**BA4318 Business Data Processing with Python**

**Final Team Project**

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**Introduction**

This paper examines and describes the details of the term project of “Business Data Processing with Python”. We have evaluated and estimated the values of BIST 100, GDP and Private Credit/GDP for last quarter of 2019 in Turkey. In this project, we also make analysis to observe are BIST 100 and Private Credit/GDP have any impact on GDP.

**Data Gathering and Analysis**

The data have gathered from the official site of T.C Central Bank on a quarterly basis. The data set did not have any missing values and they were in line with each other. So, we did not see any problem in data. We saw that there is an increasing trend in BIST 100, GDP and Private Credit/GDP over time. GDP and Private Credit/GDP also have seasonality.

**Applied Forecast Techniques**

Firstly, we conduct regression analysis to see BIST 100 and Private Credit/GDP had any impact on GDP.

Then we wanted to estimate the next quarter for all data by using the best forecasting tool. We have tried all methodology in order to compare which one is working with minimum errors.

We have used Simple Average, Moving Average, Simple Exponential Smoothing, Holt’s and Holt Winters’ methods

After we have tried all methodology, we saw that Holt Winters’ was the best method. So, we have conducted our forecasts accordingly.

**Results**

By using regression analysis, BIST has a significant impact on GDP with p-value of 0.00 and Private Credit/GDP has no significant impact on GDP with p-value of 0.147.

When we forecasted the next quarters for all three series, the results we have obtained are given below:

* BIST 100: 102258.531516 with error 33329971.20817992
* Private Credit/GDP: 230.558529 with error 2.9421343950185976
* GDP: 1.031740e+09 with error 62174431434932.516