

ALTERNATIVE DATA

EE406: Contemporary Economic Issues

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Major Types of Alternative Data

How is alternative data generated?

Individuals: Social/Sentiment, Web Traffic, App Usage, Survey

Business Processes: Credit/Debit Card, Web Data, Public Data, Email/Consumer Receipts

Sensors: Geo-location, Satellite, Weather

Data from business processes: typically more structured than data from individuals or sensors.

Data cost: typically Business Processes > Sensors > Individuals.

What are the different categories of alternative data?

- **App Usage** – Data on app engagement and reviews. The level of data accuracy and usefulness depends on the app panel size, functions and features collected, and the level of user engagement.

Popular use cases: gaming, food delivery, streaming services

- **Credit/Debit Card** – Transaction data generated from credit and debit cards. This data is considered highly accurate when the transaction panel is large and covers a consistent user sample. Usually panels over 3 million consumers are considered large enough to be useful. These panels are some of the more expensive data licenses on the market.

Popular use cases: Retail revenue tracking.

What are the different categories of alternative data?

- **Email/Consumer Receipts** – Transaction data generated from email receipts. This data is accurate, but panels are typically smaller than credit/debit card panels and can be biased depending on the nature of the email receipt collection (often via an opt-in email or rewards app).

Popular use cases: Retail revenue tracking.

- **Geo-location** – Foot traffic data available from WiFi signals (limited granularity and accuracy) or bluetooth beacons (higher accuracy, more expensive, less coverage).

Popular use cases: Geography-specific retail foot traffic tracking.

What are the different categories of alternative data?

- **Public Data** – Data from public resources. In its original form, this data is **often difficult to access**, not clean, **not in a usable format** (e.g. PDF). The value add of public data providers is the work of collecting, aggregating, and making the data actionable. Examples include SEC filings, patent data, government contracts, import/export data, etc.

Popular use cases: patent data for tech company; supply chain imports for manufacturing; government contracts for construction company.

What are the different categories of alternative data?

- **Satellite** – Data collected from satellites or (increasingly common) low-level drones. This data is of **variable quality**. **Image processing** is as important as data collection (raw data is not valuable to most investment teams). Satellite data on parking lots is only useful if a more direct measurement of store activity (geo-location data) or spend (credit card, email receipt) data is not available or beyond price range.

Popular use cases: supply chain disruption tracking; agriculture yields tracking; construction tracking; oil & gas production/storage.

What are the different categories of alternative data?

- **Sell-side** – Alternative data teams within large sell-side institutions. Combine new data and processing techniques with traditional sell-side research.
- **Social/Sentiment** – Data obtained from text processing of social media, news, management communications, and other sources. Sentiment data is relevant for some companies (think younger, more trading volume, more volatile) more than large, established corporations. The data is often more relevant to shorter-term traders as it does not always reflect fundamental business aspects. On the lower end of cost spectrum. Popular use cases: Event-driven sentiment tracking; Brand Virality/Advertising success.

What are the different categories of alternative data?

- **Weather** – Data on **weather patterns** collected from sensors.

Popular use cases: agriculture and commodities.

- **Survey** – Data collected from surveys. This requires opt-in and panel diversity is variable depending on how good the provider is. This is a direct line into consumer sentiment, rather than collecting it from text processing as in social/sentiment data.

Popular use cases: brand preference; consumer behavior.

What are the different categories of alternative data?

- **Web Data** – Data **scraped** from **public websites**. This data comes in a wide range, from highly accurate and expensive to **extremely raw** and **relatively inexpensive**. This data is applicable where KPIs can be tracked by aggregating and analyzing large amounts of public-facing information, such as companies that publicize quantity sold and prices on each item page. This data can be extremely granular.

Popular use cases: e-commerce; auto sales; airlines bookings; travel bookings; job postings.

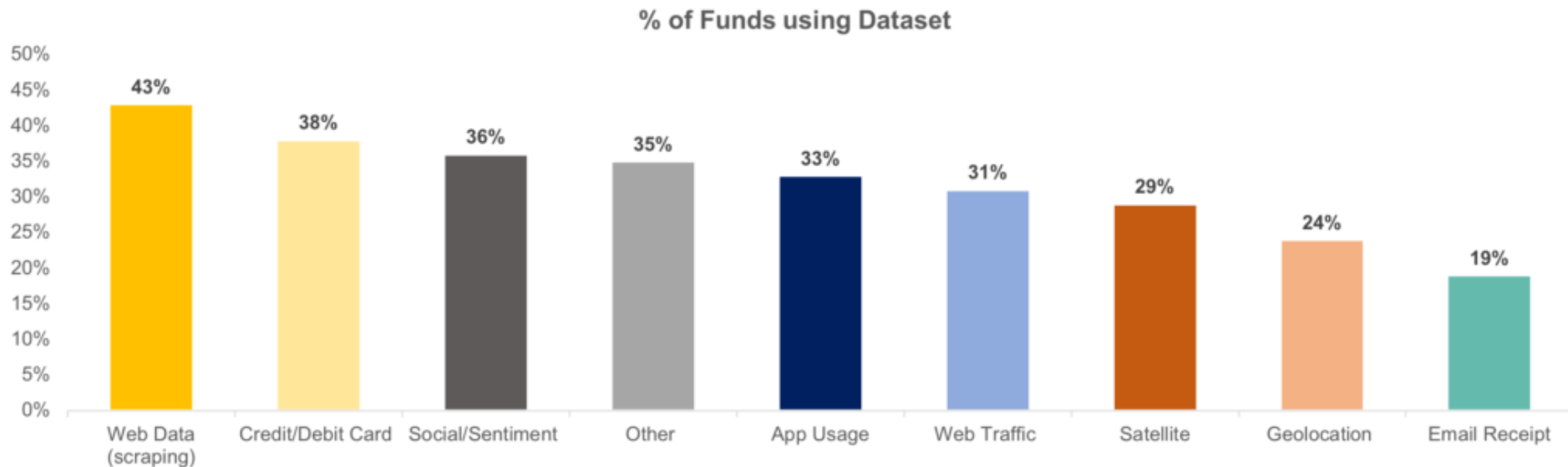
- **Web Traffic** – Data on quantity, demographics, and history (clickstream) of users visiting a certain website. This is popular for **tracking e-commerce efforts**.

Popular use cases: travel bookings; e-commerce.

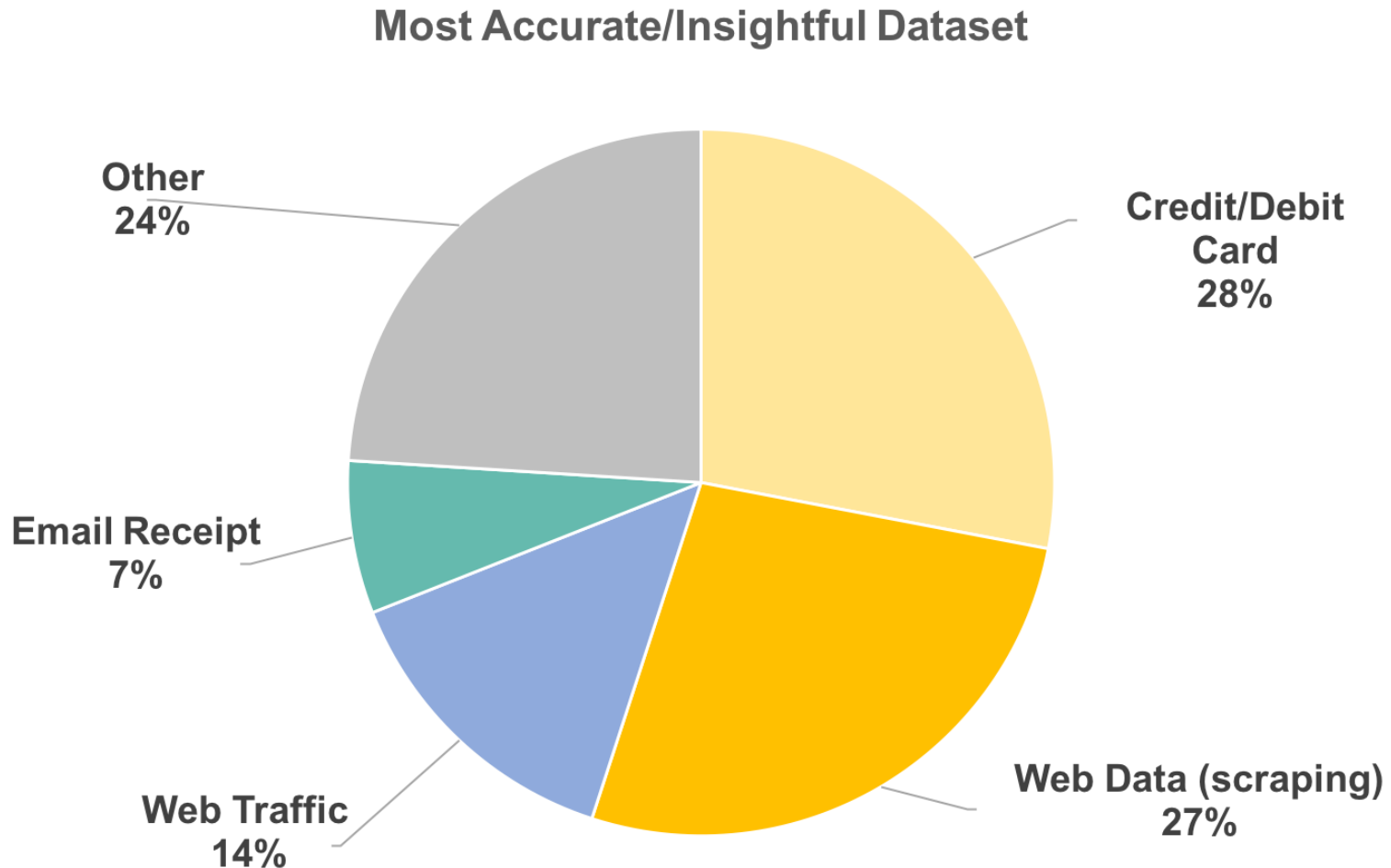
What are the different categories of alternative data?

- Data source with the **greatest number of providers**: Social/Sentiment
- **Highest grossing** data source: Credit/Debit Card
- **Most utilized** datasets: Web Data, Credit/Debit Card
- **Most insightful** datasets: Credit/Debit Card, Web Data
- **Broad insightful** datasets: Geo-location, Satellite

What are the different categories of alternative data?

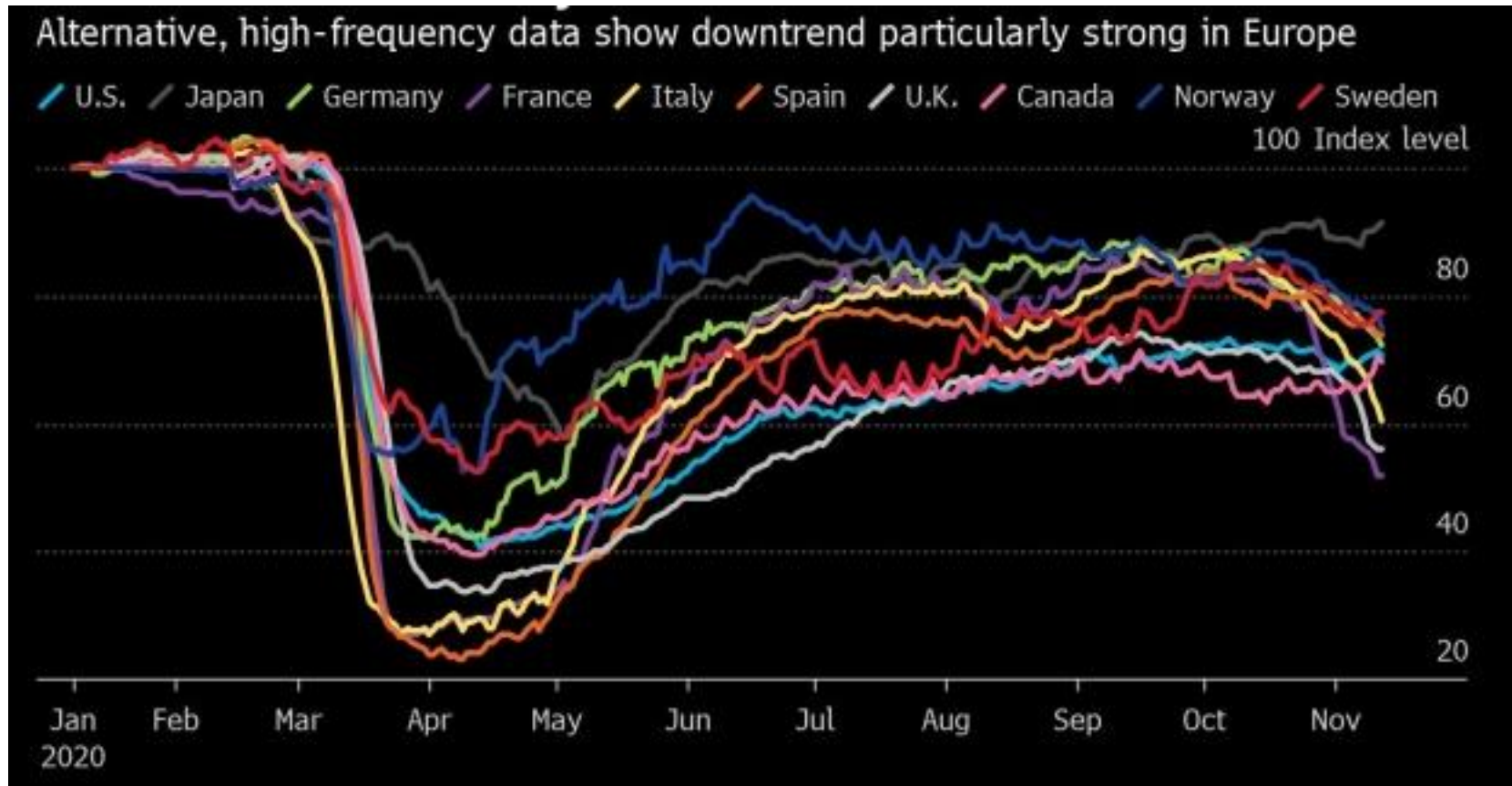


What are the different categories of alternative data?



Source: directly quoted from <https://alternativedata.org/alternative-data/>

Alternative Data Show Economic Activity Crashes as Virus Resurges

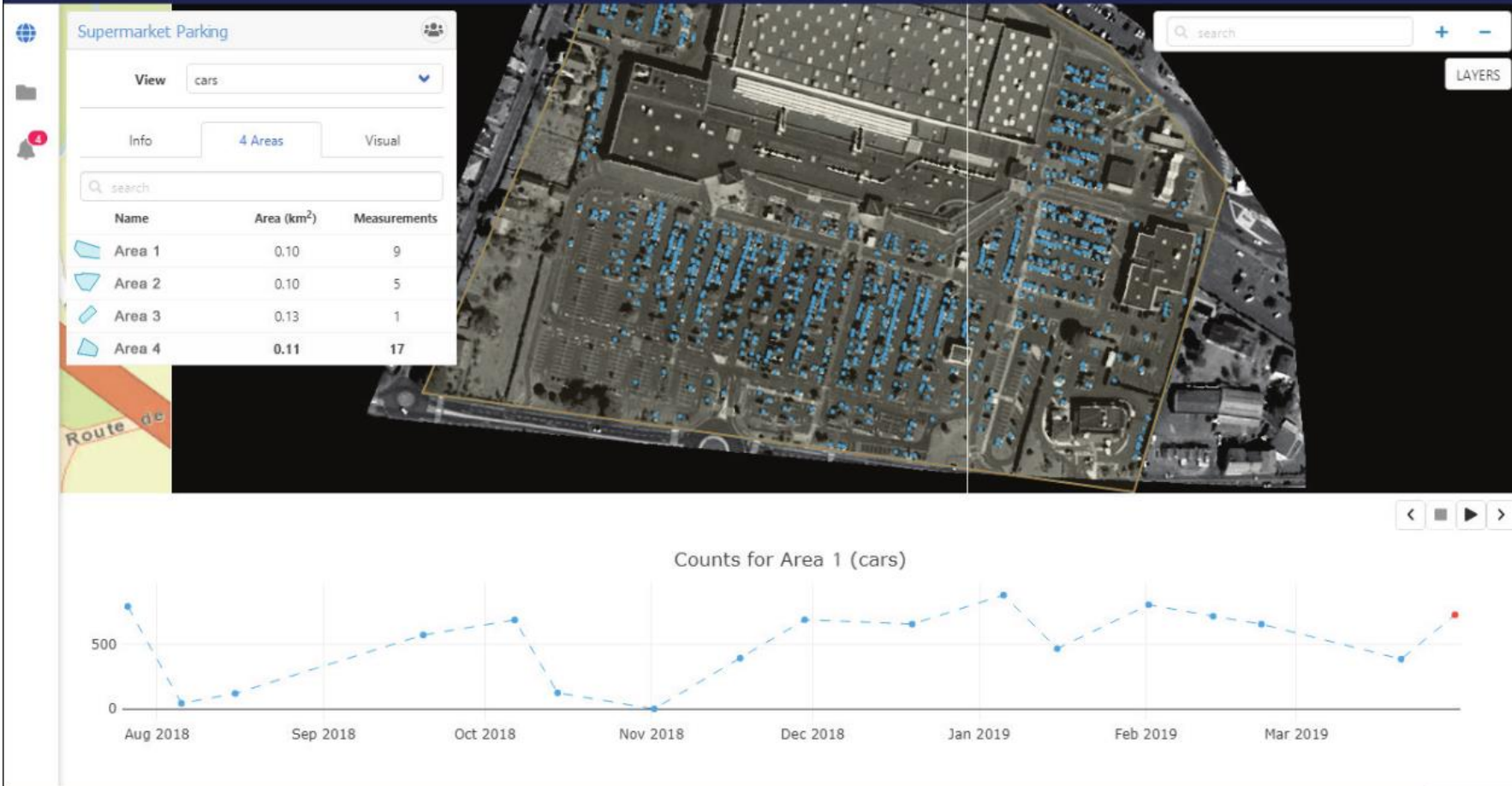


(Bloomberg) -- **Alternative, high-frequency data** show economic activity in a number of major advanced economies dropped steeply in the first weeks of November amid a stark rise in Covid-19 infections and expanding lockdown measures. The latest readings suggest the decline was particularly strong in Europe. France, Italy, Germany and the U.K. have seen activity fall sharply as lockdown restrictions take effect, according to Bloomberg Economics gauges that integrate data such as mobility, energy consumption and public transport usage

Traffic Jam on the Suez Canal



Source: <https://earthobservatory.nasa.gov/images/148114/traffic-jam-on-the-suez-canal>



Source: <https://www.intelligence-airbusds.com/en/6988-case-study-gallery-details?item=60393#.YPV-jOgzZPY>