

Data Incubator Final Interview

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Why Data Science?

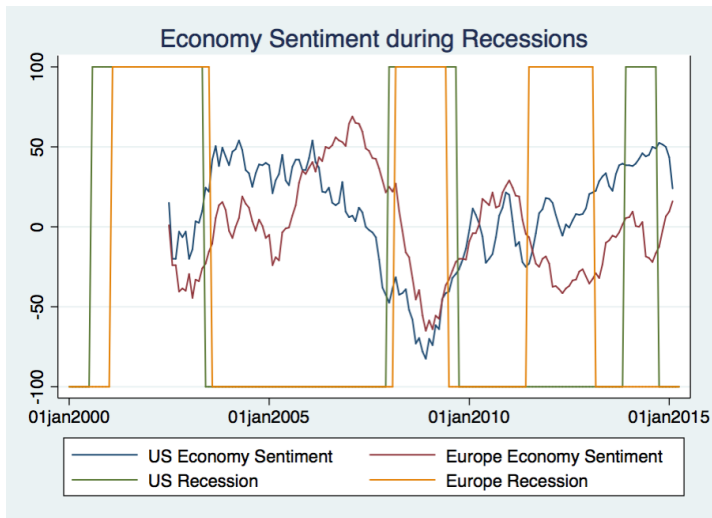
- Passion
- Skills
- Intuition

Facebook and Twitter Sentiment Stock Market Returns

A Copular Approach

- In this project, I will investigate the dependence structure of the financial market movements and sentiment measured by Facebook records. This project first examines the cross-market dependence based on a copula approach over different episodes, and then investigates cause of the increase in dependence from a sentiment perspective.

Why Sentiment?



My Existing Projects

Investor Sentiment in Financial Markets

Economic Development in Nigeria

Gender Gap in Innovation

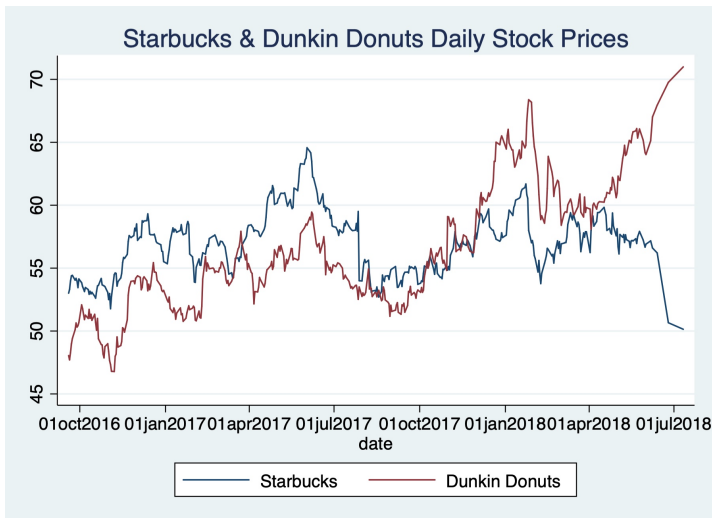
Main Components

- Reconcile Data Sources: Data Cleaning Dimension Reduction through PCA
- Copula Applications: Time-Varying Interdependence of Sentiments measured by Social Medium
- Prediction: Regression based on both Economic Fundamentals and Market Sentiment

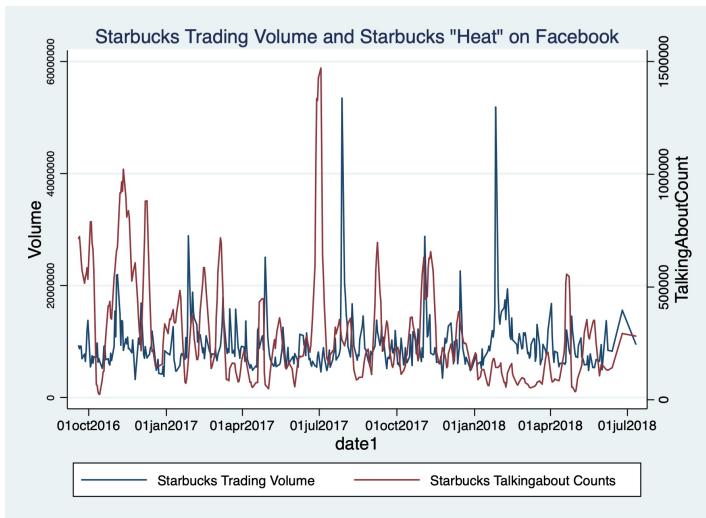
8 Weeks Road Map

- Financial Data API and Scrape Twitter Data in Python with Titterscraper Module
- Stylized Facts based on Facebook and Twitter Data
- Copula Approach in Python
- Time-varying UpperLower Tail Interdependence
- Stock Market Co-movements at Industrial Level
- Specific Risk and Volatility at Firm Level
- Traditional Stock Market Forecasting
- New Stock Market Forecasting with Social Medium Sentiments
- Robustness Checks and Model Evaluations

Motivation: Comovements of Stock Prices



What can Facebook tell you?



- Time Series: from ARIMA, GARCH and VAR to Neural Network
- Nonlinear Copula Approach with Tail Dependence
- Time-Varying Interdependence vs. Linear Correlation