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Impact Of Inflation And Net Export On Economic Growth: A Pakistan Perspective

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Abstract

The paper seeks to empirically test the impact of inflation and net export on economic growth (GDP). To achieve the core purpose of the study annual data of inflation, net exports and economic growth (GDP) of Pakistan economy for the period 1990-2020 is used. Econometrics technique applied is: ARDL (Autoregressive Distributed Lag) bound test to analyze the short run and long run association between the variables.The study confirms that inflation and net exports impact positively economic growth in short run. If the inflation continues in long run then, it reduces economic growth while net exports continue boost positively to economic growth in long run also.In short run inflation and net export both are effective to economic growth. While for long run net export fruits positively in term of increased economic growth whereas, inflation in long run negates the economic growth.

Keywords: *Gross Domestic Product (GDP), Net Export, Inflation*

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I. INTRODUCTION

In current digital era prime objective of every economy is economic development and for the purpose economic growth is crucial. There are many contributors to economic growth. This economic growth is also seen as holly grain for economic policies. A number of economic indicators like Human Development Index (HDI), Total Factor Productivity (TFP), Gross Domestic Product Growth Rate (GD), and etc reflect the economic growth of a country (Smyth, 1995). In developing economies for long run, the low level and unsustainable growth of economy is producing hurdles for government and policy makers. Poor governance & policy implications, political instability, exchange rate volatility, rising foreign debt, raised inflation, trade imbalancement, earn less spend more. energy & water shortages, and consume more & save less etc are some basis of unsustainable economic growth.

Continuous surge in economic growth rate along with the controlled rate of inflation and export-led growth (ELG) hypothesis are one of the primary considerations of policy makers to formulate policies in efficient way. The monetarist posits inflation harmful to economic growth while, structuralist argued that inflation is crucial for economic growth (Doguwa, 2021). Inflation in single-digit is beneficial whereas, in double digit it slower economic growth (Nell, 2000). The art to manage inflation in single digit may be an important factor to boost economic growth (Anochiwa and Maduka, 2015)

The association of inflation with economic growth depends upon the condition of country's economy. If the economy's potential output grows fast enough to keep up with demand then high growth can be achieved without an increase in inflation. It's also feasible if real output falls below potential output and there's enough spare magnitude to absorb demand constraints. At full employment, the country's actual output equals prospective output; there no more spare capacity is left; now any additional increase in output comes at the expense of growing inflation. If demand continues to rise at this rate and productive capacity does not expand, there is a risk of a significant rise in over-all prices without any extra growth in output in the long run. This period of growing inflation could have serious economic effects (Bozkurt, 2014).

In order to deal with the impact of inflation, businesses may need to utilize more resources. The goal of this paper is to re-examine the association of inflation and net export with economic growth (GDP) using data from the Pakistan economy over the last 30 years.

II. LITERATURE REVIEW

Several researches have been carried out to empirically test the association of net export and inflation with economic growth (GDP). In context to establish the view in Pakistan, we have critically studied certain articles to derive some essential conclusions and policy recommendations. It is the outcome of several studies that export impact positively, whereas inflation impacts negatively to economic growth.

2.1) The Correlation between Net Export and Economic Growth in the Literature

A positive linkage is indentified between net positive exports and economic growth for different countries by Balassa (1985), Ram (1987), Alam (1988), Greenaway and Nam (1988).

Hameed et al. (2012) studied empirical relation between exports and economic growth in Pakistan. The study used data of period 1960-2009 and utilized Granger causality test. The study results revealed unidirectional causality between variables, running from exports to economic growth,

Lawal et.al (2016) utilized Nigerian data and applied the ARDL methodology and found long-run negative relationship between GDP and trade openness but a positive relationship in the short run. Moreover, a two-way causality was found. Ahmad, D., Afzal, M., & Khan, U. G. (2017), examined relation between export and economic growth in Pakistan for the period 1972-2014. The study used Autoregressive distribution lag model (ARDL) model. The ARDL bound test suggests positive long run relation between export and economic growth, but for short run relation of both variables is not significant.

Chandio et.al (2017) studied empirical relation of financial development and trade openness with economic growth. The study used data from 1970-2014 co-intergation and Granger causality test. The study revealed long run relationship between trade openness and economic growth. The study also revealed unidirectional causality running from trade openness to economic growth.

Fatemah, A., & Qayyum, A. (2018) studied empirical relationship between exports and economic growth in Pakistan using data from 1971-2016. The generated results of the study through cointergration and dynamic error correction analysis supported that view that export is important and significant determinant of economic growth. Adebayo, T. S. (2020) observed impact of export on economic expansion. The study used data of Nigeria for the period 1981-2018 using ARDL and Toda Yamamoto causality test. The results found cointegration between variables and unidirectional causality from export to economic expansion. Throughout the study export predicts positive significant variation in economic expansion especially in tenth year. Millia, H et.al (2021) conducted study to empirically test impact of import and export over economic growth in Indonesia. The study used data of period 2004-2018 and ARDL technique. The results suggested that both import and export significantly impact economic growth in short run and long run. Economic growth increase by 1.83% when export increase by 1%.

2.2) The Correlation between Inflation and Economic Growth in the Literature

Hossain et al. (2012) conducted study to empirically test relation between inflation and economic growth in Bangladesh for the period 1978-2010. The study utilized co-integration and granger causality test. The co-integration test reveals no co-integration between variables in context of Bangladesh, but granger causality test at lag (2) shows unidirectional causality running from inflation to economic growth. Kasidi and Mwakanmela (2013) conduct study using annual data of Tanzania for period 1990-2011. The purpose of study was to empirically test connection between inflation and economic growth. The regression test suggests negative connection between variables, while Johansen co-integration test result suggests no significant connection between inflation and economic growth in long term, but both variables have negative significant association in short term period.

Jaganath (2014) utilized data in six South Asian countries to empirically investigate association between inflation and economic growth. The data period is 1980-2012 and employed co-integration, ECM, causality test and unrestricted VAR model. The study results show that inflation and economic growth has positive association for all countries. Overall study results suggest that in context of Malaysia, inflation and economic growth possess long run connection, while no long run relationship is observed in case of remaining countries of study.

Oladipo et al. (2015), investigated impact of interest rate and inflation on economic growth in context of Nigeria using annual data for period 1981-2014. The study is carried out using OLS (ordinary Least Square) technique, granger causality and co-integration test. The OLS results suggest that there is negative association of inflation and interest rate with GDP (economic growth). Johansen co-integration results show long run connection among the variables. No causality is being suggested by granger causality test.

Bakare et al. (2015) examined empirical association of inflation with economic growth (GDP) for period 1986-2014 in Nigeria. The study used regression analysis test and Granger causality test. The regression test suggests that inflation has negative impact on economic growth, while causality only runs from economic growth (GDP) to inflation.

Chughtai, M. et al. (2015) utilized annual data of Pakistan of period 1981-2013 to test empirical relation of interest rate and inflation on economic growth. The generated results of the study confirm negative impact of interest rate and inflation on economic growth.

Majumder, S. C. (2016) conducted study in Bangladesh to check empirical association of inflation with economic growth. The study utilized data of period 1975-2013. The study result concludes with positive association between inflation and economic growth.

Hussain, M. E., & Haque, M. (2017) empirically tested relationship of inflation with GDP in context of Bangladesh. The study used data for the period 1961-2013. The study utilized ECM and Granger causality test. The study results suggest that economic growth positively boost inflation first, then this rise in the rate of inflation negatively impacts economic growth.

NGOC, B. H. (2020) examined the connection between inflation and GDP growth in developing economy i.e. Vietnam over the period 1990 to 2017 by integrating ARDL approach. The study results suggest that inflation negatively impacts economic growth in long run. Moreover study suggests that authorities need to control inflation because high inflation destructs the economic growth.

Uddin, I. (2021) studied the impact of inflation on economic growth for the period 1990-2015 in Pakistan. For long and short run association between variables Engel Granger Co-integration test was used. The study reveals strong positive linear association between variables.
Nadabo, Y. S., & Maigari, S. S (2021) conducted study using NARDL approach to empirically test impact of inflation on economic growth in Nigeria for the period 1990-2020. The study results reveal that inflation in long run negatively impacts economic growth. The study suggests that authorities need to plan economic growth with controlled inflation rate.

III. METHODOLOGY

3.1) Data Sources

The study data period consists of 30 years from 1990-2020 and data sourced from the different published volumes of economic survey of Pakistan, Federal Bureau of Statistic, world data bank and State Bank of Pakistan. The data include Economic growth (GDP), Inflation and net export.

3.2) Economic Techniques:

The annual time series data is used for study rather than monthly or quarterly data because the annual data provides with more significant results. For the annual time series data first stationarity of data is checked. For the purpose ADF unit root test is utilized. ARDL bound test is employed to predict the short run and long run association between the variables.

3.3) Statistical Model:

To investigate the empirical association of net export and inflation with economic growth (GDP) and in accordance with previous research (Ismail et al. 2010; Fatemah, A., & Qayyum, A. 2018; Uddin, I. 2021), we propose the following study model:

$$GDP = \beta 0 + \beta 1 Inf + \beta 2 N.exp + \mu$$

Whereas,

GDP	= Gross Domestic product (Dependent variable)
Inf	= Inflation
$N.expo$	= Net Exports (i.e. Exports – Imports)
β_0	= Constant
β_1 & β_2	= Coefficients of inflation and net exports respectively
μ	= Error term

IV. DATA ANALYSIS

4.1Unit root (ADF) test:

Variables	Augmented Dickey Fuller Test			
	At Level		At 1st Diff	
	t- statistics	Prob.	t- statistics	Prob.
GDP	-3.37	0.02	-6.38	0.00
Inf	-2.41	0.14	-6.71	0.00
N.exp	-3.29	0.02	-9.18	0.00

Table: 01

The basic motive of unit root test is to check either variable is stationary or non-stationary. The ADF unit root test is used to confirm the stationarity level of variables. The results show that economic growth (GDP) and inflation are stationary at level and intercept. Net Export is non-stationary on level but stationary at first difference in ADF. The studies variables contain mixed integration sequence. On mixed integration results, long run relationship between dependent and independent variables is proposed by literature. In the case ARDL approach is used to estimate the strength of long run relationship.

4.1 Autoregressive Distributed Lag (ARDL) Model:

Variables	Coefficients	Std. Error	t- Statistics	Prob.
Constant	0.083637	0.018086	4.624423	0.0007
Inf(-4)	-0.244632	0.086197	2.838064	0.0161
N.exp(-1)	0.209410	0.076097	-2.751874	0.0188

Table: 02

The results outcome indicate significant negative relationship of inflation with GDP (economic growth) while net export also has significant positive relationship with economic growth (GDP).

4.2 ARDL Bond Test:

Equation	F-Statistics Calculated	Upper Bound Critical value	Conclusion
GDP, Inf, N.exp	5.967533	5.52	
		(2.5%)	Co-integration exist

Table: 03

The results of bounds test suggest the F-statistic (5.96) is above the critical value of (5.52) at 2.5% level of significance. It clearly indicates the long-run relationship exist between the variables.

4.3 ARDL (a) long-run and (b) short-run relationships

Variables	Coefficient	t-statistic	Prob.
Long Run Relationship			
Inf	-0.244632	2.838	0.0161
N.exp(-3)	0.108620	2.814848	0.0168
Short Run Relationship			
Inf	0.297062	-3.774058	0.0031
N.exp	0.086948	2.472106	0.0310
CointEq(−1)	-1.427543	-4.508723	0.0009

Table: 04

The t-statistics value confirms the long run association of inflation and net export with economic growth (GDP). Inflation has significant negative impact on economic growth in long run. According to the result table a single unit change in inflation will reduce economic growth (GDP) by 0.2446 units. Net export has significant positive relationship with economic growth in long run. The result table shows that a single unit change in inflation will boost economic growth (GDP) by 0.1082 units For Short run the t-statistics value indicates that inflation has significant positive realtion with economic growth (GDP). The co-efficient values suggest that a single unit change in inflation will decrease economic growth by 0.297 units. In short run net export has significant positive relation with economic growth. As suggested result table a single unit change in net export will positively enhance economic growth (GDP) by 0.0869 units

Furthermore, the coefficient of ECM (error correction term) is negative and significant at 5% level. The ECM coefficient of one period lagged suggest that speed of adjustment progression is 142% of the last year’s disequilibrium in economic growth from its equilibrium path is recovered in the current year.

V. CONCLUSION & POLICY RECOMMENDATION

A) Conclusion

This study empirically tests the association of inflation and net export with economic growth (GDP) for short period and long period in Pakistan. Outcomes of the study reveal significant positive impact of net export on economic growth (GDP) in both short and long period. Whereas, the inflation in short-run positively impact economic growth but, if inflation continues for long period then it reduces the process of economic growth.

B) Policy Recommendation

The policy maker should make tight policies to reduce the inflation growth in the country by taking certain steps and implementing the tools like controlling money supply, setting of bank reserve requirement and setting up interest rate. Serious steps need to be taken to control the rate of inflation in long run along with increasing exports and minimizing imports, giving priority to agricultural sector, serious consideration towards food prices, reducing government expenditures, increase and the resources of revenue.

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