**Google Trends' Search Volume Index (SVI)** calculations have undergone adjustments over the years, including after 2014. While Google doesn't provide detailed documentation about every change in its algorithms, several trends and updates are publicly known or inferred by researchers and users. Here are the key aspects:

**1. Changes in Data Sampling Techniques**

* **Before 2014:** Google Trends used a relatively coarse sampling of data, which sometimes led to inconsistencies in results for smaller or less popular search terms.
* **After 2014:** Google transitioned to a finer-grained sampling method, improving the accuracy and reliability of the data. This was done to ensure that trends for niche or low-volume searches were represented more consistently.

**2. Scaling Adjustments**

Google Trends provides normalized data on a 0-100 scale based on the relative search interest over time. Over the years:

* **Recalibration of scaling methods:** Changes in how the 0-100 scale is calculated for a given timeframe or geography may affect comparability across years.
* **Introduction of new baseline metrics:** Post-2014 updates may include refined definitions of search popularity, which could impact historical comparisons.

**3. Improvements in Data Quality**

* **Noise reduction:** Google has improved its algorithms to better filter out automated queries, spam searches, and irregular spikes, leading to smoother trends post-2014.
* **Regional granularity:** Trends data became more geographically granular, which may have affected the computation of SVI in some cases.

**4. Changes in Search Behavior**

* **Emergence of new technologies:** Voice search, mobile usage, and changing user behavior over the years might have prompted updates to the Trends algorithm to accommodate evolving patterns.
* **Expanded coverage of search queries:** New and emerging search categories or terms might have been added to Trends post-2014, potentially affecting the SVI calculations for related topics.

**5. Updates to Categories and Grouping**

Google occasionally updates its search term categorization and query grouping logic:

* Terms previously treated as separate might have been grouped together or vice versa.
* Updates to query classification can result in historical recalculations that affect trends data.

**6. Rolling Updates to Data**

* Google Trends applies **rolling updates** to historical data to make it consistent with current methodologies. This means that when you access historical data today, it may have been recalculated using post-2014 methodologies, potentially leading to differences compared to earlier analyses.

**What Does This Mean for Researchers?**

1. **Comparability Issues:** If you're analysing long-term trends that span pre- and post-2014, be cautious of methodological changes that might affect the continuity of the data.
2. **Cross-check with alternative sources:** Use additional data sources or consult documentation to validate significant findings.
3. **Reanalysis:** For rigorous studies, revisit earlier analyses using the latest Trends data to account for recalibrations.

If you're working on a project where this discrepancy matters, consider explicitly noting the possibility of methodological shifts in SVI calculations in your findings.

**What is the Search Volume Index (SVI)?**

* **SVI** in Google Trends represents the relative popularity of a search term over time, normalized to a scale of 0 to 100. A value of 100 indicates the peak search interest, while 0 means negligible or no interest in the chosen time frame.
* The data is normalized by dividing the number of searches for a term by the total number of searches during that time period and location.

However, Google Trends is not just a raw reflection of searches—it involves sampling, adjustments, and algorithmic filtering to ensure meaningful insights. Over the years, several changes have affected the SVI calculations.

**1. Changes in Data Sampling and Representation**

Google Trends uses a **sampling-based approach** to analyse search data rather than providing absolute counts. Over time, Google improved its sampling techniques:

**Before 2014:**

* Data was sampled less frequently, which sometimes caused fluctuations or inconsistencies, especially for:
  + Low-volume searches
  + Regional data with sparse activity
* Limited granularity in how data was extracted and presented.

**After 2014:**

* Google switched to more **sophisticated and granular sampling techniques**, capturing a finer resolution of search data. This change:
  + Reduced noise and inconsistencies in the trends.
  + Allowed for better representation of niche or less-popular search terms.
  + Made trends more stable and reflective of actual search behaviours.

**Impact on SVI:** Results became more accurate, but older historical data could appear inconsistent when compared with post-2014 data.

**2. Scaling and Normalization Adjustments**

Google Trends normalizes search data on a 0-100 scale for comparability across time and geography. However, this normalization process has evolved:

**Pre-2014:**

* Scaling algorithms were less refined. Search interest was normalized based on simpler criteria.
* Comparisons between global and regional trends sometimes showed discrepancies due to differences in sampling scales.

**Post-2014:**

* Google improved its **normalization algorithms**:
  + Adjustments were made to better reflect search interest relative to total search activity.
  + More sophisticated methods were introduced to scale terms consistently across regions and timeframes.

**Impact on SVI:**

* Post-2014, the SVI for some terms might reflect smaller or larger relative values than earlier calculations.
* Comparing SVIs across pre- and post-2014 periods can lead to inconsistencies unless explicitly reprocessed using updated algorithms.

**3. Noise Reduction and Data Quality Enhancements**

Google Trends filters out spam, bot-generated queries, and other irrelevant data to ensure cleaner insights.

**Before 2014:**

* Filtering methods were less advanced, which sometimes caused irregular spikes or biases in SVI due to:
  + Automated searches (bots, scrapers).
  + Irrelevant searches (misspellings, fake trends, etc.).

**After 2014:**

* Google incorporated advanced **machine learning models** and algorithms to detect and eliminate:
  + Noise from non-human activity.
  + Query mismatches or searches with ambiguous intent.
* The filtering process became more robust, especially for global or region-specific events.

**Impact on SVI:**

* Cleaner and more meaningful trends emerged after 2014.
* Irregularities in older data may no longer appear when the same time frame is viewed today.

**4. Evolving Search Behavior**

Search behavior evolves due to technological and cultural shifts, and Google adapts its algorithms to reflect this:

**Key Changes in Search Behavior Post-2014:**

1. **Increased Mobile Search:**
   * Mobile queries surged, especially after smartphones became dominant around 2014.
   * Google's algorithms started accounting for differences in mobile vs. desktop search patterns.
2. **Voice Search:**
   * Voice searches, driven by digital assistants (e.g., Siri, Google Assistant), introduced new phrasing patterns that may not have been categorized accurately before.
3. **Diversification of Queries:**
   * As search behavior diversified, Google updated its algorithms to group synonymous queries more effectively.

**Impact on SVI:** The way certain queries were counted may have changed, leading to differences in trends over time.

**5. Changes in Query Grouping and Categories**

Google Trends doesn't treat all search terms individually. Instead, it often groups related queries into broader categories or topics.

**Before 2014:**

* Query grouping was less sophisticated, so closely related terms might have been treated separately (e.g., "US elections" vs. "US presidential elections").
* Categories were narrower, making it harder to capture trends for broad concepts.

**After 2014:**

* Google expanded and refined its **categorization system**:
  + Better grouping of related search terms and phrases.
  + Introduction of new topics to capture evolving areas of interest.
* Historical data might be recalculated based on updated categories.

**Impact on SVI:** Older SVIs for certain terms may no longer match current calculations if the terms were reclassified.

**6. Rolling Updates to Historical Data**

Google Trends applies **rolling updates** to its dataset to ensure historical data aligns with the current methodology:

**How It Works:**

* Whenever Google updates its algorithm, historical data is recalibrated to ensure consistency with the new system.
* This means data you access today for pre-2014 periods might differ from the data seen in 2014, even for the same search term.

**Why It Matters:**

* Researchers relying on past analyses may find discrepancies if they compare previously downloaded data with current queries.

**Impact on SVI:** Historical data becomes more consistent with present-day calculations, but direct comparisons using older datasets might be misleading.

**7. Implications for Long-Term Analysis**

When analyzing trends over time, especially across pre- and post-2014 periods:

* Be aware that SVI changes might not solely reflect real-world search interest but also differences in how Google calculates and normalizes data.
* If possible, reanalyze historical data using the latest Google Trends outputs to minimize discrepancies caused by methodological changes.
* Note these limitations in your findings if you're conducting formal research.