DAILY COFFEE PRICE - PREDICTION MODEL

Final Project Ironhack Bootcamp
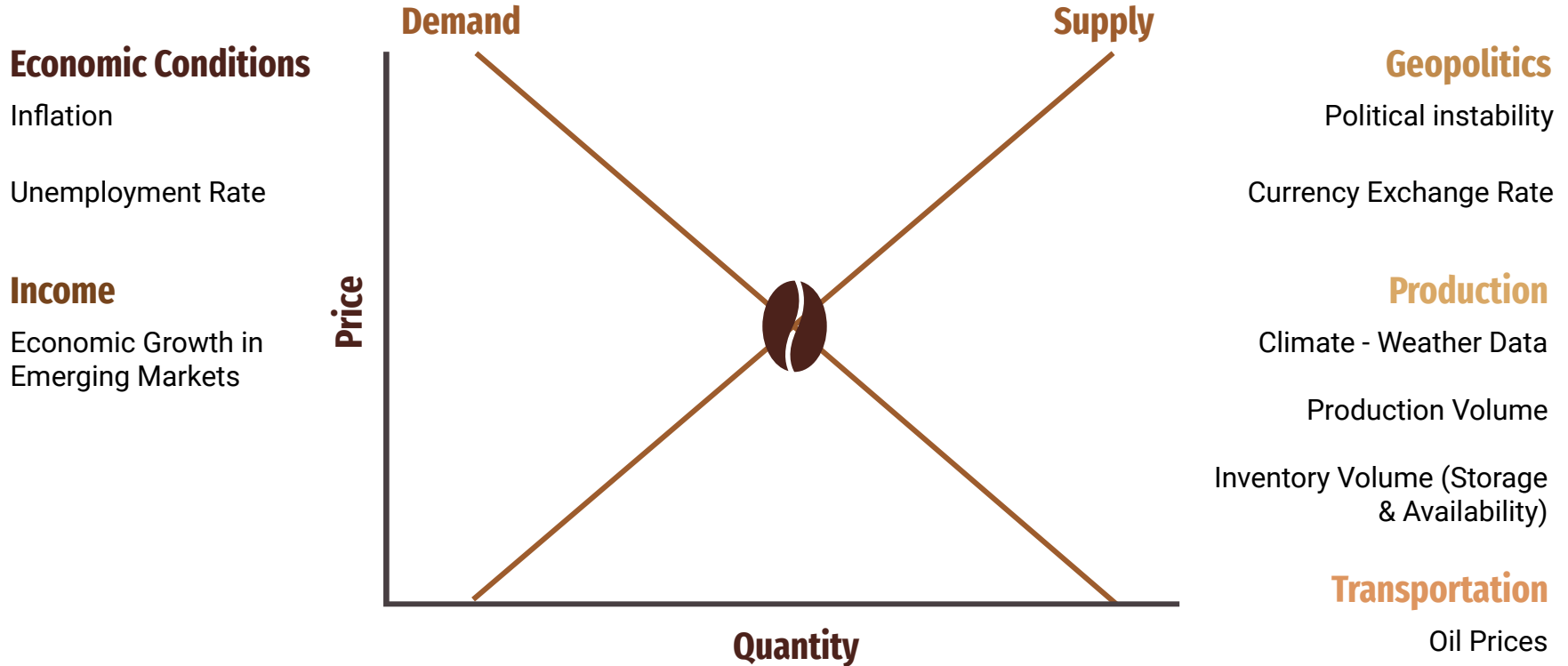
Joséphine Bonvin

03.02.2023
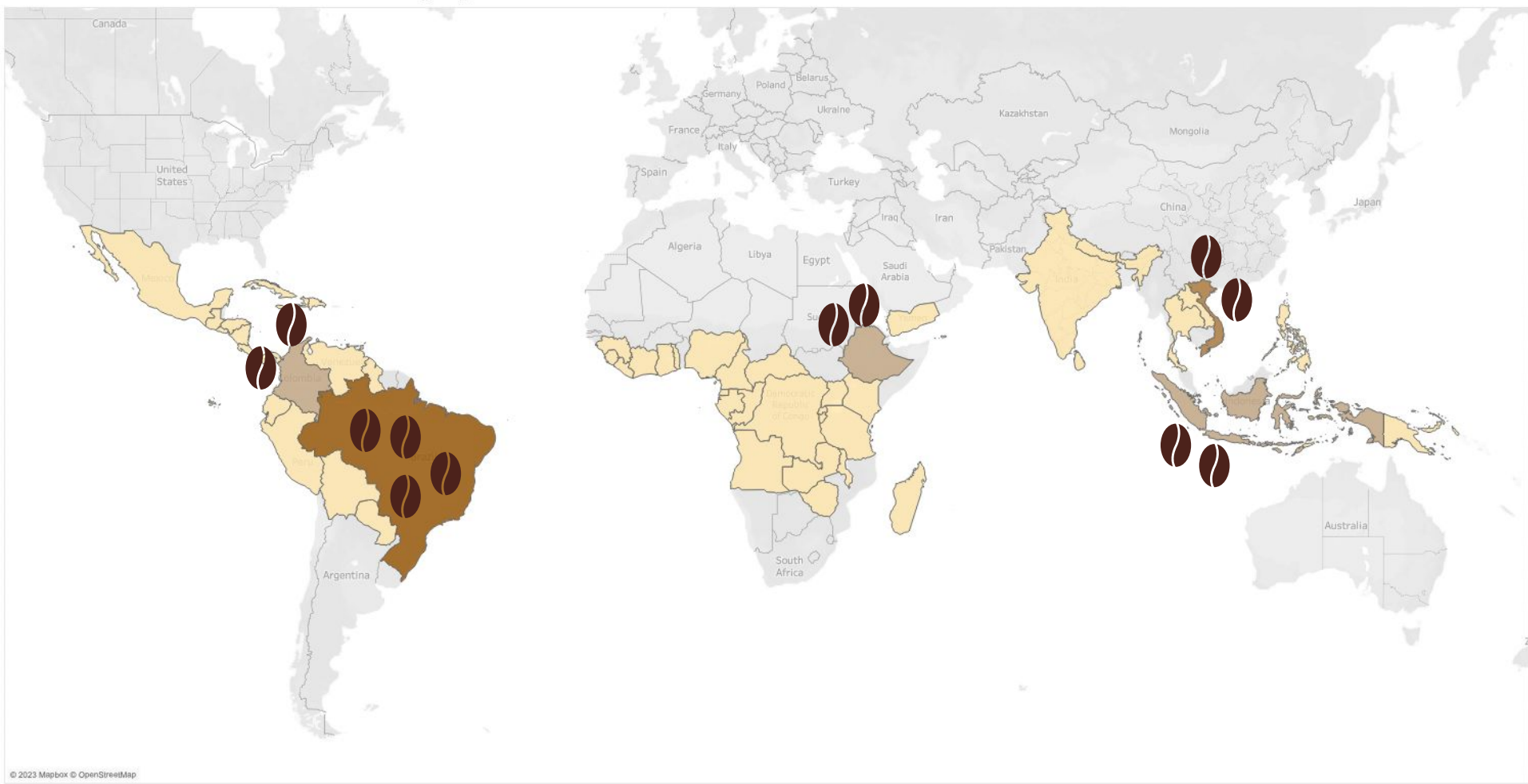
Daily Coffee Price Evolution
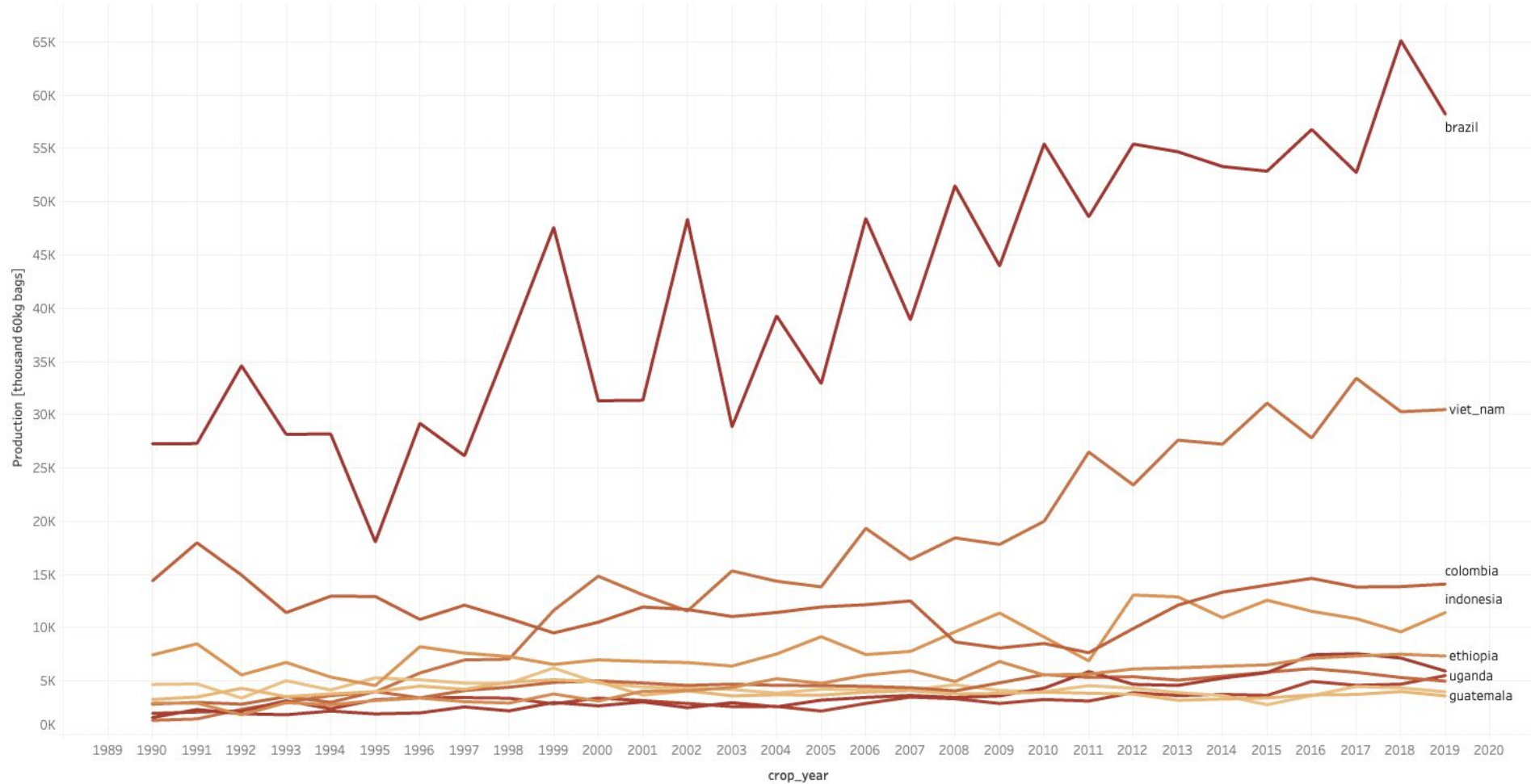
What is Price ?

Economic Conditions

Inflation

Unemployment Rate

Income

Economic Growth in
Emerging Markets

Geopolitics

Political instability

Currency Exchange Rate

Production

Climate - Weather Data

Production Volume

Inventory Volume (Storage
& Availability)

Transportation

Oil Prices

Demand

Supply

Price

Quantity

Coffee Belt with 2019 Coffee Production Highlighted

Evolution of Annual Coffee Production - Top Ten Countries

WeatherLocations
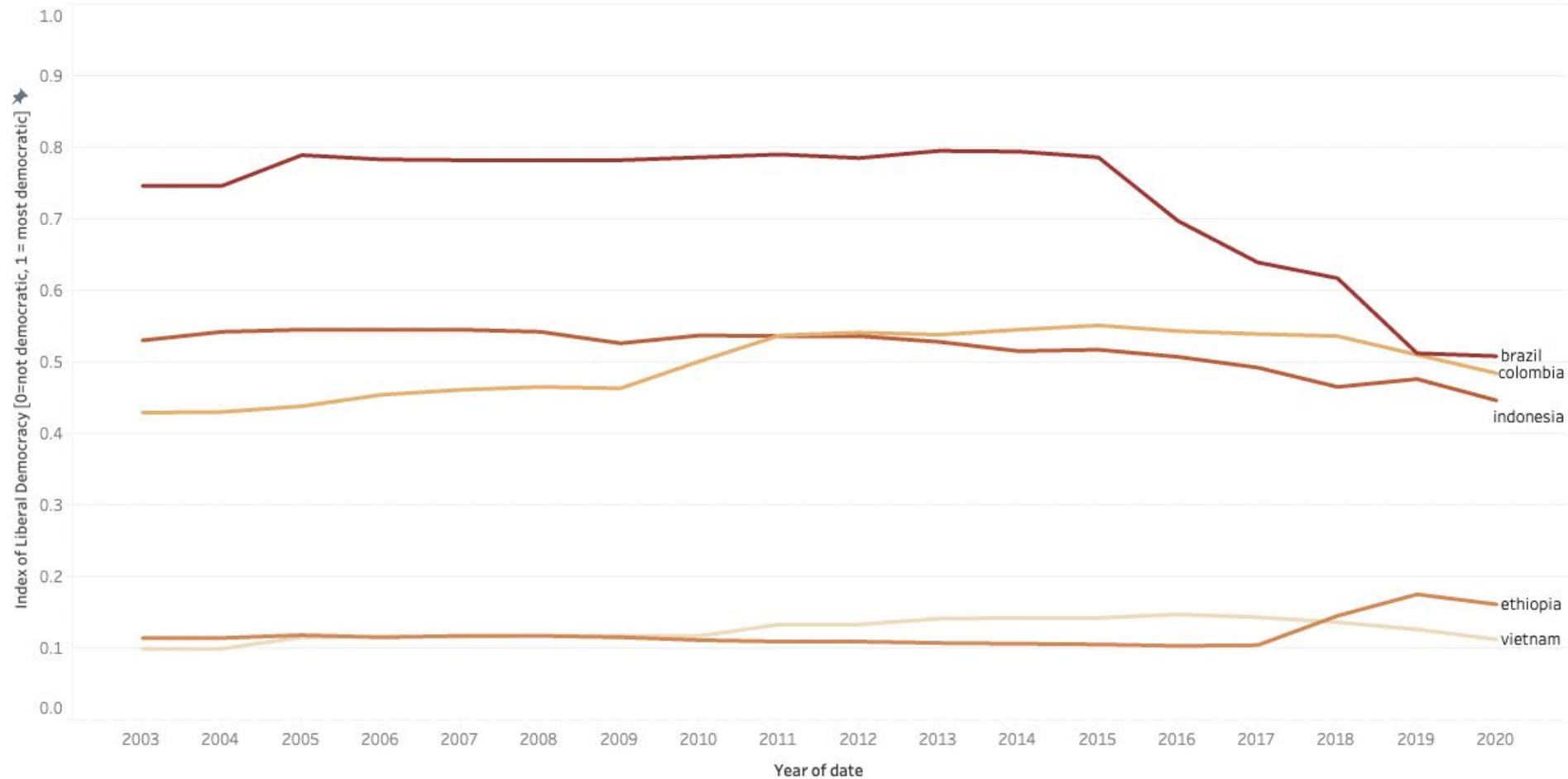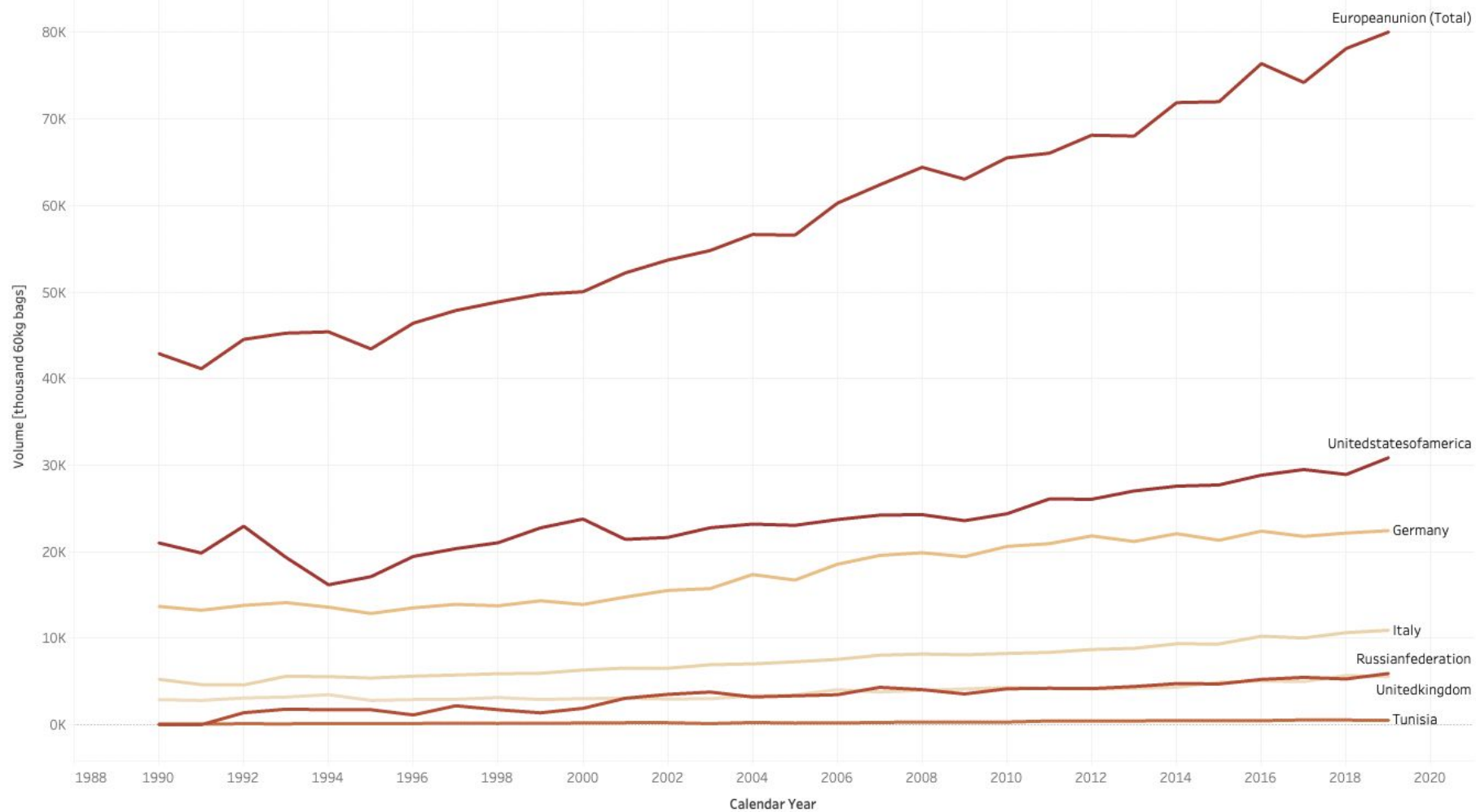

Colombia: Bella Vista

Brazil: Rondonoa

Brazil: Minas Gerais

Ethiopia: Shilcho Cooperation

Vietnam: Coffee Plant

Evolution of Average Yearly Precipitations in Brazil

Avg. brazil rondonia

Avg. brazil minas gerais

Avg. brazil alta mogiana

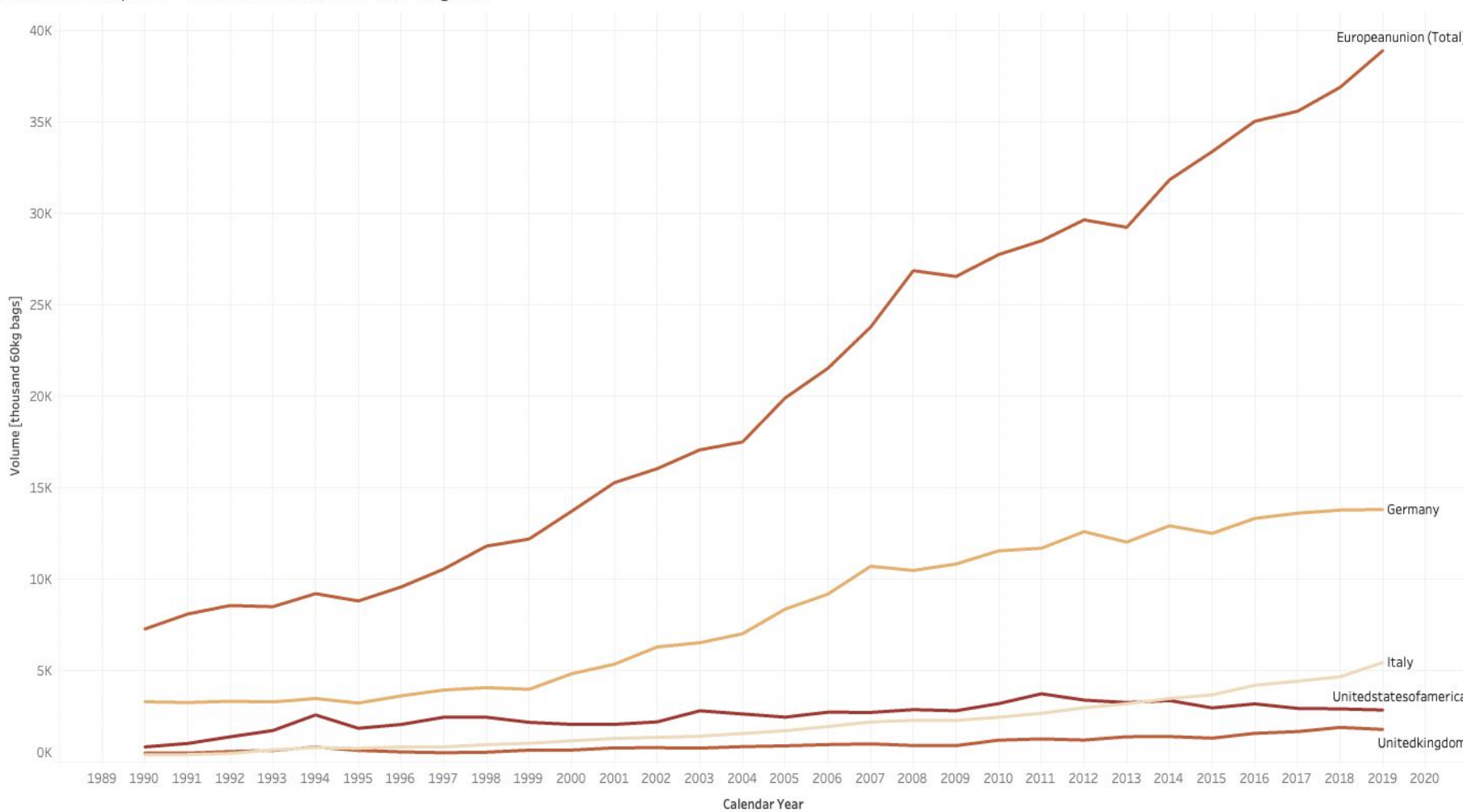Precipitation [mm/day]

Year of Date

Evolution of Liberal Democracy in Selected Top Coffee Producing Countries

Coffee Imports - Selected Countries and Regions

Coffee Re-Exports - Selected Countries and Regions

Line chart showing coffee re-export volume [thousand 60kg bags] on the y-axis (0K to 40K) and Calendar Year on the x-axis (1989 to 2020).

- Europeanunion (Total)
- Germany
- Italy
- Unitedstatesofamerica
- Unitedkingdom

Imports vs. Re-Exports for selected Countries/Regions

Europeanunion (Imports)

Europeanunion (Re-Exports)

Germany (Imports)

Germany (Re-Exports)

Volume [thousand 60kg bags]

Calendar Year
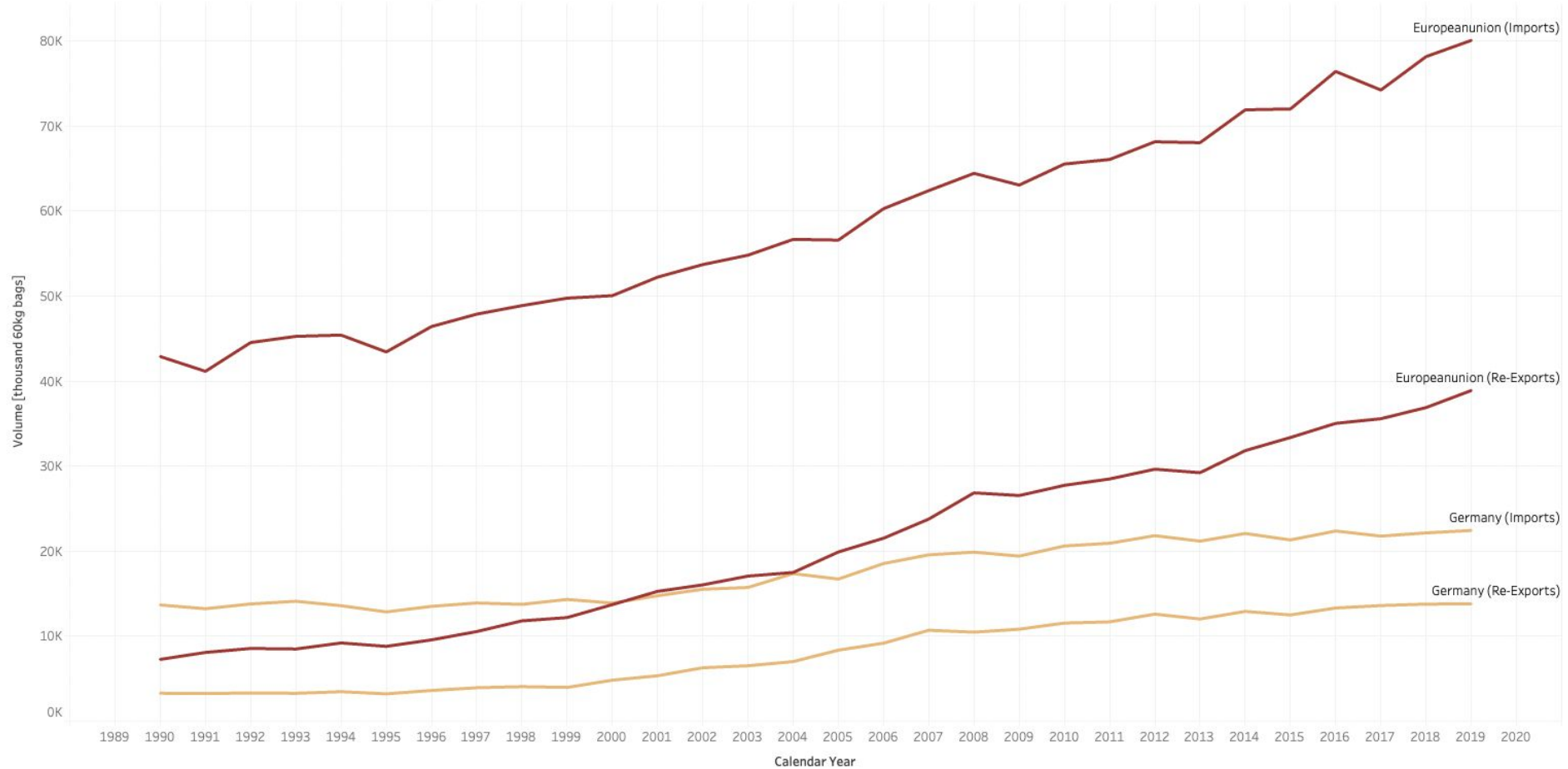
Daily Coffee Price Evolution vs. Coffe Price Prediction

Model = RandomForestRegressor ()
R2 = 98%
Mean Root Square Error ≈ 5   US$ cents/lb
Mean Absolute Error   ≈ 3.3 US$ cents/lb
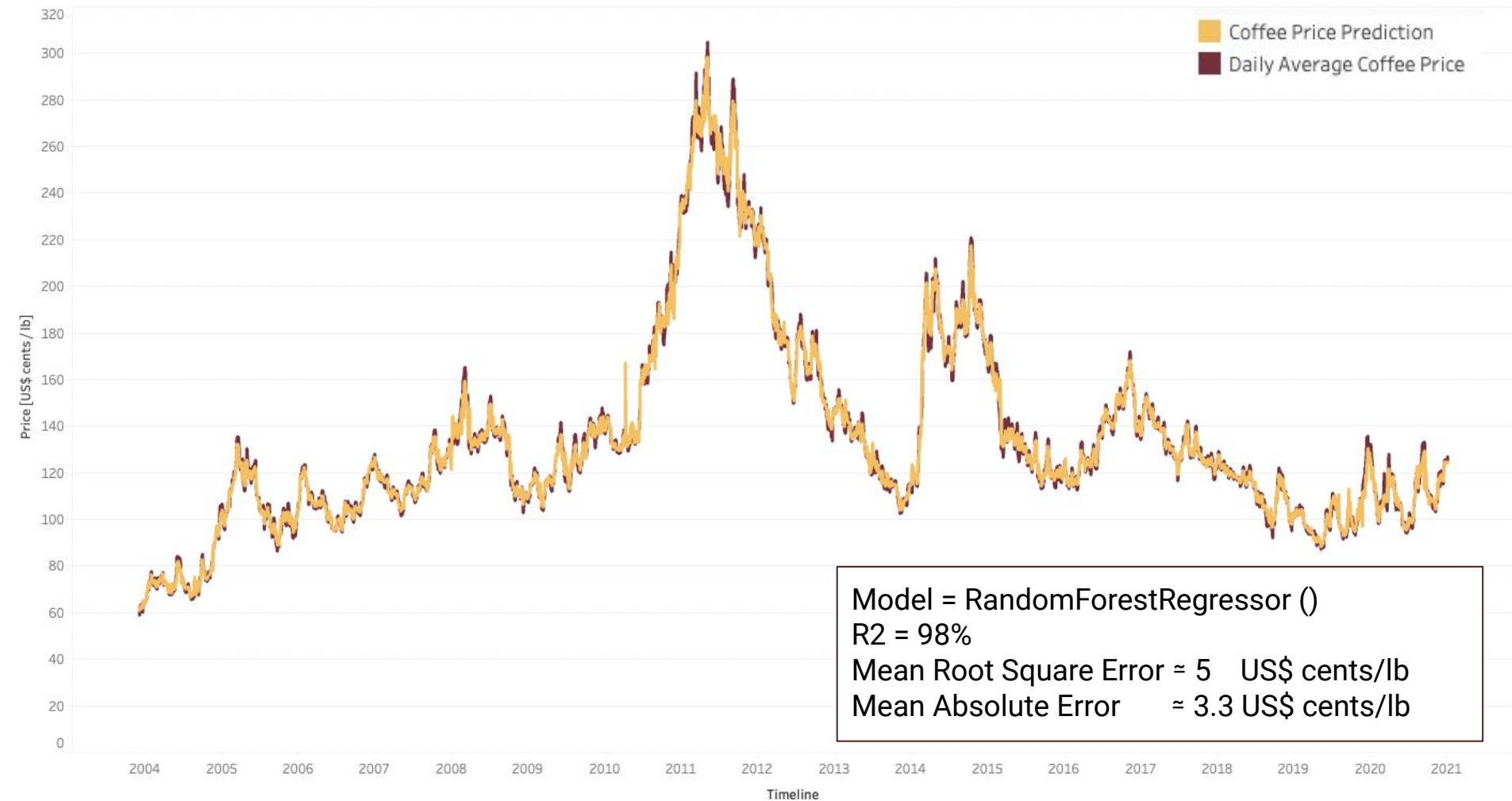
What are the main drivers for the coffee Price ?

Demand

Supply

Economic Conditions

Unemployment Rate in importing countries

Price

Quantity

Geopolitics

Political instability in Brazil and Vietnam

Currency Exchange Rate US$ and EUR€

Production

Precipitations in Colombia and Brazil

Production Volume

Transportation

Oil Prices
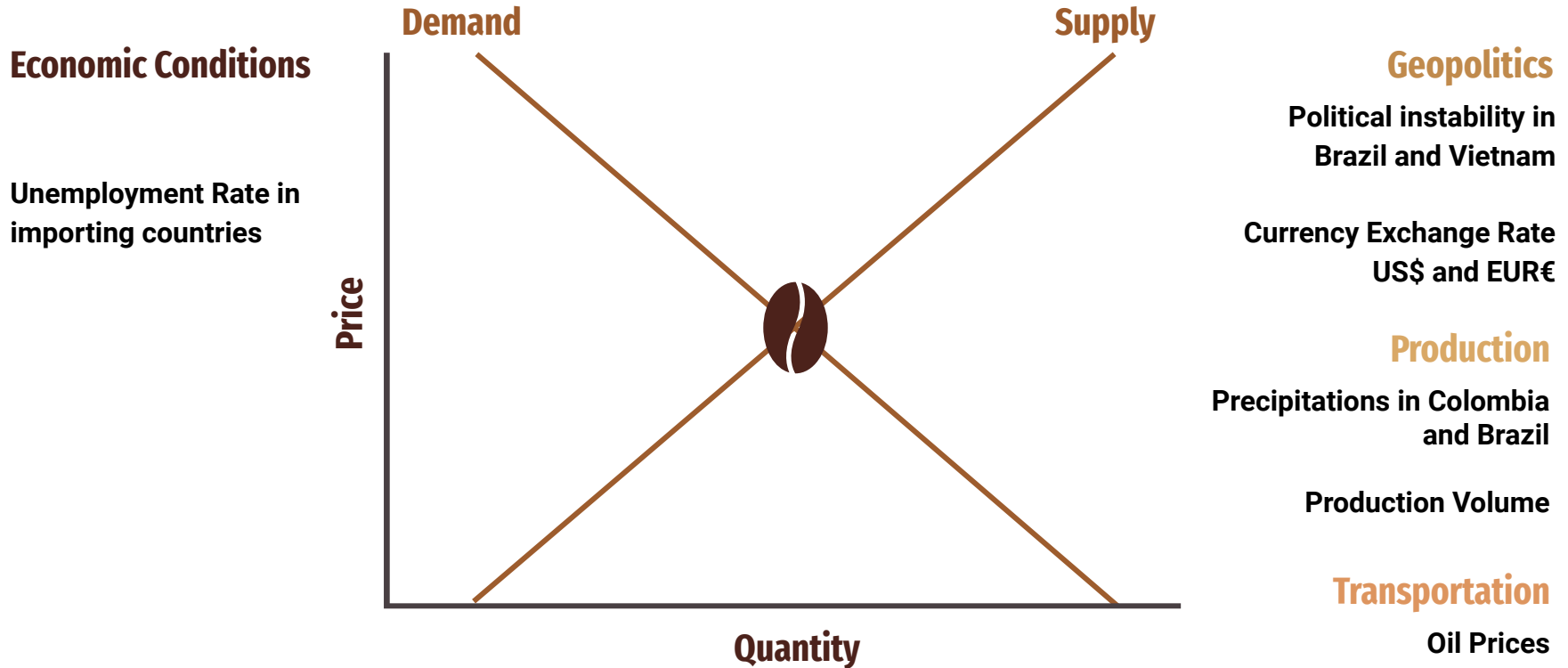
Thank you for your attention