e-ISSN : 2347 - 9671, p- ISSN : 2349 - 0187

EPRA International Journal of Economic and Business Review | Vol - 4, Issue- 1, January 2016

Inno Space (SJIF) Impact Factor : 4.618(Morocco) ISI Impact Factor : 1.259 (Dubai, UAE)

EMPIRICAL INVESTIGATION OF INFLATION: SHORT TERM AND LONG TERM PERSPECTIVES

Bashir Ahmed[1]

[1]Lecturer at Department of Economics and Agri. Economics, PMAS Arid Agriculture, Rawalpindi, Punjab, Pakistan.

Muhammad Waqas Khalid[2]

[2]M.Phil Economics Department of Economics and Agri.Economics, PMAS Arid Agriculture Rawalpindi, Punjab, Pakistan.

Ashar Sultan Kayani[3]

[3]M.Sc. (Hons)Department of Economics and Agri. Economics, PMAS Arid Agriculture Rawalpindi, Punjab, Pakistan.

Adil Hameed Shah[4]

[4]M.Phil Economics Department of Economics and Agri.Economics, PMAS Arid Agriculture Rawalpindi Punjab, Pakistan.

ABSTRACT

Probably ascend in the general value levels of merchandise and administrations seriously influence the monetary execution. Motivation behind each nation is to support low and generally stable levels of expansion. The present study centers to explore interest side and in addition supply side components which are influencing buyer value file in long run and short run. For this reason time arrangement information from 1980 to 2012 has been utilized. Johansen Co-Integration methodology is utilized to check long run relationship among variables and Vector Error Correction Model is used for short run relationship among concerned variables. The finding of the study uncovered that in long haul just three variables cash supply, government consumption and imports are absolutely influencing expansion while total national output and government income is declining purchaser value record in Pakistan. In the short run just two variables government use and import has constructive outcome on swelling. Coefficient of ECM (- 1) is - 0.84 which is show fast of meeting towards harmony. Change in government burning through, cash supply and imports is vital yet it is prescribed that remaining value level stable there ought to be ideal level of all variables.

KEYWORDS: *Inflationary Circumstance, Financial Execution, Unemployment Rate, Tight Money*

INTRODUCTION

The support of value dependability is one of the macroeconomic difficulties confronting the Pakistani government in our financial history. This indefinable component is distinguished and known as swelling in financial aspects and business analysts characterize expansion such that ceaseless ascent in costs. By definition, swelling is ascend in costs as well as this development must be constant and considerable in the general level of costs. Therefore, when increment in value level would be consistent, industrious and constant than this will be called swelling. This development on value level not ought to be consecutive but rather impact each merchandise. In an inflationary circumstance, it is convoluted to the local coin to continue as a medium of trade and as a store of worth staying away from terrible impact on pay dispersion, business, and national pay. In other word because of Inflation household coin lose her worth and swapping scale raise as look at other country's monetary forms. (Fatukasi 2002). This is genuinely reasonable on account of the value of the rupee that was Rs 9.9 to $1 (one US Dollar) in 1977 to 1981, in 2007 was come to of Rs 60 to $1 and now in 2013 it is over Rs 103 to $1. This deterioration of rupee bas been found in the inflationary period in Pakistan. , and this extreme decrease in household coin has prompted unsavory impact on way of life of individuals of Pakistan. High expansion is awful for the economy and has hurtfully impact on financial execution. While some time moderate expansion likewise destructive for venture and utilization choices. Some time diminishing expansion is additionally taken a toll that prompt yield misfortunes and high unemployment rate. The situation of expansion is identified with national limits, and brought about rising value level. In this period of globalization, the result of financial swelling crosses fringes and enters each creating and created nation. At the point when an excess of cash will be available for use, this will prompt increment in expense of generation raises creation costs, devaluation in household money, and decreases in the availability of deficient assets, for example, sustenance or oil and so forth which are the major reasons for expansion. If there should arise an occurrence of pakistan amid 2001-12, the expansion has uncovered a blended pattern. Amid 2001-04 expansion stayed little however CPI shot up in 2004-05 and it came to 9.3 percent. It dropped to 8 percent in 2005-06 however it again shoot up in 2006-08 and landed at to its verifiable abnormal state because of expansion in worldwide costs, increment in wheat games costs and money related approach. However, subsequent to coming to the most elevated amount, again expansion diminished 11.5 percent amid 2010-11. Because of tight money related strategy again swelling dropped 10 percent amid 2011-1012

OBJECTIVES OF STUDY

1. To research interest side and supply side determinants of swelling on the premise of measurable basis and additionally on monetary paradigm.
2. To fine out long keep running and in addition short run impacts of some macroeconomic variables on expansion of Pakistan.
3. To propose some strategy suggestion.

REVIEW OF LITERATURE

There are numerous studies on fleeting and long haul swelling at national and global level. Some vital studies are audited.

Khan et al., (2007) have discovered the most noteworthy informative elements for late swelling patterns in Pakistan. Time arrangement information from 1972 to 2005, has been utilized as a part of the study. The creators have utilized common minimum square technique to gauge results. The examination presumes that administration division acquiring, genuine interest, private segment getting, import costs, swapping scale, government charges, earlier year shopper value file and wheat bolster costs are found to have direct commitment in customer value file of Pakistan.

Muhammad et al., (2009) have researched relationship between cash supply, government use, yield and cost in Pakistan. They utilized yearly information from 1977 to 2007. Creators have connected Johansen Co-Integration test to discover result. The examination reasons that cash supply have absolutely affects on swelling in long run while government consumption adversely impacts in long run.

Ahsan et al., (2011) have investigated variables of nourishment cost in Pakistan by utilizing information from 1970 to 2008. To see long run relationship they connected Autoregressive Distributed Lag Model, and presumed that request side element, for example, cash supply is a primary driver of expansion nourishment cost in short keep running and in addition long run, though supply side variable impactsly affect sustenance cost.

Dizaji et al., (2012) explore short run and long run relationship between variables. total national output, cash supply, outside value, imports, and conversion scale are chosen as an autonomous variable. By utilizing Johansen Co-Integration test, Error Correction Model and causality rest result is reasoned that there is long run relationship between GDP, cash supply, swapping scale

and expansion, while impact of remote cost on local cost is short run.

Akinboade et al., (2004) look at the significant determinant of swelling is South Africa applying so as to utilize yearly information from 1960 to 1999 Co–Integration approach. They express that in long run cash supply, swapping scale and rising work expense influence residential value while ostensible loan fee have inconsequential impact on local cost in short run.

Basher and Elsamadisy (2012) explore swelling in fleeting and long haul point of view. They utilize yearly information from 1980 to 2008 and apply Co-Integration methodology and Error Correction Model .Result demonstrates that cash supply is a noteworthy determinant of swelling in short keep running and also long run while outside cost and ostensible conversion scale are influence expansion more in long run instead of short run.

Shahadudheen (2012) contemplated Behavior and Determinant of Inflation in India by applying Johansen Co-Integration Approach and Error Correction approach. He utilized quarterly information from 1999-1 to 2009-2. He utilized total national output, cash supply, financing cost and swapping scale as a variables. Study proposes that GDP and cash supply have constructive outcome on swelling in long run while loan fee and swapping scale have negative impact on expansion in long run.

Kuijs (1998) analyzed pattern of swelling in fleeting and long haul. They utilized Co–Integration approach for investigating, and reasoned that there is long run relationship in the middle of expansion and cash development and conversion scale, white long run impact of imports cost is unimportant.

Liu and Adedeji (2000) have set up a structure for dissecting the significant determinants of swelling in the Islamic Republic of Iran. Time arrangement information has been browsed 1989 to 1999 for this study. The creators have connected Johansen Co-Integration test and Vector Error Correction Model to inspect the outcomes. The investigation has found that slack estimation of cash supply, money related development, four years past expected rate of swelling are emphatically contributed towards expansion while two years past estimation of trade premium is contrarily associated with swelling.

Khan and Gill (2010) broke down Determinants of applying so as to swell in Pakistan Ordinary Least Square Method. They utilized diverse marker for swelling Cpi, Wpi, Spi and GDP deflator, conversion scale, wheat bolster cost, monetary deficiency, bolster cost of sugarcane, imports, loan fee, bolster cost of cotton and cash supply have been chosen as an informative variables. They found that these all variables are straightforwardly identified with swelling aside from loan fee that is by implication identify with expansion in long run.

Sowa (1996) examined Policy Consistency and Inflation in Ghana. By utilizing Error Correction Model to analyze short run impact he presumed that Inflation is more affected by total national output than fiscal elements. He additionally reasoned that reliable monetary shortfall is not reason for swelling in short and long run however conflicting financial shortage is reason for expansion.

Khan and Schimimelpfenning (2006) found that fiscal elements decided the expansion in Pakistan. Expansive cash development and private area credit development were the key variables of swelling. They included cash supply and acknowledge to private area as standard money related variables, conversion standard and wheat bolster costs as supply side components. Bolster costs affected expansion just in short run.

Laryea and Sumaila (2001) have examined significant determinants of swelling in long haul and transient viewpoint. By utilizing quarterly information from 1992:1 to 1998:4 and utilizing Error Correction Model, they figure out that swelling in short run and long run more affected by financial component with the exception of swapping scale have just short run sway on expans

MATERIALS AND METHODS

The present study estimates the relationship between inflation and other factor of inflation in Pakistan. The main focus of this study is to find the major demand side and supply side factor which effects the inflation. The technique of data collection and analysis play important role in the research process. In order to analyze, secondary data and available information used from the time period 1980 to 2012.

1 DATA SOURCES

In this study Annual data of concerned variables has been used from 1980 to 2012. Data of all variables have been collected from various issues of Pakistan Economic Survey and World Development Indicators (WDI) online database by World Bank and Handbook of statistics (2010) on Pakistan Economy published by government of Pakistan.

2 METHOD OF ANALYSIS

2.1 Johansen Co-Integration Test

Co-integration is a very famous econometric method that is used to investigate long run relationship among variables. In our study Johansen co-integration approach has been used to find out long-run relationship

among the variables. Johansen co-integration method (1988) is a superior method than Engle and Granger (1987). Engle and Granger (1987) technique just investigates one co-integrating vector.

While VECM technique has been used to examine short run relationship among concerned variables.

$$\Delta LNCPI_t = \alpha_0 + \sum_{i=1}^{q} \alpha_{1i} \Delta LNM2_t + \sum_{i=1}^{q} \alpha_{2i} \Delta LNGDP_t + \sum_{j=1}^{q} \alpha_{3i} \Delta LNGE_t +$$

$$\sum_{i=1}^{q} \alpha_{4i} \Delta LNGR_t + \sum_{j=1}^{q} \alpha_{5i} \Delta LNEX_t + \sum_{j=1}^{q} \alpha_{6i} \Delta LNIMP_t + \delta ECM_{t-1} + \mu_t$$

If the coefficient (δ) of ECMt-1 will be negative and statistically significant, it means short run relationship will exist among concerned variables. The value of coefficient of ECM(t-1), (δ) describes the speed of adjustment towards the long run equilibrium. Negative sign of coefficient tells about convergence to the long run equilibrium and positive sign explains divergence from the long run equilibrium. According to Kremir (1992) and Banirjee (1997), negative sign of coefficient δ and significantly prob. Value of F- statistics of ECM(t-1) is another evidence for finding cointegration relationship.

3 STATISTICAL MODEL

$$LnCPI_t = f(LnM_2, LnGDP_t LnGE_t, LnGR_t, LnEX_t, LnIMPM_t)$$

T = 1, 2, 3, ..., 33. (Time period from 1980 – 2012)

LnCPI = Log of Consumer Price Index

LnM2 = Log of Broad Money Supply in million rupee

LnGDP = Log of percentage Growth Rate of Gross Domestic Product

LnGE = Log of Government Expenditure in million rupee

LnGR = Log of Government Revenue in million rupee

LnEX = Log of Value of Exports in million dollars

LnIMP = Log of value of imports on million dollars

Equation (1) has been rewritten for estimation as follows

$$LnCPI = \beta_0 + \beta 1 LnM2 + \beta 2 LnGDP + \beta 3 LnGE + \beta 4 LnGR + \beta 5 LnEX + \beta 6 LnIMP + \mu_t$$

Where β_0 is intercept and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are coefficients of LnM2, LnGDP, LnGE, LnGR, LnEX, and LnIMP respectively, and μ_t is an error term.

4 STATIONARITY AND NON-STATIONARITY

In time series analysis , most variables such as , expenses ,prices , exports and imports are not stationary . Philips says that results of non stationary data by using different approaches will be spurious with R-squared value will be very high (close to one) and the t –statistic F – statistic is very high and significant . if time series is stationary in economic analysis without making any difference , it will be considered order zero I (0) , and if data is stationary after taking first differenc it is called order one, I (1)

ADF is primarily used the economic analysis that projects by Dickey and Fuller to check the time series data while it is stationary or not

There are two steps of Augmented Dickey and Fuller unit root test.

In first step, OLS is regressed on the following equations

And check the t-statistics values.

$$\Delta Y_t = \gamma Y_{t-1} + \sum_{j=1} \lambda_i \Delta Y_{t-i} + \mu_{1t}$$

$$\Delta Y_t = \beta_0 + \gamma Y_{t-1} + \sum^{n} \lambda_i \Delta Y_{t-i} + \mu_{2t}$$

$$\Delta Y_t = \beta_0 + \beta_1 t_1 \gamma Y_{t-1} + \sum^{n} \lambda_i \Delta Y_{t-i} + \mu_{3t}$$

Where

$$\Delta Y_t = Y_t - Y_{t-1}$$

n= number of lags.

In second step, through following Hypothesis existence of unit root is determined;

H_0 $\alpha = 0$ for non-stationary if t-calculated > t-tabulated

H_1 $\alpha < 0$ for stationary if t- calculated < t-tabulated

EMPIRICAL RESULTS

Unit root test

In our study we used ADF unit root test to determine the stationarity and order of integration in time series data, and Schwarz Information Criterion was used for maximum lag assortment. The results of ADF test has been shown in following table. The reported result in table 1 reveals that our targeted variables are non stationary at level due to statistically insignificant t-statistics of ADF tests of variables. yet our variables are statistically significant at first differences 5 percent level of significance. Order of integration has been determined from unit root tests. Results explain that concerned variables are integrated at first difference and there order of integration is one I (1).

TABEL 1 AUGMENTED DICKEY-FULLER (ADF) TEST AT LEVEL

(ADF) Test at Level			(ADF) Test at 1st difference	
Variables	**Without trend**	**Prob. values**	**Without trend**	**Prob. values**
LNCPI	-2.6048	0.1025	-6.3372	0.0000
LNM2	-0.9650	0.7536	-4.5243	0.0011
LNGDP	-2.7045	0.0921	-8.4249	0.0000
LNGE	-0.7681	0.8141	-7.3256	0.0001
LNGR	-0.6899	0.9900	-5.9483	0.0000
LNEX	-0.0807	0.9433	-6.8271	0.0000
LNIMP	-0.6117	0.9879	-4.4597	0.0013

CO-INTEGARTION AMONG THE VARIABLES

If order of integration is same in concerned variables, then Johansen co integration technique can be used to investigate the long-run relationship of inflation, money supply, growth rate of GDP, government expenditure, government revenue, value of exports and imports. After applied the Johansen co -integration technique following results have been reported in table 5.

NO. OF CO-INTEGRATED VECTORS

Table 2 shows that null hypothesis is rejected after using Johansen co-integration approach that there is no co-integrated vector at the 5 percent level of significance and study indicates that long run relationshipexist among concerned variables. Trace statistics and maximum Eigen value verify existence of co-integration and similar integer of co-integrated vector. Value of Trace Statistics is 175.77 that is greater than 111.78 critical value at 5 percent level of significance. So null hypothesis that is $r^*=0$ is rejected in favor of r=1, the null hypothesis are also rejected $r^*=1$ and $r^*=2$ against alternative hypothesis r=2 and r=3 because Trace Statistics 112.92 and 73.18 are greater than critical values 83.93 and 60.06 at 5 percent level of significance. The maximum Eigen values 62.84, 39.74, 35.71 are also greater than critical values 42.77, 36.63, 30.43 at 5 percent level of significance so that null hypothesis $r^*=0$, $r^*=1$ and $r^*=2$ are also rejected against alternative r=1, r=2 and r=3. So by using Johansen co-integration technique and measuring the Trace Statistics and Maximum Eigen Statistics we conclude that there are three co-integrating vector in long run.

Table 2 Unrestricted Co-integration Rank Test (Trace)

Unrestricted Co-Integration Rank Test (Trace)					
H_0	H_1	Eigen value	Trace Statistic	0.05Critical Value	Prob.
$r=0^*$	r=1	0.868316	175.774	111.7805	0.0000
$r=1^*$	r=2	0.722542	112.9297	83.93712	0.0001
$r=2^*$	r=3	0.684011	73.18507	60.06141	0.0026
r=3	r=4	0.462498	37.47157	40.17493	0.0912
r=4	r=5	0.367444	18.22605	24.27596	0.2392
r=5	r=6	0.115864	4.028444	12.32090	0.7068

Table3 Unrestricted Co-integration Rank Test (Maximum Eigen value)

Unrestricted Co-integration Rank Test (Maximum Eigen value					
H_0	H_1	Eigen value	Max-Eigen Statistic	0.05Critical Value	Prob.
r =0*	r =1	0.868316	62.84775	42.77219	0.0001
r =1*	r =2	0.722542	39.74460	36.63019	0.0209
r =2*	r =3	0.684011	35.71351	30.43961	0.0100
r =3	r =4	0.462498	19.24552	24.15921	0.2016
r =4	r =5	0.367444	14.19761	17.79730	0.1605
r =5	r =6	0.115864	3.817484	11.22480	0.6576
r =6	r =7	0.006782	0.210961	4.129906	0.7025

**represent rejection of null hypothesis at 5 percent level of significant*

After proving long run relationship between inflation, money supply, gross domestic product, government expenditure, government revenue, imports and exports, Long run results are reported under table.

Table 4 Long Run Relationships

Dependent Variable= LNCPI				
Variables	**Coefficient**	**Std. Error**	**T-Statistics**	**Prob. Value**
Constant	-25.36633	12.24745	-2.071152	0.0488
LNM2	1.287965	0.855422	1.505650	0.1447
LNGDP	-0.309807	0.155553	-1.991644	0.0574
LNGE	0.737064	0.831632	0.886286	0.3839
LNGR	-1.128492	1.023281	-1.102818	0.2806
LNEX	0.759350	0.595525	1.275094	0.2140
LNIMP	1.319384	0.312931	4.216211	0.0003
@trend	-0.283062	0.148965	-1.900187	0.0690
R- Squared = 0.638112			Sum squared resid = 2.347826	
Adjusted R- Squared = 0.536784			F-statistics = 6.297459	
Log likelihood = -3.215177			Prob. (F-statistic) = 0.000252	
Durbin-Watson stat = 1.827154				

In above table long run results presume that cash supply is straightforwardly identified with the swelling in Pakistan. The coefficient of cash supply is certain that demonstrates the immediate relationship between cash supply and swelling. Estimation of coefficient of cash supply is 1.28 that shows that in long run 1 percent bring up in cash supply coming about 1.28 percent bring up in swelling on the normal.

As development rate of total national output has negative association with buyer value file. Government uses are likewise created to build shopper value record in Pakistan. Government use has direct association with buyer cost file and estimation of coefficient of government use is 0.73 which demonstrates by and large 1 percent expansion in government use prompts 0.73 percent bring purchaser value list up in long run. So also, government income, it effectsly affects shopper value record. The indication of coefficient of government income is negative with quality measured 1.13, that uncovers that in long run one percent expansion in assessment accumulation prompts 1.13 percent decrease in shopper value record on the normal. Essentially imports and fares have beneficial outcome on swelling.

SHORT RUN DYNAMICS

Vector Error Correction Model has been applied to investigate the short run dynamics. Following results have been estimated after using VECM technique.

Table 5 VECM Short Run Relationships

Dependent Variable = ΔCPI				
Variables	**Coefficient**	**Sdt. Error**	**T-Statistics**	**Prob. Value**
C	0.103552	0.185442	0.558406	0.5817
D(LNM2)	-0.363326	0.961849	-0.377737	0.7089
D(LNGDP)	-0.237308	0.094430	-2.513046	0.0191
D(LNGE)	0.279465	0.526161	0.531140	0.6002
D(LNGR)	-1.437068	0.835971	-1.719040	0.0985
D(LNEX)	-0.388104	0.530976	-0.730926	0.4719
D(LNIMP)	1.630028	0.487740	3.342005	0.0027
ECM(-1)	-0.841613	0.172958	-4.866010	0.0001

R- Squared = 0.658854 Sum squared resid = 1.573692
Adjusted R- Squared = 0.559353 F-statistics = 6.621587
Log likelihoo = 2.801125 Prob. (F-statistic) = 0.000204
Durbin-Watson stat = 1.857740

Results shows that just three variables imports , total national output and government income are factually huge and influencing expansion in short run while different variables trades , government use and cash supply are measurably inconsequential in short run.

Mistake revision term in our short run progress is factually noteworthy. Furthermore, its sign is negative. It is confirmation that long run relationship present among the variables we researched in our study. The negative estimation of coefficient of ECM (t-1), which is (-0.84), demonstrates fast of union towards harmony.

CONCLUSION

As of late, expansion has expanded forcefully on worldwide level. It has raised the living expense of individuals especially in creating nations, for example, Pakistan which brings about starvation and efficiency misfortunes.), Time arrangement information from 1980 to 2012 of pertinent variables had been utilized for exact investigation. At the outset we check stationarity of time arrangement information through (ADF) unit root test. Every concerned variable were factually critical at first distinction. so Johansen co-incorporation system had been utilized to research the long run connections. vector Error Correction Model (ECM) was connected for the short run examination. . Consequences of study explored that cash supply, government uses, fares and imports are affecting swelling in long run. In short run just two variables government use and imports are expanding customer value index.At the end it is prescribed that legislature needs to control her consumption to control expansion. Government ought to decline getting; government obtaining expands cash supply and more dissemination of cash improve expansion in economy. Volume of imports ought not be higher that expand the costs.

REFERENCES

1. *Ahsan, H., Z. Iftikhar and M. A. Kemal. 2011. The Determinant of Food Prices: A Case Study of Pakistan. PIDE Working papers 2011-76. Website: http:// www.pide.org.pk*
2. *Akinboade, O. A., F. K. Siebrits and E. W. Niedermeier. 2004. The Determinant of Inflation in South Africa: An Econometric Analysis. AERC Research Paper 143 African Economic Research Consertium Nairobi.*
3. *Asteriou, D. (2006). Applied Econometrics A modern approach using Eviews and Microfit. Palgrave Macmillan.*
4. *Autoregressive Time Series with a Unit Root. Econometrica, 49(4), 1057- 1072.Autoregressive Time Series with Unit Root. Journal of the American Statistical*
5. *Basher, S. A. and E. M. Elsamadisy. 2012. Country heterogeneity and long run determinant of inflation in Gulf Arab States. OPEC Energy Review June 2012.*
6. *Dickey, D.A. and W.A. Fuller. (1979). Distribution of the Estimation.*
7. *Dickey, D.A. and W.A. Fuller. (1981). Likelihood Ratio Statistics Engle, R. F. and C. W. J. Granger. 1987. Co-integration and error-correction: Representation, estimation, and testing. Econometrica, 55, 251-276.*
8. *Dizaji, S. F. and E. H. Nasab, R. Najarzadeh and A. Assari. 2012. Analysis of Domenstic Price and Determinants of Inflation in Iran. J. Basic. Appl. Sci. Res.2 (8)8435-8448. www.textroad.com*
9. *Dizaji, S. F., E. H. Nasab, R. Najarzadeh and A. Assari. 2012. Analysis of Domenstic Price and Determinants of Inflation in Iran. J. Basic. Appl. Sci. Res.2 (8)8435-8448.*

10. *Government of Pakistan (2010). Handbook of Statistics on Pakistan Economy. State bank of Pakistan Government of Pakistan, 2013. Pakistan Economic Survey 2012-13. Islamabad, Pakistan: Finance Division, Government of Pakistan.*
11. *Haq, A. U. and D. Aurangzeb. 2012. Determinants of Inflation in Pakistan. Universal Journal of Management and Social Science Vol,2 . No, 4.*
12. *Khan, R. E. A. and A. R. Gill. 2010. Determinant of Inflation: A Case of Pakistan.(1970 – 2010) Journal of Economics, 1(1), 45 – 51.*
13. *Khan,A. A., S. K. H. Bukhari and Q. M. Ahmad. 2007. Determinants of Recent Inflation in Pakistan. MPRA paper no. 16254, 1 – 16.*
14. *Kuijs, L. 1998. Determinants of Inflation Exchange Rate and Output in Nigeria. IMF Working WP/98/160.*
15. *Laryea, S. A. and U. R. Sumaila. 2001. Determinants of Inflation in Tanzania.CMI Working papers 1-12 Chr. Michelson Institute Development studies and Human Right.*
16. *Liu, O. and O. S. Adedeji. 2000. Determinants of Inflation in the Islamic Republic of Iran: A Macroeconomic analysis. IMF Working paper 127, 1 – 28.*
17. *Muhammad, S. D., S. K. A. Wasti, I. Lal and A. Hussain. 2009. An Empirical Investigation between Money Supply, Government Expenditure,Output and Price in Pakistan Evidecne. European Journal of Economics, Finance and Administrative Science 1450-*
18. *Sawa, N. K. 1996. Policy Consistenc and Inflation in Ghana. AERC Research Paper 43 African Economic Research Consertium March, 1996.*
19. *Shahadudheen. 2012. A Co-Integration and Error Correction Approach To The Determinants of Inflation in India. Int. J. Eco. Res., 2012. V3i1, 105-112.*

****