TÉCNICO LISBOA

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Data Science Lab 5

Team nr: 2	**Student 1:** Åmund Grimstad	**IST nr:** 1116675
	Student 2: Arthur de Arruda Chau	**IST nr:** 1116090
	Student 3: Benjamin Raymond Kuhn	**IST nr:** 1115778
	Student 4: João Rafael Freitas Lourenço	**IST nr:** 425699

TIME SERIES ANALYSIS

Traffic Time Series

DATA PROFILING

Data Dimensionality and Granularity

Figure 1: Traffic Time Series at the most granular detail

Figure 2: Traffic Time Series at the second chosen granularity

Figure 3: Traffic Time Series at the third chosen granularity

Data Distribution

Figure 4: Boxplot(s) for Traffic Time Series

Figure 5: Histogram(s) for Traffic Time Series

Figure 6: Autocorrelation lag-plots for original Traffic Time Series

Figure 7: Autocorrelation correlogram for original Traffic Time Series

Data Stationarity

Figure 8: Components study for Traffic Time Series

Figure 9: Stationarity study for Traffic Time Series

DATA TRANSFORMATION

Aggregation

Figure 10: Forecasting plots after different aggregations on Traffic Time Series

Figure 11: Forecasting results after different aggregations on Traffic Time Series

Smoothing

Figure 12: Forecasting plots after different smoothing parameterisations on Traffic Time Series

Figure 13: Forecasting results after different smoothing parameterisations on Traffic Time Series

Differentiation

Figure 14: Forecasting plots after first and second differentiation of Traffic Time Series

Figure 15: Forecasting results after first and second differentiation of Traffic Time Series

Other transformations (optional)

Figure 16: Forecasting plots after applying other transformations over Traffic Time Series

Figure 17: Forecasting results after applying other transformations over Traffic Time Series

Inflation Rate Time Series

DATA PROFILING

Data Dimensionality and Granularity

Figure 18: Inflation Rate Time Series at the most granular detail

Figure 19: Inflation Rate Time Series at the second chosen granularity

Figure 20: Inflation Rate Time Series at the third chosen granularity

Data Distribution

Figure 21: Boxplot(s) for Inflation Rate Time Series

Figure 22: Histogram(s) for Inflation Rate Time Series

Figure 23: Autocorrelation lag-plots for original Inflation Rate Time Series

Figure 24: Autocorrelation correlogram for original Inflation Rate Time Series

Data Stationarity

Figure 25: Components study for Inflation Rate Time Series

Figure 26: Stationarity study for Inflation Rate Time Series

DATA TRANSFORMATION

Aggregation

Figure 27: Forecasting plots after different aggregations on Inflation Rate Time Series

Figure 28: Forecasting results after different aggregations on Inflation Rate Time Series

Smoothing

Figure 29: Forecasting plots after different smoothing parameterisations on Inflation Rate Time Series

Figure 30: Forecasting results after different smoothing parameterisations on Inflation Rate Time Series

Differentiation

Figure 31: Forecasting plots after first and second differentiation of Inflation Rate Time Series

Figure 32: Forecasting results after first and second differentiation of Inflation Rate Time Series

Other transformations (optional)

Figure 33: Forecasting plots after applying other transformations over Inflation Rate Time Series

Figure 34: Forecasting results after applying other transformations over Inflation Rate Time Series