

Interim Report 2020 / Jan

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Overview	3
All variables summary	4
SICOM RSS3 Rubber Futures Price (SGX)	5
Price of Naphtha	6
Exchange Rate	7
Seasonality of Rubber Exports (2016 - 2018)	8
Export Vs Consumption	9
SICOM RSS3 40 Volume	10
Model (SVM)	11

Overview

We are predicting the rubber export volume for all of Indonesia on a monthly basis. The goal is to build a model that predicts the rubber export volume for a month given variables available a month prior.

The following are some variables found as useful predictors so far.

- SICOM Price - <https://www2.sgx.com/derivatives/products/sicom-rubber>
- Price of Naphtha - <https://www.investing.com/equities/naphta-historical-data>
- Exchange Rate (IDN/USD)
- Ramadan Holidays
- SICOM RSS3 40 Futures volume

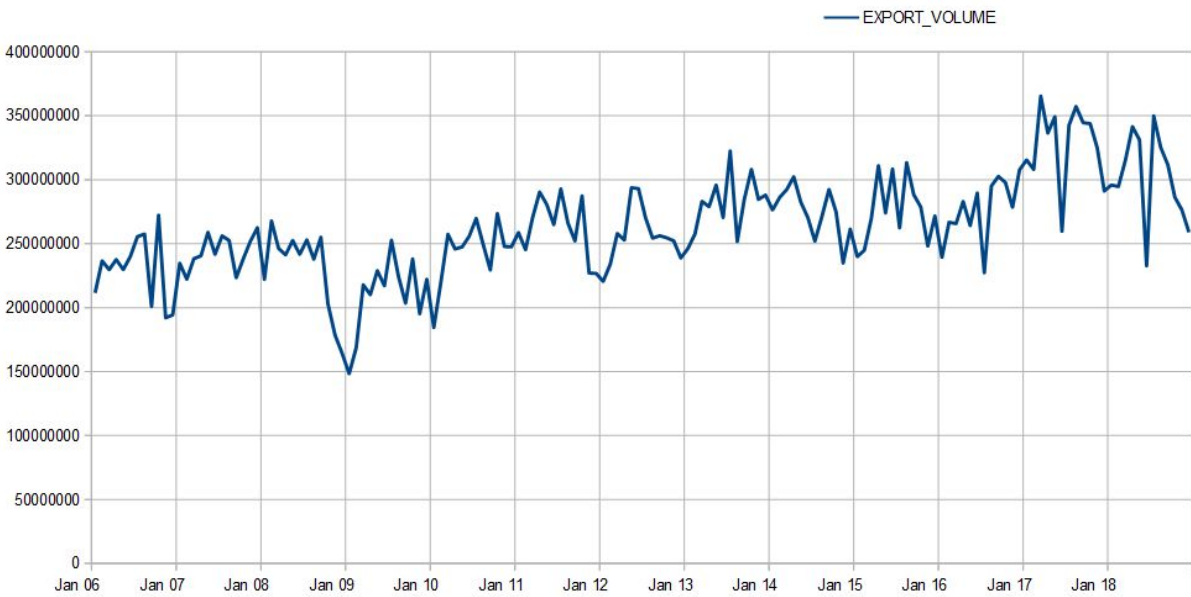
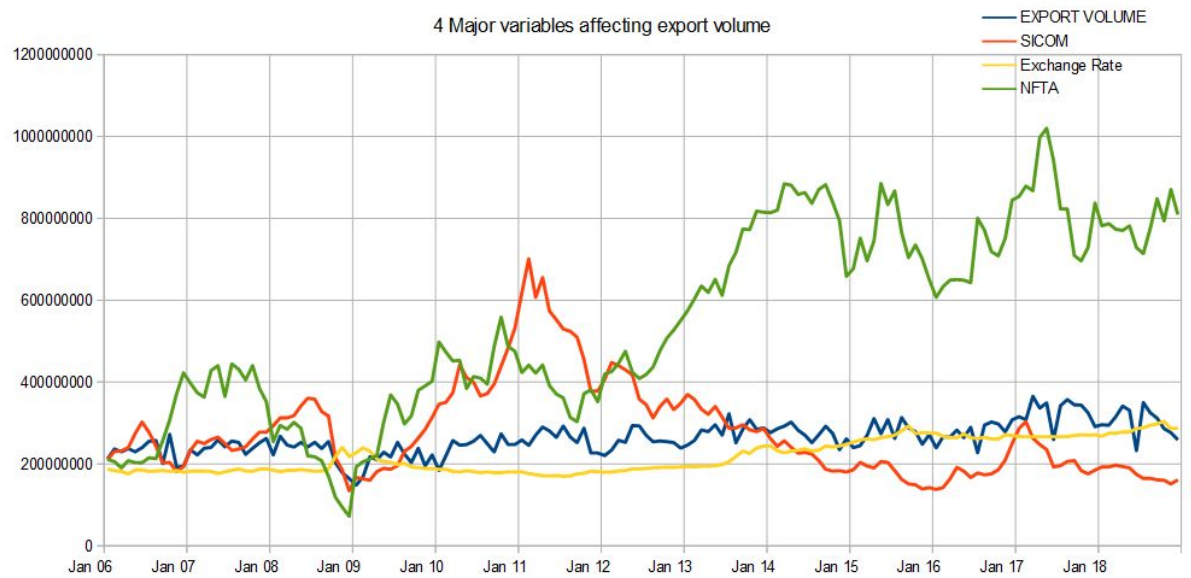
Few of the minor variables,

- Domestic consumption

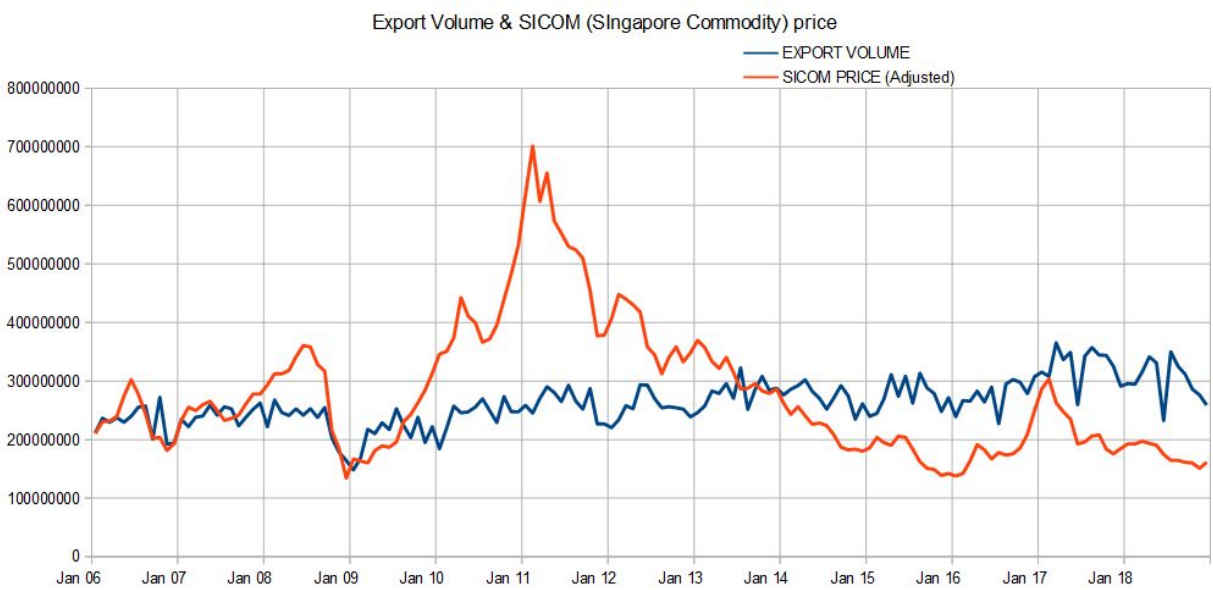
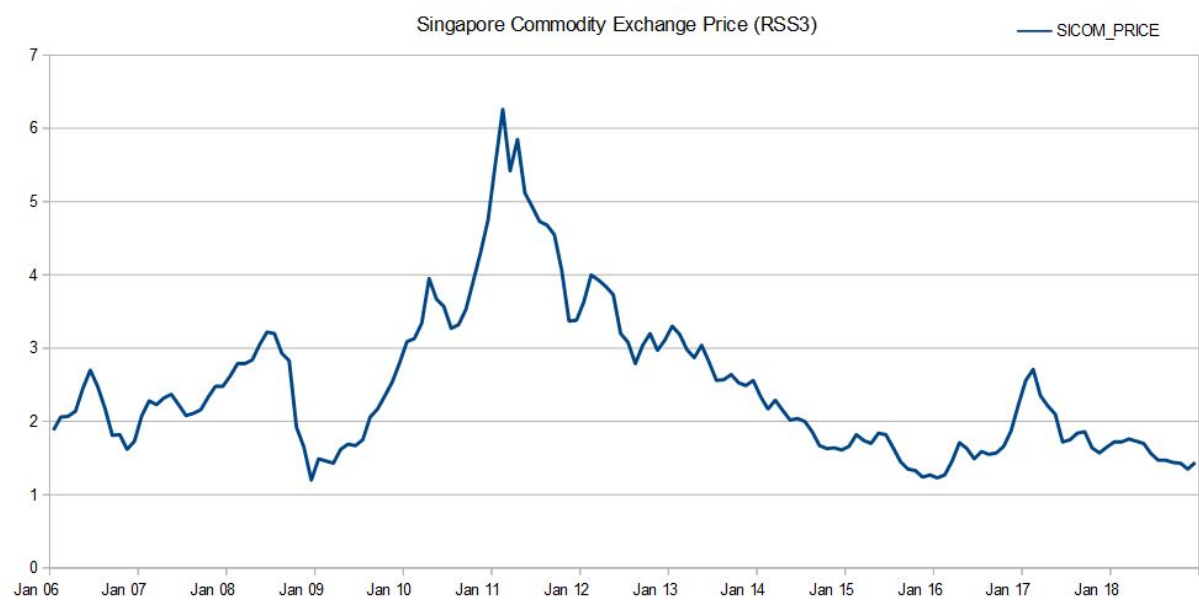
The following are some statistical models and their parameters and their parameters found to be performing up to a better extent.

- SVM (Support Vector Machine) - Accuracy = 69.4%
 - Kernel = Gaussian
 - Box constrain = 46.4159
 - Kernel scale = 10
 - Standardized = Yes
 - PCA = No
- Regression Trees (Medium)
 - Leaf size = 5
- Gaussian Process Regression
 - Basis function = Linear
 - Kernel function = Matern 5/2

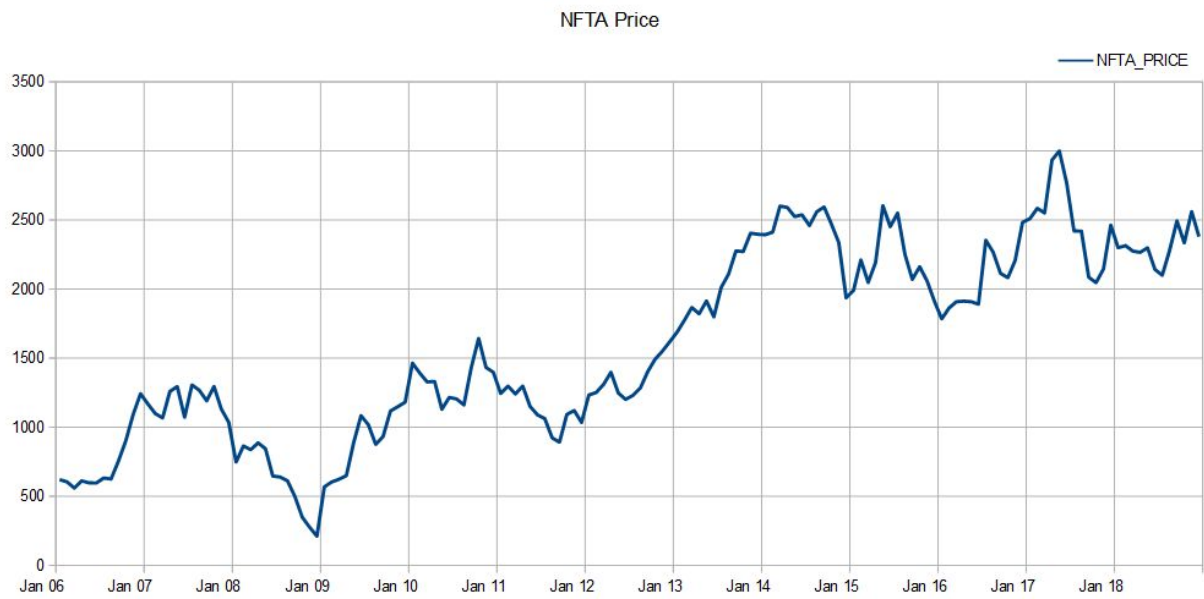
All variables summary



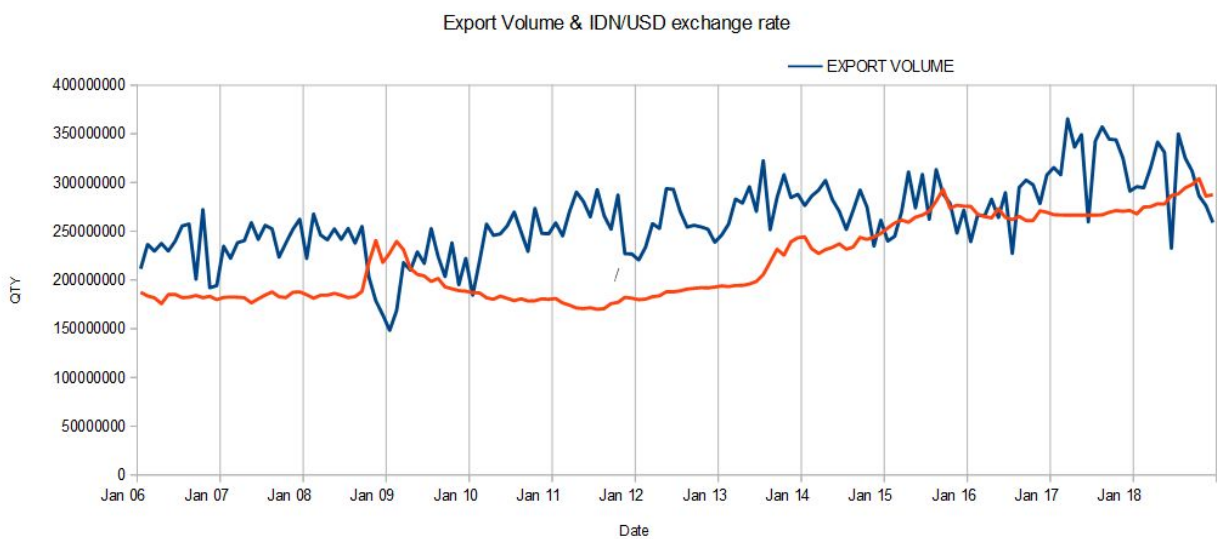
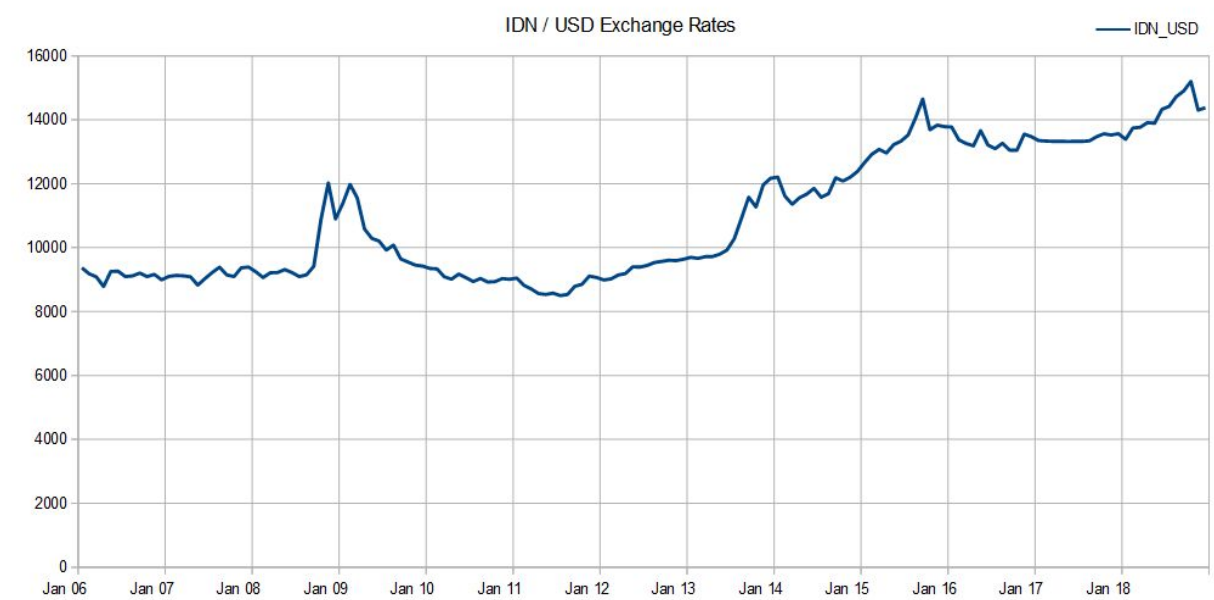
SICOM RSS3 Rubber Futures Price (SGX)



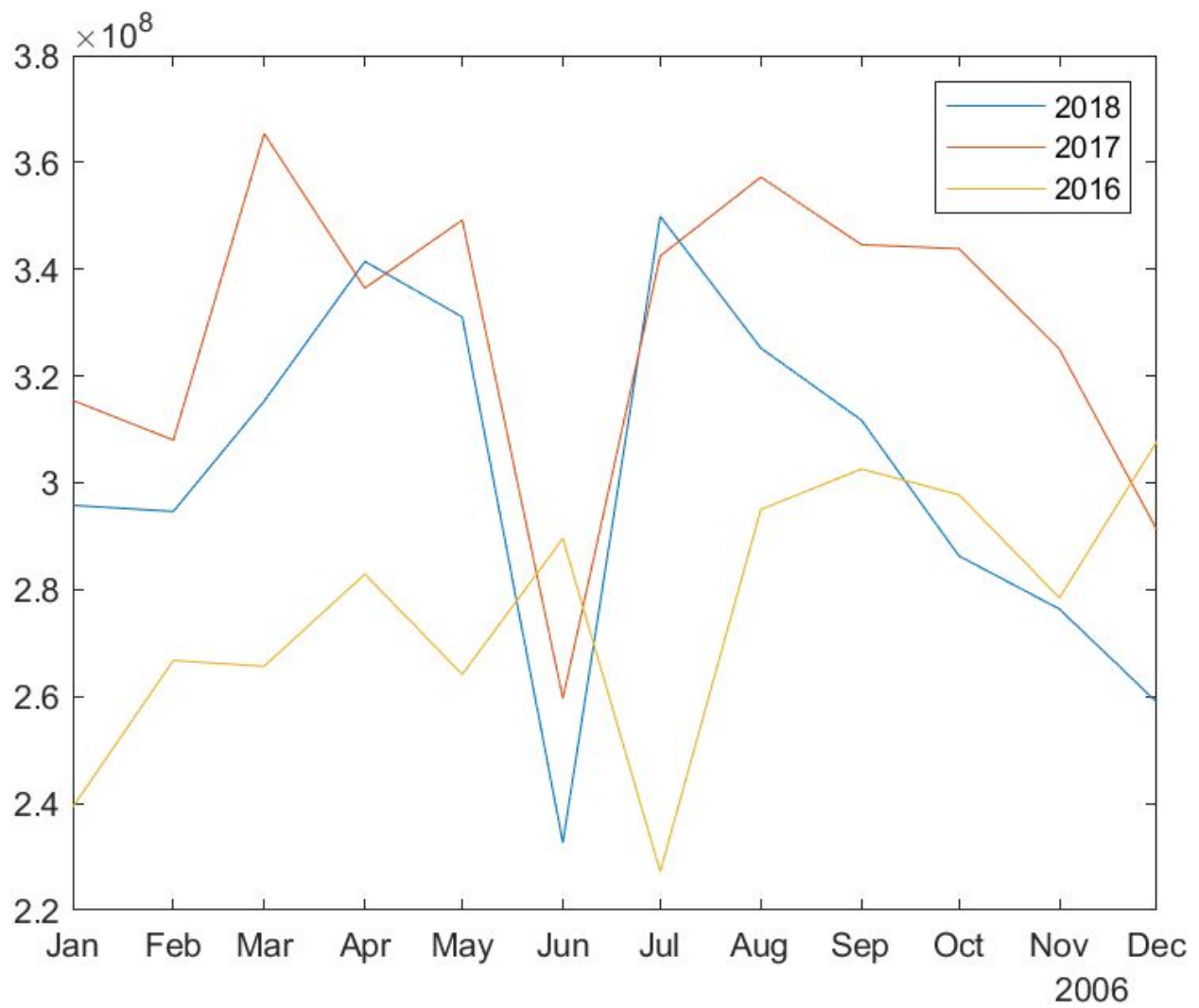
Price of Naphtha



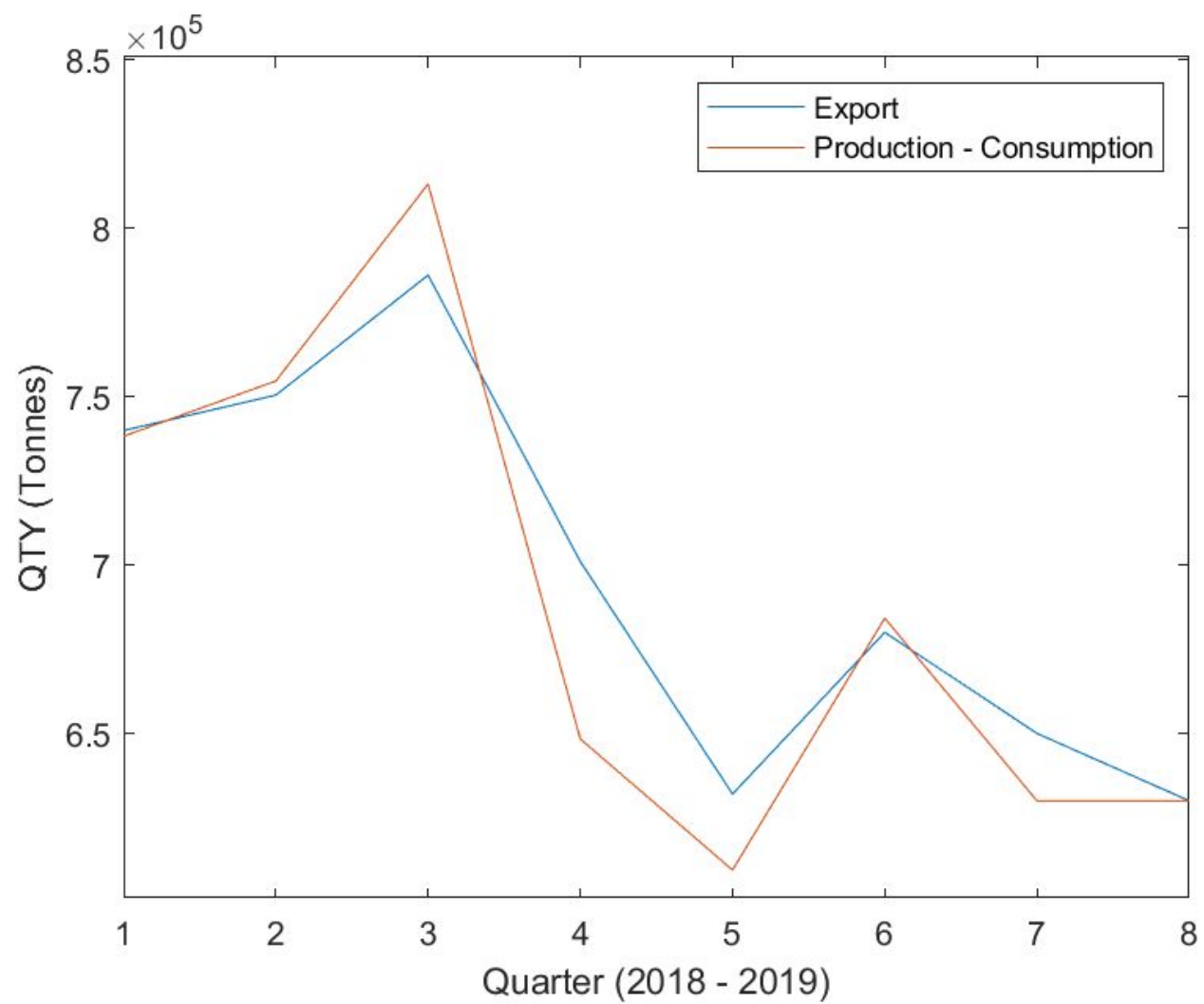
Exchange Rate



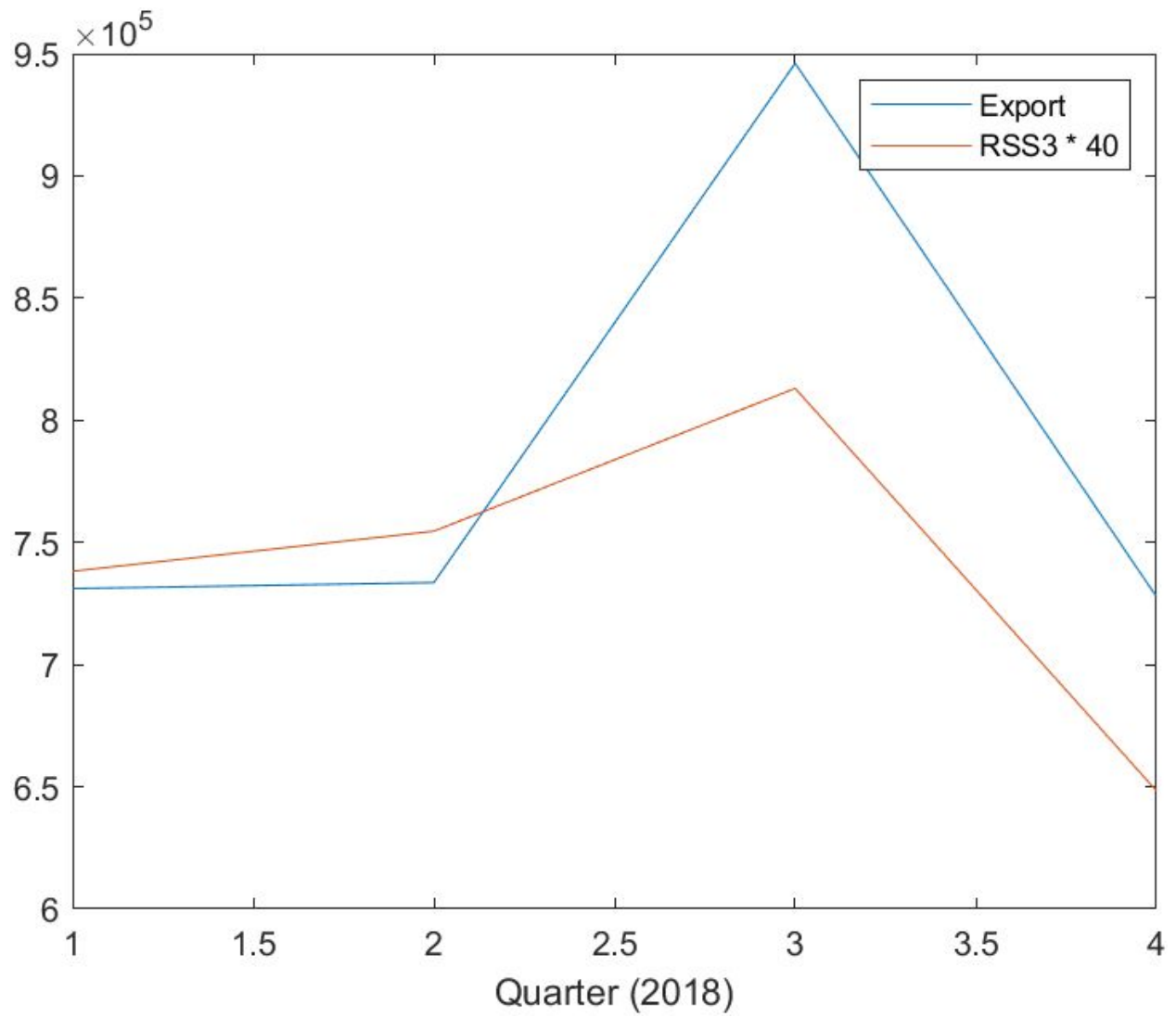
Seasonality of Rubber Exports (2016 - 2018)



Export Vs Consumption



SICOM RSS3 40 Volume



Model (SVM)

