

# **Econometric Modeler Analysis**

## **Summary of results from the Econometric Modeler App**

Econometrics Toolbox Version 6.2 (R2023a)

09-May-2023

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## 1. Time Series: UI

### 1.1. Time Series Plot

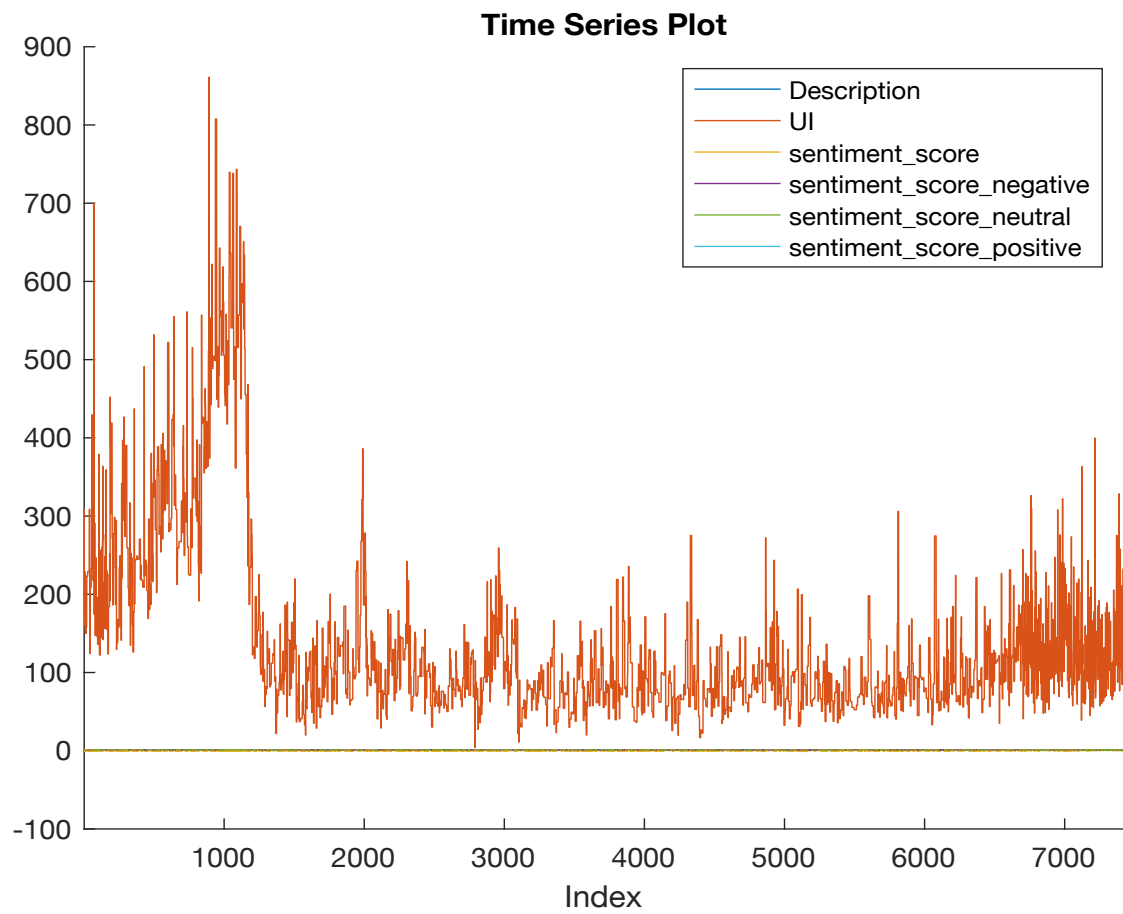


Figure 1.1. Time Series Plot of Description, UI, sentiment\_score, sentiment\_score\_negative, sentiment\_score\_neutral, sentiment\_score\_positive

## 1.2. Time Series Plot

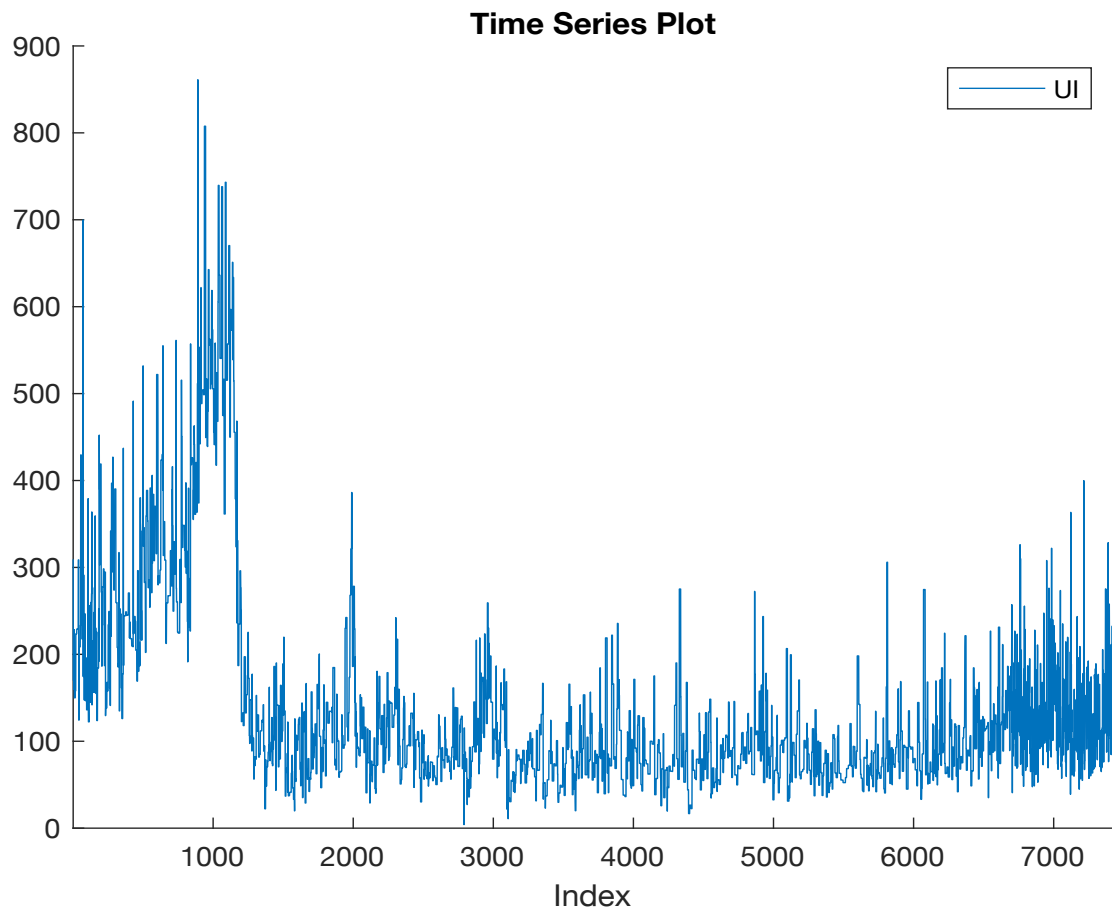


Figure 1.2. Time Series Plot of UI

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## 2. Time Series: sentiment\_score

### 2.1. Time Series Plot

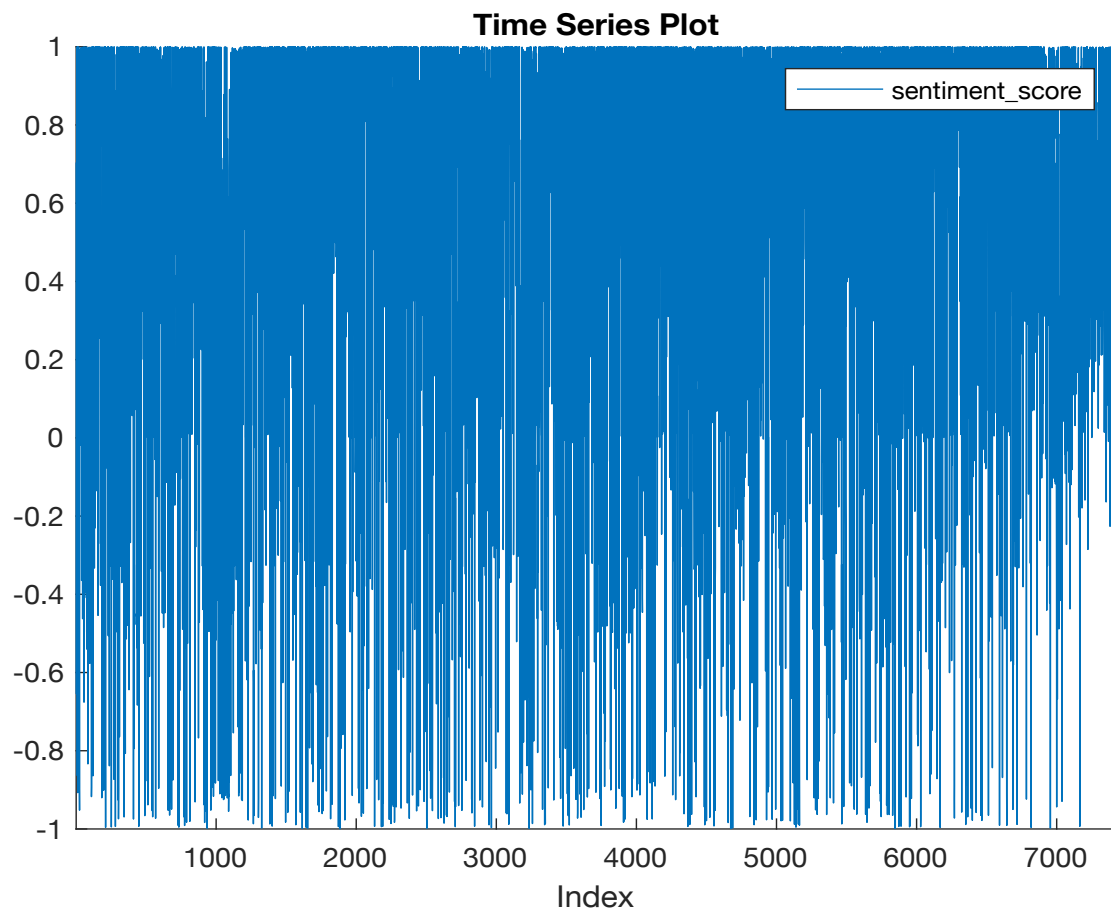


Figure 2.1. Time Series Plot of sentiment\_score

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### 3. Time Series: sentiment\_score\_negative

#### 3.1. Time Series Plot

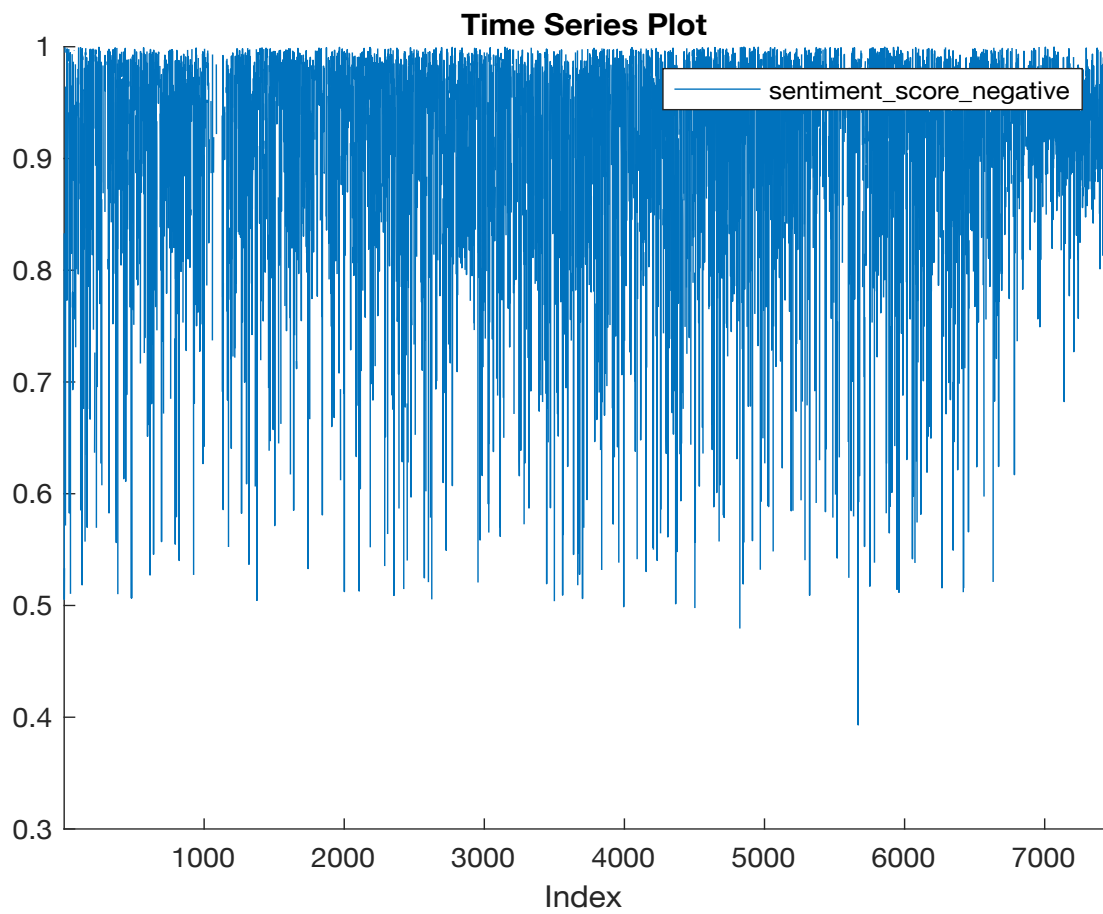


Figure 3.1. Time Series Plot of sentiment\_score\_negative

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## 4. Time Series: sentiment\_score\_neutral

### 4.1. Time Series Plot

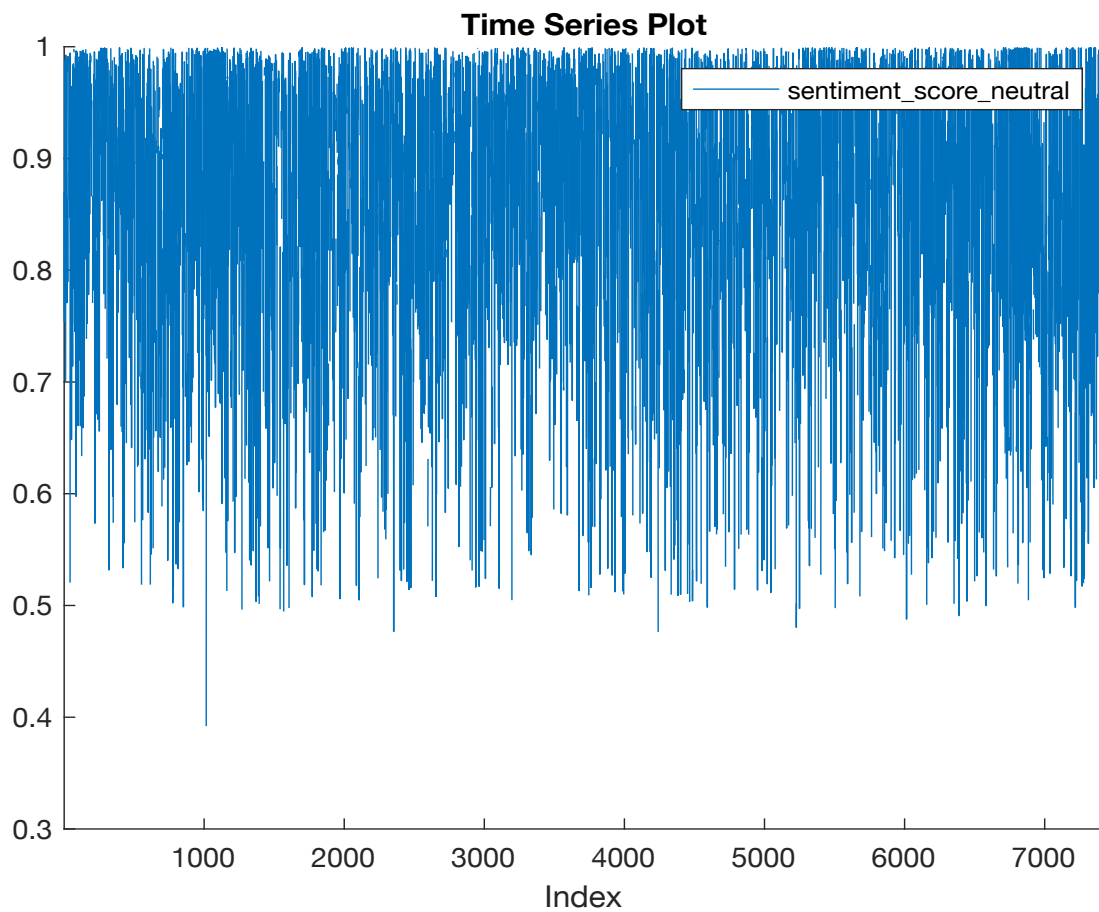


Figure 4.1. Time Series Plot of sentiment\_score\_neutral

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## 5. Time Series: UISeasonalDiff

### 5.1. Time Series Plot

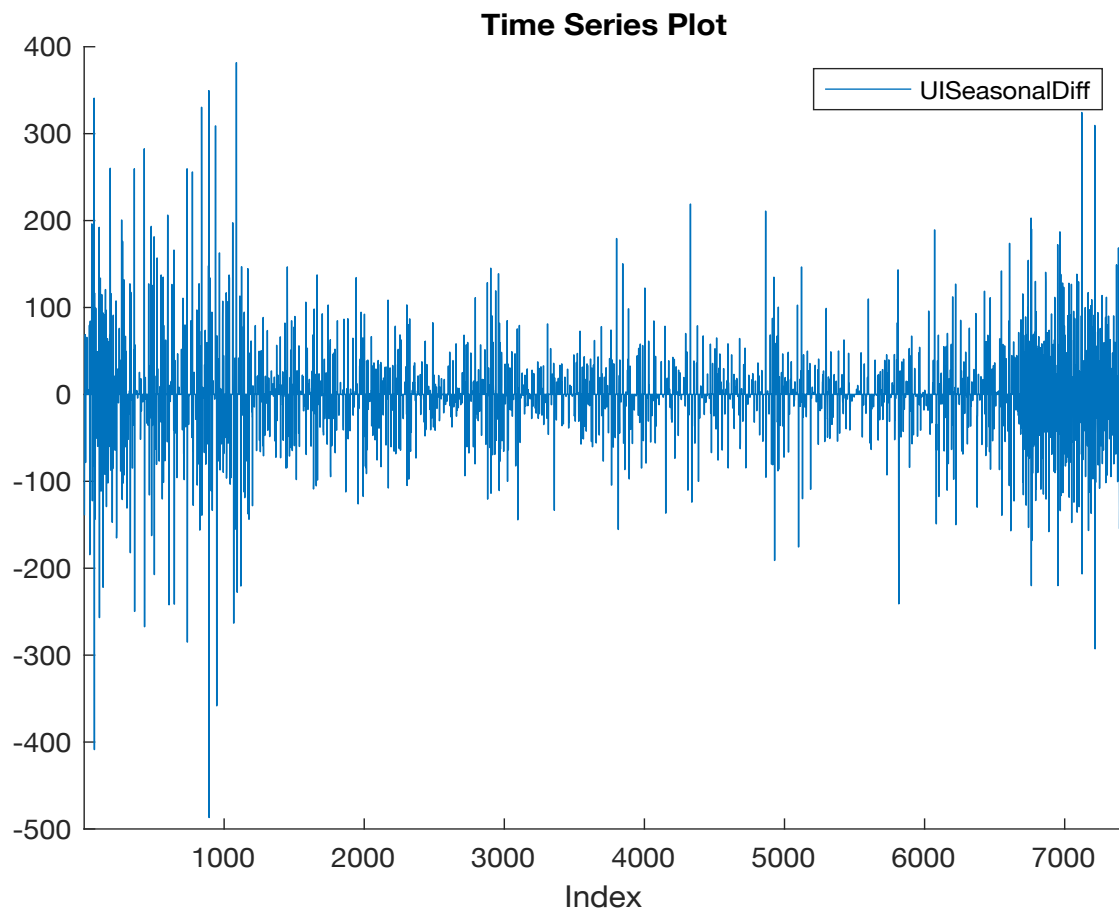


Figure 5.1. Time Series Plot of UISeasonalDiff



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## 6. Multiple Linear Regression Model (MLR\_UI)

Multiple linear regression model of time series UI using the following equation:

$$y_t = c + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + \varepsilon_t$$

### 6.1. Model Estimation

**Table 6.1. Estimation Results**

Parameter	Value	Standard Error	t Statistic	P-Value
Intercept	166.7244	21.2177	7.8578	5.0044e-15
Beta{sentiment_score}	-2.6527	3.6114	-0.73453	0.46267
Beta{sentiment_score_negative}	-19.7998	17.3516	-1.1411	0.2539
Beta{sentiment_score_neutral}	-14.3302	14.1927	-1.0097	0.31271

**Table 6.2. Goodness of Fit**

AIC	48324.2682
BIC	48349.3921

## 6. Multiple Linear Regression Model (MLR\_UI)

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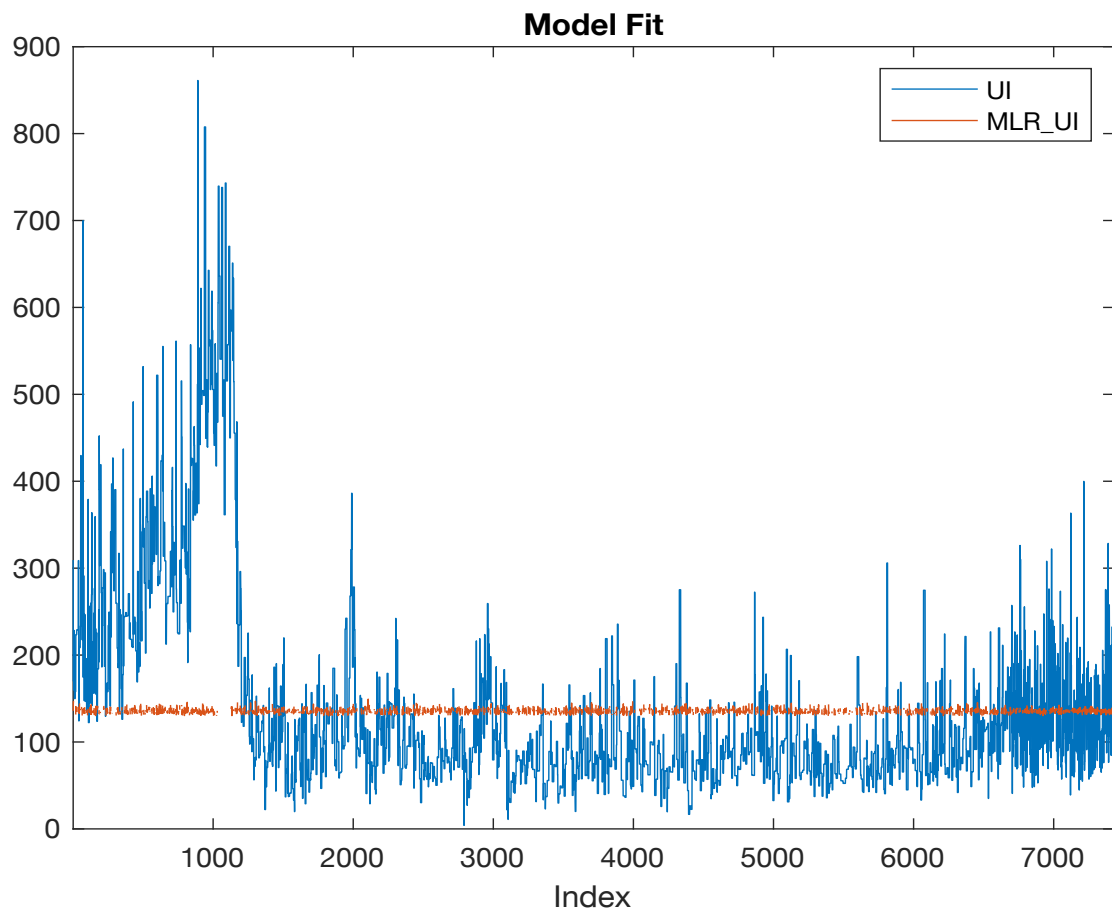


Figure 6.1. Plot the fit of model MLR\_UI time series UI

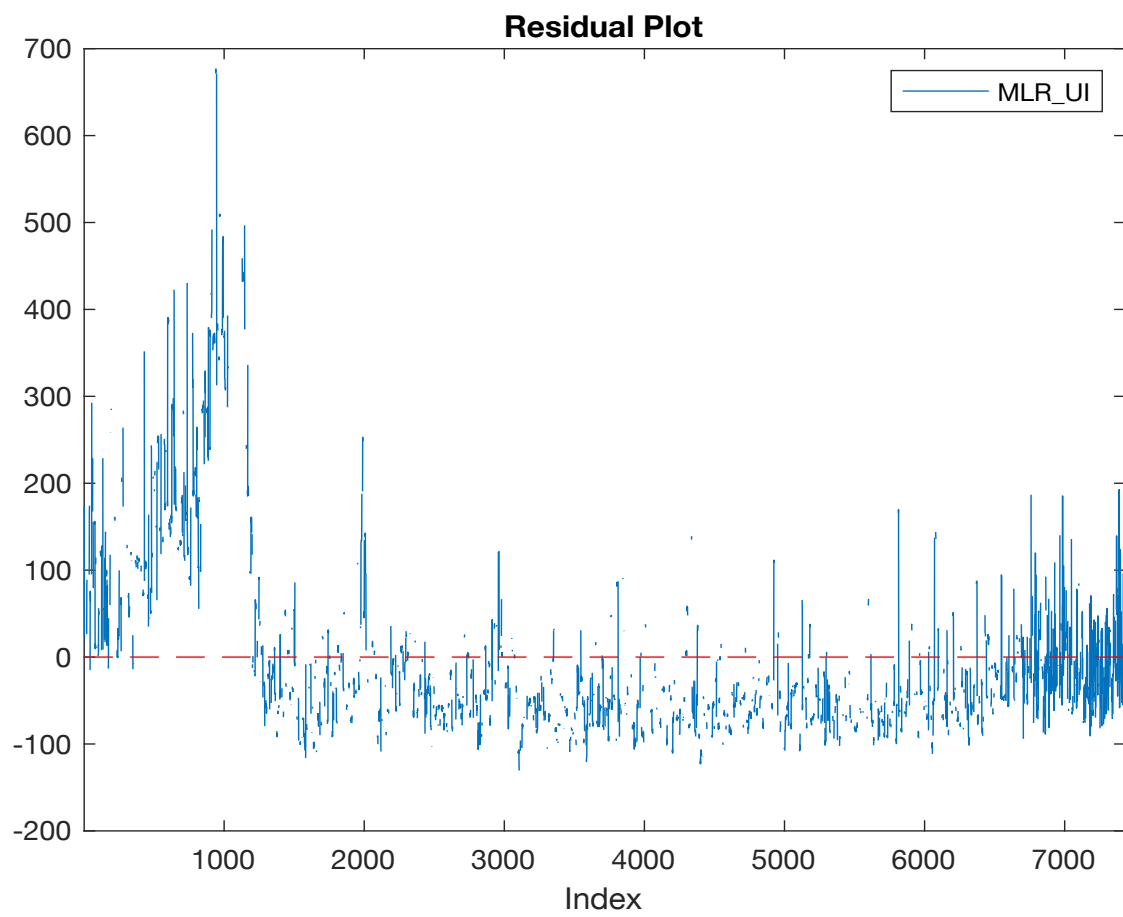


Figure 6.2. Plot of the residuals of model MLR\_UI

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## 7. Multiple Linear Regression Model (MLR\_UISeasonalDiff)

Multiple linear regression model of time series UISeasonalDiff using the following equation:

$$y_t = c + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + \varepsilon_t$$

### 7.1. Model Estimation

**Table 7.1. Estimation Results**

Parameter	Value	Standard Error	t Statistic	P-Value
Intercept	3.6785	8.1609	0.45075	0.65219
Beta{sentiment_score}	-1.0421	1.3867	-0.75145	0.45242
Beta{sentiment_score_negative}	-3.5774	6.6761	-0.53585	0.59209
Beta{sentiment_score_neutral}	-0.64903	5.4507	-0.11907	0.90522

**Table 7.2. Goodness of Fit**

AIC	40745.7674
BIC	40770.8892

## 7. Multiple Linear Regression Model (MLR\_UISeasonalDiff)

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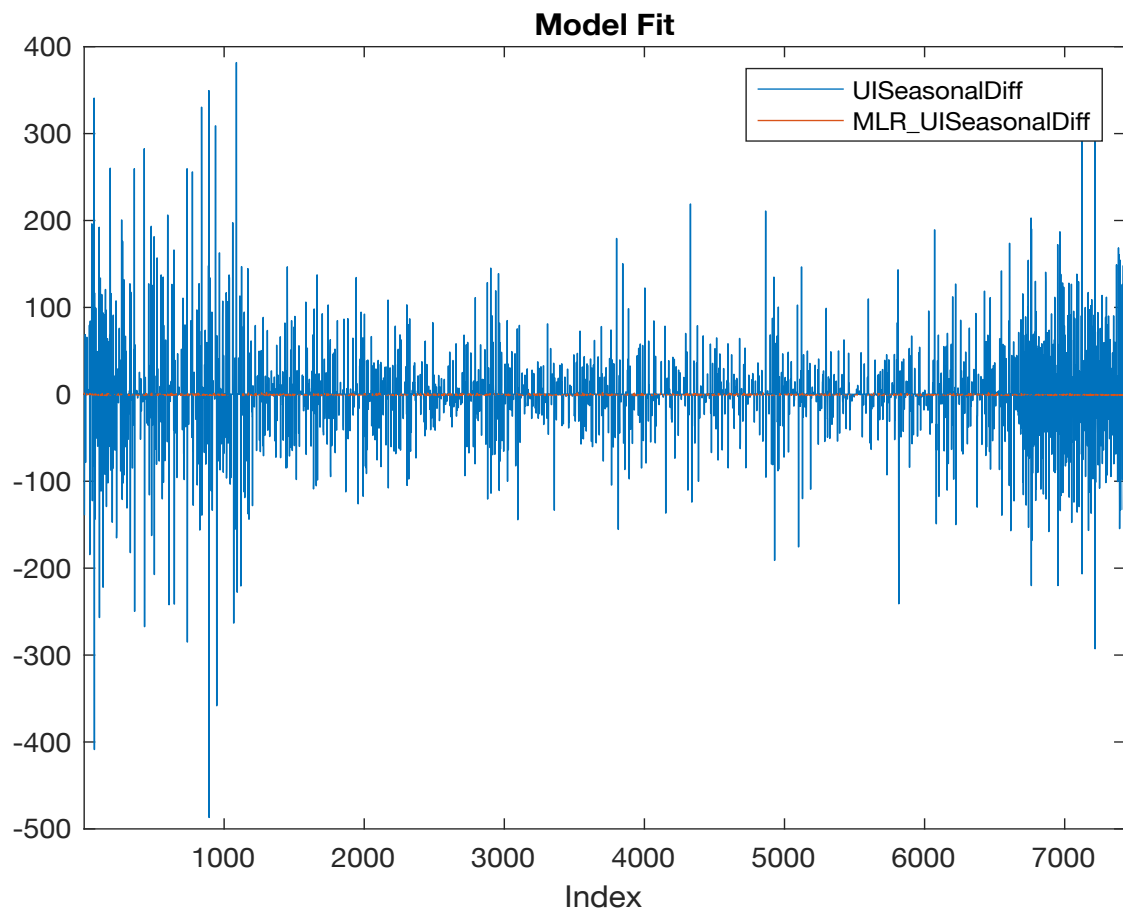


Figure 7.1. Plot the fit of model MLR\_UISeasonalDiff time series UISeasonalDiff

## 7. Multiple Linear Regression Model (MLR\_UISeasonalDiff)

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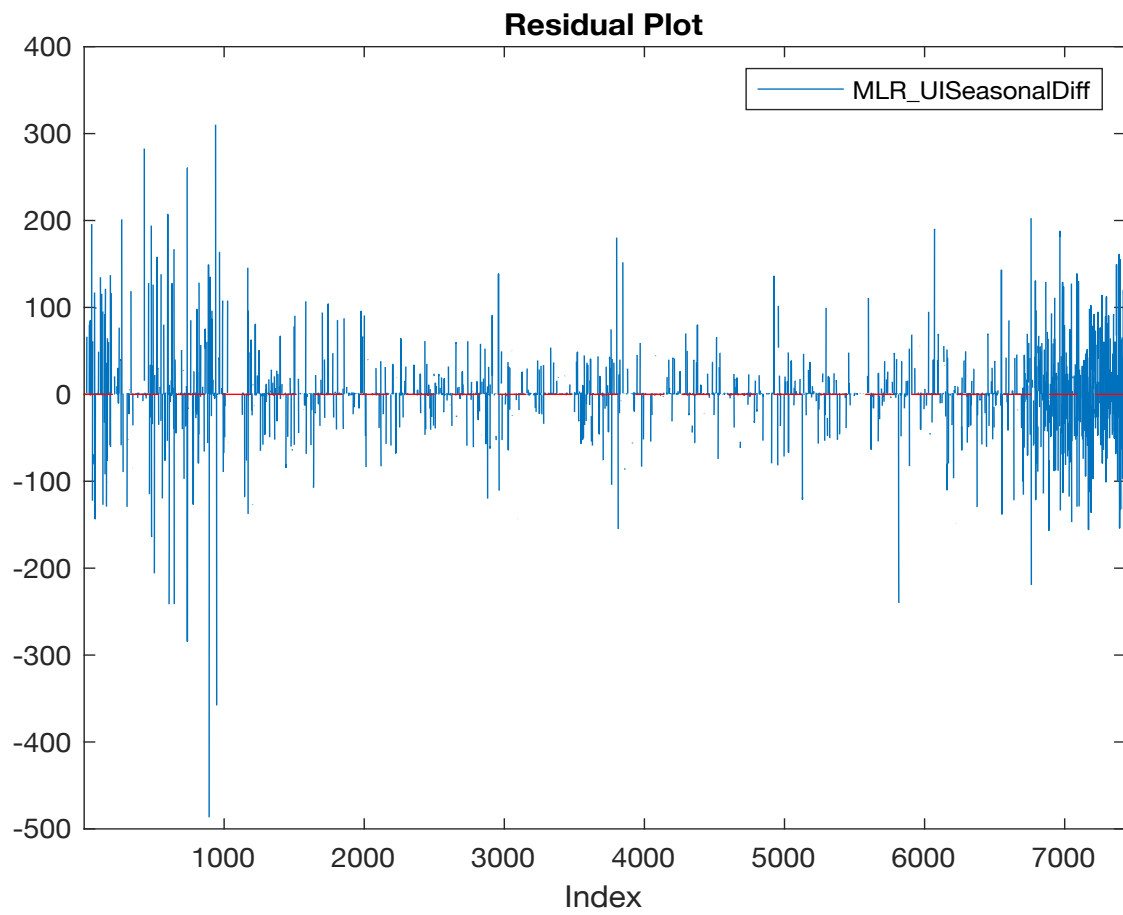


Figure 7.2. Plot of the residuals of model MLR\_UISeasonalDiff