time t.
ß0 it is an intercept.
ß1, ß2, ß3, ß4, & ß5, are the coefficients.
E_t it is an error term.

The model consists of 6 variables, Food price inflation, food export, food import, money, per capita GDP & population. The subscripts" represents respective variables at time t. amongst these variables, food price Inflation is specified as the dependent variable and the remaining 3 are as the explanatory variables.

Johansen Co-integration Test:

This technique is used to test the long run relationship among the variables. In this paper this test is applied to check how many vectors are co-integrating but the Engle & Granger (1987) technique is also used for checking the long rub

relationship but this is not good than Johansen (1988) and Johansen and Juselius (1990). Two steps estimation is in Engle and Granger (1987) test but if we see the Johansen (1988) and Johansen and Juselius (1990), then there are the number of co-integrating vectors.

Data Sources:

Data from 1960-2012 is taken, all data is taken from WDI (world development indicator) 2012 online database. According to … FPI is taken as proxy of consumer price inflation.

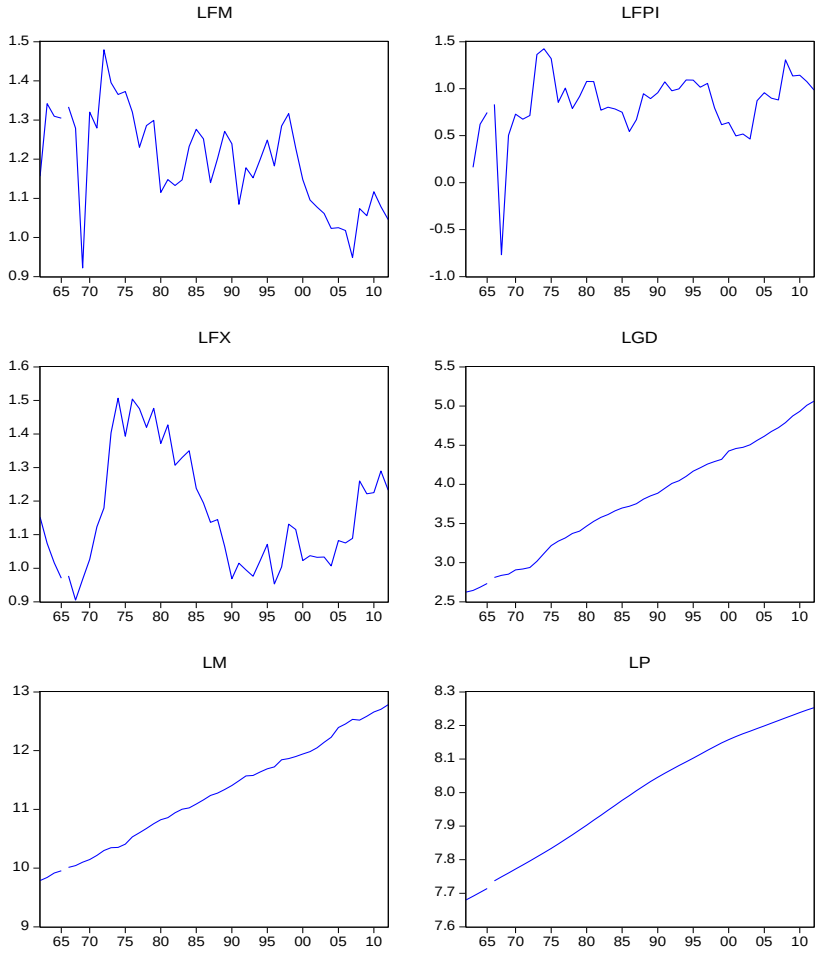
ESTIMATION OF THE MODEL (for empirical Analysis):

Data of time series from 1962-2012 is taken with 6 variables for analysis. Then 1st of all stationarity of the data is checked otherwise there will problem arise in economic results. After this co-integration & error correction is applied. Phillips- perron test is used to check the stationarity of the data rather than ADF.

Phillips-Perron test at Level:				
Variables	**Without Trend**	**Prob. Values**	**Trend & Intercept**	***Prob. Values**
LNFPI	-0.808466	0.3607	-4.411725	0.0050
LNFM	-0.44406	0.5172	-4.983545	0.0010
LNFX	-0.123155	0.6362	-1.885998	0.6466
LNGDP	13.57086	1.000	-2.198087	0.4800
LNM2	17.31762	1.000	-2.893720	0.1734
LNPOP	13.15136	1.000	2.110567	1.000
Phillips-Perron test at 1st Difference:				
LNFPI	**-13.83442	0.000	-	-
LNFM	**-15.82721	0.0000	-	-
LNFX	**-7.095764	0.000	-	-
LNGDP	-1.268829	0.1856	*-5.431101	0.0003
LNM2	-1.823067	0.0654	**-6.972208	0.000
LNPOP	-0.696985	0.4097	*-4.908824	0.0012
Note: * represents significant level at 1%. ** represent significant level at 5%.				

Food export, GDP per capita, money & population is non stationary at level, so 1st difference is taken to check the stationarity of the data, and then all variables are significant at 5%. Order of integration is checked by Phillips –perron test so all are integrated at order 1(1).

Unit root graphs:



Johanson Co-integration test:

Co-integration among variables:

After applying the Phillipes-perron test all are integrating at

level 1(1). The long run relation of food export, food import, money, population, FPI & per capita GDP is check by Johansen-co integrating test.

Unrestricted co-integration rank test (trace):

Hypothesized No. of CE(s)	Eigen value	Trace Statistics	0.05 Critical Value	Prob.
None *	0.633530	125.5529	95.75366	0.0001
At most 1 *	0.486813	77.36869	69.81889	0.0110
At most 2	0.450531	45.34720	47.85613	0.0844
At most 3	0.178954	16.60465	29.79707	0.6691
At most 4	0.136243	7.140210	15.49471	0.5614
At most 5	0.002288	0.109931	3.841466	0.7402

(1): Trace test indicates 2 cointegrating eqn(s) at the 0.05 level ,(2)* denotes rejection of the hypothesis at the 0.05 level(3) **MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Co-integration rank test (Maximun Eigen value):

Hypothesized No. of CE(s)	Eigen value	Trace Statistics	0.05 Critical Value	Prob.
None *	0.633530	48.18426	40.07757	0.0050
At most 1	0.486813	32.02148	33.87687	0.0819
At most 2 *	0.450531	28.74255	27.58434	0.0354
At most 3	0.178954	9.464443	21.13162	0.7933
At most 4	0.136243	7.030279	14.26460	0.4856
At most 5	0.002288	0.109931	3.841466	0.7402

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

From the trace statistics & maximum Eigen value table shows that there are 2 co-integrating equations, so there is a long run relation among variables.

Error Correction Model: In error correction model a short run & long run relation is checked, so in short run there is a significant & positive impact of food export & per capita GDP

on FPI in short run, but in long run food export & per capita GDP have also significant & positive impact on FPI.

Variable Name	Coefficients	Standard Error	T test	Prob. value
C	-33.73392	17.15011	-1.966980	0.0567
D(LNFX)	1.334773	0.501088	2.663750	0.0114
D(LNGDP)	5.308399	2.053244	2.585372	0.0138
D(LNM2)	1.333249	1.261304	1.057040	0.2973
D(LNPOP)	19.96240	18.18771	1.097576	0.2795
D(LNFM)	0.105607	0.514074	0.205432	0.8384
LNFPI(-1)	-0.978579	0.167222	-5.851980	0.0000
LNFX(-1)	0.832398	0.307456	2.707375	0.0102
LNGDP(-1)	-2.607344	1.153554	-2.260271	0.0298
LNM2(-1)	1.630076	0.873425	1.866303	0.0699
LNPOP(-1)	3.059786	2.445509	1.251186	0.2187
LNFM(-1)	0.092521	0.594943	0.155512	0.8773

Over all goodness of model:

Overall model is good fit because the 63 % variation in FPI is due to independent variables.

R-squared	0.630140
Adjusted R-squared	0.520181
Durbin-Watson stat	1.884939
F-statistic	5.730707
Prob(F-statistic)	0.000026

Correlation: It means association among variable, it shows what degree of relationship among variable whether strong, weak & moderate.

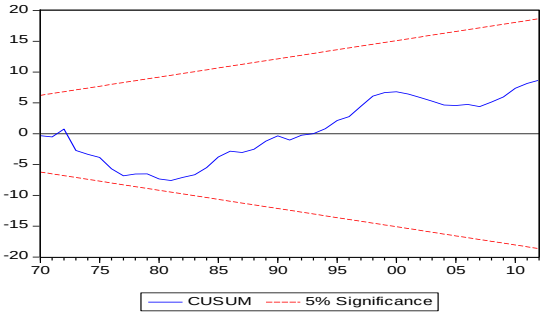
Variables	LFPI	LFM	LFX	LGD	LM	LP
LFPI	1.000000	-0.021805	0.414373	0.336289	0.334442	0.330271
LFM	0.021805	1.000000	0.226153	-0.637936	-0.644089	-0.619225
LFX	0.414373	0.226153	1.000000	-0.121476	-0.144235	-0.167110
LGD	0.336289	-0.637936	-0.121476	1.000000	0.998154	0.993970
LM	0.334442	-0.644089	-0.144235	0.998154	1.000000	0.993859

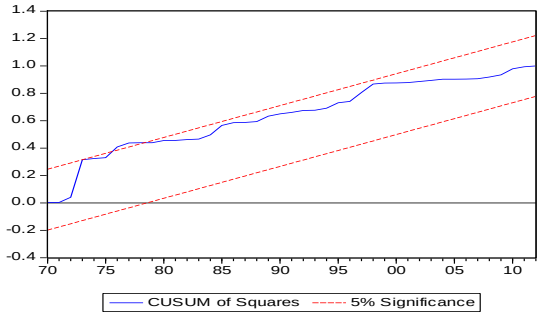
LP	0.330271	-0.619225	-0.167110	0.993970	0.993859	1.000000

There is weak & positive relation between LFPI & LFM, moderate & positive relation between LFPI & LFX and there on there is weak & positive relation in LFPI & LGD.

Stability Test:

The CUSUM & CUSUM square shows the coefficients re stable or not whether in critical boundaries or not. It checks the correct specification of the model. The all data is in the critical boundaries of 5 % significance.





Conclusion:

In the world wide 6th November 2009, the whole inflation & FPI rate is 16.5 % & 30.2 % reported by Commodity Research Bureau (2009). In the world in different nations, the rate of FPI is carry on. The vital obstacle in the way of high demand & food price is due to decrease in poverty & enhance the per

capita income. By the rise in income level then the nutritional way of life vary, their expenses towards meat & food get higher. For instance, according to Abhayaratne and Kasturi (2008). In 1985 the per capita expenditure of meat of 20 kilo gram & in 2007 rise up to 50 kilo gram in China. From 2000 -2005, 17 % rise in morsel expenditure in "oil producing & exporting nations" for the reason of large earning from selling to other countries (World Bank 2007). The rise in inflation destroys the assessment of private agents towards, outflow of capital, deposits, and salary agreements. Due to rise in inflation level the pace of economic growth decreases. Increase in food rates is due to major requirement of Bio fuel in prosperous nations. According to IFPRI, (2007), there is an association between food and as well as power rates from the time when 2000, 3 times increase in wheat & oil rates and 2 times increase in rates of rice & corn. The livelihood rate of the family circle is rise in less developed countries by the rise in food prices. Family circle has to decrease the expenditure on food in some portion by the rise in food prices that bring starvation. According to Alderman (2005), in life span the productivity loss due to starvation that is 10 % & in badly affected nations the Gross domestic product loss is 2 to 3 %. Due to high rise in prices, it eats into the advantages of production & makes the poor inferior (Esterly and Fischer 2001). Due to high rise in prices the poor become poorer & it dishearten them, their 50 % of the earning goes towards food. According to Khan et al, (2007), raise the space in wealthy & deprived, it reallocates profit from the unchanging group of income towards the asset's owner plus business owner. In Pakistan few elements are responsible in the way of food price inflation. Due to increase in production in PCI (per capita income) & growth, the household expenditure is rising. In Pakistan there is limited marketing for the food that are unpreserved able & a lack of cold storage for food preservation.

Time series data from 1962-2012 is taken from WDI online database. Phillips- perron test is used to check the stationarity

of the data, at level some are stationarity but at 1st difference all are stationary. Then Johansen co-integration technique is used to check in long run how many vectors are co-integrating, so by trace statistics 2 equations are co-integrating & by maximum Eigen statistics there are also 2 equations are on-integrating, so it shows there is a long run relation in LFPI, LFX, LFM, LM, LGD & LP.

Error correction model is used to check the long & short run relation among variables, so in long & in short run there is significant & positive relation of LFX & LGD impact on LFPI. Correlation, it means association among variable, it shows what degree of relationship among variable whether strong, weak & moderate. There is weak & positive relation between LFPI & LFM, moderate & positive relation between LFPI & LFX and there on there is weak & positive relation in LFPI & LGD. From the all findings the supply & demand side factors are responsible for generating rise in prices, due to empirical finding there is no relation of LM & LPI, so this is not a monetarist approach.

Limitation:

This study analyzes the food price inflation in Pakistan. Data is just taken from one source, & just limited variables are used to check the food price inflation, other variables like GNP, national income, agriculture prices are also taken to check this effect.

Recommendations:

From empirical analysis there is significant & positive relation in Food export & food rise inflation, so govt. should restrict export, 1st of all country needs should be fulfilled then it is exported. Smuggling of goods from one to other country should be properly checked. There is no empirical relation in money &

Food price inflation so it is a non monetary phenomenon, so LFPI is not affected by supply of money. Govt. should promote credit in private regions like agriculture sector etc. Per capita GDP has significant impact on food rise inflation, because the % share in GDP is increasing more than Agriculture sector. Govt. should make proper policies in order to cover the production deficiencies. Government should provide easy loan to the agriculturists so that they can meet their expenses towards input cost, modern technology.

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