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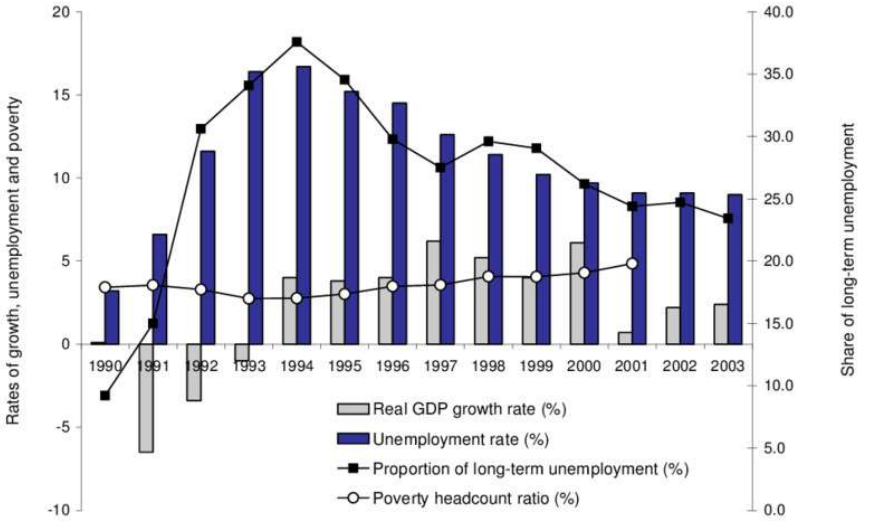
Subject : Foundation of Data Science

Poverty And Unemployment



Sources: OECD; Income Distribution Survey; own calculations. Poverty line: 50% of the median of equivalised income (modified OECD scale). Remark: in the first half of the 90s, poverty headcount ratio decreases as the recession hits middle/high income as much as the poorest (Riihelä et al., 2001); absolute poverty however increases substantially over the period. Second half of the 90s: rise of relative poverty explained by a relatively faster recovery for higher income groups.

Problem Statment And Dataset Discription

Poverty is rooted on unemployment and underemployment. For the impoverished, labour is sometimes their sole means of improving their situation. As a result, creating productive job opportunities is critical for poverty reduction and long-term economic and social development. It is critical to offer respectable employment for the underprivileged, particularly women and young people, who give

combined income and strength. Job possibilities are most likely a big component that has arisen in Pakistan recently. We all know, there are a number of things that have an influence on the economy. Inflation rises as a result of imports and exports goes down, economic and non-economic growth, food costs increase, health, education, and other variables. If we see on other side the inflation also affects the education index of country. Rapid economic growth has the potential to result in a rapid increase of productive and remunerative jobs, reducing poverty. Nonetheless, the growth process' contributions to poverty reduction is dependent not only on the pace of economic progress, but also from the poor's capacity to adapt to the rising demand for labour in more productive occupations. A social perspective on development stresses the belief that good labour is the greatest path to socioeconomic progress, poverty elimination, and personal happiness. Job creation will play a significant role in reaching internationally agreed development targets, particularly the Millennium Development Goal of reducing severe poverty by 2015.To analyze all the factors in Pakistan and other countries, the unlimited independent variables that can influence the education, unemployment and inflation. Some of them that I used to build the model are as MICROSOFT EXCEL FILE. The dataset collects from world bank feature indicators used by different factors (In every indicator there are number of series available and choose only valuable feature that can give better predictions). For Analysis I use regression models.


```
# Basic Libraries for array and Dataframe
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

```
# To read dataset from excel file with using pandas and store into dataframe called df
df=pd.read_excel('/content/drive/MyDrive/newblaa.xlsx')
```

```
# Defualt this shows five columns
df.head()
```

	Borrowersfromcommercialbanks	Consumerpriceindex	Contributingfamilyworkers	Easeofdoingbusinessindex	Employers,to
0	0.0	0.000000	0.0	0	
1	0.0	0.000000	0.0	0	
2	0.0	15.519132	0.0	0	
3	0.0	0.000000	0.0	0	
4	0.0	0.000000	0.0	0	

```
df.columns
```

```
Index(['Borrowersfromcommercialbanks', 'Consumerpriceindex',
       'Contributingfamilyworkers', 'Easeofdoingbusinessindex',
       'Employers,total', 'Employmentinagriculture', 'Employmentinindustry',
       'Employmentinservices', 'Exportsofgoodsandservices',
       'Foreigndirectinvestment,netinflows',
       'Foreigndirectinvestment,netoutflows', 'Fuelexports', 'GDPgrowth',
       'GDPpercapita', 'GDPperpersonemployed',
       'Governmentexpenditureoneducation,total', 'High-technologyexports',
       'Importsofgoodsandservices', 'IndividualsusingtheInternet',
       'Industry,valueadded', 'Inflation,consumerprices',
       'Laborforceparticipationrate,total', 'Laborforcewithadvancededucation',
       'Laborforcewithbasiceducation', 'Laborforcewithintermediateeducation',
       'Laborforce,total', 'Literacyrate,adulttotal',
       'Literacyrate,youthtotal15-25',
       'Manufacturing,valueadded(annual%growth)',
       'Marketcapitalizationoflistedcompanies', 'Mobilecellularsubscriptions',
       'Newbusinessdensity', 'NewbusinessesregisteredN',
       'Own-accountworkers,total', 'Personalremittances', 'Populationages0-14',
       'Populationages15-64', 'Populationages65andabove', 'Populationgrowth',
       'Povertyheadcountratioat$1.90aday', 'Primarycompletionrate,total',
       'Researchanddevelopmentexpenditure', 'Ruralpopulation',
```

```
       'Schoolenrollment,primary', 'Schoolenrollment,secondary',
       'Self-employed,total', 'Taxrevenue(%ofGDP)',
       'Taxesonincome,profitsandcapitalgain',
       'Timerequiredtostartabusiness(days)', 'Timetoprepareandpaytaxes(hours)',
       'Timetoresolveinsolvency(years)', 'Totalemployment,total(ages15+)',
       'Unemploymentwithadvancededucation',
       'Unemploymentwithintermediateeducation', 'Unemployment,total',
       'Unemployment,youthtotal', 'Urbanpopulation',
       'Vulnerableemployment,total', 'Wageandsalariedworkers,total'],
      dtype='object')
```

```
len(df.columns)
```

```
59
```

```
#to Check the dataframe for missing values sum
df.isnull().sum()
```

```
Borrowersfromcommercialbanks               0
Consumerpriceindex                         0
Contributingfamilyworkers                  0
Easeofdoingbusinessindex                   0
Employers,total                            0
Employmentinagriculture                    0
Employmentinindustry                       0
Employmentinservices                       0
Exportsofgoodsandservices                  0
Foreigndirectinvestment,netinflows         0
Foreigndirectinvestment,netoutflows        0
Fuelexports                                0
GDPgrowth                                  0
GDPpercapita                               0
GDPperpersonemployed                       0
Governmentexpenditureoneducation,total     0
High-technologyexports                     0
Importsofgoodsandservices                  0
IndividualsusingtheInternet                0
Industry,valueadded                        0
Inflation,consumerprices                   0
Laborforceparticipationrate,total          0
```

```
Laborforcewithadvancededucation            0
Laborforcewithbasiceducation               0
Laborforcewithintermediateeducation        0
Laborforce,total                           0
Literacyrate,adulttotal                    0
Literacyrate,youthtotal15-25               0
Manufacturing,valueadded(annual%growth)    0
Marketcapitalizationoflistedcompanies      0
Mobilecellularsubscriptions                0
Newbusinessdensity                         0
NewbusinessesregisteredN                   0
Own-accountworkers,total                   0
Personalremittances                        0
Populationages0-14                         0
Populationages15-64                        0
Populationages65andabove                   0
Populationgrowth                           0
Povertyheadcountratioat$1.90aday           0
Primarycompletionrate,total                0
Researchanddevelopmentexpenditure          0
Ruralpopulation                            0
Schoolenrollment,primary                   0
Schoolenrollment,secondary                 0
Self-employed,total                        0
Taxrevenue(%ofGDP)                         0
Taxesonincome,profitsandcapitalgain        0
Timerequiredtostartabusiness(days)         0
Timetoprepareandpaytaxes(hours)            0
Timetoresolveinsolvency(years)             0
Totalemployment,total(ages15+)             0
Unemploymentwithadvancededucation          0
Unemploymentwithintermediateeducation      0
Unemployment,total                         0
Unemployment,youthtotal                    0
Urbanpopulation                            0
Vulnerableemployment,total                 0
```

```
# To Split The Dataset into tyraining and testing
from sklearn.model_selection import train_test_split
# to give more effieceny to program
from sklearn.compose import ColumnTransformer
# For Scalling the features
```

```
from sklearn.preprocessing import MinMaxScaler
# To make algorithm more reliable
from sklearn.pipeline import Pipeline,make_pipeline
# Call the Linear Model
from sklearn import linear_model


# split the dataset with 80% training and 20% testing with random value of 42
X_train,X_test,y_train,y_test = train_test_split(df.drop(columns=['Unemployment,total']),df['Unemployment,total'],test_size=


# Libraries for Data Visualization
import seaborn as sns
import matplotlib.pyplot as plt
# Customize some parameters of sns libraray
sns.set(style='darkgrid', context='talk', palette='rainbow')


# Histogram and Box Plot for to representation of data
numerical = df.select_dtypes('number').columns
for col in numerical:
    fig, ax = plt.subplots(1, 2, figsize=(20,10))
    sns.histplot(data=df, x=col, ax=ax[0])
    sns.boxplot(data=df, x=col, ax=ax[1]);
```

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