Consumer Sentiment

With Google Trends

Hyunyoung Choi

Economics Team
Google Inc.
Consumer Sentiment is based on the consumer survey.

**Consumer Sentiment**

- **Index of Current Economic Conditions (ICC)**
  - 1. Are you financially better off than a year ago?

- **Index of Consumer Expectations (ICE)**
  - 2. Generally speaking, do you think now is a good for people to buy major household items?
  - 3. Compared to now, do you think you will be financially better off in a year?
  - 4. Do you think that during the next twelve months business conditions in the country will be good financially?
  - 5. Do you think that during the next five years or so business conditions in the country will have continuous good times?
# Google Consumer Sentiment Index

<table>
<thead>
<tr>
<th>Process</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect data</td>
<td>• Collect data from government/agent</td>
</tr>
<tr>
<td>Find highly correlated queries</td>
<td>• Find highly correlated queries.</td>
</tr>
<tr>
<td>Classify queries &amp; find the search volume</td>
<td>• Classify queries with Google classification and find the search volume index under each category.</td>
</tr>
<tr>
<td>Find the most relevant search volume index</td>
<td>• Find the most relevant search volume index with the regression model selection.</td>
</tr>
<tr>
<td>Predict the index</td>
<td>• Before the index publication, we can predict the index using the search volume index.</td>
</tr>
<tr>
<td>Disaggregate Prediction</td>
<td>• The search volume index can be aggregated weekly/daily or at the state level.</td>
</tr>
<tr>
<td></td>
<td>• Google Consumer Sentiment Index can be published weekly/daily or at the state level.</td>
</tr>
</tbody>
</table>
Based on the Consumers Survey

Consumer Sentiment

Index of Current Economic Conditions (ICC)

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1http://www.sca.isr.umich.edu/
Univ. of Michigan Consumer Sentiment

U of Michigan Consumer Sentiment

ICC

ICE

Q1

Q2

Q3

Q4

Q5
Consumer Sentiment with Search Trends?

**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**

Predicting Consumer Sentiment with Google Trends

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)
Consumer Sentiment Prediction (Weekly)
Consumer Sentiment Prediction (California)
Based on the Consumers Survey

Consumer Confidence

Present Situation Index
1. Appraisal of current economic conditions
2. Appraisal of the current employment conditions

Expectations Index
3. Expectations regarding economic conditions six months hence
4. Expectations regarding employment conditions six months hence?
5. Expectations regarding their total family income six months hence?

http://www.nationwide.co.uk/consumer_confidence/default.htm
UK Consumer Confidence

Consumer Confidence

Present Situations Index

Expectations Index

Q1

Q2

Q3

Q4

Q5
Overview

US

UK

Consumer Sentiment with Search Trends?

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)

Consumer Confidence

Present Situations Index

Expectations Index

Q1

Q2

Q3

Q4

Q5
Consumer Sentiment Prediction (Weekly)

Consumer Confidence

Present Situations Index

Expectation Index

Q1

Q2

Q3

Q4

Q5
Consumer Sentiment Prediction (England)

Overview

US

UK