Market Price Model

The market price model uses predicts the price of agricultural commodities using Fixed Effects regression method. Fixed Effect regression model is a linear regression model when the observations vary over time and regions. The commodities used in the model are beans, groundnuts, maize, meat, milk, okra, rice, sorghum, sugar, vegetable oil, and wheat for South Sudan, fruit, and teff for Ethiopia. The model uses rainfall, price of fuel, historical price data, number of fatalities and crop production as explatory variable to predict prices. Commodity prices, price of petrol and crop production data are from CLiMIS South Sudan. Rainfall is from Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) and the number of fatalities are from ACLED.  
  
The input variables are:  
  
 - price of petrol and diesel  
  
 - total rainfall in the previous month, (CHIRPS)  
  
 - crop production net weight in the previous year,  
  
 - number of fatalities from violent conflict in the previous month  
  
 - commodity price in the previous month.

* Model ID: market\_price\_model
* Model Maintainer: Jenny Yu, jenny.yu@kimetrica.com
* Model Category: Economic

# Outputs

**price:**

* Description: pixel value corresponds to predicted price of the given commodity group.
* Units: USD

# Parameters

**commodity:**

* Description: The selected commodity group.
* Type: ChoiceParameter
* Choices: Meat, Pulses and vegetables, Bread and Cereals, Milk, cheese and eggs, Sugar, jam, honey, chocolate and candy, Oils and fats
* Default: Pulses and vegetables

**rainfall\_scenario:**

* Description: The rainfall scenario based on historical monthly average of the precipitation values. High value is estimated by 2x mean, and low value is estimated by 0.25x mean.
* Type: ChoiceParameter
* Choices: high, normal, low
* Default: normal

**country:**

* Description: Select the country of interest.
* Type: ChoiceParameter
* Choices: Ethiopia, South Sudan
* Default: Ethiopia

**year:**

* Description: Select the year of interest.
* Type: NumberParameter
* Min/Max: 2017, 2018
* Default: 2018

**month:**

* Description: Select the month of interest.
* Type: NumberParameter
* Min/Max: 1, 12
* Default: 1