Economic Indicators
From Alternative Sources of Data

New Data in an Open Data World
APDU, Sep 2012

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Economic Indicators

• Transactions
  – Transaction is not observed
  – Transaction is observed but not documented
  – Transaction is observed and documented

• Data
  – What is the purpose of the data collected?
    • Accounting, regulation, and industry standards
    • Economic indicators need a purpose!
We can construct
Economic Indicators

We can partially construct
Economic Indicators

Data Collected

We have no information
Online information Challenges

• Extremely Large and Disorganized
• Pull versus Push
• Searches versus Postings
• Web terms and conditions

• From Data to Information
  – Stores behavior
  – Product Life Cycle
Pull versus Push

• Very important distinction.
• Depending on the objective you want one or the other.

• Where to buy cheaper?  PUSH
• What is the average price?  PULL
What are we doing?

• Collect data/information from public sources that are extremely difficult to aggregate
  – Prices, catalogs, and ads.
  – Postings
  – Transactions

• Construct economic indexes
  – Inflation indexes
  – Economic Activity
  – Employment
  – Real Estate
Online Information and Indexes

Our Approach to Daily Inflation Statistics

1. Use scraping technology
2. Connect to thousands of online retailers every day
3. Find individual items
4. Store and process key item information in a database
5. Develop daily inflation statistics for ~20 countries

- Date
- Item
- Price
- Description
Japan: Economic Activity after earthquake

Notes: Graph from “Inflation in Focus”, September 2001. Product Availability normalized to 100 on 02/01/2011
Thailand: Effects of Floods

Product Availability In Online Retailers

Bangkok residents hoard food in face of flood
Suttinee Yuvejwattana, Supunnabul Suwannakij, Bloomberg News
Thursday, October 13, 2011

Flood Defenses Are Overrun in Bangkok
River at record high as flood reaches Thai palace
October 29, 2011 | Seth Mydans, New York Times

Bangkok Hopes Flood Barriers Will Hold
By AP / TODD PITMAN AND THANYARAT DOKSONE Saturday, Oct. 15, 2011

Notes: Product Availability normalized to 100 on 10/1/2011
Information in Online Prices

• Anticipation of Official CPI numbers
• Developed Economies
  – Measurement of Demand Conditions
• Developing Economies
  – Measurement of “supply” side shocks (as well)
Economic Indicators

Collecting Data
Argentina Price Index
These indices help anticipate major changes in inflation trends.
US Recession

Sep 16 2008
USA Start of the slow down

Annual

Turning Point

IndexDate

Jan 1, 11  Mar 1, 11  May 1, 11  Jul 1, 11  Sep 1, 11  Nov 1, 11  Jan 1, 12
Slow Down since mid 2011
Slow Down since mid 2011
Slow Down since mid 2011
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What is happening now with Food?

• Developed
  – Some pass through of commodity prices
  – Inflation still low

• Developing
  – Some change in inflation trend in August – especially on food!
  – Mexico just announced a surprisingly higher inflation
  – Not all countries exhibit this pattern
Food Prices in 2012