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Introduction:

Young people who are 15 to 19 years old and are unemployed fall under the heading of teenage unemployment. The teenage youth's degree of employment is influenced by a variety of factors. It is the primary issue in many countries because it appears to be severe in nature and has been becoming worse over time. In order to put the situation into perspective, I used teenage data from the years 1972 to 2020 to explore the key macroeconomic factors that affect teen unemployment. The state's employment situation is largely impacted by economic expansion. Youth employment prospects are declining as the population grows. The economy and citizens' living standards deteriorate as a state's population grows quickly. Teenage unemployment has significant explaining and policy implications, and research can help us better understand these complexities. Because positive inflation lowers state unemployment, as seen by the Philip curve, inflation has an effect on unemployment. I tried to look into these causes of teenage unemployment because it's always greater than the state's overall unemployment rate. Secondary school retention rates are a top concern for economists and politicians. Due to a significant decline in the labour force and educational trends among young workers over the past two decades, there are now more unskilled workers and fewer employment prospects. Policymakers promoted requiring high school and college education in order to boost young people's employment opportunities. The country's employment opportunities are either directly or indirectly increased by FDI, which is a key predictor of adult unemployment and also contributes to adolescent or teenage unemployment. Most emerging countries have high rates of teen unemployment between the ages of 15 and 24 that are a concern for the government as the market for goods and services stabilises due to job possibilities and market resources. Teenage unemployment is on the rise and is a problem for both emerging and industrialised countries (Dagume & Gyekey, 2016). Economic growth is influenced by social and economic conditions, labour market stability, and other factors. The educational system is directly related to youth unemployment (Msigwa & Kipsha, 2013). Teenage unemployment is the main focusing recent topic of the researcher for the developing and developed nation (Dagume & Gyekey, 2016).

Data source:

The data of the study has been taken from the World Bank database and the US Bureau of statistics. The variables of the study are teenage unemployment, GDP growth, population growth, inflation, and foreign direct investment. All macroeconomic variables are important and influence teenage unemployment. The GDP growth and foreign direct investment are major factors that are directly linked with the prosperity of the population of the state. The developing or least developing countries face slow growth in GDP growth and foreign direct investment. The data period of my study is from 1972 to 2020.

Models and Methodology:

All variable of the model are taken as natural logarithm to avoid the non-linearity of the data. The data in logarithm form become moderately or less skewed and has constant variance.

The model equation of the variables can be written as

$$UNEMPLOYMENT = f(\ln(POP_{GROWTH}), \ln(GDP_{GROWTH}), \ln(INFLATION), \ln(FDI)) \quad (i)$$

$$UNEMPLOYMENT = \beta_1 + \beta_2 \ln(POP \text{ GROWTH}) + \beta_3 \ln(GDP \text{ GROWTH}) + \beta_4 \ln(INFLATION) + \beta_5 \ln(FDI) + \mu_i \quad (ii)$$

Summary Statistics:

The summary statistics of the model variables are given in table 1.1.

Table 1.1:

VARIABLE	Median	Minimum	Maximum	Mean	Std. Dev.
UNEMPLOYMENT	1.54137	1.317192	1.685592	1.528381	0.083612
POP-GROWTH	-0.02317	-0.34162	0.142041	-0.02983	0.095334
GDP-GROWTH	0.539022	-0.00072	0.859536	0.498977	0.180911
INFLATION	-0.26824	-0.71996	-0.06574	-0.3169	0.15895
FDI	10.990	9.103804	11.70879	10.77945	0.737202

The range for the unemployment variable is 1.31 to 1.68, with an average value of 1.52. The median unemployment rate is 1.54 percent. The median and mean values for the population growth variable are both -0.023. Population growth has a range of -0.34 to 0.14 with a standard deviation of 0.095. The data's standard deviation demonstrates how much an observation deviates from the mean location. The GDP growth ranges from -0.0007 to 0.85, with a mean value of 0.49 and a median value of 0.53. GDP growth's standard deviation is 0.1809 percent. The inflation variable's range is -0.71 to -0.065, with a mean value of -0.31. Inflation has a median of -0.26. The range of foreign direct investment is lies from the 9.10 to 11.70 with 10.99 median value. The average value of natural logarithm of the foreign direct investment is 10.77 and standard deviation is 0.73.

Correlation Table

Table 1.2

	UN	POPG	GDPG	INFLATION	FDI
UN	1				
POPG	0.3787	1			
GDPG	0.231	0.4128	1		
INFLATION	0.1952	0.4195	0.9812	1	
FDI	-0.5456	-0.3867	-0.6106	-0.5654	1

The correlation table shows that population growth has moderate positive association with the teenage unemployment, while GDP growth and inflation has weak positive association with the teenage unemployment. Foreign direct investment is moderate negatively associated teenage unemployment.

Analysis:

Table 1.3

HOMEWORK 1A

	Model 1
(INTERCEPT)	5.3085***
	(0.6635)
LOG(POPG)	0.1789
	(0.1232)
LOG(GDPG)	-0.0683
	(0.0780)
LOG(INFLATION)	-0.0143
	(0.0459)
LOG(FDI)	-0.0678**
	(0.0235)
R ²	0.3473
ADJ. R ²	0.2748
NUM. OBS.	41
***P < 0.001; **P < 0.01; *P < 0.05	

Interpretation:

$$UNEMPLOYMENT = 5.30 + 0.178 \log(\text{POP GROWTH}) - 0.068 \log(\text{GDP GROWTH}) - 0.014 \log(\text{INFLATION}) - 0.0678 \log(\text{FDI}) \quad (\text{iii})$$

The output analysis findings are shown in Table 1.2 along with a regression analysis of equation 2 and an estimated regression equation 3. The determinant's regression analysis coefficient has a value of 0.34, which indicates that all independent variables together account for 34% of the variation in the unemployment rate among teenagers. In this model, the intercept term's coefficient is quite important. A one percentage point increase in population growth had a

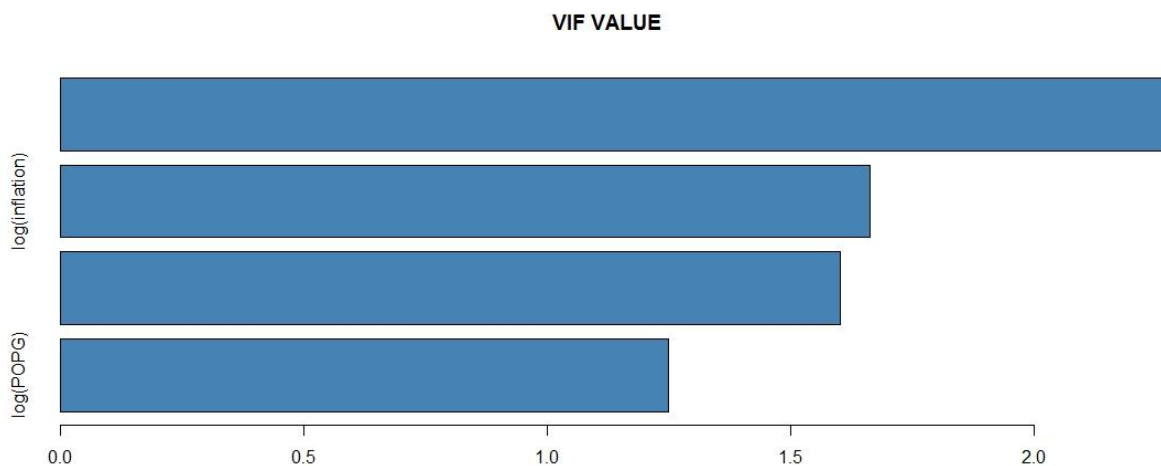
positive impact on the adolescent unemployment rate by 0.17 percentage points, as indicated by the population growth variable's coefficient, which is unimportant at $P > 0.1$. Employment prospects are decreasing as a result of population expansion. The results of this regression analysis show that the GDP growth coefficient is negligible. Despite having a negative sign, the inflation coefficient is negligible in this model, indicating that rising inflation causes a drop in the unemployment rate among young workers, as seen by the Philip curve. When foreign direct investment increased by one percentage point, adolescent unemployment decreased by 0.067 percentage points, according to the coefficient of foreign direct investment, which is significant at $P < 0.01$. Opportunities for the new workforce to enter the new competitive environment are created by foreign direct investment. With investments in the infrastructure and new construction industries, foreign direct investment always generates employment possibilities in the destination country.

Multicollinearity Test:

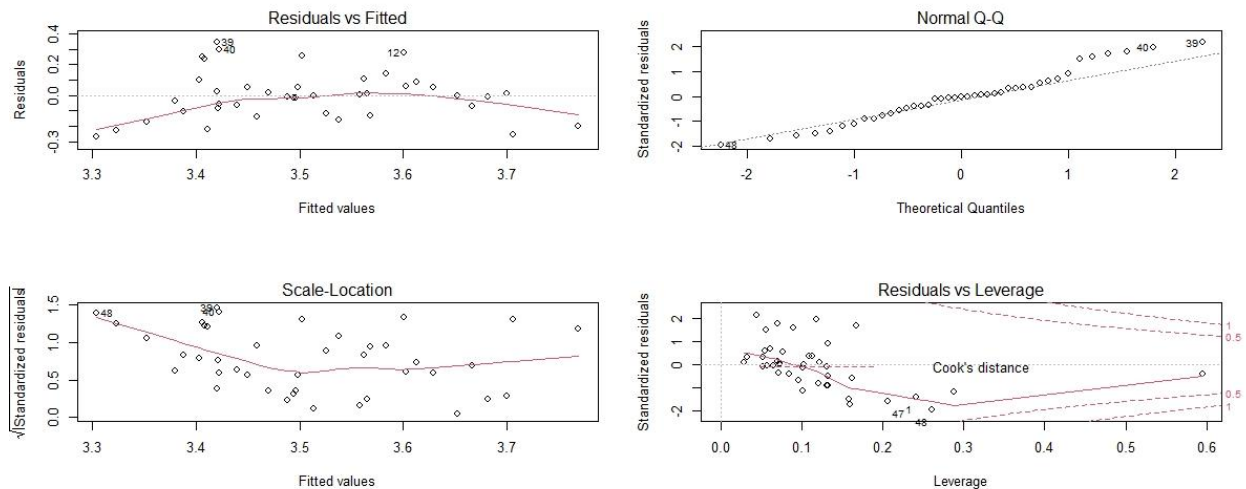
The multicollinearity test conducted to check the problem of multicollinearity in the data set.

Variables	log(POPG)	log(GDPG)	log(inflation)	log(FDI)
VIF values	1.248632	1.602596	1.663320	2.271789

VIF value below 5 shows there is no problem of multicollinearity in the data set. The multicollinearity test shows that logarithm form of all variables VIF value lies below 5 which indicate that there is no problem of multicollinearity in the data set.



Heteroscedasticity Test:



The fitted vs residual plot depict the heteroscedasticity in the model.

Ho: Model variables residual has constant variance

H1: Model variables residual do not have constant variance

LM test = 16.089, df = 1, p-value = 0.00***

Breusch-Pagan test shows that we reject the null hypothesis meaning that residual are heteroscedastic

Philip curve:

Figure 1.1

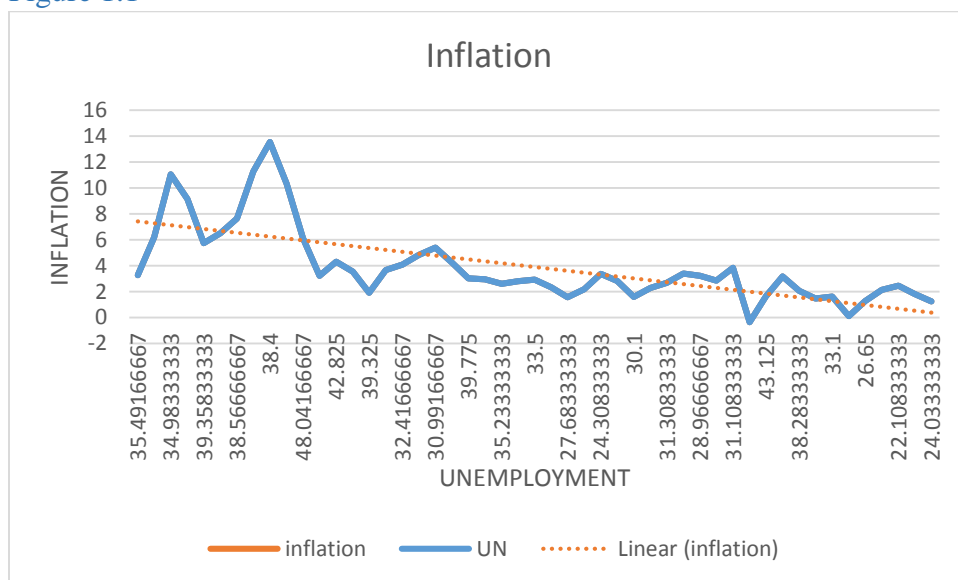


Figure 1.1 shows the Philip curve of the teenage unemployment and inflation percentage in USA. The curve depict that increase in inflation rate had negative impact on the teenage unemployment

from 1972 to 2020. The Philip curve of the data support the Philip theory tradeoff between the unemployment and inflation.

Conclusion:

The goal of this study was to find out how macroeconomic factors affected teenage unemployment. Teenage unemployment is a significant issue that fosters growth in a variety of industries. The importance of economic growth with new latest skills and education is crucial. It is also undeniable that teen unemployment is always higher than the general unemployment rate. Four macroeconomic variables are used to investigate the influence of GDP growth, population growth, inflation, and foreign direct investment on teenage unemployment. The outcomes of the study show that a growth in the US population has a positive influence on teen unemployment. The primary reason of teen unemployment is population increase. Foreign direct investment is responsible for a significant decline proportion of teen unemployment and has a detrimental effect on the outcome. For better teenage job prospects, policymakers should reduce population growth while encouraging foreign direct investment.

Critical evaluation:

There are a lot of other factors which effect the teenage unemployment like family status, cast, and father education etc. this study consider major macroeconomic variables but there are other many factors which influence the teenage unemployment. Hence primary data for this research will be more effective and unbiased.

References:

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