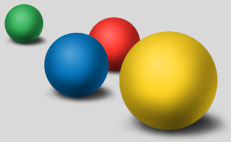
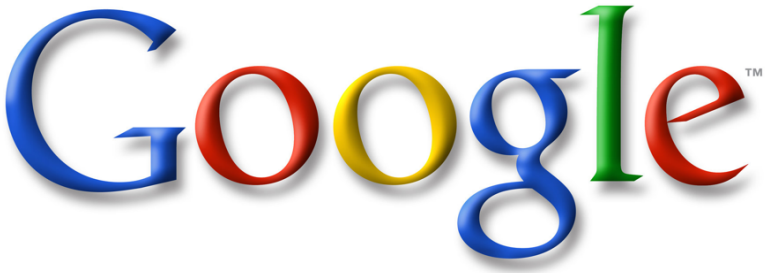


Overview
US
UK



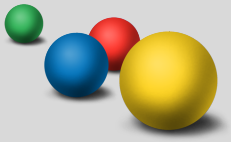
Consumer Sentiment

With Google Trends

Hyunyoung Choi

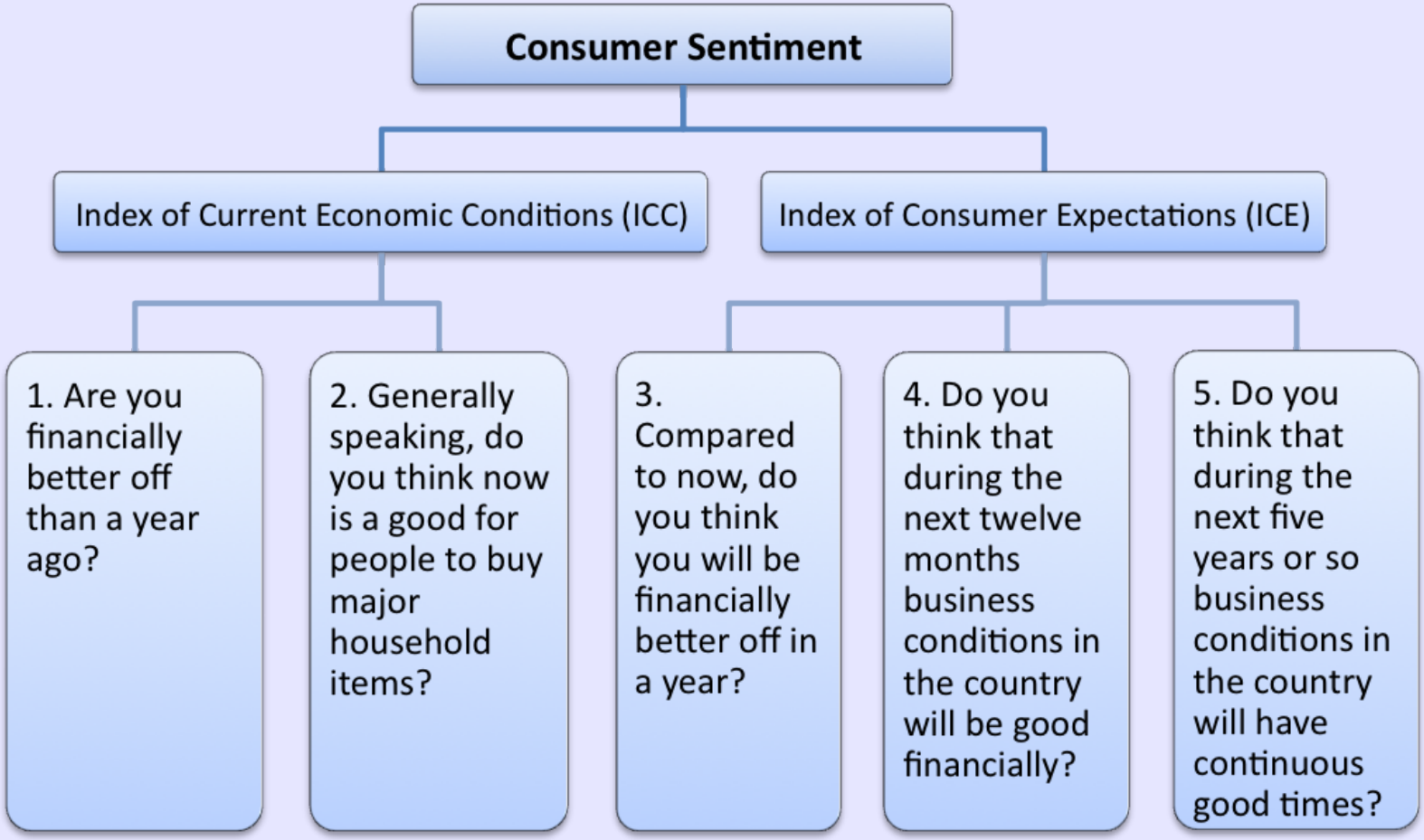
Economics Team
Google Inc.

Google Consumer Sentiment Index

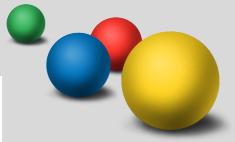


Overview
US
UK

Consumer Sentiment is based on the consumer survey.



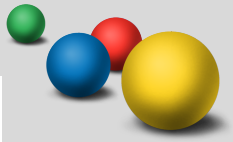
Google Consumer Sentiment Index



Overview
US
UK

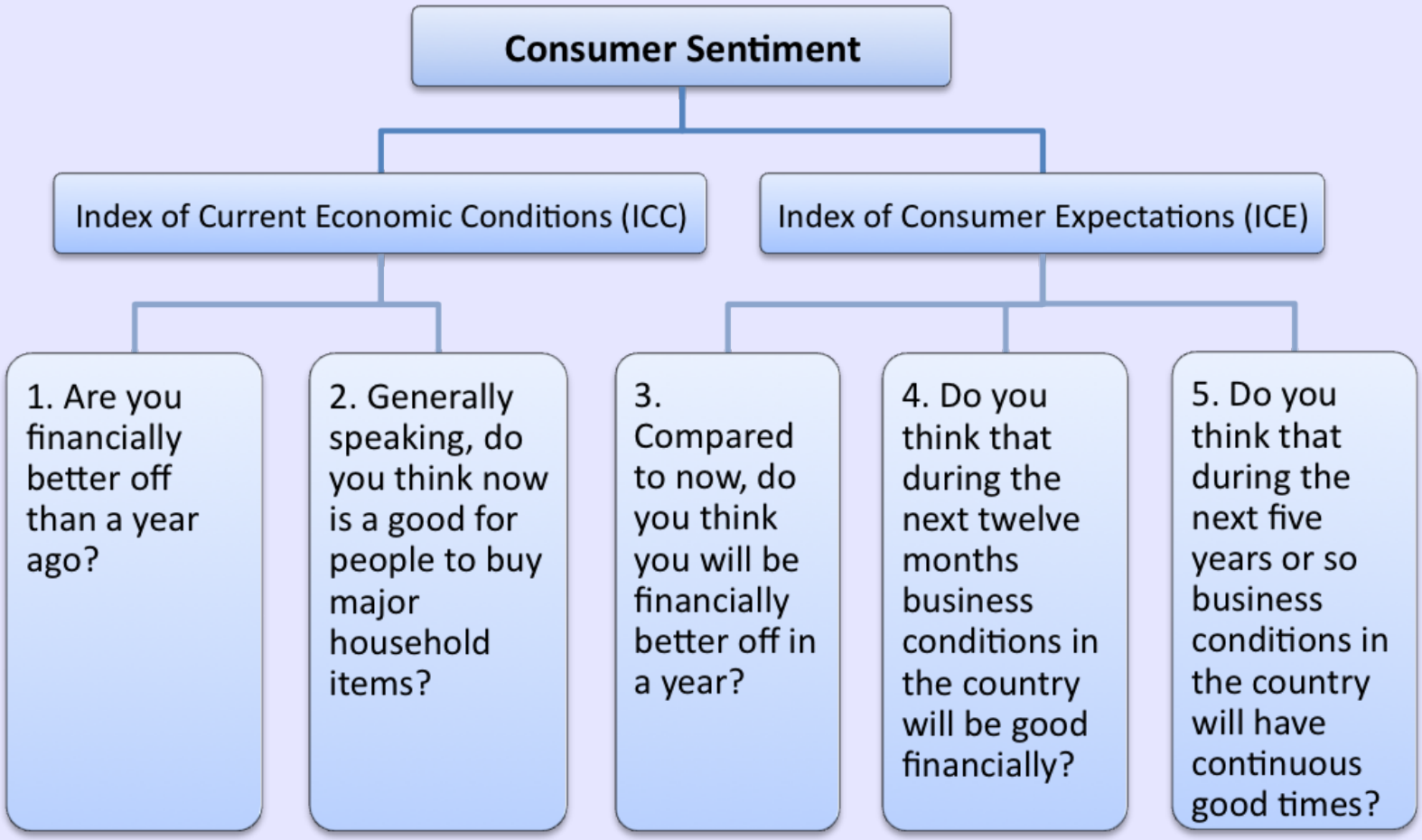
Collect data	• Collect data from government/agent
Find highly correlated queries	• Find highly correlated queries.
Classify queries & find the search volume	• Classify queries with Google classification and find the search volume index under each category.
Find the most relevant search volume index	• Find the most relevant search volume index with the regression model selection.
Predict the index	• Before the index publication, we can the predict the index using the search volume index.
Disaggregate Prediction	• The search volume index can be aggregated weekly/daily or at the state level. • Google Consumer Sentiment Index can be published weekly/daily or at the state level.

US Consumer Sentiment/Confidence[1]



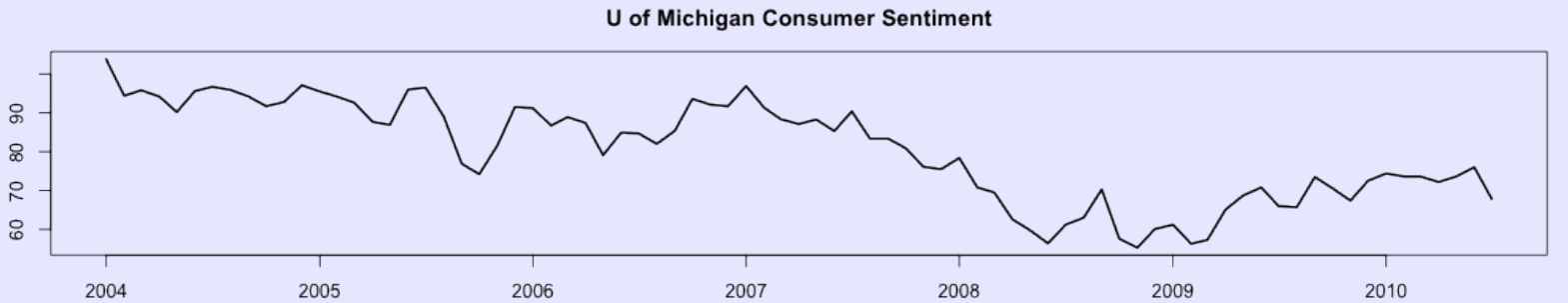
Overview
US
UK

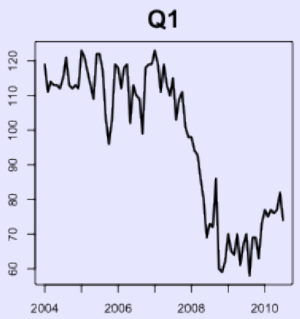
Based on the Consumers Survey



[1] http://www.sca.isr.umich.edu/

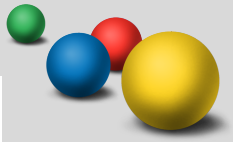
Univ. of Michigan Consumer Sentiment





Overview
US
UK

Consumer Sentiment with Search Trends?

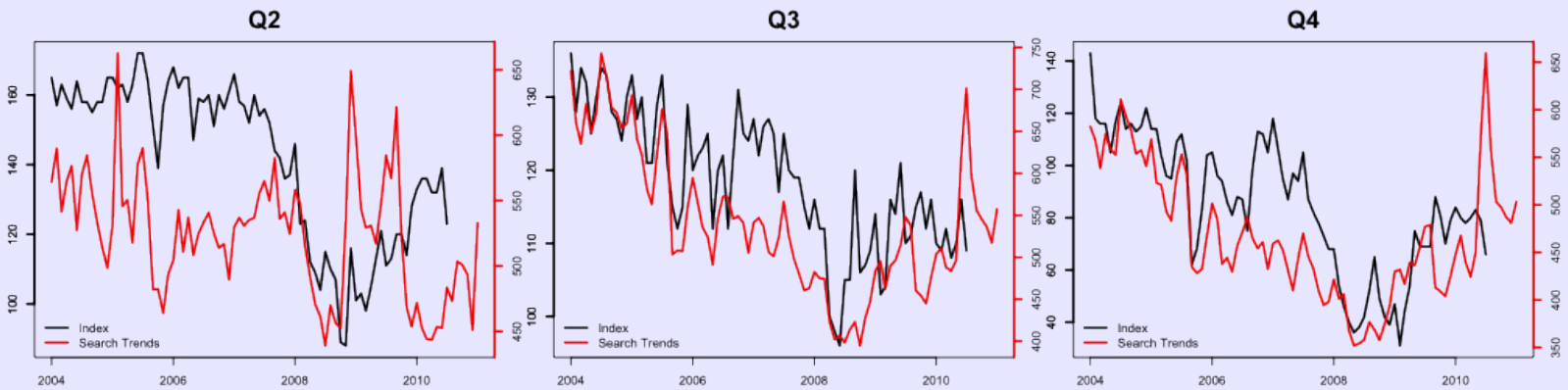


Overview
US
UK

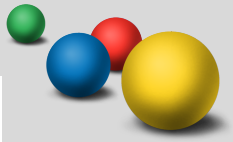
Search verticals highly correlated to Consumer Sentiment

- Automotive: Auto parts, Vehicle Shopping, Trucks & SUVs, Vehicle Brands
- Computers & Electronics: Consumer Electronics, Hardware, Software
- Finance & Insurance: Banking & Personal Finance, Investing, Retirement & Pension
- Real Estate: Home Financing, Real Estate Agencies
- Travel: Air Travel, Hotels & Accommodations, Vacation Destinations

'Vehicle Brands' Search Trends by Questions



queries: 5.0 mustang magazine, chrysler pacifica, ford bronco parts, jeep cherokee, land rover discovery, land rover reviews, lexus lx470, lincoln aviator, lincoln navigator, nissan armada, toyota 4runner review, toyota four runner, trd supercharger, volvo suv, www.bmwusa.com, www.cadillac.com



Overview
US
UK

Model

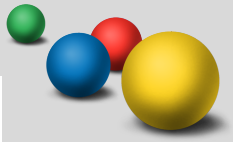
- Find the queries that are highly correlated to the time series for each question
- Find the vertical/subvertical for each query
- Collect search trends of the queries by each vertical
- Run a regression model (1) and find the best fit

$$Q_{i,t} = \alpha + \sum_k \beta_k \text{Google}_{i,t}^{(k)}, \tag{1}$$

where i, t and k refer to the question, the month and the subvertical respectively

- Predict the consumer confidence using the search trends
- Examine different frequencies and regions with search trends

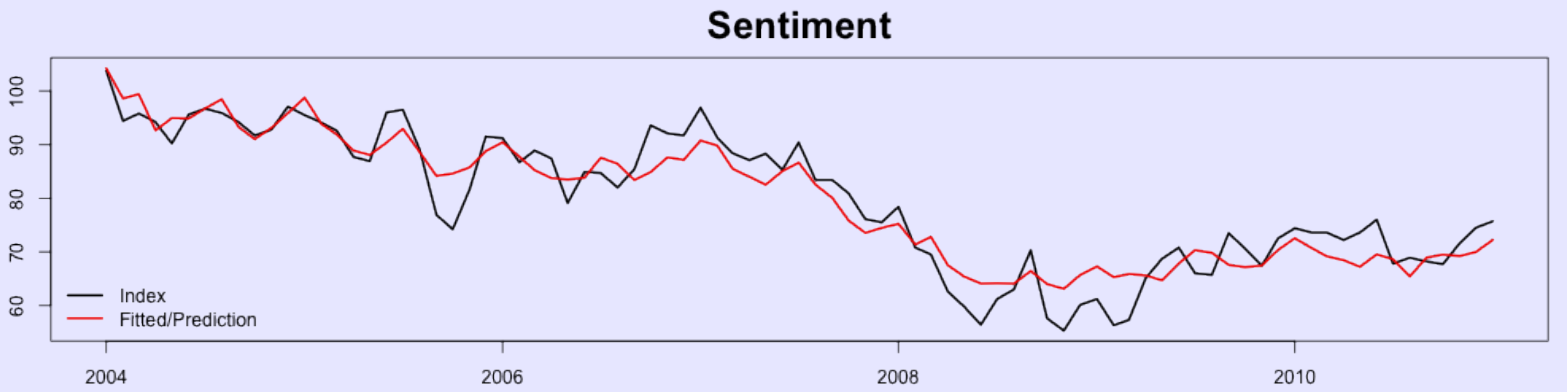
Consumer Sentiment Prediction (Monthly)

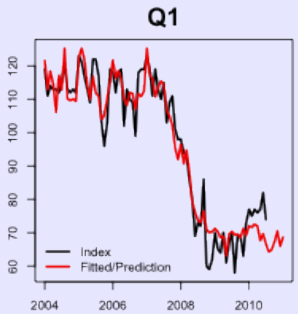


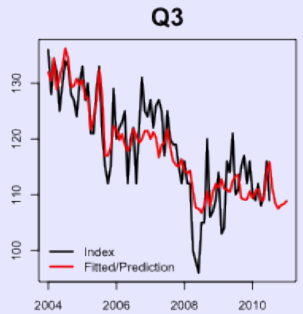
Overview

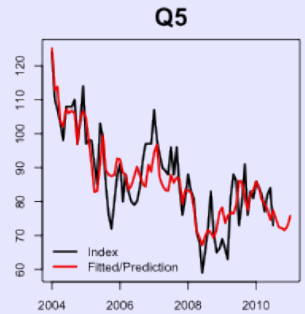
US

UK

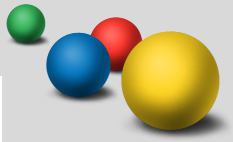


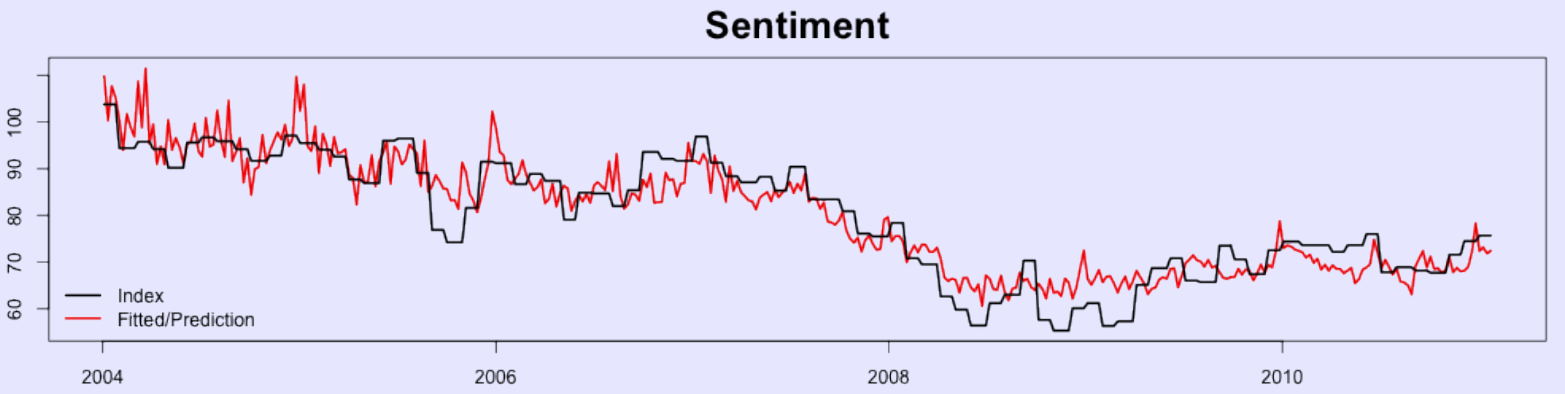


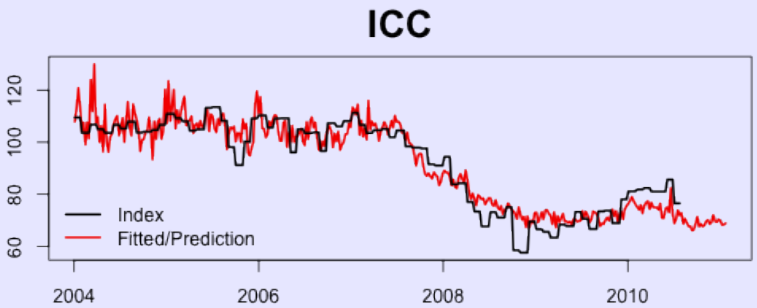


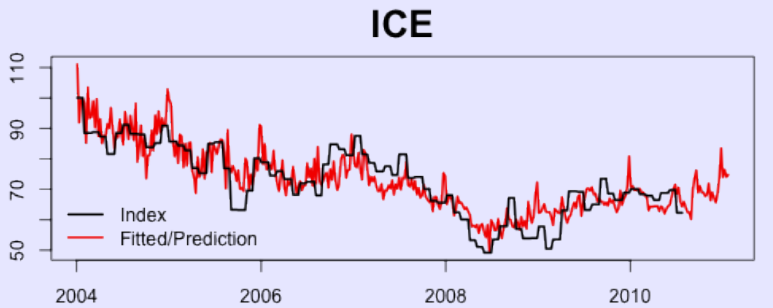


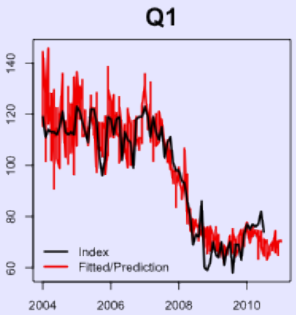
Consumer Sentiment Prediction (Weekly)

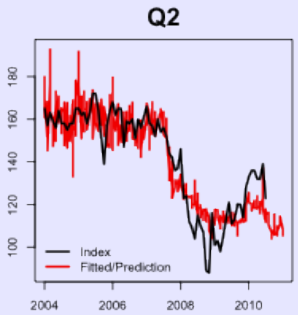


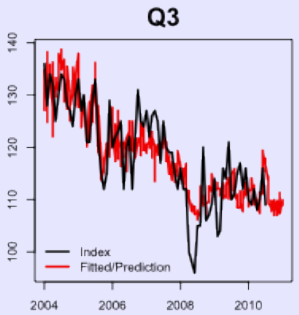


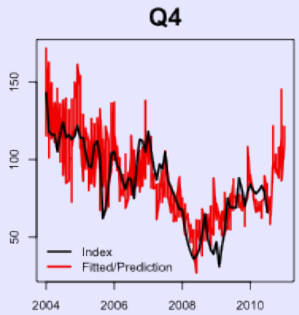


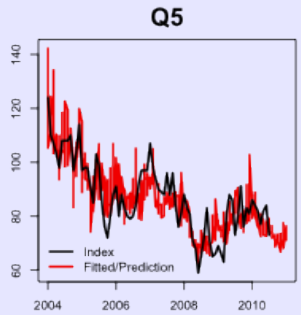




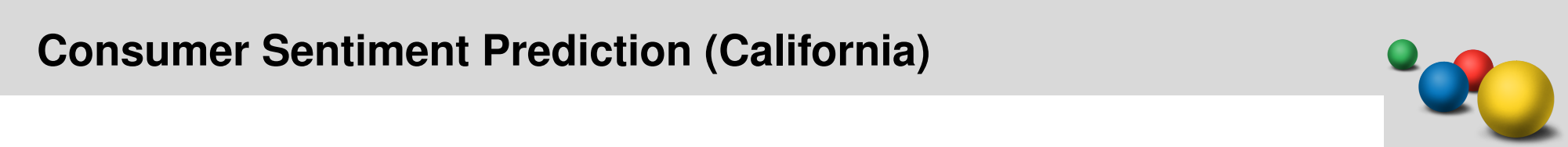


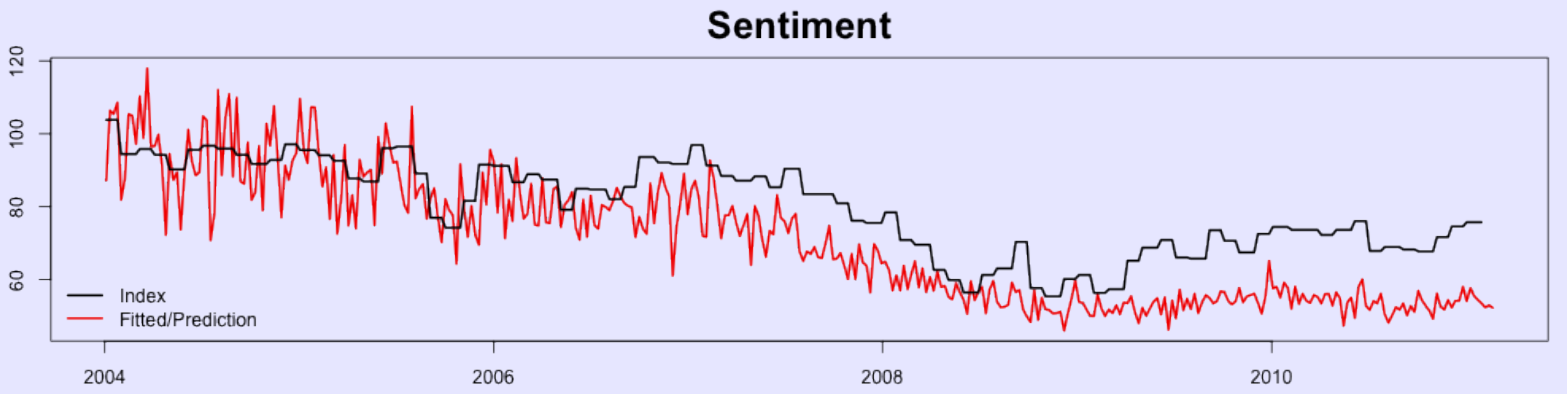


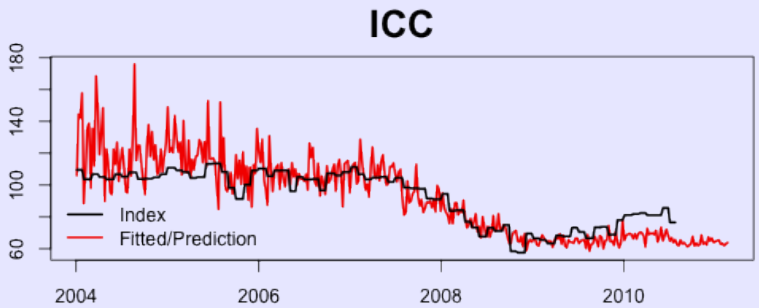


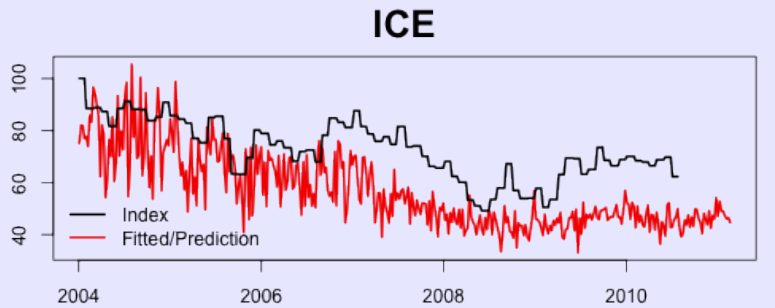


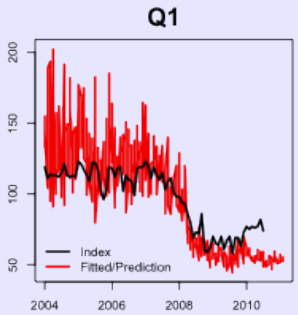
Consumer Sentiment Prediction (California)

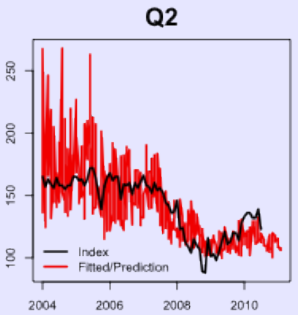


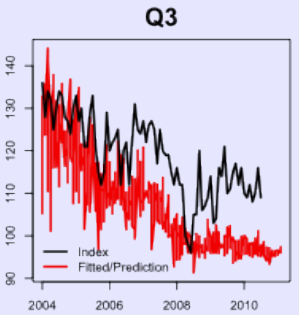


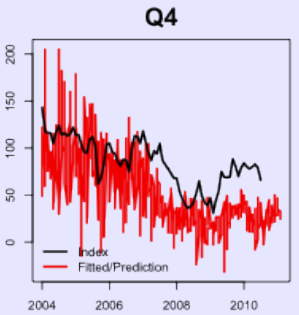


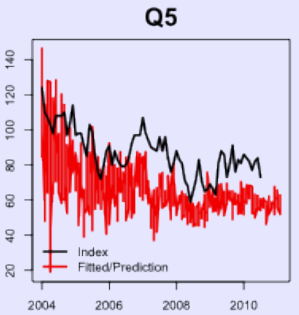




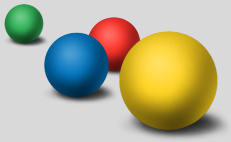






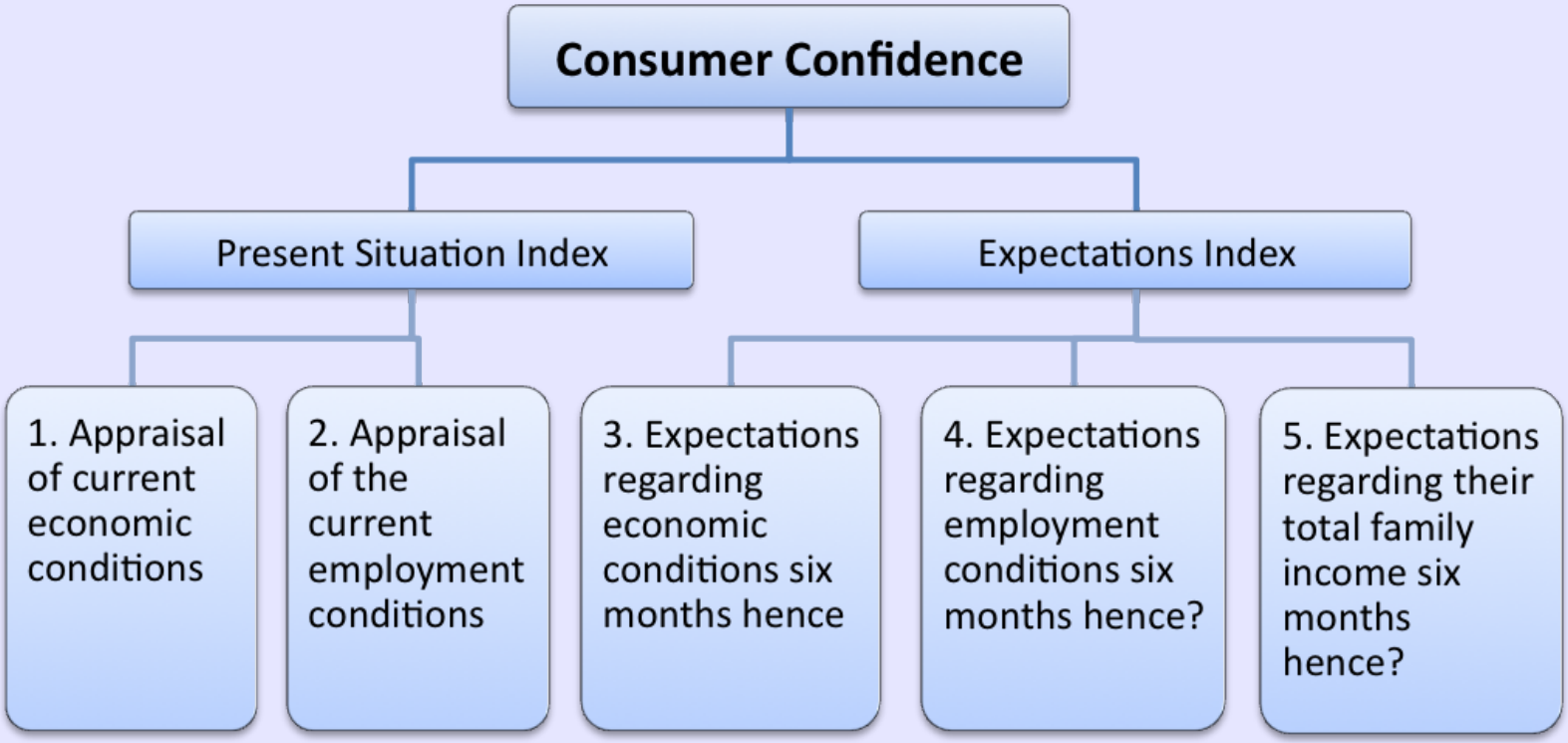


UK Consumer Sentiment/Confidence[2]



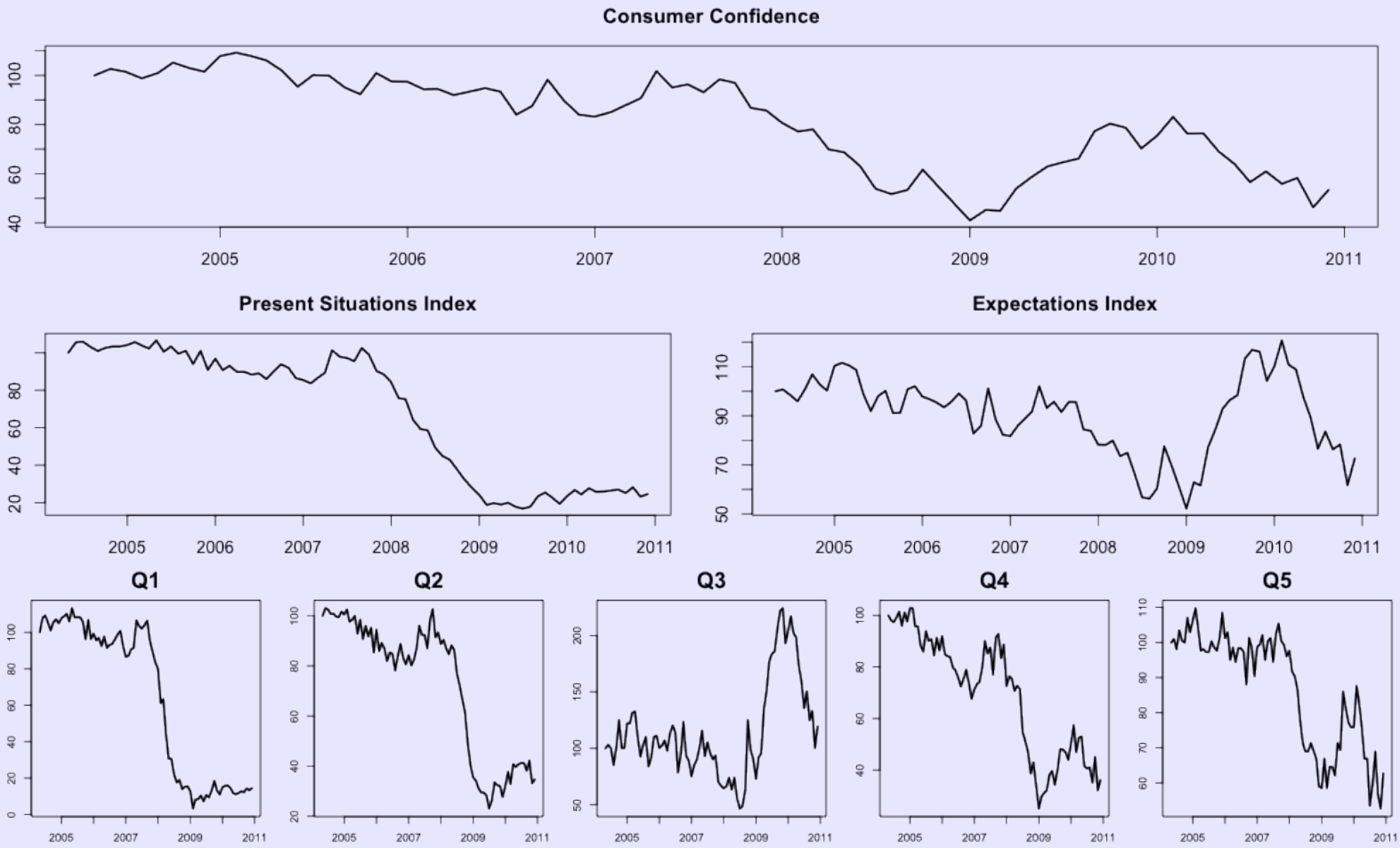
Overview
US
UK

Based on the Consumers Survey



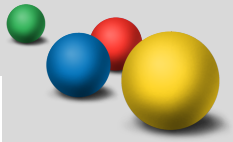
[2] http://www.nationwide.co.uk/consumer_confidence/default.htm

UK Consumer Confidence



Overview
US
UK

Consumer Sentiment with Search Trends?



Overview

US

UK

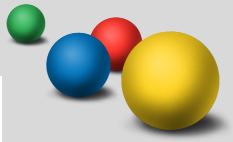
Search queries highly correlated to Consumer Sentiment

- Travel: Air Travel, Hotels & Accommodations, Bus & Rail
- Finance & Insurance: Banking & Personal Finance, Investing
- Computers & Electronics: Hardware, Software
- Industries: Transportation & Logistics

‘Investing’ Search Trends by Questions

queries: equity research, franklin templeton, lloyds registrars, lloyds tsb registrars, mouchel parkman, mouchelparkman, mourant, schroder, share options, thompson financial, threadneedle investments, uksip, whitbread group, wise speke

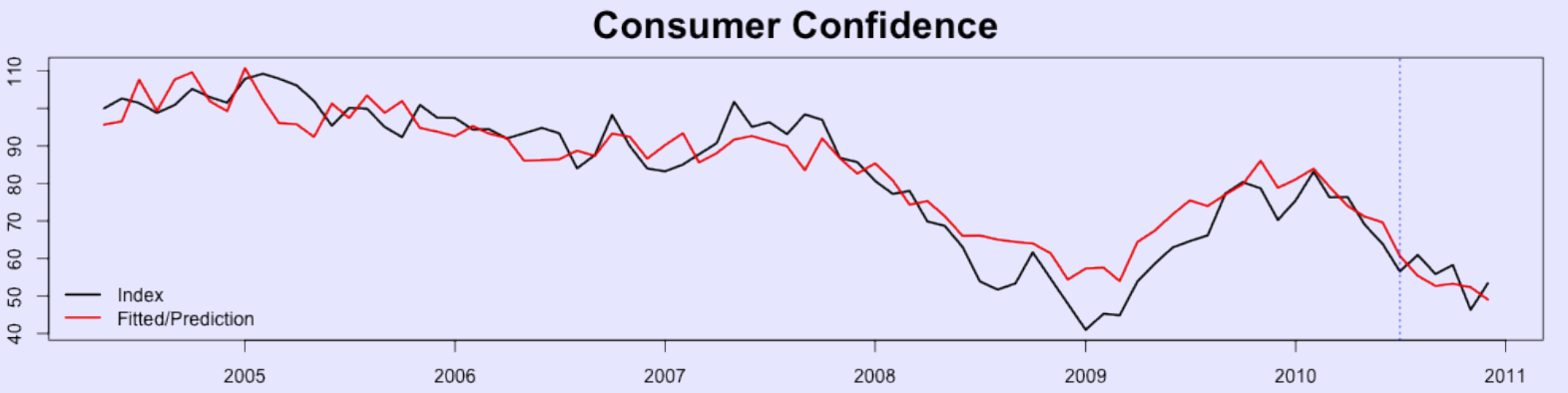
Consumer Sentiment Prediction (Monthly)

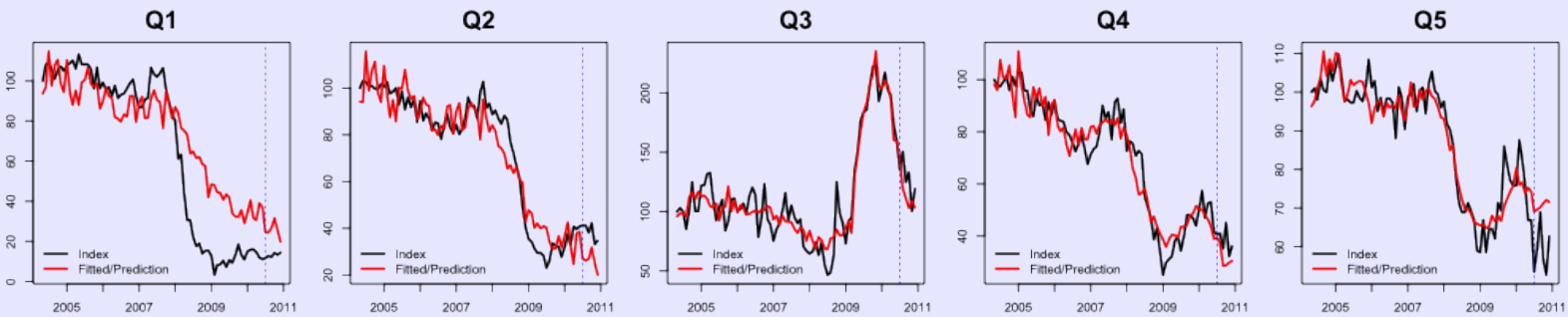


Overview

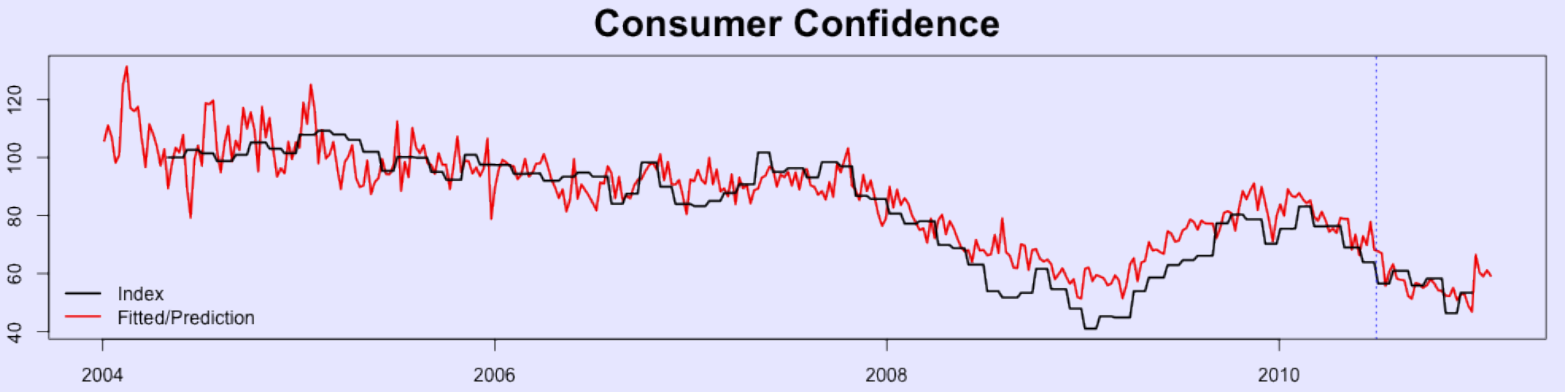
US

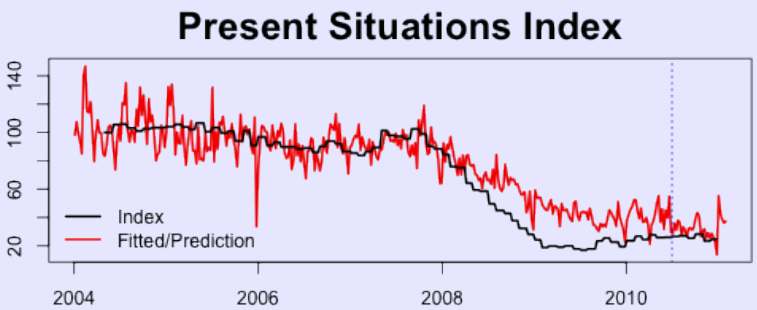
UK

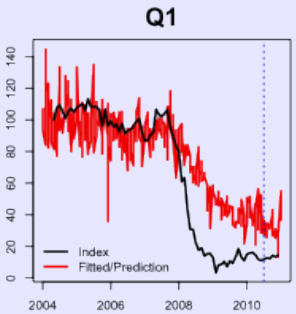


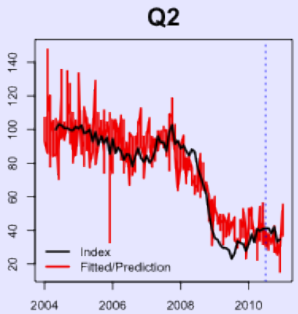


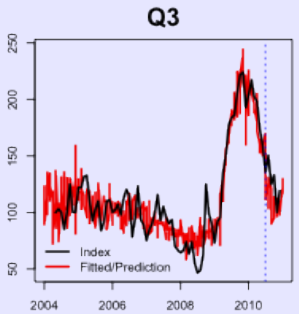
Consumer Sentiment Prediction (Weekly)

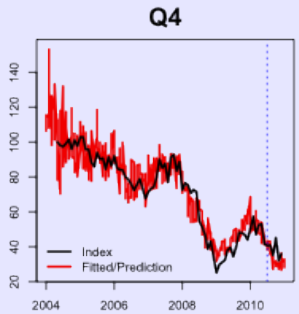


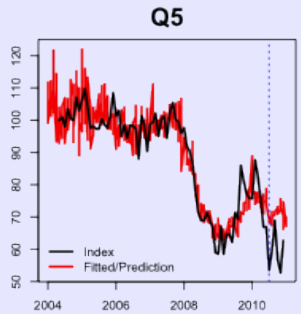




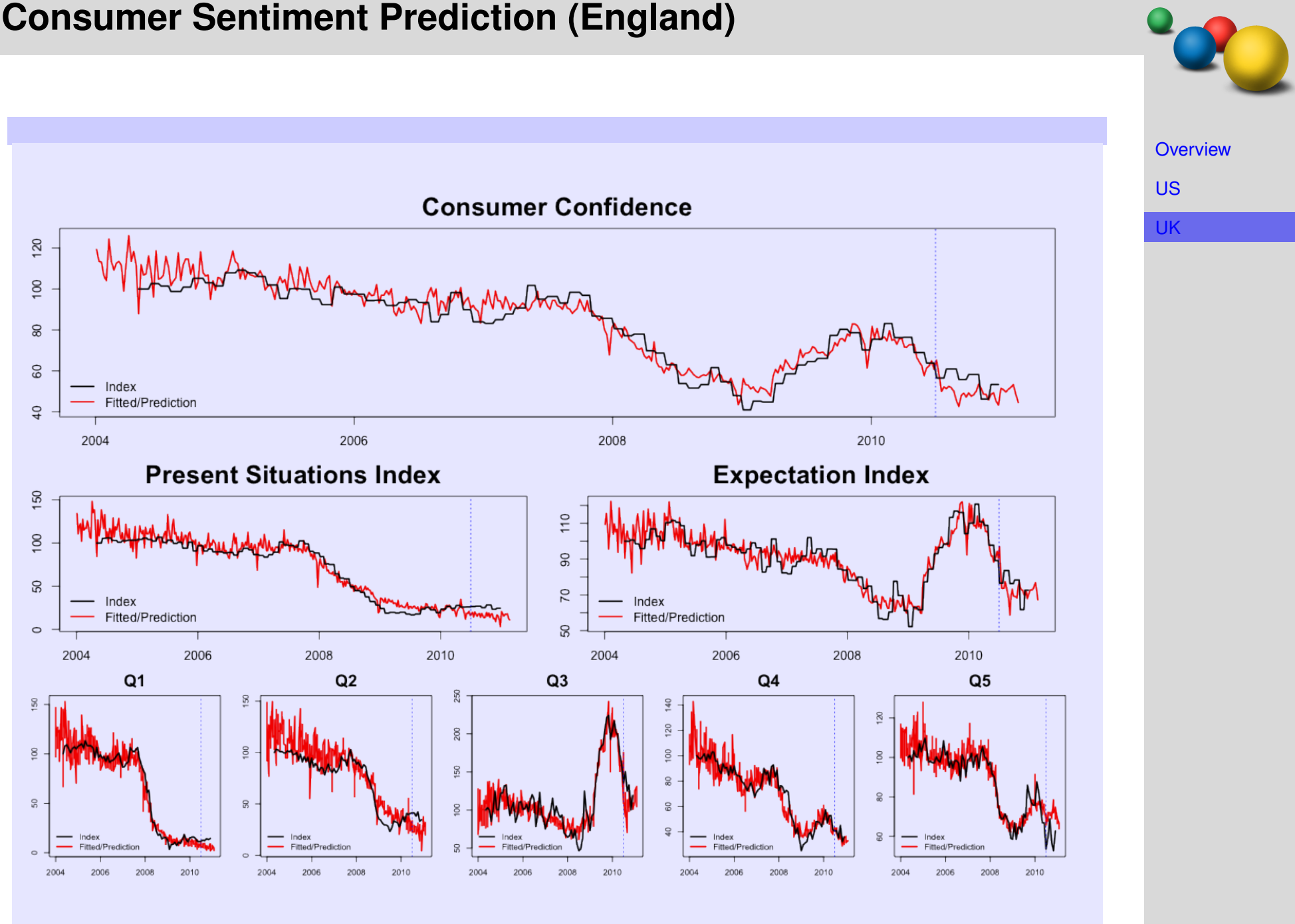








Consumer Sentiment Prediction (England)



Overview

US

UK