

Food and Beverage Processing (FBP) Research and Data Needs at AAFC

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Agriculture and
Agri-Food Canada

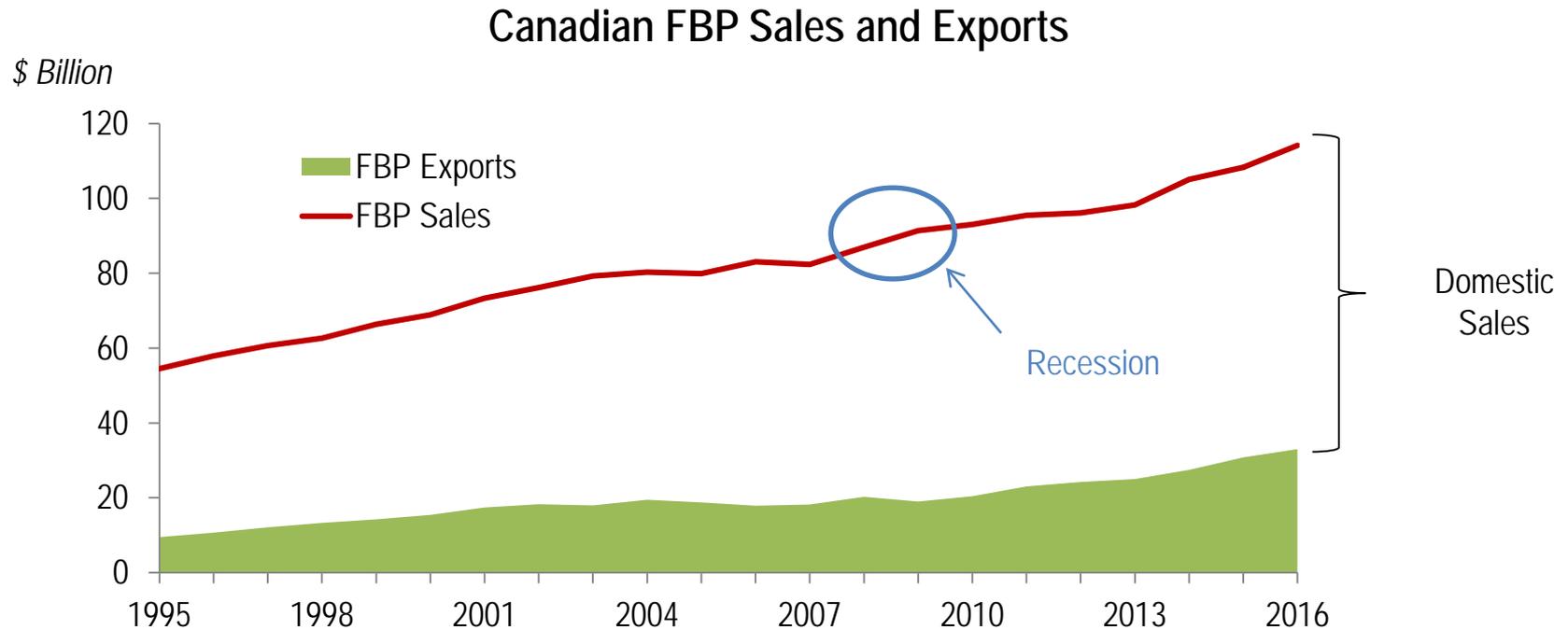
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Purpose: To provide an overview of AAFC's research on the food and beverage processing (FBP) industry and associated data needs

1. Focus of research and analytical work
 - a. Structure and performance
 - b. Productivity
 - c. Innovation
 - d. Competitiveness
2. Data requirements
3. Data gaps
4. How do we get data

FBP industry structure and performance is one of the key themes of our analytical work



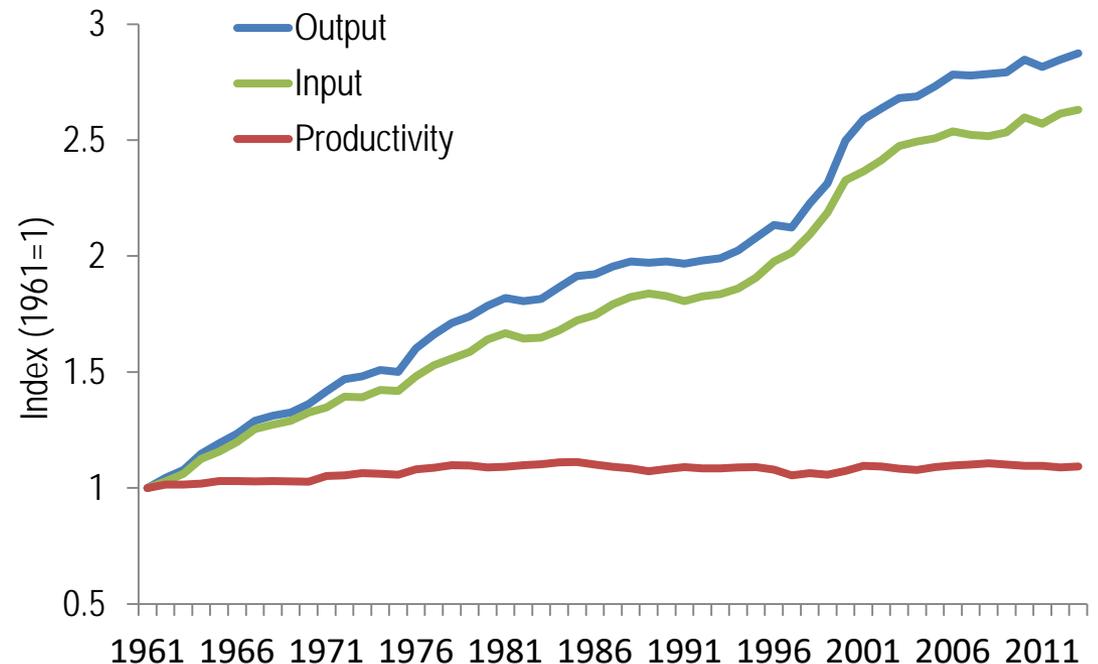
Source: Statistics Canada; AAFC calculations.

- For example, we regularly conduct analysis on industry **sales, employment, and establishments** including comparisons to the rest of the manufacturing sector as well as the overall economy.

We also conduct research and analysis on industry output and productivity growth

- We look at trends in **output, input and productivity growth** in the food processing industry, including drivers.
- We also look at comparisons to other industries and countries.

Output, Input and Total Factor Productivity Growth in the Canadian Food Processing Industry, 1961-2013

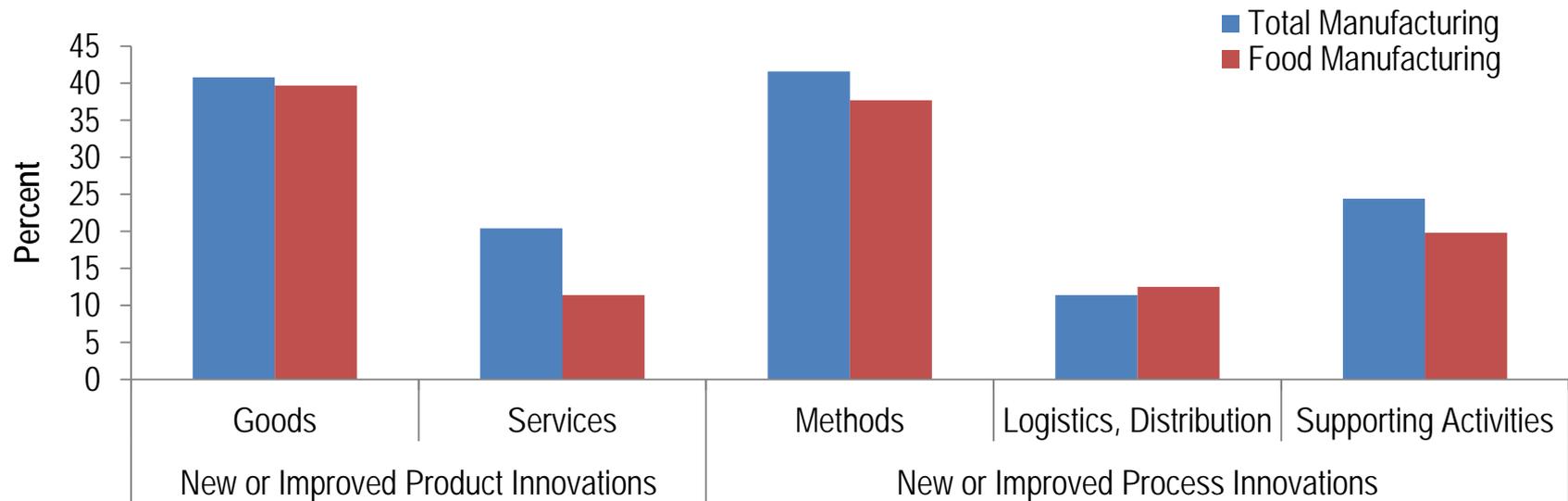


Source: Statistics Canada and AAFC calculations.

Notes: (1) The above data show total factor productivity (TFP) as measured on a gross output basis.
(2) Excludes beverage processing.

Innovation in the FBP industry is another key theme of our analytical work

Percent of Total Manufacturing and Food Manufacturing Enterprises that Introduced Product or Process Innovations, 2012

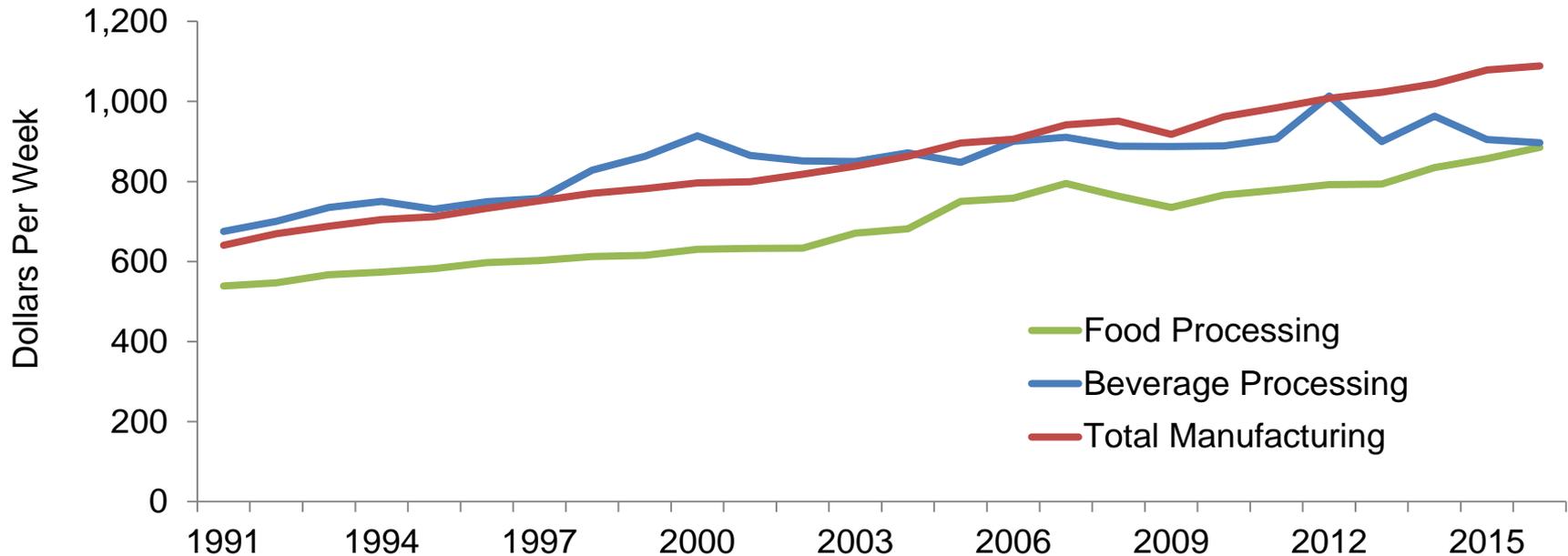


Source: Statistics Canada, Survey of Innovation and Business Strategy, 2012

- Research and analysis is focused on the extent to which innovation take place in the FBP industry, including **key drivers and obstacles** as well as **comparisons with other industries and countries**.

Research and analysis on industry competitiveness is also important

Average Weekly Earnings in Food and Beverage Processing and Total Manufacturing, 1991-2016



Source: Statistics Canada.

- We look at various factors that could impact the competitiveness of the Canadian FBP industry both domestically and abroad including market share, sales, costs and availability of labour.

AAFC has various data needs for conducting research analysis on the Canadian FBP industry

- **Geography:** Depending on the topic, we may need national, provincial and/or international data.
- **Detailed industry level** data is also important for providing analysis on subsections of the FBP industry, such as oilseed crushing.
- **Financial data**, such as profit margins, is needed to describe the financial health of the industry.
- **Recent data** is critical for providing an up to date picture of industry performance and competitiveness.
- **Comparable data** that allows us to compared the FBP industry with other industries and/or countries is also important.

However, there are a number of gaps in available food processing data

- **Confidentiality** is often an issue when looking at detailed industries and/or at the provincial level.
- **Data is often highly aggregated** which makes it difficult to conduct analysis at a detailed industry level. For example, it is often difficult to separate meat processing into red meat and poultry.
- **Lags in availability of data** may limit our ability to present an up to date picture.
- **International comparisons** are limited. Some comparisons with the U.S. are possible, however comparisons with other countries are more difficult.

AAFC works with Statistics Canada to collect and organize food processing data

- We maintain a rich set of data through two internal databases:
 - The *Food Processing Information System* (FPIS) which contains key food processing indicators such as GDP, employment and sales
 - The *Trade Data Retrieval Service* (TDRS) which stores information on Canada's overall agriculture trade.
 - The *Quarterly Financial Statistics* which contains information of financial performance of the industry.
- We also work collaboratively with Statistics Canada to determine and assess gaps in food processing data.
 - For example, to undertake new surveys and/or to increase the sample size in existing surveys.

Examples of previous research

- Benchmarking Cost Competitiveness in Canadian Food and Beverage Manufacturing
- Exports and Establishment-Level Performance in Canadian Food and Beverage Manufacturing
- Intensity of Competition & Innovative Activities: Evidence from the Canadian Food Processing Industry
- The Nature and Extent of Innovation in the Canadian Food Processing Industry
- Food Processing Background Briefs on innovation, structure and performance, employment, productivity, and global value chains

Policy questions for potential future research

- What are the barriers in Canada to adding value or increasing competitiveness/productivity and how can the barriers be addressed?
- How can we increase investments, including foreign investments, in the Canadian food processing sector and enhance the industry's competitiveness as a whole?
- What are the returns on R&D by agriculture and agri-food sub-sector and what are the implications for policy?
- What are the impacts of artificial intelligence and other advanced or disruptive technologies in the Canadian agriculture and agri-food sector?