

# Stock Module - F.O Lights

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## Abstract

This vignette provides a simple analysis of the F.O.Lights refined sugar data for the stock module.

## 1. F.O.Lights Data

The data below was pulled from the publication in May/2016. The variables studied are: **Opening Stocks**, **Production**, **Trade**, **Consumption** and **Closing Stocks** for **industrialised** and **developing** countries.

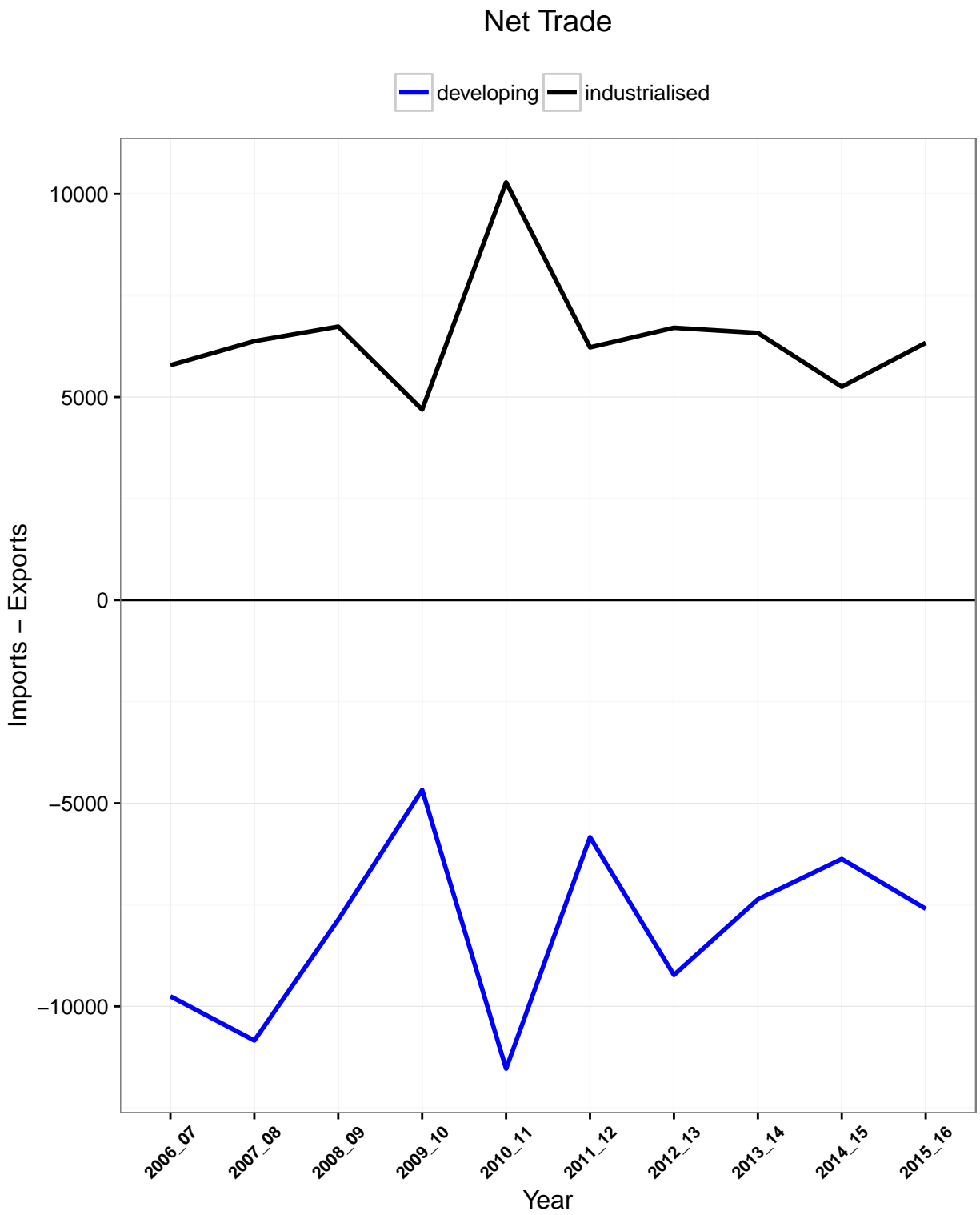
```
##      timePointYears  country_group opening_stocks production imports
## 1:      2006_07 industrialised      19296      40892    18437
## 2:      2007_08 industrialised      19813      39392    19111
## 3:      2008_09 industrialised      18833      37864    18950
##      consumption exports ending_stocks
## 1:      46158    12653      19813
## 2:      46748    12735      18833
## 3:      45762    12216      17669
```

## 2. Data Manipulation

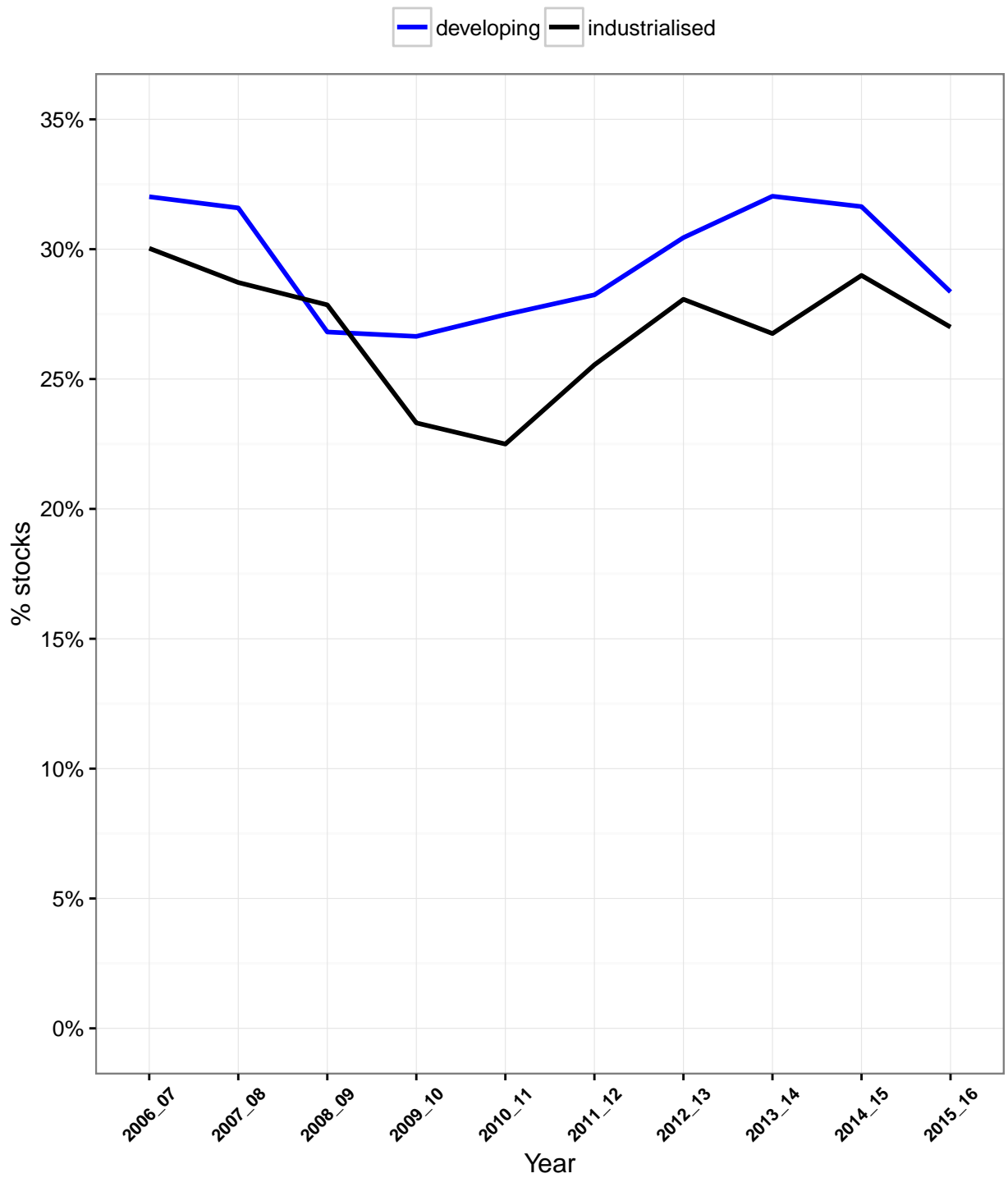
We computed the **Supply**, **Utilization**, **Delta Stocks**, **% of Stocks** and **Delta Total Supply**.

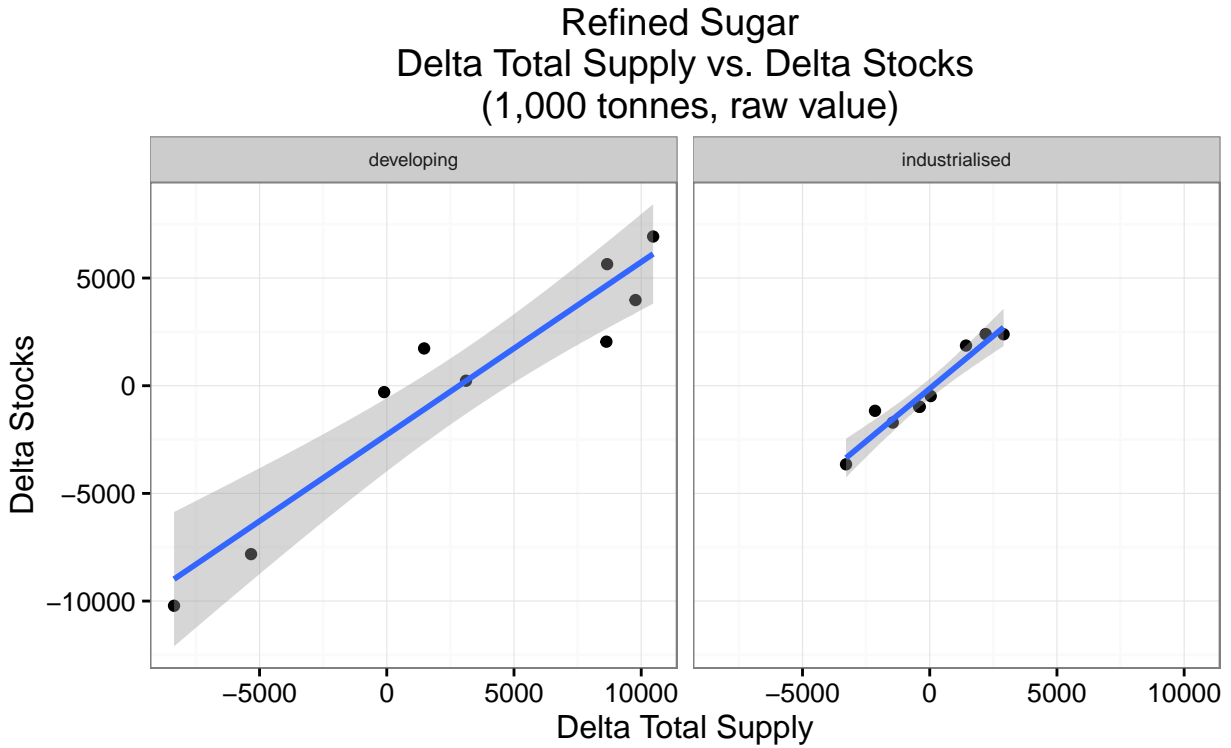
```
##      timePointYears  country_group opening_stocks production imports
## 1:      2006_07 industrialised      19296      40892    18437
## 2:      2007_08 industrialised      19813      39392    19111
## 3:      2008_09 industrialised      18833      37864    18950
##      consumption exports ending_stocks supply utilization delta_stocks
## 1:      46158    12653      19813    65972      65971         517
## 2:      46748    12735      18833    65581      65581        -980
## 3:      45762    12216      17669    63431      63431       -1164
##      stocks_percent delta_total_supply netTrade
## 1:      0.3003244      NA      5784
## 2:      0.2871716     -391      6376
## 3:      0.2785546    -2150      6734
```

### 3. Data Visualization



% Stocks by Year





## 4. Correlation

country_group	corr
industrialised	96.4
developing	95.0

## 5. Model

A linear regression was fitted:

- Dependent variable: delta stocks
- Independent variable: delta supply and country\_group

The coefficients are:

sugarModel.coefficients	
(Intercept)	-2321.6041785
delta_total_supply	0.8164414
country_groupindustrialised	2167.8907130

The **R Square** is **90.2%**