Digital Advertising Activities in Japan’s SPPI

Moegi Inoue
Bank of Japan
Research and Statistics Department
Introduction
Basic Information of Japan’s SPPI

Scope

- Services provided by businesses to other businesses and governments (excluding services provided to households).

Purpose

- Capture developments in supply-demand conditions for service products provided to business and government.
- Used as a deflator of GDP (mainly used in corporate sector).

Index structure

- Compiled and published only on commodity basis (not industry basis).
Basic Information of Japan’s SPPI

Time of release

- Monthly
- Preliminary indexes are released on the 18th business day of the month following the reference month.

Sources for weights

- "2015 Updated Input-Output Tables"
- Other various statistics are also employed as source data (including "Economic Census for Business Activity").

Rebasing

- Every five years (base year and weights are updated).
- At the time of rebasing, we incorporate new services and reconsider the pricing and quality adjustment methods.
Japan has just rebased SPPI this June from 2010 base to 2015 base.
We have expanded the coverage of two digital services; “Web portals”, ”Internet advertising” (as shown in yellow).

<table>
<thead>
<tr>
<th>2010base</th>
<th>2015base</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
<td><strong>Weights</strong></td>
</tr>
<tr>
<td>Internet related services</td>
<td>9.2</td>
</tr>
<tr>
<td>Internet advertising</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Web Portals
“Web portals” offers searching function by intermediating companies and customers online.

(Ex.) Hotel Reservation

Note: The above commission rate and profit are fictitious.
Web Portals

(Ex.) Restaurant Information

Posting
$300 (per month)

Booking
$2 (per booking)

Survey posting & booking fee

Note: The above commission rate and profit are fictitious.
Each web portal has a different business model, even though they deal with the same products or services.

<table>
<thead>
<tr>
<th>Web Portal Categories</th>
<th>Fixed Fee</th>
<th>Fee according to the Volume of the Purchase</th>
<th>Mixed Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per Shop</td>
<td>Per transaction</td>
<td>Fixed Unit Price</td>
</tr>
<tr>
<td>Shopping / Auction</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Restaurant Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Estate Information</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Job Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel Reservation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hometown Tax</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Not all the web portals are included to the above table.
Many kinds of web portals are newly incorporated to our new index (2015 base).
Internet Advertising
“Internet advertising” provides advertising space via ad network operated by web portals.

<table>
<thead>
<tr>
<th>Advertising Categories</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reservation Advertising</td>
<td>Advertisement transacted with fixed price using a non-auction method.</td>
</tr>
<tr>
<td>Programmatic Advertising</td>
<td></td>
</tr>
<tr>
<td>Listing Ad</td>
<td>Advertisement on the search screen linked to the keyword searched by the user using auction method.</td>
</tr>
<tr>
<td>Display Ad</td>
<td>Advertisement whose effect is assumed to be high based on the content of website and the user's browsing history, etc. using auction method.</td>
</tr>
<tr>
<td>Video Ad</td>
<td></td>
</tr>
<tr>
<td>Affiliate Advertising</td>
<td>Advertisement whereby if a user views an Internet advertisement and then performs some predetermined action, the media or user is paid some remuneration.</td>
</tr>
</tbody>
</table>
### Media Sheet

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listing fee</td>
<td>$15,000</td>
</tr>
<tr>
<td>CPM (Cost Per Miles)</td>
<td>$0.8</td>
</tr>
<tr>
<td>Guaranteed impressions</td>
<td>1,875,000</td>
</tr>
<tr>
<td>Assumed CTR (Click Through Rate)</td>
<td>0.29%</td>
</tr>
<tr>
<td>Listing Period</td>
<td>1 week</td>
</tr>
<tr>
<td>Listing page</td>
<td>Top Page</td>
</tr>
</tbody>
</table>
Internet Advertising

(Ex.) Programmatic advertising

- Ad Publication
- Ad Spaces

Offers Auction-type transactions of ad spaces.

Platform which allows publishers to automatically select and sell ad spaces which maximize ad revenues.

By bundling ad spaces across several sites, ads can be efficiently distributed.

Platform which allows advertisers to automatically select and buy ad spaces that best matches predetermined conditions, such as target customers and fees.

- Advertiser
- Advertising Agent
- DSP (Demand Side Platform)
- Ad Exchange
- Ad network
- SSP (Supply Side Platform)
- Publisher (Web portals)

Ad Publication

Ad Spaces
Internet Advertising

(Ex.) Listing ads

Google
paris apartments for rent

About 19,500,000 results (0.63 seconds)

Apartment Rentals In Paris | The Finest Homes, Min 3 Nights


(Ex.) Video ads

If you click, “Ads by Google” is displayed

(Ex.) Display ads
Internet Advertising

(Ex.) Affiliate advertising

Advertisers

Affiliate agency

Media

Track activities
✓ Purchase products
✓ Resister membership
✓ Download apps

Conversion

Resister

Listing ads

Pay the fee based on the amount of conversion.

Once the audience click the ads, jump to the link and put tag

https://track.affiliate-b.com
Our pricing method is as below.

<table>
<thead>
<tr>
<th>Advertising Categories</th>
<th>Pricing Method</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reservation Advertising</td>
<td>List Price</td>
<td>Impression</td>
</tr>
<tr>
<td></td>
<td>- Specify the media and ad space</td>
<td></td>
</tr>
<tr>
<td>Programmatic Advertising</td>
<td>Listing Ad</td>
<td>Click</td>
</tr>
<tr>
<td></td>
<td>Unit Value Method</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Specify the search engine and advertiser’s industry</td>
<td></td>
</tr>
<tr>
<td>Display Ad</td>
<td>Unit Value Method</td>
<td>Click</td>
</tr>
<tr>
<td></td>
<td>- Specify the ad network and advertiser’s industry</td>
<td></td>
</tr>
<tr>
<td>Video Ad</td>
<td>Unit Value Method</td>
<td>View</td>
</tr>
<tr>
<td></td>
<td>- Specify the ad network and advertiser’s industry</td>
<td></td>
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<tr>
<td>Affiliate Advertising</td>
<td>Unit Value Method</td>
<td>Conversion</td>
</tr>
<tr>
<td></td>
<td>- Specify the advertiser’s industry</td>
<td></td>
</tr>
</tbody>
</table>
We designed the composition of sample prices based on the amount of real transaction value, which is published by one of the biggest agencies in Japan.

Programmatic and affiliate ads are expanded in 2015 base index.
The Cost per click is expanded in 2015 base index.
The Cost per conversion and cost per view are newly incorporated.
Price Trends in Digital Activities
The index of “Web portals” is rising especially these days reflecting increase in listing fees at real estate and job search web portals.

Gradual seasonal trends can be observed.

Price Index of “Web portals”
The index of “Internet advertising” is rising reflecting increase in demand.
Seasonal trend is clear like TV and newspaper advertising.
Looking at the Decomposition of Year-on-Year Change, the price of listing ads has been rising due to increase in demand under the situation that the ads space are comparably limited.

Decomposition of Year-on-Year Change: Internet Advertising in 2015 base

- Programmatic Advertising (Listing Ad)
- Programmatic Advertising (Display Ad)
- Programmatic Advertising (Video Ad)
- Affiliate Advertising
- Reservation Advertising
- 2015 base
Comparing the decomposition of Y/Y change in 2015 base and that in 2010, the impact of the Internet is greater and that of papers is smaller.

Decomposition of Year-on-Year Change

Note: “Papers” include newspaper, magazine, and leaflet.
Impact to all item index

- The all item index shifted upward after late 2017 because of the price increase in “Web portals” and “Internet advertising”.

Comparison of the Old and New Indexes

- CY2015=100
- Difference in index levels (2015 base - 2010 base, rhs)
- 2015 base (lhs)
- 2010 base (lhs)
Impact to all item index

New Findings

✓ This index implies that the price has been rising at least B to B transaction as opposed to the discussions that the price tends to decrease under digitalization.

✓ As these digital services only charge the fee on businesses, not on consumers, these price trends can be observed only in SPPI, not in CPI. It is important to capture the price trend of digital services in SPPI.
Further Issues
Further Issues: Internet Advertising

- As for programmatic ad, the price (CPC) is determined via auction.

**Ex.) Auction System**

<table>
<thead>
<tr>
<th>Advertiser</th>
<th>Quality Score</th>
<th>Bid</th>
<th>Ad Rank</th>
<th>Rank</th>
<th>Cost Per Click</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA inc.</td>
<td>4</td>
<td>$2.00</td>
<td>8</td>
<td>1</td>
<td>$1.50</td>
</tr>
<tr>
<td>BBB inc.</td>
<td>2</td>
<td>$3.00</td>
<td>6</td>
<td>2</td>
<td>$2.00</td>
</tr>
<tr>
<td>CCC inc.</td>
<td>1</td>
<td>$4.00</td>
<td>4</td>
<td>3</td>
<td>$3.00</td>
</tr>
<tr>
<td>DDD inc.</td>
<td>3</td>
<td>$1.00</td>
<td>3</td>
<td>4</td>
<td>$0.70</td>
</tr>
</tbody>
</table>

**Ex.) Bid Price**

\[
\text{Cost Per Click (CPC)} = \frac{\text{Bid}}{\text{Competitor’s Ad Rank}}
\]

Cost Per Click (CPC) = Bid / Competitor’s Ad Rank
“Quality score” is one of the important factors to determine the price.

However, it is very difficult to survey the price specifying “Quality score”.

Further Issues: Internet Advertising

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“Quality Score” is determined based on Click-through rate (CTR), Ad copy relevance, and so on. It is set by ad network systematically.
Specifying advertiser's industry type can be alternative because “Quality Score” is determined by CTR (Click Through Rate) which can be related to industry type.

(Ex.) Instagram

<table>
<thead>
<tr>
<th>Contents of Ads</th>
<th>CTR (Click Through Rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cosmetics</td>
<td>High</td>
</tr>
<tr>
<td>Fitness</td>
<td></td>
</tr>
<tr>
<td>Food and Drink</td>
<td>Low</td>
</tr>
<tr>
<td>Computers</td>
<td></td>
</tr>
<tr>
<td>Games</td>
<td></td>
</tr>
</tbody>
</table>

Distribution of Active Accounts

- Female: 57%
- Male: 43%

As of May and June 2018

Source: Facebook and Instagram Media Guide, Kantar Japan, Grow Epic
Conclusion
Conclusion

Category & Sample Prices

• The Bank has significantly expanded two digital activities; “Web portals” and “Internet advertising” at the time of rebasing.
• We adopt various types of sample prices to capture the real transaction prices.

Price Trends

• As opposed to existing discussion, both price indexes of digital services; “Web portals” and “Internet advertising” have been rising, which shifted all item index upward.
• It is important to capture the price developments of these services in SPPI because they can not be observed in CPI.

Further Issues

• There are still some quality issues among digital services.
• It is really difficult to survey the price with perfectly specifying quality characteristics.
Thank you for your attention

Moegi Inoue
Price Statistics Division
Research and Statistics Department
BANK OF JAPAN
Email:moegi.inoue@boj.or.jp