

THE IMPACT OF YOUTH UNEMPLOYMENT ON PAKISTAN'S ECONOMY

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Abstract

The objective of this research paper is to analyze the impact of youth unemployment on Pakistan's economy by using time series data of 29 years from 1990 to 2019. The unemployment was selected as dependent variable whereas annual population growth, interest rate, inflation, FDI, external debt and wages were selected as independent variables. Different statistical techniques such as Descriptive statistics, Correlation Analysis, ADF test, Bond test, ARDL model and Error Correction Model (ECM) were used to determine long run and short run relationship between variables. The findings of the study reveal that youth unemployment has significant negative effect on economic growth and the society in the long run. The study suggest that the government should create more jobs to reduce unemployment in the youth.

Key Words: unemployment, interest rate, inflation, FDI, Wage rate, external debt

Type of study: Original research Article.

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1. Introduction

There are three main problems of every economy and these are inflation, unemployment and low economic growth. According to the Keynes (1936) the main reason of unemployment is the increase in supply of labor in market. The labor supply is the function of real wages of worker. If the wages increase, then the supply of labor will increase. Phillips (1958) argued that there is inverse relationship between wage rates and unemployment in Great Britain. His conclusion was hold true for other industrial countries, as well during the period of 1861 and the late 1960s. However, Phillips' curve prediction proved ineffective after 1970s and 1980s and the relationship between these two variables became unstable. There was a stagflation: high inflation and high unemployment in the developed economies. International Labor Organization (ILO) in its report (2001) explained that "unemployment is a situation of being out of work or need a work and continuously searching for it in the last four weeks or unemployed but join work in the next two weeks. People who do not desire to work for wages include full time students, retired people and children who are excluded from unemployed category". The definition of employed is that "do any work for pay, or family gain during the past week, for at least one hour on any day" or "help to work for family gain in a family business or family farm during the past week" According to the ILO (2012), unemployment is increasing globally and in 2010 it was six percent while unemployment rate among males was 5.8 percent and among females it was 6.4 percent. It indicates that unemployment among women is

more than men all over the world. Many researchers claim that the developed countries have inequality in distribution of resource and the labor force.

1.1 Background of study

Pakistan is rich in youth labor but youth labor employment depends on resources. Pakistan is a type of the country which has many risks and also benefits for youth (bloom et al., 2004). Young people are more energetic, powerful but also threat for the economy if the proper guide line, skill and education are not provided to them. Pakistan faced most suicide attacks carried out by the young people having the age between 15-24years (Rakher 2008). The United Nations Development Program (2018) disclosed that Pakistan currently has the largest percentage of young people ever recorded in its history as 64 percent of total population is below the age of 30 while 41 percent is between the ages of 15 and 29. About 41 percent labour force falls between the age of 15 and 29 years adding 4.0 million people into the working age in the country every year. It is worth noting that 90 percent of the youth do not have access to recreational facilities, 15 percent have access to internet, 8 percent to radio and 48 percent own a mobile phone. Hafeez and Tayyaba (2018) argue that Pakistan is assumed to be the fifth largest young country in the world and around 63 percent its population is consisted of youth aged between 15- and 33-years Quoting UN Population Fund Report, (2017) they emphasized that such a huge young population has posed daunting challenges to the social, economic and political sectors of Pakistan. The fast-rising youth bulge of Pakistan seems to be a constantly ticking time bomb instead of a

demographic dividend, threatening its very own existence. Poor youth engagement in the productive political, educational, economic and socio-cultural activities indicates ineffectiveness of the public and private sectors policies especially at the state level. These dynamics of Pakistan forces the authors to conduct research on the implications of unemployment in the youth analyze public policies to use this demographic dividend for productive purpose. Keeping in view the above discussion, the objectives of the study encompass understanding the dynamics of the youth population in Pakistan, assessing their impact on the economy, examining the challenges and threats they pose, and evaluating the effectiveness of policies and engagement strategies to harness the demographic dividend of the youth population.

This research work contributes in the body of knowledge in different ways. First, this study makes significant contributions to the understanding of the complex relationship between economic variables and youth unemployment, with broader implications for developing countries facing similar challenges. The contributions of this study include: Second, the study addresses critical issues such as inflation, interest rates, external debt, and youth unemployment, which are prevalent in many countries worldwide. The findings are applicable to a wide range of nations dealing with these pressing concerns. Third, the research highlights the importance of focusing on educated youth unemployment to prevent their potential involvement in illicit and harmful activities. It emphasizes the role of policymakers in addressing

this issue to safeguard national security and social stability. Fourth, the study sheds light on the mounting debt problems faced by developing countries, drawing attention to the urgent need for reducing foreign debt levels by cutting non-productive and consumption expenditures. Fifth, the short-term results of the study offer actionable insights for policymakers, suggesting immediate steps to mitigate the negative effects of variables like inflation, interest rates, foreign direct investment, external debt, population growth, and wages on youth unemployment.

2 Literature review

Shabbir and Zeb (2019): Their study illustrates a direct relationship between the rapidly increasing population and unemployment in Pakistan. While they do highlight the depletion of natural resources due to overuse, they seem to overlook potential solutions or interventions to manage population growth or resource optimization. Clark and Lepinteur (2019) analyzed the long-term repercussions of unemployment, extending from youth to old age. However, it appears to be primarily focused on the financial challenges posed by unemployment without adequately addressing psychosocial consequences. Vlandas and Halikiopoulou (2018) focused on the European countries and examined the inefficiencies of the labor market and concluded that it might benefit from a broader exploration of factors outside of labor market efficiency that can influence unemployment. Minsin (2017) studied the implications of unemployment on both the economy and society is comprehensive. Yet, the suggestion to focus

on job creation might be viewed as a generic solution without specifics on how to achieve this in the Pakistani context. Shahid (2014) determined the relationship between unemployment, inflation, and economic growth gives an integral understanding. However, more detailed management strategies to address these issues would further enrich the research. Cheema and Atta (2014) investigated unemployment in a global perspective, emphasizing income inequality. While the international context is valuable, the solutions proposed seem too generalized and lack specificity for actionable policy interventions. Mahmood, et al (2013): utilized robust statistical methods like Johansen's co-integration test and Vector Error Correction Model. The research presents a nuanced understanding of the relationships between variables, but more practical implications could have added depth to their findings.

The following hypotheses have been developed on the basis of above review of literature.

H1 (Population and Unemployment):

Null Hypothesis (H0): There is no significant relationship between the rapid growth of population and the increasing rate of unemployment in Pakistan.

Alternate Hypothesis (H1): There is a significant positive relationship between the rapid growth of population and the increasing rate of unemployment in Pakistan.

H2 (Past Unemployment and Financial Stability/Health):

Null Hypothesis (H0): Past unemployment during the early life stages has no significant impact on financial stability and access to health services in old age.

Alternate Hypothesis (H1): Past unemployment during the early life stages has a significant negative impact on financial stability and access to health services in old age.

H3 (Inefficient Labor Market and Unemployment):

Null Hypothesis (H0): An inefficient labor market is not positively correlated with increased unemployment rates.

Alternate Hypothesis (H1): An inefficient labor market is positively correlated with increased unemployment rates.

H4 (Unemployment and Economic Growth/Societal Wellbeing):

Null Hypothesis (H0): Higher levels of unemployment do not have a significant negative impact on economic growth and societal wellbeing in Pakistan.

Alternate Hypothesis (H1): Higher levels of unemployment have a significant negative impact on economic growth and societal wellbeing in Pakistan.

H5 (Unemployment and Inflation):

Null Hypothesis (H0): There is no significant relationship between unemployment and inflation, influencing economic growth in Pakistan.

Alternate Hypothesis (H1): There is a significant relationship between unemployment and inflation, influencing economic growth in Pakistan.

H6 (Unemployment and Economic Prosperity/Income Inequality):

Null Hypothesis (H₀): Unemployment is not negatively correlated with economic prosperity and is not influenced by global income inequality trends.

Alternate Hypothesis (H₁): Unemployment is negatively correlated with economic prosperity and is influenced by global income inequality trends.

H7 (Co-integration of Interest Rates, Inflation, and Unemployment):

Null Hypothesis (H₀): There is no co-integration between interest rates, inflation, and unemployment in Pakistan.

Alternate Hypothesis (H₁): There is co-integration between interest rates, inflation, and unemployment in Pakistan.

H8 (Interest Rates, Unemployment, and Inflation):

Null Hypothesis (H₀): The interest rates and unemployment are not related to inflation, and unemployment is solely dependent on inflation and interest rates in Pakistan.

Alternate Hypothesis (H₁): The interest rates and unemployment are related to inflation and unemployment is not solely dependent on inflation and interest rates in Pakistan.

3. Data and Methodology

The authors used secondary data in this study to determine relationship between selected independent and dependent variables. The period of study is spread over 29 years from 1990-2019. The sample of this study is labour market dynamics The Unemployment (Un) is dependent variable while annual Population growth (POP-G),

interest rate (IR), inflation (INF), foreign direct investment (FDI), labor wage (WAGE) and external debit (ED) are independent variables.

Various statistical techniques such as descriptive statistics, correlation analysis, Augmented Dickey Fuller (ADF) test), Auto Regressive Lag (ARDL) and Error Correction Models have been applied to analyze the data and short run and long run relationship between variables.

3.1 Specification of model

The author developed an econometric model to analyze the data and it is shown in the following equation form: -

$$UM = \beta_0 + \beta_1 (POP-G) + \beta_2 (WAGE) + \beta_3 (ED) + \beta_4(INF) + \beta_5(FDI) + \beta_6(INF) + \epsilon$$

Where;

Um = is the unemployment.

The independent variables are the followings”

Bo = is constant.

pop-g= Population growth rate

ED= external debit

FDI= Foreign Direct Investment.

INF = Inflation rate

WAGE = Wage rate

$\beta_1, \beta_2, \beta_3$ = are parameters.

4. Results and Discussion

4.1 Descriptive statistics

The descriptive statistics are used to summarize and describe data in a meaningful and easily understandable way. They serve several important purposes such data summarization, which makes easier to comprehend the main features and characteristics of the data. They

help identify patterns, trends, and potential outliers, which can guide further analysis and decision-making. Descriptive statistics enable effective communication of data findings to a broader audience, including stakeholders and non-experts, in a clear and interpretable manner. They facilitate the comparison of different datasets or groups within a dataset, allowing for meaningful comparisons and insights. They can serve as a foundation for generating hypotheses and forming initial conclusions about a population, which can lead to more advanced statistical analyses. In essence, descriptive statistics are a fundamental tool in data analysis, helping us make sense of data, extract information, and support decision-making processes. The results of descriptive statistics of this study are presented in the following table.

Table 1:*Results of Descriptive Statistics*

Variab les	Mean	Maxi	Mini	Standar d. dev	skew ness	Kurto sis	JB	Prob.
UM	6.302 069	8.3000 00	4.730 000	0.94801 0	0.475 171	2.459 877	1.443 818	0.485 824
POP-G	2.442 378	2.9555 58	2.055 880	0.31226 4	0.278 456	1.457 915	3.248 215	0.197 088
IR	12.54 97	15.420 00	6.990 00	2.22251 6	- 1.357 218	3.914 991	9.914 819	0.007 031
INF	10.21 237	24.891 15	2.463 093	5.31792 1	1.143 361	3.698 373	6.904 510	0.031 674
FDI	0.790 38	3.6683 23	- 1.453 60	1.21362 1	0.350 83	3.500 74	0.897 91	0.638 29
ED	3.294 354	8.7126 56	1.236 543	2.16438 76	1.074 554	3.181 784	5.620 821	0.060 180

WAGE	26.95 238	37.481 00	20.69 400	4.50274 3	0.981 478	3.011 435	4.656 103	0.097 486
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In Table 1 the dependent variable is the UM and its average value is the 6.3020, its maximum value is 8.300000 and minimum value is 4.730000. The SKEWNESS of the UM shows that it is positively skewed. The ketosis value of the UM is less the 3 which shows that the GDP is PLATO KURTOSIS. The JEQUE Bara value of the UM shows that the UM is normally distributed. The mean value of POP-G is 2.4423, its maximum value is 2.9555 and minimum value is 2.055880 and the standard deviation is 0.312264. The Skewed value of the POP-G shows that the POP-G is positively skewed. The kurtosis value of the POP-G is less than 3 that shows that the POP-G is PLATO KURTOISIS. The KUTOSIS value of IR is greater than 3 indications that the PI is the leptokurtic. The JB value of the IR is indicating that the PI is normally distributed. The mean, maxima and mini values of the IR are 12.5497, 15.42000, 6.99000 respectively. The kurtosis value of the INF is 3.6, which is greater than 3, which means that the EXR is leptokurtosis. The JB value of INF is 6.9, indicating that the INF is normally distributed. The FDI is not normally distributed because the value of FDI is 0.8979. The kurtosis value of FDI is 3.50074 reflecting that it is LEPTO kurtosis. These results show normal distribution of the data of all variables.

4.2 Correlation Analysis:

The correlation analysis is used to ascertain strength of correlation between variables. It lies between -1 and +1. The negative value of correlation co-efficient shows that there is no correlation

between variables while the positive value of coefficient of correlation indicates that there is positive correlation. The calculated results of Correlation Matrix are given in the following table.

Table 2:*Results of Correlation Matrix*

Variable	UM	POP-G	IR	INF	FDI	ED	WAGE
UM	1.00000 0						
POP-G	-0.2456	1.0000 00					
IR	-0.6643	0.2335	1.0000 00				
INF	-0.4662	0.0932 3	0.4252	1.00000 0			
FDI	-0.2284	0.2252	-0.1245	0.2431	1.0000 00		
ED	- 0.08076	-0.4426	0.2377	-0.2322	-0.7532	1.0000 00	
WAGE	0.6936	0.1659	-0.3959	-0.3969	-0.1688	0.2184	1.0000 0

The results in table 2 show the correlation between variables. Now the 1st variable which is unemployment (UM) shows negative correlation with POP-G and the value of correlation coefficient is -0.24. It means that if population growth increases the unemployment rate will also increase. So, it is very important to control population growth in order to decrease unemployment rate. Unemployment also shows negative correlation with interest rate (IR) and the value of correlation coefficient

is 0.66 which indicates if interest rate increases the unemployment rate will also increase. These variables have strong negative correlation. The correlation coefficient value of unemployment and inflation is -0.46 which shows that if inflation is increased the unemployment rate will increase and these two variables also have significant negative. External debt and FDI also have negative correlation with unemployment rate. The reason is that most of the foreign direct investment is made in speculative activities and not in fixed assets and, therefore, it shows negative effect on unemployment. Similarly, if the amount of foreign debt is increased it will also expedite unemployment because the government will have to spend more amount of taxes on repayment of foreign loans and it has less resources for job creation. However, wage is the only variable which has positive correlation with unemployment. The value of coefficient (0.69) shows that these two variables have strong positive correlation. If wages are increased, it will have positive effect on unemployment rate. Population growth (POP-G) shows positive correlation with the interest rate (IR) and the positive value correlation coefficient is 0.2 but this correlation is insignificant. The population growth rate also has positive but insignificant correlation (0.2) with inflation rate. Population growth and external debt has negative correlation and their correlation coefficient value is (-0.44). The correlation between FDI, inflation is positive while correlation between inflation and external debt is negative. Similarly, the correlation between inflation and wages also negative. Thus, the result of correlation analysis is mixed but the correlation of all independent

variables except wages are negative with dependent variable, unemployment.

4.3 ADF Unit Root Test

ADF's unit Root test is used to check stationarity among variables whether they are stationers at level or at fist difference in order to ascertain which statistical model may be used for analysis of data. If variables are stationers at level, then Ordinary Least square method will be used and if they are stationers at first difference then Autoregressive Lag (ARDL) model will be used for analysis. The results of ADF' test is shown in the following table.

Table 3:

Results of ADF Unit Root Test

Variable	Level			1st difference			Conclusion
	intercept	T&I	NONE	intercept	T&I	NONE	
UM	—	—	—	-7.02134* P(0.000)	-6.883932 P(0.0000)	- 7.137815 P(0.001)	L(1)
POP_ G	- 3.749 1* P(0.01)	-3.6580 P(0.04)	- 2.05673 P(0.04)	—	—	—	L(1)
IR	—	—	—	-3.97921* P(0.005)	-3.862534 P(0.027)	-4.06243 P(0.0002)	L(1)

INF	- 5.325 6* P(0.00 0)	- 5.2163 4 P(0.00 1)	- 0.84235 P(0.341)	-	-	-	L(1)
FDI	-	-	-	-3.21278 P(0.030)	-3.35492 P(0.070)	- 3.23333* P(0.002)	L(1)
ED	-	-	-	-5.88543 P(00000)	8.85342* P(00000)	- 5.734252 P(0.000)	L()
WAGE	-	-	-	-5.993524 P(0.000)	-5.88342 P(0.0003)	- 6.02453* P(0.0000)	

The results in the Table 3 show that the POP-G and the INF are the stationary at the level while the remaining variables such as FDI, UM, IR, WAGE and ED are stationary at the first difference. We check the stationary on the basic of the t statistics and the probability value. When the probability value is less than 0.05% then the variable are stationers. We can see that all variables are stationary at first difference and this situation allows us to use ARDL model for data analysis.

4.4. Auto Regressive Lag (ARDL) Model

The Autoregressive Distributed Lag (ARDL) model is a statistical tool used in econometrics and time series analysis for several reasons: particularly ARDL models are often employed to investigate the long-run relationship between two or more time series variables. It helps

determine whether these variables are cointegrated, meaning they move together in the long run, even if they exhibit short-term fluctuations. ARDL models are also suitable for dealing with non-stationary time series data, where the mean and variance of the data series change over time. By differencing the data and including lagged terms, ARDL models can capture and account for non-stationarity. These models capture the dynamic interactions between variables by including lagged values of the variables, allowing researchers to examine how changes in one variable affect others over time. They can be used for forecasting future values of dependent variables based on their historical relationships with independent variables. This can be valuable for making predictions in various economic and financial contexts. Moreover, the researchers and policymakers often use ARDL models to assess the impact of various policies, shocks, or interventions on economic variables, as they can model both short-term and long-term effects. ARDL models are relatively simple to estimate and interpret compared to more complex time series models, making them accessible for a wide range of users. These models can handle datasets with different frequencies and data types, making them applicable in various empirical studies and to check heteroscedasticity. In short, the ARDL model is a useful tool for analyzing and modeling the relationships between time series variables, especially when dealing with cointegration, non-stationarity, and dynamic interactions, which are common features in economic and financial data analysis. The results of ARDL model are given in the following table.

Table 4.

Results of ARDL Model

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(POP_G)	-1.275467	0.423142	-3.014278	0.0075
D(IR)	0.208304	0.137118	1.519161	0.1461
D(INF)	-0.071879	0.027045	-2.657762	0.0160
D(FDI)	-0.394347	0.140415	-2.808428	0.0116
D(ED)	-0.000000	0.000000	-0.938816	0.3603
D(WAGE)	0.101977	0.032892	3.100354	0.0062
CointEq(-1)	-0.693657	0.199022	-3.485318	0.0026
Cointeq = UM - (-1.8388*POP_G + 0.0513* IR -0.1036*INF -0.5685*FDI				
-0.0000*ED + 0.1470*WAGE_ + 9.0584)				

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
POP_G	1.838759	0.802238	2.292037	0.0342
IR	0.051349	0.152828	0.335989	0.7408
INF	-0.103623	0.060561	-1.711044	0.1043
FDI	-0.568504	0.256989	-2.212173	0.0401
ED	-0.000000	0.000000	-2.115465	0.0486
WAGE_	0.147014	0.048653	3.021697	0.0073
C	9.058410	1.976275	4.583578	0.0002

The results in table 4 shows long run relationship between variables. The results show that the relationship between Unemployment (UM) and population growth (POP)-G is significant because the t-statistics is greater than 2 and probability value is less than 0.09 and its shows positive relation between them. If the one unit increases in POP-G then the UM rate will likely to be increased by 18.38% because high population growth demand more resource and job opportunities, which are not likely to be increased in the same ratio.. These results are consistent with the findings of ILO (2016), UNDP Report, (2018) and Shabbir and Zeb (2019) which states the developing countries must control their population growth rate, otherwise, they will have to face serious issue of unemployment and shortage of scarce resources. These studies also concluded that high population growth rate has negative impact on employment opportunities and enhance unemployment rate if jobs are not created in the same ratio. Similarly, interest rate has insignificant impact on unemployment in the long run as the coefficient value of IR is 0.05 which indicates if one unit increases in the interest rate the unemployment rate will likely to be increased by 0.5 percent in the long run. This finding is consistent with the results of Mahmood, et al. (2013) who stated that interest rate and inflation rate do not significantly influence the unemployment rate in Pakistan. The results of this study also supported the findings of Bierens, Broersma Broersma, (2007) who concluded that for most countries the wage rate is of minor or no importance as a determinant of unemployment. The coefficient value of inflation is negative, showing negative relationship between inflation and unemployment. It indicates

if one-unit increases in inflation rate it will likely to increase unemployment rate by 10.36 percent in the long run. This finding is also consistent with the finding of Phillips (1958) who found inverse relationship between inflation and unemployment and Mehmood et al (2013) who stated that inflation has no significant impact on unemployment in Pakistan. This situation can be termed as stagflation when high inflation and high unemployment exist side by side. Next variable is FDI which is significant because the t-statistics value is greater than 2 and the probability value is less than the 0.09 and it also shows negative relationship with the unemployment in the long run. This relationship is very significant as its coefficient value is -5685 which reveals if one unit increases in FDI the unemployment rate will likely to be decreased by 56.85 percent. The negative sign of external debt shows that there is insignificant negative relationship between unemployment and external debt. However, the wage rate has positive association with unemployment which indicates if one unit increases in wage rate the unemployment rate will likely to be reduced by 14.7 percent in the long run. But this relationship is insignificant. These findings of this study supported the results of Bierens, Broersma Broersma,(2007) who concluded that for most of the countries the wage rate is of minor or no importance as a determinant of unemployment.

4.5 Bound Test

Bound test is used to check long run relationship between variables. The results of Bound test are shown in the following.

Table 5:*Results of Bond Test*

F STAT	3.511632		
CRITICAL BOND VAUE	LCB	UCB	
10%	2.12	3.23	
5%	2.45	3.61	
1%	3.15	4.43	

Note: critical value is taken from e views.

Table 5 shows computed F-statistics vis-à-vis critical values mentioned by Narayan (2004) for small samples. It indicates that there is positive relationship between population growth rate and wage rate and unemployment while there is negative relationship between inflation, interest rate, FDI and external debt with unemployment in the long run. The results of Bound test are also confirmed the results of ARDL model.

4.6 Error Correction Model

This model is used to determine short run relationship between variables. The results of ECM model are shown in the following table.

Table 6:

Result of Error Correction Model (ECM)

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(POP_G)	-1.275467	0.423142	-3.014278	0.0075
D(IR)	0.208304	0.137118	1.519161	0.1461
D(INF)	-0.071879	0.027045	-2.657762	0.0160
D(FDI)	-0.394347	0.140415	-2.808428	0.0116
D(ED)	-0.000000	0.000000	-0.938816	0.3603
D(WAGE_)	0.101977	0.032892	3.100354	0.0062
CointEq(-1)	-0.693657	0.199022	-3.485318	0.0026
Cointeq = UM - (-1.8388*POP_G + 0.0513*INF -0.1036*INF -0.5685*FDI				
-0.0000*ED + 0.1470*WAGE_ + 9.0584)				

Table 6 shows short run relationship between variables and speed of adjustment. The range of the co integration is between 0 and 1. The value of the dependent variable UN and sign of coefficient is -0.6936 that explains the deviation of the UN from normal path. This value shows that 69.36% of the economy will be adjusted toward equilibrium level in the next years. The variables have the same sign as in the long run. It means that all independent variables have negative association with unemployment in the short run except interest rate which has

positive association. It means that monetary policy is effective in the short run to reduce the level of unemployment.

5 Conclusion and Policy implications

This study has shed light on the critical issue of youth unemployment in Pakistan and its impact on the country's economic growth. The findings of the research reveal a complex relationship between various independent variables and dependent variable (unemployment rates), both in the short run and the long run. In the long run, population growth, interest rates, and wage rates have been positively associated with unemployment, while inflation, Foreign Direct Investment (FDI), and external debt have shown a negative relationship with unemployment. However, it is important to note that these relationships have been mixed, indicating the multifaceted nature of the issue. In the short run, all independent variables, including high population growth, interest rates, inflation, FDI, and external debt, have been linked to an increase in youth unemployment. These factors have created challenges for job creation in Pakistan, particularly given the country's low potential for employment generation.

The study underscores the urgency of addressing youth unemployment as a significant economic concern in developing countries like Pakistan. To tackle this issue effectively, the following policy recommendations are put forth:

The government should take measures to control population growth and raise awareness among the public about its adverse effects on per capita income and the availability of goods and services. Encourage Foreign Direct Investment in fixed and productive assets while discouraging speculative activities. This can help stabilize the economy

and create sustainable employment opportunities. The government should Invest in Education and Skill Development to enhance the quality of education and promote skill development to create a more competent and efficient labor force. Initiatives to increase minimum wages and regulate working hours should also be implemented. The Central banks should maintain low interest rates to facilitate access to financing for businesses and individuals, thereby promoting investment in productive ventures. Proper policy initiatives should be used by reduce Gender, Educational, and Skill Gaps: Work towards reducing disparities between rural and urban areas to provide equal employment opportunities for all segments of society. The Government should provide financing options for entrepreneurial projects and encourage educated youth to start new business ventures. Fiscal incentives and a secure working environment should be prioritized to nurture entrepreneurship. In conclusion, addressing youth unemployment is crucial for Pakistan's economic growth and social stability. Implementing these policy recommendations can help alleviate the stress and frustration caused by unemployment among the youth, ultimately leading to a more prosperous and equitable society.

This study has some limitations. For example, it is limited to Pakistan, which may restrict its generalizability to other countries with differing economic and social contexts. Future research could expand the sample to include a more diverse set of nations. While the study analyzes critical economic variables, it does not consider income inequality or resource allocation, which can also impact youth unemployment. Future research could incorporate these factors for a more comprehensive analysis. The study specifically examines youth

unemployment, excluding adults. Expanding the research to include adult unemployment would provide a more holistic understanding of the labor market dynamics. The study's 29-year timeframe is substantial, but extending it to 40 or 50 years would allow for a more comprehensive examination of long-term trends and their effects. Moreover, cross-country comparisons may be made in future studies to assess how economic variables affect youth unemployment in various national contexts, considering differences in economic policies and socio-cultural factors. More variables can be included to explore the impact of income inequality, resource allocation, and educational quality on youth unemployment, providing a more comprehensive understanding of the issue. It is also necessary for future studies to evaluate the effectiveness of specific policy interventions aimed at reducing youth unemployment and improving economic prospects for young people in developing countries.

Data Availability statement

The data used in the findings of this study will be made available on request by corresponding author.

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