



## The Business Performance and Poverty Alleviation in Pakistan: A Practical Application Through ARDL Approach

Muzamil Saeed<sup>1</sup>, Jai Kishan<sup>2</sup>, Fiaz Ahmed Bhutto\*<sup>3</sup>

<sup>1</sup>Campus Manager, Virtual University of Pakistan, Ghotki Campus, Ghotki, Sindh, Pakistan.

<sup>2</sup> Assistant Professor, Institute of Business Administration, Shah Abdul Latif University, Khairpur, Sindh, Pakistan.

<sup>3\*</sup>Lecturer, Department of Business Administration, Shah Abdul Latif University, Ghotki Campus, Sindh, Pakistan.

Corresponding author: [fiaz.bhutto@salu.edu.pk](mailto:fiaz.bhutto@salu.edu.pk)

**Keywords:** Education, Business Performance, Poverty, Interest Rate

**DOI No:**

<https://doi.org/10.56976/jsom.v3i3.39>

*This research is taken on the basis of empirical analysis for business performance and different variables for poverty alleviation in Pakistan. This is done on the basis of auto regressive distributive lag model on the basis of short run and long run analysis which determined the relationship in between some core factors for the period of 1990 to 2022. Our finding suggested that the short run analysis of business performance inflation education exhibited a negative relationship on poverty on other hand the long run relationship of business performance inflation interested exchange rate and education having some adverse association with poverty. In addition to this imports & exports and balance of trade showed no impact on significant impact on poverty but in long run it established a positive relationship with poverty. The outcomes also show that the system of education particularly the technical education is a means is used to overcome poverty. Furthermore, the improving of business opportunities attracted foreign investment which was very crucial for economic activities and reduction of unemployment for removal of poverty.*

## 1. Introduction

Poverty is a big challenge for the world which can be determined as its local level and international level which can be eradicated with active policies of government (Rodriguez-Pose and Hardy 2015; Handoyo et al., 2021). The business policies of any government are very important for the local institutions and global institutions that are gather to find solutions in the developing economies like Pakistan that are faced with the certain complex and Amina due to socio economic structures and lake of proper business policies because there are constant of resources and limited access to the essential services in Pakistan distribution of proper resources and proper segments of the society (Hussain 2012; Khan & Shah, 2020). It is very important to notice that the challenges which are faced by the social nature of economy these factors are not equal in nature the excess to education the facilities of health the opportunities of employment the general discrimination and regional unitalities these are close rural urban gap which are needed to be improved in the shape of infrastructure and to promote the resources for community (Marmot et al 2008). is many opportunities are formed which are address to issue a require comprehensive report and state the for inclusion of economic growth quality of education the availability of health facilities the resources distribution and development growth women empowerment and certain intervention towards the society to break the poverty cycle (Reshi et al., 2022).

The solution of poverty is basically economic concentration and performance of business in positive way that can influence the certain social dynamics and various faces of national development (Sundrum, 2003; Murtaza et al., 2023). the essential values which are used to achieve sustainable progress to strength in the social unity into ensure political stability basically these goals are very linked to the high level of poverty that can trigger the effects throughout society but the cycles are social barriers and community to words growth having limited access because education and health care Defence in equality hinder and individual potential and collective progress but in addition to this connection between poverty in equality presence performance and crime is well established affecting the safety of social life because business activities cannot be performance positive negative that cannot move the social mobility but on the basis of implications government and organizations that can integrate the poverty reduction and mitigate the development agent as on the basis of positive strategies and social welfare programs are needed to make certain policy reforms that can work for the future of society (Laukkonen et al., 2009; Weaver et al., 2023). The journey of Pakistan can work to complex interplay of trials which can work for the progress and it can make a President challenge from here to years (Haq et al., 2019).

From different initiative the monitory and physical policies are very important to direct financial systems to households into set a criterion that may put the effect for elevation of poverty and to remove economic burdens from higher segment of society to lower segment of society (Liu, 2022). But it is very important to excess of education health care and other services may keep certain foundation for the development addition to this the vocational programs can be

implemented for the improvement of skills and to provide employment that may allowed to secure sustainable life of people and to break the cycle of poverty but this programs are very close to a skill that can trend individuals for the sake of business performance economic growth economic development and additionally the micro finance loans can be given to the society for particular women and to start new business for the betterment (Wanambisi et al 2013; Wasike, 2023). the problem of certain financial resources towards people for economic Independence the innovation development of society and to contribute power to reduction the health services it can point the Pakistan efforts to address equality into uplift it in community (Rayan et al., 2022).

For making better business opportunities it is very important to initiate work to close a gap between quality of health and education for business performance but it is important for Pakistan to face resistance challenge that can undermine the full potential and it is barrier and power television but factors like corruption administrative issues mechanisms sometimes resources distribution and to take benefit by one class but the lake of complete and accurate data cannot guy this properly but it is very important to implement and value the policies for true spirit of decision making it is very sustainable for effectiveness of poverty illusion policies for the monitoring the relation mechanism but Pakistan can be find it approach and it can increase potential it can increase future policy maker economic policies party from Pakistan and focus short run and effect of policies to come back poverty and to improve business opportunities but it is investigated that the relationship between policy real world impact governance structure institutions and political dilemma may have goal and identify personalities for the poverty but it is a search that can increase object connection between education to analyze influence of microeconomic and business policy in Pakistan but it is important dimensions and attribute the literature by demonstration of impact on microeconomic factors inflation GDP poverty and highlighting the potential of education but it is important to use ARDL approach and to study short run and long run hint for policy makers editor increase business opportunities that can improve and interact for impact of education and macroeconomic with business policy for economy of Pakistan. Following are the research questions of the research.

- i) What is impact of business performance on poverty alleviation?
- ii) What is relationship of macro-economic indicators and poverty alleviation?

This study guides for making better business opportunities to start a new business. It is very important to initiate work to close a gap between quality of socio-economic indicators for better business performance, but it is important for Pakistan to understand the challenges that can undermine the full potential and it is barrier and power generation but factors like corruption administrative issues mechanisms sometimes resources distribution and to take benefit by one class but the lack of complete and accurate data cannot buy this properly but it is very important to implement the proper policies for true spirit of decision.

## 1. Literature Review

To get rid of poverty from Pakistan the policy makers are become very worried and researchers and international organizations are working in developing countries like Pakistan (Maimbo and Ratha 2005). Is a nation we are working for economic progress and social welfare Pakistan is fighting against poverty and inutility that presented a big challenge and demoted proper strategy that reviewed the body of literature and it identified the current research way you into understand gaps in Pakistan efforts to address poverty in real terms for the variety of strategies which is a target for social safety to strength in the business and economic policies (Ascher & Healy, 1990; Achi et al., 2022). The literature highlighted that the importance of different strategies to evaluate the effect impact there are different notable approaches that may include the different microfinance initiative conditional case transfers and vocational training programs The scholars explode that the impact of microfinance and poverty reduction and emphasize the potential to work on business performance the greater financial access it is not a criticism but it is an inverter for different individual (Shahin et al., 2022).

The financial stabilities very important for the reduction of a poverty into increase business performance in Saturn and in long run for improvement of different policies (Ullah et al., 2017). The conditional case transfer programs are BISP program have attracted the tension of potential that may impact positively and population but it is not utilized properly because there is no proper check and balance on this amount. The analysis of effective policies for blips in reduction of poverty and wellbeing a society the findings showed a positive impact on conditional case transfer but highlighted challenges related to target the program and analysis of this in different ways (Ahmed et al., 2018). The exchange of business factors macroeconomic factors and poverty phenomenon in Pakistan has a treated the attention of different research but is economic growth inflation exchange rate poverty simple to complex phenomena the finding highlighted that the poverty alleviation strategy is very important (Achi et al., 2022). Since from the origin of Business and economic thought given by different tourist the foundation of understanding took over the distribution of poverty but economists established, they fundamental link of goods and services that closely related to the cost and its production but different economist are of you that the explanations of distribution of income among various factors of production of income and wealth distribution.

### 2.1 Business Performance and Poverty

In the field of economics and business research there is a relationship between business economic growth and powered reduction that is very important for different studies it is taken from previous year to current years (Pece et al., 2015). It is examined that the connection between growth and poverty is scored with the interaction of growth unemployment in poverty but it is complex and relationship of growth and unemployment is uncovered with patterns and challenges of different perceptions (Hatami, 2022). It was exploded that the growth rate business performance

and power to reduction in different parts is a complex phenomenon but the important variables can be addressed to result issues (Christiaensen et al., 2011). The exploration of different income levels income equity level and public health but these findings highlighted that the importance of constitution of poverty and inutility assess the impacts of growth rate business performance and health indicators but the rival of covid-19 for the boosted research it is area of interest that the poverty and economic growth is basically determined by the business performance which was not good at the heads when this covid-19 impacted negatively.

### **2.3 Exchange rate and Poverty**

Exchange rate is basically the value of one currency in terms of another currency but turning on the influence of exchange rate the researchers and to watch the impact of poverty rates but these changes of real and nominal exchange rates Shawn influence and poverty but realization and recommendation of targeted policy impacts is basically not good in context because it impacted negative and exchange rate volatility is more population growth (Nor et al., 2020). By taking the impact of exchange rate the theorists have aim to watch the rates of poverty for actuations in real exchange rate where it is clearly shown that the influence of poverty is tremendous (Mhlanga, 2020). It is also realizing that the prompt recommendation for targeted policy intervention to translate the adverse impact of exchange rate volatility on population is clearly determined.

### **2.4 Poverty and Education**

The probiotic education is also the reminder of available resources and education is considered as catalyst of change for poverty reduction which is prominently embedded by the influence of different policy association in between education and poverty that can uncover the role of education that plays a individual from risk of different parameters. It is also determined the exploration of rural China there it is established effect that the transformation of power from basic education to is structure of poverty is emphasized on the business of education and human capital that may impact on earning potential and to contribute reduction of poverty (Shi & Qamruzzaman, 2022).

### **2.5 Interest rate and Poverty**

Details of monetary policy is interest rate and supply as money may have positive impact on the determination of poverty (Yin et al., 2022). It is investigated that to highlight the relationship between monetary policy and power to reduction is basically a complex interaction in between interest rate money supply and poverty in Pakistan (Soharwardi et al., 2022). It is also analyzed that the impact of interest rate is that when on easy interest rate different individuals are provided with easy loans then they can start different businesses on the basis of easy terms and they can make their life easy in terms on the basis of interest rate and monetary policy to improve the business performance in real terms.

## 2.6 Balance of Trade and Poverty

The balance of trade is basically the exchange of goods and services with the rest of the world and different studies has clearly told that the trade particularly exports can impact on employment and it can contribute in the reduction of poverty on the basis of job creation and by importing material to start new businesses it can increase the job at the opportunities and it may impact on the performance of businesses positively (Azmeah et al., 2020). It is also said that when they prayed potential is determined on the basis of export and import the technology working of different factors of production as land labor capital and organization can be utilized positively for the determination of balance of credit and reduction as poverty (Shabanov et al., 2021).

## 2.7 Research Gap

Did developing countries are facing many problems on the basis of significant rates of poverty and social economic challenges that research is needed but in existing literature it is provided that the individual can work on poverty on the basis of comprehensive research that may impact and it's minded the poverty macroeconomic policies and education in new direction and new context. The effort is put to extend the poverty on various parameters for understanding affecters that can shape poverty dynamics in Pakistan and it can radiate the present study on the basis of literature that is provided for the variable information and to create a deserving gap of attention there is need of different studies that comprehensively can lies the link of poverty and elevation strategies and macroeconomic policies with addition to business policies. In addition to this to analyze new directions of different poverty reduction policies it is sufficient to explore literature that can manifest the nature of poverty elevation and Pakistan and importance of different comprehensive strategies that can address the economic targets for social economic dimensions for education and health it can evolve research technique that pointed out the day need of more context and approach that can consider the interaction of public television and Metro economic district for economy of Pakistan that can create parts for social economic development and research that can remain with goal setting evidence and policies that can be created for equity and desirable society with proper policymaking.

## 3. Econometric Framework

Different research can work on the growing of utilization of empirical methods and real-world data to social science research that can initiate the quantitative methodology that is used for deductive approach and philosophies used from parts to journal phenomena It is adopted by different researchers (Rabitenno et al., 2021). The conceptual framework of business performance on the basis of GDP exports imports and balance of payments inflation interest rate and education that may impact on alleviation of poverty the core framework for analysis is basically economic model that capture the basic dynamics of poverty alleviation and business performance factors. In this analysis basically the natural logarithm of the elevation is utilized where poverty elevation is

a dependent variable with various led economic indicators and independent variables with inclusion of different let variables that allowed us to assess the short term and long-term effects of economic changes on poverty alleviation.

### **3.1 Short-Run Analysis of Core Variables**

Here it is determined that the link between different changes of key business and economic factors and Saturn variation of poverty level that is determined by researchers is main target of this study (Johansen & Juselius, 1994). The different variables under concentration are GDP rate of exchange inflation exports imports the trade deficit interest rate and level of education. The specifications on the basis of leg determination is denoted and periods integrated into model are the parameters of estimation ordinary least square (OLS) regression technique is utilized (Agbeyegbe et al., 2006). This approach of different modelling is offered on the basis of potential level to create link in between macroeconomic determinants and business determination for collective influence on the Dynamics of poverty the dependent variable LNPA it is basically natural logarithm of poverty alleviation at specific time the model structure having different elements that is represented on the basis of condition of variables that is determined is zero.

### **3.2 Long Run Analysis of Core variables**

In this portion the long run model is widely used for business performance and economic with econometrics for the determination of long run association in between different variables for time series context (Hassan & Nasir 2008). Hair each and every term place a different role for helping the behaviour of different variables that is presented in the LNPA through the list of different independent variables. It is core equation which is started with natural logarithm of dependent variable that is critical business and economic like GDP are stock prices but it is taken in the account of different factors that make contribute to the evolution over the time but with reference to all variables which are considered as zero the equation is introduced for recognition of unique factors that may have impact on the different entities for the valuation of dependent variable approach that is impacted in current value but moving further it is considered that the specific series of coefficients is considered as follows:

### **3.3 Regression Model ARDL (Autoregressive Distributed Lag)**

The ARDL model is a famous statistical technique and Econometric approach that is used to analyse different variable relationships but in particular it is affective study of long term association between variables with the different orders of integration that compromised on two key components first on auto regressive element which represented the short run dynamics and distributed lake component which captured the long run relationship in this situation different orders of integration are afford on the basis of robust solution but some variables maybe stationery while others are not but it is convenient method such as ordinary least square (OLS) is not sufficient in this case. The ARDL gave the solution of estimating the model on the basis of



concentration of different variation of integrated orders. The ARDL model is used for finance business economics and social sciences that is used to study different associations of business variables and macroeconomic variables such as inflation interested economic growth economic development and to show the impact of different policies and economy but it is important to handle variables with different orders of integration that allowed for the estimation of coefficient that represented the variables to find a proper solution. In addition to this in ARDL approach there are different statistical tools as Augmented Dicky Fuller (ADF) and Durbin-Watson that is used for validity of data and model assumptions for refining the analysis and specification of different criterion as Akaike Information Criterion (AIC) and Hannan-Quinn Criterion (HQC) which are utilized for the determination of leg structure that can enhance the accuracy of model.

### **3.3.1 Stationarity Test of Data**

For the performance of different regression analysis, it is very necessary to determine the data that may allow the normal distribution unit root tests on Augmented Dicky Fuller (ADF) test that are commonly used for the purpose of evaluation (Hadri 2000). The ADF evaluations are used on the basis of different stationery time series data that may have statistical properties for constant mean and variance. On other hand the non-stationery time series changing statistical properties that may have unit root test for confirmation of normality of data before processing the regression analysis. The ADF test is widely used for different methods on the basis of determination of time series trend.

### **3.3.2 Autocorrelation Test**

In the regression analysis it is assumption that the linear relationship between different variables is not with problems of hypothesis testing but this problem arises when the residuals of model are correlated. This can be detected on the methods of Durbin-Watson for the analysis of skewness and kurtosis of data (Monti, 1994).

### **3.3.3 Multi-Co-linearity Test**

For the determination of accuracy in data and regression results the detection of series that is raised must be strongly correlated. Variance inflation factor (VIF) is broadly used for identification of multi collinearity. This study implied multiple factors on right hand side for the assessment of influence for business performance that required the examination of multi collinearity where it was important to not that testing for multiple collinearities should be followed for confirmation of normality (Farrar et al., 1967). This way avoided numerous regression results that showed reliability of finance that address the multi collinearity which improved the quality of regression analysis and strength in the validity of conclusions.

## **3.4 Data**



The Analysis of data is done on Saturn and long run basis that showed the association between different variables for 32 years covering 1990 to 2022. The secondary data is calculated by using statistical technique which focused on panel data analysis due to nature of research but specifically ARDL model is used for examination of short run and long run effects of macroeconomic and business policies for poverty alleviation in Pakistan.

#### **04. Results and Discussion**

This part presented the real results of analysis for essential tests that evaluated the assumptions of normality of data and it included the analysis of unit roots multi collinearity serial correlation heteroscedasticity and homoscedasticity that showed the fundamental assumptions for normality and literature (Paparoditis & Politis, 2018). This investigation shows the association between short run and long run variables that employed the model with different assumptions of ARDL (Hassan & Nasir, 2008). In addition to this is the selection of suitable models for this ARDL model criteria is facilitated by Akaike Information Criterion (AIC) and the Hannan-Quinn Information Criterion (HQIC). The measurements are also done on the basis of a goodness of fit for statistical model to data and criteria is set for selection among limited set of variable models the main objective of study is empirical examination of impact of various variables that included education (LNE), GDP, exchange rate (LN ER) inflation (LNINF), imports (LNM) exports (LNX), balance of payments (LNBOP), interest rate (LNIR) and poverty (LNPA).

##### **4.1 Descriptive Analysis**

In this part the analysis of summary is done by telling and putting the light on Central technique variations and distributions of variables under analysis. The list of variables has included education (LNE), GDP, exchange rate (LN ER) inflation (LNINF), imports (LNM) exports (LNX), balance of payments (LNBOP), interest rate (LNIR) and poverty (LNPA). The table provided the information about mean standard deviation minimum maximum skewness and kurtosis for each and every variable. This measurement talked about the behaviour of distribution that gained the initial understanding of characteristics that formatted the basis for further analysis and interpretation (Ozturk & Acaravci, 2010).

##### **4.2 Correlation Analysis**

This analysis tells about the valuable tools and techniques for assessment of strength and association of relationship between variables the most common Corral coefficient is Pearson's Correlation Coefficient ( $r$ ) which ranges from -1 to +1. The +1 indicated that there is perfect positive correlation and another hand the negative sign described about the negative correlation which applied that variable increases are decreases a correlation value of zero indicated that the absence of linear connection between variables as per results of (Majid & Yousuf, 2009).

Table No 1: Summary Statistics

Variable	Obs	Mean	S.D	Min	Max	Skewness	Kurtosis
LNPA	32	-0.02772	0.130231	-0.41376	0.351642	0.0213	0.0022
LNGDP	32	0.03432	0.065041	-0.20313	0.152124	0.0432	0.6861
LNER	32	0.04123	0.048321	-0.04312	0.104149	0.2105	0.2231
LNINF	32	-0.00447	3.81E-11	-2.04E+03	7.62E-02	0.3204	0.0123
LNM	32	0.03321	1.29E-01	-1.80E-04	3.13E-02	0.3123	0.0123
LNX	32	0.04122	8.53E-02	-1.31E-02	1.97E-01	0.6578	3.24E-02
LNBOP	32	0.05123	1.37230	-2.62015	2.214432	0.2123	4.14E-01
LNI	32	-0.00541	0.13743	-0.21350	0.240341	0.4302	5.01E-01
LNE	32	1.41E+09	3.61E+07	-6.26E+05	2.01E+07	0.9123	0.1234

In the above table, the analysis of summary is done by telling and putting the light on Central technique variations and distributions of variables under analysis. The list of variables has included education (LNE), GDP, exchange rate (LN ER) inflation (LNINF), imports (LNM) exports (LN X), balance of payments (LNBOP), interest rate (LNIR) and poverty (LNPA). The table provided the information about mean standard deviation minimum maximum skewness and kurtosis for each and every variable. This measurement told about the behaviour of distribution that gained the initial understanding of characteristics that formatted the basis for further analysis and interpretation (Ozturk & Acaravci, 2010).

Table 02 ADF and PP tests

Variables	ADF(I(0))	ADF(I(1))	PP(I(0))	PP(I(1))
LNPA	1.94	-4.743*	1.478	-3.8321*
LNGDP	1.20	-5.663*	-0.267	-2.943*
LNER	-1.60	-4.574*	-1.132	-3.412*
LNINF	-2.666	-4.578*	-2.861**	-3.7321*
LNM	-0.102	-4.512*	-0.214	-3.412*
LN X	-2.812-2.777**	-4.311*	-1.241	-5.0231*
LNBOP	-2.712***	-4.322*	-3.521*	-5.3321*
LNI	0.656	-5.213*	-1.91	-8.425*
LNE	-2.512	-3.812*	1.921	--3.180*
LNGDP	-0.341	-4.732*	1.861	-2.741**

Note \*, \*\*, \*\*\* represent 99%, 95%, and 90% CI.

In the above table there is stationarity of data. Stationarity test of Data: for the performance of different regression analysis, it is very necessary to determine the data that may allow the normal distribution unit root tests on Augmented Dicky Fuller (ADF) test that are commonly used for the purpose of evaluation (Hadri 2000). The ADF evaluations are used on the basis of different stationery time series data that may have statistical properties for constant mean and variance. On other hand the non-stationery time series changing statistical properties that may have unit root

test for confirmation of normality of data before processing the regression analysis. The ADF test is widely used for different methods on the basis of determination of time series trend.

**Table No 3: Variance Inflation Factor**

LNPA	2.412	0.0321
LNGDP	2.31	0.3241
LNER	2.09	0.3214
LNINF	1.92	0.4123
LNM	1.5	0.3123
LNX	1.32	0.5123
LNBOB	1.98	0.4321
LNI	1.32	0.1234
LNE	1.62	0.912

Mean VIF = 1.87

In the above table for the determination of accuracy in data and regression results the detection of series that is raised must be strongly correlated. Variance inflation factor (VIF) is broadly used for identification of multi collinearity.

**Table No 5: Autocorrelation and Serial correlation Tests**

BG LM Test	Chi <sup>2</sup>	DF	Prob
	0.522	1	0.512
Autocorelation	d-stat., 7		2.12
Obs.	32	32	32

In the above table all the results related to health of model suggested that we can proceed to further estimation by considering probability values.

### 4.3 Autoregressive Distributed Lag Model (ARDL) analysis for Regression

The auto regressive lag model having two parts one and right side and other on left side basically the part on left side is dependent part and a part on right side is independent part. Both the parts having lagged values which are used for interpretation. In other words the lag values of dependent part that is called auto regressive component and other part is current part of estimation for analysis.

#### 4.3.1 Short Run Analysis:

By division of certain criteria on the basis of AIC and HQIC the gross domestic product that determines the overall performance of Business and economic indicators told that this analysis is done on the basis of two criteria with two lags. The ARDL results on the basis of poverty alleviation in Pakistan the relationship in between business performance and poverty is prominent

and negative. This indicated that the improvement in gross domestic product guided that increase in poverty will decrease business opportunities. The GDP exhibits positive relationship between

### 4.3.2 Long Run ARDL Analysis

The ARDL is a statistical method used for estimation that is utilized for long run relationship among different variables. In long run analysis of auto regressive distributed lag model there is extension of a outdated model to long run model which tells about the long period where variable having more time to get adjusted with its telegram level after a shock change but in this contest the long run having certain adjustments and changes of variables but the long run phenomena is interaction or influence of more variables towards the extended period but it can provide the valuable direction to the Dynamics of Economics system

**Table No 6: Results of Business Performance and Macroeconomics Performance and Poverty on ARDL model**

ARDL (1,1,2,2,1,1,3,3,2) regression						
Sample 1990-2022		No of obs	=	32		
		F (32, 5)	=	4.51		
		Prob > F	=	0.042		
		R-squared	=	0.9312		
		Adj R-squared		0.794		
Log likelihood = 75.766616		Root MSE	=	0.0794		
LNPA	coef	SE	T	P>t	(95% confidence interval)	
LI	-3.94712	0.491	-9.17	0	-4.123	-2.523
LR						
LNGDP	-0.77302	0.253	-3.12	0.041	-1.9123	-0.00623
LNE	1.7501	0.271	4.16	0.002	0.9812	2.8321
LNI	-0.307	0.051	-2.91	0.032	-0.2666	-0.0709
LNM	0.722	0.213	3.15	0.006	0.4123	1.5412
LNX	0.202	0.142	2.14	0.081	-0.0306	0.7812
LNBOP	0.053	0.032	1.92	0.091	-0.00321	0.7847
LNEE	-3.213	1.623	-2.81	0.023	-8.1234	-0.5431

## 5. Conclusion and Policy Recommendations

All the outcomes and results show that the statistical analysis which provided direction for the relationship in between business and macroeconomic performance for eradication and poverty in Pakistan the study uses ARDL approach which incorporated descriptive correlation unit root and multi coinority analysis the finding clearly indicated that there is significant and negative association in between GDP and poverty, whereas, the potential of economic performance in business performance for poverty reduction. The rate of exchange that highlighted the influence with real exchange rate and volatility that impacted poverty. The relationship between inflation and poverty is also diagnosed with positive and negative changes of inflation that affected the

poverty levels more importantly the education short mix relationship that is short run and long run the trade dynamics also showed the imports and exports contribution to party the research also concluded that to emphasize on impact importance of policies that Metro movement of inflation the investment in education and balance of payment for business dynamics to eradicate the poverty in Pakistan.

By talking on the policy impacts that in this research it is essential to address that poverty in Pakistan the education policy is must be consistent with the local level and should focus on the technical education and to utilize the youth of country properly on the basis of broad skills that can improve the incentive for education and to increase the budget support for education that is very important step. It also concluded that the stability of country may depend on the inflation properly and it may demand authorities to focus on stabilities of policies properly that may prevent from the poverty and proper strategies may promote the job creation and the tax brackets mein increase the manufacture and services industry that can increase the supply of electricity to implement the policies properly but more importantly it is domestic credit that may invested on the private sector that can lower official rate and to contribute to poverty reduction ethers and the limitations view that the multi-level modelling technique can be address to observe time factors and the absence of recent data the future research can explore multi damaged model for all the levels and can consider the models with different intercepts and slopes.

## 6. References

- Abadie, A. (2006). Poverty, political freedom, and the roots of terrorism. *American Economic Review*, 96(2), 50-56.
- Achi, A., Adeola, O., & Achi, F. C. (2022). CSR and green process innovation as antecedents of micro, small, and medium enterprise performance: Moderating role of perceived environmental volatility. *Journal of Business Research*, 139, 771-781.
- Adetunji Babatunde, M., Oyeranti, O. A., Bankole, A. S., & Olawale Ogunkola, E. (2012). Exports trade, employment and poverty reduction in Nigeria. *International Journal of Social Economics*, 39(11), 875-899.
- Agbeyegbe, T. D., Stotsky, J., & WoldeMariam, A. (2006). Trade liberalization, exchange rate changes, and tax revenue in Sub-Saharan Africa. *Journal of Asian Economics*, 17(2), 261-284.
- Ahmad, S. J. J. o. H. C., & Research, A. (2018). Can BISP be used for Poverty Reduction? *Journal of History Culture and Art Research*, 7(3), 713-723.
- Akinbobola, T. O. (2012). The dynamics of money supply, exchange rate and inflation in Nigeria. *Journal of Applied Finance and Banking*, 2(4), 117.
- Amjad, R., & Kemal, A. R. (1997). Macroeconomic policies and their impact on poverty alleviation in Pakistan. *Pakistan Development Review*, 36(1), 39-68.
- Asare, P., & Barfi, R. (2021). The impact of Covid-19 pandemic on the Global economy: emphasis on poverty alleviation and economic growth. *Economics*, 8(1), 32-43.

- Ascher, W., & Healy, R. G. (1990). *Natural Resource Policymaking in Developing Countries: Environment, Economic Growth, and Income Distribution*. Duke University Press.
- Azmeh, S., Foster, C., & Echavarri, J. (2020). The international trade regime and the quest for free digital trade. *International Studies Review*, 22(3), 671-692.
- Bavaresco, M. V., D'Oca, S., Ghisi, E., Lamberts, R. J. (2020). Methods used in social sciences that suit energy research: A literature review on qualitative methods to assess the human dimension of energy use in buildings. *Energy and Buildings*, 209, 109702.
- Chandio, A. A., Jiang, Y., Rehman, A., Rauf, A. (2020). Short and long-run impacts of climate change on agriculture: an empirical evidence from China. *International Journal of Climate Change Strategies and Management*, 12(2), 201-221.
- Chazan, D., Yerushalmy, M., & Leikin, R. (2008). An analytic conception of equation and teachers' views of school algebra. *The Journal of Mathematical Behavior*, 27(2), 87-100.
- Christiaensen, L., Demery, L., & Kuhl, J. (2011). The (evolving) role of agriculture in poverty reduction—An empirical perspective. *Journal of Development Economics*, 96(2), 239-254.
- Degong, M., Ullah, F., Ullah, R., & Arif, M. (2020). An empirical nexus between exchange rate and China's outward foreign direct investment: Implications for Pakistan under the China Pakistan economic corridor project. *The Quarterly Review of Economics and Finance*, 87, 224-234.
- Dong, L. J. C. P. (2023). A Complex, Dynamic Systems Theory perspective on grit, grammar knowledge, and their relationship among high-school students: A longitudinal time series analysis study. *Current Psychology*, 13(3), 69-81.
- Epaulard, M. A. (2003). Macroeconomic Performance and Poverty Reduction. *International Monetary Fund*.
- Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288-307.
- Farrar, D. E., Glauber, R. R. (1967). Multicollinearity in regression analysis: the problem revisited. *The Review of Economics and Statistics*, 49(1), 92-107.
- Guo, Y., Zhou, Y., & Liu, Y. (2022). Targeted poverty alleviation and its practices in rural China: A case study of Fuping county, Hebei Province. *Journal of Rural Studies*, 93, 430-440.
- Hadri, K. (2000). Testing for stationarity in heterogeneous panel data. *The Econometrics Journal*, 3(2), 148-161.
- Handoyo, F., Hidayatina, A., & Purwanto, P. (2021). The Effect of Rural Development on Poverty Gap, Poverty Severity and Local Economic Growth in Indonesia. *Jurnal Bina Praja: Journal of Home Affairs Governance*, 13(3), 369-381.
- Haq, Z., Shaikh, B. T., Tran, N., Hafeez, A., Ghaffar, A. (2019). System within systems: challenges and opportunities for the Expanded Programme on Immunisation in Pakistan. *Human Research Policy and Systems*, 17, 1-10.
- Hasan, A., & Nasir, Z. M. (2008). Macroeconomic factors and equity prices: An empirical investigation by using ARDL approach. *The Pakistan Development Review*, 47(4), 501-513.



- Hatami, Z. (2022). *A New Approach for Analyzing Financial Markets Using Correlation Networks and Population Analysis*, University of Nebraska at Omaha.
- Husain, I. (2012). Economic reforms in Pakistan: one step forward, two steps backwards. *The Pakistan Development Review*, 51(4), 7-22.
- Jain, P. (2007). An empirical study of knowledge management in academic libraries in East and Southern Africa. *Library Review*, 56(5), 377-392.
- Johansen, S., & Juselius, K. (1994). Identification of the long-run and the short-run structure an application to the ISLM model. *Journal of Econometrics*, 63(1), 7-36.
- Kalnins, A. (2018). Multicollinearity: How common factors cause Type 1 errors in multivariate regression. *Strategic Management Journal*, 39(8), 2362-2385.
- Khan, A. U., & Shah, A. H. (2020). Reflections of multidimensional poverty across agro-climatic zones: evidence from the Punjab Province of Pakistan. *Journal of Poverty*, 24(2), 130-146.
- Khosravi, M., & Ghazani, M. M. (2023). Novel insights into the modeling financial time-series through machine learning methods: Evidence from the cryptocurrency market. *Expert Systems with Applications*, 234, 121012.
- Kurz, H. D. (2010). Technical progress, capital accumulation and income distribution in Classical economics: Adam Smith, David Ricardo and Karl Marx. *The European Journal of the History of Economic Thought*, 17(5), 1183- 1222.
- Lakhan, A. B. (2020). Impact of social safety nets on poverty reduction: A case study of Sindh province. *International Journal of management*, 11(11), 1073-1088.
- Lakhan, A., B. et al (2021). Ease of doing business in Pakistan. *PalArchs Journal of Archaeology of Egypt/Egyptology*, 18(8), 4928-4934.
- Laukkonen, J., Blanco, P. K., Lenhart, J., Keiner, M., Cavric, B., & Kinuthia-Njenga, C. (2009). Combining climate change adaptation and mitigation measures at the local level. *Habitat International*, 33(3), 287-292.
- Liu, K. (2022). COVID-19 and the Chinese economy: impacts, policy responses and implications. In *The Political Economy of Covid-19* (pp. 200-222). Routledge.
- Liu, Y., Huang, H., Cao, W., Mao, B., Liu, Y., & Kang, Z. (2020). Advances in carbon dots: from the perspective of traditional quantum dots. *Materials Chemistry Frontiers*, 4(6), 1586-1613.
- Lorgelly, P. K., Lawson, K. D., Fenwick, E. A., & Briggs, A. H. (2010). Outcome measurement in economic evaluations of public health interventions: a role for the capability approach? *International Journal of Environmental Research and Public Health*, 7(5), 2274-2289.
- Lund, C., Breen, A., Flisher, A. J., Kakuma, R., Corrigall, J., Joska, J. A., ... & Patel, V. (2010). Poverty and common mental disorders in low and middle income countries: *A systematic review*. *Social Science & Medicine*, 71(3), 517-528.
- Maimbo, S. M., & Ratha, D. (2005). *Remittances: Development Impact and Future Prospects*. World Bank Publications.



- Majid, M. S. A., & Yusof, R. M. (2009). Long-run relationship between Islamic stock returns and macroeconomic variables: An application of the autoregressive distributed lag model. *Humanomics*, 25(2), 127-141.
- Marmot, M. J. T. L. (2007). Achieving health equity: from root causes to fair outcomes. *The Lancet*, 370(9593), 1153- 1163.
- Marmot, M., Friel, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: health equity through action on the social determinants of health. *The Lancet*, 372(9650), 1661-1669.
- Mendola, M. (2007). Agricultural technology adoption and poverty reduction: A propensity-score matching analysis for rural Bangladesh. *Food Policy*, 32(3), 372-393.
- Mhlanga, D. (2020). *Financial inclusion and poverty reduction: Evidence from small scale agricultural sector in Manicaland Province of Zimbabwe* (Doctoral dissertation, North-West University (South Africa)).
- Monti, A. C. (1994). A proposal for a residual autocorrelation test in linear models. *Biometrika*, 81(4), 776-780.
- Murtaza, M., Ayyoub, M., Riaz, A., & Ahmed, R. (2023). Examining Linkages between Poverty Alleviation and Macroeconomic Performance in Pakistan. *Journal of Policy Research*, 9(2), 665-678.
- Nor, M. I., Masron, T. A., & Alabdullah, T. T. Y. (2020). Macroeconomic fundamentals and the exchange rate volatility: empirical evidence from Somalia. *SAGE Open*, 10(1), 2158244019898841.
- Ozturk, I., & Acaravci, A. (2010). The causal relationship between energy consumption and GDP in Albania, Bulgaria, Hungary and Romania: Evidence from ARDL bound testing approach. *Applied Energy*, 87(6), 1938-1943.
- Paparoditis, E., & Politis, D. N. (2018). The asymptotic size and power of the augmented Dickey–Fuller test for a unit root. *Econometric Reviews*, 37(9), 955-973.
- Pece, A. M., Simona, O. E. O., & Salisteanu, F. (2015). Innovation and economic growth: An empirical analysis for CEE countries. *Procedia Economics and Finance*, 26, 461-467.
- Petrică, A.-C., Stancu, S., & Ghițulescu, V. (2017). Stationarity–The Central Concept in Time Series Analysis. *International Journal of Emerging Research in Management*, 6(1), 6-16.
- Rabetino, R., Kohtamäki, M., Kowalkowski, C., Baines, T. S., & Sousa, R. (2021). Guest editorial: Servitization 2.0: evaluating and advancing servitization-related research through novel conceptual and methodological perspectives. *International Journal of Operations & Production Management*, 41(5), 437-464.
- Rayan, R. A., & Zafar, I. (2021). Monitoring Technologies for Precision Health. *The Smart Cyber Ecosystem for Sustainable Development*, 251-260.
- Rayan, R. A., Tsagkaris, C., Zafar, I., Moysidis, D. V., & Papazoglou, A. S. (2022). Big data analytics for health: a comprehensive review of techniques and applications. *Big Data Analytics for Healthcare*, 83-92.



- Reshi, I. A., & Sudha, T. (2022). Women Empowerment: A Literature Review. *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBA)*, 2(6), 1353-1359.
- Rodríguez-Pose, A., & Hardy, D. (2015). Addressing poverty and inequality in the rural economy from a global perspective. *Applied Geography*, 61, 11-23.
- Roshaniza, N. A. B. M., & Selvaratnam, D. P. (2015). Gross domestic product (GDP) relationship with human development index (HDI) and poverty rate in Malaysia. *Prosiding Perkem*, 10, 211-217.
- Routledge. Sutter, C., Bruton, G. D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*, 34(1), 197-214.
- Sari, D. F., Beik, I. S., & Rindayati, W. (2019). Investigating the impact of zakat on poverty alleviation: A case from West Sumatra, Indonesia. *International Journal of Zakat*, 4(2), 1-12.
- Shabanov, V. L., Vasilchenko, M. Y., Derunova, E. A., & Potapov, A. P. (2021). Formation of an export-oriented agricultural economy and regional open innovations. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 32-51.
- Shahin, M., Khanam, M., Aktar, S., Siddiqua, A., & Sharif, N. (2022). Resiliency of livelihood and empowerment of women: Results of a cash-based intervention in Bangladesh's Lalmonirhat District. *International Journal of Disaster Risk Reduction*, 79, 103137.
- Shi, Z., & Qamruzzaman, M. (2022). Re-visiting the role of education on poverty through the channel of financial inclusion: Evidence from lower-income and lower-middle-income countries. *Frontiers in Environmental Science*, 10, 873652.
- Soharwardi, M. A., Sarwar, J., Khan, M. I., & Miraj, M. (2022). Fiscal and Monetary Policy Dilemma in Pakistan to Support Economic Growth. *Journal of Economic Impact*, 4(3), 233-243.
- Sugiharti, L., Esquivias, M. A., & Setyorani, B. (2020). The impact of exchange rate volatility on Indonesia's top exports to the five main export markets. *Heylion*, 6(1),30-51.
- Sundrum, R. M. (2003). *Income Distribution in Less Developed Countries*.
- Tiwari, D. N. (2023). *Towards Inclusive Societies: Psychological and Sociological Perspectives*. Taylor & Francis.
- Ullah, I., & Khan, M. (2017). Microfinance as a tool for developing resilience in vulnerable communities. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(2), 237-257.
- Wanambisi, A. N., & Bwisa, H. M. (2013). Effects of microfinance lending on business performance: A survey of micro and small enterprises in Kitale municipality, Kenya. *International Journal of Academic Research in Business and Social Sciences*, 3(7), 56.-67.
- Wasike, M. W. (2023). A Review of the Effect of Microfinance Services on the Profitability of SMES in Kenya. *African Journal of Commercial Studies*, 3(1), 67-74.
- Weaver, D., Moyle, B. D., McLennan, C. L., & Casali, L. (2023). Taming the wicked problem of climate change with “virtuous challenges”: An integrated management heuristic. *Journal of Environmental Management*, 347, 119136.



Xu, D., Abbasi, K. R., Hussain, K., Albaker, A., Almulhim, A. I., & Alvarado, R. (2023). Analyzing the factors contribute to achieving sustainable development goals in Pakistan: A novel policy framework. *Energy Strategy Reviews*, 45, 101050.

Yelwa, M., David, O. O., & Awe, E. O. (2015). Analysis of the relationship between inflation, unemployment and economic growth in Nigeria: 1987-2012. *Applied Economics and Finance*, 2(3), 102-109

Yin, H. T., Chang, C. P., & Wang, H. (2022). The impact of monetary policy on green innovation: Global evidence. *Technological and Economic Development of Economy*, 28(6), 1933-1953.