



Estimation of the Organic Food Market Scale in Europe, the United States and Japan

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EU Efforts to Build a Sustainable Food System and Implications for Japan—Toward the Expansion of Organic Agriculture— (Zoom)

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Project commissioned by the Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries (2018 - 2020)

“Organic farming policies in the US and Europe, organic food market trends in Japan and abroad, and outlook for organic farming and the food market in Japan”

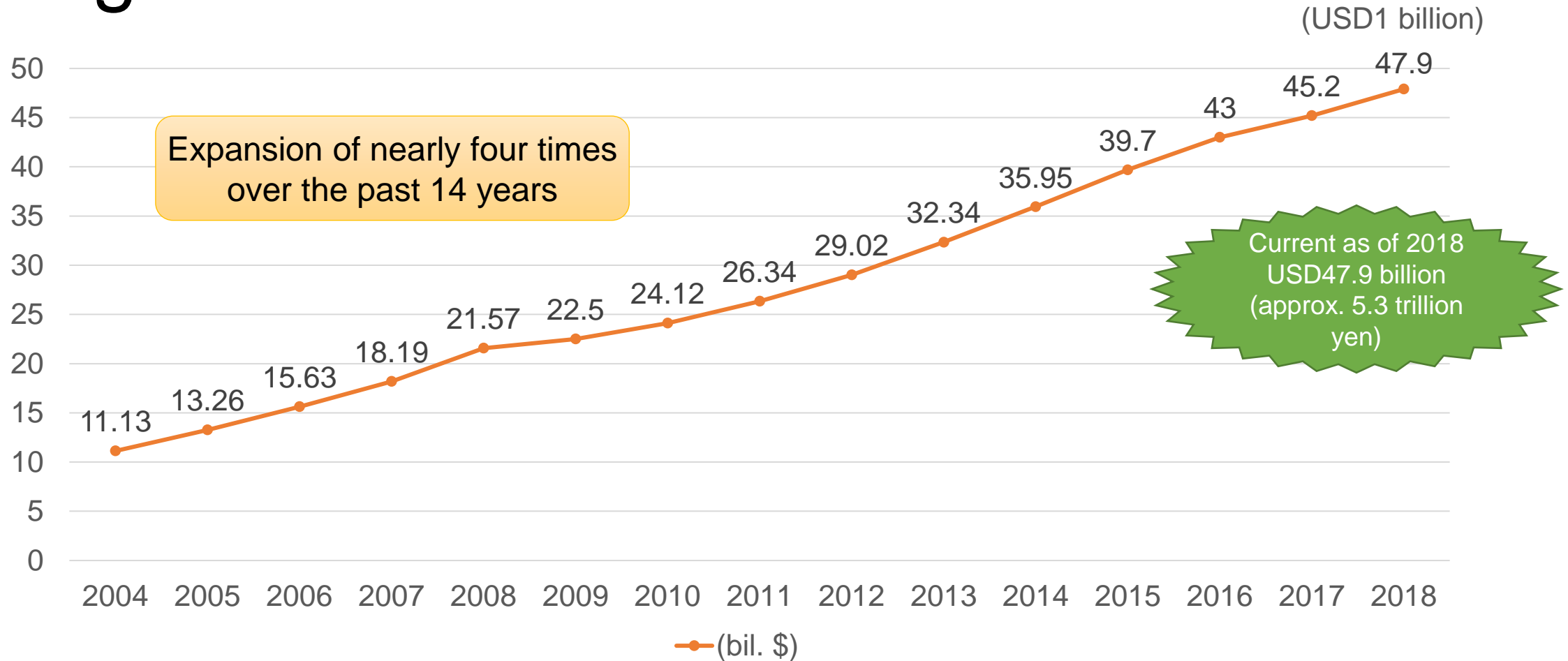
Structure of this Report

1. Collection method for organic food market data in the US and Europe

2. Estimate of organic food market scale in Japan

3. Use of purchasing history data

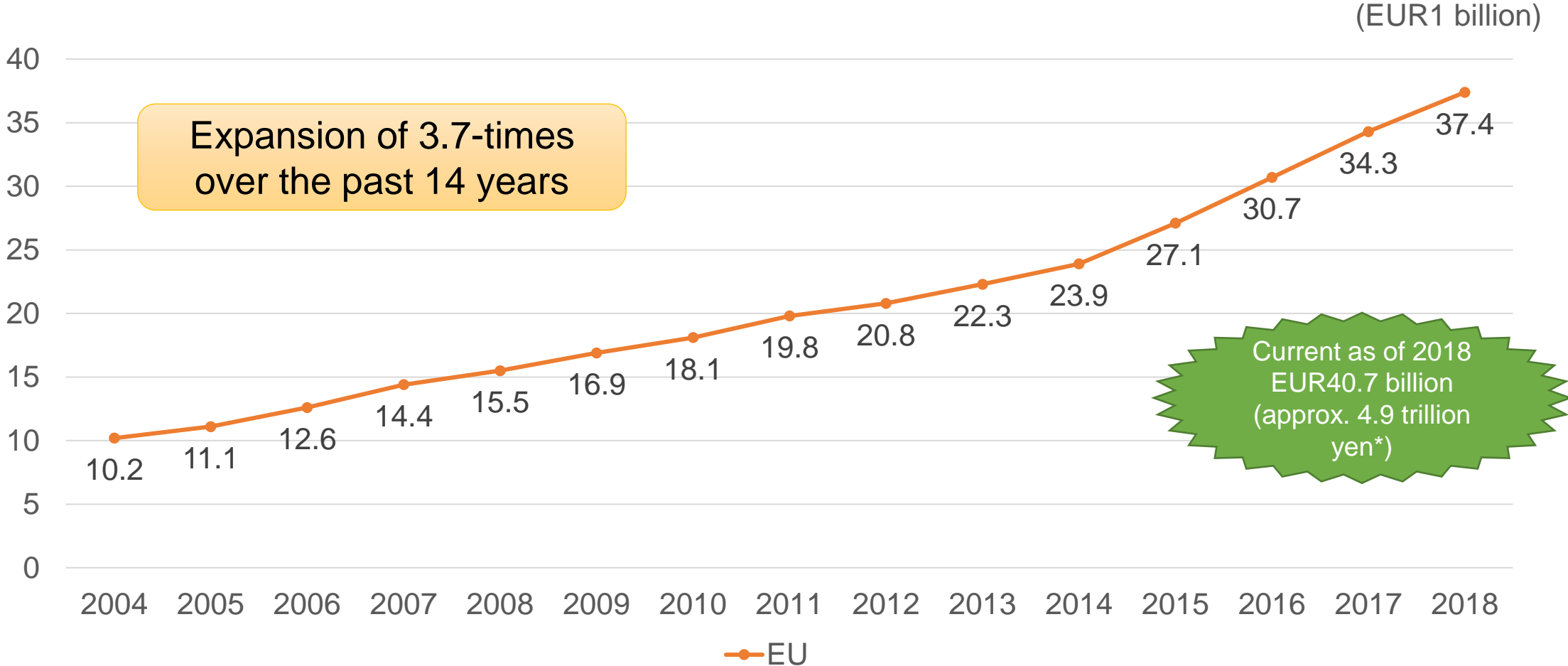
Organic food market in the US



Source: Amarjit Sahota, Ecovia Intelligence, The Global Market for Organic Food and Drink, introduced in: H. Willer, B. Schlatter, J. ravrucek, L. Kemper and J. Lernoud (Eds.): "The World of Organic Agriculture. Statistics and Emerging Trends 2020," FiBL-IFOAM, 2020.

* Exchange rate: USD1 = 110 yen

EU Organic food market



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* Exchange rate: EUR1 = 120 yen

Research background

Table 1: Estimate example for the scale of the organic food market in Japan

| Assessor | Survey method | Estimated results | Notes |
|---|---|---|---|
| (1) Bureau of Citizens and Cultural Affairs, Tokyo Metropolitan Government (1995) | Producer/local municipality questionnaire survey | As of 1993, estimate is in the neighborhood of 154.0 billion yen - 336.0 billion yen | |
| (2) General Marketing Institute Inc. (1997/1999) | Prefecture questionnaire, processor/distributor hearing | 1996: 194.5 billion yen 1997: 226.0 billion yen 1998: 260.5 billion yen (estimate) | Including cultivation mainly using fewer agrochemicals and less chemical fertilizers, etc.) |
| (3) IFOAM Japan Organic Market Research Project (OMR) (2010) | Consumer online survey results | As of 2009, estimate is in the neighborhood of 130.0 billion yen - 140.0 billion yen | Limited to JAS organic certified products |
| (4) Organic Village Japan (OVJ) (2016) | Consumer online survey results | As of 2016, approx. 38.1 billion yen | Limited to JAS organic certified products |
| (5) Organic Village Japan (OVJ) (2018) | Consumer online survey results | As of 2017, 411.7 billion yen | Organic market scale |
| (6) Yano Research Institute Ltd. | Questionnaire/hearing targeting business operators | As of 2017, 178.5 billion yen | |
| (7) Ministry of Agriculture, Food and Fisheries (MAFF) (2018) | Consumer online survey results | As of 2017, 185.0 billion yen | |

(1) - (4) is an excerpt from Sakai (2017)

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| (2) General Market Research Institute | Consumer survey | | Estimation mainly using telephone survey and less |
| (3) Organic Village Project | Consumer survey | | |
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| (5) Organic Village Project | Consumer survey | | |
| (6) Yano Research Institute Ltd. | business operators | | |
| (7) Ministry of Agriculture, Food and Fisheries (MAFF) (2018) | Consumer online survey results | As of 2017, 185.0 billion yen | |

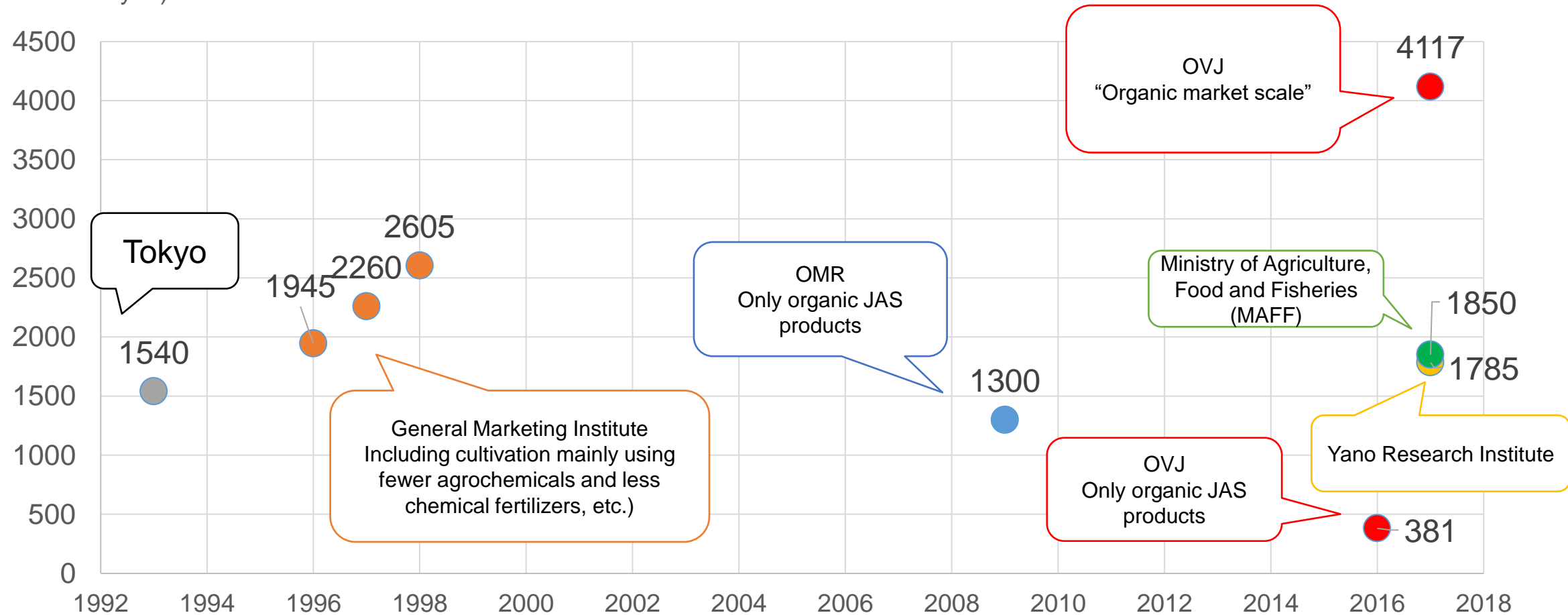
Issues

- Definition of “organic food” and “market scale”, diversification of survey/estimation methods.
- Single/irregular (no chronological data).
- Issues are the transparency and reproducibility of survey and estimation methods.
- Lack of consideration regarding the possibility for international comparisons.

(1) - (4) is an excerpt from Sakai (2017)

If plotting a graph of market estimates...

(100 million yen)



Note: All are the lower threshold of estimates

Trends for improvements to the data collection system

In Europe, a research project was carried out to improve the data collection system.

- 2003-2006: Implemented the European Information System for Organic Market (EISfOM)
- 2012-2014: Build the European data network to improve transparency of the organic market (Commonly known as: OrganicDataNetwork)

15 principles and indicators
Based on European
Statistics Code of
Practice (ESCP)

- OrMaCode Code of Practice
- Data collection manual

Need to improve data quality and international conformity



Table 2: OrMaCode Code of Practice

| Principles | Details |
|---|--|
| Principle 1: Professional independence | Professional independence of the data collection institutions |
| Principle 2: Mandate for data collection | Legal enforcement of and authority over data collection |
| Principle 3: Adequacy of resources | Build a highly efficient information collection system, personnel training, adequacy of budgets |
| Principle 4: Commitment to quality | Commitment to data quality and regular third-party reviews |
| Principle 5: Statistic confidentiality | Secure the anonymity and confidentiality of information providers |
| Principle 6: Impartiality and objectivity | Secure scientific independence, objectivity, professionalism and transparency of data |
| Principle 7: Sound methodology | Uniformity of procedures, classifications and definitions , employment of professional staff and professional development |
| Principle 8: Appropriate statistical procedures | Employ appropriate methodologies, disclose detailed methodologies |
| Principle 9: Non excessive burden on respondents | Prohibit excessive burden on respondents, efficient response methods, and integrate surveys with different objectives |
| Principle 10: Cost effectiveness | Effective use of resources, use of information systems |
| Principle 11: Relevance | Meet user needs, user forecasts and opinion opportunities , monitoring of conditions of use |
| Principle 12: Accuracy and reliability | Data consistency , regular reviews, multiple information sources, cross-checking |
| Principle 13: Timeliness and punctuality | Easy and timely access to data, minimize time lag, recommend chronological data |
| Principle 14: Coherence and Comparability | Maintain internal consistency, secure comparability of data over different time zones and countries and regions |
| Principle 15: Accessibility and Clarity | Accessibility of data and metadata, use of ICT technologies and online disclosures |

Note: The titles of each principle mimic the European Statistics Code of Practice (provision English translation) prepared by Mizunotani (2011).

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| Principle 6: Impartiality | |
| Principle 7: Sound methodology | and professional |
| Principle 8: Appropriate procedures | |
| Principle 9: Non-identifiable respondents | different |
| Principle 10: Cost efficiency | |
| Principle 11: Relevance | use |
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- Data collection from multiple sources
- Implement cross check
- Independence from stakeholders
- Objectivity, professionalism and transparency
- Uniform definition and classifications
- Meet user needs

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Survey method for retail total in Europe

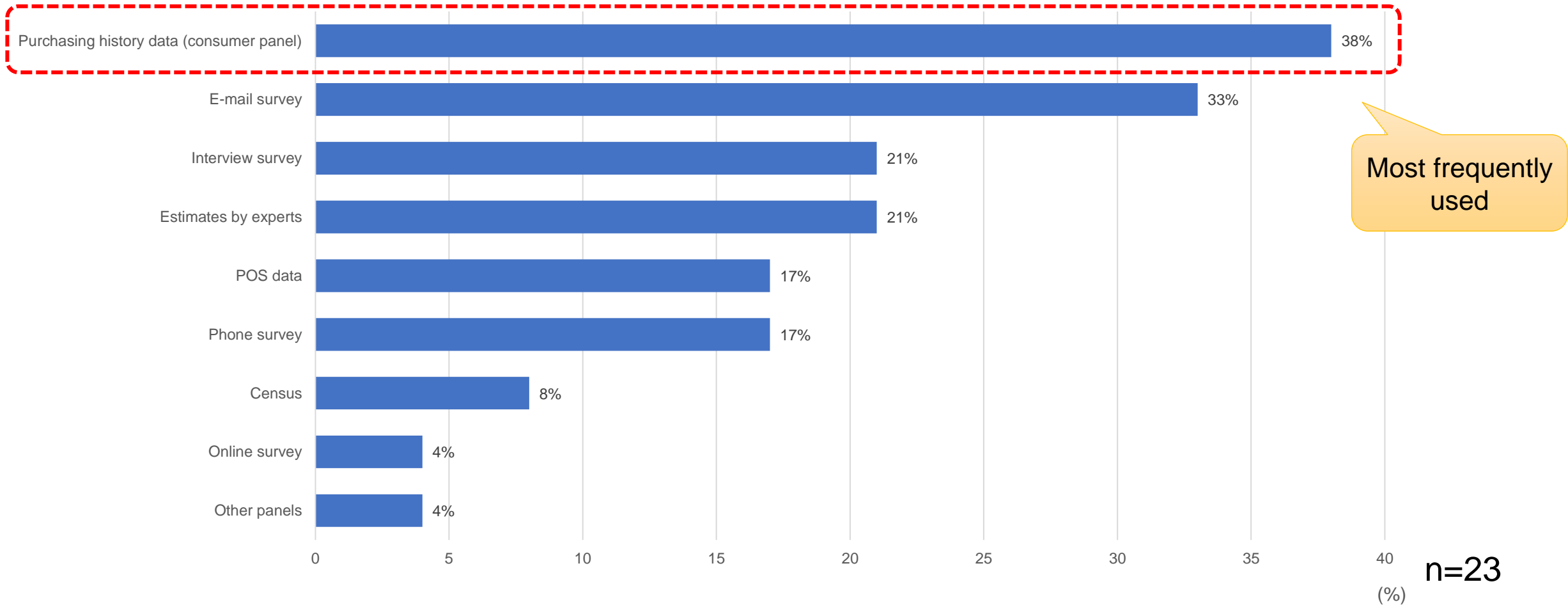
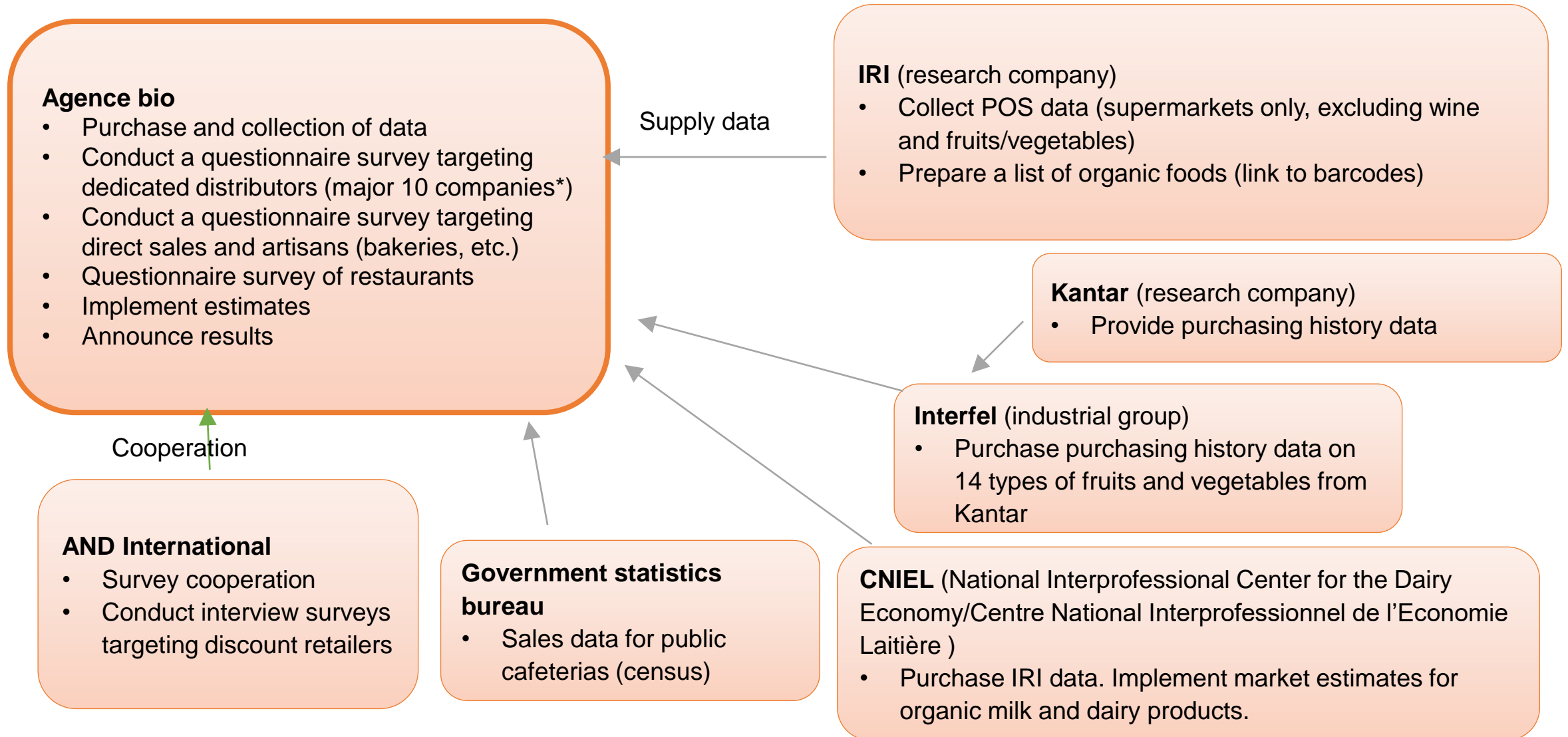


Figure 1: Survey method for organic food retail total in Europe

Source: Home et al. (2017)

Methodology for estimating the total amount for organic product retailing in France



Methodology for estimating total retail amount in the US

Organic Trade Association

- Announce results/sell reports
- Coordination

IRI (research company)

- Collect POS data (excluding Costoco, WF, small-scale retailers)
- Prepare a list of organic foods (provide via Label Insight?)

Nielsen

- Collect POS data

Nutrition Business Journal

- Conduct a survey of business operators
 - Estimate sales by product category
 - Estimate sales by channel
- Use POS data
- Use corporate annual reports

SPINS (research company)

- Collect POS data (natural food channels)
- Estimate scale of natural food channels (excluding WF, TJ, small-scale channels)

Ooyen Research (market research company)

- Implement research (details unknown)

Natural Food Merchandiser

- Survey of business operators

Euromonitor

Annual financial reports, etc.

USDA

- Census / organic farming survey / import/export data
- Use POS data (not estimates)

Cooperation ↑

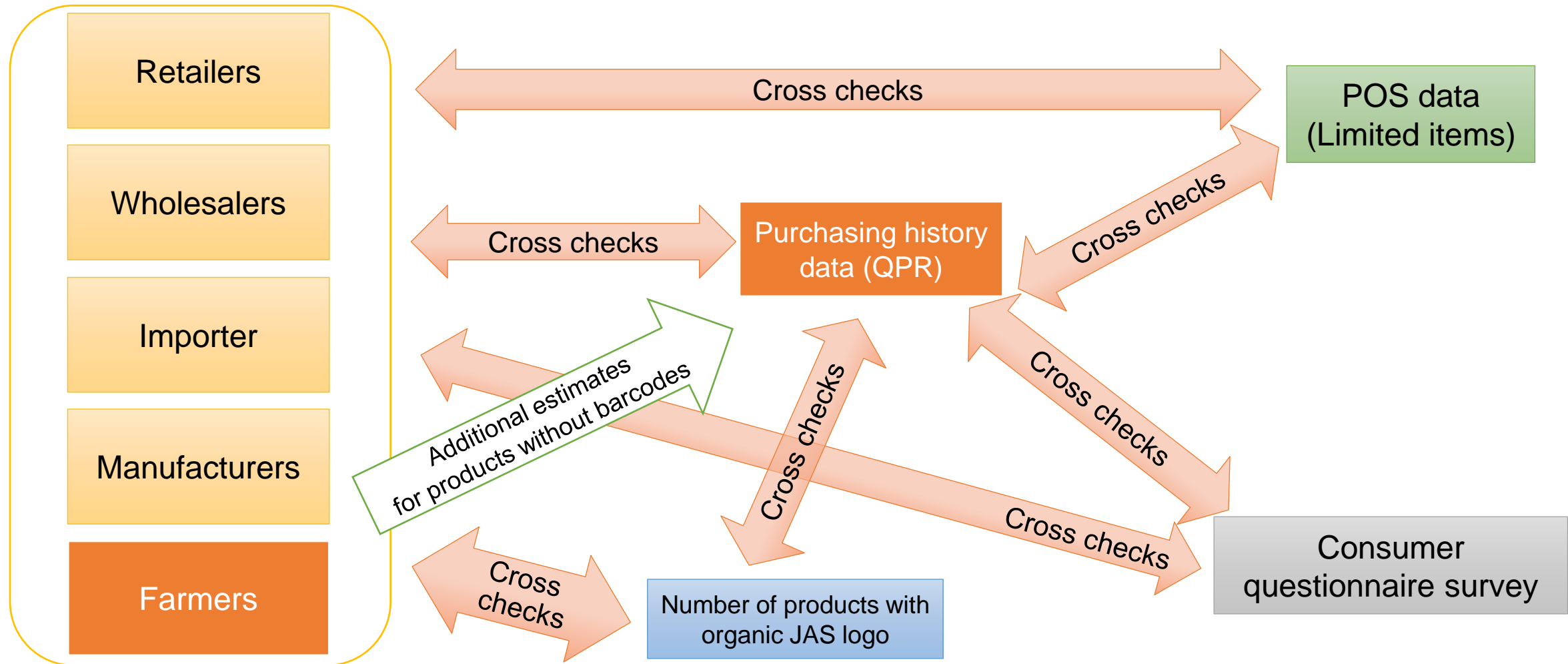
Cooperation ↑

Commission research →

Source: September 2019 interview survey results; OTA (2019) and Penton (2016)

Trial calculation method for the scale of the organic food market in this research

Business operator questionnaire/hearing



Purchasing history data (QPR) used in this research

- QPR is the acronym for Quick Purchase Report
- Data provider: Macromill, Inc.
- Year from which data starts: (Nationwide scale 2012 onward)
- Number of consumer panels: Approx. 30,000 people
- Structure of consumer panels: Men and women 15 to 69 years of age (configured in accordance with population composition)
- Range of geographical coverage: Nationwide excluding Okinawa
- Population coverage ratio: 84,958,471 people (2018); approx. 67.2% of the total population
- Range of product coverage: All products purchased by the consumer panel
- Provided data: JAN code (13 digit product identification code, product information (name, content, specifications, classification, etc.), purchasing volume, value, timing of purchase, information on buyer attributes, etc.)



From the M-CUBE, INC. website <https://www.m-cube.com/qpr/>

Only products with a barcode

Organic food market estimates using QPR

- Target monitors: January-December 2018 full-year monitors (26,591 people)
- Data period: January 2012 to December 2018
- Targets for estimation: Organic foods (products certified as organic by JAS*)
- Number of items: 9,180 SKUs



<Organic food product extraction method>

Extract products that use the words “organic” and “bio” in the product name. If this is used to describe the product then it is deemed JAS organic certified.

Exclude non-applicable products from the list of extracted products (*However, organic livestock products, etc. that do not bear the JAS mark, and alcoholic beverages labelled organic alcoholic beverages are included in the list).

- Estimation method: Calculate overall total based on the purchasing value for organic foods per 100 people

52,127 yen/100 people × 849,584 (hundred people) = approx. 44.3 billion yen

Estimate the market scale for organic products using QPR

(Million yen)

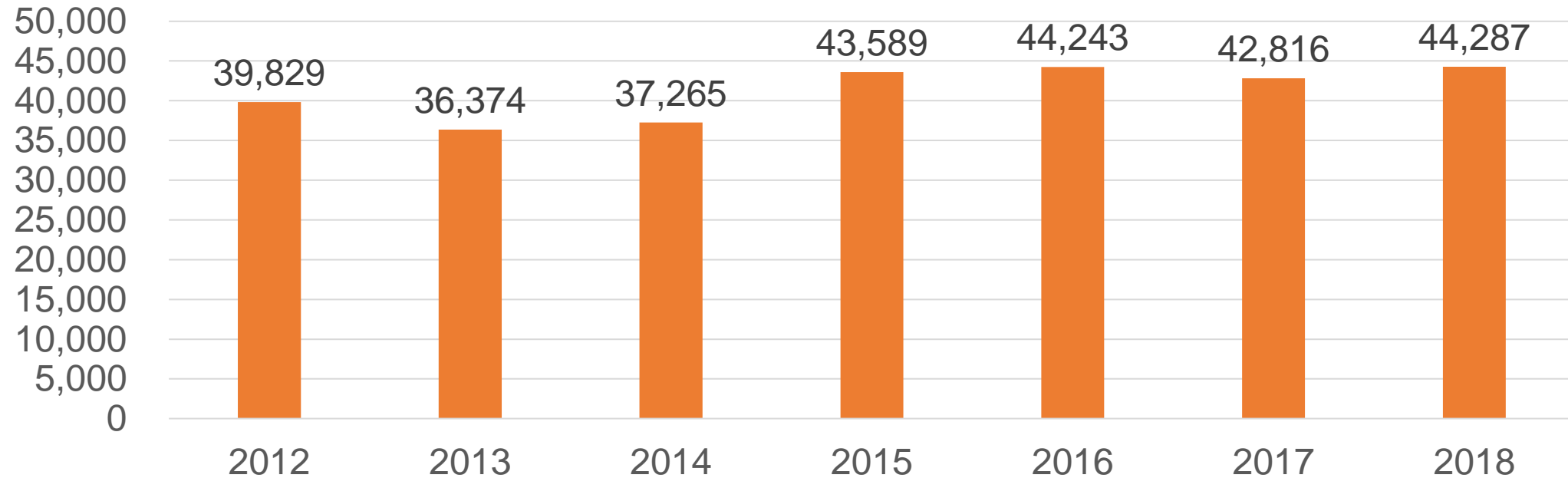


Figure 2: Estimate of market scale for organic products using QPR

Note: Excluding products without barcodes, including fruits and vegetables, and products without the word “organic” in the product name

From 2012 to 2018, the organic food market exhibited a modest growth trends while repeatedly rising and dipping.

Not included in estimates

- Purchases by consumers 70 years and older (QPR targets consumers between 15 and 69 years of age. The population coverage rate is 67.2%)
- Products without barcodes (fruits and vegetables, rice, direct sales of processed products, etc.)
- Organic products with a JICFS registered product name that does not use the words “organic” and “bio” in the product name.
- Agricultural products that are produced organically but have not acquired JAS organic certification
- Processed products made up of 95% or more organic raw materials but that has not acquired JAS organic certification (Applies to many types of sake (rice wine) that use organic rice)

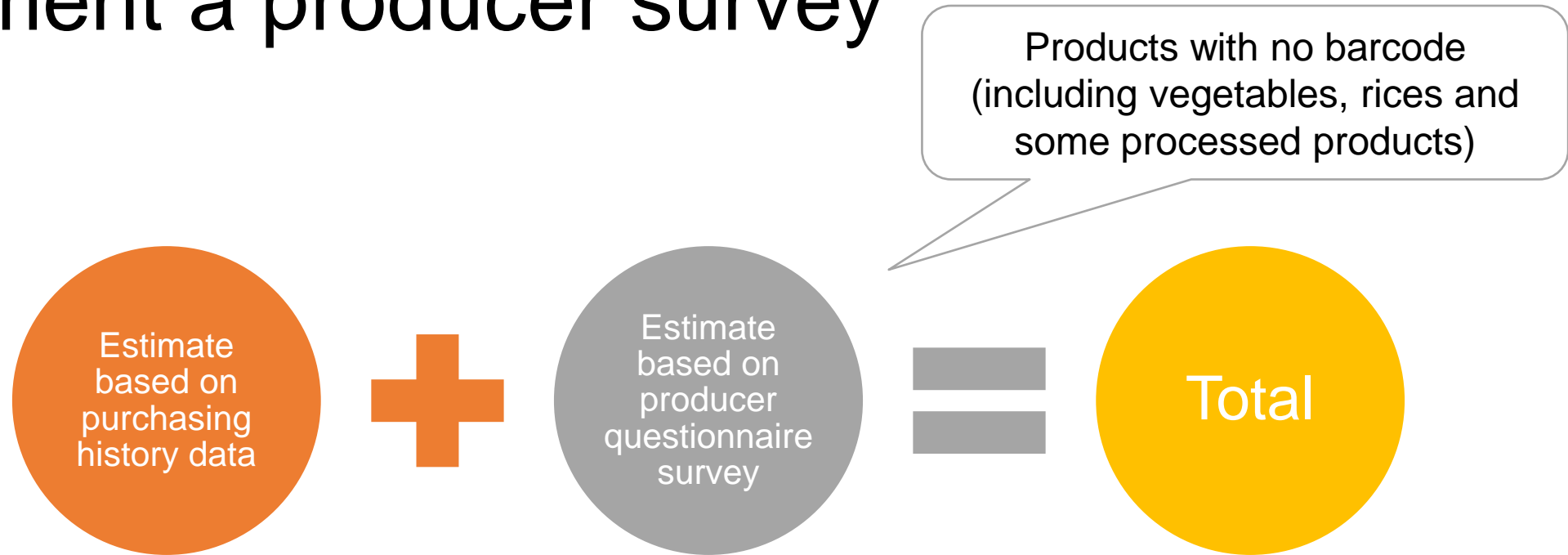


Undervaluation

Supplementary
survey/estimate

- **Survey of producers** (Grasp sales value of products without a barcode and non-JAS organic products)
- Survey of producers (Grasp sales value of products without a barcode and non-JAS organic products, identify products without the description of “organic” in their product name)
- Estimate purchases by consumers under the age of 15 and seniors that are 70 or older

Implement a producer survey



Survey target: Producers that have acquired organic JAS certification and are listed on the MAFF website (1,165 cases)

Survey method: Sent by postal mail (Written method, some online responses)

Survey period: November 6 -25, 2019

Number of responses: 314 (Response rate: 27%) Of which, the number of effective responses was 313.

There is no list that comprehensively covers all producers that are organic JAS certified. Conditions are therefore difficult for conducting a sample survey by census or by random extraction.

Sales and overall estimate for organic agricultural products of respondents

Organic agricultural products

Total sales of respondents: approx. 6.85 billion yen
(Portion of organic JAS labelled products: approx. 4.7 billion yen)

Average value: 22.39 million yen
Median value: 6.72 million yen



Overall estimate for the domestic market for perishable agricultural products (JAS only): approx. 46.2 billion yen

Organic processed foods

Totals sales of respondents: approx. 1.09 billion yen
(Portion of organic JAS labelled products: approx. 590 million yen)

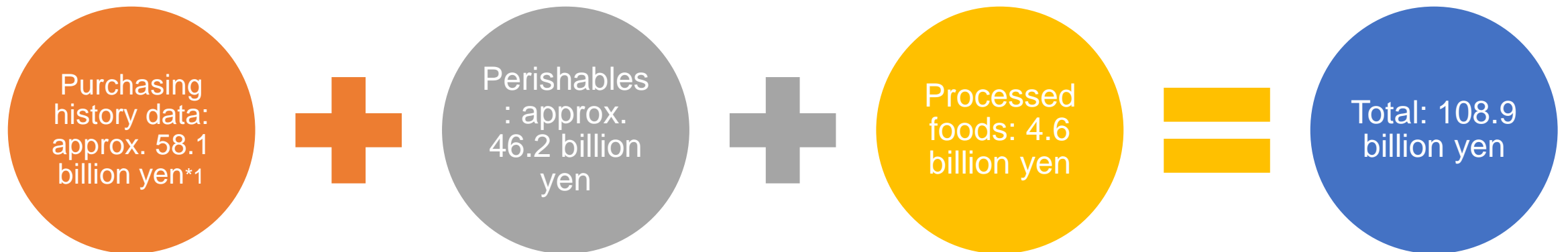
Average value: 1.88 million yen



Estimate for overall domestic organic processed food market (sixth-order industry/JAS only): 7.58 billion yen
Of which, sales of organic processed foods which cannot be captured using purchasing history data: 4.6 billion yen

Estimate of the domestic organic food market (trial calculation)

Based on a questionnaire
survey of producers

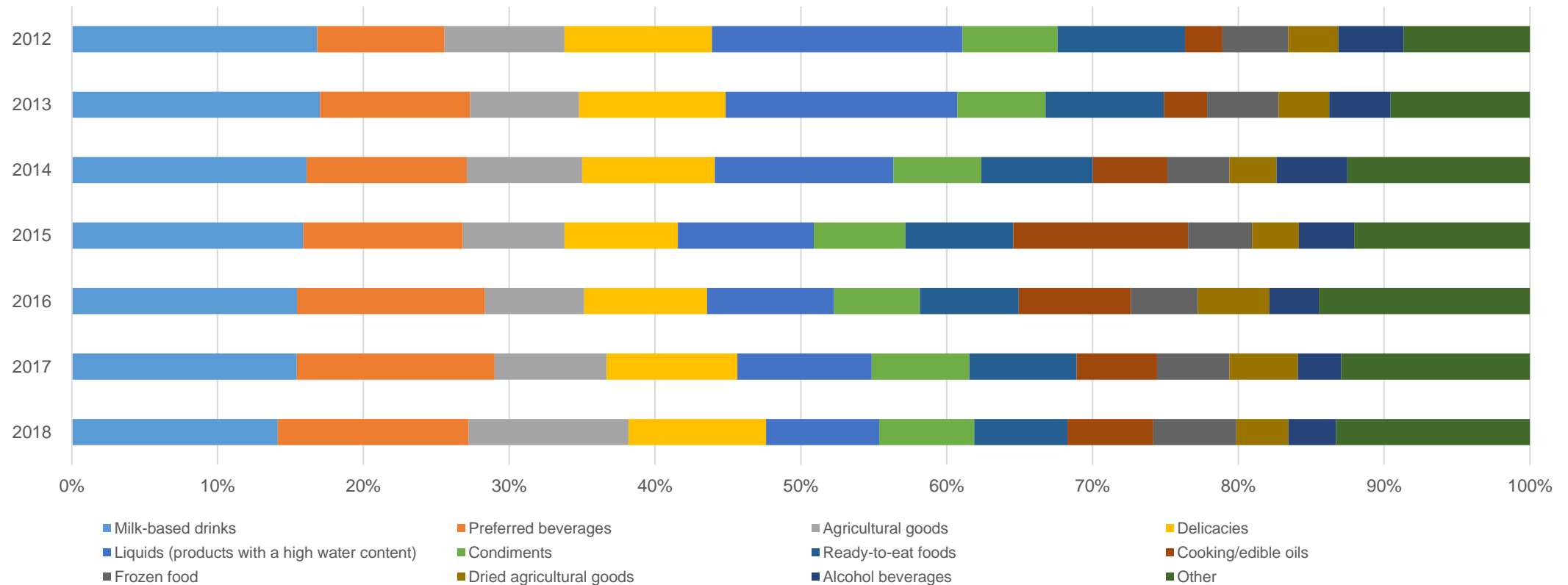


*1 Total amount of purchases (calculated by deducting perishables from the QPR estimate: 39.0 billion yen) and purchases (calculated by dividing 39.0 billion yen by 0.672) based on the population of purchasers under 15 years old and above 70 years old.

Of products that do not have a barcode, products made by a brand-name manufacturer cannot be grasped via a producer questionnaire therefore they are not included in the sum.

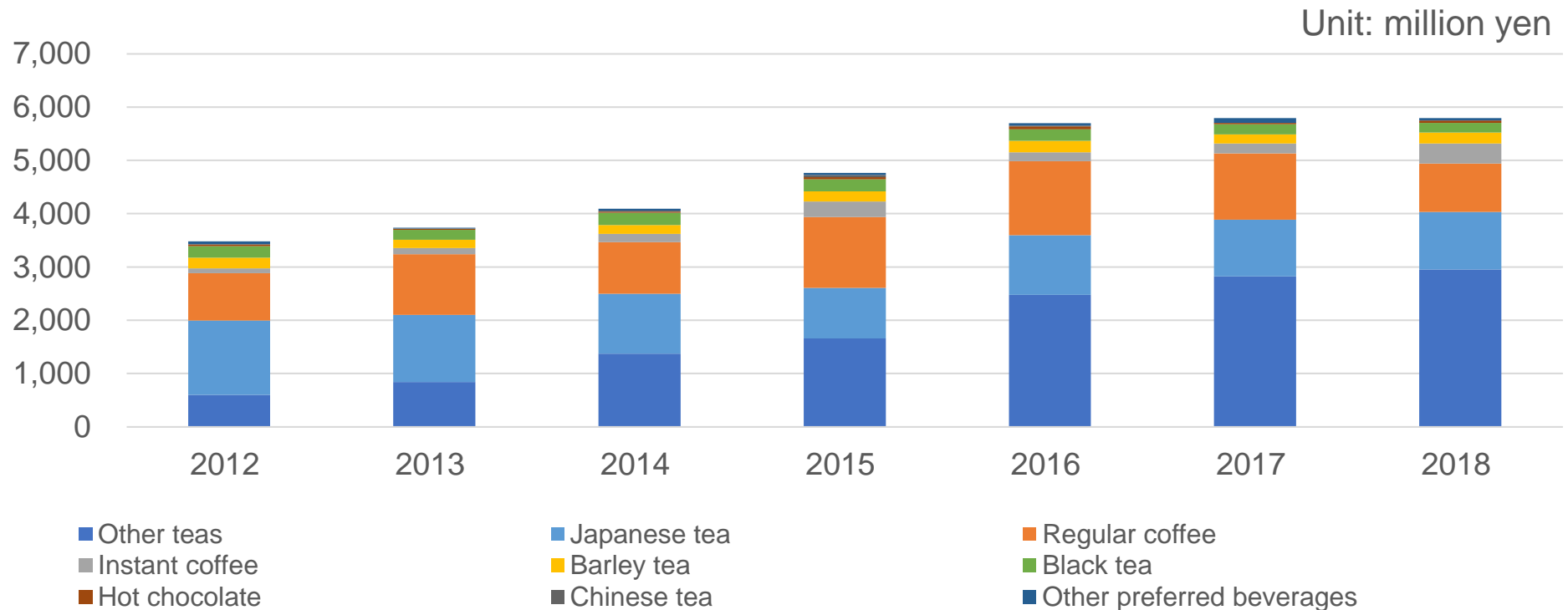
Method for using QPR data

Breakdown of the organic food market based on JICFS small category



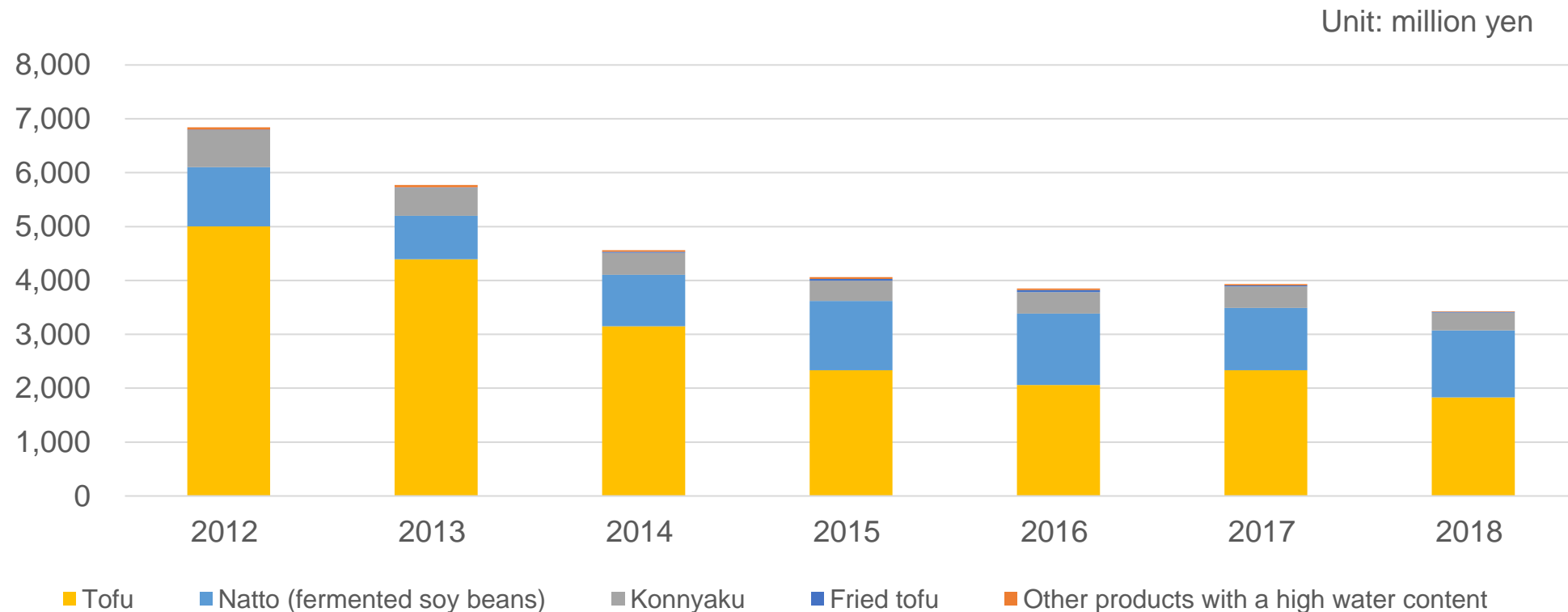
Milk-based drinks account for the highest ratio. This is followed by preferred beverages, agricultural goods, delicacies, liquids, condiments, ready-to-eat foods, cooking/edible oils, frozen foods, dried agricultural goods, and alcoholic beverages.

Market trends as viewed based on JICFS small category: Preferred beverages



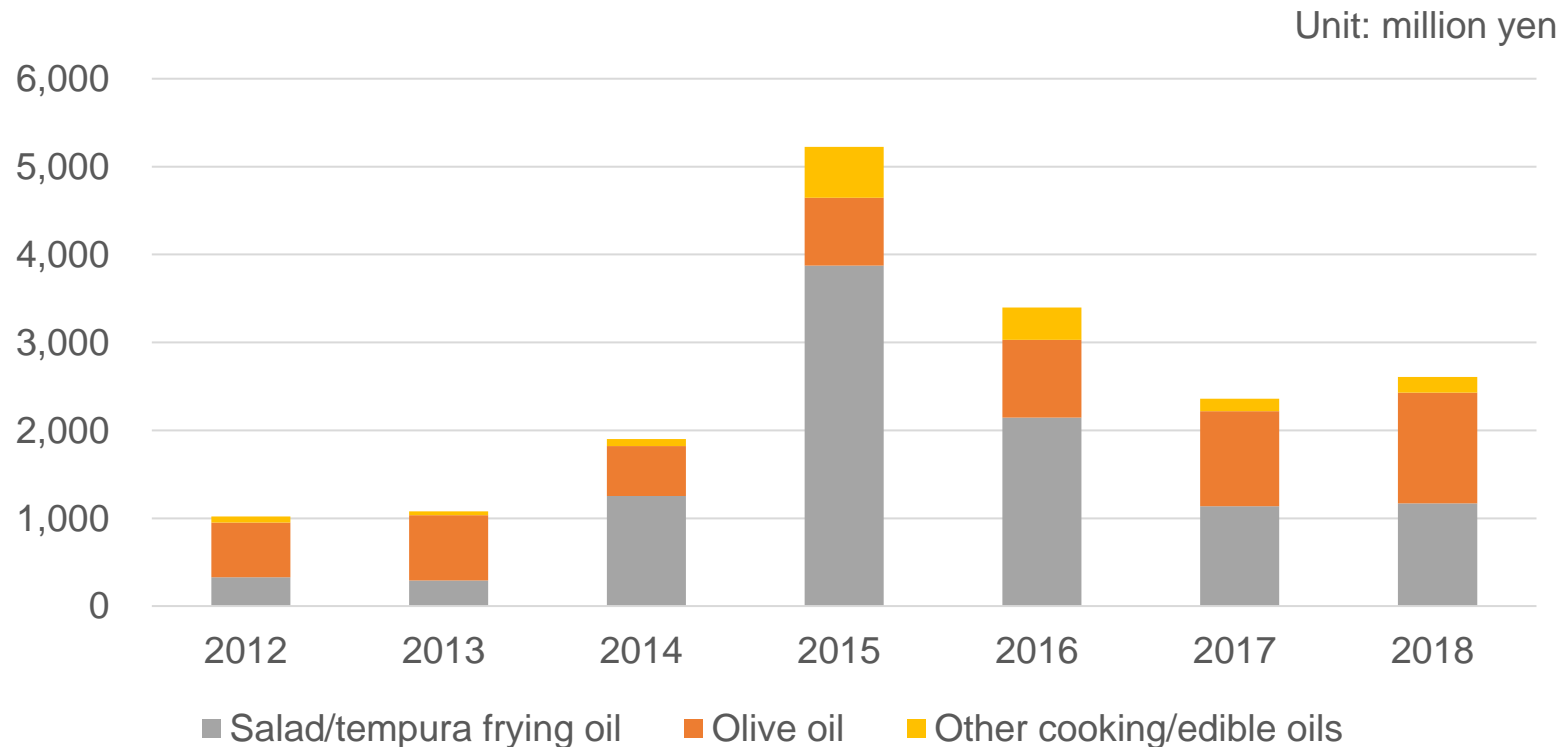
In preferred beverages overall, an uptick was noticed from 2012. The rise in sales of other teas, which including medicinal herb teas, wild herb teas, konbu-cha, ginseng tea, and herb teas, is making a large contribution.

Market trends as viewed based on JICFS small category: Liquids (products with a high water content)



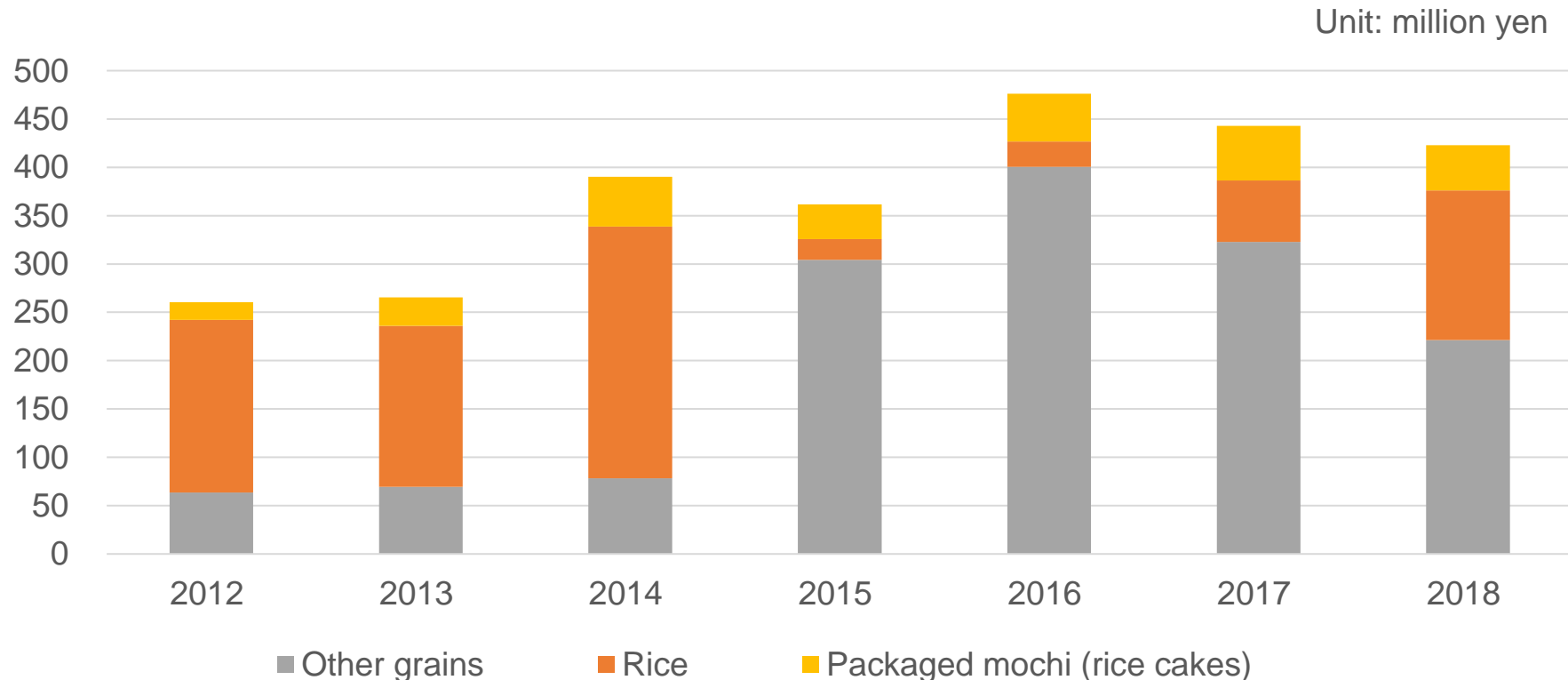
Sales of liquids (products with a high water content) overall exhibited a downward trend from 2012 to 2018. This is due a large impact from a decline in tofu sales.

Market trends as viewed based on JICFS small category: Cooking/edible oils



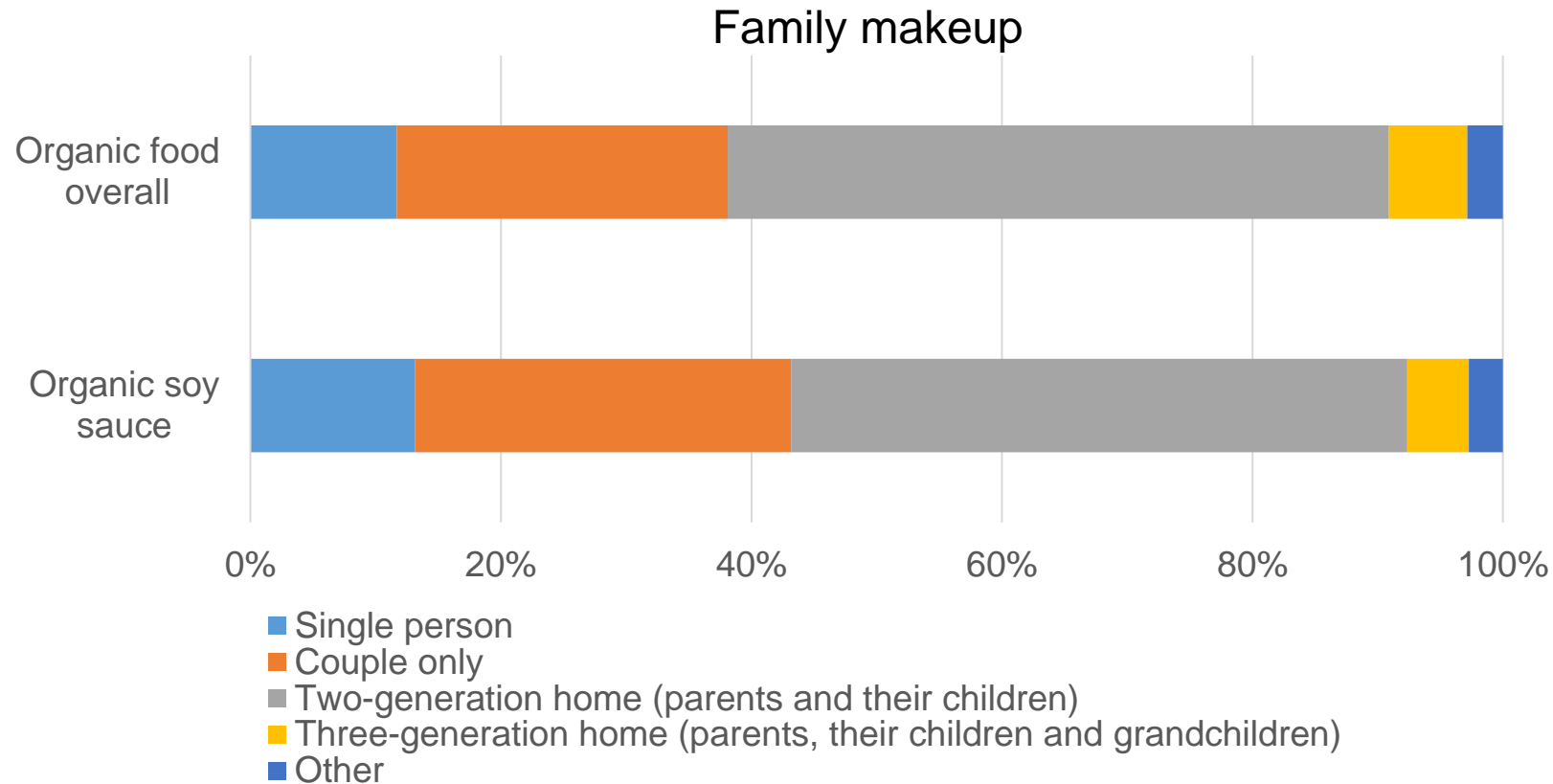
Salad/tempura frying oil and other cooking/edible oils increased substantially in 2015. The market scale grew close to 4.0 billion yen but has rapidly contracted since then. Olive oil sales are stably rising.

Market trends as viewed based on JICFS small category: Grains



From 2012 to 2014, the rice market was worth around 200 million yen but has significantly shrunk in and after 2015. Meanwhile, the “other grains” category, which includes malt/yeast and millet/cereal, has grown sharply since 2015. Overall, there has been a modest growth trends while experiencing fluctuations.

Features of purchasers of organic soy sauce

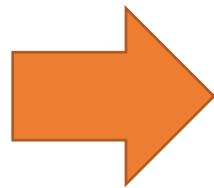


In comparison with the organic foods overall, the purchasers of organic soy sauce are mainly households consisting of single residents or couples. There are few households with two generations or more among purchasers of organic soy sauce.

Features of purchasers of organic soy sauce

Compare with purchasers for organic foods overall

- High age group
- Low ratio of women
- High ratio of purchasers in the Greater Tokyo metropolitan area and West Japan
- High ratio of purchasers in the generation of people raising young children, with preschoolers
- Many households consisting of single people and couples
- Households with a high income
- Many households with white collar workers and housewives



- High need for small-capacity bottles
- High level of price acceptance
- Certain degree of demand for products for adults and which are high-end

Conclusion:

- In Europe, progress is being made in discussions on improving the quality of organic market data and international conformity. Even in Japan, it is desired to build a data collection system to enhance data and improve data quality. At that time, the OrMaCode which conforms to the European Statistics Code of Practice can be used as a reference.
- To realize high-quality data, it is necessary to collect data from multiple information sources including POS data and purchasing history data, and conduct a cross check after mutually comparing the results of calculations.
- The basis for market estimates is purchasing history data in Germany, POS data in France, and surveys targeting business operators and POS data in the US. The supplementing and cross checking of data is carried out using multiple surveys.



Conclusion:

- The estimated market scale for organically certified products with barcodes using purchasing history data was **approx. 58.1 billion yen** (2018). The 2018 market scale for organic foods overall was estimated at **108.9 billion yen**. This is the sum of estimated sales of organic foods (including rice and many vegetables) that do not have a barcode and for which a producer questionnaire was conducted.
- There is no list that comprehensively covers all producers that are organic JAS certified. Conditions are therefore difficult for conducting a sample survey by census or by random extraction.
- Purchasing history data is not only used to conduct market estimates but can be applied for grasping/analyzing various actual circumstances, including a detailed breakdown by product category, chronological trends, and attributes of purchasers. If raw data can be obtained, it is possible to calculate market share and price premiums.

