

Estimating the Japanese organic food market in 2018 using consumer panel data: A tentative result

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Abstract: As part of an ongoing research project in which we attempt to identify what are needed to produce reliable, and internationally comparable organic market data, we conducted a pilot data collection and made an estimate on the size of the organic food market in Japan using household panel data. In the household panel data, we identified 9180 items as organic food products. Using the list of the organic food items, the total purchase value in the year 2018 was estimated to be about 44.3 billion yen (369 million Euros or 403 USD), by far the smaller amount compared to preceding estimates. By extrapolating the purchase to the entire population and adding the estimate on the retail sales of organic products that do not carry JAN code, we estimated the total retail values of organic products in 2018 was 108.9 billion yen. There is a big gap between our estimate and preceding estimates, and it is important to note the difference in the definitions of organic food market and the methodology of data collection employed.

Introduction: It has been difficult to grasp the profile of the organic food market in Japan. Several institutions have reported their estimate on total retail values, but none of them report the estimate on regular basis, or use uniformed methodologies and definitions. Some of them do not conduct any cross-checking, nor pay attention to international comparability. As a result, the estimated values widely differ from each other. For example, Yano Research Institute Ltd. estimated the size of the Japanese organic food market in 2017 to be 178.5 billion yen (1.62 billion USD), whereas Organic Village Japan reported its size to be 411.7 billion yen (3.74 billion USD). Both studies do not report the detailed explanation on the definitions of “organic foods” they employed in their surveys.

Therefore, in our research project, we attempt to identify what are needed to produce reliable, and internationally comparable organic market data, through literature review, interviews to experts, and a pilot data collection. Our goal is to develop a workable manual for the Japanese data collectors and make recommendations to the Japanese organic industry and relevant government bodies and other stakeholders for the formation of organic data collection network. In this report, we would like to introduce the result of tentative market estimate made by the household panel data, which we conducted as part of our pilot data collections.

Material and Methods: To prepare for the pilot data collection, we conducted a literature reviews to identify issues surrounding methodologies related to organic market data collection. Major source of information was a series of papers produced as the outcomes of the “OrganicDataNetwork,” a research project aiming at improving the quality and comparability of organic market data in Europe. Other publications, including market reports, online databases such as FiBL Statistics, questionnaire sheets in major organic food markets were also examined. Detailed information on the actual data collection methodologies in Germany, France, and the United States were sought through interviews to research institutions and industry experts.

As a pilot study, we collected a market data from a research company and estimated the size of the organic food market in Japan. Household panel data used for the estimate was those collected by a research company Macromill, Inc. The panels are recruited from all around the country and gender and age quota is applied that is proportional to the actual population. The country-wide data is available from the year 2012 to the present. Age groups below 15 or above 69 is excluded, the panels represent 67.2% of the population. The data includes all the purchase made by the panels, including those purchased at supermarket, convenience stores, natural food stores as well as direct channels. Since only the barcoded products can be recorded by the household scanner, large part of purchase records for fresh fruits and vegetables are not covered in this data.

The scanned data carries JAN code (13 digit article code) of the purchased products, purchase amount in values, name of the product, and other associated information. However, since it does not include information whether the products are organic or not, we had to develop a list of organic products on our own. To make the list, we first extracted products that carries either “organic,” “yuki (means organic in Japanese),” or “bio” in the product name from all the food products. Then we excluded non-organic products from the list by checking the product website.

Only the organically certified products are included in the list. Even if a product is made of 100% organic ingredient, such product was excluded from the list unless they are certified to be organic. Dairies, egg and meat products, alcohol beverages, and seafood products that have organic claims in their product name were included in the list even if they are not certified according to JAS organic standard. There is no organic standard for seafood and alcohol beverages under the JAS Law, therefore it is allowed to carry organic claims in the product without JAS organic certification or equivalency status for these products. Standards for organic livestock products and its processed foods are installed in JAS law but they are not fully obligated as of December 2018. In so doing, we identified 9,180 organic items in all JAN-registered food products, which are either JAS certified or equivalent.

To supplement the retail values of organic products that do not carry JAN code, we conducted

a questionnaire survey to producers of organic primary products. The questionnaire was sent and collected by postal mail in November 2019 to all the JAS-certified operators whose name and address was publicly available on the website of Ministry of Agriculture, Forestry and Fisheries. A total of 1,165 questionnaire was sent and 313 of them responded with valid response.

Results:

(1) Estimate of the Japanese organic food market

Based on the consumer panel data, total values of organic barcoded products for the year 2018 was estimated to be about 44.3 billion yen (369 million Euros or 403 million USD). However, this estimate has some serious omissions such as: 1) purchase made by the elderlies above 69, and early teens retail 2); values of organic products that do not carry JAN code (especially fresh vegetables and rice); and 3) sales of organic products that do not carry “organic” “bio” or “yuki” in their product name.

To tackle the first omission, i.e. purchase made by the certain age groups, we simply divided the estimated figure by 0.672 so that we get a rough extrapolation of the total retail value of the entire population, which we calculated to be 65.9 billion yen. As for the second omission, i.e. the retail sales of non-barcoded organic products, we added the estimate on the sales of primary products that was made based on the producers survey, which was calculated to be 46.2 billion yen. Further, we added the sales of non-barcoded processed products, which was estimated to be 4.6 billion yen. Combining these estimates, and deducting the values of barcoded organic primary products, we get a rough estimate on the total retail value of organic food products in 2018, which is calculated to be 108.9 billion yen.

(2) Trend in the organic food market between 2012-2018

As shown in the Table 1, Japanese organic food market has not always been on the growing trend. During the 2012-2018 period, the market shrank in 2013 and again in 2017. In many product categories, including soymilk, wet products (such as tofu), seasoning, fresh produce, packaged RTE foods, and alcohols, sales dropped for the year 2013. The reason for this decrease requires careful examination, but we can easily imagine that the lowering value of yen and increasing cost of imports would have negatively affected the market.

The fall in the retail value in 2017 would rather be explained by the unique rise in sales of certain organic products occurred in the previous two years. Biggest increase in sales were observed for edible oils, which more than doubled their retail sales in 2015 from the previous year. Soymilk, vinegar, and packaged RTE food also showed increase in sales in the same year. These unique rise in 2015 can probably be explained by the surge of consumers' interest in “super foods.”

Discussion:

To conclude, our pilot study suggests that, within a limited framework, we can reliably grasp the trend and some characteristics of organic food market using consumer panel data, so far as the list of organic food products are well-maintained. However, due to the low coverage of the population by the consumer panels and some major organic products such as fresh vegetables and rice are usually not captured by consumer panel data, additional survey is necessary to make a better market estimate. We attempted to supplement data by conducting a survey to producers of organic primary products and yielded 108.9 billion yen as the total retail value of organic food products sold in Japan in 2018.

Though our estimate has some rooms of improvement and should further go through cross-checking (such as POS and ongoing retailer surveys) to ensure its robustness, at least we can say that it gives some ideas of the market volume. It is interesting that our estimate is by far smaller than the existing estimates. One possible reason is the difference in definitions. In our pilot study, products incorporated for the calculation was strictly limited to those that are organically certified. Some preceding studies apply more loose definitions that is not strictly confined to the certified organic products. Also, some preceding studies incorporate purchase made at food service sector, which leads to overestimation of the retail value. Several preceding studies based their estimate solely on a consumer survey, a known overestimating factor due to the social desirability bias.

As for the omission of organic products that do not carry words “organic” “bio” or “yuki,” we found in the interviews to retailers and manufactures that such products are quite rare and probably the addition would make little difference. In other words, product name is an efficient identifier of organic products in Japan.

We will further search information on how to incorporate sales values of organic products that are not certified, because in Japan, certification has only been a part of the trust formation methods and does not yet play a dominant role. Furthermore, by looking at the practical data collection methods employed in the United States, we will seek extra ideas to capture less tangible organic market data and deepen our thoughts on what we could consider as the “universal criteria” for the organic market data collection.

Year	Estimated Value		
	Japanese Yen	Euro	USD
2012	39,828,557,054	331,904,642	362,077,791
2013	36,374,277,313	303,118,978	330,675,248
2014	37,264,500,533	310,537,504	338,768,187
2015	43,588,931,813	363,241,098	396,263,016

2016	44,243,182,696	368,693,189	402,210,752
2017	42,815,966,670	356,799,722	389,236,061
2018	44,286,815,980	369,056,800	402,607,418
Note: This estimate does not include non-barcoded products (mostly fresh vegetables and fruits) and barcoded organic products that does not include "organic" in their product name. Exchange rates used for the calculation of the values in Euro and USD are: 1 Euro = 120 yen, 1 USD =110 yen.			

References:

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Disclosure of Interest: None Declared

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